

DM/CN/COR-OF/111

Dated: 09.10.2020

LETTER OF ACCEPTANCE

To,

M/s SAM (India) Builtwell Pvt Ltd
435, Jagriti Enclave, Vikas Marg Extn.,
Delhi-110092
Tel:- +91- 011-22163389-93
Fax:- +91- 011-22163393
Email: - info@samindia.com, arvind@samindia.com

(hereinafter termed as Contractor)

(Kind Attention- **Mr. Arvind Goel {Managing Director}**)

Sub: - Bid No: DM/CN/COR-OF/111: Package-9A: Construction of Multistoried Staff Quarters [including Site Development, Architectural finishes, E&M, HVAC, Plumbing, Firefighting, External Development and related facilities] and connectivity from Mathura Road to Jangpura Stabling Yard Complex for Delhi – Ghaziabad – Meerut RRTS Corridor.

Ref: -

- i. Press Advertisement dated 29.04.2020
- ii. Bid Reference No DM/CN/COR-OF/111 dated 30.04.2020.
- iii. Addendum No. 1 Published on 03.06.2020
- iv. Addendum No. 2 Published on 17.06.2020
- v. Addendum No. 3 Published on 29.06.2020
- vi. Addendum No. 4 Published on 30.06.2020
- vii. Technical Bid opened on 09.07.2020.
- viii. Post Bid queries uploaded on 08.08.2020
- ix. Reply of Post Bid queries downloaded on 18.08.2020
- x. Post Bid queries asked via mail on 23.08.2020
- xi. Your replies submitted vide mail dated 26.08.2020 & 09.09.2020
- xii. Financial Bid Opened on 18.09.2020

With reference to the above this is to inform to the Contractor that the bid for the subject work of **DM/CN/COR-OF/111: Package-9A: Construction of Multistoried Staff Quarters [including Site Development, Architectural finishes, E&M, HVAC, Plumbing, Firefighting, External Development and related facilities] and connectivity from Mathura Road to Jangpura Stabling Yard Complex for Delhi – Ghaziabad – Meerut RRTS Corridor** has been accepted by National Capital Region Transport Corporation Ltd (hereinafter termed as "Employer") at total contract value of **Rs. 270,68,33,854.20/- (Rupees Two Hundred Seventy Crores Sixty Eight Lakh Thirty Three Thousand Eight Hundred Fifty Four and Twenty paise Only)**, hereinafter termed as "Contract value", **inclusive of all the applicable taxes and duties (except Custom Duty), Goods & Service Tax (GST), royalties, cess, overheads, profit, other levies payable by the contractor under the contract or for any other cause etc.** The scope of work, accepted rates and terms/conditions applicable to this LOA are as under:



Bid No. DM/CN/COR-OF/111 Page 1 of 3

Registered & Corporate Office:

7/6, सिरि फोर्ट इंस्टीट्यूशनल एरिया, अगस्त क्रांति मार्ग, नई दिल्ली 110049

7/6, Siri Fort Institutional Area, August Kranti Marg, New Delhi 110049

CIN: U60200DL201360I256716

P: +91 11 41066943 F: +91 11 41066953

M: contactus@ncrtc.in

1.0 Scope of Work

In terms of **ITB 1.1 (Instructions to Bidders)**, Section-1 of the bid documents, the scope of work covered under this LOA is as stipulated in **Part-II Employer's Requirement** under the bid documents read with amendments referred above, uploaded on CPP portal (e-bidding portal) and submitted by the Contractor with their bid. The work shall be carried out as per the above scope of work.

2.0 Accepted Rates/Cost and Payment Schedule

2.1 The accepted rates for various items of work covered under this LOA are stipulated in the Bill of Quantities enclosed as **Annexure- A (Bill of Quantities)** to this LOA. The Accepted rates shall be inclusive of all the applicable taxes and duties (except Custom Duty), Goods & Service Tax (GST), royalties, cess, overheads, profit, other levies payable by the contractor under the contract or for any other cause etc., as on the date 28 days prior to the deadline for submission of bids, shall be included in the rates and prices and the total Bid Price submitted by the Bidder. Contractor is required to submit GST invoice showing GST component separately as per statutory requirements. The GST component as applicable for first RA bill shall be released upon submission of GST invoice. The subsequent RA bill shall be raised for payment upon submission of documentary evidence towards payment of GST collected on the previous bill to the GST Authorities. However, if subsequent bills are raised before return submission date of previous bill period, then the documentary evidence towards payment of such GST shall be provided within 7 days from the due date of such return filing. The Final bill/single bill payment shall be released on the undertaking by the contractor/supplier for providing evidence within 7 days from the date of such return filing for final bill based on GST provision for due dates.

2.2 Details of all taxes as on the Base Date included in the Bill of Quantities are detailed in 'Annexure to Summary' which is enclosed as **Annexure-B**.

2.3 In terms of **Clause 11.1.3 of Appendix to Bid, Section-6 (b)** of bid documents, the Contract amount shall be adjustable during Contract Execution.

2 Completion Period

In terms of **Clause 1.2 (c) of IFB** of the bid documents, the entire work shall be completed in a period of **910 days/ 130weeks** from the commencement date. As per **clause 8.1 of Appendix to Bid, Section 6(b)**, the commencement date will start within **23.10.2020** i.e. 15 days from the date of issue of LOA.

3 Submission of Performance Security

In terms of **ITB 40 (Instructions to Bidders)**, **Section-1** of the bid documents, within 28 days of receipt of this Letter of Acceptance by the Contractor, the Contractor shall furnish to the Employer a Performance Security in the form of Cashier's or Banker's certified cheque or Performance Bank Guarantee (Form CF-2, Contract Forms) stipulated in **Clause 4.2 of the General Condition of Contract (GCC), Section-5 and Appendix to Bid, Section-6 (b)** of the bid document for an amount of **Rs. 27,06,83,386/- (Rupees Twenty Seven Crores Six Lakh Eighty Three Thousand Three Hundred Eighty Six Only)** being amount equal to **10% (Ten Percent)** of the accepted Contract value as stated in **Clause 4.2 of Appendix to Bid, Section-6 (b)**.

4 Release of Bid Security



In terms of **ITB 19.5 (Instructions to bidders), Section-1** of the bid document, the bid security submitted by the Contractor with his bid shall be returned upon the execution of the contract agreement and on receipt of the performance security by the Employer or the condition stipulated in bid documents.

5 Signing of Contract Agreement

In terms of **ITB 41 of Section-1 (Instructions to Bidders)** of the bid documents, the Contractor shall enter into a contract agreement with the Employer for the works covered under this LOA within the time limits as specified therein. The Contractor shall be informed by the Employer about signing of contract agreement on receipt of acceptance of this LOA and Performance Security by the Employer.

6 Other Terms and Conditions

The execution of this contract shall be governed by the various stipulations in the bid documents and its amendments referred above. Any deviation from the above conditions, submitted by the Contractor in its bid, if any, stands withdrawn.

7 Nomination of Engineer in Charge

In terms of Clause 3.1 of General Conditions of Contract, Section-5, it is to inform that **Chief Engineer/ General**, National Capital Region Transport Corporation Limited, 7/6, Siri Fort Institutional Area, August Kranti Marg, New Delhi – 110049 has been nominated as the Engineer for the subject Contract. The Contractor is advised to interact with the above official for further instructions as regards the execution of works.

8 Acceptance of the LOA

This Letter of Acceptance is being issued in Two Original and identical sets, in favour of the Contractor. Any one set may be retained by the Contractor and the other set is required to be returned by the Contractor, duly signed and stamped stating "Unconditionally accepted" on each page (including the enclosures) by the authorized signatory of the Contractor, as a token of Contractor's unconditional acceptance of the same so as to reach the undersigned within seven days of issue of this letter. This Letter of Acceptance shall constitute a binding Agreement between the Employer and the Contractor till such time a formal Agreement is signed between the Employer and the Contractor for the execution of this Contract.

Please acknowledge receipt of the letter.

Yours faithfully,

For & on behalf of
National Capital Region Transport Corporation Limited



(Handwritten Signature)
(Dhanesh Gupta)
Group General Manager/Procurement

Encl: Annexure-A (Bill of Quantities: Total 113 pages).

Annexure-B (Details of all taxes as on the Base Date 01 page)

Copy to: CE/G, GGM/Finance, ED/Arch., ED/Design, GGM/Electrical, GM/Planning, Sr. DGM/HR

NATIONAL CAPITAL REGION TRANSPORT CORPORATION LIMITED



DM/CN/COR-OF/111:Package 9A : Construction of Multistoried Staff Quarters [including Site Development, Architectural finishes, E&M, HVAC, Plumbing, Firefighting, External Development and related facilities] and connectivity from Mathura Road to Jangpura Stabling Yard Complex for Delhi – Ghaziabad – Meerut RRTS Corridor.

Bill of Quantities

**NATIONAL CAPITAL REGION TRANSPORT CORPORATION LTD.,
7/6, SIRIFORT INSTITUTIONAL AREA,
AUGUST KRANTI MARG, NEW DELHI -110 049**



Name of Work: Package 9A : Construction of Multistoried Staff Quarters [including Site Development, Architectural finishes, E&M, HVAC, Plumbing, Firefighting, External Development and related facilities] and connectivity from Mathura Road to Jangpura Stabling Yard Complex for Delhi – Ghaziabad – Meerut RRTS Corridor.

Contract No: DM/CN/COR-OF/11

Name of the Bidder/ Bidding Firm /Company :	SAM (INDIA) BUILT WELL PVT LTD
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Bill of Quantities

Sl. No.	Item Description	BOQ Amount (in INR)	Excess(+)/Less(-) At Par	Percentage (%age) Accepted (in numerical figure)	Total Accepted Amount in INR
1	2	3	4	5	6
1	Schedule-A: DSR Civil BoQ for Structural Residential Towers and Non Tower Area	1,69,11,95,125.31			
2	Schedule-B: NDSR Civil BoQ for Structural Residential Towers and Non Tower Area	59,16,31,199.40			
3	Schedule-C: Connectivity through Mathura Road and Box Pushing	25,21,15,723.69			
4	Schedule-D. E&M BOQ for Electrical works	34,31,63,978.20			
5	Schedule-E : E&M BOQ for mechanical works (HVAC, lift, fire fighting works)	16,70,43,995.00			
6	Total Amount	3,04,51,50,021.60	Less(-)	11.11%	2706833854.20



Preamble to Bill of Quantities

S.No	
1	The Bill of Quantities shall be read in conjunction with the Bidding Documents.
2	Schedule "A" and "B" of the Bill of Quantities comprises of various DSR and non-DSR items of work for civil works of residential towers and non-tower area and Schedule "C" of the Bill of Quantities comprises of various items of Mathura road connectivity including box pushing and RE Wall works. Schedule 'D' comprises of Electrical works and Schedule "E" comprises of Mechanical Works.
3	Schedule "A" also includes a lumpsum provision of <u>Rs 5,08,95,591/- (Rupees Five Crore Eight Lakhs Ninety Five Thousand Five Hundred Eighty One)</u> for execution of various items as per DSR-2018.
4	Schedule "B" of the Bill of Quantities also comprises of various items related to shifting/relocation /modification of various electrical, telecom and civil utilities, which are infringing with the permanent works. For this item, schedule rates for various sub-items have been specified without any quantities for any of the items. However total amount for this schedule has been specified. During execution of works, these unit rates for individual items, after applying the accepted percentage rate shall be adopted for working out the payable amounts for the quantities of various items of work executed by the Contractor.
5	<p>Schedule " D " & Schedule " E " of the Bill of Quantities comprises of various items related to E &M works . All the items have detailed specifications for the work to be carried out and rates have been provided for completed item of work . For the purpose of payments , BOQ Items accepted rates (after adjusting for quoted flat percentage of Excess /Less/At par) are classified as under in 4 parts and payments to be made accordingly</p> <p>1 . Supply/ Supply & Fixing : Completion of Supply / Completion of Supply & Fixing 90%, Acceptance by Engineer 10%</p> <p>2. Supply, Installation, Testing & Commissioning: Completion of Supply 65%, Completed installation / Fixing of Material /Equipment/others 15%, Testing & Commissioning 10%, Acceptance by Engineer 10%</p> <p>3 . Installation, Testing & Commissioning: Completed Installation / Fixing of Material /Equipment/others 70%, Completed Testing & Commissioning 20%, Acceptance by Engineer 10%</p> <p>4. Comprehensive Annual Maintenance Contact (AMC): 25% Quarterly for each Year</p>
6	The quantities for various items provided in the Bill of Quantities are estimated quantities and are given to provide a common basis for Bidding. During the execution of works, the same may vary based upon "Good for Construction" (GFC) drawings issued by the Engineer and as per the site conditions. The basis of payment will be the actual quantities of work executed and accepted by the Engineer or quantities as per the GFC drawings whichever is less and shall be paid/valued as per the accepted rates.
7	<p>The accepted rates for various items are for completed and finished items of work complete in all respects. It will be deemed to include all the cost involved in the execution of the items and shall include all the applicable taxes and duties, GST, royalties, cess, overheads, profit etc. It shall include all general risks, liabilities and obligations set out or implied in the contract and including remedy of any defects during the Defect Liability Period, unless otherwise provided in the Contract. The whole cost of complying with the provisions of the Contract shall be deemed to have been included in the quoted rates. GST will not be paid extra as Bill of Quantities accepted rates are inclusive of GST at the rate of 12 % , i.e. applicable present rate of GST for this work.</p> <p>The total amount of each Price Centre shall be deemed inclusive of all of the Contractor's obligations to execute the part of the Works covered by the Price Centre and to perform all of his other obligations under the Contract in respect thereof. The accepted rates shall include all incidental and contingent expenses and risks of every kind necessary to design, construct, integrated testing and commissioning and maintaining the whole of the works in accordance with the Contract. The Contractor shall not be entitled to receive any further or additional payment in respect of such Price Centre.</p>
8	Bidder may please note that to perform this contract, nothing extra shall be payable on account of field constraints, non-availability of uninterrupted front, cost of project management, monitoring, coordination and supervision, cost of adhering to quality requirements (QA/QC), cost of adhering to SHE requirements, cost of preparing drawings and documents, as-built records and documentation, preparation of detailed scheme for taking necessary clearance and approval from the concerned authority and other local bodies etc.
9	Income Tax and any other statutory taxes to be deducted at source will be deducted by the Employer from the due payments of the contractor in accordance with the prevailing rules in force.
10	<p>In the Bill of Quantities , the accepted rate are inclusive of all taxes on bill raised to the Employer as on the Base Date . However, for better understanding of Bidders accepted rate/offer price, the bidder should indicate separately in Annexure the rate of all taxes as on the Base Date and total amount of taxes included in the Bill of Quantities . Employers will not admit any change in either the tax components or tax rates beyond the list provided along with the Bill of Quantities , unless required due to change in legislation as described in PCC 11.1.1.B. If no such list is provided by the Bidder, then benefit on account of increase in taxes will not be paid to the Bidder by the Employer. In this case of reduction in taxes, custom duty or any other benefit arising due to change in legislation or interpretation of existing laws ; the Contractor shall pass on such financial benefit to the Employer. All increase in taxes will be paid after adjusting the input credit availed by the Bidder and amount payable through price variation clause, in this case, the Contractor shall submit the adjustment to the cost accordingly . In order to facilitate the Employer to avail deemed export benefit etc the Contractor has to furnish the following documents</p> <p>1)Disclaimer certificate in a format approved by the employer with regard to contractor not claiming the deemed export benefit 2)Invoice/Bill of entry evidencing the payment of Excise /Custom Duty 3)Any other document required as per Foreign Trade Policy (FTP)</p>



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Schedule-A: DSR Civil BoQ for Structural Residential Towers and Non Tower Area						
S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
1.00	2.00	EARTH WORK				
1.01	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.				
a)	2.6.1	All kinds of soil	Cum	64867.00	181.85	11796063.95
1.02	2.7	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.				
a)	2.7.1	Ordinary rock	Cum	8289.00	352.45	2921458.05
b)	2.7.3	Hard rock (blasting prohibited)	Cum	921.00	609.65	561487.65
1.03	2.8	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.				
a)	2.8.1	All kinds of soil.	Cum	3890.00	252.30	981447.00
1.04	2.10	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :				
i)	2.10.1	All kinds of soil				
a)	2.10.1.1	Pipes, cables etc, not exceeding 80 mm dia.	Metre	400.00	223.00	89200.00
b)	2.10.1.2	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia	Metre	4375.00	364.20	1593375.00
c)	2.10.1.3	Pipes, cables etc. exceeding 300 mm dia but not exceeding 600 mm	Metre	130.00	568.60	73918.00
1.05	2.11	Extra for excavating trenches for pipes, cables etc. in all kinds of soil for depth exceeding 1.5 m, but not exceeding 3 m. (Rate is over corresponding basic item for depth upto 1.5 metre).	Metre	180.00	462.53	83,256.12
1.06	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.6 m.	Cum	31708.00	219.65	6964662.20
1.07	2.26	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.				
a)	2.26.1	All kinds of soil.	Cum	48315.00	90.40	4367676.00
b)	2.26.2	Ordinary or hard Rock	Cum	9210.00	162.10	1492941.00
1.08	2.27	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	Cum	746.00	1953.05	1456975.30
1.09	2.28	Surface dressing of the ground including removing vegetation and inequalities not exceeding 15 cm deep and disposal of rubbish, lead up to 50 m and lift up to 1.5 m.				
a)	2.28.1	All kinds of soil	Sqm	4196.00	24.35	102172.60
Total of sub-head						32484632.87
2.00	4.00	CONCRETE WORK				
2.01	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
a)	4.1.3	1:2:4 (1 cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 20 mm nominal size)	Cum	262.69	6788.60	17,83,297.33
b)	4.1.4	1:2:4 (1 Cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum	40.00	6680.20	267208.00
c)	4.1.6	1:3:6 (1 Cement : 3 coarse sand (zone-III) derived from natural sources: 6 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum	40.00	6126.25	245050.00
d)	4.1.8	1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources: 8 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum	2254.00	5789.60	13049758.40



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
2.02	4.2	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing:				
a)	4.2.3	1:2:4 (1 Cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	Cum	40.00	8554.50	342180.00
b)	4.2.8	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources: 10 graded stone aggregate 40 mm nominal size derived from natural sources).	Cum	40.00	7273.25	290930.00
2.03	4.5	Providing and fixing up to floor five level precast cement concrete string or lacing courses, copings, bed plates, anchor blocks, plain window sills, shelves, louvers, steps, stair cases, etc., including hoisting and setting in position with cement mortar 1:3 (1 Cement : 3 coarse sand), cost of required Centering complete.				
a)	4.5.1	1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) derived from natural sources : 3 graded stone aggregate 20mm nominal size derived from natural sources)	Cum	50.00	8537.75	426887.50
2.04	4.17	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone - III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth.	Sqm	150.00	614.05	92107.50
2.05	4.20	Providing and laying in position ready mixed plain cement concrete, with cement content as per approved design mix and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for plain cement concrete work, including pumping of R.M.C. from transit mixer to site of laying and curing, excluding the cost of centering, shuttering and finishing, including cost of curing, admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer-in-charge.				
		Note : 1) Excess/less cement used than specified in this item is payable/recoverable separately.				
a)	4.20.1	All works upto plinth level :				
i)	4.20.1.1	M-15 grade plain cement concrete (cement content considered @ 240 kg/cum)	Cum	50.00	7900.75	395037.50
ii)	4.20.1.2	M-10 grade plain cement concrete (cement content considered @ 220 kg/cum)	Cum	1293.00	7761.25	10035296.25
b)	4.20.2	All works above plinth and upto floor V level :				
i)	4.20.2.1	M-15 grade plain cement concrete. (cement content considered @ 240 kg/cum)	Cum	50.00	9023.30	451165.00
		Total of sub-head				27378917.48
3.00	5.00	REINFORCED CEMENT CONCRETE				
3.01	5.9	Centering & shuttering including strutting, propping etc. and removal of form work for:				
a)	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete	Sqm	2691.00	284.85	766531.35
b)	5.9.2	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	Sqm	17254.00	609.30	10512862.20
c)	5.9.3	Suspended floors, roofs, landings, balconies and access platform	Sqm	7187.00	693.05	4980860.35
d)	5.9.4	Shelves (Cast in situ)	Sqm	100.00	693.05	69305.00
e)	5.9.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers	Sqm	752.00	552.05	415141.80
f)	5.9.6	Columns, Pillars, Piers, Abutments, Posts and Struts	Sqm	1736.00	733.70	1273703.20
g)	5.9.7	Stairs, (excluding landings) except spiral-staircases	Sqm	94.00	622.35	58500.90
h)	5.9.15	Small lintels not exceeding 1.5 m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like	Sqm	150.00	284.85	42727.50
i)	5.9.18	Edges of slabs and breaks in floors and walls				
j)	5.9.16.1	Under 20 cm wide	Metre	200.00	173.25	34650.00
i)	5.9.16.2	Above 20 cm wide	Sqm	200.00	737.30	147480.00
ii)	5.9.19	Weather shade, Chajjas, corbels etc., including edges	Sqm	300.00	766.75	230025.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
3.02	5.12	Providing, hoisting and fixing above plinth level up to floor five level precast reinforced cement concrete work in string courses, bands, copings, bed plates, anchor blocks, plain window sills and the like, including the cost of required centering, shuttering but , excluding cost of reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) derived from natural sources: 3 graded stone aggregate 20 mm nominal size derived from natural sources).	Cum	150.00	8886.35	1332952.50
3.03	5.13	Providing, hoisting and fixing up to floor five level precast reinforced cement concrete in small lintels not exceeding 1.5m clear span up to floor five level, including the cost of required centering, shuttering but , excluding the cost of reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand(zone- III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources).	Cum	30.00	12464.25	373927.50
3.04	5.14	Providing, hoisting and fixing above plinth level up to floor five level precast reinforced cement concrete in mouldings as in cornices, windows sills etc, including setting in cement mortar 1:3 (1 cement : 3 coarse sand) cost of required centering, shuttering but, excluding the cost of reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III derived from natural sources) : 3 graded stone aggregate 20 mm nominal size derived from natural sources).	Cum	30.00	14479.55	434386.50
3.05	5.22B	Steel reinforcement for R.C.C. work ready to use "cut and bend" rebars of approved make from factory/workshop to construction site including placing in position and binding all complete upto plinth level.				
a)	5.22.B.1	Thermo-Mechanically Treated bars of grade Fe-500 D or more.	Kg	3086481.00	77.65	239665249.65
3.06	5.22.C	Steel reinforcement for R.C.C. work ready to use "cut and bend" rebars of approved make from factory/workshop to construction site including placing in position and binding all complete above plinth level				
a)	5.22C.1	Thermo-Mechanically Treated bars of grade Fe-500D or more.	Kg	4304305.00	77.65	334229283.25
3.07	5.37	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using coarse aggregate as well as fine aggregate derived from natural sources and cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying , excluding the cost of centering, shuttering finishing and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete,improve workability without impairing strength and durability as per direction of the Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/ less cement used as per design mix is payable/recoverable separately).				
i)	5.37.1	All works upto plinth level	Cum	16680.00	8398.65	₹ 14,00,89,482.00
ii)	5.37.2	All works above plinth level upto floor V level	Cum	20044.00	9802.20	₹ 19,64,75,296.80
3.08	5.34	Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable /recoverable separately.				
a)	5.34.2	Providing M-35 grade concrete instead of M-25 grade BMC/ RMC. (Note : Cement content considered in M-35 is @ 350 kg/ cum)	Cum	1142.00	139.45	159251.90
b)	5.34.3	Providing M-40 grade concrete instead of M-25 grade BMC/ RMC.(Note : Cement content considered in M-40 is @ 360 kg/ cum)	Cum	1210.00	209.20	253132.00
3.09	5.35	Add for using extra cement in the items of design mix over and above the specified cement content therein.	Quintal	1839.00	673.30	1238198.70
3.10	5.42	Providing and fixing parallel threaded couplers conforming to IS code on "Reinforcement Couplers for Mechanical Splices of Bars for Concrete Reinforcement - Specification", to reinforcement bars including threading, enlargement at connection by forging, protecting the prepared reinforcement bars and related operations as required to complete the works per direction of Engineer- in-Charge.				
a)	5.42.1	Coupler for 16 mm diameter reinforcement bar	Each	2000.00	97.80	195600.00
b)	5.42.2	Coupler for 20 mm diameter reinforcement bar	Each	2000.00	135.30	270600.00
c)	5.42.3	Coupler for 25 mm diameter reinforcement bar	Each	2000.00	195.45	390900.00
d)	5.42.4	Coupler for 28 mm diameter reinforcement bar	Each	2000.00	228.55	457100.00
e)	5.42.5	Coupler for 32 mm diameter reinforcement bar	Each	2000.00	275.75	551500.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
3.11	5.43	Providing and fixing In position Stainless steel Grade 304 plate-1.0 mm thick as per design for expansion joints.				
(a)	5.43.1	200 mm wide.	metre	312.60	711.90	2,22,539.94
3.12	5.44	Providing and fixing of expansion joint system related with floor location as per drawings and direction of Engineer-In-Charge. The joints system will be of extruded aluminum base members, self aligning / self centering arrangement and support plates etc. as per ASTM B221-02. The system shall be such that it provides floor to floor /floor to wall expansion control system for various vertical location in load application areas that accommodates multi directional seismic movement without stress to it's components. System shall consist of metal profiles with a universal aluminum base member designed to accommodate various project conditions and finish floor treatments. The cover plate shall be designed of width and thickness required to satisfy projects movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates / moves in all directions. The Self - centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. Provision of Moisture Barrier Membrane in the Joint System to have watertight joint is mandatory requirement all as per the manufactures design and as approved by Engineer -in- Charge. (Material shall confirm to ASTM 6063).				
a)	5.44.1	Floor Joint of 100 mm gap	Metre	3288.60	5594.85	18399223.71
3.13	5.45	Providing and fixing of expansion joint system related with wall joint (internal/ external) location as per drawings and direction of Engineer-In- Charge. The joints shall be of extruded aluminum base members, self aligning / centering arrangement and support plates as per ASTM B221- 02. The material shall be such that it provides an Expansion Joints System suitable for vertical wall to wall/ wall to corner application, both new and existing construction in office Buildings & complexes with no slipping down tendency amongst the components of the Joint System. The Joint System shall utilize light weight aluminum profiles exhibiting minimal exposed aluminum surfaces mechanically snap locking the multicellular to facilitate movement. (Material shall confirm to ASTM 6063).				
a)	5.45.1	Wall Joint of 100 mm gap	Metre	390.00	4658.30	1816737.00
3.14	5.46	Providing and fixing of expansion joint system of approved make and manufactures for various roof locations as per approved drawings and direction of Engineer-In-Charge. The joints shall be of extruded aluminum base members with, self aligning and self centering arrangement support plates asper ASTM B221-02. The system shall be such that it provides watertight roof to roof/roof to corner joint cover expansion control system that is capable of accommodating multidirectional seismic movement without stress to its components. System shall consist of metal profile that incorporates a universal aluminum base member designed to accommodate various project conditions and roof treatments. The cover plate shall be designed of width and thickness required to satisfy movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates / moves in all directions. The Self centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. The Joint System shall resists damage or deterioration from the impact of exposure to UV, airborne contaminants and occasional foot traffic from maintenance personnel. Provision of Moisture Barrier Membrane in the Joint System to have water tight joint is mandatory requirement. (Material shall confirm to ASTM 6063.)				
a)	5.46.1	Roof Joint of 100 mm gap	Metre	96.00	5193.45	498571.20
		Total of sub-head				955686789.76



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
4.00	6.0	MASONRY WORK				
4.01	6.4	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :				
(a)	6.4.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	100.00	7,590.45	7,59,045.00
4.02	6.15	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	sqm	100.00	80.10	8,010.00
4.03	6.45	Half brick masonry with non modular fly ash bricks of class designation 10, conforming to IS :12894, in super structure above plinth and upto floor V level.				
(a)	6.45.1	Cement mortar 1 : 3 (1 cement : 3 coarse sand)	sqm	100.00	941.50	94,150.00
		SUB TOTAL OF MASONRY WORK				861206.00
5.0	8.0	CLADDING WORK				
5.01	8.2	Providing and fixing 18 mm thick gang saw cut, mirror polished, pre-moulded and pre-polished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.				
	8.2.2	Granite of any colour and shade				
(a)	8.2.2.2	Area of slab over 0.50 sqm	sqm	1915.00	4,007.65	76,74,650.00
5.02	8.3	Providing edge moulding to 18mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.				
(a)	8.3.2	Granite work	metre	1715.00	376.25	6,45,268.75
5.03	8.4	Extra for fixing marble /granite stone, over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive, including cleaning etc. complete.	metre	2742.00	434.25	11,90,714.00
5.04	8.5	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	each	866.00	734.55	6,36,120.00
5.05	8.10	Providing and fixing stone slab with table rubbed, edges rounded and polished, of size 75x50 cm deep and 1.8 cm thick, fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth.				
(a)	8.10.2	Granite Stone of approved shade	sqm	2.00	3,216.90	6,434.00
5.06	8.11	Providing and fixing machine cut, mirror/ eggshell polished, Marble stone work for wall lining (veneer work) including dado, skirting, risers of steps etc., in required design and pattern wherever required, stones of different finished surface texture, on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with white cement slurry @ 3.3 kg/sqm including pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curling, polishing etc. all complete as per Architectural drawings, and as directed by the Engineer-in-Charge.				
(a)	8.11.1	18 mm thick Italian Marble stone slab, Perlatto, Rosso verona, Fire Red or Dark Emperadore etc.	sqm	1528.00	8,823.75	1,34,82,690.00
5.07	8.15	Providing and fixing stainless steel cramps of required size and shape for anchoring stone wall lining to the backing or securing adjacent stones in stone wall lining in cement mortar 1:2 (1 cement : 2 coarse sand), including making the necessary chases in stone and holes in walls wherever required.	kg	250.00	612.60	1,53,150.00
5.08	8.16	Providing and fixing copper pins 7.5 cm long 6 mm diameter for securing adjacent stones in stone wall lining in cement mortar 1:2 (1 cement : 2 coarse sand), including making the necessary chases.	each	250.00	36.20	9,050.00
5.09	8.31	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	sqm	5031.00	1,030.30	51,83,439.00
		SUB TOTAL OF CLADDING WORK				28981515.75
6.0	9.0	WOOD AND P.V.C. WORK				
6.01	9.1	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).				
(a)	9.1.2	Sal wood	sqm	136.00	1,05,327.20	1,43,24,499.20



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
6.02	9.21	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:				
(a)	9.21.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	sqm	1690.00	1,886.70	31,88,523.00
6.03	9.23	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	sqm	1690.00	401.40	6,78,366.00
6.04	9.27	Providing and fixing wire gauge shutters using galvanized M.S. wire gauge of average width of aperture 1.4 mm in both directions with wire of dia 0.63 mm, for doors, windows and clerestory windows with hinges and necessary screws :				
6.04.1	9.27.1	35 mm thick shutters				
(a)	9.27.1.2	With ISI marked stainless steel butt hinges of required size				
(a)	9.27.1.2.1	Second class teak wood	sqm	305.00	4,347.70	13,26,048.50
6.05	9.40	Providing and fixing wooden moulded beading to door and window frames with iron screws, plugs and priming coat on unexposed surface etc. complete :				
6.05.1	9.40.1	2nd class teak wood				
(a)	9.40.1.1	50x12 mm	metre	26975.00	184.60	49,79,585.00
6.06	9.53	Providing 40x5 mm flat iron hold fast 40 cm long including fixing to frame with 10 mm diameter bolts, nuts and wooden plugs and embedding in cement concrete block 30x10x15cm 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size).	each	16066.00	179.20	28,79,027.20
6.07	9.76	Providing and fixing bright finished brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality with necessary screws etc. complete.	each	2381.00	712.75	16,97,057.75
6.08	9.96	Providing and fixing aluminium sliding door bolts , ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete :				
(a)	9.96.1	300x16 mm	each	10.00	257.15	2,572.00
6.09	9.97	Providing and fixing ISI marked aluminium tower bolt , anodised (anodic coating not less than grade AC 10 as per IS:1868), transparent or dyed to required color or shade, with nuts and screws etc. complete				
(a)	9.97.2	250x10 mm	each	930.00	103.55	96,301.50
(b)	9.97.3	200x10 mm	each	12.00	90.00	1,080.00
(c)	9.97.5	100x10 mm	each	692.00	58.15	40,239.80
6.10	9.100	Providing and fixing ISI marked aluminium handles , anodised (anodic coating not less than grade AC 10 as per IS:1868), transparent or dyed to required color or shade, with necessary screws etc. complete				
(a)	9.100.1	125 mm	each	1850.00	59.65	1,10,352.50
(b)	9.100.2	100 mm	each	352.00	52.85	18,603.20
6.11	9.101	Providing and fixing aluminium hanging floor door stopper ISI marked powder coated (55 micron) to required colour and shade with necessary screws etc. complete.				
(a)	9.101.2	Twln rubber stopper	each	992.00	62.05	61,553.60
6.12	9.102	Providing and fixing aluminium casement stays , ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete. each	each	352.00	62.55	22,017.60
6.13	9.147A	Providing and fixing factory made uPVC white colour casement/casement cum fixed glazed windows comprising of uPVC multi-chambered frame, sash and mullion (where ever required) extruded profiles duly reinforced with 1.50 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), uPVC extruded glazing beads of appropriate dimension, EPDM gasket, stainless steel (SS 304 grade) friction hinges, zinc alloy (white powder coated) casement handles, G.I fasteners 100 x 8 mm size for fixing frame to finished wall, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, mullion (if required) shall be also fusion welded including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes and silicon sealant shall be paid separately) Note: For uPVC frame, sash and mullion extruded profiles minus 5% tolerance in dimension i.e. in depth & width of profile shall be acceptable. Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made.				
(a)	9.147A.1	Casement window single panel with S.S. friction hinges (300 x 19 x 1.9 mm), made of (small series) frame 47 x 50 mm & sash 47 x 68 mm both having wall thickness of 1.9 ± 0.2 mm and single glass pane glazing bead of appropriate dimension. (Area of window upto 0.75 sqm.)	sqm	422.00	9,483.50	40,02,037.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
(b)	9.147A.2	Casement window double panels with S.S. friction hinges (300 x 19 x 1.9 mm) made of (small series) frame 47 x 50 mm, sash 47 x 68 mm & mullion 47 x 68 mm all having wall thickness of 1.9 ± 0.2 mm and single glazing bead of appropriate dimension. (Area of window above 0.75 sqm upto 1.50 sqm).	sqm	357.00	8,717.70	31,12,219.00
(c)	9.147A.3	Casement window double panels with top fixed with S.S. friction hinges (350 x 19 x 1.9 mm) made of (small series) frame 47 x 50 mm, sash 47 x 68 mm & mullion 47 x 68 mm all having wall thickness of 1.9 ± 0.2 mm and single glazing bead of appropriate dimension. (Area of window upto 2.50 sqm).	sqm	287.00	6,982.00	20,03,834.00
6.14	9.147C	Providing and fixing factory made uPVC white colour casement/ Casement cum fixed glazed door comprising of uPVC multi-chambered frame, sash and mullion (where ever required) extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), uPVC extruded glazing beads of appropriate dimension, EPDM gasket, zinc alloy (white powder coated) 3D hinges and one handle on each side of panels along with zinc plated mild steel multi point locking having transmission gear, cylinder with keeps and one side key, G.I fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws, etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, mullion (if required) shall be also fusion welded including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealent over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes and silicon sealent shall be paid separately). Note: For uPVC frame, sash and mullion extruded profiles minus 5% tolerance in dimension i.e. in depth & width of profile shall be acceptable. Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made.				
(a)	9.147C.1	Casement door with 3D hinges made of (big series) frame 67 x 64 mm & sash 67 x 110 mm both having wall thickness of 2.3 ± 0.2 mm and single glazing bead / double glazing bead of appropriate dimension. (Area of door upto 2.00 sqm).	sqm	20.00	9,131.45	1,82,629.00
6.15	9.147F	Providing and fixing factory made uPVC white colour sliding glazed door comprising of uPVC multi-chambered frame with in-built roller track and sash extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), appropriate dimension uPVC extruded glazing beads, uPVC extruded interlock and uPVC extruded inline sash adaptor (if required), EPDM gasket, wool pile, zinc alloy (white powder coated) handle with key on one side of extreme panels along with zinc plated mild steel multi point locking having transmission gear with keeps, zinc alloy (white powder coated) crescent lock (if required), stainless steel (SS 304 grade) body with adjustable double nylon rollers (weight bearing capacity to be 120 kg), G.I fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealent over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes, wire mesh and silicon sealent shall be paid separately).				
(a)	9.147F.1	Two track two panels sliding door made of (big series) frame 67 x 50 mm & sash 46 x 82 mm both having wall thickness of 2.3 ± 0.2 mm and single glazing bead / double glazing bead of appropriate dimension. (Area of door above 2.00 sqm upto 5.00 sqm)	sqm	181.00	6,005.00	10,86,905.00
(b)	9.147F.4	Three track three panels sliding door with fly proof S.S wire mesh (Two nos. glazed & one no. wire mesh panels) made of (big series) frame 116 x 45 mm & sash 46 x 82 mm both having wall thickness of 2.3 ± 0.2 mm and single glazing bead / double glazing bead of appropriate dimension. (Area of door above 2.00 sqm upto 5.00 sqm)	sqm	4302.00	7,774.55	3,34,46,114.00
6.16	9.165	Providing and fixing ISI marked SS handles with necessary screws etc. complete				
(a)	9.165.1	125 mm	each	33.00	98.75	3,258.75
		TOTAL OF WOOD AND P.V.C. WORK				73262823.60
7.00	10.00	STEEL WORK				
7.01	10.1	Structural steel work in single section, fixed with or without connecting plate, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	31250	86.05	2689062.50
7.02	10.5	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6 mm angle iron and 3 mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.				
(a)	10.5.1	Using M.S. angles 40x40x6 mm for diagonal braces	sqm	22.00	4,428.15	53,138.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
7.03	10.6	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters.				
(a)	10.6.1	80x1.25 mm M.S. laths with 1.25 mm thick top cover	sqm	20.00	2,944.10	58,882.00
7.04	10.7	Providing and fixing ball bearing for rolling shutters.	each	6.00	419.85	2,519.00
7.05	10.9	Extra for providing grided rolling shutters manufactured out of 8 mm dia M.S. bar instead of laths as per design approved by Engineer-in-charge, (area of grill to be measured).	sqm	20.00	668.95	13,379.00
7.06	10.13	Providing and fixing T-Iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer.				
(a)	10.13.1	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	kg	141.00	106.45	15,009.00
7.07	10.18	Providing and fixing circular/ hexagonal G.I. box for ceiling fan clamp, of internal dia 140 MM, 73 MM height, top LID of 1.5 mm thick G.I. sheet with its top surface hacked for proper bonding, top LID shall be screwed into the G.I. box by means of 3.3 mm dia round headed screws, one lock at the corners. Clamp shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing. (DSR Civil-2018 item no. 10.18)	each	2376.00	172.25	4,09,266.00
7.08	10.25	Steel work welded in built up sections/ framed work, including cutting, holsting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
(a)	10.25.1	In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete	kg	1250.00	93.65	1,17,063.00
(b)	10.25.2	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	kg	21073.00	131.00	27,60,563.00
7.09	10.26	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.				
(a)	10.26.1	M.S. tube	kg	3762.00	145.65	5,47,935.00
7.10	10.27	Providing and fixing carbon steel galvanised (minimum coating 5 micron) dash fastener of 10 mm dia double threaded 6.8 grade (yield strength 480 N/mm ²), counter sunk head, comprising of 10 mm dia polyamide PA 6 grade sleeve, including drilling of hole in frame, concrete/ masonry, etc. as per direction of Engineer-in-charge.				
(a)	10.27.1	10 x 60 mm	each	3368.00	103.65	3,49,093.00
7.11	10.28	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, sheets, grating, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners, stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	kg	15009.00	575.45	86,36,929.00
Total of sub-head						16652838.50
8.0	11.0	FLOORING				
8.01	11.3	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete.				
(a)	11.3.1	40 mm thick with 20 mm nominal size stone aggregate	sqm	65.00	498.35	32,393.00
8.02	11.4	52 mm thick cement concrete flooring with concrete hardener topping, under layer 40 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) and top layer 12 mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate 6 mm nominal size) by volume, hardening compound mixed @ 2 litre per 50 kg of cement or as per manufacturer's specifications. This includes cost of cement slurry, but excluding the cost of nosing of steps etc. complete.	sqm	463.00	787.50	3,64,613.00
8.03	11.6	Cement plaster skirting (up to 30 cm height) with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement.				
(a)	11.6.1	18 mm thick.	sqm	46.00	521.15	23,973.00
8.04	11.13	Providing and fixing glass strips in joints of terrazo/ cement concrete floors.				
(a)	11.13.1	40 mm wide and 4 mm thick.	metre	1056.00	75.15	79,358.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
8.05	11.20	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand).				
(a)	11.20.3	Dark shade pigment using ordinary cement	sqm	8386.00	928.00	77,82,208.00
8.06	11.23	Marble stone flooring with 18 mm thick marble stone, as per sample of marble approved by Engineer-In-charge, over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry, including rubbing and polishing complete with :				
(a)	11.23.3	Agarla White	sqm	62.00	2,730.05	1,69,263.10
8.07	11.26	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :				
8.07.1	11.26.1	25 mm thick	sqm	7118.00	1,531.85	1,09,03,708.00
8.08	11.27	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	sqm	1170.00	1,810.05	21,17,759.00
8.09	11.31	Extra for pre finished nosing in treads of steps of Kota stone/ sand stone slab.	metre	2629.00	148.10	3,89,355.00
8.10	11.33	25 mm wooden planking , tongued and grooved in flooring, including fixing with iron screws complete with :				
(a)	11.33.1	Second class teak wood	sqm	65.00	4,152.45	2,69,909.00
8.11	11.37	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc., complete.	sqm	72.00	926.90	66,737.00
8.12	11.41A	Providing and laying Vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc..The tile must be cut with the zero chipping diamond cutter only.Laying of tiles will be done with notch trowel, plier, wedge, clips of required thickness, levelling system and rubber mallet for placing the tile gently and easily.				
8.12.1	11.41A.1	Double charge vitrified tile polished finish of size				
(a)	11.41A.1.1	Size of Tile 600x600 mm	sqm	4577.00	1,322.15	60,51,481.00
(b)	11.41A.1.5	Size of Tile 1000x1000 mm	sqm	50.00	1,669.25	83,463.00
8.12.2	11.41A.3	Glazed vitrified tiles Matt/Antiskid finish of size				
(a)	11.41A.3.1	Size of Tile 600x600 mm	sqm	4131.00	1,338.20	55,28,104.00
	11.41A.3.3	Size of Tile 800x800 mm	sqm	414.00	1,626.85	6,73,516.00
8.13	11.46	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joint with white cement & matching pigments etc. complete.				
(a)	11.46.2	Size of Tile 600x600 mm	sqm	10705.00	1,545.85	1,65,48,324.00
(b)	11.46.3	Size of Tile 800x800 mm	sqm	10.00	1,806.80	18,068.00
(c)	11.46.4	Size of Tile 1000x1000 mm	sqm	60.00	2,547.35	1,52,841.00
8.14	11.51	Providing and laying machine cut, mirror polished, Italian Marble stone flooring laid in required pattern in linear portion of the building all complete as per architectural drawings, with 18 mm thick stone slab laid over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with white cement slurry @ 4.4 kg/sqm including pointing with white cement slurry admixed with pigment to match the marble shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-In-Charge.				
(a)	11.51.1	18 mm thick Italian Marble stone slab, Perlato, Rosso verona, Fire Red or Dark Emperadore etc.	sqm	13315.00	5,986.20	7,97,06,253.00
8.15	11.53	Providing and fixing Glass mosaic tiles on finished plain floor, wall surface of size 20 mm x 20 mm x 4 mm in all colour, design, fixing in customize design as per direction of Engineer-In- Charge. The glass mosaic tiles to be fixed on the wall surface with the help of approved adhesive applied at the rate of 2.5 kg per sqm and grouting of the same. The rate is inclusive of all operation, material and required pattern approved by Engineer-in-Charge:	sqm	411.00	3,250.35	13,35,894.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
8.16	11.56	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curving and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.				
	(a) 11.56.1	Polished Granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.	sqm	4685.42	3,526.60	1,65,23,602.17
		SUB TOTAL OF FLOORING				148820822.27
9.0	12.0	ROOFING				
9.01	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (I) Single socketed pipes.				
	(a) 12.41.1	75 mm diameter	Metre	595.00	201.10	1,19,654.50
(b) 12.41.2	110 mm diameter	Metre	3095.00	305.05	9,44,129.75	
9.02	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.				
	9.02.1	12.42.1	Coupler			
(a) 12.42.1.1	75 mm	Each	15.00	77.85	1,167.75	
(b) 12.42.1.2	110 mm	Each	27.00	117.80	3,180.60	
9.02.2	12.42.4	Single tee without door				
	(a) 12.42.4.1	75x75x75 mm	Each	172.00	122.45	21,061.40
(b) 12.42.4.2	110x110x110 mm	Each	462.00	188.55	87,110.10	
9.02.3	12.42.5	Bend 87.5°				
	(a) 12.42.5.1	75 mm bend	Each	15.00	89.90	1,348.50
(b) 12.42.5.2	110 mm bend	Each	40.00	129.85	5,194.00	
9.02.4	12.42.6	Shoe (Plain)				
	(a) 12.42.6.1	75 mm Shoe	Each	15.00	79.20	1,188.00
(b) 12.42.6.2	110 mm Shoe	Each	40.00	113.80	4,552.00	
9.03	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
	(a) 12.43.1	75 mm	Each	183.00	290.15	53,097.45
(b) 12.43.2	110 mm	Each	1019.00	288.80	2,94,287.20	
9.04	12.44	Providing and fixing to the Inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	Each	29.00	47.25	1,370.25
9.05	12.54	Providing and fixing GI Clip in Metal Ceiling System of 600x600 mm module which includes providing and fixing 'C' wall angle of size 20x30x20 mm made of 0.5 mm thick pre painted steel along the perimeter of the room with help of nylon sleeves and wooden screws at 300 mm center to centre, suspending the main C carrier of size 10x38x10 mm made of G.I steel 0.7 mm thick from the soffit with help of soffit cleat 37x27x25x1.6 mm, rawl plugs of size 38x12 mm and C carrier suspension clip and main carrier bracket at 1000 mm c/c. Inverted triangle shaped Spring Tee having height of 24 mm and width of 34 mm made of GI steel 0.45 mm thick is then fixed to the main C carrier and in direction perpendicular to it at 600 mm centers with help of suspension brackets. Wherever the main C carrier and spring T have to join, C carrier and spring T connectors have to be used. All sections to be galvanized @ 120 gms/sqm (both side inclusive), fixing with clip in tiles into spring T with:				
	(a) 12.54.2	GI Metal Ceiling Clip in plain Beveled edge global white color tiles of size 600x600 and 0.5 mm thick with 25 mm height, made of GI sheet having galvanizing of 100 gms/ sqm (both sides inclusive) and 20% perforation area with 1.8 mm dia holes and having NRC of 0.5, electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending and perforation.	sqm	6286.00	1,881.60	1,18,27,738.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
9.06	12.55	Providing and fixing Heat Resistant Terrace Tiles (300 mm x 300 mm x 20 mm) with SRI (solar refractive index) > 78, solar reflection > 0.70 and Initial emittance > 0.75 on waterproof and sloped surface of terrace, laid on 20 mm thick cement sand mortar in the ratio of 1:4 (1 cement : 4 coarse sand) and grouting the joints with mix of white cement & marble powder in ratio of 1:1, including rubbing and polishing of the surface upto 3 cuts complete, including providing skirting upto 150 mm height along the parapet walls in the same manner.	sqm	2775.00	1,374.10	38,13,128.00
		SUB TOTAL OF ROOFING				17178207.50
10.0	13.0	FINISHING				
10.01	13.4	12 mm cement plaster of mix :				
(a)	13.4.1	1:4 (1 cement: 4 coarse sand)	sqm	411.00	276.15	1,13,498.00
10.02	13.9	Cement plaster 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement.				
(a)	13.9.1	12 mm cement plaster	sqm	20785.00	350.15	72,77,868.00
10.03	13.40	Distempering with dry distemper of approved brand and manufacture (two or more coats) of required shade on new work, over and including water thinnable priming coat to give an even shade.	sqm	21435.00	117.75	25,23,971.00
10.04	13.44	Finishing walls with water proofing cement paint of required shade :				
(a)	13.44.1	New work (Two or more coats applied @ 3.84 kg/10 sqm)	sqm	1853.00	91.25	1,69,086.00
10.05	13.45	Finishing walls with textured exterior paint of required shade :				
(a)	13.45.1	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	sqm	8530.00	232.00	19,78,960.00
10.06	13.47	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade:				
(a)	13.47.1	New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	sqm	26219.00	161.15	42,25,192.00
10.07	13.62	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade :				
(a)	13.62.1	Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture	sqm	3196.00	177.15	5,66,171.00
10.08	13.68	French spirit polishing :				
(a)	13.68.1	Two or more coats on new works including a coat of wood filler	sqm	3097.00	351.15	10,87,512.00
10.09	13.80	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	sqm	34649.00	115.15	39,89,832.00
10.10	13.81	Distempering with 1st quality acrylic distemper, having VOC (Volatile Organic Compound) content less than 50 grams/litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour.				
(a)	13.81.2	Two coats	sqm	269464.00	81.90	2,20,69,102.00
10.11	13.82	Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound) content less than 50 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour.				
(a)	13.82.2	Two coats	sqm	120373.00	106.80	1,28,55,836.00
10.12	13.85	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound) content.				
(a)	13.85.3	With water thinnable cement primer on wall surface having VOC content less than 50 grams/litre	sqm	389836.00	60.00	2,33,90,160.00
		SUB TOTAL OF FINISHING				80247188.00
11.0	14.0	REPAIRS TO BUILDING				
11.01	14.90	Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer, 3 mm thick water proofing membrane, black finished reinforced with glass fibre matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufactured of density at 25°C, 0.87 - 0.89 kg/litre and viscosity 70 - 160 cps. Over the primer coat the layer of membrane shall be laid using butane torch and sealing all joints etc., and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 350/300 N/5 cm. Tear strength in longitudinal and transverse direction as 60/80N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane :				
(a)	14.90.1	3 mm thick	sqm	12116.00	512.95	62,14,902.00
11.02	14.92	Extra for covering top of membrane with Geotextile, 120 gsm non woven, 100% polyester of thickness 1 to 1.25 mm bonded to the membrane with intermittent touch by heating the membrane by Butane Torch as per manufactures recommendation.	sqm	12116.00	99.75	12,08,571.00
		SUB TOTAL OF REPAIRS TO BUILDING				7423473.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
12.00	15.00	DISMANTLING WORKS				
12.01	15.2	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.				
a)	15.2.2	Nominal concrete 1:4:8 or leaner mix (1/c equivalent design mix)	Cum	200.00	1072.80	214560.00
12.02	15.3	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	Cum	200.00	2534.70	506940.00
12.03	15.7	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.				
a)	15.7.4	In cement mortar	Cum	400.00	1469.90	587960.00
12.04	15.12	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead :				
a)	15.12.1	Of area 3 sq. metres and below	Each	100.00	274.50	27450.00
b)	15.12.2	Of area beyond 3 sq. metres	Each	100.00	375.65	37565.00
12.05	15.18	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc. including dismembering and stacking within 50 metres lead.	Kg	4000.00	4.15	16600.00
12.06	15.19	Dismantling steel work manually/ by mechanical means in built up sections without dismembering and stacking within 50 metres lead as per direction of Engineer-in-charge.	Kg	500000.00	2.75	1375000.00
12.07	15.20	Extra for dismantling trusses, rafters, purlins etc. of steel work every additional span of one metre or part thereof beyond 10 metres	Kg per metre span	3200.00	0.60	1920.00
12.08	15.28	Dismantling roofing including ridges, hips, valleys and gutters etc., and stacking the material within 50 metres lead of:				
	15.28.1	GS Sheet	Sqm	24000.00	121.90	2925600.00
12.09	15.60	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	Cum	800.00	138.85	111080.00
		Total of sub-head				5804675.00
13.0	16.0	ROAD WORK				
13.01	16.1	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earthwith lead upto 50 metres.	sqm	57510.00	156.75	90,14,693.00
13.02	16.2	Extra for compaction of earth work in embankment under optimum moisture conditions to give at least 95% of the maximum dry density (proctor density).	cum	29384.00	18.20	5,34,789.00
13.03	16.43	Providing and laying design mix cement concrete of M-30 grade, in roads/ taxi tracks/ runways, using cement content as per design mix, using coarse sand and graded stone aggregate of 40 mm nominal size in appropriate proportions as per approved & specified design criteria, providing dowel bars with sleeve/ tie bars wherever required, laying at site, spreading and compacting mechanically by using needle and surface vibrators, levelling to required slope/ camber, finishing with required texture, including steel form work with sturdy M.S. channel sections, curing, making provision for contraction/ expansion, construction & longitudinal joints (10 mm wide x 50 mm deep) by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete all as per direction of Engineer-in-charge (Item of joint fillers, sealants, dowel bars with sleeve/ tie bars to be paid separately).				
		Note:- Cement content considered in M-30 is @ 340 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately.				
a)	16.43.1	Cement concrete prepared with batch mixing machine	cum	4408.00	8,752.35	3,85,80,359.00
13.04	16.44	Extra for providing and mixing hardening compound of approved quality as per manufacturer's specification in cement concrete.	litre	100026.00	50.85	50,86,322.00
13.05	16.45	Providing and fixing in position pre-moulded joint filler in expansion per cm depth joints.	per cm width per metre length	13992.00	3.10	43,375.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
13.06	16.46	Providing and laying in position bitumen hot sealing compound for expansion joints etc.				
(a)	16.46.1	Using grade 'A' sealing compound.	per cm depth per cm width per metre length	69960.00	3.30	2,30,868.00
13.07	16.64	Providing and laying 75 mm thick compacted bed of dry brick aggregate of 40 mm thick nominal size including spreading, well ramming, consolidating and grouting with jamuna sand, including finishing smooth etc. complete as per direction of Engineer-in-charge.	sqm	16000.00	176.70	28,27,200.00
13.08	16.68	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M-30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge.	sqm	20126.00	859.35	1,72,95,278.00
13.09	16.69	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not be more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	cum	378.00	8,376.15	31,66,185.00
13.10	16.75	Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator, vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in-charge. (The panel shuttering work shall be paid for separately).	cum	1594.00	8,663.05	1,38,08,902.00
13.11	16.78	Construction of granular sub-base by providing close graded material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.				
(a)	16.78.1	With material conforming to Grade-I (size range 75 mm to 0.075 mm) having CBR Value-30	cum	8626.00	2,517.70	2,17,17,680.00
		SUB TOTAL OF ROAD WORK				112305661.00
14.0	17.0	SANITARY INSTALLATIONS				
14.01	17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:				
(a)	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests	Each	265.00	5,421.50	14,36,697.50
14.02	17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever required:				
(a)	17.7.1	White Vitreous China Wash basin size 630x450 mm with a pair of 15 mm C.P. brass pillar taps	Each	106.00	3,087.70	3,27,296.20
14.03	17.7A	Providing and fixing wash basin with C.I. brackets, 15 mm dia CP Brass single hole basin mixer of approved quality and make, including painting of fittings and brackets, cutting and making good the walls wherever required:-				
(a)	17.7A	(a) White Vitreous China Wash basin size 550x400 mm with a 15 mm CP Brass single hole basin mixer	Each	430.00	4,403.80	18,93,634.00
14.04	17.7B	Providing and fixing wash basin with C.I. brackets, 15 mm PTMT pillar cock, 32 mm PTMT waste coupling of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever required. White Vitreous China Flat back wash basin size 550x400 mm with single 15 mm PTMT pillar cock. (For Servant Toilet)	Each	159.00	2,398.70	3,81,393.30
14.05	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
14.05.1	17.10.1	Kitchen sink with drain board				
(a)	17.10.1.1	510x1040 mm bowl depth 250 mm	Each	372.00	5,155.95	19,18,013.40



