

TURNKEY PACKAGE FOR DESIGN, ENGINEERING, SUPPLY & CONSTRUCTION OF 66/33/11 kV SUBSTATION & ASSOCIATED WORKS AT JAMTSHOLING, TASHICHOLING (SIPSOO), SAMTSE

SCHEDULE - 2: SUPPLY & ERECTION

Item	Description	Unit	Provisional Quantity	Unit Price	Total Price
		1.00	2.00	3.00	4 = (3x2)
1.0	Structural Steel				
1.1	Erection of Main and Auxiliary structures including all works above ground level Rolled sections, Compound Sections built from Rolled Steel Sections and plates, Miscellaneous steel work such as stairs, ladders, etc., Plates only, For water tanks, covers, ducts, etc. (The rate shall include bolts, nuts, washers, welding, all butt weld splices for making up member length as required and shall also include one shop coat of red oxide zinc chrome primer after erection) All works strictly shall be carried out as per approved drawings.	M.T.	30.00		
1.2	Supplying, Transporting, fabricating, loading, unloading, etc of for chequered plates including fixing/ welding opening notches etc. all as per specifications and drawings.(a) Non galvanised (The rate shall include bolts, nuts, flat washers, foundation bolts,pack washers,plates)	M.T.	0.50		
1.3	Supply, fabricate, transport, delivery to site, loading and unloading, fixing in position etc. for insert plates, angles for cable trenches, precast cover slab & floor grating of approved make and pattern, fabricated to required shapes and sizes including making opening in same of required shape and size fixing clamps, clips or welding as per specifications and drawings. (The rate shall include bolts, nuts, flat washers, foundation bolts,pack washers,plates)	M.T.	1.50		
2.00	Concrete and Allied Works				
2.01	Providing and Laying plain or Sulphate resistant cement concrete in 66 and 33kV switch yard with or without water proofing compound in blinding layer, thickness as shown in drawings, including antiweed treatment, etc. with 1:5:10 concrete with aggregates of size 40mm downgraded including curing, etc. complete. A layer of cement slurry of mix 1:6 (1 cement: 6 fine sand) shall be laid uniformly over cement concrete layer. The cement consumption for cement slurry shall not be less than 150 kg. Per 100 sq. m. (Rate to be inclusive of supply of all necessary material like formworks & nails, laying in position as per specifications and as directed by Engineer for the substation area below the gravel).	Cu.M.	91.50		
2.02	Providing and Laying plain or Sulphate resistant cement concrete with or without water proofing compound in blinding layer, thickness as shown in drawings, under reinforced concrete, masonry walls in foundations, grade slabs, bottom of pits, sumps, etc. with 1:3:6 concrete with aggregates of size 20mm downgraded including curing, etc. complete. (Rate to be inclusive of supply of all necessary material like formwork & nails, laying in position as per specifications and as directed by Engineer).	Cu.M.	135.00		
2.03	Providing and laying in position plain cement concrete, 1:2:4, 20mm aggregate in drainage works including the cost of centering and shuttering as per specification and drawings.	Cu.M.	40.50		
2.04	Providing and laying in position plain cement concrete, 1:4:8, 40mm aggregate in drainage works including the cost of centering and shuttering as per specification and drawings.	Cu.M.	5.40		
2.05	(a) Providing and Laying Reinforced concrete of grade M20 with or without water proofing compound excluding reinforcement but including formwork and shuttering, with coarse aggregate of sizes 20 mm downgraded as directed by Engineer in foundations (all types), walls, grade slabs, road pavement and any other structures including vibrating, curing, etc. complete. (Rate to be inclusive of supply of all necessary material like formwork & nails, laying in position as per specifications and shall include mixing of water-proofing compound where-ever directed by engineer). (b) Same as in item 2.5(a) but for concrete of grade M25.	Cu.M.	750.00		
		Cu.M.	24.00		

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		1.00	2.00	3.00	4 = (3x2)
2.06	Supplying & fixing in position all items required for Box type waterproofing treatment to basement walls & slabs as specified by India Waterproofing Company or equivalent (Contractor to furnish 10 years guarantee in format acceptable to EMPLOYER).	Sq.M.	50.00		
