

# **Annexure – I**

## **Bill of Quantities (Civil, Electrical, Mechanical Works)**

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**Bhaisora Transfer Station - Bill of Quantities**

Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
<b>A</b>	<b>Civil Works</b>					
1	Compacting the Original Ground: Loosening, leveling and compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density for embankment construction complete and as directed.	Sqm	5,720.64			
2	Site Development (Site Clearance) a. Cleaning of unwanted material b. Cleaning of waste water and rubbish	Sqm	11,780.46			
3	S/C For Earth work excavation in all kinds of soil: Excavation by mechanical means (Hydraulic excavator)/manual means in trenches, pits, pipe lines, foundations, column footings, walls etc. in earth's soils of all types, gravel, sand, soft & hard murum, and boulders up to 0.03 cum. size including removing the excavated material upto a distance of 50 M beyond the edge of excavation for all lifts, stacking or spreading as directed, shoring, strutting for protecting the sides of foundation, dewatering/bailing of sub-soil water if any preparing base for foundation etc., and back filing the excavated pit or trench using the approved excavated material in layers including watering and ramming as required or as directed by Engineer-In-charge, including all labour and materials complete. ( PCC area only measured for base measurement)	cum	1,712.77			
4	S/C For Excavation in hard rock: Excavation by mechanical means (Hydraulic excavator)/manual means in trenches, pits, pipe lines, foundations, column footings, walls etc. in hard rock and boulders by blasting or controlled blasting including removing the excavated material upto a distance of 50 M beyond the edge of excavation for all lifts, stacking or spreading as directed, shoring, strutting for protecting the sides of foundation, dewatering/bailing of sub-soil water if any preparing base for foundation etc., and back filing the excavated pit or trench using the approved excavated material in layers including watering and ramming as required or as directed by Engineer-In-charge, including all labour and materials complete.	M3	500.52			
5	Granular sub-base - 150mm thick: Construction of granular sub base by providing close graded material, mixing in a mechanical mix plant at OMC, carrying of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per Clause 401.	Cum	157.65			
6	PCC (1:4:8): Plain Cement concrete of mix 1:4:8 using Ordinary Portland cement conforming to IS 1489), River sand and graded stone aggregates of 40 mm maximum size at all depths below plinth level including cost of cement and all materials, leads and lifts, transportation to site of work, consolidation, finishing, curing, etc. complete but excluding form work as per specifications for mud mat in foundations of masonry walls or others etc. complete as per specs. and as directed for finished item of work.	cum	213.59			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
7	PCC (1:2:4) Providing and laying Plain Cement Concrete 1:2:4 nominal mix using Ordinary Port Land Cement, sand and crushed stone aggregate 20 mm nominal size mechanically mixed, including tamping, curing, shuttering etc., as required placed in the foundation, under slabs, on grade etc., including all tools and tackles, formwork if required etc. complete as directed by the Engineer-in-charge	cum	5.29			
8	S/C For RR Stone Masonry for foundation "RR Masonry in CM (1:6): Providing uncoursed random rubble masonry of trap/granite/quartzite/gneiss stone above/below plinth level or ground level in foundation and plinth in cement mortar 1:6 including dewatering, striking out joints on exposed faces, curing, scaffolding, raking out joints, plastering, pointing with same mortar etc complete as per specifications and directions of Engineer-in-charge.	cum	23.76			
9	RFRCC M25 for Flooring: Supplying and laying reinforced cement concrete of RFRCC M25 Grade (steel fibers @ 15kg/cum) as defined in IS:456, Flooring / Road including cost and conveyance of all materials vibrating with mechanical vibrator, levelling, curing etc., but excluding cost of shuttering, etc., complete finished item and as directed by Engineer-in-charge	cum	945.93			
10	RCC : M-25 Grade: Supplying and laying reinforced cement concrete of M 25 Grades as defined in IS:456, in all types of foundations and super structures, in walls, slab, columns, beams, lintels, chajjas, floor/roof slabs, staircase, footings, basements, cellars, trenches, drains, encasing of structural steel members / pipelines, etc. including cost and conveyance of all materials vibrating with mechanical vibrator , curing etc., but excluding cost of shuttering and steel reinforcement. All wars shall be as per drawings, specifications and directions of the Engineer/Consultant, super-plasticizer as per manufacturer's instruction/directions.	cum	345.98			
11	Reinforcement Steel: Supply, fabrication and erection of Reinforcement bars for Reinforced cement concrete items at and at all depths and heights below and above plinth level with high yield strength deformed bars confirming to IS 1786 with TM Treatment from approved source (Vizag steel, Tata, SAIL make), including supply to site, providing fan hooks of required shape, dowels for bonding masonry, transporting steel to site, decoiling, removing of scales, straightening, cutting, bending, tying bars with chairs, space bars wherever required, in position with two strings of 18 gauge soft drawn annealed MS binding wire etc., complete as specified and directed.	kg	25,251.00			
12	Shuttering : Providing standard form work of steel plates, centering and shuttering at all depths and heights of work below and above plinth level, vertical, horizontal, inclined including strutting, propping using steel pipes/acro staging, removal, cleaning of the same for inset reinforced cement concrete works and in plain cement concrete work as required including chamfers, splays, keys, wedges, nails, bracings, brackets and applying one coat of shuttering oil on all shuttering surfaces coming in to contact with concrete etc., complete as directed including cost of materials, conveyance, labour and all other incidental charge etc. complete as directed to the finished item of work.	sqm	1,972.77			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
13	Brick work in CM (1:6) 230mm th.: Brick masonry work using specified class II well burnt clay bricks of specified class, size and quality in cement mortar (1:6) at all depths and heights below and above plinth level including cost and conveyance of all materials, pilasters, steel tubular scaffolding, raking out joints, curing etc., complete as per specifications and as directed. Brick shall be laid flat in the projections for the finished item of work.	cum	323.64			
14	Plastering-15mm th. in CM (1:6): Cement plastering 15 mm thick for internal surfaces of walls in cement mortar (1:6) neatly smooth finished at and all heights above plinth level over brick walls or concrete surfaces, RCC and also other places wherever required including making necessary grooves in between junctions of brick masonry and over brick walls or concrete surface, preparation of surface, steel/tubular scaffolding, curing, etc., complete as directed as per standard specs. for the finished item of work.	sqm	3,289.57			
15	Water Proof Plastering in CM (1:3) : Supply and providing Cement plastering 12 mm thick for internal surfaces of walls in cement mortar (1:3) with coarse sand with 5 % cico or any other approved water proofing compound including taxes and neatly smooth finished at and all heights above plinth level over brick walls or concrete surfaces, RCC and also other places wherever required including making necessary grooves in between junctions of brick masonry and over brick walls or concrete surface, preparation of surface, steel/tubular scaffolding, curing, etc., complete as directed as per standard specs. for the finished item of work.	sqm	37.18			
16	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete finished item and as directed by engineer in charge.	sqm	524.08			
17	Finishing walls with Acrylic emulsion paint having Alkali & fungal resistance, dirt resistance exterior /interior paint of required shade over one coat of primer, including all materials, labour charges, tools & tackles, necessary scaffolding, etc., complete finished item	sqm	2,340.00			
18	Snow Cem Painting-Snowcem: Providing and applying two coats cement based paint (Snowcem or approved brand) conforming to IS:5410-1990, over one coat of primer including preparing the surface to receive priming & finishing coats, scaffolding, curing etc. complete in any shade as directed by Engineer-in-charge	Sqm	2,340.02			
19	S/C For Cement Punning: Supply and applying Neat cement punning by tamping, trowelling, and with a finishing floating coat of neat cement slurry @ 2.20kg. of cement per Sq.m. of area, including cost of cement, tools, labour, cleaning the sub-base surface, curing, etc. all complete and as per directions of Engineer-in-charge.	Sqm	399.70			
20	S/C for fabrication of Structural Works for base plates 0.3mm X .15mm X .008mm	Kg	283.00			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
21	S/C for Fabrication of structural works. fixing of Drains MS Grating for Drain Supply, fabricate and erection drain grating using ISA 40x40x5mm, 35x35x3mm for grill frame and 35 x 3mm Flat for horizontals including all materials, labour charges, Two coats of enamel paint over 1 coat of steel primer, etc., as per drawing complete finished item and as directed by engineer-in-charge	Kg	3,710.00			
22	S/C For Enamel Painting; Providing and applying two coats of enamel paint over one coat of primer and putty of approved colour, including scaffolding if necessary and cleaning and preparing the surface, etc. complete as directed by Engineer-in-charge	sqm	98.79			
23	S/C For Grouting with GP2: Providing GP grouting for PEB base plates with GP2 grout including supply of all materials, conveyance, wastages, etc. complete for the finished item of the work as directed by the Engineer in charge at site.	cum	2.14			
24	S/C For Construction Joint : Service charges for Preparing 10 mm wide x 50 mm deep contraction joint using groove cutting machine @ 5m spacing, providing and filling joints with approved joint filler/ sealants such as Bitumen epoxy, etc., complete finished item and as directed by Engineer-in-charge.	Rmt	436.82			
25	S/C For Filling with available exc earth : 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 watering, and compacting to 95% modified proctor density, dressing, trimming, etc all complete as per drawing, specifications and as directed by Engineer-in-charge ( compacted finished area / volume only measured for payment) available soils within the site.	Cum	2,252.08			
26	S/C For Filling with Approved Soil : Filling with approved material obtained from borrow pits (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by watering, and compacting to 95% modified proctor density, dressing, trimming, etc all complete as per drawing, specifications and as directed by Engineer-in-charge ( compacted finished area / volume only measured for payment)	Cum	21,710.89			
27	Providing and fixing of HDPE 150mm Dia Pipe with excavation/ jointing materials & labour etc all complete as per drawing, specifications and as directed by Engineer-in-charge	rmt	50.00			
28	Providing and fixing of 100mm Dia Pipe with excavation/ jointing materials & labour etc all complete as per drawing, specifications and as directed by Engineer-in-charge	rmt	30.00			
29	Providing and fixing of HDPE 300mm Dia Pipe with excavation/ jointing materials & labour etc all complete as per drawing, specifications and as directed by Engineer-in-charge	rmt	8.50			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
30	Providing and fixing of 40mm dia CPVC Pipe Charges towards Supply & laying of under floor PVC drainage pipes, specials of approved make conforming to IS:13592 Type 'B' (6 kg/sq.cm.) using lubricant as per manufacturer's specification, including cutting the pipes square to the required lengths, necessary wall cutting, chasing & restoring to the original condition, testing for water tightness etc. The formation of pipe sockets by heating the pipe shall not be permitted the joints for plain ended pipes shall be made using couplers if necessary. Rate shall also include the cost of GI 'U' clamps of 12/16mm thick to be provided at not more than 1.5m c/c for horizontal ceiling suspended pipes. (Internal Piping). Including labour & all other necessary accessories.	rmt	5.10			
31	Providing and fixing of 150mm dia PVC Pipe Charges towards Supply & laying of under floor PVC drainage pipes, specials of approved make conforming to IS:13592 Type 'B' (6 kg/sq.cm.) using lubricant as per manufacturer's specification, including cutting the pipes square to the required lengths, necessary wall cutting, chasing & restoring to the original condition, testing for water tightness etc. The formation of pipe sockets by heating the pipe shall not be permitted the joints for plain ended pipes shall be made using couplers if necessary. Rate shall also include the cost of GI 'U' clamps of 12/16mm thick to be provided at not more than 1.5m c/c for horizontal ceiling suspended pipes. (Internal Piping). Including labour & all other necessary accessories.	rmt	10.50			
32	S/C For Coloured glazed tile : Providing & laying Glazed Vitrified tiles to internal walls to required height height 6 to 8mm thick length equal to flooring tiles, set over the base coat of CM (1:3) 12 mm thick with cement slurry of honey-like consistency spread at the rate of 3.30 kgs per sqm and jointed with white cement paste mixed with the pigment of matching shade to full depth, etc., complete for finished item of work as directed by engineer-in-charge	sqm	186.47			
33	Supply and fixing of Outdoor Auto-Tracking Camera, 12 Pre-Set dots Tracking, 360° Visual Coverage with necessary fixtures including the erection charges .	Nos	1.00			
34	Supply and fixing charges for Vehicle stopper beams in parking with edge angles. (Synthetic Plastic & Rubber Car Wheel Stopper) - 600mm Black with yellow reflective Strip.	Nos	10.00			
35	supply and fixing charges of Kerb stone with all necessary civil works and required fixtures including packing and properly laying and painting snow cem.	Rmt	100.00			
36	MS Man Hole Cover 600mm X 600mm: Providing and fixing MS Manhole cover of size 600 x 600 mm with frame with locking arrangement, etc. cover and frame (heavy duty, HD-20 grade designation) conforming to I.S. 12592, total weight of cover and frame to be not less than 50kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centring, shuttering all complete. (rate includes Excavation, foot rests and 12mm thick cement plaster at the external surface )	no's	1.00			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
37	PVC water stopper: Providing and Laying PVC water stopper 250mm wide including cost of material , labour charges etc., complete as per specifications & as advised by the Engineer In charge.	rmt	18.40			
38	Supply and filling expansion joint using Polyurethane Sealant sealing compound including cleaning the joint, all material, labour charges, all tools and tackles, necessary scaffolding etc., complete finished item and as per drawing and as directed by engineer-in-charge	Sqm	714.00			
39	RCC 450mm dia Hume pipe	nos	270.00			
40	Manhole cover with pvc rung (HD 20) 600mm x 600mm	nos	15.00			
41	Supply & Fixing of CC Manhole cover (600MMX600MM) as Per IS Standrads as directed by engineer/incharge	Nos	4.00			
42	EN 901 Painting	Sqm	14.70			
43	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 with installing 400 mm dia approved brand HDPE pipe.	Meter	400.00			
44	Topographical survey Carrying out a topographical survey of the area shown by the engineer-in-charge/client. Surveying will be carried out to fix coordinates, dimensions of the roads, existing ground facilities like building, shed, shops , road, electrical poles, HT line, drains, man holes , major trees, telephone poles and water bodies.	LS	1.00			
45	Geotechnical Survey Equipment charges per day Standard Penetration tests (SPT) were conducted in these boreholes and relevant soil samples were collected. Soil tests were carried out in the laboratory to ascertain the allowable bearing capacity of encountered strata. To conduct tests on different samples in the laboratory as such as grain size Analysis, Atterberg limit, density, Consolidation test , shear properties, natural moisture and determining the engineering characteristics	Nos	3.00			
46	Supply and Fixing of Name Board and MS Fabrication work with flexible board with all necessary items.	sqm	34.40			
47	Supply, Fabricate and erection of Structural shed with AZ-150/SDP	Tons	60.07			
48	Supply of 304 Stainless Steel turbo ventilator. Japan NSK self-lubricating bearing and metal support including transportation.	Nos	5.00			
49	Supply of polycarbonate FRP skylight with 1-2mm thickness, Including transportation	Sqm	86.40			
50	Supply charges for Membrane Filtration Stainless Steel Water Purifiers, For Commercial, RO Capacity: 1000-1500 (Liter/hour) including necessary plumbing materials with operations complete with all necessary fixtures and tools at the site as required by the client with Installation charges with necessary fixtures and tools complete and as directed by the Engineer-in-charge.	LS	1.00			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
54	Supply and fixing of Ventilated GI rolling shutter with neat finishing and fireproofing and installation Providing and fixing Automatic rolling shutter power-driven with pull & push type provision for rolling shutters of approved make out of 18 gauge, 75 mm wide cold rolled steel laths of convex corrugation, with side guides and bottom rail, with interlocking arrangements of steel laths by means of alternate clips, suspension shaft with High tension coil type springs two numbers, mounted on specially designed pipe shaft, with bracket plates, guide channels, ball bearing arrangements, for inside & and outside locking with push & and pull operations complete with all necessary fixtures and tools at site as required by the client.	Sqm	26.00			
55	<b>CC Road</b>		-			
a	Compacting the Original Ground: Loosening, leveling and compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density for embankment construction complete and as directed.	M2	2,117.50			
b	Granular sub-base - 150mm thick: Construction of granular sub-base by providing close graded material, mixing in a mechanical mix plant at OMC, carrying of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per Clause 401.	M3	317.63			
c	PCC (1:4:8): Plain Cement concrete of mix 1:4:8 using Ordinary Portland cement conforming to IS 1489), River sand and graded stone aggregates of 40 mm maximum size at all depths below plinth level including cost of cement and all materials, leads and lifts, transportation to site of work, consolidation, finishing, curing, etc. complete but excluding form work as per specifications for mud mat in foundations of masonry walls or others etc. complete as per specs. and as directed for finished item of work.	M3	211.75			
d	RFRCC M25 for Flooring: Supplying and laying reinforced cement concrete of RFRCC M25 Grade as defined in IS:456, Flooring / Road including cost and conveyance of all materials vibrating with mechanical vibrator, levelling, curing etc., but excluding cost of shuttering, etc., complete finished item and as directed by Engineer-in-charge	M3	370.56			
<b>Total Value of Civil Works (in Rs.)</b>					<b>0</b>	
<b>B</b>	<b>Mechanical</b>					
1	Static Horizontal Compaction Machine model SC -260 with Tip Cart Mechanism / model SC -350 with Hopper	Nos	3.00			
2	Container of Volumetric Capacity of 20 Cum consists	Nos	5.00			
<b>Total Value of Mechanical Works (in Rs.)</b>					<b>0</b>	



LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED

BHAISORA TRANSFER STATION - Bill of Quantities - Electrical Works

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
		<b>LT WORKS :</b>							
<b>A</b>		<b>LOW VOLTAGE PCC /APFC / MCC</b>							
		Supply (as per approved make only), Installation, testing and commissioning of following switchboards floor mounting type in single/Double front execution, along with base frame including unloading, shifting to intermediate stores, if site is not ready and loading, unloading, transportation from owner's store / yard to the site of the erection, unpacking, assembly (Incl. installation & wiring of loose parts supplied by OEM vendor) installation on foundation (minor civil work inclusive), or fixing on wall or steel structure, leveling, grouting, proper alignment, tightening of busbars with required torque, testing and calibration of relays and meters etc, Including all labour and erection material / hardware complete as per specification of this tender, and direction of Engineer in charge and under supervision and instruction of panel manufacturer. For Mounting types of all panels, refer Technical Specification of LT Switchboard. Vendors shall quote unit rates of all type of outgoing feeders and vertical cubical with vertical & horizontal busbars and wiring for addition and deletion during detailed engineering. Vendor's offer should include all charges of minimum 2 visit of 5 days each of Panel OEM commissioning Engineer for supervision of erection and commissioning of Panels (includes Travelling + Stay, etc.). All the interlocks, wiring as to be demonstrated at site as per requirement.							
1.1		<b>Switch Board Designation : Outdoor Type MAIN PCC CUM APFCR PANEL</b>	No.	1					
		<b>Quote as per IEC 60439</b>							
		Voltagge : 415 V							
		Construction : IP-65, Indoor type, Single Front with Bottom Cable Entry							
		Mounting : Floor Mounting with Stand							
		Paint Shade : RAL 7032 (Siemens Grey)							
		Cable Entry : Bottom							
		Location : Electrical Panel Room							
		Refer Annexure -1 for detailed boq							
		<b>Incoming Feeder :</b>							
		EB & DG Incomer : 630A FP ATS							
		CTs-630 / 5 A, CL 1, 6 Nos.							
		DV(0-500V), DA(0 - 630A) - 2Sets.							
		Indication Lamps -R Y B.							
		EB & DG ON Status - ON Indication Lamps							
		Common Incomer : 630A 4 Pole, 36kA/sec MCCB with							
		CTs-630 / 5 A, CL 1, 4 Nos.							
		DV(0-500v), DA(0 - 630A) - 3Sets.							
		Indication Lamps -R Y B, ON, OFF, TRIP.							
		Surge Protection Device (SPD) TYPE 1 -CLASS 1 WITH 32A MPCB 65kA CONTROL.							
		Other items as required for safe and efficient electrical panel as mentioned in Sepcification.							
		<b>Outgoing Feeders :</b>							
		One (1) 250A, 36kA/sec 4P MCCB with On, Off & Trip Indication lamps							
		Six (6) 125A, 36kA/sec 4P MCCB with On, Off & Trip Indication lamps							
		Seven (7) 63A, 10kA/sec 4P MCB's.							
		32A 3-Phase 5-Pin Power Sockets with MCB control - 2Nos							
		One (1) 15 KVAR capacitor banks with 32A TP MCB control for transformer fixed bank.							
		One (1) 250A, 36kA/sec 4P MCCB with UV Coil with On, Off & Trip Indication lamps - APFCR Incoming Feeder							
		Two (2) 5 KVAR capacitor banks with 32A TP MCB control with capacitor duty contactors suitable for 5KVAR of including start/stop push buttons and with On, Off indication lamps.							
		One (1) 10 KVAR capacitor banks with 32A TP MCB control with capacitor duty contactors suitable for 10KVAR of including start/stop push buttons and with On, Off indication lamps.							
		One (1) 15 KVAR capacitor banks with 32A TP MCB control with capacitor duty contactors suitable for 15KVAR of including start/stop push buttons and with On, Off indication lamps.							
		Two (2) 20 KVAR capacitor banks with 63A TP MCB control with capacitor duty contactors suitable for 20KVAR of including start/stop push buttons and with On, Off indication lamps.							

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**BHAISORA TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
		Two (2) 25 KVAR capacitor banks with 63A TP MCB control with capacitor duty contactors suitable for 25KVAR of including start/stop push buttons and with On, Off indication lamps.							
1.2		<b>Switch Board Designation : Transfer Station Panel</b> <b>Quote as per IEC 60439</b>	No.	1					
		Voltage : 415 V							
		Construction : IP-65, Outdoor type, Single Front with Bottom Cable Entry with Stand							
		Mounting : Floor Mounting with Stand							
		Paint Shade : RAL 7032 (Siemens Grey)							
		Cable Entry : Bottom							
		Location : Transfer Station							
		Refer Annexure -1 for detailed boq							
		<b>Incoming Feeder :</b>							
		Incomer : 125A 36KA FP MCCB							
		CTs-125 / 5 A, CL 1, 3 Nos.							
		DV(0-500V), DA(0 - 125A) - 1Set.							
		Indication Lamps -R Y B, ON, OFF, TRIP.							
		Earth faultb relay with CBCT							
		<b>Outgoing Feeders :</b>							
		One (1) 100A, 36kA/sec 4P MCCB with On, Off & Trip Indication lamps							
		Seven (7) 63A, 10kA/sec 4P MCB's.							
		32A 3-Phase 5-Pin Power Sockets with MCB control - 2Nos							
1.3		<b>Switch Board Designation : Vehicle Maintenance Shed Panel</b> <b>Quote as per IEC 60439</b>	No.	1					
		Voltage : 415 V							
		Construction : IP-65, Outdoor type, Single Front with Bottom Cable Entry with Stand							
		Mounting : Floor Mounting with Stand							
		Paint Shade : RAL 7032 (Siemens Grey)							
		Cable Entry : Bottom							
		Location : Vehicle Maaintenance Shed							
		Refer Annexure -1 for detailed boq							
		<b>Incoming Feeder :</b>							
		Incomer : 125A 36KA FP MCCB							
		CTs-125 / 5 A, CL 1, 3 Nos.							
		DV(0-500V), DA(0 - 125A) - 1Set.							
		Indication Lamps -R Y B, ON, OFF, TRIP.							
		Earth faultb relay with CBCT							
		<b>Outgoing Feeders :</b>							
		One (1) 100A, 36kA/sec 4P MCCB with On, Off & Trip Indication lamps							
		Seven (7) 63A, 10kA/sec 4P MCB's.							
		32A 3-Phase 5-Pin Power Sockets with MCB control - 2Nos							
1.4		<b>Switch Board Designation : MRF Shed Panel</b> <b>Quote as per IEC 60439</b>	No.	1					
		Voltage : 415 V							
		Construction : IP-65, Outdoor type, Single Front with Bottom Cable Entry with Stand							
		Mounting : Floor Mounting with Stand							
		Paint Shade : RAL 7032 (Siemens Grey)							
		Cable Entry : Bottom							
		Location : MRF Shed							
		Refer Annexure -1 for detailed boq							
		<b>Incoming Feeder :</b>							
		Incomer : 250A 36KA FP MCCB							
		CTs-125 / 5 A, CL 1, 3 Nos.							
		DV(0-500V), DA(0 - 250A) - 1Set.							
		Indication Lamps -R Y B, ON, OFF, TRIP.							
		Earth faultb relay with CBCT							
		<b>Outgoing Feeders :</b>							
		Two (2) 100A, 36kA/sec 4P MCCB with On, Off & Trip Indication lamps							
		Eight (8) 63A, 10kA/sec 4P MCB's.							
		Eight (8) 32A, 10kA/sec 4P MCB's.							
		32A 3-Phase 5-Pin Power Sockets with MCB control - 2Nos							
<b>B</b>		<b>DISTRIBUTION BOARDS</b>							

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**BHAISORA TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
		Supply, Installation, testing and commissioning of following distribution boards. MCB distribution boards shall be totally with single door/double door, Surface/recessed mounting type, outer door shall be hinged type with push in type spring / magnetic lock, inner door shall be fixed up with screws with cutouts for MCB operation, copper busbar of at least 1.5 times the rating of incomer MCB / MCCB, with adequate space for termination of incoming and outgoing cables, removable un drilled top & bottom gland plates, suitable for wall, column mounting type. The incoming MCB / MCCB shall be provided in separate compartment. The MCCB shall have front drive mechanism and door interlock. DB shall be concealed type /wall/angle mounted. DB shall be completely wired up, upto incoming and outgoing terminals by PVC insulated flexible copper wire of adequate rating. All MCB in Lighting DB shall be suitable for Curve B. and MCB in Power DB shall be suitable for Motive power (Curve C). In case Db's 3phase I/C & 1phase O/G neutral of each phase shall be isolated. Note : Separate canopy to be fabricated for the DB which are placing out door against protection from water,whether,dust							
		<b>ALL MCB (B type &amp; C type) in DB's complying IS 60898 / IEC 60947 with IP 54 protection</b>							
		<b>Distribution Board</b>							
	<b>2.1</b>	Tag No. : DB-1	Nos	1					
	2.5.2	3 Ph - 8 WAY VTPN DB							
	2.2.14	Incomer : 125A FP MCCB							
	2.10.1	Outgoing : 32A SP MCBs-24nos, 'C' Curve							
		The above complete with interconnections, etc. DB should be with Metal Door & IP 54							
	<b>2.2</b>	Tag No. : PDB1-(Office)	Nos	1					
	2.4.1	3 Ph - 4 WAY TPN DB							
	2.15.3	Incomer : 63A 30mA FP ELCB							
	2.10.1	Outgoing : 12 Nos, 10A SP MCBs 'C' Curve							
		The above complete with interconnections, etc. DB should be with Metal Door & IP 43 4 WAY TPN DB							
	<b>2.3</b>	Tag No. : LDB (MRF Shed, Vehicle Maintenance Shed, Transfer Station, Security Room)	Nos	2					
	2.3.3	12-WAY SPN DB							
	2.14.2	Incomer : 40A,DP ELCB 30 mA -1 Nos							
	2.10.1	Outgoing : 6 Nos, 10A SP MCBs 'C' Curve							
		The above complete with interconnections, etc. DB should be with Metal Door & IP 43 12 WAY SPN DB							
		<b>FEEDER PILLAR PANEL</b>							
	<b>2.4</b>	Tag No. STLDB 1 (@Vehicle Tyre Wash)	Nos.	1					
		Incomer: 125A 4P MCCB -1 NOS							
		Sub incomer :63A, 100mA RCBO of 10KA breaking capacity -3 NOS							
		125/5A, CL-1, 15VA, Tape wound CT's -3Nos							
		6A, Control MCB - 3Nos							
		LED Type R-Y-B Phase Indication Lamps. - (1 sets)							
		On,Off & Trip Indications: (1 sets )							
		SPD,63A TP Contactor, Digital Timer Control, Phase Indication Lamps,							
		ON/OFF Push Buttons , Auto Manual Selector Switch and Neutral Links							
		Outgoings:							
		Six (6) 63A 4P MCB's							
		Two (2) 63A Power Sockets							
		Bus bar Al. flat suitable capacity 125A per each phase.(433V, 3 Phase)							
		Bus bar Al. flat suitable capacity 63A per each neutral							
		415V, 125Amps, 4W Grade Aluminium							
<b>C</b>		<b>LT CABLE SYSTEM</b>							