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
14.06	17.22A	Providing and fixing CP Brass 32mm size Bottle Trap of approved quality & make and as per the direction of Engineer-in-charge..(with wash basin)	Each	695.00	883.05	6,13,719.75
14.07	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
14.07.1	17.28.2	Flexible pipe				
(a)	17.28.2.2	40 mm dia (for sink)	Each	372.00	101.10	37,609.20
14.08	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	Each	936.00	1,283.05	12,00,934.80
14.09	17.34	Providing and fixing toilet paper holder :				
(a)	17.34.1	C.P. brass	Each	430.00	583.75	2,51,012.50
14.10	17.35	Providing and fixing soil, waste and vent pipes :				
(a)	17.35.1.2	100 mm dia Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989	Metre	8030.00	1,092.20	87,70,366.00
(b)	17.35.2.2	75 mm dia Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989	Metre	2385.00	992.05	23,66,039.25
14.11	17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast Iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including cost of cutting holes and making good the walls etc. :				
(a)	17.37.1	For 100 mm dia pipe	Each	1247.00	287.45	3,58,450.15
(b)	17.37.2	For 75 mm dia pipe	Each	1171.00	283.40	3,31,861.40
14.12	17.38	Providing and fixing bend of required degree with access door, Insertion rubber washer 3 mm thick, bolts and nuts complete.				
(a)	17.38.1.2	100 mm dia Sand cast Iron S&S as per IS - 3989	Each	170.00	461.65	78,480.50
14.13	17.39	Providing and fixing plain bend of required degree.				
(a)	17.39.1.2	100 mm dia Sand cast Iron S&S as per IS : 3989	Each	1891.00	390.75	7,38,908.25
(b)	17.39.2.2	75 mm dia Sand cast Iron S&S as per IS : 3989	Each	16.00	289.75	4,636.00
14.14	17.40	Providing and fixing heel rest sanitary bend				
(a)	17.40.1.2	100 mm dia Sand cast Iron S&S as per IS - 3989	Each	45.00	432.20	19,449.00
(b)	17.40.2.2	75 mm dia Sand cast Iron S&S as per IS - 3989	Each	9.00	363.35	3,270.15
14.15	17.42	Providing and fixing double equal plain junction of required degree.				
(a)	17.42.1.2	100x100x100x100 mm Sand cast Iron S&S as per IS - 3989	Each	110.00	865.70	95,227.00
14.16	17.43	Providing and fixing single equal plain junction of required degree with access door, Insertion rubber washer 3 mm thick, bolts and nuts complete.				
(a)	17.43.1.2	100x100x100 mm 100x100x100 mm	Each	537.00	722.55	3,88,009.25
14.17	17.44	Providing and fixing single equal plain junction of required degree :				
(a)	17.44.1.2	100x100x100 mm Sand cast Iron S&S as per IS - 3989	Each	1685.00	667.70	11,25,074.50
(b)	17.44.2.2	75x75x75 mm Sand cast Iron S&S as per IS - 3989	Each	655.00	470.40	3,08,112.00
14.18	17.48	Providing and fixing single unequal plain junction of required degree :				
(a)	17.48.1.2	100x100x75 mm Sand cast Iron S&S as per IS - 3989	Each	186.00	798.80	1,48,576.80
14.19	17.55	Providing and fixing door piece, insertion rubber washer 3mm thick, bolts & nuts complete :				
(a)	17.55.1.2	100 mm Sand cast Iron S&S as per IS - 3989	Each	45.00	595.45	26,795.25
(b)	17.55.2.2	75 mm Sand cast Iron S&S as per IS - 3989	Each	9.00	444.95	4,004.55
14.20	17.56	Providing and fixing terminal guard :				
(a)	17.56.1.2	100 mm Sand cast Iron S&S as per IS - 3989	Each	45.00	389.40	17,523.00
(b)	17.56.2.2	75 mm Sand cast Iron S&S as per IS - 3989	Each	29.00	309.85	8,985.65
14.21	17.59	Providing and fixing M.S. stays and clamps for sand cast Iron/ centrifugally cast (spun) Iron pipes of diameter :				
(a)	17.59.1	100mm	Each	45.00	126.50	5,692.50
(b)	17.59.2	75mm	Each	29.00	78.40	2,273.60
14.22	17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :				
(a)	17.60.1.1	100 mm Inlet and 100 mm outlet Sand cast Iron S&S as per IS: 3989	Each	1752.00	1,512.55	26,49,987.60



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
14.23	17.65	Painting sand cast iron/ centrifugally cast (spun) Iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :				
(a)	17.65.1	100 mm diameter pipe	Metre	2250.00	64.20	1,44,450.00
(b)	17.65.2	75 mm diameter pipe	Metre	2295.00	48.85	1,12,110.75
14.24	17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.(For Servant Toilet)				
(a)	17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	Each	265.00	595.50	1,57,807.50
14.25	17.78	Providing and fixing white vitreous china extended wall mounting water closet of size 780x370x690 mm of approved shape including providing & fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3 litre/ 6 litre (adjustable to 4 litre/ 8 litres), including seat cover, and cistern fittings, nuts, bolts and gasket etc complete.	Each	430.00	13,852.45	59,56,553.50
SUB TOTAL OF SANITARY INSTALLATIONS						31882964.90
15.00	18.00	Water Supply				
15.01	18.7	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer In Charge.				
Internal work - Exposed on Wall						
(a)	18.7.2	20 mm nominal outer dia Pipes	Metre	665.00	306.95	2,04,121.75
(b)	18.7.3	25 mm nominal outer dia Pipes	Metre	1180.00	369.20	4,35,656.00
(c)	18.7.4	32 mm nominal outer dia Pipes	Metre	1015.00	480.55	4,87,758.25
(d)	18.7.5	40 mm nominal outer dia Pipes	Metre	1170.00	648.60	7,58,862.00
(e)	18.7.6	50 mm nominal outer dia Pipes	Metre	1455.00	903.50	13,14,592.50
15.02	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer In Charge.				
Concealed work, including cutting chases and making good the walls etc.						
(a)	18.8.1	15 mm nominal outer dia Pipes	Metre	1990.00	409.65	8,15,203.50
(b)	18.8.2	20 mm nominal outer dia Pipes	Metre	18115.00	478.15	86,61,687.25
(c)	18.8.3	25 mm nominal outer dia Pipes	Metre	1305.00	561.95	7,33,344.75
15.03	18.9	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer In Charge.				
External work						
(a)	18.9.4	32 mm nominal outer dia Pipes	Metre	290.00	413.70	1,19,973.00
(b)	18.9.5	40 mm nominal outer dia Pipes	Metre	370.00	536.75	1,98,597.50
(c)	18.9.6	50 mm nominal outer dia Pipes	Metre	90.00	791.65	71,248.50
15.04	18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.)				
(a)	18.10.4	32 mm dia nominal bore	Metre	1175.00	529.70	6,22,397.50
(b)	18.10.6	50 mm dia nominal bore	Metre	1570.00	786.75	12,35,197.50
15.05	18.12	Providing, laying, jointing, testing, & commissioning of GI pipes with zinc coating of 50 to 65 DFT (medium class) of approved make, conforming to IS : 1239 complete with malleable cast Iron fittings as per IS : 1879 such as tees, crosses, plugs, sockets, elbows, reducers, unions, sleeves pieces, check nuts etc. including with one coat of bitumastic paint, wrapping with one layer of PVC tape and applying a final coat of bitumastic paint complete as per specifications and filling sand of grading zone V or coarser grade, allround the G.I. pipes with necessary excavation, refilling and compaction in layers as per sub grade of required density including watering required for compaction and disposal of surplus earth shall be included in rate complete as per specifications (pipes buried in ground) For rising main from sump to external drain.(For Sump Rinsing)				
(a)	18.12.6	50 mm dia nominal bore	Metre	75.00	565.25	42,393.75
15.06	18.12.7	65mm dia nominal bore	Metre	50	716.00	35800.00
	18.12.8	80mm dia nominal bore	Metre	50	866.40	43320.00
15.07	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
	18.21.1	30 cm length				
(a)	18.21.1.1	15 mm nominal bore	Each	4702.00	72.85	3,42,540.70
15.08	18.22	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :				
(a)	18.22.1	100 mm diameter (For Servant Toilet)	Each	265.00	151.90	40,253.50
15.09	18.32	Constructing masonry Chamber 30x30x50 cm inside, in brick work in cement mortar 1:4 (1 cement :4 coarse sand) for stop cock, with C. I. surface box 100x100x75 mm (Inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12mm thick, finished with a floating coat of neat cement complete as per standard design :				
(a)	18.32.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	Each	39.00	1,582.45	61,715.55
15.10	18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :				
(a)	18.33.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	Each	7.00	9,288.40	65,018.80
15.11	18.38	Painting G.I. pipes and fittings with synthetic enamel white paint with two coats over a ready mixed priming coat, both of approved quality for new work :				
(a)	18.38.6	50 mm nominal bore	Meter	30.00	39.80	1,194.00
15.12	18.40	Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality :				
(a)	18.40.4	32 mm diameter pipe	Metre	1175.00	17.05	20,033.75
(b)	18.40.6	50 mm diameter pipe	Metre	1570.00	23.35	36,659.50
15.13	18.49	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 : (with sink & shower)				
(a)	18.49.1	15 mm nominal bore	Each	531.00	418.95	2,22,462.45
15.14	18.51	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.(with WC)				
(a)	18.51.1	15 mm nominal bore	Each	536.00	552.35	2,96,059.60
15.15	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8031				
(a)	18.53.1	15mm nominal bore	Each	4702.00	532.00	25,01,464.00
15.16	18.54	Providing and fixing PTMT bib cock of approved quality and colour.(For Servant Toilet)				
(a)	18.54.2	15 mm nominal bore, 122mm long, weighing not less than 99 gms	Each	795.00	162.05	1,28,829.75
15.17	18.59	Providing and fixing C.I. double acting air valve of approved quality with bolts, nuts, rubber insertions etc. complete (The tail pieces, tapers etc If required will be paid separately) :				
(a)	18.59.1	50mm dia	Each	13.00	5,157.00	67,041.00
15.18	18.65	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms. (For Servant Toilet)	Each	265.00	130.50	34,582.50
		Total of sub-head				19698008.86
16.0	19.0	DRAINAGE				
16.01	19.1	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :				
(a)	19.1.1	100 mm diameter	Metre	20.00	317.05	6,341.00
16.02		Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design :				
(a)	19.2.4	250 mm diameter S.W. pipe	metre	700.00	1,346.95	9,42,865.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
16.03	19.3	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) up to haunches of S.W. pipes including bed concrete as per standard design :				
(a)	19.3.1	100 mm diameter S.W. pipe	Metre	20.00	388.30	7,766.00
(b)	19.3.2	150 mm diameter S.W. pipe	Metre	1040.00	629.30	6,54,472.00
(c)	19.3.4	250 mm diameter S.W. pipe	Metre	745.00	861.15	6,41,556.75
(d)	19.3.5	300 mm diameter S.W. pipe	Metre	160.00	993.65	1,58,984.00
16.04	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design:				
	19.4.2	150 x 100 mm size P type				
(a)	19.4.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	19.00	2,317.40	44,030.60
16.05	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
(a)	19.6.2	150 mm dia. R.C.C. pipe	Metre	1040.00	462.60	4,81,104.00
(b)	19.6.3	250 mm dia. R.C.C. pipe	Metre	745.00	754.45	5,62,065.25
(c)	19.6.4	300 mm dia. R.C.C. pipe	Metre	160.00	863.65	1,38,184.00
(d)	19.6.5	450 mm dia. R.C.C. pipe	Metre	35.00	1,392.70	48,744.50
16.06	19.7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone-III) : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design :				
16.06.1	19.7.1	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :				
(a)	19.7.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	12.00	10,905.05	1,30,860.60
16.07	19.8	Extra for depth for manholes :				
16.07.1	19.8.1	Size 90x80 cm				
(a)	19.8.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	1.50	7,503.00	11,254.50
16.08	19.9	Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand), inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				
16.08.1	19.9.1	0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :				
(a)	19.9.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	28.00	11,038.10	3,09,066.80
16.09	19.10	Extra depth for circular type manhole 0.91m internal dia (at bottom) beyond 0.91 m to 1.67 m				
(a)	19.10.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	7.00	6,448.40	45,138.80
16.10	19.11	Constructing brick masonry circular manhole 1.22 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
16.10.1	19.11.1	1.68 m deep with SFRC Cover and frame (heavy duty HD- 20 grade designation) 560 mm Internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) :				
(a)	19.11.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	10.00	21,235.65	2,12,356.50
16.11	19.12	Extra depth for circular type manhole 1.22 m Internal dia (at bottom) beyond 1.68 m to 2.29 m :				
(a)	19.12.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	14.00	8,368.40	1,17,157.60
16.12	19.13	Constructing brick masonry circular manhole 1.52 m Internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 : graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				
16.12.1	19.13.1	2.30 m deep with SFRC Cover and frame (heavy duty HD- 20 grade designation) 560 mm Internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) :				
(a)	19.13.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	3.00	45,459.15	1,36,377.45
16.13	19.14	Extra depth for circular type manhole 1.52 m Internal dia (at bottom) beyond 2.30 m :				
(a)	19.14.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	6.00	19,514.30	1,17,085.80
16.14	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on full length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacturer's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	Each	159.00	463.05	73,624.95
16.15	19.19	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality				
16.15.1	19.19.3	H D - 20				
(a)	19.19.3.1	Circular shape 560 mm Internal diameter (For over head tanks)	Each	18.00	1,471.50	26,487.00
16.16	19.19	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality				
16.16.1	19.19.4	EHD - 35				
(a)	19.19.4.1	Circular shape 560 mm Internal dia (For under ground tank)	Each	8.00	1,859.50	14,876.00
16.17	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :				
(a)	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	94.00	5,209.10	4,89,655.40
16.18	19.31	Extra for depth beyond 45 cm of brick masonry chamber :				
16.18.1	19.31.1	For 455x610 mm size				
(a)	19.31.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	6.50	3,979.10	25,864.15
		SUB TOTAL OF DRAINAGE				5395918.65
17.0	21.0	ALUMINUM WORK				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
17.01	21.1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/appropriate Z sections and other sections of approved make conforming to IS: 733 and IS : 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred & jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing/ panelling C.P. brass/stainless steel screws all complete as per Architectural drawings and the directions of Engineer-in-charge (Glazing, paneling and dash fasteners to be paid for separately) :				
17.01.1	21.1.1	For fixed portion				
(a)	21.1.1.2	Powder coated aluminium (minimum thickness of powder coating 50 micron)	kg	3709.00	456.30	16,92,417.00
17.01.2	21.1.2	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)				
(a)	21.1.2.2	Powder coated aluminium (minimum thickness of powder coating 50 micron)	kg	1132.00	546.35	6,18,468.00
17.02	21.3	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item):				
(a)	21.3.2	With float glass panes of 5 mm thickness (weight not less than 12.50 kg/ sqm)	sqm	574.00	1,296.40	7,44,134.00
17.03	21.4	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.				
(a)	21.4.1	With stainless steel cover plate minimum 1.25 mm thickness	each	136.00	2,412.50	3,28,100.00
17.04	21.8	Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather sillcon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete.				
(a)	21.8.1	Upto 5mm depth and 5 mm width	metre	24064.00	79.45	19,11,885.00
17.05	21.10	Providing and fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partition etc. with 6 mm thick clear float glass both side, having 12 mm air gap, including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.	sqm	5861.00	3,905.35	2,28,89,256.00
17.06	21.13	Providing and fixing Brass 100mm mortice latch and lock with 6 levers without pair of handles (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	each	25.00	458.55	11,463.75
17.07	21.16	Providing and fixing aluminium round shape handle of outer dia 100 mm with SS screws etc. complete as per direction of Engineer-in-charge				
(a)	21.16.2	Powder coated minimum thickness 50 micron aluminium	each	60.00	83.60	5,016.00
		SUB TOTAL OF ALUMINIUM WORK				28200739.76
18.00	22.00	WATER PROOFING				
18.01	22.5	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., wall, by applying cement slurry mixed with water proofing cement compound consisting of applying : a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. (The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.)	sqm	20896.00	465.60	97,29,178.00
18.02	22.7	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations:				
		(a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing slab including adjoining walls upto 300 mm height including cleaning the surface before treatment.compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC				
		(b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
		(c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge.				
		(d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep.				
		(e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test."All above operations to be done in order and as directed and specified by the Engineer-In-Charge :				
(a)	22.7.1	With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	sqm	2775.00	1,398.50	38,80,838.00
18.03	22.14	Grading roof for water proofing treatment with				
(a)	22.14.1	Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size)	cum	1209.00	6,924.65	83,71,902.00
18.04	22.23	Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels / subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.				
a)	22.23.2	For horizontal surface one coat @1.10 kg per sqm.	Sqm	400.00	373.40	149360.00
b)	22.23.1	For vertical surface two coats @ 0.70 kg per sqm	Sqm	100.00	484.45	48445.00
18.05	22.22	Providing and mixing integral crystalline admixture for water proofing treatment to RCC structures like basement raft, retaining walls, reservoir, sewage & water treatment plant, tunnels / subway and bridge deck etc. at the time of transporting of concrete into the drum of the ready-mix truck, using integral crystalline admixture @ 0.80% (minimum) to the weight of cement content per cubic meter of concrete) or higher as recommended by the manufacturer's specification in reinforced cement concrete at site of work. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90%, compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure. The crystalline admixture shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the Engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.				
			Sqm	35822.00	387.20	13870278.40
18.06	22.26	Providing and applying of swellable type water stop tape, 19mm x 25mm thick in linear meter (expansive nature) for construction joints treatment of RCC structure such as raft slab, retaining walls, water storage tank and at the junctions of raft slab with the retaining walls etc.. After cleaning the surface, one coat of required primer for swellable water stop tape shall be applied throughout the length of the joint @3.78 litre per 240 running meter. Over the primed surface swellable type water stop tape shall be placed. The work shall be carried out all complete as per specification and the direction of the Engineer-In-Charge. The product performance shall carry guarantee for 10 years against any leakage.	Metre	100.00	552.20	55220.00
		Total of sub-head				36105221.40
19.00	23.00	RAIN WATER HARVESTING AND TUBEWELLS				
19.01	23.1	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level.				
19.01.1	23.1.1	All types of soil				
(a)	23.1.1.1	300 mm dia	Metre	400.00	512.30	2,04,920.00
(b)	23.1.1.2	350 mm dia	Metre	200.00	560.30	1,12,060.00
19.01.2	23.1.2	Rocky strata including Boulders				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
a)	23.1.2.2	350 mm dia	RM	100	1293.80	129380.00
19.01.3	23.2	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, beyond 90 metre & upto 150 metre depth below ground level.				
a)	23.2.1	All types of soil				
b)	23.2.1.2	350 mm dia	RM	125	664.05	83006.25
19.01.4	23.2.2	Rocky strata including Boulders				
a)	23.2.2.2	350 mm dia	RM	60	1411.75	84705.00
19.02	23.3	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.				
(a)	23.3.2	150 mm nominal size dia	Metre	300.00	690.75	2,07,225.00
19.03	23.4	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.				
(a)	23.4.2	150 mm nominal size dia	Metre	100.00	746.15	74,615.00
19.04	23.10	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 mild steel screwed and socketed/plain ended casing pipes of required dia, conforming to IS: 4270, of reputed & approved make, including painted with outside surface with two coats of anticorrosive paint of approved brand and manufacture, including required hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer-in-charge.				
a)	23.10.3	200 mm nominal size dia having minimum wall thickness 5.40 mm	RM	175	2062.05	360858.75
19.05	23.11	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 plain slotted (having slot of size 1.6/3.2 mm) mild steel threaded and socketed/ plain bevel ended pipe (type A) of required dia, conforming to IS: 8110, of reputed and approved make, having wall thickness not less than 5.40 mm, including painted with outside surface with two coats of anticorrosive bitumestic paint of approved brand and manufacture, including hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer -in-charge.				
a)	23.11.3	200 mm nominal size dia	RM	105	2171.05	227960.25
19.06	23.15	Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I).				
(a)	23.15.2	150 mm dia	Each	10.00	280.95	2,809.50
b)	23.15.3	200 mm dia	each	2.00	307.75	615.50
		Total of sub-head				1488165.25
	26.00	New Technologies and Materials				
20.00	26.76	Transportation of Precast Elements by flat bed Tractor (Double / Triple axle 40ft Length with proper accessories like A frame etc) from factory, including the cost of loading , unloading & stacking at site with the help of required capacity cranes.				
a)	26.76.1	Lead within 15Kms	MT	500.00	444.05	222025.00
b)	26.76.2	Add/Deduct over item 26.76.1 for every additional lead of 5 km	MT	50.00	97.20	4860.00
		Total of sub-head				226885.00
		HORTICULTURE DSR				
21.01	DSR Horticulture & Landscapeln g 2018 2.1	Trenching in ordinary soil up to a depth of 60 cm including removal and stacking of serviceable materials and then disposing of surplus soil, by spreading and neatly levelling within a lead of 50 m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or / and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure).	cum	8032.86	68.70	5,51,857.48
21.02	DSR Horticulture & Landscapeln g 2018 2.2	Supplying and stacking of good earth at site including royalty and carriage upto 5 km complete (earth measured in stacks will be reduced by 20% for payment).	cum	3680.17	469.50	17,27,839.82



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
21.03	DSR Horticulture & Landscapeln g 2018 2.3	Supplying and stacking sludge at site including royalty and carriage upto 5 km complete (sludge measured in stacks will be reduced by 8% for payment).	cum	521.60	276.90	1,44,431.04
21.04	DSR Horticulture & Landscapeln g 2018 2.4	Supplying and stacking at site dump manure from approved source, including carriage upto 5 km complete (manure measured in stacks will be reduced by 8% for payment) :				
21.4.1	DSR Horticulture & Landscapeln g 2018 2.4.3	Screened through sieve of I.S. designation 4.75 mm	cum	521.60	287.75	1,50,090.40
21.05	DSR Horticulture & Landscapeln g 2018 2.5	Rough dressing the trenched ground including breaking clods.	sqm	29211.10	1.30	37,974.43
21.06	DSR Horticulture & Landscapeln g 2018 2.6	Uprooting weeds from the trenched area after 10 to 15 days of its flooding with water including disposal of uprooted vegetation.	sqm	29211.10	4.30	1,25,607.73
21.07	DSR Horticulture & Landscapeln g 2018 2.7	Fine dressing of the ground.	sqm	29211.10	3.25	94,936.08
21.08	DSR Horticulture & Landscapeln g 2018 2.8	Spreading of sludge, dump manure and/or good earth in required thickness as per direction of officer-in-charge (cost of sludge, dump manure and/ or good earth to be paid separately).	cum	21097.33	46.15	9,73,641.78
21.09	DSR Horticulture & Landscapeln g 2018 2.9	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge	cum	25965.59	32.10	8,33,495.44
21.10	DSR Horticulture & Landscapeln g 2018 2.10	Grassing with selection No. 1 grass including watering and maintenance of the lawn for 60 days or more till the grass forms a thick lawn, free from weeds and fit for mowing including supplying good earth, if needed (the grass and earth shall be paid for separately).				
21.10.1	DSR Horticulture & Landscapeln g 2018 2.10.1	In rows 5 cm apart in both directions	sqm	29211.10	15.55	4,54,232.61



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
21.11	DSR Horticulture & Landscapeln g 2018 2.13	Preparation of beds for hedging and shrubbery by excavating 60 cm deep and trenching the excavated base to a further depth of 30 cm, refilling the excavated earth after breaking clods and mixing with sludge or manure in the ratio of 8:1 (8 parts of stacked volume of earth after reduction by 20% : one part of stacked volume of sludge or manure after reduction by 8%), flooding with water, filling with earth if necessary, watering and finally fine dressing, leveling etc. including stacking and disposal of materials declared unserviceable and surplus earth by spreading and leveling as directed, within a lead of 50 m, lift up to 1.5 m complete (cost of sludge, manure or extra earth to be paid for separately)	cum	2086.00	195.90	4,08,647.40
21.12	DSR Horticulture & Landscapeln g 2018 2.14	Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any, with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately) :				
21.12.1	DSR Horticulture & Landscapeln g 2018 2.14.1	Holes 1.2 m dia and 1.2 m deep	Each	3379.00	305.35	10,31,777.65
21.12.2	DSR Horticulture & Landscapeln g 2018 2.14.2	Holes 90 cm dia, and 90 cm deep	Each	338.00	130.40	44,075.20
21.13	DSR Horticulture & Landscapeln g 2018 2.20	Filling mixture of earth and sludge or manure in the desired proportion in trenches, flooding with water and leveling (cost of supplying earth and sludge or manure and mixing excluded).	cum	4868.26	16.05	78,135.57
21.14	DSR Horticulture & Landscapeln g 2018 2.21	Excavation in dumped stones or malba including stacking of serviceable and unserviceable material separately and disposal of unserviceable material, lead up to 50 m and lift up to 1.5 m, disposed material to be neatly dressed.	cum	1000.00	449.60	4,49,600.00
21.15	DSR Horticulture & Landscapeln g 2018 2.22	Excavation in bajri path including stacking of serviceable and unserviceable material separately, lead up to 50 m and lift up to 1.5 m, disposed material to be neatly dressed.	cum	500.00	501.00	2,50,500.00
21.16	DSR Horticulture & Landscapeln g 2018 2.28	Preparation of mounds of various size and shape by available excavated /supplied earth in layers not exceeding 20 cm in depth, breaking clods, complete as per direction of Officer-in-charge.	cum	1200.00	401.30	4,81,560.00
21.17	DSR Horticulture & Landscapeln g 2018 2.30	Providing Square Cement Concrete pots of specified size, cast with cement concrete of nominal mix 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 6 mm nominal size), reinforced with 7 Nos (3 nos horizontal & 4 nos vertical " U " shape) M.S. wires of 3.5 mm dia as per design, including required frame work, finishing with cement punning on exposed surface, curing for specified period and stacking in required rows & height, all complete as per direction of Officer-in-charge.				
21.17.1	DSR Horticulture & Landscapeln g 2018 2.30.1	Top inside dia 30 cm, outer bottom dia 20 cm, total height 30 cm and wall thickness 25.4 mm	Each	2000.00	246.30	4,92,600.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
21.18	DSR Horticulture & Landscapeln g 2018 2.31	Filling of the following size empty pots with mixture of good earth & manure in the ratio of 2:1 (Two part of Good earth & one part of manure) and placing them on appropriate place i/c carriage of earth, manure and pots up to 50 mtr, as per direction of officer incharge. (The cost of good earth, earthen pots & manure will be paid separately.)				
21.18.1	DSR Horticulture & Landscapeln g 2018 2.31.7	Size of Empty Pots 35cm Top dia, 25cm Bottom Dia & 35cm Perpendicular height.	Each	2000.00	40.25	80,500.00
21.19	DSR Horticulture & Landscapeln g 2018 2.34	Providing & laying Selection no. 1 grass turf with earth 50mm to 60mm thickness on existing ground prepared with proper level and ramming with required tools wooden and then rolling the surface with light roller make the surface smoothen and light watering the same, as per direction of officer in charge	sqmt	2318.22	84.35	1,95,541.86
21.20	DSR Horticulture & Landscapeln g 2018 2.35	Supplying and stacking of selection No.1 grass at site fresh and free from weeds having proper roots in green including loading,unloading , carriage and all taxes paid etc. and as per direction of officer incharge.	sqmt	26892.88	50.80	13,66,158.30
21.21	DSR Horticulture & Landscapeln g 2018 2.36	Cutting of Hedge/Edge including removing of cut material, cleaning, hoeing of hedge/edge bed watering, manureing and applying insecticides and fungicides etc.(excluding the cost of material which shall be supplied by the department) and as per direction of officer in charge.	per sqmt per month	1738.67	16.60	28,861.92
21.22	DSR Horticulture & Landscapeln g 2018 2.38	Topiary cutting/shapping of plant removing of cut materials, cleaning, hoeing of plants complete design hoeing of trees (Topiary) watering manure etc.(excluding the cost of material which shall be supplied by the department) and as per direction of officer in charge as per direction of officer in charge.				
21.22.1	DSR Horticulture & Landscapeln g 2018 2.38.2	Height of Topiary above 120 cm	per tree per month	500.00	93.00	46,500.00
21.23	DSR Horticulture & Landscapeln g 2018 2.39	Complete maintenance of the entire garden features having as per yard stick in the garden area i.e. lawn trees, shrubs, hedge, flower beds, foliages, creepers etc. including hoeing,weeding pruning replacement of plants, gap filling, watering, mowing of lawn, grass cutting by lawn mover and brush cutter , removal of garden waste, applying insecticide, pesticide & fertilizers(whenever required) top dressing of lawn with good earth and manure and maintenance of other garden related works as directed by office-in-charge (Cost of Good Earth, Manure, Fertilizer, Insecticide , Pesticide , lawn mover and brush cutter with fuel will be provided by the Department & other T & P material/articles shall be provided by the contractor.)				
21.23.1	DSR Horticulture & Landscapeln g 2018 2.39.1	RESIDENTIAL AREA/ prestigious works accommodation.(as per yard stick 1Mali =1.00Acre)	per sqmt per month	18142.20	4.15	75,290.13
21.23.2	DSR Horticulture & Landscapeln g 2018 2.39.5	PLAYGROUNDS/ PARKS (as per yard stick 1Mali =2.00Acre).	per sqmt per month	5040.00	2.10	10,584.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
21.23.3	DSR Horticulture & Landscapeln g 2018 2.39.6	OPEN AREA ALONG ROADS s(as per yard stick 1Mali =3.00Acre).	per sqmt per month	23935.30	1.40	33,509.42
21.24	DSR Horticulture & Landscapeln g 2018 2.57	Plantation of Trees, Shrubs, and Hedge at site i/c watering and removal of unserveiceable material's as per direction of officer In charge (excluding cast of plant & water)				
21.24.1	DSR Horticulture & Landscapeln g 2018 2.57.1	Trees plant		3716.38	6.40	23,784.83
21.24.2	DSR Horticulture & Landscapeln g 2018 2.57.2	Shrubs plant		52159.95	3.20	1,66,911.84
21.24.3	DSR Horticulture & Landscapeln g 2018 2.57.3	Hedges plant/ Ground cover		34773.30	2.15	74,762.60
22		Ornamental plants of following species In appropriate size FRP planter and tray at bottom				
22.02	DSR Horticulture & Landscapeln g 2018 5.30	Providing and Displaying Foxtail palm well developed with fresh & healthy foliage of ht. 210	No.	28.00	1,183.90	33,149.20
23	DSR Horticulture & Landscapeln g 2018 6.12	Providing and stacking of Duranta Golden, having ht.15 to 20 cm bushy shape with fresh and healthy leaves in 15 cm size of Earthen Pot/Plastic Pot & as per direction of the officer-In-charge	each	3477.33	21.55	74,936.46
24.02	DSR Horticulture & Landscapeln g 2018 7.7	Providing and stacking of Bauhinia blakeana (Kachnar) of height 120-150, cm. In big poly bags of size 25 cm as per direction of the officer-In-charge.		743.00	80.00	59,440.00
24.03	DSR Horticulture & Landscapeln g 2018 7.16	Providing and stacking of Cassia fistula (Amaltash) of height 120-135 cm. in big poly bags of size 25 cm as per direction of the officer-In-charge.		743.00	65.00	48,295.00
24.04	DSR Horticulture & Landscapeln g 2018 7.19	Providing and stacking of Cassia nodosa of height 120-150 cm. In big poly bags of size 25 cm as per direction of the officer-In-charge.		743.00	65.00	48,295.00
24.05	DSR Horticulture & Landscapeln g 2018 7.27	Providing and stacking of Ficus benjamina (green) of height 150-165 cm.,bushy with healthy branches and lush green foliage in big size HDPE bags as per direction of the officer-In-charge.		743.00	180.00	1,33,740.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
24.06		Ornamental plants of following species in appropriate size FRP planter and tray at bottom				
a)	DSR Horticulture & Landscaping 2018 7.71	Providing and stacking of <i>Plumeria alba dwarf</i> dwarf of height 90-105 cm. with 3-4 branches and thick stem in big size HDPE bags as per direction of the officer-in-charge.	No.	90.00	750.00	67,500.00
24.07	DSR Horticulture & Landscaping 2018 7.72	Providing and stacking of <i>Plumeria rubra</i> of height 120-150 cm. with 3-4 branches and thick stem in big size HDPE bags as per direction of the officer-in-charge.		743.00	400.00	2,97,200.00
24.08		Ornamental plants of following species in appropriate size FRP planter and tray at bottom				
a)	DSR Horticulture & Landscaping 2018 7.90	Providing and stacking of <i>Washingtonia filifera palm</i> stem ht. 120-135 cm with 8-10 healthy leaves lush green leaves well developed in big size HDPE Bags as per direction of the officer-in-charge	No.	50.00	650.00	32,500.00
24.09	DSR Horticulture & Landscaping 2018 8.21	Providing and stacking of <i>Excoecaria bicolor</i> of height 45-60 cm. In earthen pots of size 20 cm as per direction of the officer-in-charge.	each	4636.44	40.00	1,85,457.60
25		Misc DSR Items required for the execution of works covered in DSR 2018 but not included in above items				5,08,95,581.00
		Grand Total				1,69,11,95,125.31



DM/CN/COR-OF/111:Package 9A : Construction of Multistoried Staff Quarters [including Site Development, Architectural finishes, E&M, HVAC, Plumbing, Firefighting, External Development and related facilities] and connectivity from Mathura Road to Jangpura Stabling Yard Complex for Delhi – Ghaziabad – Meerut RRTS Corridor.