2.07	Supply including handling and transport, placing in position including cleaning, cutting, bending, lapping, binding with 16 SWG annealed soft iron wire/welding, irrespective of locations & levels, complete as per drawings for all reinforced concrete works. (a) Using high yield strength deformed bars conforming to IS:1786 (All diameters)				
	i. 8 mm to 12 mm	M.T.	23.00		
	ii. 16 mm dia. and above	M.T.	12.00		
2.08	Providing and laying approved water proofing compound in concrete / plastering for works, where specified.	Kg.	15.00		
2.09	Supplying & fixing precast slabs including suitable formwork to provide smooth finish, casting, curing, storing, protecting under appropriate conditions, erecting them in position, etc. complete using M20 concrete with 20mm downgraded coarse aggregate for trench covers including reinforcements and lifting hooks as required and as per specification & drawings.	Cu.M.	16.00		
2.10	Supplying, fabricating and fixing in position in concrete or in masonry at any level, of length between 150 to 1200 mm MS flanged puddle pipes conforming to IS 1239 with puddle including one coat of primer on exposed surfaces all as per specifications and as directed (Flanges shall be flat face and shall be as per ANSI B 16.5 150 rating)				
	(a) 25 mm dia.	No.	50.00		
	(b) 50 mm dia.	No.	25.00		
	(c) 75 mm dia.	No.	15.00		
	(d) 100 mm dia.	No.	10.00		
2.11	Grouting pockets, holes, pipe sleeves of any shape or size for column bases, Machine foundations, etc. with cement mortar 1:2 with water cement ratio not more than 0.5 including roughening surface, cleaning with compressed air/ water jets, ramming, curing, etc. complete.	Cu.M.	5.00		
2.12	Supply & fixing of approved PVC water stops as indicated in drgs. Including all necessary splices etc. as per manufacturer's instructions, etc. complete.				
	(a) 150 mm ribbed type-min 10thk	R.M.	56.00		
	(b) 225 mm ribbed type-min 10thk.	R.M.	56.00		
2.13	Supplying & Laying uncoursed random rubble masonry wherever specified, with approved quality locally available hard stone in cement mortar (1:5) including scaffolding, curing, raking of joints and flush/raised pointing in (1:3) cement mortar etc. complete.	Cu.M.	116.00		
3.00	Road Works and Drains				
3.01	Preparation of sub grade with proper camber by excavating earth to depth equal to pavement thickness, consolidation with roller, disposal of surplus earth up to 50m - all kinds of soil	Cu.M.	432.00		
3.02	Providing and laying Granular sub-base course (GSB), 225mm thick to required degree of compaction with proper formation of cross fall using motor grader for laying and compacted to required density as per material gradation and aggregate quality specified including scarifying complete.	Cu.M.	243.00		
3.03	Providing and laying wet mix macadam graded aggregate base course to required degree of compaction with proper formation of cross fall by using well graded crushed aggregates premixed with OMC using suitable mixer, motor grader as per material gradation and a aggregates quality specified	Cu.M.	189.00		

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Item	Description	Unit	Provisional Quantity	Unit Price	Total Price
		1.00	2.00	3.00	4 = (3x2)
3.04	Providing and Laying Asphalt/Bituminous Concrete of 50mm thick to required degree of compaction based on the job mixture design approved by the supervising engineer using asphalt plant, paver, steel roller, tyre roller etc. as per material gradation and aggregate quality specified	Sq.M.	6,195.00		
3.05	Supplying & laying Hammer dressed stone edging 150 x 250 mm with stones including excavation, refilling and disposal of surplus earth within 30 m lead.	R.M.	3,000.00		
3.06	Scarifying metalled (water bound) road surface disposal of rubbish up to 50m and consolidation of the aggregate received from	Sq.M.	5,250.00		
3.07	Supplying & Laying reinforced concrete road with thickness as specified in the specification with or without water proofing compound excluding reinforcement but including formwork, with coarse aggregate of sizes 20 mm downgraded as directed by Engineer including vibrating, curing, etc. complete. (Rate to be inclusive of supply of all necessary material, laying in position as per specifications and shall include mixing of water-proofing compound where-ever directed by engineer).	Cu.M.	40.00		
3.08	Supplying, & Laying, jointing, hydraulically testing NP2 class cement concrete pipes conforming to IS:458 for cable crossing etc. (pipe shall have collar joint sealed in C.M. 1:2)				