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**BHAISORA TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
		Supply & Unloading at site, Laying, Installation, site testing and commissioning of horizontal and vertical laying and dressing using cable tie, etc. of following sizes cables on trays / through pendants / GI conduits, clamping on wall / ceiling / supported on structures / pull through pipes / readymade trench. The scope includes clamping of cables by ready made G.I. spacers, saddles or clamps fabricated out of M.S. strip 3 mm thick, supply of all clamping materials and hardware etc., providing cable markers made out of aluminium strip and 75x20 mm in size with cable number and size punched on it. Cable marker shall be provided to cables at every 20 meter interval and at both the ends. Empty cable drums shall be returned to stores. This activity also includes unloading, shifting of cables upto stores & stores to site. In case of laying unlisted cables, rate of cable whose outer dia is closest to the cable sizes quoted shall be applicable. The same shall hold good for cable termination also.							
		1.1 KV, XLPE insulated copper/aluminium conductor of class -2 as per IS 8130 armoured / unarmoured, solid / stranded inner sheathed ST-2 PVC & outer sheathed FRLS type ST-2 as per IS 5831, power cables of following sizes:							
		<b>LT Cables</b>							
3.1	501	3.5CX240SQMM.AL.XLPE.AR	Mtr	300					
3.2	501	3.5CX95SQMM.AL.XLPE.AR	Mtr	130					
3.3	501	3.5CX35SQMM.AL.XLPE.AR	Mtr	180					
3.4	501	3.5CX25SQMM.AL.XLPE.AR	Mtr	110					
3.5	501	4CX16SQMM.AL.XLPE.AR	Mtr	220					
3.6	501	4CX6SQMM.AL.XLPE.AR	Mtr	1200					
3.7		4CX2.5SQMM.CU.XLPE.AR	Mtr	300					
3.8		5CX2.5SQMM.CU.XLPE.Flexible Cable	Mtr	100					
		<b>CABLE END TERMINATION</b>							
		Supply, Installation, testing and commissioning of Cable end termination with Double compression Brass Nickel Pleated cable gland with all necessary hard wears like cu / Al / Bimetalic lugs & PVC hood, ferrules etc. of following copper/alum. conductor armoured / unarmoured cables including supply of all materials, drilling of gland plates and dressing of cables inside panel. All necessary material and hardware for termination purpose will be provided by the contractor. All Labour completee as per the specification of this tender and direction of engineer in charge.							
		1.1 KV, XLPE insulated copper/aluminium conductor armoured / unarmoured, inner shethed PVC & outer sheathed FRLS power cables of following sizes using Double Compression Gland:							
4.1		3.5CX240SQMM.AL.XLPE.AR	Nos	10					
4.2		3.5CX95SQMM.AL.XLPE.AR	Nos	6					
4.3		3.5CX35SQMM.AL.XLPE.AR	Nos	4					
4.4		3.5CX25SQMM.AL.XLPE.AR	Nos	2					
4.5		4CX16SQMM.AL.XLPE.AR	Nos	6					
4.6		4CX6SQMM.AL.XLPE.AR	Nos	40					
4.7		4CX2.5SQMM.CU.XLPE.AR	Nos	20					
4.8		5CX4SQMM.CU.XLPE.Flexible Cable	Nos	6					
<b>D</b>		<b>LIGHT FIXTURES</b>							
		Supply, Installation, testing and commissioning of following Lighting Fixtures with Lamps and control gear including mounting of fixtures Recessed / Surface / Suspension along with all its accessories, checking of internal wiring, structural steel & hardware etc. and with all kind of required hardware's to complete installation. (Inclusive of supply, installation of cable & termination of 3C x 2.5 Sqmm Cu flexible cable FRLS / 3R x 2.5 Sqmm Cu wire from light fitting to JB side along with GI conduit - Normal/ FLP - as per type of light fitting). Supply of all materials required for complete installation shall be provided by the contractor.							

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**BHAISORA TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
		Lighting fixture supports (structural steel or readymade supports design with light fixtures) average weighted 6 Kg shall be considered as part of lighting fixtures system activity and shall not be paid extra <b>1. Vendor should quote all Light fixtures with 3 years unconditional warranty period.</b> <b>2. For consideration of equivalent makes, please ensure that the lumens output of the light fitting is equal to that mentioned in this BOQ line item.</b>							
		<b>OUTDDOR LIGHTING FIXUTE</b>							
5.1		INDUSTRIAL HIGH BAY LIGHT FIXTURE, complete with *Epoxy dia cast aluminium with toughened glass *Dust & Moisture proof Fixture (IP 66) *complete with mounting accessories *150W LED. *LED/Driver - Osram/Nichia/Seoul *System Lumens Output 10000 Lumens and colour Temp. 5700K Havell's or Wipro or Lighting Technology equivalent	Nos	10					
5.2		INDUSTRIAL FLOOD LIGHT FIXTURE, complete with *Epoxy dia cast aluminium with toughened glass *Dust & Moisture proof Fixture (IP 66) *complete with mounting accessories *150W LED. *LED/Driver - Osram/Nichia/Seoul *System Lumens Output 10000 Lumens and colour Temp. 5700K Havell's or Wipro or Lighting Technology equivalent	Nos	6					
		<b>STREET LIGHTING POLE</b>							
5.3		Supply, erection, testing and commissioning of GI hot dip galvanized 8.0 Mtrs (above ground) long octagonal poles with 3mm thick HT steel plate with a bottom 155mm dia and top 75mm dia, base plate of size 260mmx260mmx16mm thick welded to bottom of pole, terminal box with required door size and all accessories like connector and fuse base, foundation bolts with washers and nuts of 4 sets, including of 1.5mtrs single arm with 120W LED street light fixture (IS: 6665: 1982) in complete with all accessories as per the requirements at site and as per the directions of site engineer during execution. It includes DP control MCB, MCB box, GI pipe up to control box and wiring from control MCB to light fixture etc in complete. Supplier has to provide base template, pole execution drawing based on the local wind speed (should ensure/match the local wind speed) etc.  complete with *Aluminium pressure die-cast housing *Dust & Moisture proof Fixture (IP 66) *Beam angle with Type 2 Distribution. *complete with mounting accessories *120W LED. *LED/Driver - Osram/Nichia/Seoul Havell' or Wipro or Philips or Lighting Technology equivalent  Foundation : RESL Civil Scope	Nos	6					
		<b>Decorative Light fixtures</b>							
5.4		Supply, erection, testing and commissioning of decorative gate 40W light fitting with bulbs and all necessary accessories and to be fixed on walls.(use 3C X 1.5 Sqmm CU XLPE ARM CABLE for power supply) (Make Havells/Crompton) (Make : Havells, Model No : RUBYPT40WLED830PSYMTOPC)	No's	4					
<b>F</b>		<b>INTERNAL ELECTRIFICATION :</b>							
		<b>Main Wiring :</b>							

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**BHAISORA TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
6.1	1.7.3	Providing all materials, accessories, labour etc. and wiring using 2 runs (Ph & N) of 2.5/4 Sq.mm and 1 run of 4Sq.mm (for earth) PVC insulated multi strand copper conductor wires of 600V grade drawn in suitable PVC conduit pipe (It includes wiring in the floor/raceways proper opening of raceways as per seating arrangement/lab equipment positioning & proper closing of the raceways as per standards; where ever piping in the floor/ceiling, the conduit should PVC) as per site engineer instructions with all accessories from nearest distribution board to switch board including proper chasing & plastering works (conforming to IS: 1881, IS:1882). for Raw power	Rmt	100					
6.2	1.7.2	Providing all materials, accessories, labour etc. and wiring using 2 runs (Ph & N) of 2.5 Sq.mm and 1 run of 2.5Sq.mm (for earth) PVC insulated multi strand copper conductor wires of 600V grade drawn in suitable PVC conduit pipe (It includes wiring in the floor/raceways proper opening of raceways as per seating arrangement/lab equipment positioning & proper closing of the raceways as per standards; where ever piping in the floor, the conduit should PVC) as per site engineer instructions with all accessories from nearest distribution board to switch board including proper chasing & plastering works (conforming to IS: 1881, IS:1882).	Rmt	160					
		<b>Point Wiring :</b>							
		Provide all materials, accessories, labour etc. and wiring, testing, commissioning for lights, using 3 runs of 1.5 Sq.mm PVC insulated multi strand copper conductor wires of 600V grade drawing in PVC conduit pipe as per site engineer instructions with all accessories Suitable for false ceiling from switch board to respective points including all civil and mechanical works. (Concealed Wiring). (conforming to IS: 1881, IS:1882).							
6.3	123(b)	Lights points with control switches. (Min. 6-9Mtrs to be considered for each point it includes false ceiling wiring, conduit wiring, from switch board to individual light/fan/ex.fan) includes suitable size of modular metal boxes and frames.	No's	20					
6.4	123(b)	Fan points with electronic regulators. (Min. 6-9Mtrs to be considered for each point it includes false ceiling wiring, conduit wiring, from switch board to individual light/fan/ex.fan) includes suitable size of modular metal boxes and frames.	No's	7					
		Supply, erection, testing and commissioning of 1 x 18w LED tube light fitting with bulbs and all necessary accessories and to be fixed on walls.	No's	14					
6.5		Supply, erection, testing and commissioning of 9W LED Bulb light fitting with bulbs & holders including all necessary accessories.	No's	19					
6.6		Supply, installation, testing and commissioning of 6A, 5 pin socket outlet with 6A switches with gang box concealed type with all necessary accessories complete as required including wiring from distribution board. (operating height should be maintained as per IS) includes suitable size of modular metal boxes and frames	No's	14					
6.7		Supply, installation, testing and commissioning of 16/6A, 5 pin socket outlet with 16A switches with gang box concealed type with all necessary accessories complete as required including wiring from distribution board.(operating height should be maintained as per IS) includes suitable size of modular metal boxes and frames.	No's	8					
6.8	1501.0	Supply, erection, testing and commissioning of wall mounted fans that should be dual tone (non-white color) with electronic regulator. Vendor should submit the photograph of material, with make and model before procurement for approval.	No's	2					
6.9		Supply, erection, testing and commissioning of exhaust fan with Sweep size 300mm, made of sturdy engineering plastic with necessary holes in the walls & etc in complete. Vendor should submit the photograph of material, with make and model before procurement for approval.	No's	1					
6.9	2.20	Supply erection ,testing and commissioning of 32Amps 5 pin industrial socket with metal cold body with all accessories required for installation , work includes supply and installation at wall flused inside the wall which includes chipping of wall fixing the metal clad box inside the wall and connecting the cable to mcb and fixing the it properly inside the box and adding extra cable for plug top etc.,	No's	1					
		<b>Industrial MCB Control switch &amp; MCB with Sockets IN Enclosure With Front Plate &amp; Plug Top.</b>							

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**BHAISORA TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
7.10		Supply, installation, testing and commissioning of 63A 3PH 5 Pin Industrial type metal clad plug and socket with 63A 4PMCB control enclosed in sheet metal box with 63A plug top concealed type with all necessary accessories complete as required for welding purpose as required and instructed by site engineer.	Nos	3					
<b>F</b>		<b>CABLE TRAY</b>							
		Supply, Installation of prefabricated hot dip galvanised (460 gms per sq. met.), ladder / perforated type cable trays of minimum 2 mm thick as per details given below. Prefabricated, bends and couplers with G.I. Nuts and bolts. Gas cutting of cable trays at site is not permitted. If any welding is to be done on cable trays, the welded part shall be touched up with anti-corrosive primer and silver paint. The running rate shall include bends and couplers. Cable tray supports shall be paid extra. Before fabricating, the contractor has to get the cable tray support design approved from the site – engineer/consultant. Minimum Distance between two cable tray supports for Horizontal cable tray and vertical cable tray shall be 1.5m to 1.8 m (Depending on size) and 1M respectively. For Ladder type cable tray distance between two rungs should be 300mm							
		Cable Trays with Earthing: Shall be with Strip earthing as specified in each size of cable tray. Bolted on both sides of the cable tray with provision for jointing the adjoining pieces by means of a additional Piece of strip with holes provided at all ends for the same. Also extra Holes for Tapping. The jointing portion shall be atleast 100 mm in length & shall be raised/away from Main side frame of the Tray to enable Bolting for Jointing & Tappings. The Running meter lengths of cable Trays Shall include all types of standard Joints,"+" "U"; "T"; "L" Horizontal, vertical, Bends etc.Straight, Left hand, Right Hand reducers etc. Horizontal, vertical inside & vertical outside elbows completee with all necessary Hardwares like Nuts Bolts, Plain & Spring washers, etc. Vendor should quote excluding structural steel.							
		<b>Perforated Type Cable Tray (2mm Thickness)</b>							
8.1		50 x 50 mm wide cable tray perforated type	Mtrs	130					
8.2	4.6.1	100 x 50 mm wide cable tray perforated type	Rmt	110					
8.3	4.6.3	200/225 x 50 mm wide cable tray perforated type	Rmt	50					
8.4	4.6.4	300 x 50 mm wide cable tray perforated type	Rmt	30					
		<b>CABLE TRAY COVER</b>							
		Supply and Installation of cable tray covers fabricated out of 1.6mm thick hot dip GI along with fixing arrangement. The cable tray cover shall be removable type.							
8.5		cover for 50mm	Mtrs	130					
8.6		cover for 100mm	Rmt	110					
8.7		cover for 200mm	Rmt	50					
8.8		cover for 300mm	Rmt	30					
<b>G</b>		<b>STRUCTURAL STEEL</b>							
9.1		Supply, Installation & Fabrication of ISI mark structural steel in form of MS angles, channels, flats etc. for supporting various items of equipment such 'as various panels, cable trays, push button stations, junction boxes,light fittings, DB etc. including drilling, welding grouting, chipping, bolting with supply of required hardware including anchor fastners required for mounting. Fabricated and installed structural steel shall be suitably painted with 2 coats of epoxy paint after applying 2 coats of red oxide primer. Colour shade of supports shall be same as that of main shade of support structure or will be as per site engineers approval.	MT	0.75					
<b>H</b>		<b>LT CABLES TRENCH:</b>							
10.1		Supply, Excavation & Back filling of Cable trench of size 1000mm (W) x 1000mm (D) & providing sand cushioning of 100mm before and after laying the cables and providing bricks on sides and top of the cables for safety reasons and as per standards including all civil works as required & cable route markers for every 3Mtrs of distance. (Main Cable Trench)	Rmt	30					

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**BHAISORA TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
10.2		Supply, Excavation & Back filling of Cable trench of size 600mm (W) x 750mm (D) & providing sand cushioning of 100mm before and after laying the cables and providing back filling for safety reasons and as per standards including cable route markers for every 3Mtrs of distance. (Outgoing Feeders Trench & Street Lights Cable Trench)	Rmt	80					
	<b>I</b>	<b>HT / LT Cable Route Marker</b>							
		Supply & fixing of cable route markers with aluminium cast material 150mm Dia round with 6mm thickness to be placed for every 8 mtrs distance with two holes for mounting, embossed with 3mm letters & arrow mark for direction indication. Route marker to be painted with yellow in background, letters and arrow direction to be painted in black and should be mounted on M.S. Angle 25X25X3mm with standard length of 1mtr which includes construction of PCC pedestal mount 300mm(L) X 300mm(B) X 500mm(H) as per site engineer instructions. (Route markers should display on UG Cable trench)							
11.1		440V LT Cable Route Market	Nos	20					
	<b>J</b>	<b>HUME PIPES</b>							
12.1		Supply & laying of RCC hume pipes NP4 300mm under IS:458-1988 for road crossing of cables along with 1Mtr X 1Mtr chambers with top man hole chamber covers as instructed by site engineer.	Rmt	10					
	<b>K</b>	<b>EARTHING</b>							
		Supply, Installation of hot dipped G.I /Copper bare earth conductor bar / flexible wire /strip of following sizes on trays / wall / Buried underground / supported on structures / pull through pipes/conduits. The installation shall include drilling of holes,connection of adequate lugs, clamping, hardware material. Welded joints shall be used for G.I. strips. Welded joints after welding shall be painted with anticorrosive black bitumen paint, excavation & refilling of 600mm depth soil for burying the strip wherever applicable shall include in the rate. All required materials & accessories including civil construction material shall be in contractor's scope.							
		<b>Hot dip galvanised strip</b>							
13.1		50 x 6 mm G.I strip	Mtrs	63					
13.2	5.15	25 x 5 mm G.I strip	Mtrs	80					
		<b>Flexible cables</b>							
13.3		1Cx4 sq.mm	Mtrs	110					
13.4		1Cx150 sq.mm-DG Neutral	Mtrs	13					
		<b>Cable Termination including PVC gland and copper lugs</b>							
13.50		1Cx150 sq.mm	Nos.	2					
	<b>L</b>	<b>EARTHING STATION</b>							
14.1	5.6	EARTH PIT (PLATE TYPE EARTHING) (COPPER ELECTRODE) Supply, Installation, testing of earthing station as per IS 3043 & CEA standard 'B-class' complete with CU Plate earthing 600x600x3.15 mm inclusive 2runx25x6 mm copper strip to be connected between CU plate to the earth electrode. 40mm dia, 8feet long CU pipe, watering pipe with funnel, salt, charcoal, 2feetx2fet masonry chamber shall be RCC/Brick (fine masonry with 1:3:6 ratio) & C.I inspection cover with proper painting & marking. The scope includes excavation of pit 2.5Mtr depth, filling with alternate layers of charcoal & salt, back filling etc. Earthing shall confirm to IS 3043. Scope Including 1) Testing earth resistively and electrode resistance. 2) Equipotential bar & test link.	Nos	2					



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**BHAISORA TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
14.2	5.4	EARTH PIT (PLATE TYPE EARTHING) (GI ELECTRODE) Supply, Installation, testing of earthing station as per IS 3043 & CEA standard 'B-class' complete with G.I. plate earthing (600x600x6mm) inclusive of 2runx25x6mm GI strip to be connected between GI plate to the Electrode. 40 mm dia, 8feet long G.I. pipe, watering pipe with funnel, salt, charcoal and 2feetx2feet masonry chamber shall be RCC/ Brick (fine masonry with 1:3:6 ratio) provided with G.I frame & C.I inspection cover with proper painting & marking. The scope includes excavation of pit 2.5Mtr depth, filling with alternate layers of charcoal & salt, back filling etc. Earthing shall confirm to IS 3043. Scope Including 1) Testing earth resistively and electrode resistance. 2) Equipotential bar & test link. (Security-2, MRF Panel-2, Vehicle Work Shop-2, Transfer Station-2, Street Lighting-2, Baler & Tromels-6, Compactors-3,8-Way VTPN DB-2, DG-2)	Nos	16					
<b>K</b>		<b>LIGHTNING PROTECTION SYTEM</b>							
		Supply, Installation, Testing and commissioning of External Lightning Protection System as Per IS / IEC 62305-3 including air termination and fixing arrangements as per following. Must be used Glue for fixing on Roof and everywhere and should not do puncher.							
15		Supply, erection, testing and commissioning of lightening arrestor including lightening spike to cover 70 mt dia with including constructing & formation of copper earth pits with 'B' class 40 mm G.I. pipe of 8 feet with funnel and copper plate(600mmx600mmx3mm) earthing with alternative layer of salt, sand, bentonite powder and charcoal including civil work of excavation & back filling, construction of chambers with man hole cover as per IE Rules along with laying of 25x3mm copper strip on required no of insulators on sheds including all necessary works. (Minimum 15Mtrs of copper strip to be consider, to be placed on the top of the sheds/buildings/tanks etc as instructed by site engineer)	No's	1					
<b>L</b>		<b>MISCELLANEOUS &amp; SAFETY</b>							
16.1		Supply & laying of 8 SWG G.I wire with all necessary connections with nuts & bolts.	Kg's	4					
16.2		Supply and Installation of Piping For metering with 32mm B Class GI Pipe connecting the metering equipment and metering cubicles as per EB specification	Sets	1					
16.3		Supply and Installation of 4 Sand Buckets with Stand as per Local EB standards	Sets	1					
16.4		Supply and Installation of 10Kg Powder type fire extinguishers	Nos	1					
16.5		11 kV Grade 3 mm thick Rubber mat - size of 2X1 mtr. (as per new IS 15652/IEC 61111)	Mtr.	1					
16.6		1.1 kV Grade 3 mm thick Rubber mat - size of 2X1 mtr. (as per new IS 15652)	Mtr.	1					
16.7		Shock treatment chart as per electricity board requirement (In English, Hindi & Local Language)	Nos	1					
16.8		First aid box with standard items	Nos	1					
16.10		11KV Danger Board as required by the Electrical authorities (In English, Hindi & Local Language)	Nos	1					
16.11		433 V Danger Board as required by the Electrical authorities (In English, Hindi & Local Language)	Nos	1					
16.12		11KV grade Rubber Hand Gloves - 1 Set (with certificate)	Sets	1					
16.13		433 V grade Rubber Hand Gloves - 1 Set (with certificate)	Sets	1					
16.14		Dry Chemical powder type fire extinguisher complete with initial charges, hose and fixing brackets etc 5 KG capacity conforming to IS: Standard	Set	1					
<b>N</b>		<b>DG-SET</b>							
27		Supply, installation, erection, testing and comissioning of diesel engine with rated of 380 KVA at 0.8 P.F, 1500 RPM, 4 stroke, multicylinder coupled to brush less type 433V 50 cycle/sec self excited alternator completeed with cushy pads, domestic silencer exhaust pipe completee with alternator auxiliaries, radiator, electronic governor panel, 24Volts chargable battery including initial charging of batteries, control panel with ammeter, ammeter selector switch, voltmeter and voltage selector switch, frequency meter, Hrs meter amd KWH meter in sound proof canapoy as required and completee as per specification.	No's	1					
<b>TOTAL</b>								<b>0</b>	

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**Dyal Chowk Transfer Station**

Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
<b>A</b>	<b>Civil Works</b>					
1	Site Development (Site Clearance) a. Cleaning of unwanted material b. Cleaning of waste water and rubbish	Sqm	8,389.17			
2	Topographical survey Carrying out a topographical survey of the area shown by the engineer-in-charge/client. Surveying will be carried out to fix coordinates, dimensions of the roads, existing ground facilities like building, shed, shops , road, electrical poles, HT line, drains, man holes , major trees, telephone poles and water bodies.	LS	1.00			
3	Geotechnical Survey Equipment charges per day Standard Penetration tests (SPT) were conducted in these boreholes and relevant soil samples were collected. Soil tests were carried out in the laboratory to ascertain the allowable bearing capacity of encountered strata. To conduct tests on different samples in the laboratory as such as grain size Analysis, Atterberg limit, density, Consolidation test , shear properties, natural moisture and determining the engineering characteristics	LS	1.00			
4	Earth work excavation in all kinds of soil: Earthwork excavation in all kinds of soils except rock requiring blasting in any kind of foundation works including for trenches, pits and tunnels etc., for varying depths below average ground level including shoring, strutting for protecting the sides of foundation, dewatering/ bailing out water from foundations by pumping or by whatever means to dry up the area if required without any extra payment including leveling, ramming the bed of excavation and stacking the excavated soil away from the edge of excavation etc. complete as directed by the Engineer-in-charge for finished item of work.	cum	4,504.41			
5	S/C for compaction and consolidation S/C For Compaction and consolidation Loosening, leveling and compacting: Original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density for embankment construction complete and as directed.	Sqm	6,570.03			
6	Filling with available excavated earth : 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 watering, and compacting to 95% modified proctor density, dressing, trimming, etc all complete as per drawing, specifications and as directed by Engineer-in-charge ( compacted finished area / volume only measured for payment) available soils within the site.	cum	5,602.98			
7	S/C-Filling with Approved Soil: Filling with available soil ( C& D )including spreading and rolling. in layers not exceeding 300mm towards plinth / to maintain FGL to required slope and dimensions with available soil including compaction the same with 10 - 12 T vibrating with beam / sheep foot rollers so as to achieve 95% protector density at optimum moisture content, All density tests required to be carried out will be at contractor's cost. Measurement will be based on the consolidated and finished dimensions, as shown in drawings, Including cost of bed preparation with roller compaction also, etc., complete finished item and as directed by Engineer-in-charge	cum	17,828.51			