Schedule-B: NDSR Civil BoQ for Structural Residential Towers and Non Tower Area						
S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
1.00		REINFORCED CEMENT CONCRETE				
1.01		Centering & shuttering including strutting, propping etc. and removal of form work for:				
(a)	NDSR-1	Extra for shuttering in circular work (20% of respective centering and shuttering items)- For Columns	Sqrm	1454.00	22.58	32831.32
		SUB TOTAL OF REINFORCED CEMENT CONCRETE				32,831.32
2.00		CLADDING WORK				
2.01		Providing and fixing 18 mm thick gang saw cut, mirror polished, pre moulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.				
2.01.1	NDSR-2	Italian Marble of any colour and shade	sqm	4.00	6,301.00	25,204.00
2.02		Marble stone skirting with 18 mm thick marble stone, as per sample of marble approved by Engineer-In-charge, over 12 mm (average) thick base of cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with grey cement slurry, including rubbing and polishing complete with :				
(a)	NDSR-3	Agaria White	sqm	12.00	2,726.00	32,712.00
2.03		Providing and laying Polished Granite stone skirting, riser all complete as per the architectural drawings with 18 mm thick stone slab over 12 mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.				
(a)	NDSR-4	Polished Granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.	sqm	814.00	3,255.00	26,49,570.00
2.04	NDSR-5	Providing and laying anti skid Ceramic wall tiles of approved size (thickness to be specified by the manufacturer), of 1st quality of approved make, print, colours in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	sqm	2622.00	1,182.00	30,99,204.00
2.05	NDSR-6	Providing and laying anti skid Ceramic wall tiles of approved size (thickness to be specified by the manufacturer), of 1st quality of approved make, colours white, ivory in skirting, risers of steps and dados, over 12 mm thick cement mortar 1:3 (1 Cement: 3 Coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.	sqm	275.00	1,109.00	3,04,975.00
2.06	NDSR-7	Providing and laying 30mm thick mirror polished granite stone work of all sizes of approved colour/ pattern with polished V groove in horizontal and vertical at all levels for wall linings/ columns (vener work) with 12mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand), including pointing in white cement mixed with pigment of matching shade complete.	sqm	1171.00	3,670.00	42,97,570.00
		SUB TOTAL OF CLADDING WORKS				1,04,09,235.00
3.00		WOOD AND P.V.C. WORK				
3.01	NDSR-8	Providing and fixing 35mm thick BWP laminated flush door with Pine frame and Poplar filler inclusive of 1mm both side laminate factory pressed in suede finish and IS : 12817 marked stainless steel butt hinges minimum 4 no (per leaf of shutter) 125x64x1.90 mm with stainless steel screws etc. complete	sqm	3112.00	3,846.00	1,19,68,752.00
3.02	NDSR-9	Providing and fixing glazed door shutters made of second class teak wood with 40x150mm sash on top and bottom and 8mm toughened glass fixed in sash and gap shall be filled with silicon. Shutter shall run on floor spring and pivot complete. (Floor spring and pivot shall be paid in separate head)	sqm	267.00	2,439.00	6,51,213.00
3.03		Providing and fixing wooden moulded beading to door and window frames with iron screws, plugs and priming coat on unexposed surface etc. complete :				
3.03.1		2nd class teak wood				
(a)	NDSR-10	75x15 mm	metre	1469.00	248.00	3,64,312.00
3.04		Providing and fixing ISI marked SS tower bolt SS 304 grade with SS nuts and screws etc. complete				
(a)	NDSR-11	600x10 mm		744.00	1,011.00	7,52,184.00
(b)	NDSR-12	250x10 mm		332.00	421.00	3,92,372.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
3.05		Providing and fixing D type SS handles SS 304 grade with necessary SS screws etc. complete				
(a)	NDSR-13	25x325mm	set	118.00	1,806.00	2,13,108.00
3.06	NDSR-14	Providing and fixing SS hanging floor door stopper SS 304 grade with necessary SS screws etc.	each	1596.00	201.00	3,20,796.00
3.07	NDSR-15	Providing and fixing wall mounted SS door stopper SS 304 grade fixed at the back of door with necessary SS screws etc. complete.	each	1590.00	201.00	3,19,590.00
3.08	NDSR-16	Providing door with shutter fabricated from 18 gauge thick galvanised steel sheets press formed to provide a 46mm thick fully flushed double skin door with lock seam joints at stile edge and Infill insulation kraft core. Door frames 57x120 mm approx. to be single rebated made of 16 gauge galvanised steel. Door shutter and frame to be primed in staving grade epoxy zincphosphate primer and finished in aliphatic grade u.v. resistance polyurethane paint. Door shutter and frames to have all hardware preparations, prepunctured at the factory all complete.	sqm	59.00	4,061.00	2,39,599.00
3.09	NDSR-17	Fire check doors supply of approved make 2hrs fire rated door fabricated and successfully tested at CBRI Roorkee in both direction -satisfying two criteria (Stability and Integrity) conforming to BS:476 Part II, IS3614 Part II as per schedule of requirement.	sqm	422.00	8,164.90	34,45,588.00
(a)	NDSR-18	Providing and fixing Clear Vision Panel of 200mm x 300mm and 6mm thick complete in all respect - 2hrs fire rated	each	141.00	612.37	86,344.00
(b)	NDSR-19	Providing and fixing Heavy Duty Door Closer complete in all respect - 2hrs fire rated	each	141.00	1,496.90	2,11,063.00
(c)	NDSR-20	Providing and fixing Eurofile Mortice lock -240 with double pin cylinder having master arrangement and ss handles complete in all respect - 2hrs fire rated	each	141.00	2,857.72	4,02,939.00
(d)	NDSR-21	Providing and fixing Concealed SS finish tower bolts (300mm) complete in all respect - 2hrs fire rated	each	231.00	190.51	44,008.00
(e)	NDSR-22	Providing and fixing Magnum or equivalent make SS 4 Ball Bearing hinges complete in all respect - 2hrs fire rated	each	924.00	95.26	88,020.00
(f)	NDSR-23	Providing and fixing SS handles Dorma or equivalent make for double leaf door complete in all respect - 2hrs fire rated	each	231.00	612.37	1,41,457.00
(g)	NDSR-24	Panic Bar for Single leaf door	each	141.00	6,957.00	9,80,937.00
(h)	NDSR-25	Installation Charges (Fire Door and Metal Door)	sqm	481.00	748.45	3,60,004.00
3.10	NDSR-26	Providing and fixing PVC white colour door silencer of approved make fixed at the back of door with necessary screws etc. complete.	each	427.00	40.00	17,080.00
		SUB TOTAL OF WOOD AND P.V.C. WORK				2,09,99,366.00
4.00		FLOORING WORK				
4.01	NDSR-27	Extra for kota stone flooring in treads of steps and risers using single length up to 1.50 metre.	sqm	1937.00	33.00	63,921.00
4.02		Providing and laying Polished Granite stone treads of stair, landing all complete as per the architectural drawings with 25 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in Charge.				
(a)	NDSR-28	Polished Granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.	sqm	1035.00	3,587.00	37,12,545.00
4.03	NDSR-29	Extra for Lapato finished on Granite stone as directed and approved by the Engineer-in-Charge.	sqm	710.00	648.00	4,60,080.00
4.04	NDSR-30	Providing and laying anti skid Ceramic floor tiles of approved size (thickness to be specified by the manufacturer), of 1st quality of approved make, print, colours laid on 20 mm thick cement mortar 1:4 (1 Cement: 4 Coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.	sqm	6818.00	1,083.00	73,83,894.00
4.05	NDSR-31	Providing and laying anti skid Ceramic floor tiles of approved size (thickness to be specified by the manufacturer), of 1st quality of approved make, colours white, Ivory laid on 20 mm thick cement mortar 1:4 (1 Cement: 4 Coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm Including grouting the joints with white cement and matching pigments etc., complete.	sqm	1463.00	1,009.00	14,76,167.00
		SUB TOTAL OF FLOORING WORKS				1,30,96,607.00
5.00		ROOFING WORKS				
5.01	NDSR-32	Providing and laying plaster of Paris ceiling, ceiling upto 600mm wide and 150mm vertical for all height and level including GI framework, wiremesh of heavy quality finished in level and shape as per architectural drawing complete including cutting for lights etc.	sqm	1392.00	2,591.00	36,06,672.00
5.02	NDSR-33	Providing and making drops of 150x200mm in POP ceiling for all height and level including GI framework, wiremesh of heavy quality finished in level and shape as per architectural drawing complete including cutting for lights etc.	sqm	5054.00	2,303.00	1,16,39,362.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
5.03		Providing and fixing uPVC pipes conforming to IS 4985: 2000) pressure rating 6 kg/cm2 including all fittings of equivalent rating e.g. plain or door bends, junctions, cowls, offsets, access pieces etc. jointing with rubber rings and solvent cement including all MS structural steel supports fabricated from ms rods, flats, bars etc including suspending the pipes with ceiling/walls with thimble bolts (The sample of clamp/supports shall be approved by engineer incharge) complete with cutting holes in RCC/ Masonry walls and floors wherever required and making good the same. (The cost of cutting holes of all sizes in RCC walls, slabs & beams wherever required including making good the same with sealants as required by the engineer-in-charge shall be included in the rate).				
(a)	NDSR-34	110mm diameter (uPVC pipes conforming to IS 4985: 2000) pressure rating 6 kg/cm2)	Metre	120.00	893.00	1,07,160.00
(b)	NDSR-35	160mm diameter (uPVC pipes conforming to IS 4985: 2000) pressure rating 6 kg/cm2)	Metre	345.00	1,595.00	5,50,275.00
5.04	NDSR-36	Supply, fabrication & erection of Tensile structure with MS structure with CHS tube for all top & bottom member of truss, bracing, rafter, purlin member & column member. MS base plate, anchor fastener necessary hardware, bolt etc. Supply and apply of one coat of epoxy primer & two coats of epoxy paint/ Duco paint. Top surface shed with white colour membrane pvc fabric having weight of 900-950 gsm, minimum thickness 0.6 mm as per drawing & design. Contractor has to consider of wind load and design accordingly. Soap drawing to be get approved from Engineer in Charge before execution. 15 year warranty shall be provided by the contractor.	sqm	61.00	6,190.00	3,77,590.00
		SUB TOTAL OF ROOFING WORKS				1,62,81,059.00
6.00		FINISHING WORK				
6.01	NDSR-37	Providing and applying 6 mm thick POP applied on hacked / uneven background such as plaster surface work on walls & ceiling at all floors and locations, finished in smooth line and level etc. complete.	sqm	386852.00	187.00	7,23,41,324.00
		SUB TOTAL OF FINISHING WORK				7,23,41,324.00
7.00		SANITARY INSTALLATIONS				
7.01	NDSR-38	Providing and fixing CP brass Sink Mixer , mixing fittings equivalent to (JAQUAR Cat. No. CON-309KNBM or as per list of make.	Each	107.00	4,313.00	4,61,491.00
7.02	NDSR-39	Providing and fixing C.P. brass twin robe hooks equivalent to JAQUAR Cat. No. 1161 or as per list of make.	Each	695.00	759.00	5,27,505.00
7.03	NDSR-40	Providing, fixing, testing & commissioning Soap Dispenser equivalent to (JAQUAR Cat No. ACN-1137N) or as per list of make..	Each	430.00	3,233.00	13,90,190.00
7.04	NDSR-41	Providing, fixing, testing & commissioning S.S. hinged grating , 1.5mm thick with frame equivalent to JAYNA NEW HEAVY GRATINGS Cat. No. NHG 140 or as per list of make including setting in floor with cement mortar 1:3.	Each	2285.00	984.00	22,48,440.00
7.05		Providing and fixing automatic high pressure electric water heaters equivalent to VENUS or as per list of make, with glass lining thermostats with each element and high temperature cut off, necessary insulation, safety valve, etc. all complete.				
(a)	NDSR-42	15 litres	Each	382.00	11,536.00	44,06,752.00
(b)	NDSR-43	25 litres	Each	685.00	13,135.00	89,97,475.00
7.06		Providing and fixing C.P. brass towel ring equivalent to JAQUAR Cat No. ACN-1121N (CONTINENTAL SERIES) or as per list of make complete with C.P. brass brackets fixed to rawl plug of approved design with C.P. brass screws.	Each	430.00	1,201.00	5,16,430.00
7.07	NDSR-44	Providing and Fixing Health Faucet equivalent to JAQUAR Cat. No. ALD-573 make with flexible pipe and wall hook or as per list of make with each European W.C. Pan.	Each	430.00	1,710.00	7,35,300.00
7.08	NDSR-45	Providing, fixing, testing & commissioning CP concealed body single lever diverter with 40mm cartige equivalent to Jaquar Cat No. ALD-075 or as per list of make.	Each	420.00	3,640.00	15,28,800.00
7.09	NDSR-46	Providing, fixing, testing & commissioning CP single lever exposed parts kit of diverter equivalent to Jaquar Cat No. FUS-29075K or as per list of make.	Each	420.00	2,479.00	10,41,180.00
7.10	NDSR-47	Providing, fixing, testing & commissioning CP brass shower rose with shower arm equivalent to Jaquar Cat No. OHS-1989 & SHA-477 or as per list of make.	Each	420.00	2,755.00	11,57,100.00
7.11	NDSR-48	Providing, fixing, testing & commissioning CP brass bath spout with wall flange equivalent to Jaquar (Bath Spouts) Cat No. SPJ-429 or as per list of make..	Each	420.00	1,815.00	7,62,300.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
7.12	NDSR-49	Providing, fixing, testing & commissioning C.P. brass soap dish equivalent to (Jaquar Cat. No. CAN-1131N) or as per list of make including cutting and making good the walls wherever required complete to the satisfaction of Engineer in charge.	Each	420.00	870.00	3,65,400.00
7.13	NDSR-50	Providing, fixing, testing & commissioning C.P. brass Towel Rail 24" equivalent to JAQUAR Cat. No. ACN-11115M or as per list of make.	Each	420.00	1,614.00	6,77,880.00
7.14		Providing, fixing, testing & commissioning of Drip Seal (Density 1.95 gm/cc) joints to .C.I. pipes and specials including cost of drip seal, yarn and tools etc of approved make (as per approval of engineer-in-charge). The drip seal shall be in two pack system which hardens on mixing. Drip shall have setting time of 4 to 6 hours and shall be able to stand pressure of 20 kg/cm ² after hardening. Drip seal shall be provided in quantity as indicated against each dia meter of pipe below.				
(a)	NDSR-51	100 mm (200 to 250 gm/joint)	Each	17232.00	185.00	31,87,920.00
(b)	NDSR-52	75 mm (150 to 170 gm/joint)	Each	3525.00	159.00	5,60,475.00
7.15		Providing, fixing and testing Cast Iron soil waste and vent pipes (IS:3989) including all fittings such as bends, junctions, inspection doors, offsets, cowls, access pieces/plugs, brass floor cleanouts plugs etc. clamps/ structural steel supports as required/directed at site, jointing with dripseal joints including cutting holes in RCC/ Masonry walls and floors wherever required and making good the same. (The cost of cutting holes of all sizes in RCC walls, slabs & beams wherever required including making good the same with sealants as required by the engineer-in-charge shall be included in the rate).				
(a)	NDSR-53	150mm dia	Metre	3735.00	3,045.00	1,13,73,075.00
7.16		Providing, fixing, testing & commissioning of CP Brass floor Cleanout Plug as per drawing complete with G.I. Socket jointed to drainage pipe outlet with drip seal joint.				
(a)	NDSR-54	100mm dia	Each	645.00	2,211.00	14,26,095.00
		SUB TOTAL OF SANITARY INSTALLATIONS				4,13,63,808.00
8.00		WATER SUPPLY				
8.01		Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
		Internal work - Exposed on Wall				
(a)	NDSR-55	65 mm nominal outer dia Pipes	Metre	1820.00	1,448.00	26,35,360.00
(b)	NDSR-56	80 mm nominal outer dia Pipes	Metre	745.00	1,799.00	13,40,255.00
(c)	NDSR-57	100 mm nominal outer dia Pipes	Metre	580.00	2,447.00	14,19,260.00
8.02		Providing, laying, jointing, testing, & commissioning of GI pipes with zinc coating of 50 to 65 DFT (medium class) of approved make, conforming to IS : 1239 complete with malleable cast iron fittings as per IS : 1879 such as tees, crosses, plugs, sockets, elbows, reducers, unions, sleeves pieces, check nuts etc. including with one coat of bitumastic paint, wrapping with one layer of PVC tape and applying a final coat of bitumastic paint complete as per specifications and filling sand of grading zone V or coarser grade, allround the G.I. pipes with necessary excavation, refilling and compaction in layers as per sub grade of required density including watering required for compaction and disposal of surplus earth shall be included in rate complete as per specifications (pipes buried in ground) For rising main from sump to external drain.(For Sump Rinsing)				
(a)	NDSR-58	100 mm nominal bore.	Metre	215.00	1,635.00	3,51,525.00
8.03		Providing, laying, jointing, testing, & commissioning of uPVC pipes (I.S.:4985-1981) of 6 kg/cm ² rating with all fittings and accessories e.g. couplings, tees, bends, reducers, screwed adapters, flanged tail pieces etc. jointing as per manufacturers' instruction, including earth work in excavation and refilling (Earth work includes 450mm of soil cover over the pipe and width of 300mm). (For Irrigation lines).				
(a)	NDSR-59	90mm OD- 6 kg/cm ²	Metre	1115.00	762.00	8,49,630.00
(b)	NDSR-60	50mm OD- 6 kg/cm ²	Metre	10.00	468.00	4,680.00
(c)	NDSR-61	40mm OD- 6 kg/cm ²	Metre	85.00	421.00	35,785.00
(d)	NDSR-62	32mm OD- 8 kg/cm ²	Metre	40.00	416.00	16,640.00
(e)	NDSR-63	25mm OD- 8 kg/cm ²	Metre	210.00	387.00	81,270.00
8.04		Providing, fixing, testing & commissioning of lever operated gun metal ball valve with SS ball.				
(a)	NDSR-64	20mm nominal bore	Each	1193.00	1,257.00	14,99,601.00
(b)	NDSR-65	25mm nominal bore	Each	481.00	1,472.00	7,08,032.00
(c)	NDSR-66	32mm nominal bore	Each	32.00	2,498.00	79,936.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
(d)	NDSR-67	40mm nominal bore	Each	56.00	3,379.00	1,89,224.00
(e)	NDSR-68	50mm nominal bore	Each	19.00	5,101.00	96,919.00
(f)	NDSR-69	65mm nominal bore	Each	53.00	8,440.00	4,47,320.00
8.05		Providing, fixing, testing and commissioning of Air Release Valves screwed ends with ball valve of approved brand of manufacture, with accessories etc., complete.				
(a)	NDSR-70	15mm dia	Each	18.00	940.00	16,920.00
8.06		Providing and fixing diaphragm type pressure reducing station for domestic water supply comprising of 3 Nos. Gunmetal Ball valves on Inlet, outlet and bypass & 1 no. gun metal pressure reducing valve with flanged connection, 1 no. pressure gauge on inlet and outlet, and 1 No. 15mm dia safety valve complete as required. (to reduce the pressure upto 0.5kg/sq. cm)				
(a)	NDSR-71	25 mm nominal bore.	Each	28.00	16,228.00	4,54,384.00
(b)	NDSR-72	32 mm nominal bore.	Each	36.00	19,801.00	7,12,836.00
(c)	NDSR-73	40 mm nominal bore.	Each	42.00	26,221.00	11,01,282.00
(d)	NDSR-74	50 mm nominal bore.	Each	62.00	32,632.00	20,23,184.00
(e)	NDSR-75	65 mm nominal bore.	Each	70.00	1,04,019.00	72,81,330.00
(f)	NDSR-76	80 mm nominal bore.	Each	14.00	1,18,946.00	16,65,244.00
8.07		Providing, fixing, testing & commissioning of 6mm thick insulation of density 50-100 kg/m ³ with low thermal conductivity to hot water pipe and fittings and valves as per manufacturer's recommendations complete to satisfaction of Engineer In charge.				
(a)	NDSR-77	15mm nominal bore (6 mm thick Insulation)	Meter	595.00	71.00	42,245.00
(b)	NDSR-78	20mm nominal bore (6 mm thick Insulation)	Meter	7490.00	80.00	5,99,200.00
8.08		Providing & fixing M.S. Puddle Flange fabricated of 600 mm long 'C' class pipe pieces with screwed ends with center of pipe welded with 6mm thick M.S. plate of size (100mm+D) X (100mm+D) for R.C.C. water tank walls / slabs. The entire fitting shall be hot dipped galvanised. (D Indicated above nominal dia metre of pipe in mm).				
(a)	NDSR-79	25mm dia	Each	20.00	1,344.00	26,880.00
(b)	NDSR-80	32mm dia	Each	12.00	1,755.00	21,060.00
(c)	NDSR-81	40mm dia	Each	12.00	2,098.00	25,176.00
(d)	NDSR-82	50mm dia	Each	30.00	2,440.00	73,200.00
(e)	NDSR-83	65mm dia	Each	10.00	2,783.00	27,830.00
(f)	NDSR-84	80mm dia	Each	20.00	3,125.00	62,520.00
(g)	NDSR-85	100mm dia	Each	30.00	3,811.00	1,14,330.00
(h)	NDSR-86	150mm dia	Each	20.00	4,496.00	89,920.00
(i)	NDSR-87	200mm dia	Each	8.00	6,552.00	52,416.00
(j)	NDSR-88	250mm dia	Each	10.00	9,293.00	92,930.00
8.09	NDSR-89	Providing, fixing, testing and commissioning of 100mm dia G.I. Vent Pipe on Under ground and over head tank including cost of 2 Nos. 90° bend and painting with enamel paint complete with in all respect.(100mm Dia)	Each	26.00	8,173.00	2,12,498.00
8.10		Providing and fixing ball (brass) valve of approved quality. High or low pressure, with plastic floats complete:				
(a)	NDSR-90	40 mm nominal bore.	Each	1.00	4,055.00	4,055.00
(b)	NDSR-91	65 mm nominal bore.	Each	2.00	15,101.00	30,202.00
8.11		Providing and fixing Motorised Ball Valve suitable for 240 Volts, with suitable motorised rotor with liquid level controllers 2 nos of float type sensors and control panel, to shut and close valve when water level is low / high in water tanks including making electrical connection with nearest electrical point provided by other agency. The cost of cable / wire from ball valve to the electrical point to be included in the rate.				
(a)	NDSR-92	32 mm nominal bore.	Each	1.00	27,252.00	27,252.00
(b)	NDSR-93	40 mm nominal bore.	Each	2.00	32,049.00	64,098.00
8.12		Providing, fixing, testing and commissioning G.I. suction & delivery headers / pipes for water supply pumps (IS:1239 heavy class) jointed with G.I. heavy class welded flanged fittings (bends, tees, reducers, plugs, flange & blank flanges etc) and clamps all complete. Note: All pipes & fittings in pump room will be welded flanged types.				
(a)	NDSR-94	50 mm nominal bore	Meter	30.00	859.00	25,770.00
(b)	NDSR-95	65 mm nominal bore	Meter	55.00	1,020.00	56,100.00
(c)	NDSR-96	80 mm nominal bore	Meter	30.00	1,195.00	35,850.00
(d)	NDSR-97	100 mm nominal bore	Meter	95.00	1,588.00	1,50,860.00
(e)	NDSR-98	150mm nominal bore	Meter	10.00	2,264.00	22,640.00
8.13		Painting G.I. pipes and fittings with synthetic enamel white paint with two coats over a ready mixed priming coat, both of approved quality for new work :				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
(a)	NDSR-99	65 mm nominal bore	Meter	55.00	52.00	2,860.00
(b)	NDSR-100	80 mm nominal bore	Meter	30.00	64.00	1,920.00
(c)	NDSR-101	100 mm nominal bore	Meter	95.00	80.00	7,600.00
(d)	NDSR-102	150mm nominal bore	Meter	10.00	119.00	1,190.00
8.14		Providing, fixing, testing and commissioning gunmetal horizontal Non-Return Valve with flanged ends tested to 20 kg/cm ² .				
(a)	NDSR-103	50 mm dia	Each	2.00	3,500.00	7,000.00
8.15		Providing, fixing, testing & commissioning reinforced Neoprene Flexible Pipe connectors with all accessories on all pumps delivery.				
8.15.1		Suitable for 20 Kg/cm ²				
(a)	NDSR-104	65mm	Each	2.00	3,536.00	7,072.00
(b)	NDSR-105	80mm	Each	2.00	4,383.00	8,766.00
(c)	NDSR-106	100mm	Each	1.00	5,224.00	5,224.00
(d)	NDSR-107	150mm	Each	1.00	6,701.00	6,701.00
8.16		Providing and fixing ball (brass) valve of approved quality. High or low pressure, with plastic floats complete:				
(a)	NDSR-108	32 mm nominal bore.	Each	1.00	3,114.00	3,114.00
8.17		Providing and fixing Motorised Ball Valve suitable for 240 Volts, with suitable motorised rotor with liquid level controllers 2 nos of float type sensors and control panel, to shut and close valve when water level is low / high in water tanks including making electrical connection with nearest electrical point provided by other agency. The cost of cable / wire from ball valve to the electrical point to be included in the rate.				
(a)	NDSR-109	25 mm nominal bore.	Each	1.00	23,140.00	23,140.00
		SUB TOTAL OF WATER SUPPLY				2,49,42,236.00
9.00		DRAINAGE				
9.01	NDSR-110	Providing and fixing C.J. medium duty Manhole Cover with frame size 600x600mm total weight 38 kg. complete in all respects. (For Grease Trap)	Each	2.00	4,339.00	8,678.00
9.02	NDSR-111	Providing and fixing MS grating & fixed frame to brick/concrete of angle 25mm x 25mm x 4mm with 1 no. hold fast of size 10mm x 6mm on one face. The removable cover shall be made with outer frame of MS angle 25mm x 25mm x 4mm having welded cross members on each direction with MS flats of size 25mm x 4mm at a spacing of 25 mm C/C. including two coats of synthetic enamel paint over a coat of primer complete as required. Complete with MS frame and cover with grating. (For drainage channel)				
(a)		Size 350mm x 600 mm	Each	1200.00	111.50	1,33,800.00
9.03		Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) up to haunches of S.W. pipes including bed concrete as per standard design :				
(a)	NDSR-112	450 mm diameter S.W. pipe	Metre	35.00	1,420.00	49,700.00
9.04		Providing and laying Non Pressure NP-4 class (Heavy duty) R.C.C. pipes including collars/spigot jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete				
(a)	NDSR-113	250 mm dia pipe	Metre	700.00	1,095.00	7,66,500.00
		SUB TOTAL OF DRAINAGE				9,58,678.00
10.00		ALUMINIUM WORK				
10.01	NDSR-114	Providing and fixing SS wiremesh in aluminium door, window, ventilator shutters and partitions etc. with screws etc. complete as per the architectural drawings and the directions of engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item):	sqm	37.00	768.00	28,416.00
10.02	NDSR-115	Providing and fixing double glazed hermetically sealed glazing in aluminium/UPVC doors, windows, ventilators and partition etc. with 9.52CLT (4 mm Clear Toughened + 1.52 mm Clear PVB + 4 mm Clear Toughened + 10 mm Air Gap + 5 mm Clear Toughened, sealed with silicone, including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.	sqm	470.00	5,749.00	27,02,030.00
10.03	NDSR-116	Providing and fixing double glazed hermetically sealed glazing in aluminium/UPVC doors, windows, ventilators and partition etc. with 11.52CLT (5 mm Clear Toughened + 1.52 mm Clear PVB + 5 mm Clear Toughened + 12 mm Air Gap + 5 mm Clear Toughened, sealed with silicone, including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.	sqm	1470.00	6,103.00	89,71,410.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
10.04		Providing and fixing glazing in aluminium/UPVC doors,windows, ventilators and partition etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge .				
(a)	NDSR-117	5mm clear toughened glass	sqm	100.00	1,241.00	1,24,100.00
(b)	NDSR-118	6mm clear toughened glass	sqm	150.00	1,392.00	2,08,800.00
(c)	NDSR-119	8mm clear toughened glass	sqm	175.00	1,746.00	3,05,550.00
(d)	NDSR-120	10mm clear toughened glass	sqm	150.00	2,036.00	3,05,400.00
		SUB TOTAL OF ALUMINIUM WORKS				1,26,45,706.00
11.00		WATER PROOFING WORKS				
11.01	NDSR-121	Injection grouting water proofing by providing and grouting Nozzele on wall and Cement slurry mixed with waterproofing Chemical shall inserted with pressure in RCC structure hollow Cavities. After filling, exposed part of nozzele shall cut and sealed with compound. Work shall be done by specialised agency. Gurantee to be given for minimum 10 years.	no	3570.00	227.00	8,10,390.00
		SUB TOTAL OF WATERPROOFING WORKS				8,10,390.00
12.00		WARDROBE, VANITY, MODULAR KITCHEN				
12.01	NDSR-122	Factory made wardrobe carcasses, shelves, drawers etc. manufactured in 18mm thick block board and laminated inside and wardrob shutter in 18mm thick block board finished with 1mm lamination form outside as per the approved sample. All Drawers and Hinges will be Soft Close. (Brands: Hettich / Haffle / Dorma) All Drawers and Hinges will be Soft Close. (Brands: Hettich / Haffle / Dorma) Bedrooms	sqm	3239.00	25,080.00	8,12,34,120.00
12.02	NDSR-123	Factory made wardrobe carcasses, shelves without drawer manufactured in 18mm thick block board and laminated inside and wardrob shutter in 18mm thick block board finished with 1mm lamination form outside as per the approved sample. Hinges are MS powder coated, hardware powder coated aluminium made. Servant Room	sqm	627.00	17,465.00	1,09,50,555.00
12.03	NDSR-124	Factory made vanity carcasses, shelves, drawers etc. manufactured in 18mm thick block board and laminated inside and wardrob shutter in 18mm thick block board finished with 1mm lamination form outside as per the approved sample. All Drawers and Hinges will be Soft Close. (Brands: Hettich / Haffle / Dorma) All Drawers and Hinges will be Soft Close. (Brands: Hettich / Haffle / Dorma)	sqm	477.00	22,716.00	1,08,35,532.00
12.04	NDSR-125	1.Modular kitchen as per design & drawings. 2. Carcasses specifications: 18mm thick B.W.P. ply laminated on both sides with 1mm thick laminate of approved brands. 3. Shutters specifications: 1mm thick high gloss laminate on 18mm thick B.W.P. ply. 4. Appliances include: a. Double bowl sink - 1100 mm minimum width (Brands: Jaguar / Jayna / Neelkanth) 5. Carcass to be made In Frosty White Laminate, with 9mm thick B.W.P. ply + laminate on rear 6.Shutters finish to be High gloss laminates as per design 7.All Drawers and Hinges will be Soft Close. (Brands: Hettich / Haffle / Dorma) 8. All Accessories/Fittings etc. to be Hettich / Haffle / Dorma. 9.High quality profile handles to be used on shutters & drawers 10. Ply brands: Greenply / Century / Duro 11. Laminate brands: Greenply / Century / Merino 12. Blind Corner Unit with Swing Corner Fitting to be used for all corners under counter. 13. Open Shelf Arrangement as per design In colors & finishes as specified in design. 14. Chimney exhausts cover as per design In similar finish as shutters. 15. Polished Granite counter with double stone on all visible side and edge moulding/edge polishing				
		TYPE 4	each	52	3,35,086.00	1,74,24,472.00
		TYPE 6	each	42	4,88,481.00	2,05,16,202.00
		TYPE 7	each	6	7,75,268.00	46,51,608.00
		TYPE 8	each	2	7,75,268.00	15,50,536.00
		SUB TOTAL OF WARDROBE, VANITY, MODULAR KITCHEN				14,71,63,025.00
13.00		SEWAGE TREATMENT PLANT OF CAPACITY 200 KLD				
13.01	NDSR 126	Supply, erection, testing and commissioning of underground sewage treatment plant based on attached growth aerobic moving bed bio reactor technology for the following: Daily Avg. Sewage : 200m ³ /day PH : 6.5 - 8.5	Job	1.00	1,32,72,840.00	1,32,72,840.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
		BOD 5 : 350 mg/l				
		S. Solids : 250 mg/l				
		COD : 450 mg/l				
		Coliform : 10 ⁶ - 10 ⁷ counts / 100 ml				
		N-Total = 50 ppm				
		Phosphorus=10 ppm				
		Effluent discharge standard after treatment: Conforming to requirement approved standards				
		PH : 6.5 - 7.5				
		BOD 5 : < 10 PPM				
		S. Solids : < 20 mg/l				
		COD : < 50 PPM				
		Oil & grease : < 10 mg/l				
		NH ₄ -N : 5 PPM				
		N-Total : 10 PPM				
		Coliform : < 100 counts / 100 ml				
		Sewage treatment plant shall include supply erection, testing & commissioning of the following items of works.				
		Manual Bar screen (SS-304) for 200m³/day at the Inlet of receiving sump. (2 No.)				
		Sewage pumps: Centrifugal type, non clog self priming pumps with CI casing & CI impeller complete with suction and delivery valves and non return valves, suction and delivery headers of an approved make capable of handling minimum 7 to 10mm solids size for untreated effluent with fan cooled induction motor with class 'B' insulation, mounted on a common structural base plate, suitable vibration eliminated pads of approved design for pump foundation, motor to be suitable for 400/440 volts, 3 phase, 50 cycles AC supply with rpm, to suit the corresponding pumps.				
		Capacity 10.0m ³ /hr at 12m head (For sewage lifting from equalisation sump) (2 Nos.)				
		Submersible drainage pumps: Providing, fixing and commissioning non clog type stainless Steel mono block submersible drainage pumps suitable for handling solids of 12 mm size with totally water and dust proof motor.				
		Capacity 18.0m ³ /hr at 15m head (For drainage lifting from drainage sump) (2 Nos.)				
		Sludge pumps: Centrifugal type, non clog self priming pumps with CI casing & CI impeller complete with suction and delivery valves and non return valves, suction and delivery headers of an approved make capable of handling minimum 7 to 10mm solids size for untreated effluent with fan cooled induction motor with class 'B' insulation, mounted on a common structural base plate, suitable vibration eliminated pads of approved design for pump foundation, motor to be suitable for 400/440 volts, 3 phase, 50 cycles AC supply with rpm, to suit the corresponding pumps.				
		Capacity 10.0m ³ /hr at 12m head (For transfer of sludge) (2 Nos.)				
		Capacity 40.0m ³ /hr at 12m head (For recirculation of sludge from FAB-2 tank to Anoxic Tank) (2 Nos.)				
		Providing, fixing, testing & commissioning of 0.5 submersible mixer in Anoxic Tank (1 No.)				
		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.				
		Capacity- 170m ³ /hr @ 6000 MMWG, 3 Nos. (2w+1s), (3 Nos.)				
		Non-Clogging, freely moving PP media for MBBR reactors (16 m ³)				
		Non clog Air Grids suitable for 200m ³ /day sewage flow to supply sufficient air for the treatment process and maintain adequate circulation velocity to prevent solids from settling. (For MBBR tanks, Equalization tank & Sludge holding tank)				
		No. of Diffusers : 80 Nos. to be distribution in MBBR tanks, equalization tank & sludge holding tank. (Shop drawings will be required indicating no. of diffusers of each type of coarse & fine diffuser & pipe work in each tank)				
		Non submerged air piping : uPVC 10kg/cm ² rating				
		Submerged Air Piping : SS304 (1 Job)				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
		Media for tube settler as per design requirement (8 m ³)				
		Filter press feed screw pumps of an approved makes complete with suction and delivery valves and non return valves,suction pipes and delivery pipes headers capable of handling sludge complete with motor & mounted on structural base plate with pressure guage with isolation cable.				
		Capacity 1.0m ³ /hr at 40m head. (2 Nos.)				
		Dual Media filter : Providing and fixing skid mounted vertical MSRL Dual Media pressure filter fabricated from IS 226/2062 plate 6mm thick for shell and 8mm thick M.S. plate for dished ends complete with initial charge of filter media, face piping and valves accessories, painting, testing and commissioning complete. (Flow velocity 12m ³ /hr/m ²)				
		Capacity 20m ³ /hr at 2.0kg/cm ² (1 Set)				
		Activated carbon filter : Providing and fixing skid mounted vertical MSRL Activated carbon filter fabricated from IS 226/2062 plate 6mm thick for shell and 8mm thick M.S. plate for dished ends complete with initial charge of filter media, face piping and valves accessories, painting, testing and commissioning complete. (Flow velocity 12.5m ³ /hr/m ²) (IV of carbon shall be 1000)				
		Capacity 20m ³ /hr at 2.0kg/cm ² (1 Set)				
		Supply, installation, testing & commissioning of U.V. sterlizer suitable for treated effluent from STP with S.S. housing. U.V. lamp, glass tube and all other accessories as per manufacturer's specification with cleaning arrangement, supports, inlets, outlet bypass connections & U.V. monitor including S.S. cabinet with glass door of suitable size to house the U.V. sterlizer. The entire assembly shall be mounted on wall.				
		Capacity 20m ³ /hr (1 Set)				
		Filter Feed pumps: Centrifugal type, monoblock, self priming pumps with CI Casing, SS impeller & SS shaft of an approved make and complete with suction and delivery valves and non return valves,suction 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.				
		Capacity 20.0m ³ /hr at 25m head. (2 Nos.)				
		Providing, installation, testing, and commissioning of factory assembled skid mounted Variable Frequency Drive Hydropneumatic system comprising of following items. (Flushing water transfer pump).				
		2 Nos. vertical in line type pump set with SS-304 casing, SS-304 impeller and SS-316 shaft suitable for operation on 400/440 volts, 3 phase 2900 RPM, TEFC electric motor mounted on a common channel base plate with coupling guard, 150mm dia pressure gauge, GM isolation cock and cement concrete foundation with plaster complete as required.				
		Pump capacity - 9m ³ /hr				
		Head - 130 m				
		RPM - 2900				
		1 No. 300 litres vessels with Inter changeable butyl rubber membrane.				
		1 No. Variable speed drive Electric control panel with controller relays, sequence timer for alternate operation of pumps, electrical wiring, cabling from panel to pumps, level controller complete with all accessories as per manufacturer specifications.				
		Accessories like butterfly valves, NRV's on suction and discharge, pressure gauge suction, discharge header and base frame etc., complete as required.				
		Hydropneumatic system as described above. (1 Set)				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
		Irrigation water supply : Providing, fixing, testing and commissioning of Vertical in line type pump set with SS casing, SS Impeller and SS shaft suitable for operation on 400/440 volts, 3 phase 2900 RPM, TEFC electric motor mounted on a common channel base plate with coupling guard, 150mm dia pressure gauge, GM isolation cock and cement concrete foundation with plaster complete as required.				
		Capacity 12m ³ /hr at 40m head. (2 Nos.)				
		Supply, installation, testing & commissioning of Hydraulic operated Filter press of plate size 18"x18" with 24 number of plates, including sludge collection tray. (1 Set)				
		Pipe lines and valves: CPVC pipes (SDR 11 grade ASTM D-2846) for pipes upto 50 mm NB & for 65 NB & above (SCH-40 ASTM F-441) & valves in STP plant room complete with fittings e.g. tees, crosses, plugs, sockets, elbows, reducers, supports and clamps, SS-316 puddle for STP connection, etc., cutting holes and chases where required. (For Interconnecting pipes of pumps & equipment) (1 Lot)				
		Supply, erection, testing and commissioning of magnetic flow meter with totalizer 40 mm dia at outlet of ultrafiltration plant (1 No.)				
		50 mm dia at bypass lines of flushing water supply (1 No.)				
		65 mm dia at outlet of sewage lifting pump (1 No.)				
		80 mm dia at outlet of filter feed pumps (1 No.)				
		Supply, erection, testing and commissioning of Energy meter before electrical panel. (1 No.)				
		Supply, erection, testing and commissioning of liquid level controller for automation of the plant to be installed for sewage lifting pump for equalization tank to aeration tank and filter feed pumps for filtered tank to treated water tank. (2 Nos.)				
		Providing pH meter (1 No.)				
		UF PLANT FOR FLUSHING WATER SUPPLY				
		Supply, installation, testing and commissioning UF plant of capacity 10 cum/hr complete with all Interconnecting pipes and valves with all the required accessories & chemical cleaning system, complete in all respects & comprising the following:				
		a) UF Module (Hollow Fibre -outside In type porosity 0.1 to 0.01 micron) including micron cartridge filter in PP housing, Pneumatic Valve, PLC Electrical Panel, flow meter, compressor and all other accessories making the system complete				
		Flow rate : 10m ³ /hr Output				
		Inlet TSS :- 10-30 mg/lit				
		Filtration Flux :- 40 lt/m ² /hr				
		Membrane Area - 55-75 M ² as per approved makes				
		Membrane MOC - PVDF				
		Membrane Type :- Pressure Feed Membrane 25 micron cartridge type, Out to In process				
		No. of UF Membrane - 1 Lot (As per manufacturer design. No. of membrane & capacity of each membrane & feasibility of space inside STP plant room to be indicated by Vendor at this stage before award of work.				
		b) UF Feed Pump 2 Nos. (1W+S) 10.0 M ³ /hr each 20-25m head				
		c) UF pre fine filtration				
		d) UF Backwash pumps with Complete SS - 304 with motor, pressure gauge with isolation cock, isolation valve, NRV on delivery line. Isolation valve, strainer at suction etc. (Cap. 20m ³ /hr head 18-20m (1 W+ 1S) Including HDPE back tank of capacity 500 litres.				
		e) Chlorine dosing system				
		f) CEB / CIP dosing station including dosing tank & pumps etc.				
		g) PLC control panel with all automation required like Pneumatic valves, piping in UPVC PLC and other required accessories. (1 Set)				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
		Supply, installation, testing and commissioning of dust, damp and vermin proof, free floor standing factory built sheet steel enclosed nondrawout modular panel for water supply pumps, fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet, hinged doors of 2mm thick CRCA sheet, duly painted complete with earth bus, necessary metering protections & indications and mounted with the following including all inter connection etc. (Including earthing).				
		One No. 100 amps TP incoming MCCB complete with the following:				
		1 No. 0-500 volts 96x96 sq. mm ammeter with selector switch and fuses.				
		1 No. 0-150 amps 96x96sq.mm ammeter with CT's and selector switch.				
		Over voltage and under voltage tripping mechanism for persistent voltage fluctuations of more than ±10% of the rated voltage for more than 5 minutes.				
		Phase Indicating lamps with toggle switches.				
		Indication lamps for ON/OFF/TRIP status of motors.				
		Aluminium bus bar of 150 amps for three phase and neutral.				
		Out going feeders/Starters				
		2 Nos. 10 amps TP MCB with DOL starter for sewage lifting pumps (1 HP)				
		2 Nos. 10 amps TP MCB with DOL starter for sludge transfer pumps (1 HP)				
		2 Nos. 16 amps TP MCBS with DOL starter for re-circulation pumps for anoxic tank (3 HP)				
		3 Nos. 32 amps TP MCB DOL starter for air blowers (4 HP)				
		2 Nos. 16 amps TP MCBS DOL starter for filter feed pumps.(3 HP)				
		2 Nos. 10 amps TP MCB DOL starter starter filter press screw pump. (1 HP)				
		1 No. 10 amps TP MCB DOL starter starter submersible mixers. (0.5 HP)				
		2 Nos. 16 amps TP MCB DOL starter starter Irrigation pumps. (3 HP)				
		1 No. 32 amps TPN MCB for hydropneumatic pumps panel for flushing water supply (7.5 HP)				
		1 Nos. 32 amps TPN MCB for Ultra Filtration plant panel (5 HP).				
		1 Nos. 16 amps TPN MCB for drainage pumps panel (3 HP).				
		Rotary manual/auto/off switch. (4 Nos.)				
		Sapre MCBS				
		10 Amp (2 Nos.)				
		16 Amp (2 Nos.)				
		32 Amp (2 Nos.)				
		Note :				
		All switch gear/panels shall be suitable for 25 KA rating.				
		All outgoing will have 96 sq. mm size ammeter and CT.				
		All starter units for pumps to be provided with 3 level liquid level contractor.				
		All outgoing starter units to have "ON" red lamps.				
		All pumps to be provided with duty selector switch.				
		All pumps to be provided with sequence timer 220 / 440 V AC / DC and alternate working of pumps between 6 to 8 hours or alternate use of pumps after one service in sequence.				
		All pumps to be provided with over load relay.				
		Arrangement for phase reversal to be provided in panel.				
		Necessary cable alleys for space switches, level controller internal wiring and copper earthing of all equipment shall also be included. All switch gears/control gears shall be motor duty rating.				
		Provisions of BMS system for pumps to be included in electrical control panel. The panel manufacturer shall include the following:				
		PF contact at Pumps Starter panels for Pumps Start/Stop Command for all pumps indicated above.				
		PF contact at Pumps Starter panels for Pumps Run Status for all pumps indicated above.				
		PF contact at Pumps Starter panels for AUTO/MANUAL switches for all pumps indicated above.				
		PF contact at Pumps Starter panels for over load relay trip signals for all pumps indicated above.				
		Cabling from BMS system to this panels will be done by BMS contractor. (1 Set)				
		Supplying and laying the PVC Insulated & sheathed FRLS Armoured cables of 1.1 K.V. Aluminium Conductor including supplying and making and termination with brass compression glands:				
		3 Core x 2.5 Sq.mm (100 Metre)				
		3 Core x 4 Sq.mm (80 Metre)				
		4 Core x 4 Sq.mm (20 Metre)				
		4 Core x 6 Sq.mm (50 Metre)				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
		Supplying and installation following size of perforated pre painted M.S. cable trays with perforation not more than 17.5%, in convenient sections, joint with horizontal and vertical bends, reducers, tees, cross members and other accessories as required and duly suspended from the ceiling with M.S. suspenders etc. as required.				
		150mm width x 50mm depth x 1.6mm thickness (50 Metre)				
		300mm width x 50mm depth x 1.6mm thickness (25 Metre)				
		Provide feasibility report for STP If needed, consisting of drawings, equipment details with inlet design parameters and gauranteed outlet parameters before commencing the work at site for submission to state pollution control board. (1 Job)				
		Annual Maintenance Contact				
		Charges for Comprehensive Annual Maintenance Contact (AMC) of above mentioned STP Including the cost of spares & consumables, manpower etc. fixed for 05 years after completion of one year defect liability period after commissioning. (1 Job)				
		SUB TOTAL OF SEWAGE TREATMENT PLANT OF CAPACITY 200 KLD				1,32,72,840.00
14.0		SWIMMING POOL FILTRATION PLANT, PIPING, UNDERWATER LIGHTS & ASSOCIATED WORKS (SIZE 25MX12MX1.2M AVERAGE DEPTH)				
14.01	NDSR 127	Supply, installation, testing & commissioning of swimming water filtration plant comprising the following equipments & accessories:	Job	1	36,14,641.00	36,14,641.00
		Pressure Filter				
		Skid mounted vertical MSRL Dual Media pressure filter fabricated from IS 226/2062 plate 5mm thick for shell and 6mm thick M.S. plate for dished ends complete with Initial charge of filter media, face piping and valves accessories, painting, testing and commissioning complete.				
		Capacity = 60m ³ /hr - 1 No.				
		Design Pressure = 4.0 kg/cm ²				
		Working Pressure = 2 kg/cm ²				
		Flow velocity = 35m ³ /hr/m ²				
		Filter feed pumps				
		Vertical in line type pump set with SS casing, SS impeller and SS shaft suitable for operation on 400/440 volts, 3 phase 2900 RPM, TEFC electric motor mounted on a common channel base plate with coupling guard, 150mm dia pressure gauge, GM isolation cock and cement concrete foundation with plaster complete as required.				
		Discharge : 60 cum./hr. - 2 Nos. (1 working + 1 Standby)				
		Head : 15 m.				
		Air blowers				
		Twin lobe type rotary air blower with TEFC motor, suitable for operation on 415/440 volts, 3 phase, 50 Hz, A.C. supply mounted on common M.S. channel base frame, pulley, V belt, pulley guard, air filter including foundation bolts, nuts, Butterfly valve, N.R.V., G.I. pipes complete with bends, sockets, tees, elbows etc. as required and as per details given below:				
		Capacity : 1.5 cum./min. - 1 Set				
		Pressure : 0.35 kg./sq.cm.				
		UV treatment unit.				
		Capacity : 15m ³ /hr. - 4 Sets				
		Alum Dosing System complete with all accessories, electro-mechanical metering pump with agitator of suitable H.P. with S.S. shaft and S.S. blade including suction and delivery "LDPE" tubing of suitable size, injection fitting, ball valve and HDPE chemical grade tank of 100 litres capacity with outlets, over flow and drain arrangement etc. complete as required as per details given below:				
		Capacity : 0-6 LPH dosing rate of pump - 1 Set				
		Pressure : 2.0 kg/sq.cm.				
		Chlorinator Dosing System complete with suitable capacity single phase 220 volts, 50 Hz, accessories, electronic metering pump including suction and delivery LDPE tubing of suitable size, Injection fittings, gate valve of suitable size and HDPE chemical grade tank of 100 litres capacity with outlet, overflow and drain arrangements etc. complete as required as per details given below:				
		Capacity : 0-6 LPH dosing rate of pump. - 1 Set				
		Pressure : 2.0 kg/sq.cm.				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
		Non clog type stainless Steel mono block submersible drainage pumps suitable for handling solids of 12 mm size with totally water and dust proof motor for filtration plant room drainage.				
		Discharge : 30m ³ /hr.- 2 Nos. (1 W+1S)				
		Head : 15m				
		uPVC pipes for pumps & swimming pool piping conforming to IS 4985:2000 of pressure 10kg/cm ² with fittings i.e., bends, tees, reducers, plugs, union, flange & blank flanges etc including jointing, structural clamps, cutting chase and making good the walls, floors etc. wherever required. (Flow velocity of water in pipe lines shall not be more than 1.5m/sec).				
		Size 50mm OD to 200mm OD - 1 Lot				
		Cast Iron Butterfly valves conforming to PN 16/13095 with nuts, bolts, washers, 3mm thick Insertion rubber gasket and two matching flanges as per table 'E' etc. complete as per specifications. (Suitable for above pipes)				
		Size 50mm to 200mm - 1 Lot				
		Cast Iron Dual plate Non-return valves conforming to PN16 complete with bolts, nuts, washers and neoprene gaskets as per specifications. (Suitable for above pipes)				
		Size 80mm dia to 150mm dia -1 Lot				
		Cast Iron Y-strainers with flanged ends.(Suitable for above pipes).				
		Size 80mm dia to 150mm dia - 1 Lot				
		Medium duty circular manhole cover with frame size 500 mm dia, total weight 116 kg (58kg frame & 58 kg frame) complete in all respects. - 2 Nos.				
		MS vent pipes complete with 2 Nos. bends & painting with enamel paint all complete.				
		80 mm dia - 2 Nos.				
		600mm long puddle flanges (Hot dip galvanized) fabricated out of 6 mm thick M.S. plates along with flanges of suitable size properly fixed to slab/wall of balancing tank & swimming pool.				
		Size 50mm dia to 200mm dia - 1 Lot				
		Anti Vortex Drain of suitable size.				
		Size= 500x500mm (For pool) - 1 No.				
		Stainless steel drain grating (SS-316) of size 600 mm x 600 mm x 6 mm thick, having 10 mm dia holes including fixing to SS angle frame made out of 30 mm x 30 mm x 4 mm thick SS angle etc. complete as required. - 2 Nos.				
		Stainless steel inspection plate (SS-316) of size 300 mm x 300 mm x 6 mm thick with distribution channel of the swimming pool to be fixed inside while casting bottom slab for the distribution channel in the swimming pool etc. as required.-4 Nos.				
		63 mm OD (50 mm NB) - 18 Nos.				
		ABS vacuum points. - 4 Nos.				
		Flexible Vacuum Head, vacuum hose 15m long with hose cuffs aluminium, Telescopic handle 13m long, leaf net, pool brush, with S.S. trolley mounted self priming pump. - 1 No.				
		Swimming pool ladders overflow model, with side rails made of SS 316 pipe 38mm OD x 14 SWG thk, flat steps with antiskid design, anchors and other accessories complete as required.				
		2 steps - 4 Nos.				
		3 steps - 2 Nos.				
		First Aid shock treatment chart in English & Hindi duly framed as required - 1 Set				
		Grating tiles made of stabilized polypropylene against UV rays, white in color, rectangular size 300mm wide around overflow channel. - 75m				
		UNDER WATER LIGHTING				
		Under water lights for swimming pool of approved makes of following:				
		Under water light 300 W 12 volt, Niche type in ABS body and rim.- 16 Nos.				
		ABS junction boxes for above.- 16 Nos.				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
		Control panel for housing 16 nos. Low voltage swimming pool transformer with protective shield between primary & secondary windings, internal protection against overload, 600 VA, 220 V primary and and 12 V secondary voltage with tappings for different cable lengths and housed in a fabricated integrated, cubicle type control panel. (Cost of cables from under water lights to transformer will be included in the rates.) - 1 No.				
		Dust, damp and vermin proof, free floor standing factory built sheet steel enclosed nondrawout modular panel for swimming pool filtration plant, fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet, hinged doors of 2mm thick CRCA sheet, duly painted complete with earth bus, necessary metering protections & indications and mounted with the following including all inter connection etc. (Including earthing). - 1 Set.				
		One No. 100 amps TP Incoming MCCB complete with the following: 1 No. 0-500 volts 96x96 sq. mm ammeter with selector switch and fuses. (1 set). 1 No. 0-200 amps 96x96sq.mm ammeter with 200/5 amps ratio CT's and selector switch.				
		Over voltage and under voltage tripping mechanism for persistent voltage fluctuations of more than ±10% of the rated voltage for more than 5 minutes. (1set)				
		Phase indicating lamps with toggle switches.				
		Indication lamps for ON/OFF/TRIP status of motors.				
		Aluminium bus bar of 150 amps for three phase and neutral.				
		Out going feeders/Starters				
		2 Nos. 32 amps TP MCB with DOL starter each suitable for 7.5 HP motor for recirculating pumps panel.				
		1 Nos. 16 amps TP MCB with DOL starter each suitable for 2 HP motor for air blowers.				
		1 No. 32 amps TPN MCB suitable for 5 HP drainage pumps panel in Filtration plant room .				
		2 Nos. 6 amps TP MCB with Dol starter each suitable for 0.5 to 1 HP motor for metering pumps.				
		Rotary manual/auto/off switch. (2 Nos.)				
		Spares TP MCCB's 25 amps 2 Nos.				
		All switch gear/panels shall be suitable for 25 KA rating.				
		All outgoing will have 96 sq. mm size ammeter and CT.				
		All starter units for pumps to be provided with 3 level liquid level contractor.				
		All outgoing starter units to have "ON" red lamps.				
		All pumps to be provided with duty selector switch.				
		All pumps to be provided with sequence timer 220/440 V AC/DC and alternate working of pumps between 6 to 8 hours or alternate use of pumps after one service in sequence.				
		All pumps to be provided with over load relay.				
		Necessary cable alleys for space switches, level controller Internal wiring and copper earthing of all equipment shall also be included. All switch gears/control gears shall be motor duty rating.				
		Provisions of BMS system for pumps to be included in electrical control panel. The panel manufacturer shall include the following:				
		PF contact at Pumps Starter panels for Pumps Start/Stop Command for all pumps indicated above.				
		PF contact at Pumps Starter panels for Pumps Run Status for all pumps Indicated above.				
		PF contact at Pumps Starter panels for AUTO/MANUAL switches for all pumps indicated above.				
		PF contact at Pumps Starter panels for over load relay trip signals for all pumps indicated above.				
		Cabling from BMS system to this panels will be done by BMS contractor.				
		Dust, damp and vermin proof, wall mounted factory built sheet steel enclosed type nondrawout, fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet, hinged doors of 2mm thick CRCA sheet, duly painted complete with earth bus, necessary metering protections & indications and mounted with the following including all inter connection etc. (Including earthing). (Indoor type) (For driange pump). - 1 Set				
		32 amps incoming MCB (1 No.)				
		Fully tapped Copper bus bas of suitable capacity. (1 set)				
		Panel type volt meter 96mm square with Rotary selection switch for reading voltage between phase and neutral or incoming feeder. (1 set)				
		Phase indicating lights with toggle switches and shall be protected by 2 amps MCB's. (2 sets)				
		Ampere meter 96mm square panel type of appropriate range. (1 set)				
		16 amps outgoing MCB (2 Nos.)				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
		Fully automatic DOL starters with push buttons indicating lights and overload relay each for drainage pump. (2 Nos.)				
		Single phasing preventors. (2 Nos.)				
		Rotary manual/auto/off switch. (2 Nos.)				
		Space of one liquid level controller				
		Provisions of BMS system for pumps to be included in electrical control panel. The panel manufacturer shall include the following:				
		PF contact at Pumps Starter panels for Pumps Start/Stop Command for all pumps indicated above.				
		PF contact at Pumps Starter panels for Pumps Run Status for all pumps indicated above.				
		PF contact at Pumps Starter panels for AUTO/MANUAL switches for all pumps indicated above.				
		PF contact at Pumps Starter panels for over load relay trip signals for all pumps indicated above.				
		Cabling from BMS system to this panels will be done by BMS contractor.				
		PVC insulated & sheathed FRLS Armoured cables of suitable size of 1.1 K.V. Copper Conductor including supplying and making and termination with brass compression glands including Perforated MS cable trays for cables - 1 Lot.				
		Masonry chambers 60x60x75cm (Inside) with 75 class designation brick work in cement mortars 1:5 (1 cement : 5 fine sand) for butterfly valve with C.I. manhole cover with frame size 600x600mm (light duty) fixed in cement concrete 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size). Necessary excavation foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregated 40mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12mm thick finished with a floating coat of neat cement complete as per standard design. (The cost of excavation, refilling and compaction in layers as per sub grade of required density including watering required for compaction and disposal of surplus earth shall be included in rate). - 1 No.				
		SUB TOTAL OF SWIMMING POOL FILTRATION PLANT, PIPING, UNDERWATER LIGHTS & ASSOCIATED WORKS (SIZE 25MX12MX1.2M AVERAGE DEPTH)				36,14,641.00
15.00		Carriage of material by mechanical transport 0.05-2 Km. Loading, Unloading and Carriage upto 50m is included in respective excavation item				
a)	NDSR-1	Earth	Cum	8209.00	56.57	464383.13
b)	NDSR-2	Excavated Rock	Cum	7292.00	90.51	659998.92
16.00	NDSR-3	Providing, fixing and removal of customized aluminium formwork for monolithic construction RCC members with a repetitive usage using grade 5052 aluminium of panel sheets of minimum 4 mm thick and grade 6061 (Type-6) aluminium for extruded sections. The form work includes of beam components i.e. beam side panel, prop head for soffit beam, beams soffit panel, beam soffit bulk head and deck components i.e. deck panel, deck prop, prop length, deck mid, soffit length, deck beam bar and wall components i.e. wall panel, rocker, kiker and internal soffit corner, external soffit corner, external corner, internal corner etc. The panels are held in position by a simple pin and wedge system that passes through holes in the out side rib of each panel. The tolerance of finished panels to be (-1 mm), and shall conform to IS 14687-1999. Pins and wedges to be made of high grade mild steel, all complete as per direction of Engineer-in-charge. The rate shall be applicable for all heights, lifts etc. Nothing shall be payable extra for additional floor height or shuttering above floor V level (Cost of RCC work shall be paid separately)	Sqm	156732.00	388.59	60904487.88
17.00		Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable /recoverable separately.				
a)	NDSR-4	Extra for providing richer mixes at all floor levels. M45 (Note : Cement content considered in M-45 is @ 370 kg/ cum)	Cum	1210.00	278.95	337529.50
b)	NDSR-5	Extra for providing richer mixes at all floor levels. M50 (Note : Cement content considered in M-50 is @ 400 kg/ cum)	Cum	2117.00	483.34	1023230.78
c)	NDSR-6	Extra for providing richer mixes at all floor levels. M55 (Note : Cement content considered in M-55 is @ 425 kg/ cum)	Cum	2721.00	654.07	1779724.47
d)	NDSR-7	Extra for providing richer mixes at all floor levels. M60 (Note : Cement content considered in M-60 is @ 450 kg/ cum)	Cum	4868.00	824.80	4015126.40
18.00		Extra for R.C.C./ B.M.C/ R.M.C. work for each four floors or part thereof.				
a)	NDSR-8	5th Floor to 8 th Floor	Cum	3688.68	280.97	1036408.42
b)	NDSR-9	9th Floor to 12th Floor	Cum	4296.29	561.93	2414214.24
c)	NDSR-10	13th Floor to 16th Floor	Cum	2607.04	842.90	2197474.02
d)	NDSR-11	17th Floor to 20th Floor	Cum	2607.04	1123.87	2929974.04
e)	NDSR-12	21st Floor to 24th Floor	Cum	2607.04	1404.83	3662448.00



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
f)	NDSR-13	25th Floor to 28th Floor	Cum	1365.06	1685.80	2301218.15
g)	NDSR-14	28th Floor to 31st Floor	Cum	964.47	1966.77	1896890.66
h)	NDSR-15	31st Floor & Above	Cum	26.88	2247.74	60419.25
						85683527.86
19.00		TEMPORARY BARRICADING WORK				
19.1		Providing temporary barricade of the following heights and arrangement for traffic diversions				
i	NDSR-16	2.0 m high	RM	16000	2330.40	37286400.00
ii	NDSR-17	1.0 m high	RM	1600	1162.12	1859392.00
19.2		Designing, providing and fixing pre-coated galvanised iron profile sheets (size, shape and pitch of corrugation for upto 10m high barricading (The frame work for sheet fixing will be paid extra as per DSR 2018/10.1 item).				
i	NDSR-18	Barricading for the Contractors site area with pre-coated galvanised iron profile sheets	Sqm	1350	676.37	913099.50
		Sub-total-G01-Temporary barricading				40058891.50
20.00		REMOVAL OF TREES				
20.1		Cutting, Removal, transporting, disposal of trees by handing over to the concerned department as per the instruction of Engineer of the following girth (measured at height of 1.0M above ground level) including excavation, backfilling and levelling off the ground as directed by the Engineer				
i	NDSR-19	Up to and including 30 cm Girth	Number	50	166.02	8301.00
ii	NDSR-20	Beyond 30 cm Girth up to and including 50 cm Girth	Number	50	190.61	9530.50
iii	NDSR-21	Beyond 50 cm Girth up to and including 75 cm Girth	Number	50	719.41	35970.50
20.2		Removal and transplanting trees at approved site (within 10 km lead) of the following girth (measured at height of 1.0M above ground level) including excavation, backfilling and levelling off the ground as directed by the Engineer				
i	NDSR-22	Up to and including 30 cm Girth	Number	50	10975.61	548780.50
ii	NDSR-23	Beyond 30 cm Girth up to and including 50 cm Girth	Number	50	17019.88	850994.00
iii	NDSR-24	Beyond 50 cm Girth up to and including 75 cm Girth	Number	50	27472.84	1373642.00
20.3	NDSR-25	Plantation of new saplings	Number	10000	104.53	1045300.00
		Sub-total-G02-Removal of Trees				3872518.50
21.00		TRAFFIC MANAGEMENT				
21.1	NDSR-26	Providing & fixing of retro-reflective traffic sign boards (as per IRC recommendations and ISI approved) as per directions of the Engineer.	Sqm	300	11793.40	3538020.00
21.2		Providing and fixing and maintaining the following traffic aids during the execution of works, refixing of the same as required as per directions of the Engineer.				
i	NDSR-27	Road delineator	Each	150	3621.64	543246.00
ii	NDSR-28	Portable Signages	Each	100	7366.26	736626.00
iii	NDSR-29	Reflective lights	Each	125	3080.55	385068.75
iv	NDSR-30	Traffic cones	Each	250	2594.79	648697.50
21.3		Deployment of adequate manpower round the clock in shifts of 8 hrs for the management of traffic in Intersection, roadway influenced by the execution of works by the contractor and traffic diversions at various locations as per the deployment schedule approved by the Engineer.				
i	NDSR-31	Incharge	Shifts	550	614.88	338184.00
ii	NDSR-32	Supervisor	Shifts	3750	504.20	1890750.00
iii	NDSR-33	Traffic Marshals / Guards	Shifts	16000	461.16	7378560.00
		Sub-total-G03-Traffic Management				15458152.25
22.00		SITE ACCOMMODATION FOR THE ENGINEER				
22.1	NDSR-34	Providing and maintaining fully furnished site offices for Engineer (400 sq.m. carpet area) throughout the contract period and till the 30 days beyond the issue of Taking Over Certificate for the entire work.	Per sqm of carpet area	400	10889.52	4355808.00
		Sub-total-G04-Site Accommodation for the Engineer				4355808.00
23.00		PHOTOGRAPHIC AND VIDEOGRAPHIC PROGRESS REPORTS				
23.1	NDSR-35	Submission of Set of colour photographs depicting the progress of works	Per set	30	3080.55	92416.50
23.2	NDSR-36	Submission of sets of Video DVDs to depict progress of works at monthly intervals or as instructed by the Engineer.	Per set	30	11559.74	346792.20
23.3	NDSR-37	Submission of sets of Video DVDs with commentary of entire project comprising of every activities starting from commencement of work to the end of the work	Per set	1	26624.30	26624.30
		Sub-total-G05-Photography				465833.00
24.00		ROAD WORKS				
24.1	NDSR-38	Construction of flexible pavement as per the GFC drawings	Sqm	2000	4697.68	9395360.00
24.2	NDSR-39	M30/20 grade cement concrete for median	cum	1500	9324.45	13986675.00
24.3	NDSR-40	Providing and installing TMT reinforcement steel of Fe-500D grade	MT	135	75973.87	10256472.45
24.4	NDSR-41	Construction of median and Island above road level with approved material brought from borrow areas to be arranged by the contractor	Cum	5000	375.08	1875400.00
24.5	NDSR-42	Fabrication and installation of Tubular Steel Railing	RM	200	1973.76	394752.00
		Sub-total-G06-Road Works				35908659.45
25.00		SURVEYING				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
25.1	NDSR-43	Detailed survey work	sq Km	0.1	485755.20	48575.52
		Sub Total - Surveying:				48575.52
26.00		GEOTECHNICAL WORKS				
26.1	NDSR-44	Drilling of 150 mm dia bore holes in all types of soils and soft rocks conducting stipulated tests and submission of reports	RM	500	1346.59	673295.00
26.2	NDSR-45	Drilling of Nx size bore holes in all kinds of hard rocks ,conducting stipulated tests and submission of reports	RM	300	3910.64	1173192.00
		Sub Total - Geo Technical Investigation:				1846487.00
27.00		Provisional sum for the cost of shifting/rearranging of utilities to be paid as per the rates detailed below These BOQ items shall be used for compensating the activities related to the shifting and / or re-arranging of Electrical, Telecom and Civil Utilities, if required. Method of Measurement: In relevant unit of measurement for each BOQ item; quantum as calculated from scheme approved by the concerned utility authority / utility owner or actually executed and accepted work whichever is less. Payment Terms: 100% of accepted unit rate for the approved measurement by the engineer.				
27.1		Annexure A: Electrical Utilities		-	-	10000000.00
27.2		Annexure B: Telecom.Utilities		-	-	1000000.00
27.3		Annexure C: Civil Utilities		-	-	15000000.00
A		Annexure A				
A.1		LAYING OF PIPES BY TRENCHLESS BORING				
		Supply of HDPE pipe conforming to PN4 as specified the sizes given below, boring of road areas by using trench-less method and laying of HDPE pipe properly continuously joined				
	NDSR-46	63mm	Mtr		611.0832	
	NDSR-47	75mm	Mtr		706.1376	
	NDSR-48	110mm	Mtr		814.7776	
	NDSR-49	160mm	Mtr		1901.144	
	NDSR-50	200 mm	Mtr		2036.944	
	NDSR-51	250mm	Mtr		2444.3328	
A.2		LAYING OF PIPES BY OPEN TRENCHING METHOD				
		Supply of HDPE pipe conforming to PN4 as specified the sizes given below, laying of HDPE pipe properly continuously joined, by Open Trench method of laying				
	NDSR-52	63mm	Mtr		407.3888	
	NDSR-53	75mm	Mtr		543.1888	
	NDSR-54	110mm	Mtr		722.4336	
	NDSR-55	160mm	Mtr		814.7776	
	NDSR-56	200mm	Mtr		950.5776	
	NDSR-57	250mm	Mtr		1099.952	
A.3		Supply at the site of work of LT, PVC insulated, armoured, Aluminium conductor cables as per IS1554/Part-I /1988 with up to date amendment & specified in the specifications of the sizes given below, laying of cables in existing pipes in all types of areas normal (soil, footpath, road etc). As directed by engineer in charge, including testing and commissioning of cables etc as required				
	NDSR-58	1.1KV PVC 4x95sqmm	Mtr		774.032	
	NDSR-59	1.1KV PVC 4x70sqmm	Mtr		583.968	
	NDSR-60	1.1KV PVC 4x25sqmm	Mtr		276.976	
	NDSR-61	1.1KV PVC 4x16 sqmm	Mtr		209.104	
	NDSR-62	1.1KV PVC 4x10 sqmm	Mtr		168.672	
	NDSR-63	1.1KV PVC 2x25 sqmm	Mtr		169.792	
	NDSR-64	1.1KV PVC 2x10sqmm	Mtr		139.888	
A.4		Supply at the site of work of HT, XLPE insulated, armoured, Aluminium conductor cables as per IS-7098/Part-II /1985 with up to date amendment & specified in the specifications of the sizes given below, laying of cables in existing pipes in all types of areas (normal soil, footpath, road etc). As directed by engineer in charge, including testing and commissioning of cables etc as required				
	NDSR-65	11KV XLPE3X300 sqmm	Mtr		2687.4064	
A.5		Supply at the site of work of HT, XLPE insulated, armoured, Aluminium conductor cables as per IS-7098/Part-II/1985 with up to date amendment & specified in the specifications of the sizes given below, laying of cables in trenches in all types of areas (normal soil, footpath, road etc) by excavation with laying arrangement with stand cushion and brick/brick tiles or shaped RCC cover protection as required/approved by utility owing agency at the required depth including refilling of trenches, testing & commissioning of cables etc as required				
	NDSR-66	11KV XLPE3X300 sqmm	Mtr		3022.824	
A.6		Supply at the site of work of LT, PVC insulated, armoured, Aluminium conductor cables as per IS-1554/Part-I/1988 with up to date amendment & specified in the specifications of the sizes given below, laying of cables in trenches in all types of areas (normal soil, footpath, road etc) by excavation with laying arrangement with stand cushion and brick/brick tiles or shaped RCC cover protection as required/approved by utility owing agency at the required depth including refilling of trenches, testing & commissioning of cables etc as required				
	NDSR-67	1.1KV PVC 4x95 sqmm			907.1216	
	NDSR-68	1.1KV PVC 4x70 sqmm			699.3504	
	NDSR-69	1.1KV PVC 3.5x70 sqmm			638.2432	
	NDSR-70	1.1KV PVC 4x25sqmm			362.5776	