	(a) 150 mm dia.	R.M.	10.00		
	(b) 300 mm dia.	R.M.	10.00		
	(c) 450 mm dia.	R.M.	10.00		
	(d) 600 mm dia.	R.M.	15.00		
	(e) 900 mm dia.	R.M.	15.00		
3.09	Supplying, & Laying, jointing, hydraulically testing NP3 class cement concrete pipes conforming to IS:458 for cable crossing etc. (pipe shall have collar joint sealed in C.M. 1:2)				
	(a) 150 mm dia.	R.M.	10.00		
	(b) 300 mm dia.	R.M.	10.00		
	(c) 450 mm dia.	R.M.	10.00		
	(d) 600 mm dia.	R.M.	15.00		
	(e) 900 mm dia.	R.M.	15.00		
3.10	Supplying, laying & fixing GI pipes which are suitable upto 175kg/sq.cm pressure (unit price to be inclusive of necessary MS fitting such as tees, bends, unions, elbows, reducers, sockets, flanges, check nuts, plug ends, valves,etc.) in vertical or horizontal position at all heights, including cutting, threading, bending and jointing, cutting holes in the walls or floors and making good the same with cement mortar 1:4, trenching, refilling , sand bedding, providing necessary clamps and supports and testing the line as				
	(a) 80 mm dia.	R.M.	1,200.00		
	(b) 50 mm dia.	R.M.	170.00		
	(c) 32 mm dia.	R.M.	85.00		
4.00	Miscellaneous Works				
4.01	Supplying & laying of Brick masonry in super structure in cement mortar 1:4 (1 cement : 4 coarse sand) using approved quality country bricks including scaffolding, curing, raking of joints, etc. as specified for walls, etc. at all levels.				
	i. 115 mm thick including placing chicken mesh at every 4 th layer	Sq.M.	45.00		
	iii. 230 mm thick and above.	Cu.M.	10.00		
4.02	Same as in item No.4.1 but for brick masonry in cement mortar 1: 4 in foundations and in plinth.				
	(a) 230 mm thick and above.	Cu.M.	7.50		

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Item	Description	Unit	Provisional Quantity	Unit Price	Total Price
		1.00	2.00	3.00	4 = (3x2)
4.03	Providing & Laying Interior plain faced cement plaster in C.M. 1:6 with neeroo finish on all types of surfaces specified in drawings at all levels. The rates shall also include moulding wherever specified, scaffolding, curing, etc.				
	(a) 12 mm thick on brick walls and concrete surfaces	Sq.M.	150.00		
	(b) 6 mm thick on underside of slabs	Sq.M.	30.00		
4.04	Providing & Laying 20 mm thick exterior cement plaster in C.M. 1:3 in two layers, with first layer of 14mm thickness, and second layer of 6mm thickness, using sand of approved quality, size and shape and including providing bands, grooves, drip moulds, and including scaffolding, curing, etc. complete at all levels.				
	(a) Sand faced plaster including grooves in plaster.	Sq.M.	50.00		
	(b) Plain sand faced plaster.	Sq.M.	30.00		
4.05	Supply of 230 mm thick rubble packing under floor with approved hard stone, set in regular lines, hand packed, filling the interstices with small stone chips and sand with approved hard stone obtained from borrow pits outside owner's boundary	Sq.M.	250.00		
4.06	Supplying and fixing approved quality premoulded bituminous joint filler as per IS:1838 wherever specified.				
	a) 12 mm thick	Sq.M.	20.00		
	b) 25 mm thick	Sq.M.	20.00		
4.07	Supplying and filling in place bituminous sealing compound conforming to IS:1834 in grooves 25mm x 25mm over joints.	R.M.	20.00		
4.08	Supplying and fixing the chain link fencing of 2.0m high above finished grade level, 50 x 50 mm mesh with 3.15 mm dia. GI Wire. The chain link shall be clamped to angle posts ISA 65 x 65 x 5 at spacing not exceeding 2.5m by MS flat 50x6 with 16mm diameter bolt with flat washers. he chain link will also be either welded or bolted to vertical post at top and bottom by a MS flat 50x6mm to hole it tightly in position. The foundation shall be anchored in 1:3:6 PCC block of size 350mm x 350mm x 600mm deep, including providing of braced bays at corners and every tenth bay with angle ISA 65x65x5 diagonal bracing, including erection, painting over approved primer cost, etc. complete as per details indicated in the drawings. The payment for gate shall be in sq.m rate which shall be inclusive of angle post, flats, chain link mesh, nuts and bolts, foundation blocks etc. complete as per drawings.	Sq.M.	250.00		
4.09	Providing and laying Bhutanese traditional main gate of 6m width as per drawing enclosed, including Bhutanese painting and all necessary fixtures, electrification etc. complete. (This gate will be fiitted with electrically operated sliding gate as per drawing)	LOT	1.00		