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
8	PCC (1:4:8): Plain Cement concrete of mix 1:4:8 using Ordinary Portland cement conforming to IS 1489), River sand and graded stone aggregates of 40 mm maximum size at all depths below plinth level including cost of cement and all materials, leads and lifts, transportation to site of work, consolidation, finishing, curing, etc. complete but excluding form work as per specifications for mud mat in foundations of masonry walls or others etc. complete as per specs. and as directed for finished item of work.	cum	1,127.41			
9	S/C-Constn of granular subbase for roads S/C For Constn of Granular Subbase for Roads-"Granular Sub-Base -50MM Thk: Construction of Granular Sub-Base by providing close graded material, mixing in a mechanical mix plant at OMC, carryingof mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per Clause 401."	cum	1,967.09			
10	S/C Supplying & Laying RCC 1:1:2-M25 S/C For RCC : M-25 Grade: Supplying and laying reinforced cement concrete of M 25 Grades as defined in IS:456, in all types of foundations and super structures, in walls, slab, columns, beams, lintels, chajjas, floor/roof slabs, staircase, footings, basements, cellars, trenches, drains, encasing of structural steel members / pipelines, etc. including cost and conveyance of all materials vibrating with mechanical vibrator , curing etc., but excluding cost of shuttering and steel reinforcement. All wars shall be as per drawings, specifications and directions of the Engineer/Consultant, super-plasticizer as per manufacturer's instruction/directions.	cum	1,310.19			
11	S/C for C&S (Centering & Shuttering) S/C For Ramp Centering&Shuttering : Providing standard form work of steel plates, centering and shuttering at all depths and heights of work below and above plinth level, vertical, horizontal, inclined including strutting, propping using steel pipes/acro staging, removal, cleaning of the same for inset reinforced cement concrete works and in plain cement concrete work as required including chamfers, splays, keys, wedges, nails, bracings, brackets and applying one coat of shuttering oil on all shuttering surfaces coming in to contact with concrete etc., complete as directed including cost of materials, conveyance, labour and all other incidental charge etc. complete as directed to the finished item of work.	Sqm	2,611.07			
12	S/C for C&S (Centering & Shuttering) S/C For Centering&Shuttering : Providing standard form work of steel plates, centering and shuttering at all depths and heights of work below and above plinth level, vertical, horizontal, inclined including strutting, propping using steel pipes/acro staging, removal, cleaning of the same for inset reinforced cement concrete works and in plain cement concrete work as required including chamfers, splays, keys, wedges, nails, bracings, brackets and applying one coat of shuttering oil on all shuttering surfaces coming in to contact with concrete etc., complete as directed including cost of materials, conveyance, labour and all other incidental charge etc. complete as directed to the finished item of work.	Sqm	2,418.30			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
13	S/C For RFRC M25 For Flooring Supplying and laying reinforced cement concrete of RFRC M25 Grade as defined in IS:456, Flooring / Road including cost and conveyance of all materials vibrating with mechanical vibrator, levelling, curing etc., but excluding cost of shuttering, etc., complete finished item and as directed by Engineer-in-charge	cum	1,829.26			
14	S/C for Reinforcement cutting & bending S/C For Reinforcement Steel: Supply, fabrication and erection of Reinforcement bars for Reinforced cement concrete items at and at all depths and heights below and above plinth level with high yield strength deformed bars conforming to IS 1786 with TM Treatment from approved source (Vizag steel, Tata, SAIL make), including supply to site, providing fan hooks of required shape, dowels for bonding masonry, transporting steel to site, decoiling, removing of scales, straightening, cutting, bending, tying bars with chairs, space bars wherever required, in position with two strings of 18 gauge soft drawn annealed MS binding wire etc., complete as specified and directed.	MT	1,66,505.27			
15	S/C for RR Stone Masonry S/C For RR Stone Masonry : Randum Rubble stone masonry using approved quality and size of stone obtained from local quarry in foundations and plinth at all depths below plinth level in cement mortar (1:6) including cost and conveyance of stone for masonry, bond stones, scaffolding and all other materials, raking out joints or simultaneous flush pointing with the same mortar to the faces covered under earth, curing charges etc. complete as directed and as directed to the finished item of work	cum	159.52			
16	S/C for Brick masonry 230MM Thk S/C For Brick work in CM (1:6) 230MM Thk.: Brick masonry work using specified class II well burnt clay bricks of specified class, size and quality in cement mortar (1:6) at all depths and heights below and above plinth level including cost and conveyance of all materials, pilasters, steel tubular scaffolding, raking out joints, curing etc., complete as per specifications and as directed. Brick shall be laid flat in the projections for the finished item of work.	cum	267.75			
17	S/C for 15mm Plastering in 1:6 S/C For Plastering-15mm th. in CM (1:6): Cement plastering 15 mm thick for internal surfaces of walls in cement mortar (1:6) neatly smooth finished at and all heights above plinth level over brick walls or concrete surfaces, RCC and also other places wherever required including making necessary grooves in between junctions of brick masonry and over brick walls or concrete surface, preparation of surface, steel/tubular scaffolding, curing, etc., complete as directed as per standard specs. for the finished item of work.	Sqm	4,904.76			
18	Water Proof Plastering in CM (1:3) : Supply and providing Cement plastering 12 mm thick for internal surfaces of walls in cement mortar (1:3) with coarse sand with 5 % cico or any other approved water proofing compound including taxes and neatly smooth finished at and all heights above plinth level over brick walls or concrete surfaces, RCC and also other places wherever required including making necessary grooves in between junctions of brick masonry and over brick walls or concrete surface, preparation of surface, steel/tubular scaffolding, curing, etc., complete as directed as per standard specs. for the finished item of work.	Sqm	37.18			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
19	S/C For Cement Punning: Supply and applying Neat cement punning by tamping, trowelling, and with a finishing floating coat of neat cement slurry @ 2.20kg. of cement per Sq.m. of area, including cost of cement, tools, labour, cleaning the sub-base surface, curing, etc. all complete and as per directions of Engineer-in-charge.	Sqm	152.50			
20	S/C for Acrylic Emulsion Painting S/C For Acrylic Emulsion Painting : Finishing walls with Acrylic emulsion paint having Alkali & fungal resistance, dirt resistance exterior /interior paint of required shade over one coat of primer, including all materials, labour charges, tools & tackles, necessary scaffolding, etc., complete finished item	Sqm	4,295.43			
21	S/C-Miscellaneous - Enamel painting S/C For Enamel Paint: Providing and applying 2 coats of Enamel Paint over 1 coat of primer for steel surfaces including all materials, labour charges, etc., complete finished item and as directed by engineer-in-charge	Sqm	1,601.81			
22	Snow Cem Painting-Snowcem: Providing and applying two coats cement based paint (Snowcem or approved brand) conforming to IS:5410-1990, over one coat of primer including preparing the surface to receive priming & finishing coats, scaffolding, curing etc. complete in any shade as directed by Engineer-in-charge	Sqm	1,320.00			
23	Supply of material charges for EN 901 Nitocote EN901 is a two-part material and can be applied by brush, roller, or airless spray. Applying one coat of primer of Nito prime and Nitocote EN901 is grey in color. It is formulated to be applied in one or two coats to achieve a minimum total dry film thickness of 500 microns. Nitocote EN901 exhibits excellent chemical resistance in pH ranging from 1-14 at 25°C	Sqm	14.70			
24	S/C for fabrication of Structural Works S/C For Fabrication of Structural Steel : Structural Steel works for Drain MS Grating	Kg	30,263.69			
25	S/C for construction joint S/C For Contraction Joint : Making 10 mm wide x 50 mm deep Contraction joint using groove cutting machine @ 5m spacing, providing and filling joints with approved joint filler and sealants, etc., complete finished item and as per direction of Engineer-in-charge	Rmt	3,356.53			
26	Expansion joint	Sqm	-			
27	Supply and fixing of Barbed wire with necessary tools and consumables.	Kgs	-			
28	Providing and fixing of 100mm Dia PVC Pipe with all necessary fixtures	M	40.00			
29	Providing and fixing of HDPE 300mm Dia Pipe With all necessary fixtures	M	20.00			
30	Providing and fixing of 40mm dia PVC Pipe Charges towards Supply & laying of under floor PVC drainage pipes, specials of approved make conforming to to IS:13592 Type 'B' (6 kg/sq.cm.) using lubricant as per manufacturer's specification, including cutting the pipes square to the required lengths, necessary wall cutting, chasing & restoring to the original condition, testing for water tightness etc. The formation of pipe sockets by heating the pipe shall not be permitted the joints for plain ended pipes shall be made using couplers if necessary. Rate shall also include the cost of GI 'U' clamps of 12/16mm thick to be provided at not more than 1.5m c/c for horizontal ceiling suspended pipes. (Internal Piping). Including labour & all other necessary accessories.	M	25.00			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
31	Providing and fixing of 150mm dia PVC Pipe with all necessary fixtures	M	150.00			
32	Supply and Erection of MS Grating for Drain : Supply, fabricate and erection drain grating using ISA 40x40x5mm, 35x35x3mm for grill frame and 35 x 3mm Flat for horizontals including all materials, labour charges, Two coats of enamel paint over 1 coat of steel primer, etc., as per drawing complete finished item and as directed by engineer-in-charge	kg	6,362.99			
33	Dismantling and Demolishing of Brick : Dismantling Brick Masonry in cement mortar or lime mortar and stacking the material as directed with all leads & lifts complete as directed by Engineer-in-charge.	cum	421.52			
34	Dismantling and Demolishing of RR Masonary : Dismantling Stone Masonry in cement mortar or lime mortar and stacking the material, seggregating the usable and unusable and throwing away the unusable ones at the nearest approved dumping yard with all leads & lifts complete as directed by Engineer-in-charge.	cum	146.52			
35	Dismantling & Demolition of CC Flooring : Dismantling RCC work of all grades of concrete by mechanical/manual means and sorting out the materials such as steel etc. and stacking them with all leads & lift as directed by Engineer-in-charge	cum	1,000.00			
36	Dismantling of barricading sheet mechanical/manual means and sorting out the materials such as steel etc. and stacking them with all leads & lift as directed by the Engineer-in-charge	Sqm	306.00			
37	Dismantling & Demolition of RCC Structure : Dismantling RCC work of all grades of concrete by mechanical/manual means and sorting out the materials such as steel etc. and stacking them with all leads & lift as directed by Engineer-in-charge	Sqm	1,452.05			
38	Supply and Fixing of GI Sheet Cladding : Supply and fixing 0.5mm thick galvanized / pre-painted G.I. profiled sheets fixed to the steel frame with 14 size self-drilling screws with neoprene washer including all material, men & machinery, necessary scaffolding etc., complete finished item and as directed by Engineer-in-charge	Kg	1,862.65			
39	Supply and fixing charges for Vehicle stopper beams in parking with edge angles. (Synthetic Plastic & Rubber Car Wheel Stopper) - 600mm Black with yellow reflective Strip.	Nos	10.00			
40	Supply and fixing charges of Outdoor Auto-Tracking Camera, 12 Pre-Set dots Tracking, 360° Visual Coverage with necessary fixtures including the erection charges .	Nos	4.00			
41	supply and fixing charges of Kerb stone with all necessary civil works and required fixtures including packing and properly laying and painting snow cem	Rmt	112.00			
42	Supply and fixing of Ventilated GI rolling shutter with neat finishing and fireproofing and installation Providing and fixing Automatic rolling shutter power-driven with pull & push type provision for rolling shutters of approved make out of 18 gauge, 75 mm wide cold rolled steel laths of convex corrugation, with side guides and bottom rail, with interlocking arrangements of steel laths by means of alternate clips, suspension shaft with High tension coil type springs two numbers, mounted on specially designed pipe shaft, with bracket plates, guide channels, ball bearing arrangements, for inside & and outside locking with push & and pull operations complete with all necessary fixtures and tools at site as required by the client.	Sqm	52.00			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
43	MS Man Hole Cover 600mm X 600mm: Providing and fixing MS Manhole cover of size 600 x 600 mm with frame with locking arrangement, etc. cover and frame (heavy duty, HD-20 grade designation) conforming to I.S. 12592, total weight of cover and frame to be not less than 50kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centring, shuttering all complete. (rate includes Excavation, foot rests and 12mm thick cement plaster at the external surface )	Nos	1.00			
44	Supply & Fixing of CC Manhole cover (600MMX600MM) as Per IS Standrads as directed by engineer/incharge	Nos	5.00			
45	PVC water stopper: Providing and Laying PVC water stopper 250mm wide including cost of material , labour charges etc., complete as per specifications & as advised by the Engineer In charge.	Rmt	18.40			
46	RCC 450mm dia Hume pipe Providing and laying Non Pressure NP-3 class (Medium 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	Rmt	100.00			
47	Supply, Fabricate and erection of Structural shed with AZ-150/SDP	MT	70.00			
48	Excavation of spilled waste/slush and shifting charges	LS	1.00			
49	Pile foundation Drilling 500mm Dia pile drilling with 12 mtr depth with RCC M 25 Design Mix concrete and proper reinforcement with bentonite chemical and hydraulic rig and embedded in the pile cap with a hydraulic rig. Pile cap with RCC M25 Grade concrete including the cost of shuttering and steel Reinforcement with all neat finishing works and proper curing.Pile Integrity test sonic echo test and Vertical load test including chipping the lean concrete and debris cleaning as per the specification and as directed by site incharge	Nos	36.00			
50	SS hand rail Hand Railing: Providing and fixing handrail at all heights with 32mm dia GI pipe for verticals & horizontals, 25mm dia pipe for bracings. welding to steel ladders, balcony railing and staircase railing including applying 2 coats of enamel paint over one coat of approved steel primer, all materials, tools, and labour etc. complete as per specification, drawings(provided during execution) and direction of engineer-in-charge.	Kg	533.46			
51	Supply and Fixing of Name Board and MS Fabrication work with flexible board with all necessary items.	Sft	393.60			
52	Drilling Of Bore Well , Casing Pipe ,fixing of pump,HDPE Pipe, Electrical works Etc	LS	1.00			
53	Water supply, hand wash, drinking water and Leachate drainage system , Collection tank & Pumps	LS	1.00			
<b>Total Value of Civil Works (in Rs.)</b>						

B	Mechanical Works					
1	Static Horizontal compaction machine model SC- 350 with hopper	Nos	3			
2	A container of volumetric capacity of 20 cum consist of	Nos	5			
<b>Total Value of Mechanical Works (in Rs.)</b>						

LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED

DAYAL TRANSFER STATION - Bill of Quantities - Electrical Works

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
<b>A</b>		<b>LOW VOLTAGE PCC /APFC / MCC</b>							
		Supply (as per approved make only), Installation, testing and commissioning of following switchboards floor mounting type in single/Double front execution, along with base frame including unloading, shifting to intermediate stores, if site is not ready and loading, unloading, transportation from owner's store / yard to the site of the erection, unpacking, assembly (Incl. installation & wiring of loose parts supplied by OEM vendor) installation on foundation (minor civil work inclusive), or fixing on wall or steel structure, leveling, grouting, proper alignment, tightening of busbars with required torque, testing and calibration of relays and meters etc, Including all labour and erection material / hardware complete as per specification of this tender, and direction of Engineer in charge and under supervision and instruction of panel manufacturer. For Mounting types of all panels, refer Technical Specification of LT Switchboard. Vendors shall quote unit rates of all type of outgoing feeders and vertical cubical with vertical & horizontal busbars and wiring for addition and deletion during detailed engineering. Vendor's offer should include all charges of minimum 2 visit of 5 days each of Panel OEM commissioning Engineer for supervision of erection and commissioning of Panels (includes Travelling + Stay, etc.). All the interlocks, wiring as to be demonstrated at site as per requirement.							
1.1		<b>Switch Board Designation : MAIN PCC CUM APFCR PANEL with Stand</b>	No.	1					
		<b>Quote as per IEC 60439</b>							
		Voltage : 415 V							
		Construction : IP-65, Indoor type, Single Front with Bottom Cable Entry							
		Mounting : Floor Mounting with Stand							
		Paint Shade : RAL 7032 (Siemens Grey)							
		Cable Entry : Bottom							
		Location : Electrical Panel Room							
		Refer Annexure -I for detailed boq							
		<b>Incoming Feeder :</b>							
		EB & DG Incomer : 630A FP ATS							
		CTs-630 / 5 A, CL 1, 6 Nos.							
		DV(0-500V), DA(0 - 630A) - 2Sets.							
		Indication Lamps -R Y B.							
		EB & DG ON Status - ON Indication Lamps							
		Common Incomer : 630A 4 Pole, 36kA/sec MCCB with							
		CTs-630 / 5 A, CL 1, 4 Nos.							
		DV(0-500v), DA(0 - 630A) - 3Sets.							
		Indication Lamps -R Y B, ON, OFF, TRIP.							
		Surge Protection Device (SPD) TYPE 1 -CLASS I WITH 32A MPCB 65kA CONTROL.							
		Other items as required for safe and efficient electrical panel as mentioned in Sepcification.							
		<b>Outgoing Feeders :</b>							
		One (1) 250A, 36kA/sec 4P MCCB with On, Off & Trip Indication lamps							
		Six (6) 125A, 36kA/sec 4P MCCB with On, Off & Trip Indication lamps							
		Seven (7) 63A, 10kA/sec 4P MCB's.							
		32A 3-Phase 5-Pin Power Sockets with MCB control - 2Nos							
		One (1) 15 KVAR capacitor banks with 32A TP MCB control for transformer fixed bank.							
		One (1) 250A, 36kA/sec 4P MCCB with UV Coil with On, Off & Trip Indication lamps - APFCR Incoming Feeder							
		Two (2) 5 KVAR capacitor banks with 32A TP MCB control with capacitor duty contactors suitable for 5KVAR of including start/stop push buttons and with On, Off indication lamps.							
		One (1) 10 KVAR capacitor banks with 32A TP MCB control with capacitor duty contactors suitable for 10KVAR of including start/stop push buttons and with On, Off indication lamps.							
		One (1) 15 KVAR capacitor banks with 32A TP MCB control with capacitor duty contactors suitable for 15KVAR of including start/stop push buttons and with On, Off indication lamps.							
		Two (2) 20 KVAR capacitor banks with 63A TP MCB control with capacitor duty contactors suitable for 20KVAR of including start/stop push buttons and with On, Off indication lamps.							
		Two (2) 25 KVAR capacitor banks with 63A TP MCB control with capacitor duty contactors suitable for 25KVAR of including start/stop push buttons and with On, Off indication lamps.							



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**DAYAL TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
<b>B</b>		<b>DISTRIBUTION BOARDS</b>							
		Supply, Installation, testing and commissioning of following distribution boards. MCB distribution boards shall be totally with single door/double door, Surface/recessed mounting type, outer door shall be hinged type with push in type spring / magnetic lock, inner door shall be fixed up with screws with cutouts for MCB operation, copper busbar of at least 1.5 times the rating of incomer MCB / MCCB, with adequate space for termination of incoming and outgoing cables, removable un drilled top & bottom gland plates, suitable for wall, column mounting type. The incoming MCB / MCCB shall be provided in separate compartment. The MCCB shall have front drive mechanism and door interlock. DB shall be concealed type. DB shall be completely wired up, upto incoming and outgoing terminals by PVC insulated flexible copper wire of adequate rating. All MCB in Lighting DB shall be suitable for Curve B, and MCB in Power DB shall be suitable for Motive power (Curve C). In case Db's 3phase I/C & 1phase O/G neutral of each phase shall be isolated. Note : Separate canopy to be fabricated for the db which are placing out door against protection from water, whether, dust							
		<b>ALL MCB (B type &amp; C type) in DB's complying IS 60898 / IEC 60947</b>							
		<b>Lighting Distribution Board</b>							
<b>2.1</b>	2.5.2	Tag No. : PDB-1	Nos	1					
	2.2.14	3 Ph - 8 WAY VTPN DB							
	2.10.1	Incomer : 125A FP MCCB							
		Outgoing : 32A SP MCBs-24nos, 'C' Curve							
		The above complete with interconnections, etc. DB should be with Metal Door & IP 43 8 WAY VTPN DB							
<b>2.2</b>	2.4.1	Tag No. : LDB1-(Office building)	Nos	1					
	2.15.3	3 Ph - 4 WAY TPN DB							
	2.10.1	Incomer : 63A 30mA FP ELCB							
		Outgoing : 12 Nos, 10A SP MCBs 'C' Curve							
		The above complete with interconnections, etc. DB should be with Metal Door & IP 43 4 WAY TPN DB							
<b>2.3</b>	2.3.2	Tag No. : LDB 2 - (Toilet block, office store)	Nos	2					
	2.14.2	8-WAY SPN DB							
	2.10.1	Incomer : 32A, DP RCBO 30 mA -1 Nos							
		Outgoing : 12 Nos, 10A SP MCBs 'C' Curve							
		The above complete with interconnections, etc. DB should be with Metal Door & IP 43 8 WAY SPN DB							
<b>C</b>		<b>CABLE SYSTEM</b>							
		Supply & Unloading at site, Laying, Installation, site testing and commissioning of horizontal and vertical laying and dressing using cable tie, etc. of following sizes cables on trays / through pendants / GI conduits, clamping on wall / ceiling / supported on structures / pull through pipes / readymade trench. The scope includes clamping of cables by readymade G.I. spacers, saddles or clamps fabricated out of M.S. strip 3 mm thick, supply of all clamping materials and hardware etc., providing cable markers made out of aluminium strip and 75x20 mm in size with cable number and size punched on it. Cable marker shall be provided to cables at every 20-meter interval and at both the ends. Empty cable drums shall be returned to stores. This activity also includes unloading, shifting of cables up to stores & stores to site. In case of laying unlisted cables, rate of cable whose outer dia is closest to the cable sizes quoted shall be applicable. The same shall hold good for cable termination also.							
		1,1 KV, XLPE insulated copper/aluminium conductor of class -2 as per IS 8130 armoured / unarmoured, solid / stranded inner sheathed ST-2 PVC & outer sheathed FRLS type ST-2 as per IS 5831, power cables of following sizes:							

LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED

DAYAL TRANSFER STATION - Bill of Quantities - Electrical Works

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
		<b>LT Cables</b>							
3.1		3.5CX300SQMM.AL.XLPE.AR	Mtr	400					
3.2		3.5CX95SQMM.AL.XLPE.AR	Mtr	240					
3.3		3.5CX25SQMM.AL.XLPE.AR	Mtr	100					
3.4		4CX10SQMM.AL.XLPE.AR	Mtr	200					
3.5		4CX6SQMM.AL.XLPE.AR	Mtr	500					
3.6		4CX2.5SQMM.CU.XLPE.AR	Mtr	200					
3.7		5CX4 SQMM.CU.FLEXIBLE	Mtr	77					
<b>D</b>		<b>CABLE END TERMINATION</b>							
		Supply, Installation, testing and commissioning of Cable end termination with Double Compression Brass Nickel Pleated cable gland with all necessary hard wears like cu / Al / Bimetallic lugs & PVC hood, ferrules etc. of following copper/alum. conductor armoured / unarmoured cables including supply of all materials, drilling of gland plates and dressing of cables inside panel. All necessary material and hardware for termination purpose will be provided by the contractor. All Labour complete as per the specification of this tender and direction of engineer in charge.							
		1.1 KV, XLPE insulated copper/aluminium conductor armoured / unarmoured, inner sheathed PVC & outer sheathed FRLS power cables of following sizes using Double Compression Gland:							
4.1		3.5CX300SQMM.AL.XLPE.AR	Nos	6					
4.2		3.5CX95SQMM.AL.XLPE.AR	Nos	6					
4.3		3.5CX25SQMM.AL.XLPE.AR	Nos	6					
4.4		4CX10SQMM.AL.XLPE.AR	Nos	2					
4.5		4CX6SQMM.AL.XLPE.AR	Nos	8					
4.6		4CX2.5SQMM.CU.XLPE.AR	Nos	30					
4.7		5CX4 SQMM.CU.FLEXIBLE	Nos	3					
<b>E</b>		<b>LIGHT FIXTURES</b>							
		Supply, Installation, testing and commissioning of following Lighting Fixtures with Lamps and control gear including mounting of fixtures Recessed / Surface / Suspension along with all its accessories, checking of internal wiring, structural steel & hardware etc. and with all kind of required hardware's to complete installation. (Inclusive of supply, installation of cable & termination of 3C x 2.5 Sqmm Cu flexible cable FRLS / 3R x 2.5 Sqmm Cu wire from light fitting to JB side along with GI conduit - Normal/ FLP - as per type of light fitting). Supply of all materials required for complete installation shall be provided by the contractor.							
		Lighting fixture supports (structural steel or readymade supports design with light fixtures) average weighted 6 Kg shall be considered as part of lighting fixtures system activity and shall not be paid extra 1. Vendor should quote all Light fixtures with 3 years unconditional warranty period. 2. For consideration of equivalent makes, please ensure that the lumens output of the light fitting is equal to that mentioned in this BOQ line item.							
		<b>INDUSTRIAL LIGHTING FIXTURE</b>							
5.1		INDUSTRIAL HIGH BAY LIGHT FIXTURE, complete with *Epoxy dia cast aluminium with toughened glass *Dust & Moisture proof Fixture (IP 66) *complete with mounting accessories *150W LED. *LED/Driver - Osram/Nichia/Seoul *System Lumens Output 10000 Lumens and colour Temp. 5700K Havell's or Wipro OR Lighting Technology	Nos	10					
		<b>COMMERCIAL LIGHTING FIXTURE</b>							

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S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
5.2		COMMERCIAL RECESSED MOUNTING TYPE TUBE LIGHTER FIXTURE, complete with * IP20 *complete with mounting accessories *18W LED. *LED/Driver - Osram/Nichia/Nation star *System Lumens Output 1800 Lumens and color Temp. 6000K Havell's or Wipro or Lighting Technology equivalent	Nos	15					
5.3		COMMERCIAL SURFACED MOUNTING TYPE LED BULB LIGHTER FIXTURE, complete with * IP20 *complete with mounting accessories *9W LED Bulb. *LED/Driver - Osram/Nichia/Nation star *System Lumens Output 1800 Lumens and color Temp. 6000K Havell's or Wipro or Lighting Technology equivalent	Nos	10					
		<b>OUTDDOR LIGHTING FIXUTE</b>							
5.4		INDUSTRIAL FLOOD LIGHT FIXTURE with 75mm dia 6Mtr length Hot dip galvanized Pole for supporting light. complete with *Epoxy dia cast aluminium with toughened glass *Dust & Moisture proof Fixture (IP 66) *complete with mounting accessories *150W LED. *LED/Driver - Osram/Nichia/Seoul *System Lumens Output 10000 Lumens and colour Temp. 5700K Havell's or Wipro or Lighting Technology equivalent	Nos	12					
		<b>STREET LIGHTING POLE</b>							
5.5		Supply, erection, testing and commissioning of GI hot dip galvanized 8.0 Mtrs (above ground) long octagonal poles with 3mm thick HT steel plate with a bottom 155mm dia and top 75mm dia, base plate of size 260mmx260mmx16mm thick welded to bottom of pole, terminal box with required door size and all accessories like connector and fuse base, foundation bolts with washers and nuts of 4 sets, including of 1.5mtrs single arm with 120W LED street light fixture (IS: 6665: 1982) in complete with all accessories as per the requirements at site and as per the directions of site engineer during execution. It includes DP control MCB, MCB box, GI pipe up to control box and wiring from control MCB to light fixture etc in complete. Supplier has to provide base template, pole execution drawing based on the local wind speed (should ensure/match the local wind speed) etc.  complete with *Aluminium pressure die-cast housing *Dust & Moisture proof Fixture (IP 66) *Beam angle with Type 2 Distribution. *complete with mounting accessories *120W LED. *LED/Driver - Osram/Nichia/Seoul Havell' or Wipro or Philips or Lighting Technology equivalent  Foundation : RESL Civil Scope	Nos	4					
<b>F</b>		<b>INTERNAL ELECTRIFICATION :</b>							
		<b>Main Wiring :</b>							
6.1	1.7.3	Providing all materials, accessories, labour etc. and wiring using 2 runs (Ph & N) of 4 Sq.mm and 1 run of 2.5/4Sq.mm (for earth) PVC insulated multi strand copper conductor wires of 600V grade drawn in suitable PVC conduit pipe (It includes wiring in the floor/raceways proper opening of raceways as per seating arrangement/lab equipment positioning & proper closing of the raceways as per standards; where ever piping in the floor/ceiling, the conduit should PVC) as per site engineer instructions with all accessories from nearest distribution board to switch board including proper chasing & plastering works (conforming to IS: 1881, IS:1882), for Raw power	Rmt	80					

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S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
6.2	1.7.2	Providing all materials, accessories, labour etc. and wiring using 2 runs (Ph & N) of 2.5 Sq.mm and 1 run of 2.5Sq.mm (for earth) PVC insulated multi strand copper conductor wires of 600V grade drawn in suitable PVC conduit pipe (It includes wiring in the floor/raceways proper opening of raceways as per seating arrangement/lab equipment positioning & proper closing of the raceways as per standards; where ever piping in the floor, the conduit should PVC) as per site engineer instructions with all accessories from nearest distribution board to switch board including proper chasing & plastering works (conforming to IS: 1881, IS:1882).	Rmt	220					
		<b>Point Wiring :</b>							
		Provide all materials, accessories, labour etc. and wiring, testing, commissioning for lights, using 3 runs of 1.5 Sq.mm PVC insulated multi strand copper conductor wires of 600V grade drawing in PVC conduit pipe as per site engineer instructions with all accessories Suitable for false ceiling from switch board to respective points including all civil and mechanical works. (Concealed Wiring). (conforming to IS: 1881, IS:1882).							
6.3	123(b)	Lights points with control switches. (Min. 6-9Mtrs to be considered for each point it includes false ceiling wiring, conduit wiring, from switch board to individual light/fan/ex.fan) includes suitable size of modular metal boxes and frames.	No's	20					
6.4	123(b)	Fan points with electronic regulators. (Min. 6-9Mtrs to be considered for each point it includes false ceiling wiring, conduit wiring, from switch board to individual light/fan/ex.fan) includes suitable size of modular metal boxes and frames.	No's	5					
		Supply, erection, testing and commissioning of 1 x 18w LED tube light fitting with bulbs and all necessary accessories and to be fixed on walls.	No's	6					
6.5		Supply, erection, testing and commissioning of 9W LED Bulb light fitting with bulbs & holders including all necessary accessories.	No's	8					
6.6		Supply, installation, testing and commissioning of 6A, 5 pin socket outlet with 6A switches with gang box concealed type with all necessary accessories complete as required including wiring from distribution board. (operating height should be maintained as per IS) includes suitable size of modular metal boxes and frames	No's	7					
6.7		Supply, installation, testing and commissioning of 16/6A, 5 pin socket outlet with 16A switches with gang box concealed type with all necessary accessories complete as required including wiring from distribution board.(operating height should be maintained as per IS) includes suitable size of modular metal boxes and frames.	No's	7					
6.8	1501.0	Supply, erection, testing and commissioning of wall/ceiling mounted fans that should be dual tone (non-white color) with electronic regulator. Vendor should submit the photograph of material, with make and model before procurement for approval.	No's	3					
6.9		Supply, erection, testing and commissioning of exhaust fan with Sweep size 300mm, made of sturdy engineering plastic with necessary holes in the walls & etc in complete. Vendor should submit the photograph of material, with make and model before procurement for approval.	No's	1					
6.9	2.20	Supply erection ,testing and commissioning of30/ 32Amps 5 pin industrial socket with metal cald body with all accessories required for installation , work includes supply and installation at wall flused inside the wall which includes chipping of wall fixing the metal clad box inside the wall and connecting the cable to mcb and fixing the it properly inside the box and adding extra cable for plug top etc.,	No's	3					
		<b>Industrial MCB Control switch &amp; MCB with Sockets IN Enclosure With Front Plate &amp; Plug Top.</b>							
F		<b>CABLE TRAY</b>							