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
	NDSR-71	1.1KV PVC 4x16 sqmm	Mtr		289.2512	
	NDSR-72	1.1KV PVC 4x10 sqmm	Mtr		244.4288	
	NDSR-73	1.1KV PVC 2x25 sqmm	Mtr		245.7952	
	NDSR-74	1.1KV PVC 2x10 sqmm	Mtr		213.2032	
A.7		Supply at the site of work of HT, XLPE insulated, armoured, Aluminium conductor cables as per IS-7098/Part-II/1985 with up to date amendment & specified in the specifications of the sizes given below, laying of additional cables in same trenches of required width in all types of areas (normal soil, footpath, road etc) by excavation with laying arrangement with stand cushion and brick/brick tiles or shaped RCC cover protection as required/approved by utility owing agency at the required depth including refilling of trenches, testing & commissioning of cables etc as required				
	NDSR-75	11KV XLPE3X300 sqmm	Mtr		2991.5872	
A.8		Supply at the site of work of LT, PVC insulated, armoured, Aluminium conductor cables as per IS-1554/Part-I/1988 with up to date amendment & specified in the specifications of the sizes given below, laying of additional cables in same trenches of required width in all types of areas (normal soil, footpath, road etc) by excavation with laying arrangement with stand cushion and brick/brick tiles or shaped RCC cover protection as required/approved by utility owing agency at the required depth including refilling of trenches, testing & commissioning of cables etc as required				
	NDSR-76	1.1KV PVC 4x95 sqmm	Mtr		882.672	
	NDSR-77	1.1KV PVC 4x70 sqmm	Mtr		674.912	
	NDSR-78	1.1KV PVC 3.5x70sqmm	Mtr		609.728	
	NDSR-79	1.1KV PVC 4x25sqmm	Mtr		338.128	
	NDSR-80	1.1KV PVC 4x16 sqmm	Mtr		264.8016	
	NDSR-81	1.1KV PVC 4x10 sqmm	Mtr		219.9904	
	NDSR-82	1.1KV PVC 2x25 sqmm	Mtr		221.3456	
	NDSR-83	1.1KV PVC 2x10sqmm	Mtr		188.7536	
A.9		Supply at the site of work of LT, XLPE insulated, armoured, Aluminium conductor cables as per IS-7098/Part-I/1988 with up to date amendment & specified in the specifications of the sizes given below, laying of cables in existing pipes in all types of areas normal soil, footpath, road etc). As directed by engineer in charge, including testing and commissioning of cables etc as required				
	NDSR-84	1.1KV XLPE 3.5x240sqmm	Mtr		1580.6672	
	NDSR-85	1.1KV XLPE 3.5x185 sqmm	Mtr		1239.8176	
	NDSR-86	1.1KV XLPE 3.5x150sqmm	Mtr		1003.5312	
	NDSR-87	1.1KV XLPE 3.5x120 sqmm	Mtr		850.08	
	NDSR-88	1.1KV XLPE 3.5x95 sqmm	Mtr		691.208	
A.10		Supply at the site of work of LT, XLPE insulated, armoured, Aluminium conductor cables as per IS-7098/Part-I/1988 with up to date amendment & specified in the specifications of the sizes given below, laying of additional cables in same trenches of required width in all types of areas (normal soil, footpath, road etc) by excavation with laying arrangement with stand cushion and brick/brick tiles or shaped RCC cover protection as required/approved by utility owing agency at the required depth including refilling of trenches, testing & commissioning of cables etc as required				
	NDSR-89	1.1KV XLPE 3.5x240sqmm	Mtr		1773.4976	
	NDSR-90	1.1KV XLPE 3.5x185 sqmm	Mtr		1397.3456	
	NDSR-91	1.1KV XLPE 3.5x150sqmm	Mtr		1137.976	
	NDSR-92	1.1KV XLPE 3.5x120 sqmm	Mtr		966.8736	
	NDSR-93	1.1KV XLPE 3.5x95 sqmm	Mtr		793.0496	
A.11		Supply at the site of work of LT, XLPE insulated, armoured, Aluminium conductor cables as per IS-7098/Part-I/1988 with up to date amendment & specified in the specifications of the sizes given below, laying of cables in trenches in all types of areas (normal soil, footpath, road etc) by excavation with laying arrangement with stand cushion and brick/brick tiles or shaped RCC cover protection as required/approved by utility owing agency at the required depth including refilling of trenches, testing & commissioning of cables etc as required.				
	NDSR-94	1.1KV XLPE 3.5x240sqmm	Mtr		1802.0128	
	NDSR-95	1.1KV XLPE 3.5x185 sqmm	Mtr		1425.8608	
	NDSR-96	1.1KV XLPE 3.5x150 sqmm	Mtr		1166.4912	
	NDSR-97	1.1KV XLPE 3.5x120 sqmm	Mtr		991.312	
	NDSR-98	1.1KV XLPE 3.5x95 sqmm	Mtr		817.4992	
A.12		Supply, Making, Testing and Commissioning of Complete Straight Through Joint as Specified in the Specification including Provision of Lugs/Ferrules for Jointing the HT/LT, XLPE/PILCA/PVC insulated cables, excavation of Pits, sand Cushioning, Protective Covering Refilling of Jointing Pit etc as Required by Utility Owing Agency of Following Sizes and Type:				
	NDSR-99	11KV H.S. Type 3 x 300 sqmm	Set		20002.7968	
	NDSR-100	LT 1.1KV cast resin comp. Type 3.5x240	Set		2165.9456	
	NDSR-101	LT 1.1KV cast resin comp. Type 3.5x185	Set		1770.7872	
	NDSR-102	LT 1.1KV cast resin comp. Type 3.5x150	Set		1725.976	
	NDSR-103	LT 1.1KV cast resin comp. Type 3.5x120	Set		1659.4256	
	NDSR-104	LT 1.1KV cast resin comp. Type 3.5x95	Set		1140.6864	
	NDSR-105	LT 1.1KV cast resin comp. Type 4x95	Set		1140.6864	
	NDSR-106	LT 1.1KV cast resin comp. Type 4x70	Set		1140.6864	
	NDSR-107	LT 1.1KV cast resin comp. Type 4x25	Set		795.7712	
	NDSR-108	LT 1.1KV cast resin comp. Type 4x16	Set		708.8592	
	NDSR-109	LT 1.1KV cast resin comp. Type 4x10	Set		708.8592	



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
	NDSR-110	LT 1.1KV cast resin comp. Type2x25	Set		708.8592	
	NDSR-111	LT 1.1KV cast resin comp. Type 2x10	Set		609.728	
	NDSR-112	LT 1.1KV cast resin comp. Type 3.5CX70	Set		1140.6864	
A.13		Supply, Making, testing & Commissioning of Complete Heat Shrinkable Type Indoor/Outdoor type and end Termination as Specified in the Specifications including provision of Lugs/Ferrules for Termination of XLPE insulated cable including making Hole in the Switch Board, Clamping, Supporting complete as required by Utility owing agency of Following Sizes:				
		INDOOR TERMINATIONS				
	NDSR-113	11 KV H.S. Type 3X300 Sq. Mm	Set		7201.2752	
		OUTDOOR TERMINATIONS				
	NDSR-114	11 KV H.S. Type 3X300 Sq. Mm	Set		10793.0928	
A.14		DISMANTLING (Taking Out From Ground) of Cables				
		Dismantling (taking out from ground) the following rating & sizes of XLPE/PILCAPVC cables, without damaging the cables, by excavation in all types of area (normal soil, foot-path, road etc.) with refilling excavated trenches. This also includes handing over of dismantled cable (if not relayed) to concerned utility owning agency				
	NDSR-115	11KV Cables of all Type and Sizes above 120 Sqmm	Mtr		46.1684	
	NDSR-116	LT Cables of all Type and Sizes 120 Sqmm and above	Mtr		33.9472	
	NDSR-117	LT Cables of all Type and Sizes less than 120 Sqmm	Mtr		28.5152	
A.15	NDSR-118	Dismantling and removing existing structures, posts, etc of HT/LT lines and transportation and stacking of all materials at suitable locations as per instructions including digging out loading and unloading on to lorries, of poles, lines and all materials without damaging the same.	M		57.0304	
A.16	NDSR-119	Dismantling and removing existing structures, posts, etc of transformer installations and transportation and stacking of all materials at suitable locations as per instructions including digging out loading and unloading on to lorries, etc of poles, transformers, and all materials without damaging the same.	No		6802.04	
A.17	NDSR-120	Dismantling and shifting of RMU at various locations and re- erecting, including foundation works and earthing.	No		33949.0816	
A.18	NDSR-121	Supply and erection of LT distribution pillar boxes over cable ducts on the sides of roads. The box shall be fabricated out of 14 swg CRCA sheet, fully compartmentalised, common cubicle frame work, free standing type dust and vermin proof and water proof suitable for outdoor application(IP-65) and powder coated, with 2 nos 250A, 4 pole extra current limiting type, isolation duty MCCB set at 200A, 35KA, as incomers, operating individually with mechanical castel key interlocking for receiving supply from the duplicate cable feeders, with 4 nos 4 pole extra current limiting type, isolation duty MCCB, 125 A 25 KA as outgoing means for connecting to individual metering panels located at consumer premises, through cables, the boxes shall be provided with air insulated, 250A colour coded TPN aluminium bus bars with all rigid interconnections and with a set of indicator lamps with suitable control fuses and duplicate earth connections using 40 mm GI pipes and no: 6 SWG GI wire, including cost of all materials and labour as per standard specifications and directions of utility officers	No		149371.8576	
A.19	NDSR-122	Supply and erection of LT distribution panel boards to be erected in consumer's premises. The boards shall be fabricated out of 16swg CRCA sheet, fully compartmentalised, common cubicle frame work, free standing type dust and vermin proof and suitable for outdoor application(IP-65) and powder coated, with 1 nos 125A, 25KA 4 pole extra current limiting type, isolation duty MCCB as incomer and 8nos 4 pole extra current limiting type, isolation duty MCCB, 63A, 25 KA as outgoing, and provision for accommodating energy meter with sealing facility. The boards shall be provided with air insulated, 125A colour coded TPN aluminium bus bars with all rigid interconnections and with a set of indicator lamps with suitable control fuses and duplicate earth connections using 40 mm GI pipes and no: 6 SWG GI wire, including cost of all materials and labour as per standard specifications and directions of utility officers	No		67790.8784	
A.20	NDSR-123	Supply and erection of ring main units, CTC type for replacing tapping DP structures of HT circuits, and for CSS, on RCC 1:2:4 foundations using foundation bolts and giving connections, etc complete including cost off all materials and labour, as per standards and directions of officers.	No		907680.144	
A.21	NDSR-124	Supply and erection of ring main units, ADD ON type for replacing tapping DP structures of HT circuits, on RCC 1:2:4 foundations.	No		287480.7712	
A.22	NDSR-125	Supply, installation, Testing and commissioning of CSS (Compact Switching Station) – 11 KV, 990 KVA, consisting of Transformer one vacuum/SF6 breaker for transformer control, LT panel with I/C ACB, and O/G, MCCBs (8 N0s) enclosed in 2 mm thick weather proof GS enclosure including construction of necessary foundation, using, foundation bolts, etc, complying with IS 1330 and as per specifications of KS E Board, and directions of officers.	No		3897353.925	
A.23	NDSR-126	Fitting and erecting one HT TW/RSJ/Rail Single Pole in position, including fitting cross arm, digging and back filling pit in ordinary soil, drawing sufficient length of GI earthing leads to the ground for earthing (excluding provision of earthing).	No		761.8128	
A.24	NDSR-127	Fitting and erecting one HT PSC/RCC Single Pole in position, including fitting cross arm, digging and back filling pit in ordinary soil, drawing sufficient length of GI earthing leads to the ground for earthing (excluding provision of earthing).	No		1344.3808	
A.25	NDSR-128	Fitting and erecting one HT 'A' type Single Pole in position, including fitting cross arm, digging and back filling pit in ordinary soil, drawing sufficient length of GI earthing leads to the ground for earthing (excluding provision of earthing).	No		1702.8816	



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
A.26	NDSR-129	Fitting and erecting one HT Four legged 'A' type Single Pole in position including fitting cross arm, digging and back filling pit in ordinary soil, drawing sufficient length of GI earthing leads to the ground for earthing (excluding provision of earthing).	No		2464.7056	
A.27	NDSR-130	Fitting and erecting one HT Double Pole Structure using TW/RSJ/Rail pole in position including fitting 2 Nos channel cross arm, digging and back filling pit in ordinary soil, drawing sufficient length of GI earthing leads to the ground for earthing (excluding provision of earthing).	No		2392.7344	
A.28	NDSR-131	Fitting and erecting one HT Double Pole Structure using PSC/RCC pole in position including fitting 2 Nos channel cross arm, digging and back filling pit in ordinary soil, drawing sufficient length of GI earthing leads to the ground for earthing (excluding provision of earthing).	No		3557.8592	
A.29	NDSR-132	Fitting and erecting one HT Double Pole Structure using 'A' type pole in position including fitting 2 Nos channel cross arm, digging and back filling pit in ordinary soil, drawing sufficient length of GI earthing leads to the ground for earthing (excluding provision of earthing).	No		4274.872	
A.30	NDSR-133	Fitting and providing one HT Stay for 11 kV pole, including digging and back filling pit in ordinary soil.	No		554.0528	
A.31	NDSR-134	Fitting and providing one Strut using HT pole, including digging and back filling pit in ordinary soil.	No		672.1904	
A.32	NDSR-135	Fitting and providing one HT Fly stay for 11 kV pole using HT pole, including digging and back filling pits in ordinary soil drawing sufficient length of GI earth leads to the ground for earthing (excluding provision of earthing).	No		1376.9728	
A.33	NDSR-136	Stringing of one km 11 kV line with ACSR Raccoon (3 conductors) after fitting insulators and giving jumper connections including cutting removing tree branches wherever necessary and conveyance of all materials (except poles) to an initial distance of 200 m from stacking place, after cutting and removing tree branches wherever necessary	km		14071.2096	
A.34	NDSR-137	Fitting 3 Nos channel cross arm, AB switch, DO fuse, LA, HT & LT connections up to OH lines, etc. on existing DP structure, earthing the same using earth pipe, digging & back filling pit in ordinary soil (upto 5 Nos), provision for one set (3 Nos) of LT fuses. excluding mounting of Transformer on plinth but including erecting up of statutory fencing around the structure.	No		5931.5872	
A.35	NDSR-138	Erecting one 100/150/160 kVA Transformer from any vehicle/Ground to existing DP and giving connections(including expenses for transporting transformer in lorry from any stores to site).	No		2923.6928	
A.36	NDSR-139	Erecting one 100/150/160 kVA Transformer from any vehicle/Ground to existing Plinth and giving connections(including expenses for transporting transformer in from any stores to site).	No		2543.464	
A.37	NDSR-140	Erecting one 250/315/500 kVA Transformer from any vehicle/Ground to existing Plinth and giving connections(including expenses for transporting transformer in lorry from any stores to site).	No		3394.9104	
A.38	NDSR-141	Installing One DTR Meter with box (Normally 40x25x100 size) on existing poles and giving the complete connections including conveyance of materials.	No		1501.9088	
A.39	NDSR-142	Fitting one additional Fuse unit and giving connection from Transformer to fuse and fuse to LT OH line.	No		137.1552	
A.40	NDSR-143	Erecting one LT TW/RSJ/Rail Pole in position including digging & back filling pit in ordinary soil.	No		471.2176	
A.41	NDSR-144	Erecting one LT PSC/RCC Pole in position including digging & back filling pit in ordinary soil.	No		829.7184	
A.42	NDSR-145	Providing Stay for LT poles including digging & back filling pit in ordinary soil.	No		374.7968	
A.43	NDSR-146	Providing Strut using LT pole including digging and back filling pit in ordinary soil.	No		416.8976	
A.44	NDSR-147	Providing Fly stay for LT pole using LT pole including digging and back filling pit in ordinary soil.	No		886.7488	
A.45	NDSR-148	Stringing, shackling, fitting cross arms, insulators and binding, giving jumper connection etc using ACSR Rabbit for Phase and ACSR weasel for Neutral, for one km LT 3 ph 4 wire line including cutting removing tree branches wherever necessary and conveyance of all materials (except poles) from stacking place.	km		12323.5168	
A.46	NDSR-149	Stringing, shackling, fitting cross arms, insulators and binding, giving jumper connection etc for one km additional conductor (ACSR Rabbit/Weasel) on existing LT line including cutting removing tree branches wherever necessary and conveyance of all materials (except poles) from stacking place.	km		2756.6672	
A.47	NDSR-150	Stringing, shackling, fitting insulators (excluding fitting of cross arm) and binding, giving jumper connection etc, for one km additional conductor (ACSR Rabbit/Weasel) on existing LT line including cutting removing tree branches wherever necessary and conveyance of all materials (except poles) from stacking place.	km		1860.4096	
A.48	NDSR-151	Fitting one set (3Nos) LT lightning arrestors in three phase line and giving connections excluding earthing	No		190.12	
A.49	NDSR-152	Supply and erecting PSC Poles in position including fittings, excavation and back filling of pits.	No		3802.2992	
A.50	NDSR-153	Providing stay for poles including cost of materials and back filling of pits etc.	No		1344.3808	
A.51	NDSR-154	Supply at site of ACSR Raccoon (6/1/4.09mm) conductor for 11 KV system.,	km		65634.4304	
A.52	NDSR-155	Supply at site of ACSR Rabbit (6/1/3.35mm) conductor for 11 KV system.,	km		44178.6128	
A.53	NDSR-156	Supply at site of ACSR Weasel (6/1/2.59mm) conductor for 11 KV system.,	km		28343.4032	
A.54	NDSR-157	Supply at site any type of LT/HT poles with fittings	No.		3750.6896	
A.55	NDSR-158	Supply at site of LT/HT, A type poles with fittings	No		19353.6896	
A.56	NDSR-159	Supply at site of LT/HT, four legged A type lattice poles with fittings	No.		77201.5552	
A.57	NDSR-160	Providing earthing for poles and supports, pillar boxes, panels, structures, transformers, etc including supply of materials, excavation, giving connection, laying lead wires, etc complete using 40 mm GI pipes 3 m long and GI wires of size upto No 6 SWG.	No.		4057.592	



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
A.58	NDSR-161	Constructing Transformer plinth of size 1.5m x 1.5m x 1.5m on 1.8m x 1.8m x 0.75m basement inclusive of cost of all material. [Excavation 1.8m x 1.8m x 0.75m, Random Rubble in CM(1:8) 1.8m x 1.8m x 0.75m + 1.5m x 1.5m x 1.5m, concrete(1:2:4, 20mm) 1.5m x 1.5m x 10cm, plaster CM(1:3) 12mm, 1.5m x 1.5m, Pointing CM(1:3) 1.5m x 1.5m x 4 sides.	No		13405.8064	
A.59	NDSR-162	33kV XLPE 3x400 Sq. mm cable	mtr		2117.472	
A.60	NDSR-163	11kV XLPE 3x300 Sq. mm Cable, 11/0.415 kV, 630 KVA	mtr		1420.7984	
A.61	NDSR-164	distribution transformer	No.		2520000	
A.62	NDSR-165	High mast/street light	No.		28000	
B-1		Annexure B -Telecom. Utilities.				
B-1.1		Supply & Provision of Polythene Insulated, Polythene sheathed Jelly filled (PIJF) copper conductor underground Armoured telephone cable as per DOT/BSNL Specification. No- G/CUG/01-02 Feb 96 (latest)				
a)	NDSR-166	1200/6.5 lbs (0.5 mm)	Mtr		3123.68	
b)	NDSR-167	800/6.5 lbs (0.5 mm)	Mtr		2104.48	
c)	NDSR-168	400/6.5 lbs (0.5 mm)	Mtr		1459.36	
d)	NDSR-169	200/6.5 lbs(0.5 mm)	Mtr		712.936	
e)	NDSR-170	100/6.5 lbs (0.5 mm)	Mtr		407.3888	
f)	NDSR-171	50/6.5 lbs (0.5 mm)	Mtr		210.4816	
g)	NDSR-172	20/6.5 lbs (0.5 mm)	Mtr		96.0544	
B-1.2		Supply & Provision of Polythene Insulated, Polythene sheathed Jelly filled (PIJF) copper conductor underground Unarmoured telephone cable as per DOT Specification No- G/CUG/01-02 Feb 96 (latest)				
a)	NDSR-173	1200/6.5 lbs (0.5 mm)	Mtr		2337.44	
b)	NDSR-174	800/6.5 lbs (0.5 mm)	Mtr		1578.08	
c)	NDSR-175	400/6.5 lbs (0.5 mm)	Mtr		1094.52	
d)	NDSR-176	200/6.5 lbs(0.5 mm)	Mtr		533.68	
e)	NDSR-177	100/6.5 lbs (0.5 mm)	Mtr		305.5472	
f)	NDSR-178	50/6.5 lbs (0.5 mm)	Mtr		157.528	
g)	NDSR-179	20/6.5 lbs (0.5 mm)	Mtr		70.616	
B-1.3	NDSR-180	Identification for working /non working cables.This includes cutting , testing & jointing etc. of different corrage at both ends & jointing of cables pair	pairs		2.7104	
B-1.4	NDSR-181	Trenching and backfilling on footpath/cc/bitumunious dense carpeted road for identification of cables (1.5m x 1.5 m)	Mtr		577.136	
B-1.5	NDSR-182	Trenching and backfilling on footpath/cc/bitumunious dense carpeted road (.90m x1.0m)	Mtr		230.8544	
B-1.6	NDSR-183	Supply and provision of GI pipe B class (100 mm)	Mtr		427.7616	
B-1.7	NDSR-184	Supply and provision of Red stone slab (600x225x38)	Nos.		20.3728	
B-1.8		Supply & Provision of jointing kit				
a)	NDSR-185	TSF-vi	Nos		1765.12	
b)	NDSR-186	TSF-v	Nos		1357.44	
c)	NDSR-187	TSF-iv	Nos		960.5776	
d)	NDSR-188	TSF-iii	Nos		814.7776	
e)	NDSR-189	TSF-ii	Nos		441.336	
B-1.9	NDSR-190	Supply & Provision of Jointing material for jointing of copper cables	Nos.		1290.0608	
B-1.10	NDSR-191	Making Jointing pit (3mX3m)	Nos.		814.7776	
B-1.11	NDSR-192	Jointing of newly laid cable pairs	pairs		2.7104	
B-1.12		laying/slewing of cables of diff. Corrage (Cu.)				
a)	NDSR-193	800 pair & above	Mtr		13.5744	
b)	NDSR-194	Below 800 pair	Mtr		6.7872	
B-1.13	NDSR-195	Supply & provision of 48 Fibre Optical Fibre Cable	Mtr		107.2736	
B-1.14	NDSR-196	Supply & provision of 24 Fibre Optical Fibre Cable	Mtr		77.4032	
B-1.15	NDSR-197	Joint Enclosure 48 Fibre	Nos.		936.992	
B-1.16	NDSR-198	Joint Enclosure 24 Fibre	Nos.		746.8832	
B-1.17	NDSR-199	Making 48 F splice	Nos.		7468.7984	
B-1.18	NDSR-200	Making 24 F splice	Nos		5431.8544	
B-1.19	NDSR-201	Laying of OFC cable	Mtr		13.5744	
B-1.20	NDSR-202	Supply and Provision of HDPE pipe 32 mm dia (for subducting)	Mtr		27.16	
B-1.21	NDSR-203	Laying of Subduct (32 mm)	Mtr		6.7872	
B-1.22	NDSR-204	Supply and Provision of 4 mm dia 3 strand polypropylene rope of ordinary grade	Mtr		2.7104	
B-1.23	NDSR-205	Erection of BSNL Telephone Poles	Nos.		108.64	
B-1.24	NDSR-206	Construction of Joint Chamber for Joints and Pulling Pit	Nos.		5431.8544	
B-1.25		Construction of 110 mm PVC pipe cable duc				
a)	NDSR-207	48 way	R Mtr.		8147.776	
b)	NDSR-208	24 way	R Mtr.		6789.8208	
c)	NDSR-209	16 way	R Mtr.		6110.832	
B-1.26	NDSR-210	Construction of Manhole for Cable Duct	Nos.		149375.9344	
B-1.27	NDSR-211	Supply & provision of 110 mm HDPE PN 10 (10 Kg) pipe through trenchless technology	Mtr.		2376.4384	
B-1.28	NDSR-212	Laying of cables through moling technology (at a depth of 1.75 m)	Mtr.		420.9632	
B-1.29	NDSR-213	Shifting of BSNL Pillars	Job		149375.9344	
B-2		Details of Duct Work				
		RATES FOR CABLE DUCT & MANHOLES-Non DSR items for Cable duct & Man Holes.				



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
B-2.1	NDSR-214	Providing & laying PVC pipes, complete with sockets with cable duct in standard formation or as specified by the Engineer-in-Charge and in alignment maintained by using spacers including jointing with solvent cement solution but excluding the cost of PVC spacers all complete as per BSNL specifications (finished length of pipes shall be measured for making payment) and the rates includes the cost of rodding, cleaning & performing mandrel test and to pass all the checks and tests prescribed in final acceptance testing schedule of BSNL:a) 110mm Outer Dia PVC pipe of 2.5mm wall thickness	mtr.		123.5696	
B-2.2		Providing and fixing Abs thermoplastic spacer 2.7 mm thick in any colour other than black as per drawing & shall ensure 50mm gap between pipes as per drawing.				
a)	NDSR-215	Double ended Spacer - 4-Ways	Nos.		61.1072	
b)	NDSR-216	Single ended Spacer - 4-Ways	Nos.		58.3968	
B-2.3	NDSR-217	Providing and fixing Abs thermoplastic expansion plug (110gm. Wt.) in ducts in any colour other than black all complete as per the direction of Engineer-in-Charge and as per BSNL drawing: a) 110 mm outer dia pipe.	Nos.		70.616	
B-2.4	NDSR-218	Providing and fixing 5mm thick (165gm.wt.) high density plastic material end caps in ducts in any colour other than black all complete as per the direction of Engineer-in-Charge and as per BSNL drawing:a) For 110mm outer dia pipe.	Nos.		2.7104	
B-2.5	NDSR-219	Providing and laying 4mm dia 3 strand polypropelene rope of ordinary grade (as per IS:5175-1987) inside the pipe from manhole to manhole as per direction of Engineer-in-Charge.	One Running Meter.		2.7104	
B-2.6	NDSR-220	Providing and laying polythene sheet of approved quality and weight not less than 1 Kg./10 Sqm. as per direction of Engineer-in-Charge. (The overlap shall not be less than 150mm wherever necessary).Polythene sheet to be wrapped all-round duct i/c fixing to the sides of soil by nailing etc. all complete. (Net area of polythene sheet ex. Overlapping) shall be measured for payment	Sq. Meter		20.3728	
B-2.7	NDSR-221	Providing & fixing MS channel hot dip galvanized to a minimum coating wt. Of 610 gm./Square meter of size ISMC-75 (wt. 6.80 Kg./Mtr.) including making holes of 14mm dia as desired by the Engineer-in-Charge in both the flanges of the channel for fixing brackets and holes of 17mm dia in the web of the channel at the required spacing for fixing the channel to the wall of the manholes with the help of expandable type of 12mm dia, 65mm long stainless steel dash fasteners and hold-in-Anchor bolt of approved size & quality complete as per the direction of Engineer-in-charge and as per drg. The rate includes the cost of channel, dash fastners, bolts, washers, making hole etc. and the labour involved in all the operations as stated above: a) 1600 mm long.	Nos.		684.4096	
B-2.8	NDSR-222	Providing and fixing in Manhole base slab, MS galvanized pulling eyelet of 20mm dia and 1000mm long, fixed in position as per direction of Engineer-in Charge and as per BSNL Drawings.	Nos.		152.096	
B-2.9	NDSR-223	Providing and fixing sump cover assembly consisting of cover frame and grill as per drawing. The sump cover frame shall be manufacture red from 35x35x5mm galvanized MS angle section and shall have clear inside opening of 300x300mm having holdfast of MS flat of size 20x4mm, 150mm long including welding, the cover grill shall be approved factory make and made of steel fibre reinforced concrete of size 340x340x30mm thick and shall have 2mm thick galvanized plate all-round. The random distributed steel fibre shall be provided @ 0.75% by volume of concrete. The fibre shall be of medium tensile steel in accordance with IS 12592 (Pt1-1988).	Nos.		554.0528	
B-2.10	NDSR-224	Providing & Fixing precast steel fibre reinforced concrete cover and frame for M/H of 690mm. Dia clear opening and shall be of approved factory make as per approved design & drg. Reinforced cement concrete of grade CU.M.0 conforming to IS 456-1978 shall be used and admixture conforming to is 9103-1979 shall be added to concrete mix. The manufacturing process shall be as per IS 12592 (Pt. 1, 1988). The random distributed steel fibre shall be provided at a rate of 0.75% by volume to concrete. The fibre shall be of medium tensile steel in accordance with IS 12592 (Pt 1 1988). The reinforcement as shown in drg. Shall be provided in the frame & cover and the same shall be welded to side lining of the cover. The galvanized MS Plate, Flat and Hooks as shown in the drg. Shall be provided in frame and cover for sidelining and lifting arrangement. The cover shall be able to withstand heavy duty loading conforming to classification HD-20 circular type as per IS-1726-1990. Suitable keyhole and PMT markings sunk cast on covers shall be made	Nos.		1857.688	
B-2.11	NDSR-225	Providing & fixing locking arrangement for Manhole as per drg. The locking arrangement shall be of galvanized MS Angles, square bars, flats, plate etc. The rate includes cost of materials, welding, drilling, galvanizing & labour for manufacturing and fixing to the Manhole wall etc.	Kilogram.		71.9712	
B-2.12	NDSR-226	Painting of Manhole code number with black or red paint over white base, in size of 100mm and 10mm thick at the inside surface of all the opening in Manhole as per the direction of Engineer-in-Charge.	Nos.		59.752	
B-2.13	NDSR-227	Providing and fixing in Manhole walls MS galvanized ladder hooks of 16mm dia and 800mm long fixed in position as per the direction of Engineer-in-Charge and as per BSNL drawing.	Nos.		59.752	
B-2.14	NDSR-228	Providing and fixing steel work welded in built up section cable bearer for manhole/Handhole (including GI nut and bolts) as per drawing including cutting handling upto each manhole and fixing In position all complete as per the direction of Engineer-in-Charge in tees, angles, flats and channels). (The end of the bolts shall be splitted into two parts and spreaded after fixing to avoid reopening and welding shall be continued on both side. All the above steel sections should be hot dip galvanized conforming to IS standard with minimum thickness of galvanizing conforming to 570gm/sqm. The wt. of section without galvanizing shall be considered for payment.	Kilogram		77.4032	



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
B-2.15	NDSR-229	Providing and fixing MS galvanized circular frame of 1100mm dia consisting of 75x4mm flat including providing of 3 Nos. (150x15x6mm) MS galvanized lugs including cutting holes in RCC neck, welding lugs to reinforcement and making good the holes with RCC (1:1.5:3) complete as per direction of Engineer-in-Charge.	Nos		742.8064	
B-2.16	NDSR-230	Disposal of surplus excavated materials/earth/rock etc. including loading, unloading and stacking all complete to the BSNL plot/dumping yard identified by the local bodies irrespective of all leads & lift as directed by Engineer-in-Charge .	Cu.M.		156.1616	
B-2.17	NDSR-231	Dismantling of existing M/H & protection for existing OFC / copper cables	nos.		6687.968	
B-2.18	NDSR-232	Dismantling of existing cable duct & handling of cable including serviceable material & disposal of unserviceable materials	job		12921.0144	
C		ANNEXURE-C				
C.1		Taking out and transportation of CI / MS / PSC / HS pipes including dejoining and transportation up to all lifts and leads of 5.0km				
		Y-tees and or valve at interconnection				
a	NDSR-233	300 mm dia.	each		17440.64	
b	NDSR-234	600 mm dia.	each		34882.4	
c	NDSR-235	700 mm dia.	each		40696.32	
d	NDSR-236	800 mm dia.	each		46510.24	
e	NDSR-237	900 mm dia.	each		52324.16	
f	NDSR-238	1000 mm dia.	each		51161.6	
g	NDSR-239	1200 mm dia	each		61393.92	
h	NDSR-240	1500 mm dia	each		76742.4	
i	NDSR-241	1900 mm dia	each		97207.04	
A a)	NDSR-242	upto 300mm dia pipe line	Mtr		361.2224	
b)	NDSR-243	upto 400-600 mm dia pipe line	Mtr		659.9712	
B		for interconnection point/Y-Tee/Valve				
a)	NDSR-244	upto 300mm dia	Each		13617.6544	
b)	NDSR-245	upto 400-600 mm dia	Each		34991.992	
C.2		Providing and laying S&S NP-3 RCC, pipes manufactured by using sulphate resistant cement including jointing with rubber ring and filling joints with cement mortar 1:2				
a)	NDSR-246	150 mm diameter	Mtr		513.3072	
b)	NDSR-247	250mm dia pipe	Mtr		761.8128	
c)	NDSR-248	300mm dia pipe	Mtr		905.7664	
d)	NDSR-249	400mm dia pipe	Mtr		1609.1824	
e)	NDSR-250	450mm dia pipe	Mtr		1666.224	
f)	NDSR-251	600mm dia pipe	Mtr		2561.1152	
g)	NDSR-252	900mm dia pipe	Mtr		4766.4512	
C.3		Providing and laying Non Pressure NP-4 class (Heavy duty) R.C.C. pipes including collars/spigot jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete				
a)	NDSR-253	600 mm dia pipe	Mtr		3405.9984	
b)	NDSR-254	450 mm dia pipe	Mtr		2640.9936	
c)	NDSR-255	400 mm dia pipe	Mtr		1979.9136	
d)	NDSR-256	300 mm dia pipe	Mtr		1402.7776	
e)	NDSR-257	250 mm dia pipe	Mtr		805.2688	
C.4		Plugging of water main with baloon of adequate size by inflating with air compressor including transportation of air compressor at site				
a)	NDSR-258	400 mm dia	Job		17276.0112	
b)	NDSR-259	600 mm dia	Job		25914.0112	
C.5		Plugging the total sewerage from the existing sewer line so as to reduce the drainage of sewer line to minimum in wet and foul condition by placing gunny bags filled up with earth and stacked properly including supplying and laying the filled up ganny bags up to full length and required heights as directed by engineer and subsequent removal of the same after completion of the job to the entire satisfaction of the Engineer-in-charge, including pumping and bailing out of the water complete				
a)	NDSR-260	250 mm dia pipe	Job		1977.192	
b)	NDSR-261	300 mm dia pipe	Job		2846.2896	
c)	NDSR-262	400 mm dia pipe	Job		4613	
d)	NDSR-263	450 mm dia pipe	Job		5710.2304	
e)	NDSR-264	600mm dia pipe	Job		10150.7728	
f)	NDSR-265	700mm dia pipe	Job		13205	
C.6		Plugging the total storm water drain from the existing storm water line so as to reduce the drainage of storm line to minimum in wet and foul condition by placing gunny bags filled up with earth and stacked properly including supplying and laying the filled up ganny bags up to full length and required heights as directed by engineer and subsequent removal of the same after completion of the job to the entire satisfaction of the Engineer-in-charge, including pumping and bailing out of the water complete				
a)	NDSR-266	150 mm dia pipe	Job		710.2144	
b)	NDSR-267	250 mm dia pipe	Job		1977.192	
c)	NDSR-268	300 mm dia pipe	Job		2846.2896	
d)	NDSR-269	400 mm dia pipe	Job		5062.4896	
e)	NDSR-270	450 mm dia pipe	Job		5710.2	
f)	NDSR-271	600 mm dia pipe	Job		10152	
g)	NDSR-272	900 mm dia pipe	Job		22785	



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
C.7		Providing lead caulked joints i/c the cost of pig lead supply / and / or fixing of rubber gasket / and or welding and cutting of M.S. pipes and specials i/c the cost of HP of T & P at site(for water mains at interconnection point/tee/valve) including dewatering				
a	NDSR-273	300 mm dia.	each		12339.04	
b	NDSR-274	600 mm dia.	each		24680.32	
c	NDSR-275	700 mm dia.	each		28794.08	
d	NDSR-276	800 mm dia.	each		32907.84	
e	NDSR-277	900 mm dia.	each		36685.6	
f	NDSR-278	1000 mm dia.	each		41135.36	
g	NDSR-279	1200 mm dia	each		49362.88	
h	NDSR-280	1500 mm dia	each		61703.04	
i	NDSR-281	1900 mm dia	each		78158.08	
C.8		Supply and installation of MS pipe (6 mm thick) with 750 Micron PV coating internally and 250 micron anti corrosive bituminous paint externally with a tolerance of 6" in gradient by trenchless technology method at an average depth of 5 mtrs below the road level including excavation & filling of pits, dewatering arrangements, supporting systems for soil, including the approval from the concerned department. The firm will also supply the test certificate w.r.t M.S. Pipe, design of PV coating etc. The work also involves under ground mapping of services, barricading, installation of flickering lights etc, clearing site in all respects after submitting CCTV survey report from u/s to d/s, connection manholes along with the site of drawing showing work complete in all respect.				
a)	NDSR-282	250 mm dia(6mm thick)	Mtr		19807.2448	
b)	NDSR-283	600 mm dia (10mm thick)	Mtr		72626.5792	
C.9	NDSR-284	Providing and laying of 100 mm GI pipe, medium class, Jindal make, with all accessories like bends, sockets, etc all complete	Mtr		767.2448	
C.10		Providing and laying MS pipes/barels made out of required thickness MS plate including painting with epoxy paint of approved quality outside and inside tested to a head of 15kg/cm square suitable for welding joints conforming to IS 3589-1981, IS 784-1974 including testing of the specified head as directed by the Engineer.				
a)	NDSR-285	Pipes made up of MS sheet(6mm to 12mm th.)	Kg		93.6992	
C.11		Providing and laying MS special such as tees, bends, collars, tails pieces etc made out of required thickness MS sheet including painting with epoxy paint of approved quality outside and inside tested to a head of 15kg/sqcm suitable for welding joints confirming to IS 3589-1981 including testing at the specified head as directed by Engineer in charge				
	NDSR-286	Specials made up of MS sheet(6mm to 20mm th.)	Kg		122.08	
C.12		Providing H.S. Pipe, made out of 6 mm thick MS plate with inside cement mortar lining of 25 mm thick and 25 mm thick outside coating as per IS :1916 of following diameter				
a)	NDSR-287	300 mm dia pipe	Mtr		7096.712	
b)	NDSR-288	400 mm dia pipe	Mtr		9490.8016	
c)	NDSR-289	600 mm dia pipe	Mtr		12379.192	
C.13		Laying H.S. Pipe, made out of 6 mm thick MS plate with inside cement mortar lining of 25 mm thick and 25 mm thick outside coating as per IS :1916				
a)	NDSR-290	300 mm dia pipe	Mtr		247.1504	
b)	NDSR-291	400 mm dia pipe	Mtr		329.9856	
c)	NDSR-292	600 mm dia pipe	Mtr		408.744	
C.14	NDSR-293	Providing and fixing 400 mm dia D/F non- return / check valve of PN 1.0 rating having Body/Door of CI Gr. 20, TRUNNION shaft AISI 410, Face & Seat ring of GM i.e. metal to metal seat & not Rubber to metal, generally conforming to IS: 5312, Fainge flat face drilled to ISI 538 Part IV & VI/BS 10 Table "D"	Each		193195.0384	
C.15	NDSR-294	Supply and installation of 450 mm dia MS pipe of 10 mm wall thickness conforming to IS 2062 suitable for welding joints with 750 Micron P.U. coating internally and anti- corrosive bituminous paint on external surface, with tolerance of 6" in or gradient by trenchless technology method at an average depth of 4-4.5m below the road level including interconnection with existing chambers (with required excavation and its restoration including dewatering arrangement) including thrust pit and receiving pit and the supporting system of soil should be got approved from the department before execution. The trenchless has to be carried out below existing deep nallah below road, in sub-soil and existing services. The firm will also supply the test certificate w.r.t MS pipe design and P.U coating etc, during the execution of work. The work also involved necessary number of thrust pit and receiving pit as per the site condition to perform boring including road cutting under ground mapping of service. Dewatering of pit and making good by back filling in layers of 20 cm each as per the relevant CPWD specifications and disposal of surplus earth as per direction of Engineer-in charge. The firm has to make connections in the u/s and D/S manholes at the same existing invert level including necessary plugging in the existing line by dismantling and restoration of the connection manholes complete.	Mtr		39664.0384	



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
C.16	NDSR-295	Providing and Laying mild steel pipe, MS Plate conforming to IS 2062, Interior lining with cement mortar and exterior surface treated with coating and wrapping conform to IS 3589, IS: 10221-1982, specifications including welding of joints, specifications as per DJB all lead and lift complete as per direction of Engineer in charge	Mtr		60660.208	
a	NDSR-296	300 mm internal dia. 6mm wall thickness	Meter		4884.32	
b	NDSR-297	600 mm internal dia. 8mm wall thickness	Meter		13027.84	
c	NDSR-298	700 mm internal dia. 8mm wall thickness	Meter		15200.64	
d	NDSR-299	800 mm internal dia. 8mm wall thickness	Meter		17372.32	
e	NDSR-300	900 mm internal dia. 10mm wall thickness	Meter		25407.2	
f	NDSR-301	1000 mm internal dia. 10mm wall thickness	Meter		27144.32	
g	NDSR-302	1200mm internal dia, 12mm wall thickness	Meter		43076.32	
h	NDSR-303	1500mm internal dia, 12mm wall thickness	Meter		48858.88	
i	NDSR-304	1900mm internal dia, 20mm wall thickness	Meter		103149.76	
C.17	NDSR-305	Cleaning of Sewer line of upto 600mm dia with Super Sucker machine cleaning of manholes and chambers along with all allied equipment like cyclonic containers, two Nos. (Dump trucks) diesel driven generator of various capacities as per requirement. Submersible pumps of required capacity, axial fan air compressor with mask etc. steel plates and other items with Machines/Components as under. One No. truck mounted sewer suction 6x900 psi with high pressure water jetting having capacity 200 litres per minutes and air-handling composite vacuum pump suitable for Sewer line desilting and water requirements for high pressure will be for separate water tank. Generator set capacity of 62.5 KVA, gas detector and submersible pumps, axial fan air blower, oxygen kit, with resuscitator for artificial respiration, nylon Rope, ladder full body nylon safety belt with rope & harness etc. and other safety requirement and chain pulley, barricading materials and all operation and supervisory staff along with all taxes. Desilting/ Cleaning of Sewer line shall be done as per the direction of Engineer	Hours		7728	
C.18		Carriage of materials by mechanical transport including loading unloading and staking.				
a	NDSR-306	Earth upto 5 km	Cum		201.824	
b	NDSR-307	beyond 5 km to 10 km	Cum		15.1984	
C.19	NDSR-308	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth: consolidating Each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m	Cum		219.6432	
a	NDSR-309	Extra for every additional lift of 1.5 m or part thereof in excavation/ banking excavated or stacked materials	Cum		342.6976	
b	NDSR-310	Extra for every additional lift of 1.5 m or part thereof in excavation/ banking excavated or stacked materials	Cum		433.0928	
c	NDSR-311	Extra for every additional lift of 1.5 m or part thereof in excavation/ banking excavated or stacked materials	Cum		523.4992	
d	NDSR-312	Extra for every additional lift of 1.5 m or part thereof in excavation/ banking excavated or stacked materials	Cum		613.8944	
C.20		Earth work in excavation by mechanical means/ manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 Sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a 50m lead				
a	NDSR-313	All kinds of soil.	Cum		252.2912	
C.21		Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level				
a	NDSR-314	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	Cum		6788.6	
C.22		Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level :				
a	NDSR-315	1:2:4 (1 cement : 2 coarse sand (zone-II) : 4 graded stone aggregate 20 mm nominal size)	Cum		7296.3408	
C.23		Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level .				
a	NDSR-316	Thermo-Mechanically Treated bars of grade Fe-500D or more	Kg		83.496	
b	NDSR-317	Centering and shuttering including strutting, propping etc. and removal of form work for Foundations, footings, bases of Columns	Sqm		284.8496	
c	NDSR-318	Lintels, beams, plinth beams, girders, bressumers and cantilevers	Sqm		552.048	
C.24		Brick work with common burnt clay F.P.S. bricks(non modular) of class designation 75 in foundation and plinth in :				
a	NDSR-319	Cement mortar 1:4 (1 cement : 4 coarse sand)	Cum		6376.2496	
C.25		Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.				
a	NDSR-320	Hot finished welded type tubes	kg		143.4496	
b	NDSR-321	Welding by gas plant including transportation of gas welding plant at site etc. complete.	cm length		3.3488	



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
c	NDSR-322	12 mm cement plaster finished with a floating coat of neat cement of mix :1:3 (1 cement : 3 fine sand)	Sqm		340.8496	
d	NDSR-323	Pumping out water caused by springs, tidal or river seepage, broken water mains or drains and the like.	kilolitre		169.0416	
C.26		Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 Meters lead :				
a	NDSR-324	1:3:6 or richer mix	Cum		1737.4448	
C.27		Dismantling manually/ mechanical means including stacking of serviceable material and disposal of unserviceable material and disposal of unserviceable material within 50mtr lead as per direction of engineer in charge				
a	NDSR-325	Water bound macadam road	Sqm		155.9936	
b	NDSR-326	bitumenous road	Sqm		306.6448	
C.28		Demolishing brick work manually / by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50m lead				
a	NDSR-327	In cement mortar	Cum		1469.8992	
C.29		Constructing brick masonry circular manhole 1.52 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				
a		2.30 m deep with SFRC Cover and frame (heavy duty HD20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) :				
b	NDSR-328	With Sewer bricks conforming IS : 4885	each		45531.8976	
C.30		Extra depth for circular type manhole 1.52 m internal dia (at bottom) beyond 2.30 m :				
a	NDSR-329	With Sewer bricks conforming IS : 4885	metre		19601.344	
b	NDSR-330	Providing orange colour safety foot rest of minimum 6mm thick plastic encapsulated as per IS: 10910 on 12mm dia steel bar conforming to IS:1786 having minimum cross section as 23mmX25mm and overall minimum length 263mm & width as 165mm with minimum 112mm space between protruded legs having 2mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications & having manufactures permanent identification mark to be visible even after fixing including fixing in manholes with 30X20X15 cm cement concrete block 1:3:6 (1cement: 3coarse sand : 6 graded stone aggregate 20mm nominal size) complete as per design.	Nos.		463.0416	
C.31		Providing and fixing in position precast R.C.C. manhole cover and frame of required shape and approved quality				
a	NDSR-331	EHD - 35	each		1859.4912	



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
C.32		<p>PL of MS pipe on agreed line and grade (as per IS: 3589 and made from steel conforming to IS: 2062) the steel pipe surface internal and external shall be blasted to near white and then coated with solvent less food grade epoxy coating of nominal 450 microns and nominal 450 microns on exterior and interior surface respectively all approved/used by railway concerned government department project for sewer and water lines with design and construction of Man holes at approximate 30 meter interval or required distance for sewer line with trenchless construction technique below the water table preferably without the need of dewatering, Accuracy of level at required gradient/slope to be achieved by use of Laser/CCTV controlled by suitable equipment. In the last pit, the equipment to be positioned at surface in a single traffic lane. The work shall be done in such a manner that it will not disturb the smooth movement of traffic. The item includes excavation of trenches and recovery pit andr backfilling after work completed at the site of work mobilization and demobilization of equipment consumable etc as needed to complete the work and cleaning of site complete including disposal of surplus earth within 10 km lead and making water and manhole connections,traffic control arrangement and lighting display of sign board. Insurance of work men etc complete including removal of all hindrances, unforeseen items permission of other dept. (dept. shall only assist in getting permissions etc.) nothing extra shall be paid on this account to complete the job. The contractor will also supply the test certificate w.r.t. MS pipe design and coating etc. during the execution of work. The work shall be done in such a manner that it will not disturb the smooth movement of traffic. The item includes excavation of trenches and recovery pit , excavated earth taken out and their backfilling after work completed at the site . Work includes mobilization and demobilization of equipment consumable etc as needed to complete the work and cleaning of site complete including disposal of surplus earth within 10km lead and making water and manhole connections, traffic control arrangement and lighting display of signboard. Insurance of workmen etc complete including removal of all hindrances, unforeseen items permission of other dept. , nothing extra shall be paid on this account to complete the job. The firm will also supply the test certificate w.r.t. MS pipe design & coating etc. during the execution of work. Dewatering of pit and making good ny back filling in layers of 20cm each as per CPWD Specifications and disposal of earth as per direction of Engineer in-charge. The firm has to make connections in the U/s and D/s manholes at the same existing invert levels including necessary plugging in the existing line by dismantling and restoration of connection manholes complete</p>				
a	NDSR-332	700mm, 10mm thick pipe by trenchless technology	meter		76160	
b	NDSR-333	800mm, 10mm thick pipe by trenchless technology	meter		87038.56	
c	NDSR-334	900mm, 10mm thick pipe by trenchless technology	meter		97918.24	
d	NDSR-335	1000mm, 10mm thick pipe by trenchless technology	meter		108799.04	
e	NDSR-336	1500mm pipe, 14mm thick by trenchless technology	meter		187937.12	
C.33	NDSR-337	Providing and driving of temporary H-piles (ISMB-250) having a length of 7m approximate. Means using the appropriate machinery and providing and placing wooden lagging 100x100x1485mm long in between H-piles for supporting excavated soil faces to a excavated depth of soil including driving and re-driving the H-piles and removing and placing wooden lagging stretches as require, removal of excavated earth from site as required excluding the cost of excavation of soil and including all T&P, labour machinery etc. (the excavation of soil shall be paid separately as per DSR)	cum		1933.12	
C.34	NDSR-338	Providing and stacking of filled gunny bags by sand.	Nos.		25.76	
C.35		Traffic Signals , signages & other traffic aids(as per IRC specification)				
i	NDSR-339	Providing and fixing of retro reflective trafficsign boards as per IRC recommendations and ISI approved	Sqm		11793.6	
ii		Providing and fixing and maintaining the road infrastructure during executions, refixing as where required				
a	NDSR-340	Portable signages	Each		7366.24	
b	NDSR-341	Reflective lights	Each		3080	
c	NDSR-342	Traffic Cones	Each		2593.92	
C.36		Deployment of adequate manpower for 8 hrs. shift for day and night management of traffic in intersection, roadway influenced by contractor and traffic diversions at varios levels				
a	NDSR-343	Traffic Guards	Shifts		493.92	
C.37		Providing DI/C.I double Flanged manually operated sluice valve generally conforming to IS:14846, having body, door, dome, Gland in graded ductile iron to IS:1865 Gr. 400/15, four faces and spindle nut of gunmetal to IS:318 Gr.LTB 2, inside screw non-rising stainless steel to AISI 410 spindle, valves suitable for maximum working pressure of 10 kg/cm2 (seat test) and body tested to 15kg/cm2 with all fixtures and fasteners etc. - All complete. Flanges drilled to IS 1538 table 4 and 6. Valves tested by closed end method only. Valves are complete enclosed gear box and antifriction device for ease of operation. (The valves shall be of make: IVC, VAG or Kirlosker with rating 1.0 PN).				
a	NDSR-344	600 mm dia	each		478455.04	
b	NDSR-345	700 mm dia	each		558197.92	
c	NDSR-346	800 mm dia	each		637940.8	
d	NDSR-347	900 mm dia	each		717683.4	
e	NDSR-348	1000 mm dia	each		1075474.4	
f	NDSR-349	1200 mm dia	each		1290569.28	
h	NDSR-350	1500 mm dia	each		1736000	



S. No.	Ref. No	Description	Unit	Total Qty	Rate (Rs)	Total Amount (Rs)
C.38	NDSR-351	Providing and installation of new temper proof 150mm dia. double orifice type kinetic air valve with built in kinetic features, isolating sluice valve, as specified in specifications, generally conforming to AWWA C512 mounted in horizontal position, maximum working pressure 10kg/cm2 and test pressure 16kg/cm2, transportation, loading unloading of air valves upto the site of work including testing and commissioning etc. complete- Air Valves 150mm dia	each		235200	
C.39		Fixing in position DVC.I Sluice valve and providing flanged joints (two nos) with bolts, nuts rubber insertion etc. all complete including testing of joints:				
a	NDSR-352	600 mm dia	each		7545.44	
b	NDSR-353	700 mm Dia	each		8803.2	
c	NDSR-354	800 mm Dia	each		10060.96	
d	NDSR-355	900 mm Dia	each		11318.72	
e	NDSR-356	1000 mm Dia	each		17578.4	
f	NDSR-357	1200 mm Dia	each		21092.96	
h	NDSR-358	1500 mm dia	each		28711.2	
		Grand Total				59,16,31,199.40



DMIC/COR-OF/11:Package 9A : Construction of Multistoried Staff Quarters [Including Site Development, Architectural finishes, E&M, HVAC, Plumbing, Firefighting, External Development and related facilities] and connectivity from Mathura Road to Jangpura Stabling Yard Complex for Delhi – Ghaziabad – Meerut RRTS Corridor.