4.10	Supply & Fixing of 140 mm dia. HDPE pipes PE 63 grade with pressure rating of PN 2.5 conforming to IS:4984 for cables at road/pavement crossings as per drawing.	R.M.	25.00		
4.11	Supply & Fixing of 110 mm dia. HDPE pipes PE 63 grade with pressure rating of PN 2.5 conforming to IS:4984 for weeps holes in the walls. as per drawing.	R.M.	80.00		
4.12	Supplying, Fabricating and erecting M.S. gates made of 40mm dia medium duct pipe and vertical pipes of 15mm dia MS pipe @ 125mm spacing (maximum) shall be welded with the main frame including RCC post. Other details shall be as shown in the drawing. The gates shall be fabricated with welded joints to achieve rigid connections. The gate frames shall be painted with one coat of approved steel primer and two coats of synthetic enamel paint. The gates shall be provided with suitable locking arrangement. Contractor shall arrange for all the materials, tools, labour, etc. required to complete the job.	Sq.M.	20.00		
4.13	Complete engineering design, preparation of drawings, getting approval, supplying, installation; of fire detetion system and piping layout, testing of Fire Fighting Equipments for complete Fire Fighting System for the eintire substation as per technical specification and as per the requirements of the employer.	LOT	1.00		

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Item	Description	Unit	Provisional Quantity	Unit Price	Total Price
		1.00	2.00	3.00	4 = (3x2)
4.14	Supply, transportation, handling and laying, fitting & fixing of standard IU type (90 lbs.) rails for transformer foundation & rail-cum-road track as per specification and drawings.	Mtr.	36.00		
4.15	Providing and laying 0.5 H.P head pump to evacuate the fire fighting & rain water from the sump pit in to the nearest drain for each transformer including wiring and testing. The rate shall be inclusive of laying suction and delivery pipes including bends, reducer, wiring etc. complete.	Each	2.00		
4.16	Providing and laying 40mm dia MS rod for Earthing protection in 66kV switchyard complete with earth grid and mat, earth leads, electrodes, clamps and connectors and all other hardware & accessories as per approved drawings.	LOT	1.00		
5.0	Building Works (CONTROL ROOM BUILDING AND PUMP HOUSE)				
	EARTH WORK				
5.1	Excavation in foundation trenches or drains not exceeding 1.5m in width or area 10 sq.m on plan, including dressing & ramming, disposal of surplus soil within 100m lead & 1.5m lift - Ordinary Soil	cu.m	276.34		
5.2	Hand excavation and refilling in layers <200mm, of trenches for pipes & sockets, cables,incl. Dressing of sides/ ramming of bottom,depth upto 1.5m, disposal of surplus materials within lead of 100m.	mtr	7.50		
5.3	Filling of trenches, sides of foundations etc. in layers <200mm using selected excavated earth, ramming etc. within lead 100 m &	cu.m	203.47		
5.4	Providing & laying stabilized sand bedding, incl. consolidating each deposited layer by watering, ramming & dressing below flooring / PCC under room areas as per drawings.	cu.m	54.83		
	CONCRETE/RCC WORK				
5.5	Providing & laying in position plain cement concrete 1:3:6, 20 mm agg., excluding p&f the cost of centering & shuttering - all work upto plinth level (Under flooring, wall and column footing)	cu.m	59.29		
5.6	Providing & laying in position reinforced cement concrete 1:1.5:3, 20 mm agg., excluding the cost of centering, shuttering & reinforcement - all work upto plinth level (Foundation, footings, plinth beams, bases of columns etc.)	cu.m	86.90		
5.7	Providing & laying R.C.C 1:1.5:3, 20mm agg. works in plinth and skirting courses, fillets, columns, pillars, post and struts upto floor five level excluding the cost of centering, shuttering & reinforcement . - (Columns, pillars)	cu.m	20.85		
5.8	Providing & laying in position R.C.C 1:1.5:3, 20mm agg. work in Suspended floors, roofs having slopes upto 15°, landings, balconies,shelves, chajja upto floor five level excluding the cost of centering, shuttering & reinforcement.	cu.m	44.27		
5.9	Providing & laying in position R.C.C 1:1.5:3, 20mm agg. Work in beams, lintels, bands, plain window sills, staircase, spiral staircase upto floor five level excluding the cost of centering, shuttering and reinforcement. (Lintels,First floor beam, Roof beams,	cu.m	66.51		
5.10	Applying cement slurry on R.C.C & P.C.C work using 2.75 kg per sq.m for receiving C.C. floor including roughening, cleaning & dampen the surface (slabs + columns + beams)	sqm	295.12		