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S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
		Supply, Installation of prefabricated hot dip galvanized (460 gms per sq. met.), ladder / perforated type cable trays of minimum 2 mm thick as per details given below. Prefabricated, bends and couplers with G.I. Nuts and bolts. Gas cutting of cable trays at site is not permitted. If any welding is to be done on cable trays, the welded part shall be touched up with anti-corrosive primer and silver paint. The running rate shall include bends and couplers. Cable tray supports shall be paid extra. Before fabricating, the contractor has to get the cable tray support design approved from the site – engineer/consultant. Minimum Distance between two cable tray supports for Horizontal cable tray and vertical cable tray shall be 1.5m to 1.8 m (Depending on size) and 1M respectively. For Ladder type cable tray distance between two rungs should be 300mm.							
		Cable Trays with Earthing; Shall be with Strip earthing as specified in each size of cable tray. Bolted on both sides of the cable tray with provision for jointing the adjoining pieces by means of a additional Piece of strip with holes provided at all ends for the same. Also extra Holes for Tapping. The jointing portion shall be at least 100 mm in length & shall be raised/away from Main side frame of the Tray to enable Bolting for Jointing & Tapping's. The Running meter lengths of cable Trays Shall include all types of standard Joints,"+ "U"; "T"; "L" Horizontal, vertical, Bends etc. Straight, Left hand, Right Hand reducers etc. Horizontal, vertical inside & vertical outside elbows complete with all necessary Hardware's like Nuts Bolts, Plain & Spring washers, etc.							
		<b>Perforated Type Cable Tray (2mm Thickness)</b>							
7.1		50 x 50 mm wide cable tray perforated	Mtrs	100					
7.2	4.6.1	100 x 50 mm wide cable tray perforated	Mtrs	80					
7.3	4.6.4	300 x 50 mm wide cable tray perforated	Mtrs	50					
		<b>CABLE TRAY COVER</b>							
		Supply and Installation of cable tray covers fabricated out of 1.6mm thick hot dip GI along with fixing arrangement. The cable tray cover shall be removable type.							
7.4		cover for 50mm	Mtrs	100					
7.5		cover for 100mm	Mtrs	80					
7.6		cover for 300mm	Mtrs	50					
<b>G</b>		<b>STRUCTURAL STEEL</b>							
8.1		Supply, Installation & Fabrication of ISI mark structural steel in form of MS angles, channels, flats etc. for supporting various items of equipment such 'as various panels, cable trays, push button stations,junction boxes,light fittings, DB etc. including drilling, welding grouting, chipping, bolting with supply of required hardware including anchor fastners required for mounting. Fabricated and installed structural steel shall be suitably painted with 2 coats of epoxy paint after applying 2 coats of red oxide primer. Colour shade of supports shall be same as that of main shade of support structure or will be as per site engineers approval.	MT	0.50					
<b>H</b>		<b>EARTHING</b>							
a		Lighting fixture earthing is part of wiring & shall be by way of 3rd wire of 2.5 Sq.mm.,							
b		Earthing of the LSBs, shall be by way of 3rd wire of 2.5 Sq.mm.,							
c		Earthing of the SPN sockets, shall be by way of 3rd wire of 2.5 / 4 Sq.mm.,							
d		Earthing of the TPN sockets, shall be by way of separate earth wire of 4 Sq.mm.,							
e		Double earthing required for all the equipment with voltage higher than 230 V							
		Supply, Installation of hot dipped G.I /Copper bare earth conductor bar / flexible wire /strip of following sizes on trays / wall / Buried underground / supported on structures / pull through pipes/conduits. The installation shall include drilling of holes, connection of adequate lugs, clamping, hardware material. Welded joints shall be used for G.I. strips. Welded joints after welding shall be painted with anticorrosive black bitumen paint, excavation & refilling of 600mm depth soil for burying the strip wherever applicable shall include in the rate. All required materials & accessories including civil construction material shall be in contractor's scope.							

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S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
9.1		<b>Hot dip galvanized strip</b>							
		50 x 6 mm G.I strip	Mtrs	70					
	5.15	25 x 5 mm G.I strip	Mtrs	120					
9.2		<b>Flexible cables</b>							
		Supply, unloading at site, Installation of flexible cables of following sizes on trays / wall / Buried underground / supported on structures / pull through pipes/conduits. The installation shall include drilling of holes, connection of adequate lugs, clamping, hardware material. Welded joints shall be used for G.I. strips. Welded joints after welding shall be painted with anticorrosive black bitumen paint, excavation & refilling of 600mm depth soil for burying the strip wherever applicable shall include in the rate. All required materials & accessories including civil construction material shall be in contractor's scope. Green XLPE insulated Flexible Copper cable for Earthing of equipment. Electrical contractor scope shall also include supply required terminations at both end with required glands & Cu Lugs.							
		1Cx2.5 sq.mm	Mtrs	150					
		1Cx150 sq.mm-DG Neutral	Mtrs	20					
		<b>Cable Termination including PVC gland and copper lugs</b>							
		1Cx150 sq.mm	Nos.	1					
I		<b>EARTHING STATION</b>							
10.1		EARTH PIT (PLATE TYPE EARTHING) (COPPER ELECTRODE) Supply, Installation, testing of earthing station as per IS 3043 & CEA standard 'B-class' complete with CU Plate earthing 600x600x3.15 mm inclusive of 2runx25x6 mm copper strip to be connected between CU plate to the earth electrode. 40mm dia, 8feet long CU pipe, watering pipe with funnel, salt, charcoal, 2feetx2fet masonry chamber shall be RCC/Brick (fine masonry with 1:3:6 ratio) & C.I inspection cover with proper painting & marking. The scope includes excavation of pit 2.5Mtr depth, filling with alternate layers of charcoal & salt, back filing etc. Earthing shall confirm to IS 3043. Scope Including 1) Testing earth resistively and electrode resistance. 2) Equipotential bar & test link. (DG Neutral)	Nos	2					
10.2		EARTH PIT (PLATE TYPE EARTHING) (GI ELECTRODE) Supply, Installation, testing of earthing station as per IS 3043 & CEA standard 'B-class' complete with G.I. plate earthing (600x600x6mm) inclusive of 2runx25x6mm GI strip to be connected between GI plate to the Electrode. 40 mm dia, 8feet long G.I. pipe, watering pipe with funnel, salt, charcoal and 2feetx2fet masonry chamber shall be RCC/ Brick (fine masonry with 1:3:6 ratio) provided with G.I frame & C.I inspection cover with proper painting & marking. The scope includes excavation of pit 2.5Mtr depth, filling with alternate layers of charcoal & salt, back filing etc. Earthing shall confirm to IS 3043. Scope Including 1) Testing earth resistively and electrode resistance. 2) Equipotential bar & test link. (VTPN DB-6, DB-2, PCC-2, Compactors-6)	Nos	10					
J		<b>LIGHTNING PROTECTION SYTEM</b>							
		Supply, Installation, Testing and commissioning of External Lightning Protection System as Per IS / IEC 62305-3 including air termination and fixing arrangements as per following. Must be used Glue for fixing on Roof and everywhere and should not do puncher.							

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S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY & ERECTION	TOTAL	REMARKS
					RATE	RATE			
11.1		Supply, erection, testing and commissioning of lightening arrestor including lightening spike to cover 70 mt dia with including constructing & formation of copper earth pits with 'B' class 40 mm G.I. pipe of 8 feet with funnel and copper plate(600mmx600mmx3mm) earthing with alternative layer of salt, sand, bentonite powder and charcoal including civil work of excavation & back filling, construction of chambers with man hole cover as per IE Rules along with laying of 25x3mm copper strip on required no of insulators on sheds including all necessary works. (Minimum 15Mtrs of copper strip to be consider, to be placed on the top of the sheds/buildings/tanks etc as instructed by site engineer)	No's	1					
		<b>CABLES TRENCH:</b>							
11.2		Supply, Excavation & Back filling of Cable trench of size 1000mm (W) x 750mm (D) & providing sand cushioning of 100mm before and after laying the cables and providing bricks on sides and top of the cables for safety reasons and as per standards including all civil works as required & cable route markers for every 3Mtrs of distance.	Rmt	37					
<b>K</b>		<b>LT Cable Route Marker</b>							
		Supply & fixing of cable route markers with aluminium cast material 150mm Dia round with 6mm thickness to be placed for every 8 mtrs distance with two holes for mounting, embossed with 3mm letters & arrow mark for direction indication. Route marker to be painted with yellow in background, letters and arrow direction to be painted in black and should be mounted on M.S. Angle 25X25X3mm with standard length of 1mtr which includes construction of PCC pedestal mount 300mm(L) X 300mm(B) X 500mm(H) as per site engineer instructions. (Route markers should display on UG Cable trench)							
12.1		11KV Cable Route Marker	Nos	2					
12.2		440V LT Cable Route Marker	Nos	4					
		<b>SAFETY ITEMS for HT &amp; LT :</b>							
		Supply & Installation of the following safety items as per Electrical Inspectorate's requirement.							
12.3		First aid box with standard items	Nos	1					
12.4		11KV grade Rubber Hand Gloves - 1 Set (with certificate)	Sets	1					
12.5		433 V grade Rubber Hand Gloves - 1 Set (with certificate)	Sets	1					
12.6		11KV Danger Board as required by the Electrical authorities (In English, Hindi & Local Language)	Nos	1					
12.7		433 V Danger Board as required by the Electrical authorities (In English, Hindi & Local Language)	Nos	1					
12.8		11 kV Grade 3 mm thick Rubber mat - size of 2X1 mtr. (as per new IS 15652/IEC 61111)	Mtr.	1					
12.9		1.1 kV Grade 3 mm thick Rubber mat - size of 2X1 mtr. (as per new IS 15652)	Mtr.	2					
13.0		Shock treatment chart as per electricity board requirement (In English, Hindi & Local Language)	Nos	2					
13.1		Supply and Installation of 4 Sand Buckets with Stand as per Local EB standards	Sets	1					
13.12		Supply and Installation of 10Kg Powder type fire extinguishers	Nos	1					
13.13		Dry Chemical powder type fire extinguisher complete with initial charges, hose and fixing brackets etc 5 KG capacity confirming to IS: Standard	Set	2					
		<b>DG SET:</b>							
14		Supply, installation,testing and commissioning of <b>200 KVA DG Set</b> with Acoustic enclosure 415V,3 phase,50Hz frequency,0.8 PF with RPM 1500 powered by power engine , electrical alternator, radiator coolant, Microprocesser based controller with AMF relay with selection modes auto/manual with low lube oil pressure and high water temperature protection system,lube oil cooler,lube oil filter,fuel filters,residential silencer ,anti vibrator and 1meter extended chimney etc., in complete with necessary wiring and display. (CPCB-II)	Nos	1					
					<b>TOTAL</b>			-	

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
1	Site Development (Site Clearance) a. Cleaning of unwanted material b. Cleaning of waste water and rubbish	sqm	980			
2	Topographical survey Carrying out a topographical survey of the area shown by the engineer-in-charge/client. Surveying will be carried out to fix coordinates, dimensions of the roads, existing ground facilities like building, shed, shops , road, electrical poles, HT line, drains, man holes , major trees, telephone poles and water bodies.	LS	1			
3	Geotechnical Survey Equipment charges per day Standard Penetration tests (SPT) were conducted in these boreholes and relevant soil samples were collected. Soil tests were carried out in the laboratory to ascertain the allowable bearing capacity of encountered strata. To conduct tests on different samples in the laboratory as such as grain size Analysis, Atterberg limit, density, Consolidation test , shear properties, natural moisture and determining the engineering characteristics	LS	3			
4	Earth work excavation in all kinds of soil: Earthwork excavation in all kinds of soils except rock requiring blasting in any kind of foundation works including for trenches, pits and tunnels etc., for varying depths below average ground level including shoring, strutting for protecting the sides of foundation, dewatering/ bailing out water from foundations by pumping or by whatever means to dry up the area if required without any extra payment including leveling, ramming the bed of excavation and stacking the excavated soil away from the edge of excavation etc. complete as directed by the Engineer-in-charge for finished item of work.	cum	489.43			
5	Compacting the Original Ground: Loosening, leveling and compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density for embankment construction complete and as directed.	sqm	893.67			
6	PCC (1:4:8): Plain Cement concrete of mix 1:4:8 using Ordinary Portland cement conforming to IS 1489), River sand and graded stone aggregates of 40 mm maximum size at all depths below plinth level including cost of cement and all materials, leads and lifts, transportation to site of work, consolidation, finishing, curing, etc. complete but excluding form work as per specifications for mud mat in foundations of masonry walls or others etc. complete as per specs. and as directed for finished item of work.	cum	114.50			
7	PCC 1:2:4 for plinth protection  Plain Cement concrete of mix 1:2:4 using Ordinary Portland cement conforming to IS 1489), River sand and graded stone aggregates of 40 mm maximum size at all depths below plinth level including cost of cement and all materials, leads and lifts, transportation to site of work, consolidation, finishing, curing, etc. complete but excluding form work as per specifications for mud mat in foundations of masonry walls or others etc. complete as per specs. and as directed for finished item of work.	cum	1.88			



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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
8	Supply and Laying of RR Masonry in CM (1:6): Providing uncoursed random rubble masonry of trap/granite/quartzite/gneiss stone above/below plinth level or ground level in foundation and plinth in cement mortar 1:6 including dewatering, striking out joints on exposed faces, curing, scaffolding, raking out joints, plastering, pointing with same mortar etc complete as per specifications and directions of Engineer-in-charge.	cum	10.83			
9	RFRC M25 for Flooring: Supplying and laying reinforced cement concrete of RFRC M25 Grade (Recron fibers) as defined in IS:456, Flooring / Road including cost and conveyance of all materials vibrating with mechanical vibrator, levelling, curing etc., but excluding cost of shuttering, etc., complete finished item and as directed by Engineer-in-charge	cum	150.29			
10	RCC : M-25 Grade: Supplying and laying reinforced cement concrete of M 25 Grades as defined in IS:456, in all types of foundations and super structures, in walls, slab, columns, beams, lintels, chajjas, floor/roof slabs, staircase, footings, basements, cellars, trenches, drains, encasing of structural steel members / pipelines, etc. including cost and conveyance of all materials vibrating with mechanical vibrator , curing etc., but excluding cost of shuttering and steel reinforcement. All wars shall be as per drawings, specifications and directions of the Engineer/Consultant, super-plasticizer as per manufacturer's instruction/directions.	cum	96.31			
11	Reinforcement Steel: Supply, fabrication and erection of Reinforcement bars for Reinforced cement concrete items at and at all depths and heights below and above plinth level with high yield strength deformed bars confirming to IS 1786 with TM Treatment from approved source (Vizag steel, Tata, SAIL make), including supply to site, providing fan hooks of required shape, dowels for bonding masonry, transporting steel to site, decolling, removing of scales, straightening, cutting, bending, tying bars with chairs, space bars wherever required, in position with two strings of 18 gauge soft drawn annealed MS binding wire etc., complete as specified and directed.	kg	6,661.37			
12	Shuttering : Providing standard form work of steel plates, centering and shuttering at all depths and heights of work below and above plinth level, vertical, horizontal, inclined including strutting, propping using steel pipes/acro staging, removal, cleaning of the same for inset reinforced cement concrete works and in plain cement concrete work as required including chamfers, splays, keys, wedges, nails, bracings, brackets and applying one coat of shuttering oil on all shuttering surfaces coming in to contact with concrete etc., complete as directed including cost of materials, conveyance, labour and all other incidental charge etc. complete as directed to the finished item of work.	sqm	558.35			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
13	Brick work in CM (1:6) 230mm th.: Brick masonry work using specified class II well burnt clay bricks of specified class, size and quality in cement mortar (1:6) at all depths and heights below and above plinth level including cost and conveyance of all materials, pilasters, steel tubular scaffolding, raking out joints, curing etc., complete as per specifications and as directed. Brick shall be laid flat in the projections for the finished item of work.	cum	38.50			
14	Plastering-15mm th. in CM (1:6): Cement plastering 15 mm thick for internal surfaces of walls in cement mortar (1:6) neatly smooth finished at and all heights above plinth level over brick walls or concrete surfaces, RCC and also other places wherever required including making necessary grooves in between junctions of brick masonry and over brick walls or concrete surface, preparation of surface, steel/tubular scaffolding, curing, etc., complete as directed as per standard specs. for the finished item of work.	sqm	346.07			
15	Finishing walls with Acrylic emulsion paint having Alkali & fungal resistance, dirt resistance exterior /interior paint of required shade over one coat of primer, including all materials, labour charges, tools & tackles, necessary scaffolding, etc., complete finished item	sqm	186.07			
16	MS Grating for Drain Supply, fabricate and erection drain grating using ISA 40x40x5mm, 35x35x3mm for grill frame and 35 x 3mm Flat for horizontals including all materials, labour charges, Two coats of enamel paint over 1 coat of steel primer, etc., as per drawing complete finished item and as directed by engineer-in-charge	Kg	320.00			
17	Providing GP grouting for PEB base plates	cum	0.35			
18	Water Proof Plastering in CM (1:3) : Supply and providing Cement plastering 12 mm thick for internal surfaces of walls in cement mortar (1:3) with coarse sand with 5 % cico or any other approved water proofing compound including taxes and neatly smooth finished at and all heights above plinth level over brick walls or concrete surfaces, RCC and also other places wherever required including making necessary grooves in between junctions of brick masonry and over brick walls or concrete surface, preparation of surface, steel/tubular scaffolding, curing, etc., complete as directed as per standard specs. for the finished item of work.	sqm	37.18			
19	MS Man Hole Cover 600mm X 600mm: Providing and fixing MS Manhole cover of size 600 x 600 mm with frame with locking arrangement, etc. cover and frame (heavy duty, HD-20 grade designation) conforming to I.S. 12592, total weight of cover and frame to be not less than 50kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centring, shuttering all complete. (rate includes Excavation, foot rests and 12mm thick cement plaster at the external surface )	Nos	1.00			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
20	Filling with available excavated earth : 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 watering, and compacting to 95% modified proctor density, dressing, trimming, etc all complete as per drawing, specifications and as directed by Engineer-in-charge ( compacted finished area / volume only measured for payment) available soils within the site.	cum	220.98			
21	PVC water stopper: Providing and Laying PVC water stopper 250mm wide including cost of material , labour charges etc., complete as per specifications & as advised by the Engineer In charge.	Rmt	18.40			
22	Construction of Granular Sub-Base: Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401 MoRTH	cum	94.50			
23	Construction of dry lean cement concrete: Construction of dry lean cement concrete Sub-base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, cement content not to be less than 150 kg/ cum, concrete strength not to be less than 10 Mpa at 7 days, compacting with 8-10 tonnes vibratory roller, finishing and curing, etc., completely finished item and as directed by Engineer-in-charge	cum	63.00			
24	Kerb Stone: Providing and laying at or near ground level factory-made kerbstone 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 to 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).	Rmt	252.00			
25	Contraction Joint : Service charges for Preparing 10 mm wide x 50 mm deep contraction joint using groove cutting machine @ 5m spacing, providing and filling joints with approved joint filler/ sealants such as Bitumen epoxy, etc., complete finished item and as directed by Engineer-in-charge.	Rmt	336.45			
26	Supply & Fixing of CC Manhole cover (600MMX600MM) as Per IS Standrads as directed by engineer/incharge	Nos	5.00			
27	RCC 450mm dia Hume pipe	Rmt	100.00			
28	EN 901 Painting	Sqm	14.70			
29	Painting for External Walls: Providing and applying two coats cement based paint (Snowcem or approved brand) conforming to IS:5410-1990, over one coat of primer including preparing the surface to receive priming & finishing coats, scaffolding, curing etc. complete in any shade as directed by Engineer-in-charge	sqm	17.28			

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**Kailashkunj Transfer Station - Bill of Quantities**

Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
30	MS Entrance & Exit Gate: Providing and fixing M.S. Gate using with Tubular rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and ground finish, with profiles of required size, including fixing of necessary butt hinges and screws, locking arrangement and applying two coats of approved enamel paint over one coat of a priming coat, etc., complete finished item as per drawings and as directed by Engineer-in-charge	kg	1,600.00			
31	Tensile Fab with structural steel	sqm	3,060.15			
32	Neat Cement punning	sqm	80.00			
33	Supply and fixing charges for 5 HP Motar including all necessary plumbing works & comissioning	LS	1.00			
34	Supply and Installation of Syntex water tank at an elevated location including all necessary fixtures, plumbing items etc.	LS	1.00			
35	Supply, Fabricate and erection of Structural shed with AZ-150/SDP	MT	11.66256			
36	S/c for Turbo Vents Supply of 304 alluminium turbo ventilators. Japan NSK self-lubricating bearing and metal support including transportation.	Nos	4			
37	S/c for Sky lights Supply of polycarbonate FRP skylight with 1-2mm thickness, Including transportation	Sqm	86.40			
38	Epoxy Paint on floor for leachate drainout : Supply and applying epoxy paint over levelling course on cleaned surfce including all materials, labour charges, etc., complete finished item and as directed by engineer-in-charge	sqm	129.584			
39	Dismantling of the existing structures	Sqm	139.75			
40	S/C for Supply and fixing of Ventilated GI rolling shutter with neat finishing and fireproofing and installation Providing and fixing Automatic rolling shutter power-driven with pull & push type provision for rolling shutters of approved make out of 18 gauge, 75 mm wide cold rolled steel laths of convex corrugation, with side guides and bottom rail, with interlocking arrangements of steel laths by means of alternate clips, suspension shaft with High tension coil type springs two numbers, mounted on specially designed pipe shaft, with bracket plates, guide channels, ball bearing arrangements, for inside & and outside locking with push & and pull operations complete with all necessary fixtures and tools at site as required by the client.	sqm	52			
41	Supply and Fixing of Name Board and MS Fabrication work with flexible board with all necessary items.	sqm	12.48			
42	Supply charges for Membrane Filtration Stainless Steel Water Purifiers, For Commercial, RO Capacity: 1000-1500 (Liter/hour) including necessary plumbing materials with operations complete with all necessary fixtures and tools at the site as required by the client including Installation charges with necessary fixtures and tools	LS	1			
<b>Total Value of Civil Works (in Rs.)</b>					<b>0</b>	
<b>B</b>	<b>Mechanical Works</b>					
1	Supply and Eection of Tract Plate - 4Nos	Kg	3668.78			
2	Supply & Installation of Portable Compactor Machine model MX-160/16CuM with Tip Cart Loading Mechanism (2+1)	Nos	3			
<b>Total Value of Mechanical Works (in Rs.)</b>					<b>0</b>	

LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED

KAILASH KUNJ TRANSFER STATION - Bill of Quantities - Electrical Works

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+ ERECTION	TOTAL	REMARKS
					RATE	RATE			
<b>A</b>		<b>LT PANEL</b>							
		Supply, Erection, testing & commissioning of Distribution panel with stand as per local EB rules & standards, including in complete jointing, bus bar jointing of individual components interlocking checking/wiring & proper welding works as per IEC: 60439: (Cable entry : Bottom of the panel)							
1.1		<b>Switch Board Designation : Power Distribution Panel</b> <b>Quote as per IEC 60439</b> <b>Vendor shall quote this panel with 50kA.</b>	No.	1					
		Voltage : 415 V							
		Construction : Single Front, IP-65 Double Door, Bottom Cable Entry							
		Dimension : To be assessed by Contractor.							
		Refer Annexure -1 for detailed boq							
		<b>Incoming Feeder :</b>							
		EB & DG Incomer : 100A FP ATS							
		CTs-100 / 5 A, CL 1, 6 Nos.							
		DV(0-500v), DA(0 - 100A) - 2Sets.							
		Indication Lamps -R Y B.							
		EB & DG ON Status - ON Indication Lamps							
		Common Incomer : 100A 4 Pole, 36kA/sec MCCB with							
		CTs-100 / 5 A, CL 1, 4 Nos.							
		DV(0-500v), DA(0 - 100A) - 3Sets.							
		Indication Lamps -R Y B, ON, OFF, TRIP.							
		Surge Protection Device (SPD) TYPE 1 -CLASS I WITH 32A MPCB 65kA CONTROL. Other items as required for safe and efficient electrical panel as mentioned in Sepcification.							
		<b>Outgoing Feeders :</b>							
		Six (6) 32A, 10kA/sec 4P MCB's.							
		Eight (8) 63A, 10kA/sec 4P MCB's.							
		63A 3-Phase Power Sockets - 2Nos							
		Two (2) 5 KVAR capacitor banks with 32A TP MCB control with capacitor duty contactors suitable for 5KVAR of including on/off push buttonn and indication lamps, use 6Sq.mm Cu wire for power control.							
<b>B</b>		<b>DISTRIBUTION BOARDS</b>							
		Supply, Installation, testing and commissioning of following distribution boards. MCB distribution boards shall be totally with single door/double door, Surface/recessed mounting type, outer door shall be hinged type with push in type spring / magnetic lock, inner door shall be fixed up with screws with cutouts for MCB operation, copper busbar of at least 1.5 times the rating of incomer MCB / MCCB, with adequate space for termination of incoming and outgoing cables, removable un drilled top & bottom gland plates, suitable for wall, column mounting type. The incoming MCB / MCCB shall be provided in separate compartment. The MCCB shall have front drive mechanism and door interlock. DB shall be concealed type. DB shall be completely wired up, upto incoming and outgoing terminals by PVC insulated flexible copper wire of adequate rating. All MCB in Lighting DB shall be suitable for Curve B. and MCB in Power DB shall be suitable for Motive power ( Curve C ). In case Db's 3phase I/C & 1phase O/G neutral of each phase shall be isolated.							
		<b>ALL MCB (B type &amp; C type) in DB's complying IS 60898 / IEC 60947</b>							
		<b>Lighting Distribution Board</b>							
2.1	2.3.3	Tag No. : LDB1 (Shed Lighting)	Nos	1					
	2.15.2	12-WAY SPN DB							
	2.10.1	Incomer : 40A,DP ELCB 30 mA -1 Nos							
		Outgoing : 10Nos, 10A SP MCBs 'C' Curve							
		The above complete with interconnections, etc. DB should be with Metal Door & IP 43 12 WAY SPN DB							
<b>C</b>		<b>CABLE SYSTEM</b>							