Item no.	Brief Description of item of work	Unit	Est. Qty	Unit Rate	BOQ Amount
1	Schedule-C: Connectivity through Mathura Road and Box Pushing	3	4	5	6
	FOUNDATION AND BOX WORK				
1.1	Providing and laying M15 grade plain cement concrete for levelling coarse at various locations	Cum	696	6013.02	4185061.92
1.2	Providing and laying M 40 concrete for RCC Box , open foundations ,base slabs ,retaining wall ,dirt wall ,bottom slabs etc including earth work in excavation and backfilling with excavated material	Cum	3082	8885.37	27384710.34
1.2 (i)	Extra over rate of item no.1.2 above for back filling with coarse sand	Cum	100	811.09	81109.00
1.3	Excavating trial pits of size 5 m x 1 m upto bottom of foundation in all types of strata to ascertain underground utilities	Numbers	20	1305.06	26101.20
1.4	Carrying out Ground Penetrating Radar (GPR) survey to locate underground utilities in grid of 5 m x 5 m upto 6 m depth	Sqm	500	158.56	79280.00
	Sub Total - Foundations:				31756262.46
P02	IN-SITU CONCRETE WORKS				
2.1	M40/20 grade cement concrete for RCC crash barrier and Kerb	Cum	448	9611.08	4305763.84
	Sub Total - In situ Concrete Works:				4305763.84
P03	REINFORCING STEEL				
3.1	Providing and installing TMT reinforcement steel	MT	581	75973.87	44140818.47
3.2	Providing and installing welded wire mesh	MT	1	100623.60	100623.60
3.3	Mechanical Couplers				
i	For 36mm bar	Number	50	310.24	15512.00
ii	For 32mm bar	Number	50	275.74	13787.00
iii	For 25mm bar	Number	50	195.44	9772.00
	Sub Total - Reinforcing Steel:				44280613.07
P04	STRUCTURAL STEEL				
4.1	Supplying, fabricating and erection of miscellaneous structural steel components at various locations	MT	50	133780.61	6689030.50
i	Steel inserts for cable trays , cable tray brackets, connection of signarge boards, other steel brackets etc.				
ii	Steel hand rails, inserts, plates with welded hold fasts for walk-way, insert plates with welded hold-fasts, internal threaded sleeves etc	MT	50	124230.51	6211525.50
iii	Straight tapered steel plate	MT	50	114668.22	5735411.00
	Sub Total - Structural Steel:				18633967.00
P05	REINFORCED EARTH WALL				
5.1	Designing, providing and laying in position M 35 grade precast concrete fascia panel with form liner finish (minimum 180 mm thick) for Reinforced Earth Wall using 53 grade OPC excluding TMT Fe 50C. D reinforcement bar including providing complete drainage system along with filter media.	sqm	2944.00	6568.26	19336957.44
5.2	Providing and laying M30 grade reinforced cement concrete with 53 grade Ordinary Portland Cement in cast-in-situ approach slab or friction slab over the approaches making all joints and their sealing, interlocking keys at regular intervals in the friction slab, testing of materials etc. Reinforcement shall be measured and paid separately.	cum	177.00	10483.48	1855575.96
5.3	Providing, placing and compacting approved backfill material in layers with drained or effective angle of friction not less than 30o measured in accordance with IS: 2720 (Part 13), as per approved methodology including testing for reinforced fill portion and random fill portion in the approaches between the Reinforced Soil (RS)/RCC Retaining Wall panels as per approved drawings and particular specifications. All incidental work required to complete the job shall be included in the quoted rates. The item shall be measured and paid for the finished volume of backfill and sub-grade placed in position excluding the volume of filter media at base and behind the RS walls.	cum	53856.00	497.44	26790128.64
	Sub Total - REINFORCED EARTH WALL:				47982662.04



P06	DRAINAGE WORK							
6.1	Providing & fixing of HDPE corrugated double wall rain water pipes of the following sizes in pier cap and down take pipes . bends, couplers, upper receiving caps (hot dipped galvanised @650 g/m ² steel) etc. up to bottom of pier							
i	100 mm Dia	RM	50	463.48			23174.00	
ii	150 mm Dia	RM	50	744.00			37200.00	
iii	200 mm Dia	RM	100	1146.50			114650.00	
iv	Upper receiving caps for 100 mm Dia	Number	5	1146.50			5732.50	
v	Upper receiving caps for 150 mm Dia	Number	5	1146.50			5732.50	
vi	Upper receiving caps for 200 mm Dia	Number	10	1146.50			11465.00	
	Sub Total - Drainage Work:						197954.00	
P-7	EXPANSION JOINTS							
7.1	Providing and installing single strip seal joint conforming to latest revisions of MORTH circulars including provision of edge beams at end edges of precast diaphragm segments and cast-in- situ unit.	RM	100	9458.62			945862.00	
7.2	Polysulphide Sealant.							
i	Providing and applying Polysulphide sealant for 25mm gap including back up material in the form of round shape polyethylene form at both faces of expansion joint in ramp portion	RM	100	634.23			63423.00	
ii	Providing and applying Polysulphide sealant for 50 mm gap in expansion joint including back up material in the form of round shape polyethylene form at both faces of expansion joint in parapet	RM	100	1542.90			154290.00	
	Sub Total - Expansion Joints:						1163575.00	
P8	NOISE BARRIERS							
8.1	Designing, providing and installing polycarbonate noise barrier with all fixtures	Sqm	300	15246.00			4573800.00	
8.2	Designing, providing and installing metallic noise barrier with all fixtures	Sqm	10	130688.86			1306888.80	
	Sub Total - Noise Barriers:						4704488.80	
P9	ROAD WORKS							
9.1	Construction of subgrade along roads with approved material obtained from borrow area (sources outside) or local soil having minimum soaked CBR of 8% with all leads and lifts and compacted in layers not exceeding 200 mm thickness including watering and mixing at OMC by using motor grader , rolling with vibratory roller of 80-100 kN of static weight or more to 97% maximum dry density (MDD) determined as per IS 2720-Part 8, complete as per MORT &H Specifications Clause 305. The subgrade shall be constructed to specified lines , grades, camber or cross fall complete as per MORT &H Specifications Clause 305. The subgrade material shall be duly tested as per Clause 900 of MORT&H Specifications and approved by the Engineer.	cum	3450.00	481.72			1661934.00	
9.2	Providing, laying, spreading and compacting well -graded granular sub -base (GSB) using material as per MORT &H specifications (Table 400-I) Gradation-II of C.B.R. value not less than 30% including mixing the material to OMC , spreading with motor grader on a prepared subgrade and compacting with vibratory road roller of 80-100 kN static weight or more to achieve 98% of MDD determined as per IS 2720-Part8, including all materials , labour, machinery, etc. complete as per Clause 401of MORT &H Specification and Drawing to the specified level, alignment, grade and thickness complete.	cum	1035.00	1959.76			2028351.60	
9.3	Providing, laying, spreading and compacting well -graded Drainage Layer (DL) using Gradation-VI mix of Table 400-I of MORT &H specifications having C.B.R. not less than 30% at 98% MDD including mixing the material to OMC , spreading with a Paver Finisher or a motor grader on a prepared granular sub -base and compacting with vibratory road roller of 80-100 kN static weight or more to achieve 96% of MDD determined as per IS 2720-Part 8, including all materials, labour, machinery, etc. complete as per Clause 401of MORT&H Specification and Drawing to the specified level, alignment, grade and thickness complete.	cum	3450.00	1959.76			6761172.00	
9.4	Providing, laying, spreading Wet Mix Macadam (WMM) base course using graded stone aggregates conforming to Table 400-13 of MORT&H specifications, 2013 prepared in a mixing plant at OMC and paving with either Paver Finisher or motor grader and compacting to 98% of MDD (as per IS-2720-Part 8) in thickness not more than 200 mm of compacted thickness, including mixing in Pugg Mill/Mixing Plant, carriage of mixed material by tippers to site , laying in uniform layers on a well prepared drainage layer and compacting with vibratory -rollerof 80-100 kN static weight or more including all material , labour, machinery, etc. complete as per Clause 406 of MORT&H Specification to the desired level, alignment and grade.	cum	1725.00	2658.75			4586343.75	
9.5	Providing bituminous prime coat @ 0.60 kg/sqm over WMM surface using cationic bitumen emulsion SS 1 Grade conforming to IS:8887 including spraying the Emulsion with mechanically operated spray unit including cleaning and preparing the existing road surface as per specifications. Clause 502 of MORT&H, 2013.	sqm	6900.00	97.20			670680.00	
9.6	Providing and applying tack coat using cationic bitumen emulsion RS 1 Grade as per IS: 8887 including spraying the Emulsion with mechanically operated spray unit including cleaning and preparing the existing road surface as per specifications Clause 503 of MORT&H Specifications, 2013	sqm	6900.00	15.72			108468.00	



9.7	Providing and laying 50 to 100 mm average compacted thickness of Bituminous Macadam with bitumen of grade VG -30 @ 3.5% (percentage by weight of total mix) prepared in Computerised Batch Type Hot Mix Plant of 100-120 TPH capacity using crushed stone aggregates of specified grading premixed with bituminous binder, transported to site by tippers, laid over a previously prepared surface with paver finisher equipped with electronic sensor to the required grade , level and alignment and rolling with smooth wheeled/vibratory rollers as per specifications to achieve the desired compaction and density , complete as per specifications and directions of Engineer.	cum	517.50	10770.80	5573689.00
9.8	Providing and laying 50 to 100 mm average compacted thickness of Dense Bituminous Macadam with bitumen of grade VG -30 @ 5% (percentage by weight of Total mix) and lime filler @ 2% (percentage by weight of aggregate) on prepared surface with specified graded crushed stone aggregates including hot mix of stone aggregates , filler and bitumen in computerised batch type hot mix plant of 100 - 120 TPH capacity, transporting the mixed material by tippers to site and laying the mixed material with paver finisher fitted with electronic sensing device to the required level and grade and rolling by road rollers , as per MORTH specifications , to achieve the desired density and compaction, but excluding the cost of primer/tack coat.	cum	828.00	13696.85	11340961.80
9.9	Providing and laying 40/50mm compacted thickness of Bituminous Concrete with bitumen of grade VG -30 @ 5.5% (percentage by weight of Total mix) and lime filler @ 2% (percentage by weight of Aggregate) on prepared surface with specified graded crushed stone aggregates for wearing course including hot mixing of stone aggregates, filler and bitumen in computerised batch type hot mix plant of 100-120 TPH capacity, transporting the mixed material by tippers to site and laying the mixed material with paver finisher fitted with electronic sensing device to the required level and grade and rolling by road rollers , as per MORTH specifications , to achieve the desired density and compaction, but excluding the cost of tack coat complete as per teh directions of the Engineer.	cum	345.00	14570.23	5026729.35
9.10	Providing and laying 25mm thick Bitumen Mastic wearing course (as per section 515 of MORTH specifications) with industrial bitumen of grade 85/25 conforming to IS :702 prepared by using mastic cooker and laid to required level and slope including providing anti-skid surface with bitumen pre-coated fine grained hard stone chipping of approved size at the rate of 0.005 cum per 10 sqm and at approximate spacing of 10 centimetres centre to centre in both directions ,pressed into surface protruding 1mm to 4 mm over mastic surface , including cleaning the surface , removal of debris etc . all complete (Considering bitumen using 10.2 % as per MORTH specifications).	sqm	6900.00	455.99	3146331.00
Sub Total - Road Works:					
P10 MISCELLANEOUS WORKS					
10.1	Supplying & Fixing GI Expansion Fasteners , of the following sizes and approximate exposed length 300mm, of approved make including testing for fixing into already constructed RCC structure				
i	12 mm Dia	Number	10	243.94	2439.40
ii	16 mm Dia	Number	10	646.43	6464.30
iii	20 mm Dia	Number	10	1292.86	12928.60
10.2	Supplying & Fixing Rebar Fasteners , of the following sizes and approximate exposed length 300mm, of approved make including testing for fixing into already constructed RCC structure				
i	8 mm Dia	Number	10	182.95	1829.50
ii	12 mm Dia	Number	10	426.89	4268.90
iii	16 mm Dia	Number	10	1335.56	13355.60
iv	20 mm Dia	Number	10	2128.00	21280.00
10.3	Supplying and fixing in position, holding down bolts of various sizes and lengths including making of pockets in foundations, column heads, beams etc.	MT	1	159735.40	159735.40
10.4	Supplying, pouring and packing non-shrink grout for grouting of holding down bolts of columns and under base plates etc.	Cum	10	89247.34	892473.40
10.5	Providing, fabricating to required profile and shape, transporting, erecting and fixing in position MS members made of built-up sections/rolled or hollow structural steel sections to be used as fixtures / supports / hangers / any additional structural connections for signage etc. at any location	MT	1	114668.22	114668.22
10.6	Integral crystalline admixture for producing water light concrete	kg	10	271.99	2719.90
10.7	Backfilling				
i	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	cum	1000.00	219.65	219650.00



ii	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.			323.90	323900.00
iii	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials all kinds of soil			90.40	90400.00
Sub Total - Miscellaneous Works:					1666113.22
P11					
Box Pushing					
11.1	Jacking & pushing of precast RCC boxes of inner dimensions 8.5m x 5.5m below existing Mathura Road under running traffic conditions by Box-Pushing Technique to form desired opening and length including installation and operation of hydraulic jacks with requisite fittings and fixture, installation of Drag Sheet Arrangement with all labours, materials, plants, equipment etc. all complete. Rates shall also include: (i) Additional reinforcement for jacking operation required in permanent box (ii) Providing suitable No. of jack pockets, necessary fixtures for jacking & drag sheets. Fabrication & fixing of cutting edge of structural steel as per the approved methodology. Shifting of RCC box over thrust bed for the jacking purpose as necessary. Sealing of joints (with injection grouting or any other methodology approved by Engineer) between various box segments to make them waterproof as per the approved scheme & specifications. (Pushing measured from start point of First box) (Detailed design of complete box Pushing system including thrust bed and design of all incidental work is in scope of this item. Only detailed design drawings of RCC box during service stage shall be provided by the Client).	m	32	969580.72	30984583.04
11.2	Jacking & pushing of precast RCC boxes of inner dimensions 7m x 5.5m below existing Mathura Road under running traffic conditions by Box-Pushing Technique to form desired opening and length including installation and operation of hydraulic jacks with requisite fittings and fixture, installation of Drag Sheet Arrangement with all labours, materials, plants, equipment etc. all complete. Rates shall also include: (i) Additional reinforcement for jacking operation required in permanent box (ii) Providing suitable No. of jack pockets, necessary fixtures for jacking & drag sheets. Fabrication & fixing of cutting edge of structural steel as per the approved methodology. Shifting of RCC box over thrust bed for the jacking purpose as necessary. Sealing of joints (with injection grouting or any other methodology approved by Engineer) between various box segments to make them waterproof as per the approved scheme & specifications. (Pushing measured from start point of First box) (Detailed design of complete box Pushing system including thrust bed and design of all incidental work is in scope of this item. Only detailed design drawings of RCC box during service stage shall be provided by the Client).	m	32	797654.71	25524950.72
Sub Total - Box Pushing Works					56519533.76
TOTAL FOR SCHEDULE-C					₹ 25,21,15,723.69

This schedule is to be read in conjunction with Section 15 of the Technical Specifications for the Mathura Road connectivity.



DM/CN/COR-OF/111:Package 9A : Construction of Multistoried Staff Quarters [Including Site Development , Architectural finishes , E&M, HVAC, Plumbing, Firefighting, External Development and related facilities] and connectivity from Mathura Road to Jangpura Stabling Yard Complex for Delhi – Ghazalabad – Meerut RRTS Corridor

Schedule-D: E&M BOQ for Electrical works

S. No.	DSR E&M 2018 Ref. No.	Description of Items	Unit	Qty	Rate (Rs.)	Amount (Rs.)
A.	1.0	WIRING				
1.00	1.10	Wiring for light point / fan point/ exhaust fan point / call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable In surface / recessed medium class PVC conduit , with modular switch , modular plate , suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.				
a	1.10.1	Group A	Point	14265.00	717.00	1,02,28,005.00
b	1.10.2	Group B	Point	1250.00	783.00	9,78,750.00
2.00	1.11	Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way modular switch , modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.	Point	1175.00	1,057.00	12,41,975.00
3.00	1.12	Wiring for light / power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit alongwith 1 No. 4 sq. mm FRLS PVC Insulated copper conductor single core cable for loop earthing as required.	Metre	172500.00	200.00	3,45,00,000.00
4.00	1.13	Wiring for light / power plug with 4X4 sq. mm FRLS PVC Insulated copper conductor single core cable in surface / recessed medium class PVC conduit alongwith 2 Nos. 4 sq. mm FRLS PVC Insulated copper conductor single core cable for loop earthing as required.	Metre	12000.00	308.00	36,96,000.00
5.00	1.14	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.				
a.	1.14.1	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	10000.00	146.00	14,60,000.00
b.	1.14.2	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	550000.00	167.00	9,18,50,000.00
c.	1.14.3	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	Metre	4500.00	200.00	9,00,000.00
d.	1.14.4	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	6000.00	249.00	14,94,000.00
e.	1.14.5	2 X 10 sq. mm + 1 X 6 sq. mm earth wire	Metre	5000.00	328.00	16,40,000.00
f.	1.14.7	4 X 2.5 sq. mm + 2 X 2.5 sq. mm earth wire	Metre	25.00	233.00	5,825.00
g.	1.14.9	4 X 6 sq. mm + 2 X 6 sq. mm earth wire	Metre	3000.00	394.00	11,82,000.00
h.	1.14.10	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	8500.00	543.00	46,15,500.00
i.	1.14.11	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	2000.00	752.00	15,04,000.00
6.00	1.15	Rewiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable and 1.5 sq.mm FRLS PVC insulated copper conductor single core cable as earth wire in existing surface / recessed steel / PVC conduit including dismantling as required.				
a.	1.15.1	Group A	Point	100.00	416.00	41,600.00
b.	1.15.2	Group B	Point	50.00	447.00	22,350.00
7.00	1.16	Rewiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable and 1.5 sq.mm FRLS PVC insulated copper conductor single core cable as earth wire in existing surface / recessed steel/PVC conduit including dismantling as required.	Point	25.00	640.00	16,000.00
8.00	1.17	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing Surface / recessed steel/ PVC conduit as required.				
a.	1.17.1	1 x 1.5 sq. mm	Metre	1000.00	29.00	29,000.00
b.	1.17.2	2 x 1.5 sq. mm	Metre	1000.00	41.00	41,000.00
c.	1.17.11	2 x 2.5 sq. mm	Metre	1000.00	55.00	55,000.00
d.	1.17.20	2 x 4 sq. mm	Metre	1000.00	86.00	86,000.00
e.	1.17.22	4 x 4 sq. mm	Metre	100.00	156.00	15,600.00
f.	1.17.24	6 x 4 sq. mm	Metre	100.00	221.00	22,100.00
9.00	1.18	Supplying and drawing following pair 0.5 mm dia FRLS PVC insulated annealed copper conductor , unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.				



a.	1.18.3	4 Pair	Metre	75000.00	29.00	21,75,000.00
10.00	1.19	Supplying and drawing co -axial TV cable RG -6 grade, 0.7 mm solid copper conductor PE insulated , shielded with fine tinned copper braid and protected with PVC sheath in the existing surface / recessed steel / PVC conduit as required.	Metre	65000.00	33.00	21,45,000.00
11.00	1.20	Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.				
a.	1.20.1	20 mm	Metre	1000.00	146.00	1,46,000.00
b.	1.20.2	25 mm	Metre	1000.00	165.00	1,65,000.00
c.	1.20.3	32 mm	Metre	50.00	203.00	10,150.00
d.	1.20.4	40 mm	Metre	10.00	292.00	2,920.00
e.	1.20.5	50 mm	Metre	50.00	368.00	18,400.00
12.00	1.21	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				
a.	1.21.1	20 mm	Metre	100000.00	84.00	84,00,000.00
b.	1.21.2	25 mm	Metre	100000.00	90.00	90,00,000.00
c.	1.21.3	32 mm	Metre	150.00	92.00	13,800.00
d.	1.21.4	40 mm	Metre	300.00	130.00	39,000.00
e.	1.21.5	50 mm	Metre	5000.00	158.00	7,90,000.00
13.00	1.22	Supplying and fixing metal box of following sizes (nominal size) on surface or in recess with suitable size of phenolic laminated sheet cover in front including painting etc. as required.				
a.	1.22.1	75 mm X 75 mm X 60 mm deep	Each	10.00	140.00	1,400.00
b.	1.22.2	100 mm X 100 mm X 60 mm deep	Each	10.00	160.00	1,600.00
c.	1.22.4	150 mm X 150 mm X 60 mm deep	Each	10.00	232.00	2,320.00
d.	1.22.15	250 mm X 300 mm X 60 mm deep	Each	10.00	426.00	4,260.00
e.	1.22.16	250 mm X 300 mm X 100 mm deep	Each	10.00	465.00	4,650.00
14.00	1.24	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				
a.	1.24.1	5/6 A switch	Each	10.00	85.00	850.00
b.	1.24.2	2 way 5/6 A switch	Each	10.00	123.00	1,230.00
c.	1.24.3	15/16 A switch	Each	10.00	132.00	1,320.00
d.	1.24.4	3 pin 5/6 A socket outlet	Each	10.00	111.00	1,110.00
e.	1.24.5	6 pin 15/16 A socket outlet	Each	10.00	175.00	1,750.00
f.	1.24.6	Telephone socket outlet	Each	800.00	119.00	95,200.00
g.	1.24.7	TV antenna socket outlet	Each	750.00	119.00	89,250.00
h.	1.24.8	Bell push	Each	275.00	126.00	34,650.00
15.00	1.25	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Each	2500.00	342.00	8,55,000.00
16.00	1.26	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	Each	10.00	32.00	320.00
17.00	1.27	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.				
a.	1.27.1	1 or 2 Module (75mmX75mm)	Each	1550.00	243.00	3,76,650.00
b.	1.27.2	3 Module (100mmX75mm)	Each	10.00	267.00	2,670.00
c.	1.27.3	4 Module (125mmX75mm)	Each	450.00	287.00	1,29,150.00
d.	1.27.4	6 Module (200mmX75mm)	Each	10.00	333.00	3,330.00
e.	1.27.5	8 Module (125mmX125mm)	Each	10.00	383.00	3,830.00
f.	1.27.6	12 Module (200mmX150mm)	Each	10.00	434.00	4,340.00
18.00	1.28	Supplying and fixing following Modular base & cover plate on existing modular metal boxes etc. as required.				
a.	1.28.1	1 or 2 Module	Each	10.00	114.00	1,140.00
b.	1.28.2	3 Module	Each	10.00	128.00	1,280.00
c.	1.28.3	4 Module	Each	10.00	138.00	1,380.00
d.	1.28.4	6 Module	Each	10.00	167.00	1,670.00
e.	1.28.5	8 Module	Each	10.00	196.00	1,960.00
f.	1.28.6	12 Module	Each	10.00	227.00	2,270.00



19.00	1.31	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess , including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch , connections etc . as required.	Each	3800.00	401.00	15,23,800.00
20.00	1.32	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess , including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch , connections etc . as required.	Each	3100.00	495.00	15,34,500.00
21.00	1.35	Installation,Testing, Commissioning of wall bracket /ceiling fittings of all sizes and shapes containing upto two GLS/CFL/LED lamps per fitting, complete with all accessories including connections etc. as required.	Each	15715.00	98.00	15,40,070.00
22.00	1.38	Supplying and fixing call bell / buzzer suitable for single phase , 230 V, complete as required.	Each	275.00	92.00	25,300.00
23.00	1.39	Providing and fixing plain 16/0.20mm (0.50sqmm) twin flat flexible, FRLS PVC insulated, copper conductor cable, in PVC sleeve of suitable size on the floor / wall, or side of the table/ door etc. as required.	Metre	100.00	26.00	2,600.00
24.00	1.45	Installation, testing and commissioning of ceiling fan , including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable, including providing and fixing phenolic laminated sheet cover on the fan box etc. as required.	Each	2500.00	203.00	5,07,500.00
25.00	1.50	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required.				
a.	1.50.1	Upto 450 mm sweep	Each	812.00	363.00	2,94,756.00
b.	1.50.2	510 mm sweep	Each	48.00	523.00	25,104.00
26.00	1.51	Extra for fixing the louvers/ shutters complete with frame for a exhaust fan of all sizes.	Each	48.00	168.00	8,064.00
27.00	1.53	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface / recessed Steel/ PVC conduit as required.				
e.	1.53.1	1 run of cable	Metre	15000.00	49.00	7,35,000.00
f.	1.53.2	2 run of cable	Metre	500.00	82.00	41,000.00
g.	1.53.3	3 run of cable	Metre	500.00	114.00	57,000.00
28.00	1.55	Wiring for group controlled (looped) light point /fan point/exhaust fan point/ call bell point (without independent switch etc .) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface / recessed PVC conduit , and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required.				
a.	1.55.1	Group A	Point	1210.00	463.00	5,60,230.00
b.	1.55.2	Group B	Point	1450.00	508.00	7,36,600.00
29.00	1.57	Supplying & fixing suitable size GI box w/h modular plate and cover in front on surface or in recess including providing and fixing 25 A modular socket outlet and 25 A modular SP MCB , "C" curve including connections , painting etc. as required.	Each	450.00	639.00	2,87,550.00
		SUB TOTAL OF WIRING				18,80,33,629.00
B.	2.0	MCCB, MCB & DB'S				
30.00	2.2	Providing and fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.				
a.	2.2.1	100 A,16KA,FPMCCB	Each	100.00	3,726.00	3,72,600.00
b.	2.2.2	125 A,16KA,FPMCCB	Each	40.00	4,145.00	1,65,800.00
c.	2.2.5	200 A, 25 KA,TPMCCB	Each	1.00	10,953.00	10,953.00
d.	2.2.18	400 A,50KA,FPMCCB	Each	1.00	26,182.00	26,182.00
e.	2.2.19	630 A,50KA,FPMCCB	Each	2.00	32,506.00	65,012.00
f.	2.2.12	800 A, 50 KA,TPMCCB	Each	4.00	33,855.00	1,35,420.00
31.00	2.3	Supplying and fixing following way , single pole and neutral , sheet steel, MCB distribution board , 240 V, on surface / recess, complete with tinned copper bus bar , neutral bus bar , earth bar , din bar , interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)				
a.	2.3.3	12 way , Double door	Each	175.00	2,053.00	3,59,275.00



32.00	2.4	Supplying and fixing following way , horizontal type three pole and neutral , sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar , neutral bus bar , earth bar , din bar , interconnections, powder painted including earthing etc . as require . (But without MCB/RCCB/Isolator)				
a.	2.4.2	6 way (4 + 18), Double door	Each	5.00	3,693.00	18,465.00
b.	2.4.3	8 way (4 + 24), Double door	Each	100.00	4,601.00	4,60,100.00
33.00	2.5	Supplying and fixing of following ways surface / recess mounting, vertical type , 415 V, TPN MCB distribution board of sheet steel , dust protected, duly powder painted , inclusive of 200 A tinned copper bus bar , common neutral link , earth bar , din bar for mounting MCBs (but without MCBs and incomer) as required . (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.)				
a.	2.5.2	8 way (4 + 24), Double door	Each	5.00	7,744.00	38,720.00
b.	2.5.3	12 way (4 + 36), Double door	Each	15.00	9,828.00	1,47,420.00
34.00	2.10	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections , testing and commissioning etc . as required.				
a.	2.10.1	Single pole	Each	4957.00	199.00	9,86,443.00
b.	2.10.3	Double pole	Each	10.00	556.00	5,560.00
c.	2.10.4	Triple pole	Each	335.00	826.00	2,76,710.00
d.	2.10.5	Triple pole and neutral	Each	30.00	1,092.00	32,760.00
35.00	2.11	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	10.00	8.00	80.00
36.00	2.12	Supplying and fixing following rating , double pole , 240 V, isolator in the existing MCB DB complete with connections , testing and commissioning etc . as required.				
a.	2.12.1	40 A	Each	175.00	339.00	59,325.00
b.	2.12.2	63 A	Each	10.00	385.00	3,850.00
37.00	2.13	Supplying and fixing following rating , four pole, 415 V, isolator in the existing MCB DB complete with connections , testing and commissioning etc . as required.				
a.	2.13.1	40 A	Each	2.00	832.00	1,664.00
b.	2.13.2	63 A	Each	150.00	839.00	1,25,850.00
c.	2.13.3	100 A	Each	15.00	1,047.00	15,705.00
38.00	2.14	Supplying and fixing following rating , double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections , testing and commissioning etc. as required.				
a.	2.14.1	25 A	Each	175.00	1,927.00	3,37,225.00
39.00	2.15	Supplying and fixing following rating , four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections , testing and commissioning etc. as required.				
a.	2.15.3	63 A	Each	100.00	2,777.00	2,77,700.00
40.00	2.17	Supplying and fixing TP sheet steel enclosure on surface / recess along with 16/25/32 A 415 V "C" curve TP MCB complete with connections , testing and commissioning etc. as required.	each	105.00	1,146.00	1,20,330.00
41.00	2.18	Supplying and fixing 20 A, 240 V, SPN Industrial type socket outlet , with 2 pole and earth , metal enclosed plug top alongwith 20 A "C" curve, SP, MCB, In sheet steel enclosure , on surface or In recess , with chained metal cover for the socket out let and complete with connections , testing and commissioning etc. as required.	Each	195.00	1,232.00	2,40,240.00
42.00	2.19	Supplying and fixing 20 A, 415 V, TPN Industrial type socket outlet , with 4 pole and earth, metal enclosed plug top alongwith 20 A "C" curve, TPMCB, in sheet steel enclosure , on surface or in recess , with chained metal cover for the socket out let and complete with connections , testing and commissioning etc. as required.	Each	5.00	1,690.00	8,450.00
43.00	2.20	Supplying and fixing 30 A, 415 V, TPN Industrial type socket outlet , with 4 pole and earth, metal enclosed plug top alongwith 30 A "C" curve, TPMCB, in sheet steel enclosure , on surface or in recess , with chained metal cover for the socket out let and complete with connections , testing and commissioning etc. as required.	Each	20.00	3,048.00	60,960.00



44.00	2.21	Providing and fixing M.V. danger notice plate of 200 mm X 150 mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides , and with inscription in single red colour on front side as required.	Each	5.00	226.00	1,130.00
45.00	2.22	Providing and fixing H.T. danger notice plate of 250 mm X 200 mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides , and with inscription in single red colour on front side as required.	Each	5.00	244.00	1,220.00
46.00	2.23	Supplying and fixing Cable End Box (Loose Wire Box) suitable for following single pole and neutral , sheet steel , MCB distribution board , 240 Volts, on surface/ recess, complete with testing and commissioning etc. as required.				
a.	2.23.2	For 8 way, Double door SPN MCBDB	Each	175.00	731.00	1,27,925.00
47.00	2.24	Supplying and fixing Cable End Box (Loose Wire Box) suitable for following triple pole and neutral , sheet steel , MCB distribution board , 415 Volts, on surface/ recess, complete with testing and commissioning etc.as required.				
a.	2.24.2	For 6 way, Double door TPN MCBDB	Each	5.00	1,062.00	5,310.00
b.	2.24.3	For 8 way, Double door TPN MCBDB	Each	10.00	1,239.00	12,390.00
48.00	2.25	Supplying and fixing Cable End Box (Loose Wire Box) suitable for triple pole and neutral , sheet steel , Vertical MCB distribution board , 415 Volts, on surface/ recess, complete with testing and commissioning etc. as required.	Each	110.00	764.00	84,040.00
		SUB TOTAL OF MCCB, MCB & DB'S				45,84,814.00
C.	3.0	RISING MAINS & BUS TRUNKING				
49.00	3.8	Supplying, installing on wall, testing and commissioning of following capacity <u>Air Insulated Compact Type Rising Mains</u> for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply with enclosure having IP -54 rating after fixing the tap off boxes and all accessories , made of 1.6mm thick steel sheet duly powder coated in convenient sections complete with 4 Nos aluminium bus bars having current density of 130 A/ sq cm at nominal current rating , necessary joints & expansion joints , fire barrier at each floor , provision of tapping at every metre , continuous earthing with 2 Nos aluminium strip of suitable size (one on each side) including, G.I. clamping brackets, angle iron bracket, steel fasteners, connecting to earthing system etc. as required.				
a.	3.8.1	200 A lsc = 15kA for 1 second	Metre	48.00	7,451.00	3,57,648.00
b.	3.8.3	400 A lsc = 30kA for 1 second	Metre	196.00	8,915.00	17,47,340.00
c.	3.8.5	630 A lsc = 50kA for 1 second	Metre	102.00	12,172.00	12,41,544.00
d.	3.8.6	800 A lsc = 50kA for 1 second	Metre	72.00	16,674.00	12,00,528.00
e.	3.8.7	1000 A lsc = 50kA for 1 second	Metre	18.00	19,273.00	3,46,914.00
50.00	3.11	Supplying, installation, testing & commisioning of following capacity <u>End Feed Unit</u> for the existing Air Insulated Compact Type bus trunking / rising mains for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply made with 1.6mm thick steel sheet enclosure (IP54) duly powder coated with provision of MCCB /ACB (but without MCCB /ACB) complete with necessary joints including clamping brackets , angle iron bracket , steel fasteners , connecting to earthing system etc. as required				
a.	3.11.1	200 A 15kA SC for 1 sec	Each	2.00	5,513.00	11,026.00
b.	3.11.3	400 A 30kA SC for 1 sec	Each	2.00	7,307.00	14,614.00
c.	3.11.5	630 A 50kA SC for 1 sec	Each	2.00	9,344.00	18,688.00
d.	3.11.6	800 A 50kA SC for 1 sec	Each	2.00	11,017.00	22,034.00
e.	3.11.7	1000 A 50kA SC for 1 sec	Each	2.00	12,328.00	24,656.00
51.00	3.12	Supplying, installation, testing & commisioning of following capacity <u>Plug In / tap off box</u> on the existing Air Insulated Compact Type bus trunking / rising mains for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply made with 1.6mm thick sheet steel enclosure (IP54) duly powder coated with provision of MCCB/ACB (but without MCCB/ACB) complete etc. as required				
a.	3.12.1	125 A 15kA SC for 1 sec	Each	134.00	6,358.00	8,51,972.00
b.	3.12.2	200 A 25kA SC for 1 sec	Each	1.00	8,048.00	8,048.00



52.00	3.13	Supplying, installing by suspension on ceiling, testing and commissioning of following capacity Sandwich Type Rising Mains for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply with metal clad enclosure having IP -54 rating after fixing the tap off boxes and all accessories, made of 1.6mm thick steel sheet duly powder coated in convenient sections complete with 4 Nos aluminium bus bars having current density of 130 A/ sq cm at nominal current rating, necessary joints, elbow joints & expansion joints and bends, fire barrier at each floor, provision of tapping at every metre, adopter box and copper flexible for joints, continuous earthing with 2 Nos aluminium strip of suitable size (one on each side) including, G.I. clamping brackets, suspenders, angle iron bracket, steel fasteners, connecting to earthing system etc. as required.				
a.	3.13.4	800 A 50kA SC for 1 sec	Metre	40.00	15,554.00	6,22,160.00
b.	3.13.9	2500 A 50kA SC for 1 sec	Metre	30.00	35,688.00	10,70,640.00
		SUB TOTAL OF RISING MAINS & BUS TRUNKING				75,37,812.00
D.	4.0	CABLE TRAY				
53.00	4.1	Supplying and installing following size of perforated painted with powder coating M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.				
a.	4.1.2	150mm width x 50mm depth x 1.6 mm thickness.	Metre	30.00	531.00	15,930.00
54.00	4.6	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray (Galvanisation thickness not less than 50 microns) with perforation not more than 17.5%, inconvenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
a.	4.6.4	300 mm width X 50 mm depth X 1.6 mm thickness	Metre	2000.00	875.00	17,50,000.00
b.	4.6.7	600 mm width X 50 mm depth X 2.0 mm thickness	Metre	400.00	1,150.00	6,58,400.00
c.	4.6.16	900 mm width X 75 mm depth X 2.0 mm thickness	Metre	100.00	2,411.00	2,41,100.00
55.00	4.7	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray "bends" (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
a.	4.7.4	300 mm width X 50 mm depth X 1.6 mm thickness	Each	5.00	1,713.00	8,565.00
b.	4.7.7	600 mm width X 50 mm depth X 2.0 mm thickness	Each	5.00	3,509.00	17,545.00
c.	4.7.16	900 mm width X 75 mm depth X 2.0 mm thickness	Each	5.00	5,243.00	26,215.00
56.00	4.8	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray "Tee" (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
a.	4.8.4	300 mm width X 50 mm depth X 1.6 mm thickness	Each	1.00	1,937.00	1,997.00
b.	4.8.7	600 mm width X 50 mm depth X 2.0 mm thickness	Each	1.00	4,138.00	4,138.00
c.	4.8.16	900 mm width X 75 mm depth X 2.0 mm thickness	Each	1.00	6,189.00	6,189.00
		SUB TOTAL OF CABLE TRAY				27,30,079.00
E.	5.0	EARTHING				
57.00	5.2	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	Each	30.00	5,308.00	1,59,240.00
58.00	5.4	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	Set	50.00	6,216.00	3,10,800.00
59.00	5.6	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	Set	12.00	11,794.00	1,41,528.00



60.00	5.7	Supplying and laying 6 SWG G.I. wire at 0.50 metre below ground level for conductor earth electrode , including connection / termination with GI thimble etc. as required.	Metre	2200.00	44.00	96,800.00
61.00	5.8	Supplying and laying 25 mm X 5 mm copper strip at 0.50 metre below ground as strip earth electrode , including connection / terminating with nut , bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	Metre	200.00	853.00	1,70,600.00
62.00	5.9	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode , including connection / terminating with G .I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)	Metre	2500.00	131.00	3,27,500.00
63.00	5.10	Providing and fixing 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe from earth electrode including connection with brass nut , bolt, spring, washer excavation and re-filling etc. as required.	Metre	50.00	1,224.00	61,200.00
64.00	5.11	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G .I. pipe from earth electrode including connection with G .I. nut, bolt, spring, washer excavation and re-filling etc. as required.	Metre	100.00	483.00	48,300.00
65.00	5.12	Providing and laying earth connection from earth electrode with 6 SWG dia G.I. Wire in 15 mm dia G .I. pipe from earth electrode including connection with G.I. thimble excavation and re-filling as required.	Metre	25.00	188.00	4,700.00
66.00	5.13	Providing and laying earth connection from earth electrode with 4.00 mm dia copper wire in 15 mm dia G.I. pipe from earth electrode including connection with copper thimble excavation and re-filling as required.	Metre	50.00	257.00	12,850.00
67.00	5.14	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	Metre	20.00	1,009.00	20,180.00
68.00	5.15	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	Metre	300.00	206.00	61,800.00
69.00	5.16	Providing and fixing 6 SWG dia G .I. wire on surface or in recess for loop earthing as required.	Metre	50.00	57.00	2,850.00
70.00	5.17	Providing and fixing 4.00 mm dia copper wire on surface or in recess for loop earthing as required.	Metre	10.00	128.00	1,280.00
71.00	5.18	Providing and fixing 6 SWG dia G .I. wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable	Metre	200.00	37.00	7,400.00
72.00	5.19	Providing and fixing 4.00 mm dia copper wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable as required.	Metre	20.00	108.00	2,160.00
73.00	5.20	Providing and fixing earth bus of 50 mm X 5 mm copper strip on surface for connections etc. as required.	Metre	10.00	1,844.00	18,440.00
		SUB TOTAL OF EARTHING				14,47,628.00
F.	6.0	LIGHTNING CONDUCTOR				
74.00	6.2	Providing and fixing of lightning conductor finial , made of 25 mm dia 300 mm long, G.I. tube, having single prong at top , with 85 mm dia 6 mm thick G .I. base plate including holes etc. complete as required.	Each	12.00	448.00	5,376.00
75.00	6.4	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Each	12.00	93.00	1,116.00
76.00	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	2950.00	104.00	3,06,800.00
77.00	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	4450.00	163.00	7,25,350.00
78.00	6.12	Providing and fixing testing joint , made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc . complete as required.	Each	22.00	102.00	2,244.00
79.00	6.14	Providing and laying G.I. tape 32 mm X 6 mm from earth electrode directly in ground as required.	Metre	300.00	176.00	52,800.00
		SUB TOTAL OF LIGHTNING CONDUCTOR				10,93,686.00
G.	7.0	MV CABLE LAYING				



80.00	7.1	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation , sand cushioning, protective covering and refilling the trench etc as required.				
i	7.1.1	Upto 35 sq. mm	Meter	1350.00	323.00	4,36,050.00
ii	7.1.2	Above 35 sq. mm and upto 95 sq. mm	Meter	390.00	338.00	1,11,540.00
iii	7.1.3	Above 95 sq. mm and upto 185 sq. mm	Meter	200.00	352.00	70,400.00
iv	7.1.4	Above 185 sq. mm and upto 400 sq. mm	Meter	800.00	396.00	3,16,800.00
81.00	7.2	Laying of one number additional PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground in the same trench in one tier horizontal formation including excavation , sand cushioning, protective covering and refilling the trench etc as required.				
i	7.2.1	Upto 35 sq. mm	Meter	1000.00	222.00	2,22,000.00
ii	7.2.2	Above 35 sq. mm and upto 95 sq. mm	Meter	100.00	236.00	23,600.00
iii	7.2.3	Above 95 sq. mm and upto 185 sq. mm	Meter	150.00	251.00	37,650.00
iv	7.2.4	Above 185 sq. mm and upto 400 sq. mm	Meter	3500.00	294.00	10,29,000.00
82.00	7.5	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing RCC / HUME/ METAL pipe as required.				
i	7.5.1	Upto 35 sq. mm	Meter	700.00	31.00	21,700.00
ii	7.5.2	Above 35 sq. mm and upto 95 sq. mm	Meter	100.00	47.00	4,700.00
iii	7.5.3	Above 95 sq. mm and upto 185 sq. mm	Meter	50.00	64.00	3,200.00
iv	7.5.4	Above 185 sq. mm and upto 400 sq. mm	Meter	825.00	112.00	92,400.00
83.00	7.6	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required.				
i	7.6.1	Upto 35 sq. mm	Meter	700.00	23.00	16,100.00
ii	7.6.2	Above 35 sq. mm and upto 95 sq. mm	Meter	100.00	38.00	3,800.00
iii	7.6.3	Above 95 sq. mm and upto 185 sq. mm	Meter	100.00	52.00	5,200.00
iv	7.6.4	Above 185 sq. mm and upto 400 sq. mm	Meter	850.00	96.00	81,600.00
84.00	7.7	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface as required.				
i	7.7.1	Upto 35 sq. mm (clamped with 1mm thick saddle)	Meter	1000.00	39.00	39,000.00
ii	7.7.2	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	Meter	50.00	104.00	5,200.00
iii	7.7.3	Above 95 sq. mm and upto 185 sq. mm (clamped with 25/40x3mm MS flat clamp)	Meter	50.00	122.00	6,100.00
iv	7.7.4	Above 185 sq. mm and upto 400 sq. mm (clamped with 40x3mm MS flat clamp)	Meter	155.00	182.00	28,210.00
85.00	7.8	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required.				
i	7.8.1	Upto 35 sq. mm (clamped with 1mm thick saddle)	Meter	4800.00	33.00	1,58,400.00
ii	7.8.2	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	Meter	45.00	74.00	3,330.00
iii	7.8.3	Above 95 sq. mm and upto 185 sq. mm (clamped with 25/40x3mm MS flat clamp)	Meter	150.00	93.00	13,950.00
iv	7.8.4	Above 185 sq. mm and upto 400 sq. mm (clamped with 40x3mm MS flat clamp)	Meter	120.00	150.00	18,000.00
86.00	7.9	Supplying and making cable route marker with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) of size 60cmX60cm at the bottom and 50cmX50 cm at the top with a thickness of 10cm Including Inscription duly engraved as required.	Each	127.00	530.00	67,310.00
87.00	7.10	Supplying and fixing cable route marker with 10 cm X 10 cm X 5 mm thick G.I. plate with inscription there on , bolted /welded to 35 mm X 35 mm X 6 mm angle iron, 60 cm long and fixing the same In ground as required.	Each	220.00	383.00	84,260.00
		SUB TOTAL OF MV CABLE LAYING				28,99,500.00
H.	8.0	HT CABLE LAYING				
88.00	8.1	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size direct in ground including excavation , sand cushioning, protective covering and refilling the trench etc as required.				
a.	8.1.2	Above 120 sq. mm and upto 400 sq. mm	Meter	400.00	482.00	1,92,800.00



89.00	8.2	Laying of one number additional PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size direct in ground in the same trench in one tier horizontal formation including excavation, sand cushioning, protective covering and refilling the trench etc as required.				
a.	8.2.2	Above 120 sq. mm and upto 400 sq. mm	Meter	50.00	343.00	17,150.00
90.00	8.3	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the existing RCC / HUME/ METAL pipe as required.				
a.	8.3.2	Above 120 sq. mm and upto 400 sq. mm	Meter	50.00	112.00	5,600.00
91.00	8.4	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the existing masonry open duct as required.				
a.	8.4.2	Above 120 sq. mm and upto 400 sq. mm	Meter	150.00	96.00	14,400.00
		SUB TOTAL OF HT CABLE LAYING				2,29,950.00
I.	9.0	MV CABLE JOINTING & END TERMINATION				
92.00	9.1	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
a	9.1.14	3C x 120 mm ² (45mm)	Each	4.00	480.00	1,920.00
b	9.1.8	3C x 16 mm ² (25mm)	Each	2.00	222.00	444.00
c	9.1.7	3C x 10 mm ² (22 mm)	Each	2.00	211.00	422.00
d	9.1.7	3C x 6 mm ² (22 mm)	Each	2.00	211.00	422.00
e	9.1.32	4C X 10 mm ² (25mm)	Each	50.00	219.00	10,950.00
f	9.1.33	4C X 16 mm ² (28mm)	Each	80.00	250.00	20,000.00
g	9.1.34	4C X 25 mm ² (28mm)	Each	34.00	250.00	8,500.00
h	9.1.21	3½ C X 35 mm ² (32mm)	Each	6.00	300.00	1,800.00
i	9.1.22	3½ C X 50 mm ² (35mm)	Each	2.00	329.00	658.00
j	9.1.23	3½ C X 70 mm ² (38mm)	Each	2.00	368.00	736.00
k	9.1.24	3½ C X 95 mm ² (45mm)	Each	2.00	473.00	946.00
l	9.1.25	3½ C X 120 mm ² (45mm)	Each	10.00	489.00	4,890.00
m	9.1.26	3½ C X 150 mm ² (50mm)	Each	2.00	555.00	1,110.00
n	9.1.27	3½ C X 185 mm ² (57mm)	Each	6.00	702.00	4,212.00
o	9.1.29	3½ C X 240 mm ² (62mm)	Each	12.00	809.00	9,708.00
p	9.1.30	3½ C X 300 mm ² (70mm)	Each	52.00	936.00	48,672.00
q	9.1.31	3½ C X 400 mm ² (82mm)	Each	2.00	1,209.00	2,418.00
		SUB TOTAL OF MV CABLE JOINTING & END TERMINATION				1,17,808.00
J.	10.0	HV CABLE JOINTING & END TERMINATION				
93.00	10.4	supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :				
i	10.4.2	150 sq. mm	Each	4.00	8,947.00	35,788.00
ii	10.4.3	300 sq. mm	Each	3.00	11,681.00	35,043.00
94.00	10.5	Supplying and making outdoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :				
i	10.5.3	300 sq. mm	Each	1.00	17,166.00	17,166.00
95.00	10.6	Supplying and making straight through cable jointing with heat shrinkable jointing kit complete with all accessories including ferrules suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as				
i	10.6.2	150 sq. mm	Each	1.00	18,085.00	18,085.00
ii	10.6.3	300 sq. mm	Each	1.00	19,314.00	19,314.00
		SUB TOTAL OF HV CABLE JOINTING & END TERMINATION				1,25,396.00
K.	14.0	MISC. CIVIL ITEMS				