5.11	Providing & laying traditional R.C.C Cornices in 1:1.5:3, 20 mm agg. including cost of formwork including finishing with 6mm thick plaster on the exposed surface with cement mortar 1:3, excluding reinforcement & decorative painting cost as per standard				
5.11.1	Single Storied Building, including phana	m	88.13		
5.11.2	Lintel Cornice (only cornice portion at external face over openings)	m	58.58		
5.12	Providing & fixing Thermo- Mechanically Treated reinforcement bar (yield Strength 415MPa) for R.C.C work incl. cutting, bending, binding & placing in position complete	kg	30,768.77		
5.13	Providing & fixing centering and shuttering (formwork), including strutting, propping etc. and removal of formwork				
5.13.1	Foundation and plinth	sqm	297.46		

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Item	Description	Unit	Provisional Quantity	Unit Price	Total Price
		1.00	2.00	3.00	4 = (3x2)
5.13.2	Lintels, beams, girders, bresummers, cantilevers etc. at all levels	sqm	326.24		
5.13.3	Columns, pillars, posts, struts, etc at all levels	sqm	217.90		
5.13.4	Suspended floor, roof, landing, shelves and their supports, balconies, chajjas etc. at all levels	sqm	13.55		
DAMP-PROOFING					
5.14	Providing & laying damp proof course with cement concrete 1:2:4, 12.5 mm aggregate - 25 mm thick	sq.m	72.46		
5.15	Providing and laying moisture barrier using plastic sheeting underlay - 50 micro meter	sq.m	350.19		
STONE/BRICKWORK					
5.16	Providing & laying 150mm thick Hand packed stone filling/soiling with stone (under flooring & footings)	cu.m	88.93		
5.17	Providing & laying Random Rubble Masonry with hard stone in foundation & plinth - In CM 1:5 (under plinth beams)	cu.m	24.78		
5.18	Providing & laying Second- Class Brick work in in CM 1:4 in super srtructure above plinth level upto floor two level	cu.m	50.92		
5.19	Providing & laying 2nd. Class Half-brick Masonry (125 mm) in superstructure below floor 2 level - In CM 1:4 (Infill + Eaves wall)	sq.m	173.34		
FALSE CEILING AND PARTITION					
5.20	Providing and fixing of TRAC-84C ceiling system in control room building comprising of 84 mm wide x 12.50 mm deep panels with flange of 23.5mm, made out of 0.5mm thick Alloy AA 3105/3005/5050 chromatised and stove enamelled on both sides in off-white shade. Panels shall be fixed on to rolled formed carriers 32 mm wide x 39 mm deep out of 0.6 mm galvanized steel with cut-outs to hold the panels in a module of 100 mm at maximum 1.6 m centre to centre. Carried to be suspended from roof / truss by 4 mm galvanized steel wire rod hangers or 19 swg industrial GI wire, with special height adjustment suspension clips at regular intervals. Hangers to be fixed by 'J' hooks and nylon inserts. Panels shall be factory cut-to-length up to maximum 5 m to suit site dimensions. Edge profiles / wall angels to be 19 mm x 19 mm, 0.5 mm thick of Aluminium matching the colour of the panels.	sq.m	250.00		
5.21	Providing & fixing anodised Aluminium partition framing of specified sections in partitions including all accessories such as U-rubber gasket for fixing glass panes, weather strips or weather seals, roller, springs, etc (including the cost of glass panes, particle board and necessary fittings) complete as per the drawings.	sq.m	31.92		
STEEL ITEM					
5.22	Steel work welded, in built up sections, trusses, frameworks including cutting, hoisting, fixing and appl. Priming coat of red lead paint. in tubular sections of roof trusses and purlins				
5.22.1	In tubular sections (trusses and hand rail)	kg	7,370.16		
5.22.2	Providing & fixing M.S. round hold-down bolts with nuts & washer plates	kg	180.00		
5.22.3	Providing & fixing bolts of various sizes incl. nuts & washers to connect eaves board	kg	70.00		
5.22.4	Providing, making & fixing M.S. cleat /straps for connection of prulin to truss , flats to connect eaves board, sole plates etc. and flats at end of holding bolt	kg	345.24		
DOORS/WINDOWS					
5.23	Providing & fixing anodised Aluminium doors, including all accessories such as U-rubber gasket for fixing glass panes, weather strips or weather seals, roller, springs, etc (including the cost of glass panes, sun film, particle board and necessary fittings complete) as per the drawings. ** All aluminium frame and fixture samples shall be approved by the employer prior to installation.				