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**KAILASH KUNJ TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+ ERECTION	TOTAL	REMARKS
					RATE	RATE			
		Supply & Unloading at site, Laying, Installation, site testing and commissioning of horizontal and vertical laying and dressing using cable tie, etc. of following sizes cables on trays / through pendants / GI conduits, clamping on wall / ceiling / supported on structures / pull through pipes / readymade trench. The scope includes clamping of cables by ready made G.I. spacers, saddles or clamps fabricated out of M.S. strip 3 mm thick, supply of all clamping materials and hardware etc., providing cable markers made out of aluminium strip and 75x20 mm in size with cable number and size punched on it. Cable marker shall be provided to cables at every 20 meter interval and at both the ends. Empty cable drums shall be returned to stores. This activity also includes unloading, shifting of cables upto stores & stores to site. In case of laying unlisted cables, rate of cable whose outer dia is closest to the cable sizes quoted shall be applicable. The same shall hold good for cable termination also.							
		1.1 KV, XLPE insulated copper/aluminium conductor of class -2 as per IS 8130 armoured / unarmoured, solid / stranded inner sheathed ST-2 PVC & outer sheathed FRLS type ST-2 as per IS 5831, power cables of following sizes:							
		<b>LT Cables</b>							
3.1	501	3.5CX25SQMM.AL.XLPE.AR	Mtr	77					
3.2	501	4CX10SQMM.AL.XLPE.AR	Mtr	31					
3.3	501	4CX6SQMM.AL.XLPE.AR	Mtr	50					
3.4		4CX2.5SQMM.CU.XLPE.AR	Mtr	53					
3.5		5CX4SQMM.CU.XLPE.Flexible Cable	Mtr	39					
		<b>CABLE END TERMINATION</b>							
		Supply, Installation, testing and commissioning of Cable end termination with Double compression Brass Nickel Pleated cable gland with all necessary hard wears like cu / Al / Bimetalic lugs & PVC hood, ferrules etc. of following copper/alum. conductor armoured / unarmoured cables including supply of all materials, drilling of gland plates and dressing of cables inside panel. All necessary material and hardware for termination purpose will be provided by the contractor. All Labour complete as per the specification of this tender and direction of engineer in charge.							
		1.1 KV, XLPE insulated copper/aluminium conductor armoured / unarmoured, inner sheathed PVC & outer sheathed FRLS power cables of following sizes using Double Compression Gland:							
4.1		3.5CX25SQMM.AL.XLPE.AR	Nos	2					
4.2		4CX10SQMM.AL.XLPE.AR	Nos	2					
4.3		4CX6SQMM.AL.XLPE.AR	Nos	4					
4.4		4CX2.5SQMM.CU.XLPE.AR	Nos	8					
4.5		5CX2.5SQMM.CU.XLPE.Flexible Cable	Nos	2					
<b>D</b>		<b>LIGHT FIXTURES</b>							
		Supply, Installation, testing and commissioning of following Lighting Fixtures with Lamps and control gear including mounting of fixtures Recessed / Surface / Suspension along with all its accessories, checking of internal wiring, structural steel & hardware etc. and with all kind of required hardwares to complete installation. (Inclusive of supply, installation of cable & termination of 3C x 2.5 Sqmm Cu flexible cable FRLS / 3R x 2.5 Sqmm Cu wire from light fitting to JB side along with GI conduit - Normal/ FLP - as per type of light fitting). Supply of all materials required for complete installation shall be provided by the contractor.							
		Lighting fixture supports (structural steel or readymade supports design with light fixtures) average weighted 6 Kg shall be considered as part of lighting fixtures system activity and shall not be paid extra 1. Vendor should quote all Light fixtures with 3 years unconditional warranty period. 2. For consideration of equivalent makes, please ensure that the lumens output of the light fitting is equal to that mentioned in this BOQ line item.							
		<b>OUTDDOR LIGHTING FIXUTE</b>							

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**KAILASH KUNJ TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+ ERECTION	TOTAL	REMARKS
					RATE	RATE			
5.1		INDUSTRIAL HIGH BAY LIGHT FIXTURE, complete with *Epoxy dia cast aluminium with toughened glass *Dust & Moisture proof Fixture (IP 66) *complete with mounting accessories *150W LED. *LED/Driver - Osram/Nichia/Seoul *System Lumens Output 10000 Lumens and colour Temp. 5700K Havell's or Wipro OR Lighting Technology	Nos	4					
<b>E</b>		<b>INTERNAL ELECTRIFICATION :</b>							
		<b>Main Wiring :</b>							
6.1	1.7.3	Providing all materials, accessories, labour etc. and wiring using 2 runs (Ph & N) of 4 Sq.mm and 1 run of 2.5Sq.mm (for earth) PVC insulated multi strand copper conductor wires of 600V grade drawn in suitable PVC conduit pipe (It includes wiring in the floor/raceways proper opening of raceways as per seating arrangement/lab equipment positioning & proper closing of the raceways as per standards; where ever piping in the floor/ceiling, the conduit should PVC) as per site engineer instructions with all accessories from nearest distribution board to switch board including proper chasing & plastering works (conforming to IS: 1881, IS:1882). for Raw power	Rmt	50					
6.2	1.7.2	Providing all materials, accessories, labour etc. and wiring using 2 runs (Ph & N) of 2.5 Sq.mm and 1 run of 2.5Sq.mm (for earth) PVC insulated multi strand copper conductor wires of 600V grade drawn in suitable PVC conduit pipe (It includes wiring in the floor/raceways proper opening of raceways as per seating arrangement/lab equipment positioning & proper closing of the raceways as per standards; where ever piping in the floore, the conduit should PVC) as per site engineer instructions with all accessories from nearest distribution board to switch board including proper chasing & plastering works (conforming to IS: 1881, IS:1882).	Rmt	90					
		<b>Point Wiring :</b>							
		Provide all materials, accessories, labour etc. and wiring, testing, commissioning for lights, using 3 runs of 1.5 Sq.mm PVC insulated multi strand copper conductor wires of 600V grade drawing in PVC conduit pipe as per site engineer instructions with all accessories Suitable for false ceiling from switch board to respective points including all civil and mechanical works, (Concealed Wiring). (conforming to IS: 1881, IS:1882).							
6.3	123(b)	Lights points with control switches. (Min. 6-9Mtrs to be considered for each point it includes false ceiling wiring, conduit wiring, from switch board to individual light/fan/ex.fan) includes suitable size of modular metal boxes and frames.	No's	19					
6.4	123(b)	Fan points with electronic regulators. (Min. 6-9Mtrs to be considered for each point it includes false ceiling wiring, conduit wiring, from switch board to individual light/fan/ex.fan) includes suitable size of modular metal boxes and frames.	No's	6					
6.5		Supply, erection, testing and commissioning of 1 x 18w LED tube light fitting with bulbs and all necessary accessories and to be fixed on walls.	No's	12					
6.6		Supply, erection, testing and commissioning of 9W LED Bulb light fitting with bulbs & holders including all necessary accessories.	No's	8					
6.7		Supply, installation, testing and commissioning of 6A, 5 pin socket outlet with 6A switches with gang box concealed type with all necessary accessories complete as required including wiring from distribution board. (operating height should be maintained as per IS) includes suitable size of modular metal boxes and frames	No's	3					
6.8		Supply, installation, testing and commissioning of 16/6A, 5/6 pin socket outlet with 16A switches with gang box concealed type with front white modular plate with 25mm pvc conduit pipe all necessary accessories complete as required including wiring from distribution board(operating height should be maintained as per IS) includes suitable size of modular metal boxes and frames.	No's	3					
6.9	1501.0	Supply, erection, testing and commissioning of wall/ceiling mounted fans that should be dual tone (non-white color) with electronic regulator. Vendor should submit the photograph of material, with make and model before procurement for approval.	No's	1					

LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED

KAILASH KUNJ TRANSFER STATION - Bill of Quantities - Electrical Works

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+ERECTION	TOTAL	REMARKS
					RATE	RATE			
6.10		Supply, erection, testing and commissioning of exhaust fan with Sweep size 300mm, made of sturdy engineering plastic with necessary holes in the walls & etc in complete. Vendor should submit the photograph of material, with make and model before procurement for approval.	No's	4					
6.11	2.20	Supply erection ,testing and commissioning of 32Amps 5 pin industrial socket with metal cold body with all accessories required for installation , work includes supply and installation at wall flused inside the wall which includes chipping of wall fixing the metal clad box inside the wall and connecting the cable to mcb and fixing the it properly inside the box and adding extra cable for plug top etc.,	No's	3					
<b>F</b>		<b>CABLE TRAY</b>							
		Supply, Installation of prefabricated hot dip galvanised (460 gms per sq. met.), ladder / perforated type cable trays of minimum 2 mm thick as per details given below. Prefabricated, bends and couplers with G.I. Nuts and bolts. Gas cutting of cable trays at site is not permitted. If any welding is to be done on cable trays, the welded part shall be touched up with anti-corrosive primer and silver paint. The running rate shall include bends and couplers. Cable tray supports shall be paid extra. Before fabricating, the contractor has to get the cable tray support design approved from the site – engineer/consultant. Minimum Distance between two cable tray supports for Horizontal cable tray and vertical cable tray shall be 1.5m to 1.8 m (Depending on size) and 1M respectively. For Ladder type cable tray distance between two rungs should be 300mm							
		Cable Trays with Earthing: Shall be with Strip earthing as specified in each size of cable tray. Bolted on both sides of the cable tray with provision for jointing the adjoining pieces by means of a additional Piece of strip with holes provided at all ends for the same. Also extra Holes for Tapping. The jointing portion shall be atleast 100 mm in length & shall be raised/away from Main side frame of the Tray to enable Bolting for Jointing & Tappings. The Running meter lengths of cable Trays Shall include all types of standard Joints,"+"; "U"; "T"; "L" Horizontal, vertical, Bends etc.Straight, Left hand, Right Hand reducers etc. Horizontal, vertical inside & vertical outside elbows complete with all necessary Hardwares like Nuts Bolts, Plain & Spring washers, etc.							
		<b>Perforated Type Cable Tray (2mm Thickness)</b>							
7.1		50 x 50 mm wide cable tray perforated	Mtrs	100					
7.2	4.6.1	100 x 50 mm wide cable tray perforated	Mtrs	60					
		<b>CABLE TRAY COVER</b>							
		Supply and Installation of cable tray covers fabricated out of 1.6mm thick hot dip GI along with fixing arrangement. The cable tray cover shall be removable type.							
7.3		cover for 50mm	Mtrs	100					
7.4		cover for 100mm	Mtrs	60					
<b>G</b>		<b>STRUCTURAL STEEL</b>							
8.1		Supply, Installation & Fabrication of ISI mark structural steel in form of MS angles, channels, flats etc. for supporting various items of equipment such 'as various panels, cable trays, push button stations, junction boxes,light fittings, DB etc. including drilling, welding grouting, chipping, bolting with supply of required hardware including anchor fastners required for mounting. Fabricated and installed structural steel shall be suitably painted with 2 coats of epoxy paint after applying 2 coats of red oxide primer. Colour shade of supports shall be same as that of main shade of support structureor will be as per site engineers approval.	MT	0.35					
<b>H</b>		<b>EARTHING</b>							
a		Lighting fixture earthing is part of wiring & shall be by way of 3rd wire of 2.5 Sq.mm.,							
b		Earthing of the LSBs, shall be by way of 3rd wire of 2.5 Sq.mm.,							
c		Earthing of the SPN sockets, shall be by way of 3rd wire of 2.5 / 4 Sq.mm.,							
d		Earthing of the TPN sockets, shall be by way of separate earth wire of 4 Sq.mm.,							



**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**KAILASH KUNJ TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+ERECTION	TOTAL	REMARKS
					RATE	RATE			
e		Double earthing required for all the equipment with voltage higher than 230 V							
		Supply, Installation of hot dipped G.I /Copper bare earth conductor bar / flexible wire /strip of following sizes on trays / wall / Buried underground / supported on structures / pull through pipes/conduits. The installation shall include drilling of holes,connection of adequate lugs, clamping, hardware material. Welded joints shall be used for G.I. strips. Welded joints after welding shall be painted with anticorrosive black bitumen paint, excavation & refilling of 600mm depth soil for burying the strip wherever applicable shall include in the rate. All required materials & accessories including civil construction material shall be in contractor's scope.							
<b>9.1</b>		<b>Hot dip galvanised strip</b>							
9.1.1	5.90	25 x 5 mm G.I strip	Mtrs	65					
9.1.2		25 x 3 mm G.I strip	Mtrs	150					
9.2.1		Supply & laying of 8 SWG G.I wire with all necessary connections with nuts & bolts.	Kg's	5					
		<b>EARTHING STATION</b>							
10.1		EARTH PIT (PIPE) (GI ELECTRODE) Supply, Installation, testing of earthing station as per IS 3043 & CEA regulation complete with G.I. plate earthing (600x600x6mm) inclusive of 2runx 25x6mm GI strip to be connected between GI plate to the Electrode. 50 mm dia, 3 M long G.I. pipes, salt, charcoal & 2 nos. . The masonry chamber shall be RCC/ Brick (fine masonry with 1:3:6 ratio) provided with G.I frame & C.I inspection cover with proper painting & marking. The scope includes excavation of pit, filling with alternate layers of charcoat & salt, back filing etc. Earthing shall confirm to IS 3043. Scope Including 1) Testing earth resistively and electrode resistance. 2) Equipotential bar & test link.	Nos	5					
<b>I</b>		<b>LIGHTNING PROTECTION SYTEM</b>							
		Supply, Installation, Testing and commissioning of External Lightning Protection System as Per IS / IEC 62305-3 including airtermination and fixing arrangements as per following. Must be used Glue for fixing on Roof and every where and should not do puncher.							
11.1		Supply, erection, testing and comissioning of lightening arrestor including lightening spike to cover 70 mt dia with including constructing & formation of copper earth pits with 'B' class 40 mm G.I. pipe of 8 feet with funnel and copper plate(600mmx600mmx3mm) earthing with alternative layer of salt, sand, bentonate powder and charcoal including civil work of excavation & back filling, construction of chambers with man hole cover as per IE Rules along with laying of 25x3mm copper strip on required no of insulators on sheds including all necessary works. (Minimum 15Mtrs of copper strip to be consider, to be placed on the top of the sheds/buildings/tanks etc as instructed by site engineer)(1 nos for Transformer Yard & 1 nos for SBR Blower Building)	No's	1					
<b>J</b>		<b>MISCELLANEOUS ITEM</b>							
		<b>Safety Items</b>							
		Supply & Installation of the following safety items as per Electrical Inspectorate's requirement.							
12.1		1.1 kV Grade 3 mm thick Rubber mat - size of 2X1 mtr. (as per new IS 15652)	Mtr.	1					
12.2		Shock treatment chart as per electricity board requirement (In English, Hindi & Local Language)	Nos	1					
12.3		First aid box with standard items	Nos	1					
12.4		433 V Danger Board as required by the Electrical authorities (In English, Hindi & Local Language)	Nos	1					
12.5		Rubber Hand Gloves - 1 Set (with certificate)	Set	2					

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**KAILASH KUNJ TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+ ERECTION	TOTAL	REMARKS
					RATE	RATE			
12.6		4 nos. Fire Buckets (round bottom) with suitable MS stand	Set	2					
12.7		Dry Chemical powder type fire extinguisher complete with initial charges, hose and fixing brackets etc 5 KG capacity conforming to IS:Standard	Set	2					
		<b>CABLE DRESSING :</b>							
<b>K</b>		Dressing of cable and fixing the cable in tray and fixing of HT/LT cable from the nearest pole to meter board and from there to the control panel in under ground or above ground with all safety norms with proper guidance of the super visor wilth neccessary supports/cable tray/trench etc.,	LS	1					
<b>L</b>		<b>DG-SET</b>							
14		Supply, installation, erection, testing and comissioning of diesel engine with rated of 20 KVA at 0.8 P.F, 1500 RPM, 4 stroke, multicylinder coupled to brush less type 433V 50 cycle/sec self excited alternator completeed with cushy pads, domestic silencer exhaust pipe completee with alternator auxiliaries, radiator, electronic governor panel, 24Volts chargable battery including initial charging of batteries, control panel with ammeter, ammeter selector switch, voltmeter and voltage selector switch, frequency meter, Hrs meter amd KWH meter in sound proof canapoy as required and completee as per specification. Note: Dg set need to quoted along with 4 wheel trolley	No's	1					
							<b>TOTAL</b>	<b>0</b>	

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**Mithaiwala Transfer Station - Bill of Quantities**

Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
<b>A</b>	<b>Civil Works</b>					
1	Compacting the Original Ground: Loosening, leveling and compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density for embankment construction complete and as directed.	Sqm	391.00			
2	Dismantling Work Debries Removal of Concrete Breaking : Disposal of moorum/building rubbish/ malba/ similar unserviceable, dismantled or waste material by mechanical transport including loading, transporting, unloading upto a lead to the nearest Govt approved dump site. Rate includes cost for lifts, complete as per directions of Engineer-in-charge.	Cum	20.40			
3	S/C For Earth work excavation in all kinds of soil: Excavation by mechanical means (Hydraulic excavator)/manual means in trenches, pits, pipe lines, foundations, column footings, walls etc. in earth's soils of all types, gravel, sand, soft & hard murum, and boulders up to 0.03 cum. size including removing the excavated material upto a distance of 50 M beyond the edge of excavation for all lifts, stacking or spreading as directed, shoring, strutting for protecting the sides of foundation, dewatering/bailing of sub-soil water if any preparing base for foundation etc., and back filing the excavated pit or trench using the approved excavated material in layers including watering and ramming as required or as directed by Engineer-In-charge, including all labour and materials complete. ( PCC area only measured for base measurement)	cum	697.78			
4	PCC (1:4:8): Plain Cement concrete of mix 1:4:8 using Ordinary Portland cement conforming to IS 1489), River sand and graded stone aggregates of 40 mm maximum size at all depths below plinth level including cost of cement and all materials, leads and lifts, transportation to site of work, consolidation, finishing, curing, etc. complete but excluding form work as per specifications for mud mat in foundations of masonry walls or others etc. complete as per specs. and as directed for finished item of work.	cum	65.85			
5	PCC (1:2:4)Providing and laying Plain Cement Concrete 1:2:4 nominal mix using Ordinary Port Land Cement, sand and crushed stone aggregate 20 mm nominal size mechanically mixed, including tamping, curing, shuttering etc., as required placed in the foundation, under slabs, on grade etc., including all tools and tackles, formwork if required etc. complete as directed by the Engineer-in-charge	cum	2.25			
6	RFRCC M25 for Flooring: Supplying and laying reinforced cement concrete of RFRCC M25 Grade (steel fibers @ 15kg/cum) as defined in IS:456, Flooring / Road including cost and conveyance of all materials vibrating with mechanical vibrator, levelling, curing etc., but excluding cost of shuttering, etc., complete finished item and as directed by Engineer-in-charge	cum	119.00			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
7	RCC : M-25 Grade: Supplying and laying reinforced cement concrete of M 25 Grades as defined in IS:456, in all types of foundations and super structures, in walls, slab, columns, beams, lintels, chajjas, floor/roof slabs, staircase, footings, basements, cellars, trenches, drains, encasing of structural steel members / pipelines, etc. including cost and conveyance of all materials vibrating with mechanical vibrator , curing etc., but excluding cost of shuttering and steel reinforcement. All wars shall be as per drawings, specifications and directions of the Engineer/Consultant, super-plasticizer as per manufacturer's instruction/directions.	cum	18.93			
8	Reinforcement Steel: Supply, fabrication and erection of Reinforcement bars for Reinforced cement concrete items at and at all depths and heights below and above plinth level with high yield strength deformed bars confirming to IS 1786 with TM Treatment from approved source (Vizag steel, Tata, SAIL make), including supply to site, providing fan hooks of required shape, dowels for bonding masonry, transporting steel to site, decoiling, removing of scales, straightening, cutting, bending, tying bars with chairs, space bars wherever required, in position with two strings of 18 gauge soft drawn annealed MS binding wire etc., complete as specified and directed.	kg	873.79			
9	Shuttering : Providing standard form work of steel plates, centering and shuttering at all depths and heights of work below and above plinth level, vertical, horizontal, inclined including strutting, propping using steel pipes/acro staging, removal, cleaning of the same for inset reinforced cement concrete works and in plain cement concrete work as required including chamfers, splays, keys, wedges, nails, bracings, brackets and applying one coat of shuttering oil on all shuttering surfaces coming in to contact with concrete etc., complete as directed including cost of materials, conveyance, labour and all other incidental charge etc. complete as directed to the finished item of work.	sqm	99.14			
10	Brick work in CM (1:6) 230mm th.: Brick masonry work using specified class II well burnt clay bricks of specified class, size and quality in cement mortar (1:6) at all depths and heights below and above plinth level including cost and conveyance of all materials, pilasters, steel tubular scaffolding, raking out joints, curing etc., complete as per specifications and as directed. Brick shall be laid flat in the projections for the finished item of work.	cum	4.60			
11	Water Proof Plastering in CM (1:3) : Supply and providing Cement plastering 12 mm thick for internal surfaces of walls in cement mortar (1:3) with coarse sand with 5 % cico or any other approved water proofing compound including taxes and neatly smooth finished at and all heights above plinth level over brick walls or concrete surfaces, RCC and also other places wherever required including making necessary grooves in between junctions of brick masonry and over brick walls or concrete surface, preparation of surface, steel/tubular scaffolding, curing, etc., complete as directed as per standard specs. for the finished item of work.	sqm	14.70			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
12	Finishing walls with Acrylic emulsion paint having Alkali & fungal resistance, dirt resistance exterior /interior paint of required shade over one coat of primer, including all materials, labour charges, tools & tackles, necessary scaffolding, etc., complete finished item	sqm	204.00			
13	S/C for Fabrication of structural works. fixing of Drains MS Grating for Drain Supply, fabricate and erection drain grating using ISA 40x40x5mm, 35x35x3mm for grill frame and 35 x 3mm Flat for horizontals including all materials, labour charges, Two coats of enamel paint over 1 coat of steel primer, etc., as per drawing complete finished item and as directed by engineer-in-charge	Kg	420.00			
14	Structural steel for edge protection with MS Angles. Supply, fabricate, and erection of things as per drawings including all materials, labor charges, necessary scaffolding, etc., complete the finished item.	KG	400.00			
15	S/C For Filling with available exc earth : 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 watering, and compacting to 95% modified proctor density, dressing, trimming, etc all complete as per drawing, specifications and as directed by Engineer-in-charge ( compacted finished area / volume only measured for payment) available soils within the site.	Cum	6.90			
16	S/C For Filling with Approved Soil : Filling with approved material obtained from borrow pits (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by watering, and compacting to 95% modified proctor density, dressing, trimming, etc all complete as per drawing, specifications and as directed by Engineer-in-charge ( compacted finished area / volume only measured for payment)	Cum	675.00			
17	S/C for HDPE pipe -200 Dia Supply and fixing of HDPE pipe TEE 200 mm dia at required location in the site as instructed by Client.	Rmt	10.00			
18	Supply and fixing charges for Vehicle stopper beams in parking with edge angles. (Synthetic Plastic & Rubber Car Wheel Stopper) - 600mm Black with yellow reflective Strip.	Nos	10.00			
19	supply and fixing charges of Kerb stone with all necessary civil works and required fixtures including packing and properly laying and painting snow cem	Rmt	80.00			
20	Epoxy Paint on floor for leachate drainout : Supply and applying epoxy paint over levelling course on cleaned surface including all materials, labour charges, etc., complete finished item and as directed by engineer-in-charge	Sqm	132.00			
21	RCC 450mm dia Hume pipe	Rmt	100.00			
22	Dowel MS bars straightening, cutting, bending, tying bars with chairs, overlaps, space bars wherever required, in position with two strings of 18 gauge soft drawn annealed MS binding wire etc., completely finished item and as directed by Engineer-in-charge	Kgs	9520.00			

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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
23	S/c for RCM Wall: micro concrete with 6mm reinforcing mesh including cost and conveyance of all materials vibrating with the mechanical vibrator, leveling, curing etc., but excluding cost of shuttering, etc., complete finished item and as directed by Engineer-in-charge	Sqm	17361.01			
24	S/C for fixing of FRP Road Crossing with all necessary fixtures	Rmt	36.00			
25	Supply & Fixing of CC Manhole cover (600MMX600MM) as Per IS Standrads as directed by engineer/incharge	Nos	5.00			
26	EN 901 Painting	Sqm	38.70			
27	Supply and Fixing of Name Board and MS Fabrication work with flexible board with all necessary items.	sqm	14.43			
28	Supply, Fabricate and erection of Structural shed with AZ-150/SDP etc complete and as directed by the Engineer in charge.	Kgs	8635.00			
29	Supply of 304 Stainless Steel turbo ventilator. Japan NSK self-lubricating bearing and metal support including transportation, Erection etc complete and as directed by the Engineer in charge.	Nos	4.00			
30	Supply of polycarbonate FRP skylight with 1-2mm thickness, Including transportation etc complete and as directed by the Engineer in charge.	Sqm	86.40			
31	Supply charges for Membrane Filtration Stainless Steel Water Purifiers, For Commercial, RO Capacity: 1000-1500 (Liter/hour) including necessary plumbing materials with operations complete with all necessary fixtures and tools at the site as required by the client with Installation charges with necessary fixtures and tools complete and as directed by the Engineer-in-charge.	LS	1.00			
32	Sump and water supply network.	LS	1.00			
<b>Total Value of Civil Works (in Rs.)</b>					<b>0</b>	
<b>B</b>	<b>Mechanical Works</b>					
1	Supply & Installation of Portable Compactor Machine model MX-160/16CuM with Tip Cart Loading Mechanism ( PCTS) 2 +1)	Nos	3.00			
2	S/c Tract Plate Erection for PC with all necessary fixtures.	Kgs	3668.78			
<b>Total Value of Mechanical Works (in Rs.)</b>					<b>0</b>	

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MITAIWALA TRANSFER STATION - Bill of Quantities - Electrical Works