96.00	14.4	Excavation for cable trenches in soft soil , depth upto 1.2 m including dressing of sides lift upto 1.5 m, including getting out the excavated soil , refilling with sand and or good soil after laying of cable / pipe etc in layers of 20 cm, ramming, watering and disposal of surplus excavated soil as directed , within a lead of 50 metres.	cum	1.00	546.00	546.00
97.00	14.5	Deduct for not consolidation by ramming and watering while re-filling with sand and or good soil in cable/ pipe laying.	cum	1.00	121.00	121.00
98.00	14.7	Providing and laying in position cement concrete 1:2:4 -1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) in foundation of pump, DG set etc including form work etc as required.	cum	1.00	7,549.00	7,549.00
99.00	14.10	Providing and laying in position reinforced cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) in foundation of pump , DG set etc including form work etc as required (excluding reinforcement).	cum	1.00	8029.00	8029.00
100.00	14.11	Providing brick work (In width 225 mm or more) with F.P.S. bricks of class designation 7.5 in cement mortar 1:4 (1 cement : 4 coarse sand) at all levels.	cum	1.00	6,362.00	6,362.00
101.00	14.13	Providing, laying and fixing following dia G .I. pipe (medium class) in ground complete with G .I. fittings including trenching (75 cm deep) and re-filling etc as required				
a.	14.13.4	150 mm dia	metre	100.00	1,687.00	1,68,700.00
102.00	14.14	Providing, laying and fixing following dia RCC pipe NP 2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75 cm deep) and refilling etc as required.				
a.	14.14.4	300 mm dia	metre	1000.00	854.00	8,54,000.00
103.00	14.15	Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket , bend, couplers etc . conforming to IS 14930, Part II complete with fitting and cutting , jointing etc. in the existing trench , complete as required.				
a.	14.15.1	63 mm dia (OD-63 mm & ID-51 mm nominal)	Metre	100.00	109.00	10,900.00
b.	14.15.2	90 mm dia (OD-90 mm & ID-76 mm nominal)	Metre	100.00	149.00	14,900.00
c.	14.15.5	200 mm dia (OD-200 mm & ID-175 mm nominal)	Metre	50.00	498.00	24,900.00
104.00	14.16	Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket , bend, couplers etc . conforming to IS 14930, Part II complete with fitting and cutting , jointing etc. direct in ground (75 cm below ground level) including excavation and refilling the trench but excluding sand cushioning and protective covering etc ., complete as required.				
a.	14.16.1	63 mm dia (OD-63 mm & ID-51 mm nominal)	Metre	500.00	209.00	1,04,500.00
h.	14.16.2	90 mm dia (OD-90 mm & ID-76 mm nominal)	Metre	500.00	249.00	1,24,500.00
c.	14.16.5	200 mm dia (OD-200 mm & ID-175 mm nominal)	Metre	200.00	598.00	1,19,600.00
		SUB TOTAL OF MISC. CIVIL ITEMS				14,44,607.00
L.	15.0	LIGHTING CONTROLS				
105.00	15.1	Supplying, installation, testing and commissioning of Passive Infrared (PIR) technology based occupancy sensor having high performance , non regulating programmable type , suitable for connected load upto 10Amp , for mounting height up to 2.8 mtr and for 5 m diameter coverage area along with necessary fixing arrangements i /c programming at site etc . complete as required.	Each	10.00	4,538.00	45,380.00
106.00	15.2	Supplying, installation, testing and commissioning of Passive Infrared (PIR) technology based occupancy sensor with day light dimming (lighting level shall be regulated as per availability of natural day light in an area along with occupancy detection.) having high performance , regulating programmable type, suitable for connected load upto 10Amp, for mounting height up to 2.8 mtr and for 5 m diameter coverage area along with necessary fixing arrangements i/c programming at site etc. complete as required.	Each	10.00	6,325.00	63,250.00
107.00	15.3	Supplying, installation, testing and commissioning of Microwave technology based occupancy sensor having high performance , non regulating programmable type, suitable for connected load upto 10Amp , for mounting height up to 2.6 mtr and for 5m X 20m coverage area along with necessary fixing arrangements i /c programming at site etc . complete as required.	Each	1.00	8,615.00	8,615.00



108.00	15.4	Supplying, installation, testing and commissioning of Astronomical time switch of following configuration to be mounted in feeder pillars / Lighting DBs for automatic switching On & OFF of street lights at sun set & sun rise or twilight(Auto ON, Auto OFF, Auto modes) with manual override facility with 12/24 hour display format with suitable battery and indication for relay status i/c programming at site complete as required.				
a.	15.4.1	1 output per phase and suitable for single phase supply	Each	2.00	3,657.00	7,314.00
b.	15.4.2	2 output per phase and suitable for single phase supply	Each	4.00	7,535.00	30,140.00
c.	15.4.3	3 output (1output per phase) and suitable for three phase supply	Each	1.00	8,831.00	8,831.00
		SUB TOTAL OF LIGHTING CONTROLS				1,63,530.00
M.	16.0	HVAC (ONLY PLUMBING, DUCTING & AHUs)				
		INSULATED VALVES				
109.00	16.7	Supplying, installation, testing and commissioning of following valves, strainers, gauges in the chilled water plumbing duly insulated to the same specifications as the connected piping and adequately supported as per specifications.				
109.01	16.7.1	BUTTERFLY VALVE (MANUAL) with CI body SS Disc , Nitrile Rubber Seal & O-Ring PN 16 pressure rating for chilled water/hot eater circulation as specified				
(a)	16.7.1.2	150mm dia	Each	1.00	6,556.00	6,556.00
(b)	16.7.1.4	100mm dia	Each	26.00	5,169.00	1,34,394.00
(c)	16.7.1.5	80mm dia	Each	30.00	3,691.00	1,10,730.00
(d)	16.7.1.6	65mm dia	Each	17.00	3,436.00	58,412.00
(e)	16.7.1.7	50mm dia.	Each	2.00	3,167.00	6,334.00
109.02	16.7.3	NON - RETURN VALVE with dual plate of CI body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating for chilled / hot water circulation including insulation as specified.				
(a)	16.7.3.4	100mm dia	Each	16.00	5,494.00	87,904.00
(b)	16.7.3.5	80mm dia	Each	2.00	3,818.00	7,636.00
(c)	16.7.3.6	65mm dia	Each	3.00	3,507.00	10,521.00
109.03	16.7.4	Y - STRAINER of Ductile CI Body flanged ends with stainless steel strainer for chilled / hot water circulation including insulation as specified.				
(a)	16.7.4.4	100mm dia	Each	2.00	9,821.00	19,642.00
(b)	16.7.4.5	80mm dia	Each	3.00	7,123.00	21,369.00
(c)	16.7.4.6	65mm dia	Each	2.00	6,207.00	12,414.00
110.00	16.8	Supplying, installation, testing and commissioning of in position the Industrial type pressure gauges with gun metal / brass valves complete as required	Each	161.00	1,094.00	1,76,134.00
111.00	16.12.1	Supply. Installation, testing and commissioning of factory fabricated G.I. Sheet metal ducts with flanges, inbuilt sealant, gasket, supports, vanes, dampers, links, levers and quadrants etc. as per specifications and drawings. Duct shall be furnish at site in "L" shape or box shape from factory. The rates shall include all materials of the duct and labour for suspension and supporting arrangement for plenums, ducts, complete with fire retardant flexible connection as required and as per specifications.				
a)	16.12.1.1	0.63 MM (24 Gauge)	sqm	445	983.00	4,37,435.00
b)	16.12.1.2	0.80 MM (22 Gauge)	sqm	878	1,154.00	10,13,212.00
c)	16.12.1.3	1.00 MM (20 Gauge)	sqm	375	1,273.00	4,77,375.00
d)	16.12.1.4	1.25 MM (18 Gauge) Plenum	sqm	36	1,677.00	60,372.00
		Grills and Dampers				
		G.I construction Duct Dampers				
112.00	16.13	Supply. Installation, testing and commissioning of G.I construction Duct Dampers for Controlling the Airflow in Ducts with neoprene rubber gaskets,nuts, Bolts, Screws Linkages, Flanges etc as per specification.	Sqm	5	6,500.00	32,500.00
		Grilles wth Dampers				



113.00	16.15	Supply. Installation, testing and commissioning of powder coated extruded aluminium section grills with dampers for supply air terminal for air-conditioning as per specification.	Sqm	20	8,480.00	1,69,600.00
		Grilles without Dampers				
114.00	16.16	Supply. Installation, testing and commissioning of powder coated extruded aluminum sections grills as per specification.	Sqm	1	5,507.00	5,507.00
		Diffusers				
		Supply. Installation, testing and commissioning of powder coated extruded aluminium square diffusers with antismudge ring and removable core.				
115.00	16.17	Supply air with dampers	Sqm	0.1	11,363.00	1,136.30
116.00	16.18	Return air without damper	Sqm	0.1	7,559.00	755.90
		Fire Damper with Spring and Fusible Link				
117.00	16.20	Supplying, installation, testing and commissioning of Fusible Link type fire and smoke dampers of 18 gauge GI sheet construction suitable for 120 minute fire rating.	Sqm	1	9,883.00	9,883.00
		Duct Insulation				
118.00	16.23	Supply. Installation, testing and commissioning of insulation on the surface of the duct with duly laminated aluminum foil of mat finish closed cell nitrile rubber (Class 'O') with suitable adhesive, as per specifications and drawings. The Joints shall be sealed with 50mm wide and 3 mm thick self adhesive nitrile rubber tape insulation. The rates shall include all materials of the insulation and labour works with adhesive, complete as required and specifications.				
a)	16.23.1	19 mm	Sqm	365	697.00	2,54,405.00
b)	16.23.2	25 mm	Sqm	97	896.00	86,912.00
		SUB TOTAL OF HVAC (ONLY PLUMBING, DUCTING & AHUs)				32,01,139.20
N.		FIRE DETECTION AND ALARM SYSTEM				
119.00	17.2	INTELLIGENT FIRE ALARM SYSTEM				
119.01	17.2.1	Supplying, installation, testing and commissioning of micro processor based intelligent addressable main fire alarm panel, central processing unit with the following loop modules and capable of supporting not less than 240 devices (including detectors) and minimum 120 detectors per loop and loop length up to 2 km, network communication card, minimum 320 character graphics / LCD display with touch screen or other keypad and minimum 4000 events history log in the non volatile memory (EPROM), power supply unit (230 ± 5% V, 50 Hz), 48 hrs back-up with 24 volt sealed maintenance free batteries with automatic charger. The panel shall have facility to connect printer to printout log and facility to have seamless integration with analog /digital voice evacuation system (which is part of the sc accessories). The panel shall be compatible for IBMS system (schedule of work under SH: PA System) and shall be complete with all accessories. The panel shall be compatible for IBMS system with open protocol BACnet / Modbus over IP complete as per specifications.				
a.	17.2.1.1	Ten Loop Panel.	Each	1.00	4,54,896.00	4,54,896.00
b.	17.2.1.2	Two Loop Panel.	Each	4.00	2,38,907.00	9,55,628.00
119.02	17.2.2	Supplying, installation, testing & commissioning of central graphical fire alarm management system to centrally monitor and operate the fire alarm system complete as required.	Each	1.00	2,00,148.00	2,00,148.00
119.03	17.2.3	Supplying, installation, testing & commissioning of repeater panel with 320 character/ Touch screen LCD display with inbuilt reset, acknowledge and silence switches complete as required.	Each	1.00	1,08,572.00	1,08,572.00
119.04	17.2.4	Supplying, installation, testing & commissioning of intelligent analog addressable photothermal detector complete with mounting base complete	Each	135.00	2,846.00	3,84,210.00
119.05	17.2.5	Supplying, installation, testing & commissioning of response indicator on surface/recessed MS Box having two LED, metallic cover complete with all connections etc as required.	Each	25.00	263.00	6,575.00
119.06	17.2.6	Supplying, installation, testing & commissioning of intelligent addressable programmable sounder complete as required.	Each	90.00	2,638.00	2,37,420.00



119.07	17.2.7	Supplying, installation, testing & commissioning of fault isolator complete with base as required.	Each	20.00	3,257.00	65,140.00
119.08	17.2.8	Supplying, installation, testing & commissioning of intelligent aspiration detector for area coverage of minimum 5000 sq. ft. complete as required.	Each	2.00	2,95,007.00	5,90,014.00
119.09	17.2.9	Supplying, installation, testing & commissioning of intelligent addressable thermal detector with rate of rise cum fixed temperature thermistor complete with base as required.	Each	40.00	2,713.00	1,08,520.00
119.10	17.2.10	Supplying, installation, testing & commissioning of addressable fire control module complete as required.	Each	20.00	2,990.00	59,800.00
119.11	17.2.11	Supplying, installation, testing & commissioning of addressable phone control module complete as required.	Each	75.00	3,255.00	2,44,125.00
119.12	17.2.12	Supplying, installation, testing & commissioning of addressable beam detector with short circuit isolator (inbuilt or separate) complete with emitter and receiver including connections with remote test features etc complete as required.	Each	2.00	74,778.00	1,49,556.00
119.13	17.2.13	Supplying, installation, testing & commissioning of intelligent addressable duct detector including suitable Photo detector complete with base as required.	Each	4.00	7,801.00	31,204.00
119.14	17.2.14	Supplying, installation, testing & commissioning of addressable manual call point complete as required.	Each	100.00	3,859.00	3,85,900.00
119.15	17.2.15	Supplying, installation, testing & commissioning of addressable horn cum strobe complete as required.	Each	100.00	3,494.00	3,49,400.00
119.16	17.2.16	Supplying, installation, testing & commissioning of addressable strobe complete as required.	Each	20.00	3,354.00	67,080.00
119.17	17.2.17	Supplying, installation, testing & commissioning of fire fighter telephone handset complete as required.	Each	10.00	5,727.00	57,270.00
119.18	17.2.18	Supplying, installation, testing & commissioning of intelligent interface unit BACnet/ Modbus protocol i.e. Supplying communication links between building management system and fire alarm control panel complete as required.	Each	1.00	1,87,732.00	1,87,732.00
119.19	17.2.19	Supplying, installation, testing & commissioning of fire fighter phone jack complete as required.	Each	100.00	1,587.00	1,58,700.00
120.00	17.3	PUBLIC ADDRESS SYSTEM				
120.01	17.3.1	Supplying, installation, testing & commissioning of 6 zone, voice alarm controller with USB, MP3 player (including 6 zone button paging station) with seamless integration facility with main fire alarm panel for voice evacuation complete as required.	Each	1.00	1,26,399.00	1,26,399.00
120.02	17.3.2	Supplying, installation, testing & commissioning of 1.5/3/6W ceiling speaker complete as required.	Each	20.00	952.00	19,040.00
120.03	17.3.3	Supplying, installation, testing & commissioning of 1.5/3/6W metal box ceiling/wall speakers complete as required.	Each	10.00	1,780.00	17,800.00
120.04	17.3.4	Supplying, installation, testing & commissioning of ceiling /wall mounted loud speaker, 3/1.5 Watt in ABS enclosure complete as required.	Each	45.00	2,416.00	1,08,720.00
120.05	17.3.5	Supplying, installation, testing & commissioning of 6 inches dia, 2 watts, 70/100 volts ceiling speaker complete as required.	Each	5.00	1,826.00	9,130.00
120.06	17.3.6	Supplying, installation, testing & commissioning of digital audio amplifier 50 Watt, 25V rms operating at 240 volt AC supply complete as required.	Each	2.00	96,767.00	1,93,534.00
120.07	17.3.7	Supplying, installation, testing & commissioning of digital audio amplifier 75 Watt, 25V rms operating at 240 Volt AC Supply complete as required.	Each	2.00	1,45,780.00	2,91,560.00
120.08	17.3.8	Supplying, installation, testing & commissioning of exit point directional sound speaker with voice and integral audio amplifier with selectable sound pulse patterns complete as required.	Each	2.00	10,132.00	20,264.00
120.09	17.3.9	Supplying, installation, testing & commissioning of Voice command keypad 6 zone, with microphone assembly complete as required.	Each	1.00	81,743.00	81,743.00
121.00	17.5	CABLING & WIRING				
121.01	17.5.1	Supplying & laying of 2x1.5 sqmm fire survival armoured cable, 600/1000V rated with annealed copper conductor having glass mica fire barrier tape covered by an extruded layer of Cross Linkable Ethylene Propylene Rubber (EPR) insulation and LSZH inner bedding, steel wire armouring & LSZH outer sheath complete as required.	Metre	6500.00	328.00	21,32,000.00
121.02	17.5.2	Supplying & laying of 2x1.5 sqmm fire alarm armoured cable, 600/1000V rated with annealed copper conductor having XLPE insulation, steel wire armouring & FRLS outer sheath complete as required.	Metre	2500.00	141.00	3,52,500.00



121.03	17.5.3	Supplying and drawing of cable Fire Retardant PVC insulated copper conductor cable in the existing surface / recessed steel conduit of following pairs, cores and size including connections and interconnections etc. as required.				0.00
a.	17.5.3.1	speaker cable Single pair, 2-core, 1.5 sqmm	Metre	3500.00	51.00	1,78,500.00
121.04	17.5.4	Supplying and fixing 25 mm dia MS flexible pipe with PVC coating along with all ancillaries and accessories like coupler etc. as required.	Metre	100.00	50.00	5,000.00
		SUB TOTAL OF FIRE DETECTION AND ALARM SYSTEM				83,38,080.00
O.		LIGHT FITTING/ FIXTURES, FANS, EXHAUST FANS				
122.00	Delhi Schedule of Rate (E&M) (Item for BEE 5 star rated Ceiling fan with Brush Less Direct Current (BLDC) motor	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod , 2 nos. canopies, shackle kit, safety rope , copper winding , Power Factor not less than 0.9, Service Value (CMM/W) minimum 6.85, Air delivery minimum 215 CMM, 350 RPM (tolerance as per IS : 374- 2019), THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin , nut bolts , washers, temperature rise =75 degree C (max.), Insulation resistance more than 2 mega ohm , suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	2100.00	2,688.00	56,44,800.00
		SUB TOTAL OF LIGHT FITTING/ FIXTURES, FANS, EXHAUST FANS				56,44,800.00
P.	DSR (E&M) Item for Solar	SOLAR PHOTOVOLTAIC POWER PLANT	KWp	50.00	61,060.00	30,53,000.00
123.00		Supply, Installation, Testing and Commissioning of ongrid Solar Photovoltaic Power Plant conforming to MNRE specifications as amended, consisting of Mono/Poly Crystalline silicon solar cells, net metering facility, necessary protections, earthing, mounted on Aluminium/GI structure of suitable strength with following components complete as required:-				
a)		Solar Photovoltaic Module of capacity 330 Wp or above , manufactured in India, conforming to IS 14286/IEC 61215, IS/IEC 61730-Part-1, IS/IEC 61730-Part-2. Solar Photovoltaic Module conversion efficiency shall not be less than 16.5%. PV modules used in solar power plants / systems must be warranted for their output peak watt capacity , which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.				
b)		Power Conditioning Unit (PCU) of 350-800 V DC Input voltage range and 400 V AC , three phase , 4 wire, 50Hz +/- 2.5 Hz, output voltage suitable to generate AC Power with efficiency not less than 97%, total harmonic distortion less than 3% and suitable for ambient temperature from 0 to 50 degree C . The PCU shall adjust the voltage and frequency level to suit the Grid Voltage Frequency.				
c)		Data Monitoring System complete with accessories.				
d)		Fixing of Array junction box & Main junction box with IP 65 protection and termination arrangement for incoming and outgoing cable along with glands , lugs and other accessories etc. as required.				
e)		Lightning and surge voltage protection.				
f)		Connections & Interconnections by supplying & fixing required size XLPE insulated copper conductor 1.1 kV grade armoured power and control cables between solar modules, main power cable to grid supply PCU unit along with supplying & fixing of necessary channel /conduit lugs and other accessories				
		SUB TOTAL OF SOLAR PHOTOVOLTAIC POWER PANT				30,53,000.00
		TOTAL AMOUNT OF SECTION-1: ELECTRICAL WORKS DSR ITEMS				23,06,45,458.20
S. No.	NDSR No.	Description of Items	Unit	Qty	Rate (Rs.)	Amount (Rs.)
		SECTION-2: ELECTRICAL WORKS NDSR ITEMS				



Q.		LIGHT FITTING/ FIXTURES, FANS, EXHAUST FANS				
124.00	NDSR-1	Supply of 900 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation : B, 3 nos. blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CMM/W) minimum 6.85, Air delivery minimum 215 CMM, 350 RPM (tolerance as per IS : 374- 2019), THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin , nut bolts, washers, temperature rise=75 degree C (max.), Insulation resistance more than 2 mega ohm , suitable for 230 V, 50 Hz, single phase AC Supply , earthing etc. complete as required, Equivalent to Orient make white Silver or as per make list.	Each	200.00	1,875.00	3,75,000.00
125.00	NDSR-2	Supply of following sizes of heavy duty exhaust fan suitable for single phase 230 volt, 50Hz AC supply complete with motor , capacitor, louvers/shutters and all accessories as required complete. Equivalent to Orient make Air Flow or as per make list.				
a		300mm dia Exhaust fan.	Each	812.00	1,458.00	11,82,272.00
126.00	NDSR-3	Supply of following sizes of bracket fan suitable for single phase 230 volt, 50Hz AC supply complete with motor , capacitor, louvers/shutters and all accessories as required complete . Equivalent to Orient 300 mm or 12" Wall 11 (with Plastic Blade & Pull Cord) or as per make list.	Each	200.00	1,858.00	3,71,600.00
		LIGHT FIXTURE				
127.00		Supply of following lighting fixtures complete with bulbs/ tubes, Copper ballasts and starters including suitable suspension /mounting /fixing arrangement (with materials) complete in all respect as required:				
a.	NDSR-4	Surface Mounted Low Glare downlight with curved edges with integrated 12 Watt LED, Equivalent to Havells Cat .no. "COMET ROUND" LHEAAVP7IL1W012 or as per makes list. (for common areas and Basement)	Each	6200.00	1,086.00	67,33,200.00
b.	NDSR-5	Surface Mounted Bulk Head (IP-65) light with high efficient 12 Watt LED and milky diffuser covering Equivalent to Crompton Cat no . "SUNRISE" LBH-10-CDL as per makes list.	Each	300.00	1,645.00	4,93,500.00
c.	NDSR-6	Surface Mounted Decorative type square shape button light with high efficient PC cover and end caps , with integrated LED , Equivalent to Havells Cat.no. "HIGHER WATTAGE" LHEXBTP71N15022 or as per makes list.	Each	2100.00	447.00	9,38,700.00
d.	NDSR-7	Surface Mounted Decorative type Bracket light with high efficient with integrated LED , Equivalent to Havells Cat .no. Havells Cat .no. " STYLO" LHFOECE1TZ1Co14 or as per makes list.	Each	4000.00	539.00	21,56,000.00
e.	NDSR-8	Surface Mounted Decorative type aesthetically designed liner 300 mm length mirror light with a high output PMMA diffuser for glare free light , Equivalent to Crompton Cat no. "LINNET" LCL-07-CDL or as per makes list.	Each	1420.00	1,028.00	14,59,760.00
f.	NDSR-9	Recess Mounted Swivel spotlight with integrated 18 Watt LED, Equivalent to Havells Cat.no. "PROSPOT" COB "LheeAXPbug1W018" or as per makes list.	Each	600	2,019.00	12,11,400.00
g.	NDSR-10	Recess Mounted Slim Type LED Panel (Round) with integrated 10 Watt LED, Equivalent to Havells Cat .no. " OCTANE" LHEBHDP51Z1W018" or as per makes list.	Each	600	1,073.00	6,43,800.00
h.	NDSR-11	Recess Mounted Swivel Wall Washer with integrated 10 Watt LED , Equivalent to Havells Cat .no. "CRYSTA" COB "LHEEGEPBIE1W010" or as per makes list.	Each	495	1,238.00	6,12,810.00
		GEYSER				
128.00	NDSR-12	Supplying, Installation, testing and commissioning of 15 liters storage type, 5 star rating , vertical type Geyser , with overheat cut off , multiple safety system, safety release valve , together with electrical connection , fixing on wall, connecting with the existing water pipe line with hot water PVC flexible pipe complete work as reqd . The geyser shall be equivalent to Havells make "SENZO" or as per makes list.	Each	700.00	9,596.00	67,17,200.00
		SUB TOTAL OF LIGHT FITTING/ FIXTURES, FANS, EXHAUST FANS				2,28,95,242.00
R.		SUBSTATION WORKS				
129.00		11 KV HT CABLE				
		Supply of the following sizes 11 KV grade, aluminium conductor , armoured, FRLS XLPE insulated Cable complete as specified.				



a.	NDSR-13	3C x 300 sq.mm	Meter	150	1,654.00	2,48,100.00
b.	NDSR-14	3C x 150 sq.mm	Meter	600.00	1,019.00	6,11,400.00
130.00	NDSR-15	H.T.METER	Nos.	1.00	50,000.00	50,000.00
		Supplying, Installation, testing and commissioning of indoor duty H .T. metering panel board only , complete with suitable cast resin CT and cast resin11000/V110 fixed type PT complete as per the requirement of respective SEB norms and all the other allied accessories , suitable to accomodate SEB 's approved meter , work shall be completed in coordination with respective SEB, follow their norms for calibration of meter etc . (The metering board as whole shall be of State Electricity Board approved Make only)				
131.00		11 KV HT BREAKER PANEL				
		Supplying, Installation, testing and commissioning of Indoor Duty HT VCB Panel as per following Note 1: For detail refer Technical Specifications enclosed Note 2: Vendor to Study Site & Confirm Horizontal & Vertical Transportation of Each set to location without Dismantling any component after Factory Testing is Conducted Note 3: Vendor to make all constructional damages good which occurred to any part of the building during transportation.				
a)	NDSR-16	H.T.PANEL-1 (Near HT Meter, at Gate)	Nos.	1.00	5,20,268.00	5,20,268.00
		Supplying, Installation, testing and commissioning of 11 KV, 350 MVA (18.3 KA), 3sec ,630A, HT, 1 (Single) Panel VCB Switchboard (Incomer+outgoing), cubicle type , made out of 14 SWG sheet steel , totally enclosed, IP 42 free standing, floor mounting, dust and vermin proof ,indoor, compartmentalised, powder coated painting , suitable for operation on 11 KV, 3ph, 50 Hz system with copper busbars , VCB mounted on horizontally with drawable truck including 24 volts DC (from battery pack for breaker ON /OFF/TRIP indicating lights and Breaker closing & Trip Coils and Relays etc . The panel shall be complete with cable termination arrangement for incoming & outgoing XLPE, 11 KV cable as specified.				
		Incomer + Outgoing				
		11 KV, 350 MVA (18.3 KA), 3sec ,630A, VCB, Electrically operated, draw out type, with PT 11kv/110V, indication lamps , digital meters with communication port , Digital protection relays with communication port , annunciation window with bucholtz alarm , trip, winding temperature alarm , trip, oil temperature alarm trip , over current trip , earth fault trip , REF trip , required number of suitable range CTs for metering and protection , complete in all respects.				
		Suitable class cast resin draw out type potential transformer , 11kv/110V, 100VA, with control fuses , distribution connectors, control wiring etc. as bus PT as required and as per specifications.				
		All metering and protection devices, interconnections, necessary control wiring, cabling and all other accessories shall be provided as per Technical Specifications, Technical particulars & Single line Diagram.				
b)	NDSR-17	H.T.PANEL-2 (At Substation, Basement)	Nos.	1.00	14,96,662.00	14,96,662.00
		Supply, Installation, Testing and Commissioning of 11 KV, 350 MVA (18.3 KA), 3 sec , 630A, HT, 4 (Four) Panel VCB Switchboard (one Incomer + Three outgoing), cubicle type, made out of 14 SWG sheet steel, totally enclosed, IP 42 free standing , floor mounting , dust and vermin proof ,indoor, compartmentalised, powder coated painting, suitable for operation on 11 KV, 3ph, 50 Hz system with 630 Amps. copper busbars , VCB mounted on horizontally with drawable truck including 24 volts DC (from battery pack for breaker ON /OFF/TRIP indicating lights and Breaker closing & Trip Coils and Relays etc. The panel shall be complete with cable termination arrangement for incoming & outgoing XLPE, 11 KV cable as specified.				
		Incomer				
		11 KV, 350 MVA (18.3 KA), 3 sec ,630A VCB, Electrically operated, draw out type, with PT , 11KV/110V, indication lamps , digital meters with communication port , Digital protection relays with communication port , required number of CTs for metering and protection - 1 no.				



		Suitable class cast resin draw out type potential transformer , 11kV/110V, 100VA, with control fuses , distribution connectors, control wiring etc. as bus PT as required and as per specifications.				
		Outgoings				
		11 KV, 350 MVA (18.3 KA), 3 sec ,630A VCB, Electrically operated, draw out type, indication lamps , digital meters with communication port , numerical protection relays with communication port ,annunciation window with bucholtz alarm , trip, winding temperature alarm , trip, oil temperature alarm trip, over current trip , earth fault trip , REF trip, required number of suitable range CTs for metering and protection - 2 nos.				
		All metering and protection devices, interconnections, necessary control wiring, cabling and all other accessories shall be provided as per Technical Specifications, Technical particulars & Single line Diagram.				
		Note: All spare contacts of breaker or any other equipment inside the breaker shall be wired upto the outgoing terminal strip with appropriate ferrules / coding. The terminal strip rating shall be suitable for connecting two wires of 2.5 sqmm subjected to providing minimum size strip suitable for 4/6 sqmm.				
132.00		POWER TRANSFORMER				
		Supplying, Installation, testing and commissioning of Indoor Duty Power Transformer as per following Note 1: For detail refer Technical Specifications enclosed Note 2: Vendor to Study Site & Confirm Horizontal & Vertical Transportation of Each set to location without Dismantling any component after Factory Testing is Conducted Note 3: Vendor to make all constructional damages good which occurred to any part of the building during transportation.				
a)	NDSR-18	Dry Type Transformer	Set	2.00	21,66,597.00	43,33,194.00
		Supplying, Installation, testing and commissioning of Indoor dry Type cast resin 1250 KVA 11/0.433 KV, 3 Phase, 50Hz, Dyn11 vector group , copper wound, Transformer with metal enclosure , lockable doors switches and OFF LOAD Tap Changer on HV +5 to -15 in steps of 2.50% having cable end box on HV side suitable of 3C x150 sq.mm. XLPE cable of 11 KV grade and 2500 Amps bus duct arrangement on LV side complete with all accessories The insulation class shall be F class and temp rise shall be limited to class F , shall have winding temp indicator with trip alarm switches shall have minimum 2 RTD's per phase winding. The vender shall supply , laying, terminating control cable between transformer and HT panel and as required , The contractor shall be completed all the field tests prior to commissioning and handing over . The transformer shall be compliant as per IEC 60076-11 and all the transformer Losses shall be as per latest ECBC Code.				
133.00	NDSR-19	Unitised Sub Station (11KV/415V)	Set	1.00	38,48,561.00	38,48,561.00
		Supplying, installation, testing and commissioning of 11KV/0.415 KV Compact Sub Station outdoor type foundation mounted type designed for natural cooling having type tested equipment comprising distribution transformers , SF ₆ insulated VCB / SF ₆ compact switchgear (RMU) having metal enclosed robotically sealed /welded stainless steel tank , L. T. Panel, interconnection between HT switchgear & Transformer using single core cables and Transformer to LT switchgear using Al bus bars / Cables factory built / ready for connection type , other associated equipment etc . complete as required conforming to detailed specification.				
		The enclosure shall have modular construction using G .I. sheets and shall be painted with polyurethane paint from the exterior of approved shade . The enclosure for LT switchgear & HT switchgear shall be provided with IP 54 ingress protection . The transformer compartment will have IP 23 ingress protection. Each compartment will be provided with the door and pad locking arrangement . The Compartment illumination lamp with door operated switch shall be provided for each compartment .Transformer compartment door shall be interlocked with HT breaker . The transformer used shall be specially designed for low losses and shall be hermetically sealed & with corrugated tank.				



	The L T ACB shall have inbuilt microprocessor based Over load protection (L), Short Circuit protection (S), Instantaneous Short Circuit protection (I), Earth Fault protection (G), Shunt Trip releases with Ics =Icu=Icw=50 KA for 1 sec, fully rated at 50 deg C ambient temperature with all standard accessories i .e. auxillary switch with 4NO+4NC contacts , cradle, handle, safety shutter in conformity with IS:60947				
	L T Panel BUS : 415 Volts, 3 phase 50 HZ TPN high conductivity electrolytic Aluminium bus bar of suitable length , SMC / DMC supports , with colour coading and insulated by heat shrinkable sleeves and clip on shrouds for joints. The Maximum allowable temperature for the Bus bar to be restricted to 85 deg C. The temperature rise should be restricted to 35 deg C above design ambient temperature of 50 deg C.				
	The varoius combinations of CSS shall be as per details below:-				
	Supply of 3 Way 11kV , 3Phase, 50Hz, 3 wire , earthed neutral, Indoor type floor mounted, non extensible, having hinged arc proof cable doors , breaking capacity 350 MVA, SF6 / VCB Ring Main Unit enclosed In robotically laser welded stainless steel tank having IP 67 degree of protection consisting of following:-				
	(i) 2 Nos. 630 Amps Fault making load breaking spring assisted SF 6 Ring Switches, fitted with fixed type voltage indicator device as per IEC 61958 along with associated sensor and fault passage indicator.				
	(ii) 1 No. 630 Amps tee off spring assisted type vacuum / SF6 circuit breaker unit with self powered series trip microprocessor based numerical over current and Earth fault relay for protection , fitted with fixed type voltage indicator device as per IEC 61958 and ring core type protection Current transformer along with LV compartment with Ammeter with selector switches.				
	(iii) 1 No. 11KV/415 V, 750 KVA three phase , 50 HZ, DYn11, off load tap changer, +5% to -15% in +/- 2.5% steps, Dyn11, DRY Type , hermitically sealed, corrugated wall design low losses transformer with Cu winding and standard fittings, complete in all respects.				
	(iv) Incoming cum Outgoing - 415 Volt L.T. breaker Panel havng 1250 Amp FP ACB, 50 KA Draw Out type , electrically operated complete with microprocessor based O /L, E/F, S/C, Inst. S/C releases with CT /PT, ammeter with ASS, Voltmeter with VSS , PF meter, Hz meter , energy analyser (digital type) consisting of A, V, KW, KWH, KVA, PF, HZ, MDI, phase indicating lamps , On/Off/Trip indication.				
	SUB TOTAL OF SUBSTATION WORKS				1,11,08,185.00
S.	DIESEL GENERATING SETS AND ALLIED WORKS				
134.00	Supplying, installation, testing and commissioning of the following rating DG Sets as per following specification .For detail refer Technical Specifications enclosed. Note 1: Vendor to Study Site & Confirm Horizontal & Vertical Transportation of Each set to location without Dismantling any component after Factory Testing is Conducted Note 2: Vendor to make all constructional damages good which occurred to any part of the building during transportation.				
	Diesel Generators				
	Supplying, installation, testing and commissioning of the following rating diesel generating set @ .8 p.f. (continuous rating), 415 Volts, 3 phase 4 wire, 50 Hz AC alternator coupled on a common base frame with a radiator cooled Diesel Engine complete with all standard accessories , floor mounted , fixed type, vermin proof, dust proof, outdoor duty (can be kept outside , i.e. open to sky) silent enclosure suitable for the specified rating DG Sets for sound proof treatment , so that sound level is with in the the prescribed limits of CPCB latest norms ,, service manual, self starting device , fly wheel, coupling with guard, V belts,				



		Radiator, instrumentation panel, sufficient number of ant vibration isolation pads, grouting bolts, residential silencer, exhaust flexible coupling, 24 volts chargeable batteries set as per mnfr recommendation, battery charger, Neutral CT 's of suitable ratio and class PS accuracy for Alternator REF protection etc., sufficient quantity of first filling of engine oil, gear oil, high speed diesel oil (enough for atleast 8 Hrs. running at full load) etc. The erection and commissioning works involve all the required approvals from local SEB or all other statutory authorities / agencies before completion of work.				
		NOTE				
		DG Sets shall be supplied with PCC (PCC incase of CUMMINS make or EGCP for Cater Pillar or equvi. DGs) coupled to suitable ratings KVA alternator. Alternator shall have inbuilt BTD and winding temp. detector along with space heaters. Necessary differential/REF CTs shall be inbuilt inside alternator box.				
	-	Base frame and DG shall have remote radiator.				
	-	Gerb make or Resistoflex antivibration pads.				
	-	ECP Panel mounted on a separate frame.				
	-	Suitable space heater for alternators.				
	-	Lub oil drain arrangement.				
	-	Suitable amended arrangement for bus duct and arrangement for mounting differential /REF CTs.				
	-	Suitable self priming pump with engine (if inbuilt in this model).				
	-	The erection and commissioning works involve all the required approvals from concerned statutory authorities / agencies before completion of work.				
	-	Suitable self priming pump with engine (if inbuilt in this model).				
	-	DG shall be completely filled with luboil & HSD 990 ltr day tank shall be completely filled.				
a)	NDSR-20	200 KVA	NOS.	1.00	16,09,268.00	16,09,268.00
b)	NDSR-21	500 KVA	NOS.	2.00	44,04,464.00	88,08,928.00
135.00	NDSR-22	Fuel Tank, Piping and Associated Work	Set	3.00	93,363.00	2,80,089.00
		Supply, installation, erection, testing and commissioning of 990 Ltrs. capacity atleast 3 mm thick MS diesel oil storage tank with manhole, glass gauge, inlet and outlet connections with gate valve for D.G. sets, drain plug, sufficient dia MS piping between tank and engine, vent etc. mounted on suitable MS staging to maintain gravity flow of diesel oil from tank to DG Set including 1 coat of red oxide and 2 coats of an approved shade paint.				
136.00	NDSR-23	Fuel Transfer Pump	Set	1.00	64,143.00	64,143.00
		Supply, installation, testing and commissioning of suitable size and ratings Fuel Transfer Pump min. to 40 LPM complete with rotary gear pumps and flameproof 1 HP 1440 RPM, 3 PHASE motor suitable for transferring HSD oil from Storage Tank to the day Oil Tanks in DG room, against a head of 3 kg/cm2 including the cost of base frame, complete in all manners.				
137.00	NDSR-24	Exhaust Piping and Associated Work	Nos.	3.00	9,97,775.00	29,93,325.00
		Supply, installation, erection, testing and commissioning of suitable size "B" class MS pipes, as per IS 1239, for exhaust piping complete with all necessary required accessories as per pollution board rules. The piping shall be suitably covered from all the sides through out the length from glass wool insulation and with 26 SWG aluminium cladding. Insulation will be done in such a way that temperature surrounding it shall not exceed 7 deg. beyond ambient. The above specifications shall be based on calculation subject to minimum ratings given. The work involves the supply and fixing of all the required material for support structure required for above said piping complete in all manners. The erection and commissioning works involve all the required approvals from local SEB or all other statutory authorities /agencies before completion of work.				
		SUB TOTAL OF DIESEL GENERATING SETS AND ALLIED WORKS				1,37,55,753.00
T.		SUB STATION SAFETY EQUIPMENT :				
138.00	NDSR-25	Supply and fixing glass framed standard shock treatment chart in two different languages in A1 size.		1.00	1,028.00	1,028.00



139.00	NDSR-26	Supply and fixing of flame retardant electrical insulation mat of 3.0 mm thick to withstand upto 33 kV conforming to IS 15652:2006 with upto date amendments and having minimum width 1000mm (± 20mm). The sufficient of adhesive / compound shall be supplied to fix the insulation mat on the front/rear side of electrical installation . Mat shall be ISI marked . Its leakage current at 11 KV shall not be more than 10 mA. The mat shall be welded by hot gas welding with filler material method by making V groove cut at joints with suitable welding cord of insulating material of matching colour to provide a seamless jointed surface as per IS :8002.	mtr	30.00	6,510.00	1,95,300.00
140.00	NDSR-27	Supply and fixing of flame retardant electrical insulation mat of 2.0 mm thick to withstand upto 3.3 kV conforming to IS 15652:2006 with upto date amendments and having minimum width 1000mm (± 20mm). The sufficient of adhesive / compound shall be supplied to fix the insulation mat on the front/rear side of electrical installation . Mat shall be ISI marked . Its leakage current at 11 KV shall not be more than 10 mA. The mat shall be welded by hot gas welding with filler material method by making V groove cut at joints with suitable welding cord of insulating material of matching colour to provide a seamless jointed surface as per IS :8002.	mtr	100.00	5,105.00	5,10,500.00
141.00	NDSR-28	Supply and fixing G.I. Fire Buckets 9.5 litre capacity painted in post office red colour and written with white paint 'FIRE', filled with Dry Sand and suitable hanging arrangement on wall hook made out of 13 mm dia MS rod & conforming IS 2546 - 1974.	Each	4.00	1,850.00	7,400.00
142.00	NDSR-29	Supply of First Aid Box containing material as prescribed by St . John Ambulance brigade OR Indian Red Cross conforming to IS 2217-1963.	Each	1.00	1,576.00	1,576.00
143.00	NDSR-30	Supplying of Rubber gloves of 11 kv grade as per IS:4770-68.	Pair	1.00	1,302.00	1,302.00
		SUB TOTAL OF SUB STATION SAFETY EQUIPMEN				7,17,106.00
U.	NDSR-31	LAISONING WORKS	JOB	1.00	3,50,000.00	3,50,000.00
144.00		Preparation of drawings of H.T. switchyard, site plan or any other drawings etc. getting the drawings / documents approved from the relevant authorities prior to starting any electrical Installation work, once the entire installation is completed getting the same inspected and approved by the Govt. Electrical Inspector (and if any necessarily approval by State Electricity Board is also be required, the same is also be included in the work) making all rectifications immediately at own expense, if any, in the installation, as may be desired by the relevant authority, getting the same approved by the Govt. Electrical Inspector and getting the installation completed certificate and electrically charged the same there after.				
		Any additional work that may be required due to the suggestion of the Govt. Electrical Inspectorate of respective S.E.B. shall be carried out and will be paid for as per the rates given in the tender or in their absence at rates to be settled as per the provisions of the tender in case of any change of bye laws. The work involves all the liaisoning work etc. as require to furnish the job and the rates should also not be included any statutory fees only to be paid to Govt. Electrical Inspectorate / S.E.B. the same will be first paid by the Electrical contractor and then reimbursed by the owners on the basis of actuals. Hence the above rates includes the entire work from load application to load energization.				
		SUB TOTAL OF LAISONING WORKS				3,50,000.00
V.		LT CABLES, TERMINATIONS AND ALLIED WORKS				
145.00		Supply of M.V. Cables;				
		Supply of the following sizes aluminium solid /stranded conductor , XLPE Insulated, extruded PVC Inner sheathed , armoured, FRLS outer sheathed 1100 Volts grade cables complete In all respects as per I -7098 (part-1) or as specified.				
a	NDSR-32	3 ^{1/2} C x 400 mm ²	Meter	1300.00	1,651.00	21,46,300.00
b	NDSR-33	3 ^{1/2} C x 300 mm ²	Meter	3800.00	1,297.00	49,28,600.00
c	NDSR-34	3 ^{1/2} C x 240 mm ²	Meter	1150.00	1,058.00	12,16,700.00
d	NDSR-35	3 ^{1/2} C x 185mm ²	Meter	250.00	841.00	2,10,250.00
e	NDSR-36	3 ^{1/2} C x 150mm ²	Meter	150.00	674.00	1,01,100.00



f	NDSR-37	3 ^{1/2} C x 120mm ²	Meter	200.00	569.00	1,13,800.00
g	NDSR-38	3 ^{1/2} C x 95mm ²	Meter	125.00	455.00	56,875.00
h	NDSR-39	3 ^{1/2} C x 70mm ²	Meter	100.00	377.00	37,700.00
i	NDSR-40	3 ^{1/2} C x 50mm ²	Meter	500.00	290.00	1,45,000.00
j	NDSR-41	3 ^{1/2} C x 35mm ²	Meter	600.00	224.00	1,34,400.00
k	NDSR-42	4C x 25mm ²	Meter	3500.00	188.00	6,58,000.00
l	NDSR-43	4C x 16mm ²	Meter	4000.00	149.00	5,96,000.00
m	NDSR-44	4C x 10mm ²	Meter	500.00	130.00	65,000.00
n	NDSR-45	3C x 6mm ² cu cable	Meter	100.00	221.00	22,100.00
o	NDSR-46	3C x 10 mm ² cu cable	Meter	800.00	343.00	2,74,400.00
p	NDSR-47	3C x 16mm ²	Meter	50.00	124.00	6,200.00
q	NDSR-48	3C x 120mm ²	Meter	100.00	491.00	49,100.00
SUB TOTAL OF LT CABLES, TERMINATIONS AND ALLIED WORKS						1,07,61,525.00
W.	LT DISTRIBUTION BOARDS					
146.00	Supply, installation, testing and commissioning of Main LT panel / Main distribution panels / sub-distribution panels fabricated out of 3mm thick for structural members and 2mm thick for door and covers CRCA sheet steel in cubicle compartmentalised free standing floor mounted , dust and vermin proof, fully bolted type (modular design) for indoor and welded type for outdoor, with reinforcement of suitable size angle iron , channel T irons and/or flats wherever necessary. Panels shall be treated with all anticorrosive process before painting with 14 stage pretreatment process and final approved shade of enamelled paint . 2Nos. earthing terminals shall be provided for all distribution panels . All covers and doors to be provided with foam sealing PU gasket with no cut and joints . Panels shall be suitable for 415V, 3 phase, 4 wire, 50 HZ supply system and with 20% spare space, lifting hooks shall also be provided in case of large panels . All panels shall comply to IEC 61439 and Shall be FORM 4A, Type-3 .					
	Approval shall be taken for each panel before fabrication . Galvanised hardwares with zinc passivation shall be used in fabrication of panels . The panels to confirm IP-42 for indoor & IP-54 for outdoor. Calculation of Bus -bar to be submitted with the drawings of panels for approval . All CPRI test report to be submitted . All internal wiring in the panels shall be carried out using high temperature FRLS wires.					
	All Switchboards shall be provided with detachable gland plates for ease entry of cables from the top/bottom as required and specified.					
	All live accessible parts shall be shrouded and all equipment shall be finger touch proof. The busbars shall be insulated with heat shrinkable sleeves/as per manufacturer's type tested proven design. SMC/DMC shrouds and busbar supports suitably spaced shall be used. Hinged doors with padlocking facility shall be provided on all outgoing feeders with switch handles lockable in OFF position.					
	All panels shall have hot Spares @ 25% and shall have provision of space @ 20% for future expansion etc.					
	All panels shall have aluminium busbars of 100% current ratings.					
	Earthing all components , frame etc . to a common internal earth bar of minimum size 50 x 6 mm aluminium bar of suitable size					
	All accessories & supporting structures such as channels, ISMC base frame, mounting brackets, lifting lugs, panel heaters, ventilation arrangement etc as required.					
	Each incomer and outgoing feeder shall be provided with multiple LED status indication lamps suitable for 230 V, AC..					
	The makes of components and accessories shall, to the extent practically feasible, be same for panels and boards for uniformity, standardisation and replaceability and shall be applicable to all panels/ boards under the scope of work					
	Switchboard including interconnections, labelling, earthing, associated foundation/masonry work & erection etc. complete as required.					



		All MCCBs shall be current limiting type microprocessor based , rated for requisite specified Service short circuit breaking capacity (Ics) suitable for isolation conforming to latest IEC 947- 2/IS13947-2 duly marked on MCCB , at operating voltage (Ue) of 415 V, insulation voltage (Ui) 750 V and with trip free mechanism , handle, indicating On /Off/Trip position . The breaking capacity as mentioned shall be Ics values.				
		All 4P MCCB has inbuilt feature of earth fault protection , whereas all TP MCCB's shall have external CT for neutral overload protection and earth fault protection				
		All incoming and outgoing MCCBs shall have minimum ON/OFF/Trip indication (Red, Green, Amber) with suitable rating MCB, similarly all incoming and outgoings of main LT panel and Main emergency panel, ESR / Pump Room panels shall have potential free contacts for connectivity to PLC for ON/OFF/TRIP status and control, as required, from BMS workstation through BUSNET/MODBUS protocol				
		Panel/board design shall be compact and components / accessories of compact sizes be used to economies the room space available. Employer reserve the right to seek compact items inplace of larger ones				
		All incomer ACB 's shall be provided with NO +NC auxiliary contacts as per specifications and all MCCBs shall be provided with 2 NO + 2 NC auxiliary contacts and there should be provision to add min. 6 Auxiliary contacts.				
		All 4-pole ACBs shall have fully rated neutral pole				
		The panels shall have a provision to fit an independent clean agent/gas flooding system using linear heat sensing tubes, for the fire suppression of the panel, cost of the same shall be paid under a seprate head, however the scheme and calculation of the same shall be approved by the Engineer before proceeding with manufacturing and assembly. Also note that the design doesn't affect on IP rating of the panel.				
i.	NDSR-49	MAIN L.T. PANEL (TYPE-1)	SET	1.00	86,60,687.00	86,60,687.00
		Incoming				
		2 Nos. 2000 Amps. 4P feeder each having one number electrically operated drawout type, 3 phase, 415 Volts, 50 Hz, 50 KA draw out type, 4P, 2000 Amps. air circuit breaker with microprocessor under voltage , overload/short circuit and earth fault releases , on/off/trip indication light (LED type) and require auxiliary contacts etc. complete in all respects.(FOR TRANSFORMERS ONLY)				
		2 Nos. 800 Amps. 4P feeder each having one number electrically operated drawout type, 3 phase, 415 Volts, 50 Hz, 50 KA draw out type, 4P, 800 Amps. air circuit breaker with microprocessor under voltage , overload/short circuit and earth fault releases , on/off/trip Indication light (LED type) and require auxiliary contacts etc. complete in all respects.(FOR DG ONLY)				
		Bus Coupler				
		1 No. 2000 Amps, 3 phase, 415 volts 50 Hz, 50 KA, electrically operated drawout type 4P air circuit breaker.				
		Bus bar				
		1 set of 2500 Amps, 415 volts, 3 phase, 4 wire colour coded FP aluminium bus bar, after taking all derating factors.				
		Outgoings				
		4 Nos. 1000 Amps. 4P feeder each having one number electrically operated drawout type, 3 phase, 415 Volts, 50 Hz, 50 KA draw out type, 4P, 1000 Amps. air circuit breaker with require auxiliary contacts etc. complete in all respects.				
		3 Nos. 800 Amps. 4P feeder each having one number electrically operated drawout type, 3 phase, 415 Volts, 50 Hz, 50 KA draw out type, 4P, 800 Amps. air circuit breaker with equire auxiliary contacts etc. complete in all respects.				
		6 Nos. 630 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, front operated 630 Amps. TP+NL MCCB with require auxiliary contacts etc. complete in all respects.				
		2 Nos. 200 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, front operated 200 Amps. TP+NL MCCB with require auxiliary contacts etc. complete in all respects.				
		COMPONENTS FOR AMF OPERATION OF DG SET				
		(NOTE: 1 SET FOR EACH DG SET)				



	Each AMF section shall have the one set of following items:			
	Relays, control contactors, Aux.Relays, Timers:			
	1 No. Microprocessor based AMF logic relay having UV and OV , Phase reversal, engine start relay ,engine cranking relay , Auto/Mannual/ test / service etc.			
	1 Set of All other auxiliary relays , auxiliary / control contactors (24V DC and 230V AC), timers, Three impulse unit , Master trip relay, etc of suitable rating and quantity as required to achieve AMF function as described in technical specifications.			
	1 Set LED Indication lamps , Push buttons, window annunciation fascia etc of required quantity as per technical specifications.			
	Metering:			
	1 set of Digital AC Ammeter of suitable range with built -in selector switch , Cast Resin CTs & control MCBs			
	1 set of Digital AC Voltmeter of suitable range with built -in selector switch & control MCBs			
	1 no.Digital Frequency meter			
	1 No.Digital Power factor meter			
	1 No. Digital DC Voltmeter			
	1 No. Digital DC Ammeter			
	Others			
	1 set of required quantity of suitable range and accuracy class of Cast Resin CTs for Metering & Protection			
	1 set of required quantity and rating of HRC fuse for control & protection circuits - 01 Set			
	1 set of 24V DC battery charger comprising of transformer , rectifier unit & charge rate selector switch etc., - 01 Set.			
	1 No. Hooter			
	1 Lot of Control wiring from DG set to AMF Panel			
	All other accessories & components required for proper operation of AMF logic and inter locking etc.			
	375 KVAR CAPACITOR - 02 SET			
	(NOTE: 01 SET FOR EACH TRANSFORMER SET)			
	BUSBARS (With Each Set)			
	1 set of 800 Amps., 415 volts, 3 phase, 4 wire colour coded FP aluminium bus bar, after taking all derating factors.			
	INSTRUMENTS (With Each Set)			
	1 Set of Microprocessor based intelligent, 8 step APFC relay with PF display			
	1 Set of LED type ON OFF Push button,			
	1 Set of Auto/manual selector switch.			
	OUTGOING (In Each Set)			
	7 Nos. 125 A TP Moulded Case Circuit Breaker with thermal release and neutral link (Ics =100%Icu= 25 KA).			
	1 Nos. 100 A TP Moulded Case Circuit Breaker with thermal release and neutral link (Ics =100%Icu= 25 KA).			
	7 Nos. 110 A TP capacitor duty contactor suitable for 50 kVAr capacitor with illuminated ON OFF push buttons (LED type).			
	1 Nos. 70 A TP capacitor duty contactor suitable for 25 kVAr capacitor with illuminated ON OFF push buttons (LED type).			
	7 Nos. 50 kVAr - Metallised Poly Propylene (H) type capacitor-440V			
	1 Nos. 25 kVAr - Metallised Poly Propylene (H) type capacitor-440V			
	Instruments			
	4 Nos. 0-500 Volts, 96 sq.mm voltmeter with protection fuses and selector			
	2 Nos. 0-2000 Amps, 96 sq.mm ammeter with 2000/5A CT 's and selector switch.			
	2 Nos. 0-800 Amps, 96 sq.mm ammeter with 800/5A CT's and selector switch.			
	4 Nos. multifunctional meter suitable to connect with BMS system.			
	4 Sets R Y B phase indicating lamps with protection fuses.			
	1 Lot of control wiring.			
	1 Set of designation plates.			
	Interlocking logic electrical & mechanical			
	1 set of castle keys providing mechanical interlocking between incomers and bus couplers.			
	Other Items such as:-			



		illumination light interlocked with doors.				
		Notes:All MCCB shall have operating rotating handle.				
		Main emergency panel cum AMF panel as described above.				
ii.	NDSR-50	MAIN L.T. PANEL (EWS)	SET	1.00	33,56,800.00	33,56,800.00
		Incoming				
		1 Nos. 1250 Amps. 4P feeder each having one number electrically operated drawout type, 3 phase, 415 Volts, 50 Hz, 50 KA draw out type, 4P, 1250 Amps. air circuit breaker with microprocessor under voltage , overload/short circuit and earth fault releases , on/off/trip indication light (LED type) and require auxiliary contacts etc. complete in all respects.(FOR TRANSFORMERS ONLY)				
		1 Nos. 400 Amps. 4P feeder each having one number 3 phase, 415 Volts, 50 Hz, 50 KA 4P, 400 Amps. motorised MCCB with microprocessor under voltage , overload/short circuit and earth fault releases , on/off/trip indication light (LED type) and require auxiliary contacts etc . complete in all respects .(FOR DG ONLY)				
		Bus bar				
		1 set of 1600 Amps, 415 volts, 3 phase, 4 wire colour coded FP aluminium bus bar, after taking all derating factors.				
		Outgoings				
		3 Nos. 800 Amps. 4P feeder each having one number electrically operated drawout type, 3 phase, 415 Volts, 50 Hz, 50 KA draw out type, 4P, 800 Amps. air circuit breaker with require auxiliary contacts etc. complete in all respects.				
		2 Nos. 400 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 50 KA, front operated 400 Amps. TP+NL MCCB with require auxiliary contacts etc. complete in all respects.				
		2 Nos. 200 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 50 KA, front operated 200 Amps. TP+NL MCCB with require auxiliary contacts etc. complete in all respects.				
		COMPONENTS FOR AMF OPERATION OF DG SET				
		[NOTE: 1 SET FOR EACH DG SET]				
		Each AMF section shall have the one set of following items:				
		Relays, control contactors, Aux.Relays, Timers:				
		1 No. Microprocessor based AMF logic relay having UV and OV , Phase reversal, engine start relay ,engine cranking relay , Auto/Mannual/ test / service etc.				
		1 Set of All other auxiliary relays , auxiliary / control contactors (24V DC and 230V AC), timers, Three impulse unit , Master trip relay, etc of suitable rating and quantity as required to achieve AMF function as described in technical specifications.				
		1 Set LED indication lamps , Push buttons, window annunciation fascia etc of required quantity as per technical specifications.				
		Metering:				
		1 set of Digital AC Ammeter of suitable range with built -in selector switch , Cast Resin CTs & control MCBs				
		1 set of Digital AC Voltmeter of suitable range with built -in selector switch & control MCBs				
		1 no.Digital Frequency meter				
		1 No.Digital Power factor meter				
		1 No. Digital DC Voltmeter				
		1 No. Digital DC Ammeter				
		Others				
		1 set of required quantity of suitable range and accuracy class of Cast Resin CTs for Metering & Protection				
		1 set of required quantity and rating of HRC fuse for control & protection circuits - 01 Set				
		1 set of 24V DC battery charger comprising of transformer , rectifier unit & charge rate selector switch etc., - 01 Set.				
		1 No. Hooter				
		1 Lot of Control wiring from DG set to AMF Panel				
		All other accessories & components required for proper operation of AMF logic and inter locking etc.				