Control Room Building					
5.23.1		D0	Each	1.00	
5.23.2		D1	Each	1.00	
5.23.3		DC	Each	1.00	

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Item	Description	Unit	Provisional Quantity	Unit Price	Total Price
		1.00	2.00	3.00	4 = (3x2)
5.24	Providing & fixing MOTORIZED Rolling shutters including all accessories complete as per drawings but excluding top cover.	sq.m	18.09		
5.25	Providing & fixing Top cover for rolling shutters complete as per drawing.	m	5.48		
5.25	Providing, making and fixing in position of timber Doors Components including frames, security bars (if any), tower bolt 150mm, door handle 150mm, brass hinges 250mm, sliding bolts 250mm, door stopper, kicking plate, and applying wood preservative on unexposed surface and painting, all necessary hardwares (holdfast complete, bolts, screws etc.) as applicable complete as per the design drawing and specification. <i>** All fixture samples shall be approved by the employer prior to installation.</i>				
	Control Room Building				
5.25.1	D3	Each	5.00		
5.26	Providing & fixing in position dressed wood (Teak) work in frames of windows wrought and framed with sliding anodised Aluminium section for window specified sections (Two tracks) including all accessories such as U-rubber gasket for fixing glass panes, weather strips or weather seals, roller, springs, steel frames, hold fast, etc. (including the cost of glass panes, sun flim and necessary fittings complete). , complete as per the drawings. <i>** All aluminium frame and fixture samples shall be approved by the employer prior to installation.</i>				
	Control Room Building				
5.26.1	W1	Each	11.00		
5.26.2	W2	Each	2.00		
5.26.3	W3	Each	1.00		
5.26.4	W4	Each	2.00		
5.26.5	V1	Each	4.00		
5.27	Steel work welded in built up section for window including all accessories such as glass panes, weather strips or weather seals, steel frames, hold fast, etc. (including the cost of glass panes and necessary fittings complete). as per the drawings.				
	Pump House				
5.27.1	W	Each	4.00		
	FLOORING				
5.22	Providing & laying of epoxy flooring - Two coats of 3mm thick including application of filler compound with sub layer of neatly finished 75mm thick cement concrete (1:2:4, 20mm agg) base. <i>**The rate shall be inclusive of epoxy, filler and sub base concrete.</i>	sq.m	326.56		
5.23	Providing & laying 50mm thick ironite flooring in Store/meter testing room with sub-layer of neatly finished 40mm thick cement concrete 1:2:4, 12mm aggregates base, 10mm top thk. layer of "Ironite" layer with iron dust using not less than 2 kg of "Ironite" per sq.m. finished smooth with hard rubbing. <i>**The rate shall be inclusive of ironite flooring and sub base concrete.</i>	sq.m	16.00		
5.24	Providing & laying 150mm anti-acid skirting tiles in Battery room , 25mm thick, vetrified and polished- in white ceemnt as specified in architectural drawings	sq.m	25.00		
5.25	Providing & laying cement concrete flooring 1:2:4, 20mm agg in Pump house finished with floating coat of neat cement - 20mm aggregates, 75mm thick	sq.m	35.60		

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		1.00	2.00	3.00	4 = (3x2)
TILING - WALL & FLOOR					
5.26	Providing & fixing white/coloured glazed tiles in flooring, skirting, wall, treads of steps and landings laid on bed of 12mm thick cement mortar 1:3 finished with flush pointing in white cement: ** All tiles and granite samples shall be approved by the employer prior to installation.				