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+	TOTAL	REMARKS
					RATE	RATE	ERECTION		
<b>A</b>		<b>LT PANEL</b>							
		Supply, Erection, testing & commissioning of Distribution panel with stand as per local EB rules & standards, including in complete jointing, bus bar jointing of individual components interlocking checking/wiring & proper welding works as per IEC: 60439: (Cable entry : Bottom of the panel)							
1.1		<b>Switch Board Designation : Power Distribution Panel</b> <b>Quote as per IEC 60439</b> <b>Vendor shall quote this panel with 50kA.</b>	No.	1					
		Voltage : 415 V							
		Construction : IP-65, Outdoor type, Single Front with Bottom Cable Entry with Stand							
		Mounting : Floor Mounting with Stand							
		Paint Shade : RAL 7032 (Siemens Grey)							
		Cable Entry : Bottom							
		Location : Transfer Station Shed							
		<b>Incoming Feeder :</b>							
		EB & DG Incomer : 100A FP ATS							
		CTs-100 / 5 A, CL 1, 6 Nos.							
		DV(0-500v), DA(0 - 100A) - 2Sets.							
		Indication Lamps -R Y B.							
		EB & DG ON Status - ON Indication Lamps							
		Common Incomer : 100A 4 Pole, 36kA/sec MCCB with							
		CTs-100 / 5 A, CL 1, 4 Nos.							
		DV(0-500v), DA(0 - 100A) - 3Sets.							
		Indication Lamps -R Y B, ON, OFF, TRIP.							
		Surge Protection Device (SPD) TYPE 1 -CLASS I WITH 32A MPCB 65kA CONTROL.							
		Other items as required for safe and efficient electrical panel as mentioned in Sepcification.							
		<b>Outgoing Feeders :</b>							
		Six (6) 32A, 10kA/sec 4P MCB's.							
		Eight (8) 63A, 10kA/sec 4P MCB's.							
		63A Power Sockets - 2Nos							
		Two (2) 5 KVAR capacitor banks with 32A TP MCB control with capacitor duty contactors suitable for 5KVAR of including on/off push button and indication lamps, use 6Sq.mm Cu wire for power control.							
<b>B</b>		<b>DISTRIBUTION BOARDS</b>							
		Supply, Installation, testing and commissioning of following distribution boards. MCB distribution boards shall be totally with single door/double door, Surface/recessed mounting type, outer door shall be hinged type with push in type spring / magnetic lock, inner door shall be fixed up with screws with cutouts for MCB operation, copper busbar of at least 1.5 times the rating of incomer MCB / MCCB, with adequate space for termination of incoming and outgoing cables, removable un drilled top & bottom gland plates, suitable for wall, column mounting type. The incoming MCB / MCCB shall be provided in separate compartment. The MCCB shall have front drive mechanism and door interlock. DB shall be concealed type. DB shall be completely wired up, upto incoming and outgoing terminals by PVC insulated flexible copper wire of adequate rating. All MCB in Lighting DB shall be suitable for Curve B. and MCB in Power DB shall be suitable for Motive power ( Curve C ). In case Db's 3phase I/C & 1phase O/G neutral of each phase shall be isolated.							
		<b>ALL MCB (B type &amp; C type) in DB's complying IS 60898 / IEC 60947</b>							
		<b>Lighting Distribution Board</b>							
2.1	2.3.3	Tag No. : LDB1 (Shed Lighting)	Nos	1					
	2.15.2	12-WAY SPN DB							
	2.10.1	Incomer : 32A, DP ELCB 30 mA -1 Nos							
		Outgoing : 10Nos, 10A SP MCBs 'C' Curve							
		The above complete with interconnections, etc. DB should be with Metal Door & IP 43 12 WAY SPN DB							
<b>C</b>		<b>CABLE SYSTEM</b>							

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S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+	TOTAL	REMARKS
					RATE	RATE	ERECTION		
		Supply & Unloading at site, Laying, Installation, site testing and commissioning of horizontal and vertical laying and dressing using cable tie, etc. of following sizes cables on trays / through pendants / GI conduits, clamping on wall / ceiling / supported on structures / pull through pipes / readymade trench. The scope includes clamping of cables by ready made G.I. spacers, saddles or clamps fabricated out of M.S. strip 3 mm thick, supply of all clamping materials and hardware etc., providing cable markers made out of aluminium strip and 75x20 mm in size with cable number and size punched on it. Cable marker shall be provided to cables at every 20 meter interval and at both the ends. Empty cable drums shall be returned to stores. This activity also includes unloading, shifting of cables upto stores & stores to site. In case of laying unlisted cables, rate of cable whose outer dia is closest to the cable sizes quoted shall be applicable. The same shall hold good for cable termination also.							
		1.1 KV, XLPE insulated copper/aluminium conductor of class -2 as per IS 8130 armoured / unarmoured, solid / stranded inner sheathed ST-2 PVC & outer sheathed FRLS type ST-2 as per IS 5831, power cables of following sizes:							
		<b>LT Cables</b>							
	3.1	3.5CX25SQMM.AL.XLPE.AR	Mtr	200					
	3.2	4CX10SQMM.AL.XLPE.AR	Mtr	70					
	3.3	4CX6SQMM.AL.XLPE.AR	Mtr	65					
	3.4	4CX2.5SQMM.CU.XLPE.AR	Mtr	70					
	3.5	5CX4SQMM.CU.XLPE.Flexible Cable	Mtr	100					
		<b>CABLE END TERMINATION</b>							
		Supply, Installation, testing and commissioning of Cable end termination with Double compression Brass Nickel Pleated cable gland with all necessary hard wears like cu / Al / Bimetalic lugs & PVC hood, ferrules etc. of following copper/alum. conductor armoured / unarmoured cables including supply of all materials, drilling of gland plates and dressing of cables inside panel. All necessary material and hardware for termination purpose will be provided by the contractor. All Labour complete as per the specification of this tender and direction of engineer in charge.							
		1.1 KV, XLPE insulated copper/aluminium conductor armoured / unarmoured, inner sheathed PVC & outer sheathed FRLS power cables of following sizes using Double Compression Gland:							
	4.1	3.5CX25SQMM.AL.XLPE.AR	Nos	2					
	4.2	4CX10SQMM.AL.XLPE.AR	Nos	4					
	4.3	4CX6SQMM.AL.XLPE.AR	Nos	4					
	4.4	4CX2.5SQMM.CU.XLPE.AR	Nos	8					
	4.5	5CX2.5SQMM.CU.XLPE.Flexible Cable	Nos	4					
	<b>D</b>	<b>LIGHT FIXTURES</b>							
		Supply, Installation, testing and commissioning of following Lighting Fixtures with Lamps and control gear including mounting of fixtures Recessed / Surface / Suspension along with all its accessories, checking of internal wiring, structural steel & hardware etc. and with all kind of required hardwares to complete installation. (Inclusive of supply, installation of cable & termination of 3C x 2.5 Sqmm Cu flexible cable FRLS / 3R x 2.5 Sqmm Cu wire from light fitting to JB side along with GI conduit - Normal/ FLP - as per type of light fitting). Supply of all materials required for complete installation shall be provided by the contractor.							
		Lighting fixture supports (structural steel or readymade supports design with light fixtures) average weighted 6 Kg shall be considered as part of lighting fixtures system activity and shall not be paid extra 1. Vendor should quote all Light fixtures with 3 years unconditional warranty period. 2. For consideration of equivalent makes, please ensure that the lumens output of the light fitting is equal to that mentioned in this BOQ line item.							
		<b>OUTDDOR LIGHTING FIXUTE</b>							



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S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+	TOTAL	REMARKS
					RATE	RATE	ERECTION		
5.1		INDUSTRIAL HIGH BAY LIGHT FIXTURE, complete with *Epoxy dia cast aluminium with toughened glass *Dust & Moisture proof Fixture (IP 66) *complete with mounting accessories *150W LED. *LED/Driver - Osram/Nichia/Seoul *System Lumens Output 10000 Lumens and colour Temp. 5700K Havell's or Wipro OR Lighting Technology	Nos	4					
<b>E</b>		<b>INTERNAL ELECTRIFICATION :</b>							
		<b>Main Wiring :</b>							
6.1	1.7.3	Providing all materials, accessories, labour etc. and wiring using 2 runs (Ph & N) of 4 Sq.mm and 1 run of 2.5/4Sq.mm (for earth) PVC insulated multi strand copper conductor wires of 600V grade drawn in suitable PVC conduit pipe (It includes wiring in the floor/raceways proper opening of raceways as per seating arrangement/lab equipment positioning & proper closing of the raceways as per standards; where ever piping in the floor/ceiling, the conduit should PVC) as per site engineer instructions with all accessories from nearest distribution board to switch board including proper chasing & plastering works (conforming to IS: 1881, IS:1882). for Raw power	Rmt	137					
6.2	1.7.2	Providing all materials, accessories, labour etc. and wiring using 2 runs (Ph & N) of 2.5 Sq.mm and 1 run of 2.5Sq.mm (for earth) PVC insulated multi strand copper conductor wires of 600V grade drawn in suitable PVC conduit pipe (It includes wiring in the floor/raceways proper opening of raceways as per seating arrangement/lab equipment positioning & proper closing of the raceways as per standards; where ever piping in the floore, the conduit should PVC) as per site engineer instructions with all accessories from nearest distribution board to switch board including proper chasing & plastering works (conforming to IS: 1881, IS:1882).	Rmt	170					
		<b>Point Wiring :</b>							
		Provide all materials, accessories, labour etc. and wiring, testing, commissioning for lights, using 3 runs of 1.5 Sq.mm PVC insulated multi strand copper conductor wires of 600V grade drawing in PVC conduit pipe as per site engineer instructions with all accessories Suitable for false ceiling from switch board to respective points including all civil and mechanical works, (Concealed Wiring). (conforming to IS: 1881, IS:1882).							
6.3	123(b)	Lights points with control switches. (Min. 6-9Mtrs to be considered for each point it includes false ceiling wiring, conduit wiring, from switch board to individual light/fan/ex.fan) includes suitable size of modular metal boxes and frames.	No's	19					
6.4	123(b)	Fan points with electronic regulators. (Min. 6-9Mtrs to be considered for each point it includes false ceiling wiring, conduit wiring, from switch board to individual light/fan/ex.fan) includes suitable size of modular metal boxes and frames.	No's	3					
6.5		Supply, erection, testing and commissioning of 1 x 18w LED tube light fitting with bulbs and all necessary accessories and to be fixed on walls.	No's	12					
6.6		Supply, erection, testing and commissioning of 9W LED Bulb light fitting with bulbs & holders including all necessary accessories.	No's	7					
6.7		Supply, installation, testing and commissioning of 6A, 5 pin socket outlet with 6A switches with gang box concealed type with all necessary accessories complete as required including wiring from distribution board. (operating height should be maintained as per IS) includes suitable size of modular metal boxes and frames	No's	2					
6.8		Supply, installation, testing and commissioning of 16/6A, 5 pin socket outlet with 16A switches with gang box concealed type with all necessary accessories complete as required including wiring from distribution board.(operating height should be maintained as per IS) includes suitable size of modular metal boxes and frames.	No's	2					
6.9	1501.0	Supply, erection, testing and commissioning of wall mounted fans that should be dual tone (non-white color) with electronic regulator. Vendor should submit the photograph of material, with make and model before procurement for approval.	No's	2					

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S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+	TOTAL	REMARKS
					RATE	RATE	ERECTION		
7.0		Supply, erection, testing and commissioning of exhaust fan with Sweep size 300mm, made of sturdy engineering plastic with necessary holes in the walls & etc in complete. Vendor should submit the photograph of material, with make and model before procurement for approval.	No's	3					
	2.20	Supply erection ,testing and commissioning of 32Amps 5 pin industrial socket with metal cold body with all accessories required for installation , work includes supply and installation at wall flused inside the wall which includes chipping of wall fixing the metal clad box inside the wall and connecting the cable to mcb and fixing the it properly inside the box and adding extra cable for plug top etc.,	No's	3					
<b>F</b>		<b>CABLE TRAY</b>							
		Supply, Installation of prefabricated hot dip galvanised (460 gms per sq. met.), ladder / perforated type cable trays of minimum 2 mm thick as per details given below. Prefabricated, bends and couplers with G.I. Nuts and bolts. Gas cutting of cable trays at site is not permitted. If any welding is to be done on cable trays, the welded part shall be touched up with anti-corrosive primer and silver paint. The running rate shall include bends and couplers. Cable tray supports shall be paid extra. Before fabricating, the contractor has to get the cable tray support design approved from the site – engineer/consultant. Minimum Distance between two cable tray supports for Horizontal cable tray and vertical cable tray shall be 1.5m to 1.8 m (Depending on size) and 1M respectively. For Ladder type cable tray distance between two rungs should be 300mm							
		Cable Trays with Earthing: Shall be with Strip earthing as specified in each size of cable tray. Bolted on both sides of the cable tray with provision for jointing the adjoining pieces by means of a additional Piece of strip with holes provided at all ends for the same. Also extra Holes for Tapping. The jointing portion shall be atleast 100 mm in length & shall be raised/away from Main side frame of the Tray to enable Bolting for Jointing & Tappings. The Running meter lengths of cable Trays Shall include all types of standard Joints,"+" "U"; "T"; "L" Horizontal, vertical, Bends etc.Straight, Left hand, Right Hand reducers etc. Horizontal, vertical inside & vertical outside elbows complete with all necessary Hardwares like Nuts Bolts, Plain & Spring washers, etc.							
		<b>Perforated Type Cable Tray (2mm Thickness)</b>							
7.1		50 x 50 mm wide cable tray perforated	Mtrs	100					
7.2	4.6.1	100 x 50 mm wide cable tray perforated	Mtrs	50					
		<b>CABLE TRAY COVER</b>							
		Supply and Installation of cable tray covers fabricated out of 1.6mm thick hot dip GI along with fixing arrangement. The cable tray cover shall be removable type.							
7.3		cover for 50mm	Mtrs	100					
7.4		cover for 100mm	Mtrs	50					
<b>G</b>		<b>STRUCTURAL STEEL</b>							
8.1		Supply, Installation & Fabrication of ISI mark structural steel in form of MS angles, channels, flats etc. for supporting various items of equipment such 'as various panels, cable trays, push button stations, junction boxes,light fittings, DB etc. including drilling, welding grouting, chipping, bolting with supply of required hardware including anchor fastners required for mounting. Fabricated and installed structural steel shall be suitably painted with 2 coats of epoxy paint after applying 2 coats of red oxide primer. Colour shade of supports shall be same as that of main shade of support structureor will be as per site engineers approval.	MT	0.35					
<b>H</b>		<b>EARTHING</b>							
a		Lighting fixture earthing is part of wiring & shall be by way of 3rd wire of 2.5 Sq.mm.,							
b		Earthing of the LSBs, shall be by way of 3rd wire of 2.5 Sq.mm.,							
c		Earthing of the SPN sockets, shall be by way of 3rd wire of 2.5 / 4 Sq.mm.,							
d		Earthing of the TPN sockets, shall be by way of separate earth wire of 4 Sq.mm.,							

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S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+	TOTAL	REMARKS
					RATE	RATE	ERECTION		
e		Double earthing required for all the equipment with voltage higher than 230 V							
		Supply, Installation of hot dipped G.I /Copper bare earth conductor bar / flexible wire /strip of following sizes on trays / wall / Buried underground / supported on structures / pull through pipes/conduits. The installation shall include drilling of holes,connection of adequate lugs, clamping, hardware material. Welded joints shall be used for G.I. strips. Welded joints after welding shall be painted with anticorrosive black bitumen paint, excavation & refilling of 600mm depth soil for burying the strip wherever applicable shall include in the rate. All required materials & accessories including civil construction material shall be in contractor's scope.							
<b>9.1</b>		<b>Hot dip galvanised strip</b>							
9.1.1	5.15	25 x 5 mm G.I strip	Mtrs	40					
9.1.2		25 x 3 mm G.I strip	Mtrs	120					
9.2.1		Supply & laying of 8 SWG G.I wire with all necessary connections with nuts & bolts.	Kg's	5					
		<b>EARTHING STATION</b>							
10.1		EARTH PIT (PIPE) (GI ELECTRODE) Supply, Installation, testing of earthing station as per IS 3043 & CEA regulation complete with G.I. plate earthing (600x600x6mm) inclusive of 2runx 25x6mm GI strip to be connected between GI plate to the Electrode. 50 mm dia, 3 M long G.I. pipes, salt, charcoal & 2 nos. . The masonry chamber shall be RCC/ Brick (fine masonry with 1:3:6 ratio) provided with G.I frame & C.I inspection cover with proper painting & marking. The scope includes excavation of pit, filling with alternate layers of charcoat & salt, back filing etc. Earthing shall confirm to IS 3043. Scope Including 1) Testing earth resistively and electrode resistance. 2) Equipotential bar & test link.	Nos	4					
<b>I</b>		<b>LIGHTNING PROTECTION SYTEM</b>							
		Supply, Installation, Testing and commissioning of External Lightning Protection System as Per IS / IEC 62305-3 including airtermination and fixing arrangements as per following. Must be used Glue for fixing on Roof and every where and should not do puncher.							
11.1		Supply, erection, testing and comissioning of lightening arrestor including lightening spike to cover 70 mt dia with including constructing & formation of copper earth pits with 'B' class 40 mm G.I. pipe of 8 feet with funnel and copper plate(600mmx600mmx3mm) earthing with alternative layer of salt, sand, bentonate powder and charcoal including civil work of excavation & back filling, construction of chambers with man hole cover as per IE Rules along with laying of 25x3mm copper strip on required no of insulators on sheds including all necessary works. (Minimum 15Mtrs of copper strip to be consider, to be placed on the top of the sheds/buildings/tanks etc as instructed by site engineer)(1 nos for Transformer Yard & 1 nos for SBR Blower Building)	No's	1					
<b>J</b>		<b>MISCELLANEOUS ITEM</b>							
		<b>Safety Items</b>							
		Supply & Installation of the following safety items as per Electrical Inspectorate's requirement.							
12.1		1.1 kV Grade 3 mm thick Rubber mat - size of 2X1 mtr. (as per new IS 15652)	Mtr.	2					
12.2		Shock treatment chart as per electricity board requirement (In English, Hindi & Local Language)	Nos	1					
12.3		First aid box with standard items	Nos	1					
12.4		433 V Danger Board as required by the Electrical authorities (In English, Hindi & Local Language)	Nos	2					
12.5		Rubber Hand Gloves - 1 Set (with certificate)	Set	1					

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**MITAIWALA TRANSFER STATION - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+	TOTAL	REMARKS
					RATE	RATE	ERECTION		
12.6		4 nos. Fire Buckets (round bottom) with suitable MS stand	Set	2					
12.7		Dry Chemical powder type fire extinguisher complete with initial charges, hose and fixing brackets etc 5 KG capacity conforming to IS:Standard	Set	2					
<b>K</b>		<b>CABLE DRESSING :</b>							
<b>13</b>		Dressing of cable and fixing the cable in tray and fixing of HT/LT cable from the nearest pole to meter board and from there to the control panel in under ground or above ground with all safety norms with proper guidance of the super visor wilth neccessary supports/cable tray/trench etc.,	LS	1					
<b>L</b>		<b>DG-SET</b>							
14		Supply, installation, erection, testing and comissioning of diesel engine with rated of 20 KVA at 0.8 P.F, 1500 RPM, 4 stroke, multicylinder coupled to brush less type 433V 50 cycle/sec self excited alternator completeed with cushy pads, domestic silencer exhaust pipe completee with alternator auxiliaries, radiator, electronic governor panel, 24Volts chargable battery including initial charging of batteries, control panel with ammeter, ammeter selector switch, voltmeter and voltage selector switch, frequency meter, Hrs meter amd KWH meter in sound proof canapoy as required and completee as per specification. note: dg set should be quoted along with 4 wheel trolley	No's	1					
		<b>TOTAL</b>						<b>0</b>	

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**Vineet Khand Transfer Station - Bill of Quantities**

Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
1	Site Development (Site Clearance) a. Cleaning of unwanted material b. Cleaning of waste water and rubbish	sqm	1480			
2	Topographical survey Carrying out a topographical survey of the area shown by the engineer-in-charge/client. Surveying will be carried out to fix coordinates, dimensions of the roads, existing ground facilities like building, shed, shops , road, electrical poles, HT line, drains, man holes , major trees, telephone poles and water bodies.	LS	1			
3	Geotechnical Survey Equipment charges per day Standard Penetration tests (SPT) were conducted in these boreholes and relevant soil samples were collected. Soil tests were carried out in the laboratory to ascertain the allowable bearing capacity of encountered strata. To conduct tests on different samples in the laboratory as such as grain size Analysis, Atterberg limit, density, Consolidation test , shear properties, natural moisture and determining the engineering characteristics	LS	3			
4	Earth work excavation in all kinds of soil: Earthwork excavation in all kinds of soils except rock requiring blasting in any kind of foundation works including for trenches, pits and tunnels etc., for varying depths below average ground level including shoring, strutting for protecting the sides of foundation, dewatering/ bailing out water from foundations by pumping or by whatever means to dry up the area if required without any extra payment including leveling, ramming the bed of excavation and stacking the excavated soil away from the edge of excavation etc. complete as directed by the Engineer-in-charge for finished item of work.	cum	408.48			
5	Compacting the Original Ground: Loosening, leveling and compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density for embankment construction complete and as directed.	sqm	1,503.89			
6	PCC (1:4:8): Plain Cement concrete of mix 1:4:8 using Ordinary Portland cement conforming to IS 1489), River sand and graded stone aggregates of 40 mm maximum size at all depths below plinth level including cost of cement and all materials, leads and lifts, transportation to site of work, consolidation, finishing, curing, etc. complete but excluding form work as per specifications for mud mat in foundations of masonry walls or others etc. complete as per specs. and as directed for finished item of work.	cum	94.42			
7	PCC 1:2:4 for plinth protection  Plain Cement concrete of mix 1:2:4 using Ordinary Portland cement conforming to IS 1489), River sand and graded stone aggregates of 40 mm maximum size at all depths below plinth level including cost of cement and all materials, leads and lifts, transportation to site of work, consolidation, finishing, curing, etc. complete but excluding form work as per specifications for mud mat in foundations of masonry walls or others etc. complete as per specs. and as directed for finished item of work.	cum	5.59			

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**Vineet Khand Transfer Station - Bill of Quantities**

Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
8	Supply and Laying of RR Masonry in CM (1:6): Providing uncoursed random rubble masonry of rap/granite/quartzite/gneiss stone above/below plinth level or ground level in foundation and plinth in cement mortar 1:6 including dewatering, striking out joints on exposed faces, curing, scaffolding, raking out joints, plastering, pointing with same mortar etc complete as per specifications and directions of Engineer-in-charge.	cum	10.59			
9	RFRC M25 for Flooring: Supplying and laying reinforced cement concrete of RFRC M25 Grade (Recron fibers) as defined in IS:456, Flooring / Road including cost and conveyance of all materials vibrating with mechanical vibrator, levelling, curing etc., but excluding cost of shuttering, etc., complete finished item and as directed by Engineer-in-charge	cum	257.80			
10	RCC : M-25 Grade: Supplying and laying reinforced cement concrete of M 25 Grades as defined in IS:456, in all types of foundations and super structures, in walls, slab, columns, beams, lintels, chajjas, floor/roof slabs, staircase, footings, basements, cellars, trenches, drains, encasing of structural steel members / pipelines, etc. including cost and conveyance of all materials vibrating with mechanical vibrator , curing etc., but excluding cost of shuttering and steel reinforcement. All wars shall be as per drawings, specifications and directions of the Engineer/Consultant, super-plasticizer as per manufacturer's instruction/directions.	cum	67.96			
11	Reinforcement Steel: Supply, fabrication and erection of Reinforcement bars for Reinforced cement concrete items at and at all depths and heights below and above plinth level with high yield strength deformed bars confirming to IS 1786 with TM Treatment from approved source (Vizag steel, Tata, SAIL make), including supply to site, providing fan hooks of required shape, dowels for bonding masonry, transporting steel to site, decoiling, removing of scales, straightening, cutting, bending, tying bars with chairs, space bars wherever required, in position with two strings of 18 gauge soft drawn annealed MS binding wire etc., complete as specified and directed.	kg	4,990.53			
12	Shuttering : Providing standard form work of steel plates, centering and shuttering at all depths and heights of work below and above plinth level, vertical, horizontal, inclined including strutting, propping using steel pipes/acro staging, removal, cleaning of the same for inset reinforced cement concrete works and in plain cement concrete work as required including chamfers, splays, keys, wedges, nails, bracings, brackets and applying one coat of shuttering oil on all shuttering surfaces coming in to contact with concrete etc., complete as directed including cost of materials, conveyance, labour and all other incidental charge etc. complete as directed to the finished item of work.	sqm	471.94			

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**Vineet Khand Transfer Station - Bill of Quantities**

Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
13	Brick work in CM (1:6) 230mm th.: Brick masonry work using specified class II well burnt clay bricks of specified class, size and quality in cement mortar (1:6) at all depths and heights below and above plinth level including cost and conveyance of all materials, pilasters, steel tubular scaffolding, raking out joints, curing etc., complete as per specifications and as directed. Brick shall be laid flat in the projections for the finished item of work.	cum	37.95			
14	Plastering-15mm th. in CM (1:6): Cement plastering 15 mm thick for internal surfaces of walls in cement mortar (1:6) neatly smooth finished at and all heights above plinth level over brick walls or concrete surfaces, RCC and also other places wherever required including making necessary grooves in between junctions of brick masonry and over brick walls or concrete surface, preparation of surface, steel/tubular scaffolding, curing, etc., complete as directed as per standard specs. for the finished item of work.	sqm	341.00			
15	Finishing walls with Acrylic emulsion paint having Alkali & fungal resistance, dirt resistance exterior /interior paint of required shade over one coat of primer, including all materials, labour charges, tools & tackles, necessary scaffolding, etc., complete finished item	sqm	181.00			
16	MS Grating for Drain Supply, fabricate and erection drain grating using ISA 40x40x5mm, 35x35x3mm for grill frame and 35 x 3mm Flat for horizontals including all materials, labour charges, Two coats of enamel paint over 1 coat of steel primer, etc., as per drawing complete finished item and as directed by engineer-in-charge	Kg	320.00			
17	Providing GP grouting for PEB base plates	cum	0.35			
18	Water Proof Plastering in CM (1:3) : Supply and providing Cement plastering 12 mm thick for internal surfaces of walls in cement mortar (1:3) with coarse sand with 5 % cico or any other approved water proofing compound including taxes and neatly smooth finished at and all heights above plinth level over brick walls or concrete surfaces, RCC and also other places wherever required including making necessary grooves in between junctions of brick masonry and over brick walls or concrete surface, preparation of surface, steel/tubular scaffolding, curing, etc., complete as directed as per standard specs. for the finished item of work.	sqm	37.18			
19	MS Man Hole Cover 600mm X 600mm: Providing and fixing MS Manhole cover of size 600 x 600 mm with frame with locking arrangement, etc. cover and frame (heavy duty, HD-20 grade designation) conforming to I.S. 12592, total weight of cover and frame to be not less than 50kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centring, shuttering all complete. (rate includes Excavation, foot rests and 12mm thick cement plaster at the external surface )	no's	1.00			

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**Vineet Khand Transfer Station - Bill of Quantities**

Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
20	Filling with available excavated earth : 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 watering, and compacting to 95% modified proctor density, dressing, trimming, etc all complete as per drawing, specifications and as directed by Engineer-in-charge ( compacted finished area / volume only measured for payment) available soils within the site.	cum	33.96			
21	PVC water stopper: Providing and Laying PVC water stopper 250mm wide including cost of material , labour charges etc., complete as per specifications & as advised by the Engineer In charge.	rmt	18.40			
22	Construction of Granular Sub-Base: Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401 MoRTH	cum	187.52			
23	Construction of dry lean cement concrete: Construction of dry lean cement concrete Sub-base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, cement content not to be less than 150 kg/ cum, concrete strength not to be less than 10 Mpa at 7 days, compacting with 8-10 tonnes vibratory roller, finishing and curing, etc., completely finished item and as directed by Engineer-in-charge	cum	125.01			
24	Kerb Stone: Providing and laying at or near ground level factory-made kerbstone 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 to 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).	rmt	500.05			
25	Contraction Joint : Service charges for Preparing 10 mm wide x 50 mm deep contraction joint using groove cutting machine @ 5m spacing, providing and filling joints with approved joint filler/ sealants such as Bitumen epoxy, etc., complete finished item and as directed by Engineer-in-charge.	rmt	671.00			
26	Supply & Fixing of CC Manhole cover (600MMX600MM) as Per IS Standrads as directed by engineer/incharge	Nos	5.00			
27	RCC 450mm dia Hume pipe	m	100.00			
28	EN 901 Painting	Sqm	14.70			
29	Painting for External Walls: Providing and applying two coats cement based paint (Snowcem or approved brand) conforming to IS:5410-1990, over one coat of primer including preparing the surface to receive priming & finishing coats, scaffolding, curing etc. complete in any shade as directed by Engineer-in-charge	sqm	8.64			