		275 KVAR CAPACITOR - 01 SET				
		(NOTE: 1SET FOR EACH TRANSFORMER)				
		BUSBARS (With Each Set)				
		1 set of 600 Amps, 415 volts, 3 phase, 4 wire colour coded aluminium bus bar				
		INSTRUMENTS (With Each Set)				
		1 Set of Microprocessor based intelligent, 8step APFC relay with PF display				
		1 Set of LED type ON OFF Push button,				
		1 Set of Auto/manual selector switch.				
		OUTGOING (In Each Set)				
		5 Nos. 125 A TP Moulded Case Circuit Breaker with thermal release and neutral link (Ics =100%Icu= 25 KA).				
		1 Nos. 100 A TP Moulded Case Circuit Breaker with thermal release and neutral link (Ics =100%Icu= 25 KA).				
		5 Nos. 110 A TP capacitor duty contactor suitable for 50 kVAr capacitor with illuminated ON OFF push buttons (LED type).				
		1 Nos. 70 A TP capacitor duty contactor suitable for 25 kVAr capacitor with illuminated ON OFF push buttons (LED type).				
		5 Nos. 50 kVAr - Metallised Poly Propylene (H) type capacitor-440V				
		1 Nos. 25 kVAr - Metallised Poly Propylene (H) type capacitor-440V				
		Instruments				
		3 Nos. 0-500 Volts, 96 sq.mm voltmeter with protection fuses and selector				
		1 Nos. 0-1250 Amps, 96 sq.mm ammeter with 1250/5A CT 's and selector switch.				
		1 Nos. 0-800 Amps, 96 sq.mm ammeter with 800/5A CT's and selector switch.				
		1 Nos. 0-400 Amps, 96 sq.mm ammeter with 400/5A CT's and selector switch.				
		3 Nos. multifunctional meter				
		3 Sets R Y B phase indicating lamps with protection fuses.				
		1 Lot of control wiring.				
		1 Set of designation plates.				
		Interlocking logic electrical & mechanical				
		1 set of castle keys providing mechanical interlocking between incomers and bus couplers.				
		Other items such as:-				
		illumination light interlocked with doors.				
iii.	NDSR-51	PDB - Common Services	SET	2.00	5,03,164.00	10,06,328.00
		Incoming				
		1 Nos. 1000 Amps. 4P feeder each having one number electrically operated drawout type, 3 phase, 415 Volts, 50 Hz, 50 KA draw out type, 4P, 1000 Amps. air circuit breaker with on /off/trip indication light (LED type) and require auxiliary contacts etc. complete in all respects.				
		Bus bar				
		1 set of 1200 Amps, 415 volts, 3 phase, 4 wire colour coded FP aluminium bus bar, after taking all derating factors.				
		Outgoings				
		2 Nos. 630 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 35 KA front operated 630 Amps.TP+NL MCCB complete with all other require accessories.				
		3 Nos. 400 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA front operated 400 Amps.TP+NL MCCB complete with all other require accessories.				
		2 Nos. 200 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA front operated 200 Amps.TP+NL MCCB complete with all other require accessories.				
		23 Nos. 100 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA front operated 100 Amps.TP+NL MCCB complete with all other require accessories.				
		Instruments				
		1 No 0-500 Volts, 96 sq.mm voltmeter with protection fuses and selector				
		1 No 0-1000 Amps, 96 sq.mm ammeter with 1000/5A CT's and selector switch.				



		1 Nos. multifunctional meter				
		1 Set R Y B phase indicating lamps with fuses.				
		1 Lot of control wiring.				
		1 Set of designation plates.				
iv.	NDSR-52	PDB - Common Services (EWS), PDB-Club	SET	3.00	1,89,577.00	5,68,731.00
		Incoming				
		1 Nos. 200 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA front operated 200 Amps.TP+NL MCCB with require auxiliary contacts etc. complete in all respects.				
		Bus bar				
		1 set of 250 Amps, 415 volts, 3 phase, 4 wire colour coded FP aluminium bus bar, after taking all derating factors.				
		Outgoings				
		8 Nos. 100 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA front operated 100 Amps.TP+NL MCCB complete with all other require accessories.				
		Instruments				
		1 No 0-500 Volts, 96 sq.mm voltmeter with protection fuses and selector				
		1 No 0-200 Amps, 96 sq.mm ammeter with 200/5A CT's and selector switch.				
		1 Nos. multifunctional meter				
		1 Set R Y B phase indicating lamps with fuses.				
		1 Lot of control wiring.				
		1 Set of designation plates.				
v.	NDSR-53	PDB-LIFT:	Set	13.00	2,53,720.00	32,98,360.00
		Incoming:				
		1 nos. 100 Amps. 4P, 415V, 50Hz , 3 Phase Ac Supply Automatic Transfer Switch (ATS), with intelligent Auto Transfer Switch complete with Electrical Protection (Uv, Ov, Uf, Of & Single Phase Missing) Inbuilt Source Healthy And Load Status Indication For Source I And Source li . 2. Manual Mode Operation During Electrically Failure 3. Ac 32-B Utilization Category (Applicable For All Type Of Loads) 4. High Short Circuit Withstand Capacity Design 5. Inbuilt Auto/Manual Selection Option 6. Fire Linkage Protection.				
		1 Nos. 100 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA front operated 100 Amps.TP+NL MCCB with require auxiliary contacts etc. complete in all respects.				
		Bus Bar				
		1 set of 160 Amps, 415 volts, 3 phase, 4 wire colour coded FP aluminium bus bar, after taking all derating factors.				
		Outgoing				
		1 No. 63 Amps FP feeder each having one number 3 phase 415 Volts, 50 Hz, 100mA, FP front operated 63 Amps. 4P RCBO.				
		1 Nos. 32 Amps. 10 KA FP MCB.				
		4 Nos. 6-32 Amps. 10 KA SP MCB.				
		FEEDER PILLAR				
		Supply, storing, inspection, handling, assembling, installing in correct aligned position, effecting proper connections , testing and commissioning of the following sizes of outdoor (IP-55 enclosure) type feeder pillars / DB's with water proof dust vermin proof hinged & lockable double doors complete with interconnections with aluminium wires , tapes, cable glands bounding to earth and painting complete as required . The rate shall include brick work foundation of 450 mm height with plastering and MS angle stand etc ., complete as required. The feeder pillar shall be suitable for cable entry from bottom only.				
vi.	NDSR-54	Feeder Pillar-Extn and Façade Ltg.	Set	3.00	98,352.00	2,95,056.00
		Incoming :				
		1 Nos. 100 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA, front operated 100 Amps. MCCB on/off/trip indication light (LED type) and require auxiliary contacts etc. complete in all respects				
		0-24 Hrs astronomical timer with suitable rating contactor for auto ON /Off Extn Lighting.				



		Bus bars:				
		1 set of 160 Amps, 415 volts, 3 phase, 4 wire colour coded FP aluminium bus bar, after taking all derating factors.				
		Outgoing				
		6 Nos. 32 Amps FP feeder each having one number 3 phase 415 Volts, 50 Hz, 10 KA front operated 32 Amps.FP MCB complete with all other require accessories.				
vii	NDSR-55	Common Area Lighting (18 modules 4 row vertical type) DB:	Nos.	3.00	1,35,412.00	4,06,236.00
		Incoming				
		1 Nos.63 Amps FP feeder each having one number 3 phase 415 Volts, 50 Hz, 10 KA front operated 63 Amps.FP MCB.				
		0-24 Hrs astronomical timer with suitable rating contactor for auto ON /Off Extn Lighting.				
		Outgoing				
		54 Nos.6A~20 A SP MCB spreaded in three rows				
		Bus bars				
		1 set of 415 V 3 phase 4 wire, 50 HZ Colour coded copper bus bars.				
		Neutral Link				
		Suitable for all outgoing.				
		Earthing Terminals.				
		Earthing terminals suitable for all outgoing.				
viii	NDSR-56	Common Area Lighting+ Power DB:	Nos.	2.00	1,09,755.00	2,19,510.00
		Incoming				
		1 Nos.63 Amps FP feeder each having one number 3 phase 415 Volts, 50 Hz, 10 KA front operated 63 Amps.FP MCB.				
		0-24 Hrs astronomical timer with suitable rating contactor for auto ON /Off Extn Lighting.				
		Outgoing				
		36 Nos.6A~20 A SP MCB spreaded in three rows				
		Bus bars				
		1 set of 415 V 3 phase 4 wire, 50 HZ Colour coded copper bus bars.				
		Neutral Link				
		Suitable for all outgoing.				
		Earthing Terminals.				
		Earthing terminals suitable for all outgoing.				
x	NDSR-57	Starter Panel suitable for 9.3 KW ventilation/pressurisation fans	SET	13.00	21,151.00	2,74,963.00
		63 A TPN MCB with suitable rating Star Delta starter , overload relay, start / stop push buttons , phase indication lights with protection fuse , on / off / trip indication lights with protection fuse , single phase preventer & auto / manual mode selector switch.				
xi	NDSR-58	Starter Panel suitable for 7.5 KW ventilation/pressurisation fans	SET	1.00	17,997.00	17,997.00
		40 A TPN MCB with suitable rating Star Delta starter , overload relay, start / stop push buttons , phase indication lights with protection fuse , on / off / trip indication lights with protection fuse , single phase preventer & auto / manual mode selector switch.				
xii	NDSR-59	Starter Panel suitable for 5.6 KW ventilation/pressurisation fans	SET	15.00	13,724.00	2,05,860.00
		32 A TPN MCB with suitable rating Star Delta starter , overload relay, start / stop push buttons , phase indication lights with protection fuse , on / off / trip indication lights with protection fuse , single phase preventer & auto / manual mode selector switch.				
xii	NDSR-60	Starter Panel suitable for 2.2 KW ventilation/pressurisation fans	SET	6.00	13,385.00	80,310.00
		20 A TPN MCB with 16 A DOL starter , overload relay, start / stop push buttons, phase indication lights with protection fuse , on / off / trip indication lights with protection fuse , single phase preventer & auto / manual mode selector switch. Set - 01				
		NOTE: The contractor shall provide suitable contacts wherever necessary along with auto / manual mode selector switch for Ventilation & Pressurization fan etc. to take fire input signal (Potential Free Contact)				
xiii	NDSR-61	PDB-Fire Pump	Sets	1.00	8,53,810.00	8,53,810.00
		Incoming				



		1 nos. 630 Amps. 415V, 50Hz , 3 Phase Ac Supply Automatic Transfer Switch (ATS), with intelligent Auto Transfer Switch complete with Electrical Protection (Uv, Ov, Uf, Of & Single Phase Missing) Inbuilt Source Healthy And Load Status Indication For Source I And Source li . 2. Manual Mode Operation During Electrically Failure 3. Ac 32-B Utilization Category (Applicable For All Type Of Loads) 4. High Short Circuit Withstand Capacity Design 5. Inbuilt Auto/Manual Selection Option 6. Fire Linkage Protection.				
		1 Nos. 630 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 35 KA front operated 630 Amps.TP+NL MCCB with require auxiliary contacts etc. complete in all respects.				
		Bus bar				
		1 set of 800 Amps, 415 volts, 3 phase, 4 wire colour coded aluminium FP bus bar, after taking all derating factors.				
		Outgoings				
		3 Nos. 250 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA front operated 250 Amps.TP+NL MCCB with suitable rating STAR DELTA starter with phase reversal preventor complete with all other require accessories and LED based indicators . (for 175 HP Hydrant and Sprinkler Pumps)				
		2 Nos. 100 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25KA front operated 100 Amps.TP+NL MCCB with suitable rating STAR DELTA starter with phase reversal preventor complete with all other require accessories and LED based indicators.(for 30 KW Water Curtaln Pump)				
		2 Nos. 63 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 10 KA front operated 63 Amps.TP MCB with suitable rating DOL starter with phase reversal preventor complete with all other require accessories and LED based indicators. (for 11KW Jockey Pumps)				
		Instruments				
		1 No 0-500 Volts, 96 sq.mm voltmeter with protection fuses and selector switch.				
		1 No 0-630 Amps, 96 sq.mm ammeter with 630/5A CT's and selector switch.				
		1 Set R Y B phase indicating lamps with fuses.				
		1 Lot of control wiring.				
		1 Set of designation plates.				
		Note:- Sufficent nos. contacts to be provided for Incorporation of BMS system at later date, however control wiring etc. shall be done by BMS provider.				
		All pumps shall be works automatically or manually.				
		All pumps operation shall be controled by pressure switches.				
		The logic of control panel based on specification attached.				
		All pumps shall be works automatically or manually.				
xiv.	NDSR-62	PDB-Pressurization	SET	2.00	5,45,925.00	10,91,850.00
		Incoming				
		1 Nos. 200 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA front operated 200 Amps.TP+NL motorised MCCB with require auxiliary contacts etc. complete in all respects.				
		Bus bar				
		1 set of 250 Amps, 415 volts, 3 phase, 4 wire colour coded aluminium FP bus bar, after taking all derating factors.				
		Outgoings				
		3 Nos. 63 Amps FP feeder each having one number 3 phase 415 Volts, 50 Hz, 10 KA front operated 63 Amps.FP MCB.				
		11 Nos. 32 Amps FP feeder each having one number 3 phase 415 Volts, 50 Hz, 10 KA front operated 32 Amps.FP MCB.				
		4 Nos. 20 Amps FP feeder each having one number 3 phase 415 Volts, 50 Hz, 10 KA front operated 20 Amps.FP MCB.				
		Instruments				
		1 No 0-500 Volts, 96 sq.mm voltmeter with protection fuses and selector switch.				
		1 No 0-200 Amps, 96 sq.mm ammeter with 200/5A CT's and selector switch.				
		1 Set R Y B phase indicating lamps with fuses.				



		1 Lot of control wiring.				
		1 Set of designation plates.				
		ON/OFF-Trip / A/M potential free contacts for BMS				
		Note:- All outgoing starters shall have ON/OFF & centrally interlocking system with Fire Alarm Panel which include Aux. Contactor, Selector switch & push button etc. so control wiring shall be taken at one place upto terminal block.				
xv.	NDSR-63	PDB-Ventilation (Basement)	SET	2.00	6,10,068.00	12,20,136.00
		Incoming				
		2 Nos. 400 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA front operated 250 Amps.TP+NL motorised MCCB , complete in all respects.				
		Bus bar				
		1 set of 600 Amps, 415 volts, 3 phase, 4 wire colour coded aluminium FP bus bar, after taking all derating factors.				
		Bus Coupler				
		1 No. 400 Amps, 3 phase, 415 volts 50 Hz, 25 KA, TP+NL MCCB complete in all respects.				
		Outgoings				
		19 Nos. 40 Amps FP feeder each having one number 3 phase 415 Volts, 50 Hz, 10 KA front operated 40 Amps.FP MCB.				
		23 Nos. 63 Amps FP feeder each having one number 3 phase 415 Volts, 50 Hz, 10 KA front operated 63 Amps.FP MCB.				
		Instruments				
		2 No 0-500 Volts, 96 sq.mm voltmeter with protection fuses and selector switch.				
		2 No 0-400 Amps, 96 sq.mm ammeter with 400/5A CT's and selector switch.				
		1 Set R Y B phase indicating lamps with fuses.				
		1 Lot of control wiring.				
		1 Set of designation plates.				
		Interlocking logic electrical & mechanical between all incomers and bus couplers.				
		ON/OFF-Trip / A/M potential free contacts for BMS				
		Note:- All outgoing starter shall have ON/OFF & centrally interlocking system with Fire Alarm Panel which include Aux. Contactor, Selector switch & push button etc. so control wiring shall be taken at one place upto terminal block.				
		METER BOARDS				
		Supplying, installation, testing and commissioning of cubical type meter board fabricated out of 2mm thick MS sheet , dust and vermin proof , with hinged detachable doors and painted front , connecting through suitable size bus bar links with an existing mounted Tap off Box mounted directly on the rising Main , suitable size Cu . cable complete with terminal links etc . to be provided to connect incoming size of an energy meter , (installed at later date) as an incomers The work include making connections , fixing at designated location, testing and commissioning including earthing complete as required.				
		The meter boards shall be suitable for 415 V, 3 phase, 4 wire, 50 Hz supply system. Lifting hooks shall be provided in case of large boards . Boards shall be fabricated in easily transportable sections & length, height, depth etc to match with site conditions . An approval shall be taken for each panel before manufacturing. Galvanised hardwares with zinc passivation shall be used in fabrication of boards.The meter board shall be totally factory assembled with MCB, MCCB, wiring etc. and an approval shall be taken for each panel before manufacturing.				
xvi.	NDSR-64	METER BOARD (Type-IV and VI)	Set	94.00	65,568.00	61,63,392.00
		Incomer				
		1 No. 100 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA front operated 100 Amps.TP MCCB with isolable neutral , complete in all respects.				
		Bus Bars				
		150 A FP aluminium Bus Bars with heat shrinkable coloured insulated PVC sleeves. (Current density of Bus bar shall be 1.2 sq.mm./amp)				
		Outgoings				



		1 No. Sufficient size independent Compartment with lockable facilities suitable for 1 Nos. Three phase Dual Source Prepaid Energy Meter with all necessary wiring including MS sheet support for meter fixing having sufficient size windows for meter reading covered from glass , including supply & fixing of 63 A, 10 KA 4P MCB's required wiring from bus bars to meter & meter to MCB's., including earthing , Terminal block for looping DC supply to each meter within meter board . (Cost of meter shall be paid separately in a different item)				
xvii.	NDSR-65	METER BOARD (Type-Vii and Viii)	Set	7.00	58,441.00	4,09,087.00
		Incomer				
		1 No. 125 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA front operated 125 Amps.TP MCCB with isolable neutral , complete in all respects.				
		Bus Bars				
		200 A FP aluminium Bus Bars with heat shrinkable coloured insulated PVC sleeves. (Current density of Bus bar shall be 1.2 sq.mm./amp)				
		Outgoings				
		1 No. Sufficient size independent Compartment with lockable facilities suitable for 1 Nos. Three phase Dual Source Prepaid Energy Meter with all necessary wiring including MS sheet support for meter fixing having sufficient size windows for meter reading covered from glass , including supply & fixing of 125 A, 25 KA 4P MCCB's required wiring from bus bars to meter & meter to MCB's., including earthing , Terminal block for looping DC supply to each meter within meter board . (Cost of meter shall be paid separately in a different item)				
xviii.	NDSR-66	METER BOARD (Club and Common Services-EWS)	Set	4.00	1,01,203.00	4,04,812.00
		Incomer				
		1 No. 200 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA front operated 200 Amps.TP MCCB with isolable neutral , complete in all respects.				
		Bus Bars				
		250 A FP aluminium Bus Bars with heat shrinkable coloured insulated PVC sleeves. (Current density of Bus bar shall be 1.2 sq.mm./amp)				
		Outgoings				
		1 no. Sufficient size independent Compartment with lockable facilities suitable for 1 Nos. Three phase Dual Source Prepaid Energy CT Meter with all necessary wiring including MS sheet support for meter fixing having sufficient size windows for meter reading covered from glass , including supply & fixing of 200 A, 25 KA 4P MCCB's required wiring from bus bars to meter & meter to MCB's., including earthing , Terminal block for looping DC supply to each meter within meter board . (Cost of meter shall be paid separately in a different item)				
xix.	NDSR-67	METER BOARD (Common Services)	Set	3.00	2,79,377.00	8,38,131.00
		Incomer				
		1 No. 800 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 50 KA front operated 800 Amps.FP MCCB with isolable neutral , complete in all respects.				
		Bus Bars				
		1000 A TPN aluminium Bus Bars with heat shrinkable coloured insulated PVC sleeves. (Current density of Bus bar shall be 1.2 sq.mm./amp)				
		Outgoings				
		Sufficient size independent Compartment with lockable facilities suitable for 1 Nos. Three phase Dual Source Prepaid Energy CT Meter with all necessary wiring including MS sheet support for meter fixing having sufficient size windows for meter reading covered from glass , including supply & fixing of 800 A, 50 KA 4P MCCB's required wiring from bus bars to meter & meter to MCB's., including earthing , Terminal block for looping DC supply to each meter within meter board . (Cost of meter shall be paid separately in a different item)				
xx.	NDSR-68	METER BOARD (EWS)	Set	29.00	1,31,136.00	38,02,944.00
		Incomer				
		1 No. 125 Amps TPN feeder each having one number 3 phase 415 Volts, 50 Hz, 25 KA front operated 100 Amps.TP MCCB with isolable neutral , complete in all respects.				
		Bus Bars				



		150 A FP aluminium Bus Bars with heat shrinkable coloured insulated PVC sleeves. (Current density of Bus bar shall be 1.2 sq.mm./amp)				
		Outgoings				
		06 nos. Sufficient size Independent Compartment with lockable facilities suitable for 08 Nos. Single phase Dual Source Prepaid Energy Meter with all necessary wiring including MS sheet support for meter fixing having sufficient size windows for meter reading covered from glass , Including supply & fixing of 8 nos. 40 A, 10 KA 2P MCB's required wiring from bus bars to meter & meter to MCB 's, Including earthing, Terminal block for looping DC supply to each meter within meter board . (Cost of meter shall be paid separately in a different item)				
		SUB TOTAL OF LT DISTRIBUTION BOARDS				3,31,75,000.00
X.		ELECTRONIC ENERGY METERS AND REVENUE COLLECTION SYSTEM				
147.00	NDSR-69	Supply, installation, testing and commissioning of 1 phase, 2 wire, 50 Hz, dual register, pre paid type electronic energy meters (As per IS : 15884 - 2010) and revenue collection system with key pad technology along with blue tooth enabled home display / freedom units having LCD display , lithium battery with inbuilt facility of tripping and resetting of over loading in case of D.G.power at preset level , provision of change of tariff as per customer 's requirements and as per manufacturers specifications . The Meter should have inbuilt disconnect switches as per BIS requirement with over load and low balance alarm facility ,Slab or TOD (Time of use) tariffs upto 4 rates and one year energy data backup. The meter should be capable for full or partial backup for one whole year . (Note: Quoted Prices shall include 3 (2+1) pair flat telephone cable , run from meter to each unit for freedom units), Meter & system Equivalent to Secure-Liberty or as per makes list.	Set	162.00	7,762.00	12,57,444.00
148.00	NDSR-70	Supply, installation, testing and commissioning of 3 phase, 4 wire, 50 Hz, dual register, pre paid type electronic energy meters (As per IS : 15884 - 2010) and revenue collection system with key pad technology along with blue tooth enabled home display / freedom units having LCD display , lithium battery with inbuilt facility of tripping and resetting of over loading in case of D.G.power at preset level , provision of change of tariff as per customer 's requirements and as per manufacturers specifications . The Meter should have inbuilt disconnect switches as per BIS requirement with over load and low balance alarm facility ,Slab or TOD (Time of use) tariffs upto 4 rates and one year energy data backup. The meter should be capable for full or partial backup for one whole year . (Note: Quoted Prices shall include 3 (2+1) pair flat telephone cable , run from meter to each unit for freedom units) Equivalent to Secure-Liberty or as per makes list.	Set	110.00	11,290.00	12,41,900.00
149.00	NDSR-71	Supply, installation, testing and commissioning of common meter reading instrument (CPRI) complete in all respects.	Set	6.00	31,754.00	1,90,524.00
150.00	NDSR-72	Supply, installation, testing and commissioning of DG sensing switch mode power supply unit with discrimination receivers for sensing of DG (SMPS and necessary lengths of PVC insulated armoured copper conductor 2c x 2.5 sq mm control wiring for DG power registration in electronic meters . The control wiring shall run between D .G. panel to each block separately . The control wiring shall be connected to each meter . OR, Supply, installation, testing and commissioning of mains sensing power line carrier communication (PLCC) based source discrimination receivers of sensing of mains of suitable MVA rating. (SIGNAL INJECTOR)	Set	3.00	3,24,594.00	9,73,782.00
151.00	NDSR-73	Supply, Installation, Testing, and Commissioning of the energy metering system with vending software for minimum 277 Nos. energy meters and 01 No. latest configuration PC (Dell, HP, Toshiba or equivalent make) having preloaded softwares as per requirement and 01 No. colour Laser Printer (HP, Canon, Epson or equivalent make) Including all other necessary hardwares /softwares/ equipment/items specified in technical specifications for proper functioning of energy metering system.	Set	1.00	1,57,890.00	1,57,890.00
152.00	NDSR-74	Supply, installation, testing and commissioning of impact token printer with serial port, complete in all respects. (EPSON: Make)	Set	1.00	26,109.00	26,109.00



153.00	NDSR-75	Supply, installation, testing and commissioning of full functioning of system and ready for collection of revenues. The charges will include for necessary training of vending system to operator and customers upto full satisfaction.	Set	1.00	565.00	565.00
		SUB TOTAL OF ELECTRONIC ENERGY METERS AND REVENUE COLLECTION SYSTEM				38,48,214.00
	Y.	EXTERNAL LIGHTING				
154.00	NDSR-76	Supplying, Installation, Testing and commissioning of post-top, energy saving, environmental friendly, long life aesthetically designed with symmetrical light distribution, spun aluminium landscape IP -65 luminaire with high power leds as light source , The fixture shall be equivalent to Havells make RUBYPT 35W LED757PSYMTOPC on an aesthetically designed decorative hot dipped galvanised mild steel step pole with grey powder finish , equivalent to Havells make 6MPE or as per list of makes	Set	50.00	46,046.00	23,02,300.00
155.00	NDSR-77	Supplying, Installation, Testing and commissioning of post-top, energy saving, environmental friendly, long life aesthetically designed with symmetrical light distribution, spun aluminium landscape IP -65 luminaire with high power leds as light source , The fixture shall be equivalent to Havells make RUBYPT 35W LED757PSYMTOPC on an aesthetically designed decorative hot dipped galvanised mild steel step pole with grey powder finish , equivalent to Havells make 3.5MPE or as per list of makes	Set	20.00	34,027.00	6,80,540.00
156.00	NDSR-78	Supplying, Installation, Testing and commissioning of new generation , energy saving , environmental friendly , long life aesthetically designed aluminium landscape bollard luminaire for diffused lighting with high power led as light source , shall be equivalent to Havells make BamBoo - IP65, BamBooL8WLED757PSYMTOPCM, or as per list of makes	Set	20.00	4,789.00	95,780.00
157.00	NDSR-79	Supplying, Installation, Testing and commissioning of new generation , energy saving , environmental friendly , long life aesthetically designed aluminium landscape LED Marker (IP67, IK10) luminaire with suitable mounting box, the fixture shall be equivalent to Philips make LED MARKER - IP65, BBG 151 LED50/NW PSU or as per list of makes	Set	20.00	5,131.00	1,02,620.00
158.00	NDSR-80	Supplying, Installation, Testing and commissioning of new generation , energy saving , environmental friendly , long life aesthetically designed aluminium landscape LED STEP LIGHT (IP67, IK10) luminaire with suitable mounting box, the fixture shall be equivalent to Philips make LED STEP LIGHT - IP65, BBG 150 LED50/NW PSU or as per list of makes	Set	50.00	5,987.00	2,99,350.00
159.00	NDSR-81	Supplying, Installation, Testing and commissioning of new generation , energy saving, environmental friendly, long life aesthetically designed Flood Lighting UNIFOLD luminaire complete with all accessories ,the fixture shall be equivalent to Philips make UNIFOLD - BVP 120 LED35CW FG S1 PSU GR or as per list of makes.	Set	50.00	6,414.00	3,20,700.00
160.00	NDSR-82	Supplying, Installation, Testing and commissioning of new generation , energy saving, environmental friendly, long life aesthetically designed Flood Lighting UNIFOLD luminaire complete with all accessories ,the fixture shall be equivalent to Philips make UNIFOLD - BVP 120 LED70CW FG S1 PSU GR or as per list of makes.	Set	50.00	11,546.00	5,77,300.00
		SUB TOTAL OF EXTERNAL LIGHTING				43,78,590.00
	Z.	UPS				



161.00		Supply,unloading, installation, testing & commissioning of micro processor /DSP controlled following ratings UPS , with IGBT based rectifier to achieve THD < 5% and input power factor of greater than 0.96 at 50% loading. The system shall be True Online Double Conversion (VFI as per IEC 62040-3) UPS using PWM IGBT technology ,3 Phase input and 3 phase 415 V output; 125% rated Rectifier cum charger unit +100% rated Invertor , Integrated in UPS module 100% rated Inbuilt Maintenance By Pass , 100% rated moulded case battery circuit breaker having thermal ,magnetic and Automatic U /V trip mechanics . Web-enabled Monitoring and Management through SNMP protocols for multi-OS environments . Suitable nos . Lead Acid sealed maintenance free batteries completely suitable for following rating UPS system , to provide 10 minutes backup on full load . Matching cabinet / open racks to house SMF batteries for given ratings UPS along with interconnecting links , MCCB etc. complete as required & as per specifications. flexible single core copper cable of an approved makes for making interconnections between UPS to UPS , UPS to batteries , UPS to Isolation Transformer , complete as required , Including providing Battery circuit breakers as required . UPS monitoring software suitable for RJ-45 communication and capable of giving pop up messages for all alarms received from UPS . It shall be capable in giving notifications like e - mail , paging notification , broadcast notification , battery replacement notification, run event-based scripts .Event logging , data logging and action logging (with date, time, description of fault and event) and Local notification through audible alarm. The system shall be complete in all manners:				
a	NDSR-83	10 KVA	Set	4.00	2,63,698.00	10,54,792.00
b	NDSR-84	15 KVA	Set	1.00	3,20,713.00	3,20,713.00
		SUB TOTAL OF UPS SYSTEM				13,75,505.00
AA.		ADJUSTMENT RATE FOR ADDITION/DELETION				
162.00		Adjustment rates for addition /deletion of compartmentalised switchgear in above panels /board of following rating including the supply , fabrication, extension, modification of the enclosure or in a separate enclosure , earthing ,basbar, other sub-systems, accessories etc complete as required and as per specifications and as specified in of item 1.0 above				
A.	NDSR-118	800 A, 415V, 50kA, FP draw out Electrically operated ACB complete with:	No.	1.00	2,50,454.00	2,50,454.00
a)		1- set Red/Green ON/OFF Indicating lamps				
b)		1- set of three phase (red, yellow, blue) Indicating lamps				
c)		Amber healthy trip Indicating lamps				
d)		3 nos. cast resin current transformers of 1000/5 ratio with 15 VA Burden & Class 5P10 for protection.				
e)		3 nos. cast resin current transformers of 1000/5 ratio with 15VA burden and Class 1.0 for measurement				
f)		Microprocessor based release having variable range of overcurrent, short circuit,UVR and earth fault protection with time log facility for each of the fault for achieving discrimination along with distinct fault indication through LED's.				
g)		230 V AC shunt trip coil				
h)		230 V, AC Motor wound spring closing mechanism				
i)		Terminals to receive alum. XLPE armoured cables				
j)		RS-485 port for display of ON /OFF status of ACB on BMS workstation through MODBUS protocol				
B)	NDSR-85	1000 A, 415V, 50kA, FP draw out Electrically operated ACB complete with:	No.	1.00	2,62,453.00	2,62,453.00
a)		1- set Red/Green ON/OFF indicating lamps				
b)		1- set of three phase (red, yellow, blue) indicating lamps				
c)		Amber healthy trip indicating lamps				
d)		3 nos. cast resin current transformers of 1000/5 ratio with 15 VA Burden & Class 5P10 for protection.				
e)		3 nos. cast resin current transformers of 1000/5 ratio with 15VA burden and Class 1.0 for measurement				



f)		Microprocessor based release having variable range of overcurrent, short circuit,UVR and earth fault protection with time log facility for each of the fault for achieving discrimination along with distinct fault indication through LED's.				
g)		230 V AC shunt trip coil				
h)		230 V, AC Motor wound spring closing mechanism				
i)		Terminals to receive alum. XLPE armoured cables				
j)		RS-485 port for display of ON/OFF status of ACB on BMS workstation through MODBUS protocol				
C)	NDSR-86	1600 A, 415V, 50kA, FP draw out Electrically operated ACB complete with:	No.	1.00	3,12,374.00	3,12,374.00
a)		1- set Red/Green ON/OFF indicating lamps				
b)		1- set of three phase (red, yellow, blue) indicating lamps				
c)		Amber healthy trip indicating lamps				
d)		3 nos. cast resin current transformers of 1600/5 ratio with 15 VA Burden & Class 5P10 for protection.				
e)		3 nos. cast resin current transformers of 1600/5 ratio with 15VA burden and Class 1.0 for measurement				
f)		Microprocessor based release having variable range of overcurrent, short circuit,UVR and earth fault protection with time log facility for each of the fault for achieving discrimination along with distinct fault indication through LED's.				
g)		230 V AC shunt trip coil				
h)		230 V, AC Motor wound spring closing mechanism				
i)		Terminals to receive alum. XLPE armoured cables				
j)		RS-485 port for display of ON/OFF status of ACB on BMS workstation through MODBUS protocol				
D)	NDSR-87	2500 A, 415V, 50kA, FP draw out Electrically operated ACB complete with:	No.	1.00	4,25,353.00	4,25,353.00
a)		1- set Red/Green ON/OFF indicating lamps				
b)		1- set of three phase (red, yellow, blue) indicating lamps				
c)		Amber healthy trip indicating lamps				
d)		3 nos. cast resin current transformers of 2500/5 ratio with 15 VA Burden & Class 5P10 for protection.				
e)		3 nos. cast resin current transformers of 2500/5 ratio with 15VA burden and Class 1.0 for measurement				
f)		Microprocessor based release having variable range of overcurrent, short circuit,UVR and earth fault protection with time log facility for each of the fault for achieving discrimination along with distinct fault indication through LED's.				
g)		230 V AC shunt trip coil				
h)		230 V, AC Motor wound spring closing mechanism				
i)		Terminals to receive alum. XLPE armoured cables				
j)		RS-485 port for display of ON/OFF status of ACB on BMS workstation through MODBUS protocol				
E		Adjustment rates for addition /deletion of compartmentalised switchgear in above panels /board of following rating including the supply , fabrication, extension, modification of the enclosure or in a separate enclosure , earthing ,basbar, other sub-systems, accessories etc complete as required and as per specifications and as specified in of item 1.0 above				
a	NDSR-88	4 pole MCCB,100A,30KA	each	1.00	7,401.00	7,401.00
b	NDSR-89	4 pole MCCB, 125A, 36KA	each	1.00	7,500.00	7,500.00
c	NDSR-90	4 pole MCCB, 200A, 36KA	each	1.00	15,409.00	15,409.00
d	NDSR-91	4 pole MCCB,250A, 36KA	each	1.00	17,572.00	17,572.00
e	NDSR-92	4 pole MCCB,250A, 50KA	each	1.00	15,167.00	15,167.00
f	NDSR-93	4 pole MCCB,400A, 50KA	each	1.00	26,774.00	26,774.00
g	NDSR-94	4 pole MCCB,630A, 50KA	each	1.00	33,317.00	33,317.00
		SUB TOTAL OF ADJUSTMENT RATE FOR ADDITION/DELETION				13,73,774.00
AB.		HVAC (ONLY PLUMBING, DUCTING & AHUs)				



163.00		Supply. Installation, testing and commissioning of Fire rated sheet metal ducts with flanges complete with supports , vanes, dampers, links, levers and quadrants etc . as per specifications and drawings . Supporting distance shall not exceed 1.2 Mtr with 6mm thick fire retardant gasket suitable for 250 deg C 2 hr shall be used In duct joints along with fire sealants . The rates shall include all materials of the duct and labour for suspension and supporting arrangement for plenums , ducts, complete with fire retardant flexible connection as required and as per specifications.				
a)	NDSR-95	1.25 MM (18 Gauge) Plenum & Exhaust Duct	sqm	1583	2,280.00	36,09,240.00
		SUB TOTAL OF HVAC (ONLY PLUMBING, DUCTING & AHUs)				36,09,240.00
AC.		PUMPS AND WATER TREATMENT SYSTEM (PLUMBING WORK)				
164.00		Supplying, installation, testing and commissioning of Vertical in line type pump set with SS casing , SS impeller and SS shaft suitable for operation on 400/440 volts, 3 phase 2900 RPM, TEFC electric motor mounted on a common channel base plate with coupling guard , 150mm dia pressure gauge, GM isolation cock and cement concrete foundation with plaster complete as required.				
(a)	NDSR-96	Filter Feed pumps Pump capacity - 200 lpm Head - 20 m RPM - 2900	Each	3.00	83,758.00	2,51,274.00
(b)	NDSR-97	Domestic water transfer pumps Pump capacity - 400 lpm Head - 120 m RPM - 2900	Each	2.00	2,30,757.00	4,61,514.00
165.00		Supplying, installation, testing and commissioning of Factory assembled skid mounted Variable Frequency Drive Hydropneumatic system comprising of following items.(For Domestic water supply for top 3 floors for type 4 & type 6/7/8) 2 Nos. Vertical in line pumps complete in SS coupled with TEFC motor Pump capacity - 100 lpm Head -30 m RPM - 2900 1 No. 100 litres vessels with inter changeable butyl rubber membrane. 1 No. Variable speed drive Electric control panel with controller relays , sequence timer for alternate operation of pumps , electrical wiring , cabling from panel to pumps , level controller complete with all accessories as per manufacturer specifications. Accessories like butterfly valves, NRV's & Y-strainers on suction and discharge, pressure gauge suction, discharge header and base frame etc., complete as required.				
(a)	NDSR-98	Hydropneumatic system as described above.	Set	2.00	4,25,256.00	8,50,512.00
166.00		Supplying, installation, testing and commissioning non clog type stainless Steel mono block submersible drainage pumps suitable for handling solids of 12 mm size with totally water and dust proof motor.				
(a)	NDSR-99	Capacity 500 lpm & Head 10m (In pump room & basement)	Each	16.00	91,939.00	14,71,024.00
(b)	NDSR-100	Capacity 100 lpm & Head 10m (In club building basement)	Each	2.00	62,018.00	1,24,036.00
167.00		Supplying, installation, testing and commissioning of Digital 5 Stage Water level Indicators / controllers with low voltage Relays and Magnetic Analog Stainless Steel Probe operated by a single Float , including necessary wiring and conduiting from probes to display panel /motor control panels and to provide Audible Alarm for low level for each underground tank . (The cost of required cabling from probe to Display / Control panel and from Display to Motor control panels to be paid separately). For Domestic Filter feed pumps				
(a)	NDSR-101	To start domestic filter feed pumps at low water level in domestic treated under ground tank and stop at high water level in domestic treated tank and stop at low water level in domestic raw water tank.	Sets	1.00	67,087.00	67,087.00



168.00	<p>Supplying, installation, testing and commissioning of dust , damp and vermin proof, free floor standing factory built sheet steel enclosed nondrawout modular panel for water supply pumps , fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet , hinged doors of 2mm thick CRCA sheet , duly painted complete with earth bus , necessary metering protections & indications and mounted with the following including all inter connection etc. (Including earthing).</p> <p>One No. 150 amps TP incoming MCCB complete with the following:</p> <p>1 No. 0-500 volts 96x96 sq. mm ammeter with selector switch and fuses . (1 set).</p> <p>1 No. 0-200 amps 96x96sq.mm ammeter with 60/5 amps ratio CT 's and selector switch.</p> <p>Over voltage and under voltage tripping mechanism for persistent voltage fluctuations of more than ± 10% of the rated voltage for more than 5 minutes. (1set)</p> <p>Phase indicating lamps with toggle switches.</p> <p>Indication lamps for ON/OFF/TRIP status of motors.</p> <p>Aluminium bus bar of 200 amps for three phase and neutral.</p> <p>Outgoing Feeders/Starters.</p> <p>16 amps TPN MCB with DOL starter each suitable 3 HP filter feed pumps (2 Nos).</p> <p>63 amps TPN MCB with Star delta starter each suitable 20 HP treated water pumps (2 Nos).</p> <p>16 amps TPN MCCB each suitable for 1 HP hydropneumatic pumps panel for domestic water supply for top 3 floors for type 5 & type 6/7/8 (2 Sets)</p> <p>32 amps TPN MCB each suitable for 5 HP drainage pumps panel in pumphouse (1 Sets).</p> <p>32 amps TPN MCB each suitable for 5 HP tubewell pumps panel (2 Sets).</p> <p>Rotary manual/auto/off switch. (3 Nos.)</p> <p>Spares</p> <p>16 amps TPN MCB - 2 Nos.</p> <p>32 amps TPN MCB - 2 Nos.</p> <p>Note :</p> <p>All switch gear/panels shall be suitable for 10 KA rating.</p> <p>All outgoing will have 96 sq. mm size ammeter and CT.</p> <p>All starter will have spare 10 amps 230 V coil auxiliary contractor for building Automation system.</p> <p>All starter units for pumps to be provided with 3 level liquid level contractor.</p> <p>Lamps.</p> <p>All pumps to be provided with duty selector switch.</p> <p>All pumps to be provided with sequence timer 220/440 V AC /DC and alternate working of pumps between 6 to 8 hours or alternate use of pumps after one service in sequence.</p> <p>All pumps to be provided with over load relay.</p> <p>All starter to be provided with single phase preventor.</p> <p>Necessary cable alleys for space switches, level controller internal wiring and copper earthing of all equipment shall also be included. All switch gears/control gears shall be motor duty rating.</p> <p>Provisions of BMS system for pumps to be Included In electrical control panel. The panel manufacturer shall include the following:</p> <p>PF contact at Pumps Starter panels for Pumps Start/Stop Command for all pumps indicated above.</p> <p>PF contact at Pumps Starter panels for Pumps Run Status for all pumps indicated above.</p> <p>PF contact at Pumps Starter panels for AUTO/MANUAL switches for all pumps indicated above.</p> <p>PF contact at Pumps Starter panels for over load relay trip signals for all pumps indicated above.</p>					
(a)	NDSR-102	Cabling from BMS system to this panels will be done by BMS contractor.	Each	1.00	2,90,561.00	2,90,561.00



169.00		Supplying, installation, testing and commissioning of dust , damp and vermin proof, free floor standing factory built sheet steel enclosed nondrawout modular panel for water supply pumps , fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet , hinged doors of 2mm thick CRCA sheet , duly painted complete with earth bus , necessary metering protections & indications and mounted with the following including all inter connection etc . (Including earthing).(For basement drainage pumps for tower A)				
		One No. 63 amps TP incoming MCCB complete with the following:				
		1 No. 0-500 volts 96x96 sq. mm ammeter with selector switch and fuses . (1 set).				
		1 No. 0-100 amps 96x96sq.mm ammeter with 60/5 amps ratio CT 's and selector switch.				
		Over voltage and under voltage tripping mechanism for persistent voltage fluctuations of more than $\pm 10\%$ of the rated voltage for more than 5 minutes. (1set)				
		Phase indicating lamps with toggle switches.				
		Indication lamps for ON/OFF/TRIP status of motors.				
		Aluminium bus bar of 100 amps for three phase and neutral.				
		Outgoing Feeders/Starters.				
		32 amps TPN MCB each suitable for 5 HP drainage pumps panel in pumphouse and basement (4 Sets).				
		Spares				
		16 amps TPN MCB - 2 Nos.				
		Note :				
		All switch gear/panels shall be suitable for 10 KA rating.				
(a)	NDSR-103	All outgoing will have 96 sq. mm size ammeter and CT.	Each	1.00	1,45,280.00	1,45,280.00
170.00		Supplying, installation, testing and commissioning of dust , damp and vermin proof, wall mounted factory built sheet steel enclosed nondrawout modular panel for water supply pumps , fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet , hinged doors of 2mm thick CRCA sheet , duly painted complete with earth bus , necessary metering protections & indications and mounted with the following including all inter connection etc . (Including earthing) . (For club building basement drainage pumps).				
		16 amps Incoming MCB (1 No.)				
		Fully tapped Copper bus bar of suitable capacity. (1 set)				
		Panel type volt meter 96mm square with Rotary selection switch for reading voltage between phase and neutral or incoming feeder. (1 set)				
		Phase indicating lights with toggle switches and shall be protected by 2 amps MCB's. (2 sets)				
		Ampere meter 96mm square panel type of appropriate range. (1 set)				
		16 amps outgoing MCB (2 Nos.)				
		Fully automatic DOL starters with push buttons indicating lights and overload relay each for drainage pump. (2 Nos.)				
		Single phasing preventors. (2 Nos.)				
		Rotary manual/auto/off switch. (2 Nos.)				
		Space of one liquid level controller				
		Provisions of BMS system for pumps to be included in electrical control panel. The panel manufacturer shall include the following:				
		PF contact at Pumps Starter panels for Pumps Start/Stop Command for all pumps indicated above.				
		PF contact at Pumps Starter panels for Pumps Run Status for all pumps indicated above.				
		PF contact at Pumps Starter panels for AUTO/MANUAL switches for all pumps indicated above.				
		PF contact at Pumps Starter panels for over load relay trip signals for all pumps indicated above.				
(a)	NDSR-104	Cabling from BMS system to this panels will be done by BMS contractor.	Sets	1.00	29,056.00	29,056.00



171.00		Supplying, installation, testing and commissioning of dust , damp and vermin proof, wall mounted factory built sheet steel enclosed nondrawout modular panel for water supply pumps , fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet , hinged doors of 2mm thick CRCA sheet , duly painted complete with earth bus , necessary metering protections & indications and mounted with the following including all inter connection etc . (Including earthing). (For drainage pumps in pump room & basement),				
		32 amps incoming MCB (1 No.)				
		Fully tapped Copper bus bas of suitable capacity. (1 set)				
		Panel type volt meter 96mm square with Rotary selection switch for reading voltage between phase and neutral or incoming feeder. (1 set)				
		Phase indicating lights with toggle switches and shall be protected by 2 amps MCB's. (2 sets)				
		Ampere meter 96mm square panel type of appropriate range. (1 set)				
		32 amps outgoing MCB (2 Nos.)				
		Fully automatic DOL starters with push buttons indicating lights and overload relay each for drainage pump. (2 Nos.)				
		Single phasing preventors. (2 Nos.)				
		Rotary manual/auto/off switch. (2 Nos.)				
		Space of one liquid level controller				
		Provisions of BMS system for pumps to be included in electrical control panel. The panel manufacturer shall include the following:				
		PF contact at Pumps Starter panels for Pumps Start/Stop Command for all pumps indicated above.				
		PF contact at Pumps Starter panels for Pumps Run Status for all pumps indicated above.				
		PF contact at Pumps Starter panels for AUTO/MANUAL switches for all pumps indicated above.				
		PF contact at Pumps Starter panels for over load relay trip signals for all pumps indicated above.				
(a)	NDSR-105	Cabling from BMS system to this panels will be done by BMS contractor.	Sets	8.00	36,320.00	2,90,560.00
172.00		Supplying, installation, testing and commissioning of PVC insulated & sheathed FRLS Armoured cables of 1.1 K.V. Aluminium Conductor including supplying and making and termination with brass compression glands:				
(a)	NDSR-106	3 Core x 4 sq.mm	Metre	60.00	187.00	11,220.00
(b)	NDSR-107	3 Core x 6 sq.mm	Metre	50.00	200.00	10,000.00
(c)	NDSR-108	3 Core x 10 sq.mm	Metre	100.00	225.00	22,500.00
(d)	NDSR-109	4 Core x 4 sq.mm	Metre	400.00	125.00	50,000.00
(e)	NDSR-110	4 Core x 6 sq.mm	Metre	610.00	128.00	78,080.00
173.00	NDSR-111	Supplying, installation, testing and commissioning of 6 core x 2.5 sq mm copper conductor PVC sheathed armoured cable (For digital 5 Stage liquid level controllers from panel to underground tanks).	Metre	30.00	150.00	4,500.00
174.00		Supplying, installation, testing and commissioning skid mounted vertical MSRL Dual Media pressure filter fabricated from IS 226/2062 plate 5mm thick for shell and 6mm thick M.S. plate for dished ends complete with initial charge of filter media , face piping and valves accessories , painting, testing and commissioning complete (for domestic water supply system).				
		For Domestic water supply				
		Capacity 12000 lph.				
		Working pressure 2.5 kg./cm ²				
		Flow velocity: 15m ³ /hr/m ²				
(a)	NDSR-112	Design pressure 4 kg./cm ²	Each	2.00	1,86,547.00	3,73,094.00
175.00		Supplying, installation, testing and commissioning skid mounted vertical MSRL Activated carbon filter fabricated from IS 226/2062 plate 5mm thick for shell and 6mm thick M.S. plate for dished ends complete with initial charge of filter media , face piping and valves accessories , painting, testing and commissioning complete (for domestic water supply system)..				
		For Domestic water supply				



		Capacity 12000 lph.				
		Working pressure 2.5 kg./cm ²				
		Flow velocity: 15m ³ /hr/m ²				
(a)	NDSR-113	Design pressure 4 kg./cm ²	Each	2.00	2,05,735.00	4,11,470.00
176.00		Supplying, installation, testing and commissioning bulk water meter with direct reading dial in KL, all internal parts and strainer in gun metal/brass.				
(a)	NDSR-114	65 mm dia	Each	2.00	19,968.00	39,936.00
177.00		Supplying, installation, testing and commissioning direct reading rate of flow Rota Meter				
(a)	NDSR-115	For 65 mm dia for 12000 lph rate of flow for filter.	Each	2.00	13,115.00	26,230.00
178.00		Supplying, installation, testing and commissioning of chlorinator with metering pump mounted on HDPE white tank suitable for operation on 220 ± 5% single phase, 50 Hz AC supply, including cables from metering pump to control panel compete in all respects.				
(a)	NDSR-116	Suitable for flow rate 12000 lph	Each	1.00	30,247.00	30,247.00
		SUB TOTAL OF PUMPS AND WATER TREATMENT SYSTEM				50,38,181.00
AD.		BASEMENT DRAINAGE PUMPING SYSTEM				
179.00		Supplying, installation, testing and commissioning of dust , damp and vermin proof, free floor standing factory built sheet steel enclosed nondrawout modular panel for water supply pumps , fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet , hinged doors of 2mm thick CRCA sheet , duly painted complete with earth bus , necessary metering protections & indications and mounted with the following including all inter connection etc .(Including earthing) (For tower -B basement drainage pumps)				
		One No. 63 amps TP incoming MCCB complete with the following:				
		1 No. 0-500 volts 96x96 sq. mm ammeter with selector switch and fuses . (1 set).				
		1 No. 0-100 amps 96x96sq.mm ammeter with 60/5 amps ratio CT 's and selector switch.				
		Over voltage and under voltage tripping mechanism for persistent voltage fluctuations of more than ± 10% of the rated voltage for more than 5 minutes. (1set)				
		Phase indicating lamps with toggle switches.				
		Indication lamps for ON/OFF/TRIP status of motors.				
		Aluminium bus bar of 100 amps for three phase and neutral.				
		Outgoing Feeders/Starters.				
		32 amps TPN MCB each suitable for 5 HP drainage pumps panel in basement (3 Sets).				
		Spares				
		16 amps TPN MCB - 2 Nos.				
		Note :				
		All switch gear/panels shall be suitable for 10 KA rating.				
(a)	NDSR-117	All outgoing will have 96 sq. mm size ammeter and CT.	Each	1.00	1,32,205.00	1,32,205.00
		SUB TOTAL OF BASEMENT DRAINAGE PUMPING SYSTEM				1,32,205.00
		TOTAL AMOUNT OF SECTION-2: ELECTRICAL WORKS NDSR ITEMS				11,25,18,520.00
		Total for Schedule D (DSR+NDSR)				34,31,63,978.20



DM/CN/COR-OF/111:Package 9A : Construction of Multistoried Staff Quarters [including Site Development, Architectural finishes, E&M, HVAC, Plumbing, Firefighting, External Development and related facilities] and connectivity from Mathura Road to Jangpura Stabling Yard Complex for Delhi – Ghaziabad – Meerut RRTS Corridor.