5.26.1	In walls -300x300mm tiles	sq.m	57.75		
5.26.2	In floors- 600 x 600mm anti skid tiles	sq.m	26.42		
5.27	Providing and laying Pre-Polished/ Polished Granite of approved quality and source using necessary cement bedding in C.M. 1:4 upto 20 mm thick average cement slurry for fixing the tiles with required slopes, cutting, curing, cleaning, filling the joints with pigments of similar colour and at all levels with all leads and lifts etc. complete as per directions of site incharge and as per pattern required -18mm Thick granite in wash basin counter top	sq.m	3.00		
ROOFING					
5.28	Providing & fixing Pre Painted Galvalume (Turquoise Green) roofing sheets, including bolts, hooks and nuts 8mm dia. with bitumen and G.I limpet washers filled with white lead for connection, excluding the cost of purlins, rafter and trusses. - 25g (0.5	sq.m	586.50		
5.29	Providing & fixing 600mm ridges or hips in pre painted plain G.I. Incl. bolts, hooks & nuts 8mm dia G.I limpet & bitumen washers for connection - 25g.	m	49.05		
5.30	Providing & fixing 450mm over all semi-circular plain G.I gutter, including brackets, bolts, nuts, washers & rain water pipes connections, excluding the cost of pipes - 25g sheet	m	126.44		
5.31	Providing and Fixing wind tie of 40x6 mm flats	m	49.05		
5.32	Providing & fixing 3mm galvanised plain sheet lining in eave ceiling with necessary framing and beading complete including the cost of welding, fixing screws etc. but excluding cost of frame and bead. (This shall be the false ceiling in PH as well)	sq.m	229.00		
5.33	Providing & fixing Eaves board (225x3mm), Galvanised plain steel sheet, 3mm thick fitted and fixed with necessary fixing arrangements and screws as per drawing	m	160.84		
PLUMBING & SANITARY *** (Samples to be approved prior to installation)					
5.34	Providing & fixing G.I. pipes incl. G.I. fittings & clamps & repair walls - 15mm (Internal piping)	m	12.00		
5.35	Providing & fixing G.I. pipes incl. G.I. fittings (excl. trenching, refilling & thrust block) - 20mm (External piping)	m	6.00		
5.36	Providing & fixing G.I. pipes incl. G.I. fittings (excl. trenching, refilling & thrust block) - 32mm (External piping)	m	5.00		
5.37	Providing & fixing approved brand stop cock - 20mm (At junction-External)	each	1.00		
5.38	Providing & fixing approved brand bibcock - 15mm, standard vertical, knob (Bath,W.C and Wash basin-Internal)	each	2.00		
5.39	Providing & fixing approved brand pillar- cock - 15mm, swan neck, knob (Wash basin-Internal)	each	4.00		
5.40	Providing & fixing approved brand stop cock - 15mm, standard, knob (Bath, W.c and Wash basin -Internal)	each	4.00		
5.41	Providing & fixing white vit.china wash basin, including C.I brackets, 15mm approved brand pillar taps, chain & rubber plug, 32mm p.v.c. waste, 32mm dia. trap & union, repair walls -Flat back wash basin 550x400mm with single 15mm approved brand	each	4.00		
5.42	Providing & fixing European-type vitreous china w.c pedestal including seat and lid with hinges, 15l white vitreous china low level cistern, fittings, brackets, repair walls - white, with plastic seat & lid	each	2.00		
5.43	Providing & fixing 600x450mm bevelled edge mirror (superior glass) incl.4mm A.C sheet base fixed to wooden cleats	each	4.00		
5.44	Providing & fixing white vitreous china flat back, lipped front urinal basin 430x260x350mm including C.I cistern & fittings, brackets, G.I. flush pipe & spreaders, approved brand unions, G.I. clamps, painting, repair walls, One bowl-5 litres, C.I cistern	each	3.00		
5.45	Providing & fixing c.p. towel rail 600 x 20mm with c.p brackets fixed to wooden cleats	each	2.00		

SCHEDULE - 2: SUPPLY & ERECTION

Item	Description	Unit	Provisional Quantity	Unit Price	Total Price
		1.00	2.00	3.00	4 = (3x2)
5.46	Providing & fixing toilet paper holder - Recessed ceramic, roll-type, 150 x 150 mm	each	2.00		
5.47	Providing & fixing soap dish - Recessed, ceramic, 200x100 mm	each	2.00		
5.48	Providing & fixing plastic tank including all accessories complete - 2000 litre capacity	each	1.00		
5.49	Providing & fixing P.V.C soil waste and vent pipes, single or double socketed, including pipe clip complete (excluding the cost of P.V.C fittings) -- 110mm dia (Soil Pipe)	m	7.00		