**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**Vineet Khand Transfer Station - Bill of Quantities**

Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
30	MS Entrance & Exit Gate: Providing and fixing M.S. Gate using with Tubular rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and ground finish, with profiles of required size, including fixing of necessary butt hinges and screws, locking arrangement and applying two coats of approved enamel paint over one coat of a priming coat, etc., complete finished item as per drawings and as directed by Engineer-in-charge	kg	800.00			
31	Neat Cement punning	sqm	80.00			
32	Supply and fixing charges for 5 HP Motar including all necessary plumbing works & comissioning	LS	1.00			
33	Supply and Installation of Syntex water tank at an elevated location including all necessary fixtures, plumbing items etc.	LS	1.00			
34	Supply, Fabricate and erection of Structural shed with AZ-150/SDP	MT	11.4192			
35	S/C for Turbo Vents Supply of 304 alluminium turbo ventilators. Japan NSK self-lubricating bearing and metal support including transportation.	Nos	4			
36	S/C for Sky lights Supply of polycarbonate FRP skylight with 1-2mm thickness, Including transportation	Sqm	86.40			
37	Epoxy Paint on floor for leachate drainout : Supply and applying epoxy paint over levelling course on cleaned surfce including all materials, labour charges, etc., complete finished item and as directed by engineer-in-charge	sqm	126.88			
38	Dismantling of the existing structures	sqm	150.18			
39	S/C for Supply and fixing of Ventilated GI rolling shutter with neat finishing and fireproofing and installation Providing and fixing Automatic rolling shutter power-driven with pull & push type provision for rolling shutters of approved make out of 18 gauge, 75 mm wide cold rolled steel laths of convex corrugation, with side guides and bottom rail, with interlocking arrangements of steel laths by means of alternate clips, suspension shaft with High tension coil type springs two numbers, mounted on specially designed pipe shaft, with bracket plates, guide channels, ball bearing arrangements, for inside & and outside locking with push & and pull operations complete with all necessary fixtures and tools at site as required by the client.	Sqm	52			
40	Supply and Fixing of Name Board and MS Fabrication work with flexible board with all necessary items.	sqm	12.48			
<b>Total Value of Civil Works (in Rs.)</b>					<b>0</b>	
<b>B</b>	<b>Mechanical Works</b>					
1	Supply and Eection of Tract Plate - 4Nos	Kg	3673.22			
2	Supply & Installation of Portable Compactor Machine model MX-160/16CuM with Tip Cart Loading Mechanism (2+1)	Nos	3			
<b>Total Value of Mechanical Works (in Rs.)</b>					<b>0</b>	

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**Vineet Khand Transfer Station - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+	TOTAL	REMARKS
					RATE	RATE	ERECTION		
<b>A</b>		<b>LT PANEL</b>							
		Supply, Erection, testing & commissioning of Distribution panel with stand as per local EB rules & standards, including in complete jointing, bus bar jointing of individual components interlocking checking/wiring & proper welding works as per IEC: 60439: (Cable entry : Bottom of the panel)							
1.1		<b>Switch Board Designation : Power Distribution Panel</b> <b>Quote as per IEC 60439</b> <b>Vendor shall quote this panel with 36kA.</b>	No.	1					
		Voltage : 415 V							
		Construction : Single Front, IP-65 Double Door, Bottom Cable Entry							
		Dimension : To be assessed by Contractor.							
		Refer Annexure -1 for detailed boq							
		<b>Incoming Feeder :</b>							
		EB & DG Incomer : 160A FP ATS							
		CTs-160 / 5 A, CL 1, 6 Nos.							
		DV(0-500v), DA(0 - 160A) - 2Sets.							
		Indication Lamps -R Y B.							
		EB & DG ON Status - ON Indication Lamps							
		Common Incomer : 160A 4 Pole, 36kA/sec MCCB with							
		CTs-160 / 5 A, CL 1, 4 Nos.							
		DV(0-500v), DA(0 - 160A) - 3Sets.							
		Indication Lamps -R Y B, ON, OFF, TRIP.							
		Surge Protection Device (SPD) TYPE 1 -CLASS I WITH 32A MPCB 65kA CONTROL.							
		Other items as required for safe and efficient electrical panel as mentioned in Sepcification.							
		<b>Outgoing Feeders :</b>							
		Six (8) 32A, 10kA/sec 4P MCB's.							
		Eight (8) 63A, 10kA/sec 4P MCB's.							
		Power Sockets - 2Nos							
		Two (2) 5 KVAR capacitor banks with 32A TP MCB control with capacitor duty contactors suitable for 5KVAR of including on/off push button and indication lamps, use 6Sq.mm Cu wire for power control.							
<b>B</b>		<b>DISTRIBUTION BOARDS</b>							
		Supply, Installation, testing and commissioning of following distribution boards. MCB distribution boards shall be totally with single door/double door. Surface/recessed mounting type, outer door shall be hinged type with push in type spring / magnetic lock, inner door shall be fixed up with screws with cutouts for MCB operation, copper busbar of at least 1.5 times the rating of incomer MCB / MCCB, with adequate space for termination of incoming and outgoing cables, removable un drilled top & bottom gland plates, suitable for wall, column mounting type. The incoming MCB / MCCB shall be provided in separate compartment. The MCCB shall have front drive mechanism and door interlock. DB shall be concealed type. DB shall be completely wired up, upto incoming and outgoing terminals by PVC insulated flexible copper wire of adequate rating. All MCB in Lighting DB shall be suitable for Curve B. and MCB in Power DB shall be suitable for Motive power ( Curve C ). In case Db's 3phase I/C & 1phase O/G neutral of each phase shall be isolated.							
		<b>ALL MCB (B type &amp; C type) in DB's complying IS 60898 / IEC 60947</b>							
		<b>Lighting Distribution Board</b>							
2.1	2.3.3	Tag No. : LDB1 (Shed Lighting)	Nos	1					
	2.15.2	12-WAY SPN DB							
	2.10.1	Incomer : 32A, DP RCBO 30 mA -1 Nos							
		Outgoing : 10Nos, 10A SP MCBs 'C' Curve							
		The above complete with interconnections, etc. DB should be with Metal Door & IP 43 12 WAY SPN DB							
2.2	2.4.2	Tag No. : LDB2 (Office building/toilet)	Nos	1					
	2.1.1	6-WAY TPN DB							
	2.10.1	Incomer : 32A, 4P ELCB 30 mA -1 Nos							
		Outgoing : 14Nos, 10A SP MCBs 'C' Curve							

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**Vineet Khand Transfer Station - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+	TOTAL	REMARKS
					RATE	RATE	ERECTION		
		The above complete with interconnections, etc. DB should be with Metal Door & IP 43 12 WAY SPN DB							
<b>C</b>		<b>CABLE SYSTEM</b>							
		Supply & Unloading at site, Laying, Installation, site testing and commissioning of horizontal and vertical laying and dressing using cable tie, etc. of following sizes cables on trays / through pendants / GI conduits, clamping on wall / ceiling / supported on structures / pull through pipes / readymade trench. The scope includes clamping of cables by ready made G.I. spacers, saddles or clamps fabricated out of M.S. strip 3 mm thick, supply of all clamping materials and hardware etc., providing cable markers made out of aluminium strip and 75x20 mm in size with cable number and size punched on it. Cable marker shall be provided to cables at every 20 meter interval and at both the ends. Empty cable drums shall be returned to stores. This activity also includes unloading, shifting of cables upto stores & stores to site. In case of laying unlisted cables, rate of cable whose outer dia is closest to the cable sizes quoted shall be applicable. The same shall hold good for cable termination also.							
		1.1 KV, XLPE insulated copper/aluminium conductor of class -2 as per IS 8130 armoured / unarmoured, solid / stranded inner sheathed ST-2 PVC & outer sheathed FRLS type ST-2 as per IS 5831, power cables of following sizes:							
		<b>LT Cables</b>							
3.1	501	3.5CX25SQMM.AL.XLPE.AR	Mtr	146					
3.2	501	4CX10SQMM.AL.XLPE.AR	Mtr	93					
3.3	501	4CX6SQMM.AL.XLPE.AR	Mtr	120					
3.4		4CX2.5SQMM.CU.XLPE.AR	Mtr	177					
3.5		5CX4 SQMM.CU.FLEXIBLE	Mtr	77					
		<b>CABLE END TERMINATION</b>							
		Supply, Installation, testing and commissioning of Cable end termination with Double compression Brass Nickel Pleated cable gland with all necessary hard wears like cu / Al / Bimetalic lugs & PVC hood, ferrules etc. of following copper/alum. conductor armoured / unarmoured cables including supply of all materials, drilling of gland plates and dressing of cables inside panel. All necessary material and hardware for termination purpose will be provided by the contractor. All Labour complete as per the specification of this tender and direction of engineer in charge.							
		1.1 KV, XLPE insulated copper/aluminium conductor armoured / unarmoured, inner sheathed PVC & outer sheathed FRLS power cables of following sizes using Double Compression Gland:							
4.1		3.5CX25SQMM.AL.XLPE.AR	Nos	2					
4.2		4CX10SQMM.AL.XLPE.AR	Nos	6					
4.3		4CX6SQMM.AL.XLPE.AR	Nos	6					
4.4		4CX2.5SQMM.CU.XLPE.AR	Nos	14					
4.5		5CX4 SQMM.CU.FLEXIBLE	Nos	3					
<b>D</b>		<b>LIGHT FIXTURES</b>							
		Supply, Installation, testing and commissioning of following Lighting Fixtures with Lamps and control gear including mounting of fixtures Recessed / Surface / Suspension along with all its accessories, checking of internal wiring, structural steel & hardware etc. and with all kind of required hardwares to complete installation. (Inclusive of supply, installation of cable & termination of 3C x 2.5 Sqmm Cu flexible cable FRLS / 3R x 2.5 Sqmm Cu wire from light fitting to JB side along with GI conduit - Normal/ FLP - as per type of light fitting). Supply of all materials required for complete installation shall be provided by the contractor.							

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**Vineet Khand Transfer Station - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+	TOTAL	REMARKS
					RATE	RATE	ERECTION		
		Lighting fixture supports (structural steel or readymade supports design with light fixtures) average weighted 6 Kg shall be considered as part of lighting fixtures system activity and shall not be paid extra 1. Vendor should quote all Light fixtures with 3 years unconditional warranty period. 2. For consideration of equivalent makes, please ensure that the lumens output of the light fitting is equal to that mentioned in this BOQ line item.							
		<b>OUTDDOR LIGHTING FIXTURE</b>							
5.1		INDUSTRIAL HIGH BAY LIGHT FIXTURE, complete with *Epoxy dia cast aluminium with toughened glass *Dust & Moisture proof Fixture (IP 66) *complete with mounting accessories *150W LED. *LED/Driver - Osram/Nichia/Seoul *System Lumens Output 10000 Lumens and colout Temp. 5700K Havell's or Wipro OR Lighting Technology	Nos	6					
5.2		INDUSTRIAL FLOOD LIGHT FIXTURE, complete with *Epoxy dia cast aluminium with toughened glass *Dust & Moisture proof Fixture (IP 66) *complete with mounting accessories *150W LED. *LED/Driver - Osram/Nichia/Seoul *System Lumens Output 10000 Lumens and colout Temp. 5700K Havell's or Wipro OR Lighting Technology	Nos	8					
<b>E</b>		<b>INTERNAL ELECTRIFICATION :</b>							
		<b>Main Wiring :</b>							
6.1	1.7.2	Providing all materials, accessories, labour etc. and wiring using 2 runs (Ph & N) of 2.5 Sq.mm and 1 run of 2.5Sq.mm (for earth) PVC insulated multi strand copper conductor wires of 600V grade drawn in suitable PVC conduit pipe (It includes wiring in the floor/raceways proper opening of raceways as per seating arrangement/lab equipment positioning & proper closing of the raceways as per standards; where ever piping in the floore, the conduit should PVC) as per site engineer instructions with all accessories from nearest distribution board to switch board including proper chasing & plastering works (conforming to IS: 1881, IS:1882).	Rmt	140					
		<b>Point Wiring :</b>							
		Provide all materials, accessories, labour etc. and wiring, testing, commissioning for lights, using 3 runs of 1.5 Sq.mm PVC insulated multi strand copper conductor wires of 600V grade drawing in PVC conduit pipe as per site engineer instructions with all accessories Suitable for false ceiling from switch board to respective points including all civil and mechanical works. (Concealed Wiring). (conforming to IS: 1881, IS:1882).							
6.2	123(b)	Lights points with control switches. (Min. 6-9Mtrs to be considered for each point if it includes false ceiling wiring, conduit wiring, from switch board to individual light/fan/ex.fan) includes suitable size of modular metal boxes and frames.	No's	8					
6.3	123(b)	Fan points with electronic regulators. (Min. 6-9Mtrs to be considered for each point if it includes false ceiling wiring, conduit wiring, from switch board to individual light/fan/ex.fan) includes suitable size of modular metal boxes and frames.	No's	5					
		Supply, erection, testing and commissioning of 1 x 18w LED tube light fitting with bulbs and all necessary accessories and to be fixed on walls.	No's	6					
6.4		Supply, erection, testing and commissioning of 9W LED Bulb light fitting with bulbs & holders including all necessary accessories.	No's	8					

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**Vineet Khand Transfer Station - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+	TOTAL	REMARKS
					RATE	RATE	ERECTION		
6.5		Supply, installation, testing and commissioning of 6A, 5 pin socket outlet with 6A switches with gang box concealed type with all necessary accessories complete as required including wiring from distribution board. (operating height should be maintained as per IS) includes suitable size of modular metal boxes and frames	No's	7					
6.6		Supply, installation, testing and commissioning of 16/6A, 5 pin socket outlet with 16A switches with gang box concealed type with all necessary accessories complete as required including wiring from distribution board.(operating height should be maintained as per IS) includes suitable size of modular metal boxes and frames.	No's	7					
6.7	1501.0	Supply, erection, testing and commissioning of wall/ceiling mounted fans that should be dual tone (non-white color) with electronic regulator. Vendor should submit the photograph of material, with make and model before procurement for approval.	No's	3					
6.8		Supply, erection, testing and commissioning of exhaust fan with Sweep size 300mm, made of sturdy engineering plastic with necessary holes in the walls & etc in complete. Vendor should submit the photograph of material, with make and model before procurement for approval.	No's	1					
6.9	2.2	Supply erection ,testing and commissioning of 32Amps 5 pin industrial socket with metal cold body with all accessories required for installation , work includes supply and installation at wall flused inside the wall which includes chipping of wall fixing the metal clad box inside the wall and connecting the cable to mcb and fixing the it properly inside the box and adding extra cable for plug top etc.,	No's	3					
<b>F</b>		<b>CABLE TRAY</b>							
		Supply, Installation of prefabricated hot dip galvanised (460 gms per sq. met.), ladder / perforated type cable trays of minimum 2 mm thick as per details given below. Prefabricated, bends and couplers with G.I. Nuts and bolts. Gas cutting of cable trays at site is not permitted. If any welding is to be done on cable trays, the welded part shall be touched up with anti-corrosive primer and silver paint. The running rate shall include bends and couplers. Cable tray supports shall be paid extra. Before fabricating, the contractor has to get the cable tray support design approved from the site – engineer/consultant. Minimum Distance between two cable tray supports for Horizontal cable tray and vertical cable tray shall be 1.5m to 1.8 m (Depending on size) and 1M respectively. For Ladder type cable tray distance between two rungs should be 300mm							
		Cable Trays with Earthing: Shall be with Strip earthing as specified in each size of cable tray. Bolted on both sides of the cable tray with provision for jointing the adjoining pieces by means of a additional Piece of strip with holes provided at all ends for the same. Also extra Holes for Tapping. The jointing portion shall be atleast 100 mm in length & shall be raised/away from Main side frame of the Tray to enable Bolting for Jointing & Tappings. The Running meter lengths of cable Trays Shall include all types of standard Joints,"+" "U"; "T"; "L" Horizontal, vertical, Bends etc.Straight, Left hand, Right Hand reducers etc. Horizontal, vertical inside & vertical outside elbows complete with all necessary Hardwares like Nuts Bolts, Plain & Spring washers, etc.							
		<b>Perforated Type Cable Tray (2mm Thickness)</b>							
7.1		50 x 50 mm wide cable tray perforated	Mtrs	120					
7.2	4.6.1	100 x 50 mm wide cable tray perforated	Mtrs	80					
		<b>CABLE TRAY COVER</b>							
		Supply and Installation of cable tray covers fabricated out of 1.6mm thick hot dip GI along with fixing arrangement. The cable tray cover shall be removable type.							
7.3		cover for 50mm	Mtrs	120					
7.4		cover for 100mm	Mtrs	80					
<b>G</b>		<b>STRUCTURAL STEEL</b>							

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**Vineet Khand Transfer Station - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+	TOTAL	REMARKS
					RATE	RATE	ERECTION		
8.1		Supply, Installation & Fabrication of ISI mark structural steel in form of MS angles, channels, flats etc. for supporting various items of equipment such 'as various panels, cable trays, push button stations, junction boxes, light fittings, DB etc. including drilling, welding grouting, chipping, bolting with supply of required hardware including anchor fasteners required for mounting. Fabricated and installed structural steel shall be suitably painted with 2 coats of epoxy paint after applying 2 coats of red oxide primer. Colour shade of supports shall be same as that of main shade of support structure or will be as per site engineers approval.	MT	0.37					
<b>H</b>		<b>EARTHING</b>							
a		Lighting fixture earthing is part of wiring & shall be by way of 3rd wire of 2.5 Sq.mm.,,							
b		Earthing of the LSBs, shall be by way of 3rd wire of 2.5 Sq.mm.,,							
c		Earthing of the SPN sockets, shall be by way of 3rd wire of 2.5 / 4 Sq.mm.,,							
d		Earthing of the TPN sockets, shall be by way of separate earth wire of 4 Sq.mm.,,							
e		Double earthing required for all the equipment with voltage higher than 230 V							
		Supply, Installation of hot dipped G.I /Copper bare earth conductor bar / flexible wire /strip of following sizes on trays / wall / Buried underground / supported on structures / pull through pipes/conduits. The installation shall include drilling of holes, connection of adequate lugs, clamping, hardware material. Welded joints shall be used for G.I. strips. Welded joints after welding shall be painted with anticorrosive black bitumen paint, excavation & refilling of 600mm depth soil for burying the strip wherever applicable shall include in the rate. All required materials & accessories including civil construction material shall be in contractor's scope.							
<b>9.1</b>		<b>Hot dip galvanised strip</b>							
9.1.1	5.15	25 x 6 mm G.I strip	Mtrs	53					
9.1.2		25 x 3 mm G.I strip	Mtrs	120					
9.2.1		Supply & laying of 8 SWG G.I wire with all necessary connections with nuts & bolts.	Kg's	8					
		<b>EARTHING STATION</b>							
10.1		EARTH PIT (PIPE) (GI ELECTRODE) Supply, Installation, testing of earthing station as per IS 3043 & CEA regulation complete with G.I. plate earthing (600x600x6mm) inclusive of 2runx 25x6mm GI strip to be connected between GI plate to the Electrode. 50 mm dia, 3 M long G.I. pipes, salt, charcoal & 2 nos. . The masonry chamber shall be RCC/ Brick (fine masonry with 1:3:6 ratio) provided with G.I frame & C.I inspection cover with proper painting & marking. The scope includes excavation of pit, filling with alternate layers of charcoal & salt, back filling etc. Earthing shall confirm to IS 3043. Scope Including 1) Testing earth resistivity and electrode resistance. 2) Equipotential bar & test link.	Nos	6					
<b>I</b>		<b>LIGHTNING PROTECTION SYTEM</b>							
		Supply, Installation, Testing and commissioning of External Lightning Protection System as Per IS / IEC 62305-3 including airtermination and fixing arrangements as per following. Must be used Glue for fixing on Roof and every where and should not do puncher.							

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**

**Vineet Khand Transfer Station - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+	TOTAL	REMARKS
					RATE	RATE	ERECTION		
11.1		Supply, erection, testing and comissioning of lightening arresstor including lightening spike to cover 70 mt dia with including constructing & formation of copper earth pits with 'B' class 40 mm G.I. pipe of 8 feet with funnel and copper plate(600mmx600mmx3mm) earthing with alternative layer of salt, sand, bentonate powder and charcoal including civil work of excavation & back filling, construction of chambers with man hole cover as per IE Rules along with laying of 25x3mm copper strip on required no of insulators on sheds including all necessary works. (Minimum 15Mtrs of copper strip to be consider, to be placed on the top of the sheds/buildings/tanks etc as instructed by site engineer)(1 nos for Transformer Yard & 1 nos for SBR Blower Building)	No's	1					
<b>J</b>		<b>HT / LT Cable Route Marker</b>							
		Supply, Installation of metallic cable Cast Iron Cable route marker with height atleast 300mm above ground level, angle/ GI pipe support and construction of PCC pedastal mount 200mm(L) X 200mm(B) X 300mm(H) as per location given by authorities & as per following							
12.1		440V LT Cable Route Market	Nos	15					
		<b>HUME PIPES</b>							
12.2		Supply & laying of RCC hume pipes NP4 300mm under IS:458-1988 for road crossing of cables along with 1Mtr X 1Mtr chambers with top man hole chamber covers as instructed by site engineer.	Rmt	8					
12.3		Supply, Excavation & Back filling of Cable trench of size 500mm (W) x 600mm (D) & providing sand cushioning of 100mm before and after laying the cables and providing back filling for safety reasons and as per standards including cable route markers for every 3Mtrs of distance. (Street Light Poles Trench)	Rmt	50					
<b>J</b>		<b>MISCELLANEOUS ITEM</b>							
		<b>Safety Items</b>							
		Supply & Installation of the following safety items as per Electrical Inspectorate's requirement.							
12.1		1.1 kV Grade 3 mm thick Rubber mat - size of 2X1 mtr. (as per new IS 15652)	Mtr.	1					
12.2		Shock treatment chart as per electricity board requirement (In English, Hindi & Local Language)	Nos	1					
12.3		First aid box with standard items	Nos	1					
12.4		433 V Danger Board as required by the Electrical authorities (In English, Hindi & Local Language)	Nos	2					
12.5		Rubber Hand Gloves - 1 Set (with certificate)	Set	1					
12.6		4 nos. Fire Buckets (round bottom) with suitable MS stand	Set	1					
12.7		Dry Chemical powder type fire extinguisher complete with initial charges, hose and fixing brackets etc 5 KG capacity confirming to IS:Standard	Set	1					
<b>K</b>		<b>CABLE DRESSING :</b>							
<b>13</b>		Dressing of cable and fixing the cable in tray and fixing of HT/LT cable from the nearest pole to meter board and from there to the control panel in under ground or above ground with all safety norms with proper guidance of the super visor with neccessary supports/cable tray/trench etc.,	LS	1					
<b>L</b>		<b>DG-SET</b>							
14		Supply, installation, erection, testing and comissioning of diesel engine with rated of 20 KVA at 0.8 P.F, 1500 RPM, 4 stroke, multicylinder coupled to brush less type 433V 50 cycle/sec self excited alternator completeed with cushy pads, domestic silencer exhaust pipe completee with alternator auxiliaries, radiator, electronic governor panel, 24Volts chargable battery including initial charging of batteries, control panel with ammeter, ammeter selector switch, voltmeter and voltage selector switch, frequency meter, Hrs meter amd KWH meter in sound proof canapoy as required and completee as per specification. Note : dg set should be quoted along with 4 wheel trolley	No's	1					
							<b>TOTAL</b>	<b>0</b>	

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**New Site BBD Transfer Station - Bill of Quantities**

Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
A	Civil Works					
1	Site Development (Site Clearance) a. Cleaning of unwanted material b.Cleaning of waste water and rubbish	Sqm	980.00			
2	Topographical survey Carrying out a topographical survey of the area shown by the engineer-in-charge/client. Surveying will be carried out to fix coordinates, dimensions of the roads, existing ground facilities like building, shed, shops , road, electrical poles, HT line, drains, man holes , major trees, telephone poles and water bodies.	LS	1.00			
3	Geotechnical Survey Equipment charges per day Standard Penetration tests (SPT) were conducted in these boreholes and relevant soil samples were collected. Soil tests were carried out in the laboratory to ascertain the allowable bearing capacity of encountered strata. To conduct tests on different samples in the laboratory as such as grain size Analysis, Atterberg limit, density, Consolidation test , shear properties, natural moisture and determining the engineering characteristics	LS	3.00			
4	Earth work excavation in all kinds of soil: Earthwork excavation in all kinds of soils except rock requiring blasting in any kind of foundation works including for trenches, pits and tunnels etc., for varying depths below average ground level including shoring, strutting for protecting the sides of foundation, dewatering/ bailing out water from foundations by pumping or by whatever means to dry up the area if required without any extra payment including leveling, ramming the bed of excavation and stacking the excavated soil away from the edge of excavation etc. complete as directed by the Engineer-in-charge for finished item of work.	cum	392.24			
5	S/C for compaction and consolidation S/C For Compaction and consolidation Loosening, leveling and compacting: Original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density for embankment construction complete and as directed.	Sqm	883.76			
6	Filling with available excavated earth : 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 watering, and compacting to 95% modified proctor density, dressing, trimming, etc all complete as per drawing, specifications and as directed by Engineer-in-charge ( compacted finished area / volume only measured for payment) available soils within the site.	cum	190.59			
7	PCC (1:4:8): Plain Cement concrete of mix 1:4:8 using Ordinary Portland cement conforming to IS 1489), River sand and graded stone aggregates of 40 mm maximum size at all depths below plinth level including cost of cement and all materials, leads and lifts, transportation to site of work, consolidation, finishing, curing, etc. complete but excluding form work as per specifications for mud mat in foundations of masonry walls or others etc. complete as per specs. and as directed for finished item of work.	cum	94.61			



**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**New Site BBD Transfer Station - Bill of Quantities**

Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
8	PCC (1:2:4): Plain Cement concrete of mix 1:2:4 using Ordinary Portland cement conforming to IS 1489), River sand and graded stone aggregates of 40 mm maximum size at all depths below plinth level including cost of cement and all materials, leads and lifts, transportation to site of work, consolidation, finishing, curing, etc. complete but excluding form work as per specifications for mud mat in foundations of masonry walls or others etc. complete as per specs. and as directed for finished item of work.	cum	15.66			
9	Construction of dry lean cement concrete: Construction of dry lean cement concrete Sub-base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, cement content not to be less than 150 kg/ cum, concrete strength not to be less than 10 Mpa at 7 days, compacting with 8-10 tonnes vibratory roller, finishing and curing, etc., completely finished item and as directed by Engineer-in-charge	cum	63.00			
10	S/C-Constn of granular subbase for roads S/C For Constn of Granular Subbase for Roads-"Granular Sub-Base -50MM Thk: Construction of Granular Sub-Base by providing close graded material, mixing in a mechanical mix plant at OMC, carrying of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per Clause 401."	cum	94.50			
11	S/C Supplying & Laying RCC 1:1:2-M25 S/C For RCC : M-25 Grade: Supplying and laying reinforced cement concrete of M 25 Grades as defined in IS:456, in all types of foundations and super structures, in walls, slab, columns, beams, lintels, chajjas, floor/roof slabs, staircase, footings, basements, cellars, trenches, drains, encasing of structural steel members / pipelines, etc. including cost and conveyance of all materials vibrating with mechanical vibrator , curing etc., but excluding cost of shuttering and steel reinforcement. All works shall be as per drawings, specifications and directions of the Engineer/Consultant, super-plasticizer as per manufacturer's instruction/directions.	cum	97.35			
12	S/C for C&S (Centering & Shuttering) S/C For Centering&Shuttering : Providing standard form work of steel plates, centering and shuttering at all depths and heights of work below and above plinth level, vertical, horizontal, inclined including strutting, propping using steel pipes/acro staging, removal, cleaning of the same for inset reinforced cement concrete works and in plain cement concrete work as required including chamfers, splays, keys, wedges, nails, bracings, brackets and applying one coat of shuttering oil on all shuttering surfaces coming in to contact with concrete etc., complete as directed including cost of materials, conveyance, labour and all other incidental charge etc. complete as directed to the finished item of work.	Sqm	569.15			
13	S/C For RFRC M25 For Flooring Supplying and laying reinforced cement concrete of RFRC M25 Grade as defined in IS:456, Flooring / Road including cost and conveyance of all materials vibrating with mechanical vibrator, levelling, curing etc., but excluding cost of shuttering, etc., complete finished item and as directed by Engineer-in-charge	cum	158.64			