Schedule-E : E&M BOQ for mechanical works (HVAC, lift, fire fighting works)

S. No.	DSR-VRV 2019 Ref. No.	Description	Unit	Total Quantity	Rate (Rs.)	Amount (Rs.)
		l)				
		AIRCONDITIONING SYSTEM WITH VRV				
1.00		Air Cooled VRV System				
		Supplying, installing, testing and commissioning of Air Cooled Variable Refrigerant Volume System suitable for R410A and 415V, 50 Hz, AC supply. The unit shall consist of indoor units and external condensing units and other accessories complete in all respects. The unit shall be fully charged with gas and oil.				
1.01		Outdoor Unit -- OUTDOOR UNIT				
	Derived From DSR-VRV- 2019 1.0	Supplying, installing, testing and commissioning of Both Cooling & Heating Modular Type Outdoor Condensing Units equipped with highly efficient Inverter scroll compressors to work on 415 V, 50 Hz AC supply with digital/ inverter technology, special acryl precoated heat exchanger, low noise condenser fan with motor, auto check function for errors in display panel, auto address setting, as per specifications. The COP at AHRI conditions shall not be less than 3.8 .The units shall be complete with necessary mounting frames.				
a	Derived From DSR-VRV-2019 1.0	10 HP	Nos.	18	1,64,150.00	29,54,700.00
b	Derived From DSR-VRV-2019 1.0	12 HP	Nos.	3	1,96,980.00	5,90,940.00
1.02		Indoor Units				
	Derived From DSR-VRV-2019 2.0	Supplying, installing, testing and commissioning of Ceiling Suspended Cassette Type Indoor Units each complete with coil, filter, etc. Air conditioners with evaporating unit comprising of cooling coil, blower with motor and 220 volt, 1 phase, 50 Hz, AC supply all as per specifications. The rate will also include entire drain pipes and nothing extra shall be payable.				
a	Derived From DSR-VRV-2019 2.3	1.3 TR	Nos.	1	29,488.00	29,488.00
b	Derived From DSR-VRV-2019 2.4	1.6 TR	Nos.	1	30,204.00	30,204.00
c	Derived From DSR-VRV-2019 2.5	2.1 TR	Nos.	1	30,801.00	30,801.00
d	Derived From DSR-VRV-2019 2.7	2.6 TR	Nos.	1	32,015.00	32,015.00
1.03	Derived From DSR-VRV-2019 3.0	Supplying, installing, testing and commissioning of Wall Mounted Type Indoor Units each complete with coil, filter, cordless remote etc. Air conditioners with evaporating unit comprising of cooling coil, blower with motor and 220 volt, 1 phase, 50 Hz, AC supply all and as per specifications. The rate will also include entire drain pipes and nothing extra shall be payable.				
a	Derived From DSR-VRV-2019 3.1	0.65 TR	Nos.	13	18,730.00	2,43,490.00
b	Derived From DSR-VRV-2019 3.2	0.8 TR	Nos.	8	19,312.00	1,54,496.00
c	Derived From DSR-VRV-2019 3.3	1.1 TR	Nos.	12	19,700.00	2,36,400.00
d	Derived From DSR-VRV-2019 3.4	1.3 TR	Nos.	14	21,176.00	2,96,464.00



e	Derived From DSR-VRV-2019 3.6	1.6 TR	Nos.	44	21,746.00	9,56,824.00
f	Derived From DSR-VRV-2019 3.7	2.1 TR	Nos.	20	22,100.00	4,42,000.00
1.04	Derived From DSR-VRV-2019 4.0	Supplying, installing, testing and commissioning of Ceiling Suspended Duct Type Indoor Units each complete with coil, filter, etc. Air conditioners with evaporating unit comprising of cooling coil, blower with motor and 220 volt, 1 phase, 50 Hz, AC supply all as per specifications. The rate will also include entire drain pipes and nothing extra shall be payable.				
a	Derived From DSR-VRV-2019 4.6	1.1 TR	Nos.	1	32,610.00	32,610.00
b	Derived From DSR-VRV-2019 4.7	1.3 TR	Nos.	2	34,350.00	68,700.00
c	Derived From DSR-VRV-2019 4.9	1.6 TR	Nos.	1	35,259.00	35,259.00
d	Derived From DSR-VRV-2019 4.12	2.1 TR	Nos.	4	39,669.00	1,58,676.00
e	Derived From DSR-VRV-2019 4.16	4.1 TR	Nos.	3	48,731.00	1,46,193.00
f	Derived From DSR-VRV-2019 4.17	4.6 TR	Nos.	4	85,766.00	3,43,064.00
g	Derived From DSR-VRV-2019 4.18	6.5 TR	Nos.	2	87,281.00	1,74,562.00
2.00		Refrigerant Piping for VRV system				
	DSR-VRV-2019 5.0	Supply, installation, testing and commissioning including vacuumization and Nitrogen testing of following nominal sizes of soft/hard drawn copper refrigerant piping for VRV/VRF system, complete with fittings, with suitable adjustable ring type hanger supports, jointing/brazing including accessories, insulated with XPLE Class-O tubular insulation/with Class-O closed cell elastomeric nitrile rubber tubular sleeves sections of specified thickness as given below for Suction and Liquid lines, all accessories as per specifications etc. as required :				
a)	DSR-VRV-2019 5.1	6.4 mm O.D. (Outer dia) (insulation: 13 mm)	RM	418	245.00	1,02,410.00
b)	DSR-VRV-2019 5.2	9.5 mm O.D. (Outer dia) (insulation: 13 mm)	RM	716	331.00	2,36,996.00
c)	DSR-VRV-2019 5.3	12.7 mm O.D. (Outer dia) (insulation: 13 mm)	RM	508	466.00	2,36,728.00
d)	DSR-VRV-2019 5.4	15.9 mm O.D. (Outer dia) (insulation: 13 mm)	RM	306	588.00	1,79,928.00
e)	DSR-VRV-2019 5.5	19.1 mm O.D. (Outer dia) (insulation: 13 mm)	RM	179	707.00	1,26,553.00
f)	DSR-VRV-2019 5.6	22.2 mm O.D. (Outer dia) (insulation: 13 mm)	RM	123	865.00	1,06,395.00
g)	DSR-VRV-2019 5.8	28.6 mm O.D. (Outer dia) (insulation: 19 mm)	RM	56	1,108.00	62,048.00
h)	DSR-VRV-2019 5.10	34.9 mm O.D. (Outer dia) (insulation: 19 mm)	RM	20	1,230.00	24,600.00
i)	DSR-VRV-2019 5.12	41.3 mm O.D. (Outer dia) (insulation: 19 mm)	RM	25	1,309.00	32,725.00
3.00		Refrigerant Piping for HI-Wall Split system				
	DSR-VRV-2019 5.0	Supply, installation, testing and commissioning including vacuumization and Nitrogen testing of following nominal sizes of soft/hard drawn copper refrigerant piping for HI-wall Split System, complete with fittings, with suitable adjustable ring type hanger supports, jointing/brazing including accessories, insulated with XPLE Class-O tubular insulation/with Class-O closed cell elastomeric nitrile rubber tubular sleeves sections of specified thickness as given below for Suction and Liquid lines, all accessories as per specifications etc. as required :				



a)	DSR-VRV-2019 5.1	6.4 mm O.D. (Outer dia) (insulation: 13 mm)	RM	1692	245.00	4,14,540.00
b)	DSR-VRV-2019 5.2	9.5 mm O.D. (Outer dia) (insulation: 13 mm)	RM	2916	331.00	9,65,196.00
c)	DSR-VRV-2019 5.3	12.7 mm O.D. (Outer dia) (insulation: 13 mm)	RM	1692	466.00	7,88,472.00
d)	DSR-VRV-2019 5.4	15.9 mm O.D. (Outer dia) (insulation: 13 mm)	RM	2916	588.00	17,14,608.00
TOTAL AMOUNT OF SECTION-1: HVAC WORKS DSR ITEMS						1,19,48,083.00



SECTION-2: HVAC WORKS NDSR ITEMS						
S. No.	NDSR No.	Description	Unit	Total Quantity	Rate (Rs.)	Amount (Rs.)
4.00		Supplying, installing, testing and commissioning of Ceiling Suspended Treated Fresh air Units each complete with coil, filter, etc. Air conditioners with evaporating unit comprising of cooling coil, blower with motor and 220 volt, 1 phase, 50 Hz, AC supply all as per specifications. The rate will also include entire drain pipes and nothing extra shall be payable.				
a)	NDSR-1	4.1 TR	Nos.	2	93,470.00	1,86,940.00
5.00	NDSR-2	Refrigerant Joints and Headers				
		Supply, installation, testing and commissioning of imported fittings Y-joints, distributor and headers for all indoor units as per layout drawings.	Nos.	111	3,535.00	3,92,385.00
6.00	NDSR-3	Corded/Cordless Remote Controller				
		Supply, installation, testing and commissioning of Corded/Cordless Remote controllers for operation of indoor units	Nos.	128	2,637.00	3,37,536.00
7.00	NDSR-4	Central Remote Controller				
		Supply, installation, testing and commissioning of Central Remote Controller for complete system including all VRV/VRF indoor and outdoor units.	Nos.	17	48,962.00	8,32,354.00
8.00	NDSR-5	Scheduled Timer				
		Supply, installation, testing and commissioning of Scheduled Timer.	Nos.	1	1,611.00	1,611.00
9.00	NDSR-6	Transmission & Control Wiring				
		Supplying, installing, testing and commissioning of control cum transmission wiring of 2 core x 1.5 sqmm copper FRLSH, XLPE insulated cable in suitable GI conduits accessories between indoor and outdoor units. Necessary securing of conduit shall be made by contractor. After completion of work wall and floor shall be repaired and brought to its original finish. The rate will also include cost of laying of GI conduit between indoor and outdoor units.				
a)		2C x 1.5 Sq mm (Unarmoured) For VRV System	RMT	1149	164.00	1,88,436.00
b)		2C x 1.5 Sq mm (Unarmoured) For HI-Wall Split System	RMT	4608	164.00	7,55,712.00
10.00	NDSR-7	DRAIN PIPING				
		Supply, installation, testing and commissioning of UPVC drain piping complete with fittings, supports as per specifications and duly insulated with 6 mm thick closed cell expanded polythene.				
a)		25 mm ID-For VRV System	RM	835	160.00	1,33,600.00
b)		25 mm ID-For Split System	RM	3072	160.00	4,91,520.00
11.00		AIR COOLED SPLIT TYPE SPLIT UNITS AIR-CONDITIONER /				
		Supplying, installing, testing and commissioning of Air Cooled Inverter Split type wall mounted 5 Star Air conditioners with evaporating unit comprising of cooling coil, blower with motor and condensing unit comprising hermetically sealed scroll compressor, condenser coil, and propeller fan. Unit shall be complete with controls, interconnecting copper refrigerant piping with insulation, drain pipes and electrical cabling etc. between evaporative and condensing unit, refrigerant gas and oil and complete as per specifications. The unit shall be suitable for operating on 240 volt, 1 phase, 50 Hz AC supply with five star energy rating. The units shall be suitable for corded remote operation. The refrigerant piping & cabling shall run in PVC sleeve Steel supporting structure for outdoor units suitable for wall mounting / floor mounting. Nothing extra shall be paid on any account i.e. refrigerant pipes, drain pipes etc.				
a)	NDSR-8	Capacity : 1.5 TR	Nos.	2	44,985.00	89,970.00
12.00	NDSR-9	Control Cum Transmission Wiring For Split Unit				
		Supplying, installing, testing and commissioning of control cum transmission wiring of 2 core x 1.5 sqmm copper FRLSH, XLPE insulated cable in suitable GI conduits accessories between indoor and outdoor units. Necessary securing of conduit shall be made by contractor. After completion of work wall and floor shall be repaired and brought to its original finish. The rate will also include cost of laying of GI conduit between indoor and outdoor units.	RM	15	164.00	2,460.00
13.00		VENTILATION SYSTEM				



13.01		Axial Type Fans				
		Supply. Installation, testing and commissioning of Vane Axial flow fans including motors, anti vibration mounts, flexible sleeves. Fan motors and all accessories shall be complete as per Specifications.				
		Note: Contractor Has to take approval on computer generated selection charts and fan curves showing power input and fan motor etc prior to order the fans,(a) Noise level @ 3m from Fan shall be less than 78 dBA. with starter panel				
		These fans are operate with CO sensor to optimize the energy consumption.				
a)	NDSR-10	Capacity 5500 CFM at 25 mm static pressure - For Pump Room(Supply)	Nos	1	58,797.00	58,797.00
e)	NDSR-11	Capacity 25000 CFM at 30 mm static pressure - For Basement	Nos	2	1,63,564.00	3,27,128.00
13.02		Smoke Exhaust Fire Rated Axial Fans				
		Supply. Installation, testing and commissioning of Fire Rated Exhaust type fan complete with motor suitable for 415 volt, 3 phase, 50 Hz AC supply, motor and fan shall be rated at 250 deg C for 2 Hrs, mounting frames and louvers and complete as per specifications.				
		Note: Contractor Has to take approval on computer generated selection charts and fan curves showing power input and fan motor etc prior to order the fans,(a) Noise level @ 3m from Fan shall be less than 78 dBA. with starter panel				
		These fans are operate with CO sensor to optimize the energy consumption.				
a)	NDSR-12	Capacity 5500 CFM at 25 mm static pressure - For Pump Room (Exhaust)	Nos	1	64,677.00	64,677.00
b)	NDSR-13	Capacity 25500 CFM at 25 mm static pressure - For DG Room (Exhaust)	Nos	1	1,79,920.00	1,79,920.00
e)	NDSR-14	Capacity 25000 CFM at 30 mm static pressure - For Basement	Nos	8	1,79,920.00	14,39,360.00
13.03		Lift and Staircase Pressurization (these units include extruded aluminium wiremesh filter / washable synthetic filters) at Inlet side and fire retardant flexible connection at outlet side.(Axial Flow Fan)				
		Note: Contractor Has to take approval on computer generated selection charts and fan curves showing power input and fan motor etc prior to order the fans,(a) Noise level @ 3m from Fan shall be less than 78 dBA. with starter panel				
a)	NDSR-15	Capacity 6000 CFM at 20 mm static pressure-Basement Staircase Pressurization	Nos	4	64,656.00	2,58,624.00
b)	NDSR-16	Capacity 10000 CFM at 25 mm static pressure-Lift well Pressurization (EWS Block & TOWER IV)	Nos	7	79,665.00	5,57,655.00
c)	NDSR-17	Capacity 15100 CFM at 30 mm static pressure-Lift Lobby Pressurization (EWS,Tower-IV & Service Lift Lobby of Tower IV)	Nos	3	1,18,179.00	3,54,537.00
d)	NDSR-18	Capacity 18100 CFM at 25 mm static pressure-Lift well Pressurization (Tower-VI)	Nos	5	1,39,600.00	6,98,000.00
e)	NDSR-19	Capacity 24000 CFM at 35 mm static pressure-Lift Lobby Pressurization (Tower-VI)	Nos	1	1,60,357.00	1,60,357.00
f)	NDSR-20	Capacity 27500 CFM at 35 mm static pressure-Lift Lobby Pressurization (Tower-VI)	Nos	2	1,79,314.00	3,53,628.00
13.04	NDSR-21	CO Sensors along with PLC controller and suitable cable as per spfications. CO sensors having range 0 to 300 ppm with analog output 4 to 20mA or 0 to 10 V DC output signal. These CO sensors and controller are Interface with fire alarm panel/BMS (as available).	Nos	11	12,372.00	1,36,092.00
14.00		Slot Diffusers				
		Supply. Installation, testing and commissioning of slot diffusers with/without damper including the flexible duct connections as specified below and as per specification.				
c)	NDSR-22	3-Slot Diffuser	Rmt	75	2,128.00	1,59,600.00
d)	NDSR-23	2-Slot Diffuser	Rmt	45	1,717.00	77,265.00
15.00		Exhaust/Fresh Air Louvers				
	NDSR-24	Supply. Installation, testing and commissioning of exhaust air/fresh air louvers of powder coated extruded aluminium construction with bird screen, minimum 80 mm deep.	Sqm	32	11,277.00	3,60,864.00
		TOTAL AMOUNT OF SECTION-2: HVAC WORKS NDSR ITEMS				86,04,028.00



SECTION-3: FIRE FIGHTING WORKS DSR ITEMS						
S. No.	FIRE DSR-2019 Ref. No.	Description	Unit	Total Quantity	Rate (Rs.)	Amount (Rs.)
FIRE HYDRANT SYSTEM & SPRINKLER SYSTEM						
16.00	FIRE DSR 2019 4	Supplying, installation, testing and commissioning of electric driven terrace pump suitable for automatic operation and consisting of following, complete in all respects, as required: (Terrace Pump) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze Impeller with stainless steel shaft, mechanical confirming to IS : 1520 Suitable HP squirrel cage Induction motor TEFC type suitable for operation on 415 volts, 3 phase, 50 Hz, AC supply with IP55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-325. M.S.fabricated common base plate, coupling, coupling guard, foundation bolts etc.as required. Suitable cement concrete foundation duly plastered and with anti vibration pads.	Set	1	85291.00	85,291.00
(a)	4.2	450 lpm at 35 m Head				
17.00	FIRE DSR 2019	Providing laying, testing & commissioning of 'C' class heavy duty MS Pipe conforming to				
(a)	6.2	150 mm dia pipe	m	375.00	2,376.00	8,91,000.00
(b)	6.1	200 mm dia pipe (wall thickness = 6.3 mm)	m	200.00	3,169.00	6,33,800.00
18.00	FIRE DSR 2019 7	Providing, laying, testing & commissioning of 'C' class heavy duty MS pipe conforming to IS 3589/IS 1239 including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required : (For Pumps & Equipments, Hydrant System, Sprinkler System & Water Curtain System)				
(a)	7.1	25 mm dia	m	12725.00	471.00	59,93,475.00
(b)	7.2	32 mm dia	m	1040.00	527.00	5,48,080.00
(c)	7.3	40 mm dia	m	700.00	651.00	4,55,700.00
(d)	7.4	50 mm dia	m	960.00	787.00	7,55,520.00
(e)	7.5	65 mm dia	m	1545.00	1,004.00	15,51,180.00
(f)	7.6	80 mm dia	m	1420.00	1,122.00	15,93,240.00
(g)	7.7	100 mm dia	m	785.00	1,499.00	11,76,715.00
(h)	7.8	150 mm dia	m	3010.00	2,064.00	62,12,640.00
(i)	7.9	200 mm dia (wall thickness 6.3 mm)	m	20.00	2,926.00	58,520.00
(j)	7.10	250 mm dia (wall thickness 6.3 mm)	m	25.00	3,521.00	88,025.00
19.00	FIRE DSR 2019 9	Supplying and fixing single headed internal hydrant valve with Instantaneous Gunmetal/Stainless Steel coupling of 63 mm dia with cast Iron wheel ISI marked conforming to IS 5290 (Type -A) with blank Gunmetal/Stainless Steel cap and chain as required :				
(a)	9.2	Single headed Stainless steel	Set	88.00	5,987.00	5,26,856.00
20.00	FIRE DSR 2019 10	Supplying and fixing Single headed external yard hydrant valve with 1 No. 63 mm dia Instantaneous FM Gunmetal/Stainless Steel coupling and cast Iron wheel, ISI marked, conforming to IS 5290 (type A) with blank Gunmetal/Stainless Steel cap and chain as required :				
(a)	10.2	Single headed Stainless steel	Set	8.00	5,987.00	47,896.00
21.00	FIRE DSR 2019 11	Supplying, fixing, testing and commissioning of butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required : (For Hydrant System, Sprinkler System & Water Curtain System)				
(a)	11.4	80 mm dia	Set	11.00	4,842.00	53,262.00
(b)	11.5	100 mm dia	Set	44.00	6,454.00	2,83,976.00
(c)	11.6	150 mm dia	Set	46.00	8,699.00	4,00,154.00
22.00	FIRE DSR 2019 12	Supplying, fixing, testing & commissioning of double flanged sluice valve of rating PN 1.6 with non rising spindle, bronze/gun metal seat, ISI marked complete with nuts, bolts, washers, gaskets and conforming to IS 780 of following sizes as required :				
(a)	12.2	50 mm dia	Each	1.00	7,094.00	7,094.00
(b)	12.4	80 mm dia	Each	4.00	10,549.00	42,196.00
(c)	12.5	100 mm dia	Each	3.00	14,428.00	43,284.00



(d)	12.6	150 mm dia	Each	13.00	22,550.00	2,93,150.00
(e)	12.7	200 mm dia	Each	2.00	39,133.00	78,266.00
(f)	12.8	250 mm dia	Each	2.00	46,318.00	92,636.00
23.00	FIRE DSR 2019 13	Supplying and fixing orifice plate made out of 6 mm thick stainless steel (Grade 304) with orifice of required size to be fitted between flange & landing valve of external and Internal hydrants to reduce pressure at the outlet to the level of 3.5 kg/cm2 complete as required.	Each	93.00	1,291.00	1,20,063.00
24.00	FIRE DSR 2019 14	Providing, Installation, testing and commissioning of non-return valve of following sizes conforming to IS: 5312 complete with rubber gasket, GI bolts, nuts, washers etc.as required : (For Pumps & Equipments, Hydrant System & Sprnkler System)				
(a)	14.4	80 mm dia	Set	2.00	7,539.00	15,078.00
(b)	14.5	100 mm dia	Set	2.00	10,835.00	21,672.00
(c)	14.7	150 mm dia	Set	13.00	17,577.00	2,28,501.00
(d)	14.8	200 mm dia	Set	1.00	29,075.00	29,075.00
25.00	FIRE DSR 2019 15	Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange.				
(a)	15.2	100 mm dia	Each	2.00	6,450.00	12,900.00
(b)	15.3	150 mm dia	Each	4.00	10,659.00	42,636.00
26.00	FIRE DSR 2019 16	Supplying and fixing 63 mm dia, 15 m long RRL hose pipe with 63 mm dia male and female couplings duly bound with GI wire, rivets etc. conforming to IS 636 (type-A) as required :				
(a)	16.2	Stainless Steel (Grade 304)	Set	186.00	4,434.00	8,24,724.00
27.00	ELECT. DSR 2018 16.8	Providing and fixing in position the industrial type pressure gauges with gun metal / brass valves complete as required	Each	1.00	1094.00	1,094.00
28.00	FIRE DSR 2019 17	Supplying and fixing first-aid Hose Reel with MS construction spray painted in post office red, conforming to IS 884 complete with the following as required. 20 mm nominal Internal dia water hose thermoplastic (Textile reinforced) type -2 as per IS: 12585 20 mm nominal Internal dia gun metal globe valve & nozzle. Drum and brackets for fixing the equipments on wall. Connections from riser with 25 mm dia stop gun metal valve & M.S. Pipe and socket.				
(a)	17.1	30 m	Set	85.00	8,413.00	7,15,105.00
29.00	FIRE DSR 2019 18	Supplying & fixing 63 mm dia gun metal short branch pipe with 20 mm nominal Internal diameter size nozzle conforming to IS 903 suitable for Instantaneous connection to Interconnect hose pipe coupling as required :				
(a)	18.2	Stainless Steel (Grade 304)	Nos.	93.00	1,648.00	1,53,264.00
30.00	FIRE DSR 2019 19	Supplying and fixing of fire brigade connection of cast iron body with gun metal male instantaneous inlet couplings complete with cap and chain as reqd. for suitable dia MS pipe connection conforming to IS 904 as required : (For Hydrant System & Sprnkler System)				
(a)	19.1	2 way-100 mm dia M.S. Pipe	Each	1.00	6,590.00	6,590.00
(b)	19.2	4 way - 150 mm dia M.S. Pipe	Each	3.00	13,822.00	41,466.00
31.00	FIRE DSR 2019 20	Supplying and fixing air vessel made of 250 mm dia, 8 mm thick MS sheet, 1200 mm in height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia gun metal wheel valve with required accessories, pressure gauge and painting with synthetic enamel paint of approved shade as required.	Set	3.00	18,009.00	54,027.00
32.00	FIRE DSR 2019 21	Providing, fixing, testing & commissioning of 15mm dia quartzoid bulb type sprinklers of rating 68 degree centigrade with required accessories :				
(a)	21.1	Pendent Sprinkler	Each	1306.00	484.00	6,32,104.00
(b)	21.2	Upright Sprinkler	Each	1146.00	484.00	5,54,664.00
(c)	21.3	Horizontal side wall sprinkler	Each	1357.00	579.00	7,85,703.00
33.00	FIRE DSR 2019 22	Providing & fixing of pressure switch in M.S. pipe line including connection etc. as required. (For Pumps & Equipments & Water Curtain System)	Each	10.00	1,508.00	15,080.00



34.00	FIRE DSR 2019 23	Providing & fixing flow switch in following sizes M.S. pipe including connection etc as required.				
(a)	23.1	100mm dia	Each	31.00	7,362.00	2,28,222.00
(b)	23.2	150mm dia	Each	31.00	8,869.00	2,74,939.00
35.00	FIRE DSR 2019 24	Providing, fixing, testing & commissioning of installation control valve of cast Iron body, brass/bronze working parts comprising of water motor alarm, bronze seat clapper, clapper arm and hydraulically driven mechanical gong bell to sound continuous alarm when the wet riser/sprinkler system activates, pressure gauges, emergency releases, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size, flanges, orifice plate, gasket etc of following sizes as required :				
(a)	24.3	150mm dia	Set	3.00	47,898.00	1,43,694.00
36.00	FIRE DSR 2019 26	Supplying, installation, testing & commissioning of deluge valve (to be used for water curtains) UL listed with wet pilot basic trim assembly for DVA with test and alarm, drip and drain valve with water motor gong complete as required.				
(a)	26.4	150mm dia	Set	3.00	1,14,963.00	3,44,889.00
37.00	FIRE DSR 2019 27	Providing, installation, testing & commissioning of water curtain nozzle 15mm dia nickel chrome plated brass, BSPT, K-factor as per design consideration complete as required.	Each	93.00	663.00	61,659.00
38.00	FIRE DSR 2019 29	Providing, installation, testing & commissioning of adjustable rosette plate for 15mm dia In white finish UL Listed or FM approved complete as required.	Each	1357.00	207.00	2,80,899.00
		TOTAL AMOUNT OF SECTION-3: FIRE FIGHTING WORKS DSR ITEMS				2,75,00,004.00
		SECTION-4: FIRE FIGHTING WORKS NDSR ITEMS				
S. No.	NDSR No.	Description	Unit	Total Quantity	Rate (Rs.)	Amount (Rs.)
39.00		FIRE FIGHTING PUMPS & EQUIPMENTS				
39.01		Supply, Installation, Testing and commissioning of Electrical Motor Driven fire hydrant Pump Set (Factory Fitted) consisting of the following as per the specifications.				
(a)	NDSR-25	Horizontal multi stage, multi outlet factory fitted pumping set with CI body, bronze impeller, SS 410 Shaft with mechanical seal of delivering 2850 LPM against a total head of 86M /114M/170M at 1480 rpm connected by a flexible coupling to a squirrel cage Induction motor totally enclosed fan cooled type, IE2 rated suitable for 415 volts ±15%, 3 phase, 50 Hz AC supply of suitable capacity 132 KW mounted on a common structural baseplates including suitable RCC pump-foundations as per manufacturer's design and 1 no. dunlop (cushy foot) heavy duty antivibration mounting pads, foundation bolts & washers as required. (Specification as per fire fighting requirements and on the pattern of LOCAL AUTHORITY APPROVAL)	Set	1.00	11,21,630.00	11,21,630.00



39.02		Supply, installation, Testing and commissioning of Electrical Motor Driven Sprinkler Pump Set (Factory Fitted) consisting of the following as per the specifications.				
(a)	NDSR-26	Horizontal multi stage, multi outlet factory fitted pumping set with CI body, bronze Impeller, SS 410 Shaft with mechanical seal of delivering 2850 LPM against a total head of 86M /114M/170M at 1480 rpm connected by a flexible coupling to a squirrel cage Induction motor totally enclosed fan cooled type, IE2 rated suitable for 415 volts ±15%, 3 phase, 50 Hz AC supply of suitable capacity 132 KW mounted on a common structural baseplates including suitable RCC pump-foundations as per manufacturer's design and 1 no. dunlop (cushy foot) heavy duty antivibration mounting pads, foundation bolts & washers as required. (Specification as per fire fighting requirements and on the pattern of LOCAL AUTHORITY APPROVAL)	Set	1.00	11,21,630.00	11,21,630.00
39.03		Supply, installation, Testing and commissioning of Electrical Motor Driven Water curtain Pump Set (Factory Fitted) consisting of the following as per the specifications.				
(a)	NDSR-27	Horizontal end suction centrifugal factory fitted pumping set with CI body, bronze Impeller, SS 410 Shaft with mechanical seal of delivering 2850 LPM against a total head of 40M at 2900 rpm connected by a flexible coupling to a squirrel cage induction motor totally enclosed fan cooled type, IE2 rated suitable for 415 volts ±15%, 3 phase, 50 Hz AC supply of suitable capacity 30 KW mounted on a common structural baseplates including suitable RCC pump-foundations as per manufacturer's design and 1 no. dunlop (cushy foot) heavy duty antivibration mounting pads, foundation bolts & washers as required. (Specification as per fire fighting requirements and on the pattern of LOCAL AUTHORITY APPROVAL)	Set	1.00	1,91,501.00	1,91,501.00
39.04		Supply, installation, Testing and commissioning of Electrical Motor Driven Standby Fire Pump Set (Factory Fitted) consisting of the following as per the specifications.				
(a)	NDSR-28	Horizontal multi stage, multi outlet factory fitted pumping set with CI body, bronze Impeller, SS 410 Shaft with mechanical seal of delivering 2850 LPM against a total head of 86M /114M/170M at 1480 rpm connected by a flexible coupling to a squirrel cage Induction motor totally enclosed fan cooled type, IE2 rated suitable for 415 volts ±15%, 3 phase, 50 Hz AC supply of suitable capacity 132 KW mounted on a common structural baseplates including suitable RCC pump-foundations as per manufacturer's design and 1 no. dunlop (cushy foot) heavy duty antivibration mounting pads, foundation bolts & washers as required. (Specification as per fire fighting requirements and on the pattern of LOCAL AUTHORITY APPROVAL)	Set	1.00	11,21,630.00	11,21,630.00
39.05		Supply, installation, Testing and commissioning of Electrical Motor Driven Automatic pressurisation (Jockey) pumping set (Factory Fitted) consisting of the following as per the specifications.				
(a)	NDSR-29	Horizontal multi stage, multi outlet factory fitted pumping set with CI body, bronze Impeller, SS 410 Shaft with mechanical seal of delivering 180 LPM against a total head of 86M /114M/170M at 2900rpm connected by a flexible coupling to a squirrel cage Induction motor totally enclosed fan cooled type, IE2 rated suitable for 415 volts ±15%, 3 phase, 50 Hz AC supply of suitable capacity 11 KW mounted on a common structural baseplates including suitable RCC pump-foundations as per manufacturer's design and 4 nos. dunlop (cushy foot) heavy duty antivibration mounting pads, foundation bolts & washers as required. (Specification as per fire fighting requirements and on the pattern of LOCAL AUTHORITY APPROVAL)	Set	2.00	2,03,580.00	4,07,160.00
39.06		Providing and fixing reinforced Neoprene flexible pipe connectors with all accessories on all pumps delivery.				
(a)		Suitable for 20 Kg/cm ²				
(a)	NDSR-30	80mm	Each	2.00	4,461.00	8,922.00
(b)	NDSR-31	100mm	Each	2.00	5,319.00	10,638.00
(c)	NDSR-32	150mm	Each	8.00	6,825.00	54,600.00



39.07		Providing, fixing, testing and commissioning of FM approved Venturi type Flow meter of approved brand of manufacture, with accessories etc., complete.				
(a)	NDSR-33	100mm dia	Each	2.00	1,09,732.00	2,19,464.00
39.08		Providing, fixing, testing and commissioning of Pressure release valve. (FM/UL listed)				
(a)	NDSR-34	100mm dia	Each	1.00	1,98,545.00	1,98,545.00
(b)	NDSR-35	20mm dia	Each	6.00	29,195.00	1,75,170.00
39.09		Providing, fixing, testing and commissioning of waste cone with site glasses.				
(a)	NDSR-36	100 x 200	Each	2.00	87,529.00	1,75,058.00
		SUB TOTAL OF FIRE FIGHTING PUMPS & EQUIPMENTS				48,05,948.00
40.00		FIRE HYDRANT SYSTEM & SPRINKLER SYSTEM				
40.01		Providing laying, testing & commissioning of 'C' class heavy duty MS Pipe conforming to IS 1239/3589 i/c fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. In ground including welding, excavation & providing cement concrete blocks as supports, anticorrosive treatment with coal tar/asphalt tape as per IS 10221, refilling the trench etc. of following sizes complete as required.				
(a)	NDSR-37	100 mm dia pipe	m	25.00	1,598.00	39,950.00
(b)	NDSR-38	80 mm dia pipe	m	15.00	1,138.00	17,070.00
40.02	NDSR-39	Providing, fixing, testing & commissioning of Drainage Provision for the risers with necessary 40 mm dia pipe, ball valve etc as required. Maximum length of pipe shall be 10 M.	Each	3.00	7,592.00	22,776.00
40.03	NDSR-40	Providing, fixing, testing & commissioning of 25 mm dia screwed inlet forged brass single acting air valves connected with ball valve on Inlet side at top of the Risers. (For Hydrant System & Sprinkler System)	Each	5.00	2,381.00	11,905.00
40.04	NDSR-41	Providing, fixing, testing & commissioning of door with frame for all Internal fire hydrants fabricated from 16 gauge CRCA M.S. sheet double door including 2 nos allen key lock for locking along with padlock arrangement & fully glazed with 5 mm thick float glass approved by local Fire Authority, stove enameled fire red finish with " fire hose' written on front with radium strip suitable to house 15 mm long four length of canvas hose with couplings, one no of branch pipe, one fire mans axe and two numbers of portable extinguishers, first aid fire hose and supports for hoses, branch pipes, Axe and hose reel. as per approved design including necessary fixing arrangement for hoses & axe and branch pipe.).	Sq.m	170.00	8,635.00	14,67,950.00
40.05	NDSR-42	Providing, fixing, testing & commissioning of fire hose cabinet fabricated from 16 gauge CRCA M.S. sheet with locking arrangement and hanging arrangement for accessories painted "Fire Red" with Stove enameled paint: "Fire Hose" written on front including suitable supports to place 900 mm above ground level properly anchored, approximately size 750x600x250 mm deep (to house two lengths of canvas hose with couplings, branch pipe with nozzle for external hydrants)	Each	8.00	8,635.00	69,080.00
40.06	NDSR-43	Providing, fixing, testing & commissioning of standard Fireman's Axe with heavy insulated rubber handle.	Each	85.00	879.00	74,715.00
40.07	NDSR-44	Providing, fixing, testing & commissioning of suction coupling for fire brigade draw of water from tank with 150 mm dia GI (Heavy class) pipe and foot valve (Pipe max 8 M long).	Each	1.00	7,363.00	7,363.00
40.08	NDSR-45	Providing, fixing, testing and commissioning of main control fire alarm panel suitable for 4 zones sprinkler system complete with individual indication for each zone with LED, Piezo Sounder and Acknowledge facility.	Set	1.00	13,365.00	13,365.00
40.09		Providing, fixing, testing & commissioning of lever operated gun metal Ball Valve with SS ball.				
(a)	NDSR-46	50 mm nominal bore	Each	62.00	5,683.00	3,52,346.00
40.10	NDSR-47	Providing, fixing, testing & commissioning of 25 mm dia preassembled inspection & testing assembly with gun metal Gate valve, gun metal sight glass, drain valve all complete.	Each	62.00	6,932.00	4,29,784.00
		SUB TOTAL OF FIRE HYDRANT SYSTEM & SPRINKLER SYSTEM				25,06,304.00



41.00		FIRE EXTINGUISHERS				
41.01		Providing, installation, testing and commissioning of ABC type fire extinguishers consisting of welded MS cylindrical body, squeeze lever discharge valve fitted with pressure indicating gauge internal discharge tube, 30 cms long high pressure discharge hose, discharge nozzle, suspension bracket, conforming to ISI finished externally with red enamel paint and fixed to wall with brackets complete with internal charge.				
(a)	NDSR-48	Capacity 6 kg. I.S.I. Marked.	Each	186.00	6,073.00	11,29,578.00
41.02		Providing, installation, testing and commissioning of Carbon-di-oxide fire extinguishers consisting of welded M.S cylindrical body, squeeze lever discharge valve fitted with internal discharge tube, 30cms long high pressure discharge hose, discharge nozzle, suspension bracket, conforming to IS : 934 finished externally with red enamel paint and fixed to wall with brackets with rawl plug/dash fasteners complete with internal charge.				
(a)	NDSR-49	Capacity 4.5 kg. I.S.I. Marked.	Each	73.00	10,185.00	7,43,505.00
(b)	NDSR-50	Capacity 6.5 kg. I.S.I. Marked.	Each	10.00	11,727.00	1,17,270.00
41.03		Supply, installation, testing and commissioning of Mechanical Foam type (ISI marked) fire extinguishers consisting of welded M.S. cylindrical body squeeze lever discharge valve 30 cm long high pressure discharge hose, discharge nozzle suspension bracket ISI marked as per IS 933 finished externally with red enamel paint and fixed to wall with brackets complete with internal charger.				
(a)	NDSR-51	Capacity 9 litres I.S.I. Marked.	Each	42.00	6,249.00	2,62,458.00
(b)	NDSR-52	50 litres capacity (trolley mounted)	Each	2.00	30,175.00	60,350.00
41.04		Supply, installation, testing and commissioning of carbon-di-oxide fire extinguishers trolley mounted with all accessories internal discharge tube, high pressure discharge hose, discharge nozzle, suspension bracket, ISI marked as per IS:2878 finished externally with red enamel paint and fixed to wall with brackets complete with internal charge.				
	NDSR-53	Capacity 22.5 kg.	Each	2.00	26,064.00	52,128.00
		SUB TOTAL OF FIRE EXTINGUISHERS				23,65,289.00
42.00		CLEAN AGENT GAS FLOODING SYSTEM FOR ELECTRICAL CONTROL PANELS				
42.01		Supply, installation, testing and commissioning of DLP automatic linear pneumatic tube detection based Perfluoro Ketone (FK-5-1-12)/ HFC 227ea System for Electrical Panels (Linear Pneumatic Heat Detection Tube Panel Protection System), consisting of the following mentioned components.				
(a)		Perfluoro Ketone (FK-5-1-12)/ HFC 227ea, DLP Assembly with automatic valve, push in connector for tube, Perfluoro Ketone (FK-5-1-12)/ HFC 227ea, mounting bracket, End of Line adopter and low pressure switch for monitoring system activation.				
(b)		Linear pneumatic heat Detection Tube with all necessary fittings & supports.				
(c)		A/V alarm				
(d)		Installation & Commissioning complete in all respect.				
39.1.1	NDSR-54	Main LT Panel (Type-1) Approx. Size (in L x D x H) = 12.50mx1.6mx2.45m				
		Automatic flooding system complete with Perfluoro Ketone (FK-5-1-12)/ HFC 227ea ,4 kg 3 nos. , Heat detection tube approx.110 mtr and MCU with A/V alarm 1 nos. with all necessary installation to complete the system.	Set	1.00	2,54,750.00	2,54,750.00
39.1.2	NDSR-55	Main LT Panel (EWS) Approx. Size (in L x D x H) = 6.50mx1.6mx2.45m				
		Automatic flooding system complete with Perfluoro Ketone (FK-5-1-12)/ HFC 227ea ,4 kg 2 nos. , Heat detection tube approx.62 mtr and MCU with A/V alarm 1 nos. with all necessary installation to complete the system.	Set	1.00	1,56,544.00	1,56,544.00
39.1.3	NDSR-56	PDB-Common Services Approx. Size (in L x D x H) = 5.50mx1.2mx2.45m				
		Automatic flooding system complete with Perfluoro Ketone (FK-5-1-12)/ HFC 227ea ,4 kg 1 nos. , Heat detection tube approx.40 mtr and MCU with A/V alarm 1 nos. with all necessary installation to complete the system.	Set	2.00	94,654.00	1,89,308.00



39.1.4	NDSR-57	PDB-Common Services(EWS), PDB-Club Approx. Size (In L x D x H) = 2.50mx0.4mx2.45m				
		Automatic flooding system complete with Perfluoro Ketone (FK-5-1-12)/ HFC 227ea ,2 kg 1 nos. , Heat detection tube approx.8 mtr and MCU with A/V alarm 1 nos. with all necessary installation to complete the system.	Set	3.00	46,398.00	1,39,194.00
39.1.5	NDSR-58	PDB-Ventilation (Basement) Approx. Size (In L x D x H) = 2.50mx0.4mx2.45m				
		Automatic flooding system complete with Perfluoro Ketone (FK-5-1-12)/ HFC 227ea ,2 kg 1 nos. , Heat detection tube approx.8 mtr and MCU with A/V alarm 1 nos. with all necessary installation to complete the system.	Set	2.00	46,398.00	92,796.00
39.1.6	NDSR-59	PDB-Pressurization Approx. Size (In L x D x H) = 2.50mx0.4mx2.45m				
		Automatic flooding system complete with Perfluoro Ketone (FK-5-1-12)/ HFC 227ea ,2 kg 1 nos. , Heat detection tube approx.8 mtr and MCU with A/V alarm 1 nos. with all necessary installation to complete the system.	Set	2.00	46,398.00	92,796.00
39.1.7	NDSR-60	PDB-Fire pumps panel Approx. Size (In L x D x H) = 3.10mx0.4mx2.17m				
		Automatic flooding system complete with Perfluoro Ketone (FK-5-1-12)/ HFC 227ea ,2 kg 1 nos. , Heat detection tube approx.8 mtr and MCU with A/V alarm 1 nos. with all necessary installation to complete the system.	Set	1.00	46,398.00	46,398.00
39.1.8	NDSR-61	PDB-Water supply pumps panel Approx. Size (In L x D x H) = 1.90mx0.4mx1.975m				
		Automatic flooding system complete with Perfluoro Ketone (FK-5-1-12)/ HFC 227ea ,2 kg 1 nos. , Heat detection tube approx.5 mtr and MCU with A/V alarm 1 nos. with all necessary installation to complete the system.	Set	1.00	42,816.00	42,816.00
39.1.9	NDSR-62	PDB-STP panel Approx. Size (In L x D x H) = 2.50mx0.4mx2.45m				
		Automatic flooding system complete with Perfluoro Ketone (FK-5-1-12)/ HFC 227ea ,2 kg 1 nos. , Heat detection tube approx.8 mtr and MCU with A/V alarm 1 nos. with all necessary installation to complete the system.	Set	1.00	42,816.00	42,816.00
		SUB TOTAL OF CLEAN AGENT GAS FLOODING SYSTEM FOR ELECTRICAL CONTROL PANELS				10,57,418.00
43.00		FIRE FIGHTING PUMPS & EQUIPMENTS				
43.01		Supply, installation, testing and commissioning dust and vermin proof Motor Control Panel fabricated from 14 SWG MS sheet with stove enamelled paint and comprising of the following:(for Fire Booste pump). 32A TP MCB, 25 A DOL starter, overload relay, start/stop push buttons, ammeter (0-40A) with three CT & selector switch, on/off/trip indication lights with protection fuse, single phase preventer. - 01 Set One panel type volt meter 96mm square with Rotary selection switch for reading voltage between phase and neutral or incoming feeder. Three Neon Phase indicating lights on the incoming Main One Ampere meter 96mm square panel type of appropriate range. Etched plastic identification plates for all switch gears. Space for 32 ampere MCB				
	NDSR-63	All internal wiring should be colour coded from incoming main to switchgear, starters, meters, indicating lights.	Each	1	49,279.00	49,279.00
43.02		Supply, installation, testing and commissioning of the PVC insulated & sheathed FRLS Armoured cables of 1.1 K.V. Aluminium Conductor including supplying and making and termination with brass compression glands:				
	NDSR-64	3 Core x 6 sq.mm	Metre	30	100.00	3,000.00
		SUB TOTAL OF FIRE FIGHTING PUMPS & EQUIPMENTS				52,279.00
		TOTAL AMOUNT OF SECTION-4: FIRE FIGHTING WORKS NDSR ITEMS				1,07,87,238.00



S. No.	NDSR No.	SECTION-5: LIFT WORKS NDSR ITEMS Description	Unit	Total Quantity	Rate (Rs.)	Amount (Rs.)
		LIFT WORKS				
44.00		Design, manufacture, supply, installation, testing, commissioning and handing over in satisfactory working condition of lifts including the cost of providing free comprehensive maintenance for two years after handing over complete as per specifications, and other terms and conditions as mentioned and as required and as below including all civil works required in the lift shaft for installation of the lift. (NOTE: ALL THE LIFTS SHALL HAVE REGENERATIVE BRAKING SYSTEM)				
(i)		Passenger Lifts with Machine Room at terrace (Type-4 flats) 17 Passengers Lift, 1156 Kgs @ 1.75 m/s, 15 stops (Basement, Stilt-13th Flr.) 50.5 mtr. rise, complete as per specifications)	Nos.	2	5450000	10900000
(ii)		Passenger Lifts with Machine Room at terrace (Type-6 flats) 17 Passengers Lift, 1156 Kgs @ 3.0 m/s, 32 stops (Basement, Stilt-30th Flr.) 112.2 mtr. rise, complete as per specifications)	Nos.	2	8800000	17600000
(iii)		Passenger Lifts with Machine Room Less (Type-6 flats) 17 Passengers Lift, 1156 Kgs @ 2.5 m/s, 24 stops (Basement, Stilt-24th Flr.) 81.2 mtr. rise, complete as per specifications)	Nos.	2	8200000	16400000
(iv)		Passenger Lifts with Machine Room at terrace (EWS flats) 17 Passengers Lift, 1156 Kgs @ 1.75 m/s, 15 stops (Ground - 14th Flr.) 47.4 mtr. rise, complete as per specifications)	Nos.	3	5350000	16050000
(v)		Service Elevator with Machine Room at terrace (Type-6 flats) 1360 Kgs @ 1.75 mps, 32 stops, 112.2 mtr rise complete as per specifications)	Nos.	1	8050000	8050000
(vi)		Service Elevator with Machine Room at terrace (Type-4 flats) 1360 Kgs @ 1.5 mps, 15 stops, 50.5 mtr rise complete as per specifications).	Nos.	1	5800000	5800000
(vii)		Service Elevator with Machine Room at terrace (EWS flats) 1360 Kgs @ 1.5 mps, 15 stops, 47.4 mtr rise complete as per specifications)	Nos.	1	5800000	5800000
(viii)		Passenger Elevator with Machine Room at terrace with hanging pit (Type-8, Duplex flat) 408 Kgs @ 1.0 mps, 2 stops, 7.0 (lower and upper level) mtr rise complete as per specifications)	Nos.	1	2300000	2300000
(ix)		Annual Maintenance Contact Charges for Comprehensive Annual Maintenance Contact (AMC) of above mentioned lifts including the cost of spares & consumables, manpower etc. fixed for 05 years after expiry of the defects liability and free maintenance period of 02 years.				
		First Year	L.S.	1	4145000	4145000
		Second Year	L.S.	1	4559500	4559500
		Third Year	L.S.	1	5014450	5014450
		Fourth Year	L.S.	1	5516995	5516995
		Fifth Year	L.S.	1	6068695	6068695
		TOTAL AMOUNT OF SECTION-5: LIFT WORKS NDSR ITEMS				10,82,04,640.00
		TOTAL CARRIED OVER TO GRAND SUMMARY SHEET (AS PER RATE ANALYSIS)				₹16,70,43,995.00



Annexure to Summary

Rate of all taxes as on the Base Date included in the Bill of Quantities

Total amount of taxes included in the Bill of Quantities (in INR) in Figure		Annexure-B											
S.NO	ITEM DESCRIPTION	TAXES											
		1	2	3	4	5	6	7	8	9	10		
		Type of tax	Rate (%)	Type of tax	Rate (%)	Type of tax	Rate (%)	Type of tax	Rate (%)	Type of tax	Rate (%)	Type of tax	Rate (%)
1	Sand	GST	5										
2	Cement	GST	28										
3	Grit	GST	5										
4	Steel	GST	18										
5	Shuttering Material - Aluminium	GST	18										
6	Shuttering Material - Wood	GST	18										
7	Electrical - Conduit	GST	18										
8	Electrical - Wire	GST	18										
9	Electrical - Switches	GST	18										
10	Electrical - Cable	GST	18										
11	Plumbing and Firefighting	GST	18										
12	China Ware	GST	18										
13	CP Fitting	GST	18										
14	Glass	GST	18										
15	Tiles	GST	18										
16	Lift	GST	18										
17	UPVC Windows	GST	18										
18	HVAC (1)	GST	18										
19	HVAC (2)	GST	28										
20	Kitchen Cabinets	GST	18										
21	Wardrobe Cabinets	GST	18										
22	Paints	GST	18										
23	Aluminium	GST	18										
24	AAC Block	GST	5										
25	Doorframe	GST	18										
26	Plush	GST	18										
27	Wooden Flooring	GST	18										
28	Water proofing	GST	18										
29	Earth work	GST	5										
30	Granite	GST	18										