5.50	Providing & fixing P.V.C soil waste and vent pipes, single or double socketed, including pipe clip complete (excluding the cost of P.V.C fittings) -- 75mm dia (Sewerage pipe)	m	17.50		
5.51	Providing & laying H.D.P.E pipes including H.D.P.E fittings pressure class 6kg/sq.cm(excluding trenching, refilling & thrust block) -- 110mm dia	m	7.00		
5.52	Providing & laying H.D.P.E pipes including H.D.P.E fittings pressure class 6kg/sq.cm(excluding trenching, refilling & thrust block) -- 75mm dia	m	17.50		
5.53	Providing & fixing P.V.C Coupler -110mm dia	each	5.00		
5.54	Providing & fixing P.V.C Coupler -75mm dia	each	5.00		
5.55	P & f P.V.C door bend - 75mm dia	each	2.00		
5.56	P & f P.V.C door bend - 110mm dia	each	2.00		
5.57	P & f P.V.C Nahani Trap - 110mm inlet & 75mm outlet	each	2.00		
5.58	Constructing Soak Pit of size 1200 x 1200 x 1200 mm, filled with brick bats including 100mm S.W drain-pipex1200mm long	each	1.00		
5.59	Constructing Septic Tanks, in 2nd class brick masonry in cement mortar 1:4, including fittings, C.I cover with frame, 40mm thick concrete flooring (40mm aggregates) cement plaster concrete base in C.M 1:4:8 etc. complete as per standard design - 25 users	each	1.00		
DRAINAGE					
5.60	Providing & laying 50mm thick Plinth Protection & grouted with fine sand mix including well rammed, finishing the top smooth - With cement CC 1:3:6, 20mm agg., laid over 75mm thick layer of compacted gravel (40mm)	sq.m	41.94		
5.61	Constructing second class brick masonry open surface drain of 250mm x 300mm depth in CM 1:4 incl. earth work in excavation, 100mm thk Cement Concrete bed 1:5:10, 40mm agg. 25mm thick CC 1:2:4, 12mm agg. for filling haunches, incl. 12mm cement plastering 1:4 with a floating coat of neat cement and disposal of surplus earth etc. complete	m	89.00		
5.62	Const. Brick masonry manhole in CM 1:5, R.C.C top slab with 1:2:4 20mm agg., fdn. PCC 1:4:8 40mm agg. 12mm CP 1:3 finished with floating coat & making channels in PCC 1:2:4., 20mm agg. neatly finished complete -Inside dim. 900 x 800mm & 600mm deep including C.I cover & frame (weight>38kg)	each	1.00		
5.63	Providing and fixing square mouth S.W gully- A grade including C.I grating, C.I cover with frame of 300x300mm, brick masonry chamber - 150x100mm P or S trap (Interception pit as per drawing)	each	2.00		
PLASTER					
5.64	Providing & laying 15mm cement plaster on rough side of single or half -brick wall - C.M 1:4 (Internal walls above plinth including exposed portion of beams and columns) including applying of cement slurry	sq.m	559.17		
5.65	Providing & laying 20mm cement plaster - C.M 1:4 (External Walls Above plinth) including applying of cement slurry	sq.m	227.55		
5.66	Providing & laying 6mm cement plaster (in ceiling) - C.M 1:4 including applying of cement slurry	sq.m	653.13		
5.67	Providing & laying cement plaster, finished with floating coat of neat cement - 20mm plaster in C.M 1:4 in plinth walls including applying of cement slurry	sq.m	33.12		

SCHEDULE - 2: SUPPLY & ERECTION

Item	Description	Unit	Provisional Quantity	Unit Price	Total Price
		1.00	2.00	3.00	4 = (3x2)
PAINTING					
5.68	Providing & applying one coat of primers (on external wall surface) -Cement primer	sq.m	227.55		
5.69	Finishing wall with Water- Proof Cement Paint - New work, three coats (on external wall surface)	sq.m	227.55		
5.70	Providing & applying finishing coats - Acrylic washable distemper, two coats on new work, including cement primer coat	sq.m	227.55		
5.71	Providing & applying one coat of primers - Wood work - white primer	sq.m	58.46		
5.72	Providing & applying finishing coats - Synthetic enamel, for steel & wood work, two coats on new work-chocolate colour	sq.m	58.46		
BHUTANESE PAINTING					
5.73	Providing, preparing & applying Sumdang washable painting - Ding quality to cornices at floor levels and windows level	sq.m	68.34		
INTERNAL ELECTRIFICATION, AIR CONDITION & CCTV					
5.74	Providing and laying internal and external electrification of Control room building, Pump house and Gate complete as per specification and drawings.	LOT	1.00		
5.75	Providing and installing Complete Air Conditioning System in control room building as per specification	LOT	1.00		
5.76	Providing and installing Complete CCTV systems along with all accessories as per specification	LOT	1.00		
TOTAL FOR SCHEDULE-2 (Nu.) =					