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**New Site BBD Transfer Station - Bill of Quantities**

Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
14	S/C for Reinforcement cutting & bending S/C For Reinforcement Steel: Supply, fabrication and erection of Reinforcement bars for Reinforced cement concrete items at and at all depths and heights below and above plinth level with high yield strength deformed bars confirming to IS 1786 with TM Treatment from approved source (Vizag steel, Tata, SAIL make), including supply to site, providing fan hooks of required shape, dowels for bonding masonry, transporting steel to site, decoiling, removing of scales, straightening, cutting, bending, tying bars with chairs, space bars wherever required, in position with two strings of 18 gauge soft drawn annealed MS binding wire etc., complete as specified and directed.	Kg	6,695.23			
15	Supply and Providing of GP grouting for PEB base plates as instructed by client.	Cum	0.35			
16	S/C for RR Stone Masonry S/C For RR Stone Masonry : Randum Rubble stone masonry using approved quality and size of stone obtained from local quarry in foundations and plinth at all depths below plinth level in cement mortar (1:6) including cost and conveyance of stone for masonry, bond stones, scaffolding and all other materials, raking out joints or simultaneous flush pointing with the same mortar to the faces covered under earth, curing charges etc. complete as directed and as directed to the finished item of work	cum	10.59			
17	S/C for Brick masonry 230MM Thk S/C For Brick work in CM (1:6) 230MM Thk.: Brick masonry work using specified class II well burnt clay bricks of specified class, size and quality in cement mortar (1:6) at all depths and heights below and above plinth level including cost and conveyance of all materials, pilasters, steel tubular scaffolding, raking out joints, curing etc., complete as per specifications and as directed. Brick shall be laid flat in the projections for the finished item of work.	cum	19.55			
18	S/C for 15mm Plastering in 1:6 S/C For Plastering-15mm th. in CM (1:6): Cement plastering 15 mm thick for internal surfaces of walls in cement mortar (1:6) neatly smooth finished at and all heights above plinth level over brick walls or concrete surfaces, RCC and also other places wherever required including making necessary grooves in between junctions of brick masonry and over brick walls or concrete surface, preparation of surface, steel/tubular scaffolding, curing, etc., complete as directed as per standard specs. for the finished item of work.	Sqm	181.00			
19	Water Proof Plastering in CM (1:3) : Supply and providing Cement plastering 12 mm thick for internal surfaces of walls in cement mortar (1:3) with coarse sand with 5 % cico or any other approved water proofing compound including taxes and neatly smooth finished at and all heights above plinth level over brick walls or concrete surfaces, RCC and also other places wherever required including making necessary grooves in between junctions of brick masonry and over brick walls or concrete surface, preparation of surface, steel/tubular scaffolding, curing, etc., complete as directed as per standard specs. for the finished item of work.	Sqm	37.18			

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
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Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
20	S/C for Acrylic Emulsion Painting S/C For Acrylic Emulsion Painting : Finishing walls with Acrylic emulsion paint having Alkali & fungal resistance, dirt resistance exterior /interior paint of required shade over one coat of primer, including all materials, labour charges, tools & tackles, necessary scaffolding, etc., complete finished item	Sqm	181.00			
21	Snow Cem Painting-Snowcem: Providing and applying two coats cement based paint (Snowcem or approved brand) conforming to IS:5410-1990, over one coat of primer including preparing the surface to receive priming & finishing coats, scaffolding, curing etc. complete in any shade as directed by Engineer-in-charge	Sqm	17.28			
22	Supply of material charges for EN 901 Nitocote EN901 is a two-part material and can be applied by brush, roller, or airless spray. Applying one coat of primer of Nito prime and Nitocote EN901 is grey in color. It is formulated to be applied in one or two coats to achieve a minimum total dry film thickness of 500 microns. Nitocote EN901 exhibits excellent chemical resistance in pH ranging from 1-14 at 25°C.	Sqm	141.58			
23	S/C for fabrication of Structural Works S/C For Fabrication of Structural Steel : Structural Steel works for Drain MS Grating	Kg	3,060.00			
24	S/c for Turbo Vents Supply of 304 alluminium turbo ventilators. Japan NSK self-lubricating bearing and metal support including transportation.	Nos	4.00			
25	S/c for Sky lights Supply of polycarbonate FRP skylight with 1-2mm thickness, Including transportation	Sqm	86.40			
26	Constraction Joint S/C For Contraction Joint : Making 10 mm wide x 50 mm deep Contraction joint using groove cutting machine @ 5m spacing, providing and filling joints with approved joint filler and sealants, etc., complete finished item and as per direction of Engineer-in-charge	Rmt	336.00			
27	Supply and Erection of MS Grating for Drain : Supply, fabricate and erection drain grating using ISA 40x40x5mm, 35x35x3mm for grill frame and 35 x 3mm Flat for horizontals including all materials, labour charges, Two coats of enamel paint over 1 coat of steel primer, etc., as per drawing complete finished item and as directed by engineer-in-charge	kg	1,920.00			
28	supply and fixing charges of Kerb stone with all necessary civil works and required fixtures including packing and properly laying and painting snow cem	Rmt	252.00			
29	Supply and fixing of Ventilated GI rolling shutter with neat finishing and fireproofing and installation Providing and fixing Automatic rolling shutter power-driven with pull & push type provision for rolling shutters of approved make out of 18 gauge, 75 mm wide cold rolled steel laths of convex corrugation, with side guides and bottom rail, with interlocking arrangements of steel laths by means of alternate clips, suspension shaft with High tension coil type springs two numbers, mounted on specially designed pipe shaft, with bracket plates, guide channels, ball bearing arrangements, for inside & and outside locking with push & and pull operations complete with all necessary fixtures and tools at site as required by the client.	Sqm	78.00			

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**New Site BBD Transfer Station - Bill of Quantities**

Item No	Description of Item	Units	Quantity	Unit Rate (in Rs.)	Amount (in Rs)	Remarks
30	MS Man Hole Cover 600mm X 600mm: Providing and fixing MS Manhole cover of size 600 x 600 mm with frame with locking arrangement, etc. cover and frame (heavy duty, HD-20 grade designation) conforming to I.S. 12592, total weight of cover and frame to be not less than 50kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centring, shuttering all complete. (rate includes Excavation, foot rests and 12mm thick cement plaster at the external surface )	Nos	1.00			
31	Supply & Fixing of CC Manhole cover (600MMX600MM) as Per IS Standrads as directed by engineer/incharge	Nos	5.00			
32	PVC water stopper: Providing and Laying PVC water stopper 250mm wide including cost of material , labour charges etc., complete as per specifications & as advised by the Engineer In charge.	Rmt	18.40			
33	RCC 450mm dia Hume pipe Providing and laying Non Pressure NP-3 class (Medium 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	Rmt	100.00			
34	Supply, Fabricate and erection of Structural shed with AZ-150/SDP	MT	11.42			
35	Security post Supply and fixing of Security post with necessary furniture will be installed at the required location and as instructed by client.	LS	1.00			
36	Supply and Fixing of Name Board and MS Fabrication work with flexible board with all necessary items.	Sqm	12.48			
<b>Total Value of Civil Works (in Rs.)</b>					<b>0</b>	
<b>B</b>	<b>Mechanical Works</b>					
1	Supply and Eection of Tract Plate -4Nos	Kg	3668.78			
2	Supply & Installation of Portable Compactor Machine model MX -160/16 cum with tip cart loading mechanism (2 +1)	Nos	3			
<b>Total Value of Mechanical Works (in Rs.)</b>					<b>0</b>	

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**New BBD Transfer Station - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+ ERECTION	TOTAL	REMARKS
					RATE	RATE			
<b>A</b>		<b>LT PANEL</b>							
		Supply, Erection, testing & commissioning of Distribution panel with stand as per local EB rules & standards, including in complete jointing, bus bar jointing of individual components interlocking checking/wiring & proper welding works as per IEC: 60439: (Cable entry : Bottom of the panel)							
1.1		<b>Switch Board Designation : Power Distribution Panel</b> <b>Quote as per IEC 60439</b> <b>Vendor shall quote this panel with 50kA.</b>	No.	1					
		Voltage : 415 V							
		Construction : IP-65, Outdoor type, Single Front with Bottom Cable Entry with Stand							
		Mounting : Floor Mounting with Stand							
		Paint Shade : RAL 7032 (Siemens Grey)							
		Cable Entry : Bottom							
		Location : Transfer Station Shed							
		<b>Incoming Feeder :</b>							
		EB & DG Incomer : 100A FP ATS							
		CTs-100 / 5 A, CL 1, 6 Nos.							
		DV(0-500v), DA(0 - 100A) - 2Sets.							
		Indication Lamps -R Y B.							
		EB & DG ON Status - ON Indication Lamps							
		Common Incomer : 100A 4 Pole, 36kA/sec MCCB with							
		CTs-100 / 5 A, CL 1, 4 Nos.							
		DV(0-500v), DA(0 - 100A) - 3Sets.							
		Indication Lamps -R Y B, ON, OFF, TRIP.							
		Surge Protection Device (SPD) TYPE 1 -CLASS I WITH 32A MPCB 65KA CONTROL.							
		<i>Other items as required for safe and efficient electrical panel as</i>							
		<b>Outgoing Feeders :</b>							
		Six (6) 32A, 10kA/sec 4P MCB's.							
		Eight (8) 63A, 10kA/sec 4P MCB's.							
		63A Power Sockets - 2Nos							
		Two (2) 5 KVAR capacitor banks with 32A TP MCB control with capacitor duty contactors suitable for 5KVAR of including on/off push button and indication lamps, use 6Sq.mm Cu wire for power control.							
<b>B</b>		<b>DISTRIBUTION BOARDS</b>							
		Supply, Installation, testing and commissioning of following distribution boards. MCB distribution boards shall be totally with single door/double door. Surface/recessed mounting type, outer door shall be hinged type with push in type spring / magnetic lock, inner door shall be fixed up with screws with cutouts for MCB operation, copper busbar of at least 1.5 times the rating of incomer MCB / MCCB, with adequate space for termination of incoming and outgoing cables, removable un drilled top & bottom gland plates, suitable for wall, column mounting type. The incoming MCB / MCCB shall be provided in separate compartment. The MCCB shall have front drive mechanism and door interlock. DB shall be concealed type. DB shall be completely wired up, upto incoming and outgoing terminals by PVC insulated flexible copper wire of adequate rating. All MCB in Lighting DB shall be suitable for Curve B. and MCB in Power DB shall be suitable for Motive power ( Curve C ). In case Db's 3phase I/C & 1phase O/G neutral of each phase shall be isolated.							
		<b>ALL MCB (B type &amp; C type) in DB's complying IS 60898 / IEC 60947</b>							
		<b>Lighting Distribution Board</b>							
2.1	2.3.3	Tag No. : LDB1 (Shed Lighting)	Nos	1					
	2.15.2	12-WAY SPN DB							
	2.10.1	Incomer : 32A, DP ELCB 30 mA -1 Nos							
		Outgoing : 10Nos, 10A SP MCBs 'C' Curve							
		The above complete with interconnections, etc. DB should be with Metal Door & IP 43 12 WAY SPN DB							

**LUCKNOW SWACHHATA ABHIYAN PRIVATE LIMITED**  
**New BBD Transfer Station - Bill of Quantities - Electrical Works**

S.NO	Item No	ITEM DESCRIPTION	UNIT	QTY	SUPPLY	ERECTION	SUPPLY+ ERECTION	TOTAL	REMARKS
					RATE	RATE			
<b>C</b>		<b>CABLE SYSTEM</b>							
		Supply & Unloading at site, Laying, Installation, site testing and commissioning of horizontal and vertical laying and dressing using cable tie, etc. of following sizes cables on trays / through pendants / GI conduits, clamping on wall / ceiling / supported on structures / pull through pipes / readymade trench. The scope includes clamping of cables by ready made G.I. spacers, saddles or clamps fabricated out of M.S. strip 3 mm thick, supply of all clamping materials and hardware etc., providing cable markers made out of aluminium strip and 75x20 mm in size with cable number and size punched on it. Cable marker shall be provided to cables at every 20 meter interval and at both the ends. Empty cable drums shall be returned to stores. This activity also includes unloading, shifting of cables upto stores & stores to site. In case of laying unlisted cables, rate of cable whose outer dia is closest to the cable sizes quoted shall be applicable. The same shall hold good for cable termination also.							
		1.1 KV, XLPE insulated copper/aluminium conductor of class -2 as per IS 8130 armoured / unarmoured, solid / stranded inner sheathed ST-2 PVC & outer sheathed FRLS type ST-2 as per IS 5831, power cables of following sizes:							
		<b>LT Cables</b>							
	3.1	3.5CX25SQMM.AL.XLPE.AR	Mtr	100					
	3.2	4CX10SQMM.AL.XLPE.AR	Mtr	70					
	3.3	4CX6SQMM.AL.XLPE.AR	Mtr	65					
	3.4	4CX2.5SQMM.CU.XLPE.AR	Mtr	70					
	3.5	5CX2.5SQMM.CU.XLPE.Flexible Cable	Mtr	100					
		<b>CABLE END TERMINATION</b>							
		Supply, Installation, testing and commissioning of Cable end termination with Double compression Brass Nickel Pleated cable gland with all necessary hard wears like cu / Al / Bimetalic lugs & PVC hood, ferrules etc. of following copper/alum. conductor armoured / unarmoured cables including supply of all materials, drilling of gland plates and dressing of cables inside panel. All necessary material and hardware for termination purpose will be provided by the contractor. All Labour complete as per the specification of this tender and direction of engineer in charge.							
		1.1 KV, XLPE insulated copper/aluminium conductor armoured / unarmoured, inner sheathed PVC & outer sheathed FRLS power cables of following sizes using Double Compression Gland:							
	4.1	3.5CX25SQMM.AL.XLPE.AR	Nos	2					
	4.2	4CX10SQMM.AL.XLPE.AR	Nos	4					
	4.3	4CX6SQMM.AL.XLPE.AR	Nos	4					
	4.4	4CX2.5SQMM.CU.XLPE.AR	Nos	8					
	4.5	5CX4SQMM.CU.XLPE.Flexible Cable	Nos	4					
<b>D</b>		<b>LIGHT FIXTURES</b>							
		Supply, Installation, testing and commissioning of following Lighting Fixtures with Lamps and control gear including mounting of fixtures Recessed / Surface / Suspension along with all its accessories, checking of internal wiring, structural steel & hardware etc. and with all kind of required hardwares to complete installation. (Inclusive of supply, installation of cable & termination of 3C x 2.5 Sqmm Cu flexible cable FRLS / 3R x 2.5 Sqmm Cu wire from light fitting to JB side along with GI conduit - Normal/ FLP - as per type of light fitting). Supply of all materials required for complete installation shall be provided by the contractor.							

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		<b>Lighting fixture supports (structural steel or readymade supports design with light fixtures) average weighted 6 Kg shall be considered as part of lighting fixtures system activity and shall not be paid extra</b> <b>1. Vendor should quote all Light fixtures with 3 years unconditional warranty period.</b> <b>2. For consideration of equivalent makes, please ensure that the lumens output of the light fitting is equal to that mentioned in this BOQ line item.</b>							
		<b>OUTDDOR LIGHTING FIXUTE</b>							
5.1		INDUSTRIAL HIGH BAY LIGHT FIXTURE, complete with *Epoxy dia cast aluminium with toughened glass *Dust & Moisture proof Fixture (IP 66) *complete with mounting accessories *150W LED. *LED/Driver - Osram/Nichia/Seoul *System Lumens Output 10000 Lumens and colout Temp. 5700K Havell's or Wipro OR Lighting Technology	Nos	4					
<b>E</b>		<b>INTERNAL ELECTRIFICATION :</b>							
		<b>Main Wiring :</b>							
6.1	1.7.3	Providing all materials, accessories, labour etc. and wiring using 2 runs (Ph & N) of 4 Sq.mm and 1 run of 2.5Sq.mm (for earth) PVC insulated multi strand copper conductor wires of 600V grade drawn in suitable PVC conduit pipe (It includes wiring in the floor/raceways proper opening of raceways as per seating arrangement/lab equipment positioning & proper closing of the raceways as per standards; where ever piping in the floor/ceiling, the conduit should PVC) as per site engineer instructions with all accessories from nearest distribution board to switch board including proper chasing & plastering works (conforming to IS: 1881, IS:1882). for Raw power	Rmt	50					
6.2	1.7.2	Providing all materials, accessories, labour etc. and wiring using 2 runs (Ph & N) of 2.5 Sq.mm and 1 run of 2.5Sq.mm (for earth) PVC insulated multi strand copper conductor wires of 600V grade drawn in suitable PVC conduit pipe (It includes wiring in the floor/raceways proper opening of raceways as per seating arrangement/lab equipment positioning & proper closing of the raceways as per standards; where ever piping in the floore, the conduit should PVC) as per site engineer instructions with all accessories from nearest distribution board to switch board including proper chasing & plastering works (conforming to IS: 1881, IS:1882).	Rmt	150					
		<b>Point Wiring :</b>							
		Provide all materials, accessories, labour etc. and wiring, testing, commissioning for lights, using 3 runs of 1.5 Sq.mm PVC insulated multi strand copper conductor wires of 600V grade drawing in PVC conduit pipe as per site engineer instructions with all accessories Suitable for false ceiling from switch board to respective points including all civil and mechanical works. (Concealed Wiring). (conforming to IS: 1881, IS:1882).							
6.3	123(b)	Lights points with control switches. (Min. 6-9Mtrs to be considered for each point it includes false ceiling wiring, conduit wiring, from switch board to individual light/fan/ex.fan) includes suitable size of modular metal boxes and frames.	No's	20					
6.4	123(b)	Fan points with electronic regulators. (Min. 6-9Mtrs to be considered for each point it includes false ceiling wiring, conduit wiring, from switch board to individual light/fan/ex.fan) includes suitable size of modular metal boxes and frames.	No's	5					
6.5		Supply, erection, testing and commissioning of 1 x 18w LED tube light fitting with bulbs and all necessary accessories and to be fixed on walls.	No's	15					
6.6		Supply, erection, testing and commissioning of 9W LED Bulb light fitting with bulbs & holders including all necessary accessories.	No's	5					

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6.7		Supply, installation, testing and commissioning of 6A, 5 pin socket outlet with 6A switches with gang box concealed type with all necessary accessories complete as required including wiring from distribution board. (operating height should be maintained as per IS) includes suitable size of modular metal boxes and frames	No's	5					
6.8		Supply, installation, testing and commissioning of 16/6A, 5 pin socket outlet with 16A switches with gang box concealed type with all necessary accessories complete as required including wiring from distribution board.(operating height should be maintained as per IS) includes suitable size of modular metal boxes and frames.	No's	5					
6.9	1501.0	Supply, erection, testing and commissioning of wall/ceiling mounted fans that should be dual tone (non-white color) with electronic regulator. Vendor should submit the photograph of material, with make and model before procurement for approval.	No's	1					
7.0		Supply, erection, testing and commissioning of exhaust fan with Sweep size 300mm, made of sturdy engineering plastic with necessary holes in the walls & etc in complete. Vendor should submit the photograph of material, with make and model before procurement for approval.	No's	4					
	2.20	Supply erection ,testing and commissioning of 32Amps 5 pin industrial socket with metal cold body with all accessories required for installation , work includes supply and installation at wall flused inside the wall which includes chipping of wall fixing the metal clad box inside the wall and connecting the cable to mcb and fixing the it properly inside the box and adding extra cable for plug top etc.,	No's	2					
<b>F</b>		<b>CABLE TRAY</b>							
		Supply, Installation of prefabricated hot dip galvanised (460 gms per sq. met.), ladder / perforated type cable trays of minimum 2 mm thick as per details given below. Prefabricated, bends and couplers with G.I. Nuts and bolts. Gas cutting of cable trays at site is not permitted. If any welding is to be done on cable trays, the welded part shall be touched up with anti-corrosive primer and silver paint. The running rate shall include bends and couplers. Cable tray supports shall be paid extra. Before fabricating, the contractor has to get the cable tray support design approved from the site – engineer/consultant. Minimum Distance between two cable tray supports for Horizontal cable tray and vertical cable tray shall be 1.5m to 1.8 m (Depending on size) and 1M respectively. For Ladder type cable tray distance between two rungs should be 300mm							
		Cable Trays with Earthing: Shall be with Strip earthing as specified in each size of cable tray. Bolted on both sides of the cable tray with provision for jointing the adjoining pieces by means of a additional Piece of strip with holes provided at all ends for the same. Also extra Holes for Tapping. The jointing portion shall be atleast 100 mm in length & shall be raised/away from Main side frame of the Tray to enable Bolting for Jointing & Tappings. The Running meter lengths of cable Trays Shall include all types of standard Joints,"4" "U"; "T"; "L" Horizontal, vertical, Bends etc.Straight, Left hand, Right Hand reducers etc. Horizontal, vertical inside & vertical outside elbows complete with all necessary Hardwares like Nuts Bolts, Plain & Spring washers, etc.							
		<b>Perforated Type Cable Tray (2mm Thickness)</b>							
7.1		50 x 50 mm wide cable tray perforated	Mtrs	100					
7.2	4.6.1	100 x 50 mm wide cable tray perforated	Mtrs	50					
		<b>CABLE TRAY COVER</b>							
		Supply and Installation of cable tray covers fabricated out of 1.6mm thick hot dip GI along with fixing arrangement. The cable tray cover shall be removable type.							
7.3		cover for 50mm	Mtrs	100					
7.4		cover for 100mm	Mtrs	50					
<b>G</b>		<b>STRUCTURAL STEEL</b>							



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8.1		Supply, Installation & Fabrication of ISI mark structural steel in form of MS angles, channels, flats etc. for supporting various items of equipment such 'as various panels, cable trays, push button stations, junction boxes, light fittings, DB etc. including drilling, welding grouting, chipping, bolting with supply of required hardware including anchor fastners required for mounting. Fabricated and installed structural steel shall be suitably painted with 2 coats of epoxy paint after applying 2 coats of red oxide primer. Colour shade of supports shall be same as that of main shade of support structure or will be as per site engineers approval.	MT	0.50					
<b>H</b>		<b>EARTHING</b>							
a		Lighting fixture earthing is part of wiring & shall be by way of 3rd wire of 2.5 Sq.mm.,							
b		Earthing of the LSBs, shall be by way of 3rd wire of 2.5 Sq.mm.,							
c		Earthing of the SPN sockets, shall be by way of 3rd wire of 2.5 / 4 Sq.mm.,							
d		Earthing of the TPN sockets, shall be by way of separate earth wire of 4 Sq.mm.,							
e		Double earthing required for all the equipment with voltage higher than 230 V							
		Supply, Installation of hot dipped G.I /Copper bare earth conductor bar / flexible wire /strip of following sizes on trays / wall / Buried underground / supported on structures / pull through pipes/conduits. The installation shall include drilling of holes, connection of adequate lugs, clamping, hardware material. Welded joints shall be used for G.I. strips. Welded joints after welding shall be painted with anticorrosive black bitumen paint, excavation & refilling of 600mm depth soil for burying the strip wherever applicable shall include in the rate. All required materials & accessories including civil construction material shall be in contractor's scope.							
<b>9.1</b>		<b>Hot dip galvanised strip</b>							
9.1.1	5.15	25 x 5 mm G.I strip	Mtrs	50					
9.1.2		25 x 3 mm G.I strip	Mtrs	119					
9.2.1		Supply & laying of 8 SWG G.I wire with all necessary connections with nuts & bolts.	Kg's	4					
		<b>EARTHING STATION</b>							
10.1		EARTH PIT (PIPE) (GI ELECTRODE) Supply, Installation, testing of earthing station as per IS 3043 & CEA regulation complete with G.I. plate earthing (600x600x6mm) inclusive of 2runx 25x6mm GI strip to be connected between GI plate to the Electrode. 50 mm dia, 3 M long G.I. pipes, salt, charcoal & 2 nos. . The masonry chamber shall be RCC/ Brick (fine masonry with 1:3:6 ratio) provided with G.I frame & C.I inspection cover with proper painting & marking. The scope includes excavation of pit, filling with alternate layers of charcoal & salt, back filling etc. Earthing shall confirm to IS 3043. Scope Including 1) Testing earth resistivity and electrode resistance. 2) Equipotential bar & test link.	Nos	4					
<b>I</b>		<b>LIGHTNING PROTECTION SYTEM</b>							
		Supply, Installation, Testing and commissioning of External Lightning Protection System as Per IS / IEC 62305-3 including airtermination and fixing arrangements as per following. Must be used Glue for fixing on Roof and every where and should not do puncher.							

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11.1		Supply, erection, testing and comissioning of lightening arrestor including lightening spike to cover 70 mt dia with including constructing & formation of copper earth pits with 'B' class 40 mm G.I. pipe of 8 feet with funnel and copper plate(600mmx600mmx3mm) earthing with alternative layer of salt, sand, bentonate powder and charcoal including civil work of excavation & back filling, construction of chambers with man hole cover as per IE Rules along with laying of 25x3mm copper strip on required no of insulators on sheds including all necessary works. (Minimum 15Mtrs of copper strip to be consider, to be placed on the top of the sheds/buildings/tanks etc as instructed by site engineer)(1 nos for Transformer Yard & 1 nos for SBR Blower Building)	No's	1					
<b>J</b>		<b>MISCELLANEOUS ITEM</b>							
		<b>Safety Items</b>							
		Supply & Installation of the following safety items as per Electrical Inspectorate's requirement.							
12.1		1.1 kV Grade 3 mm thick Rubber mat - size of 2X1 mtr. (as per new IS 15652)	Mtr.	1					
12.2		Shock treatment chart as per electricity board requirement (In English, Hindi & Local Language)	Nos	1					
12.3		First aid box with standard items	Nos	1					
12.4		433 V Danger Board as required by the Electrical authorities (In English, Hindi & Local Language)	Nos	1					
12.5		Rubber Hand Gloves - 1 Set (with certificate)	Set	2					
12.6		4 nos. Fire Buckets (round bottom) with suitable MS stand	Set	1					
12.7		Dry Chemical powder type fire extinguisher complete with initial charges, hose and fixing brackets etc 5 KG capacity conforming to IS:Standard	Set	1					
<b>K</b>		<b>CABLE DRESSING :</b>							
13		Dressing of cable and fixing the cable in tray and fixing of HT/LT cable from the nearest pole to meter board and from there to the control panel in under ground or above ground with all safety norms with proper guidance of the super visor wilth neccessary supports/cable tray/trench etc.,	LS	1					
<b>L</b>		<b>DG-SET</b>							
14		Supply, installation, erection, testing and comissioning of diesel engine with rated of 20 KVA at 0.8 P.F, 1500 RPM, 4 stroke, multicylinder coupled to brush less type 433V 50 cycle/sec self excited alternator completeed with cushy pads, domestic silencer exhaust pipe completee with alternator auxiliaries, radiator, electronic governor panel, 24Volts chargable battery including initial charging of batteries, control panel with ammeter, ammeter selector switch, voltmeter and voltage selector switch, frequency meter, Hrs meter amd KWH meter in sound proof canapoy as required and completee as per specification. Note: dg set need to quote along with 4 wheel trolley	No's	1					
							<b>TOTAL</b>	<b>0</b>	