

**SUB: CIVIL WORK FOR SECURITY CABIN & GATE AND MODIFICATION OF  
TOILET BLOCK AT BHEL EMRP, MUMBAI**

SUMMARY OF PRICE SCHEDULE		
Sr. No.	Annexure	Amount (In Rs.)
1	Annexure I	
2	Annexure II	
3	Annexure III	
4	Annexure IV	
	<b>Total</b>	



**MUMBAI**

SECURITY CABIN & GATE AND  
MODIFICATION OF TOILET BLOCK AT BHEL  
MUMBAI

170/TD/01

**ANNEXURE – I : SOR FOR CIVIL WORKS  
FOR SECURITY CABIN & GATE**

**REV-2 DATE :  
02/011/2012**

S. NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=axb)
	<b><u>SECTION "A" CIVIL WORKS</u></b>				
<b>a</b>	<b><u>Earth Work</u></b>				
1	Earth work in excavation for foundation of walls, columns, trenches, drains etc. in all kinds of soil with all leads and lifts including getting out and stacking the excavated earth at least 3 m away from the edge of foundation trenches and dressing of bottoms and sides of trenches complete.	m <sup>3</sup>	50.00		
2	Filling back with excavated soil in trenches, plinth, sides of foundations etc. in layers not exceeding 200 mm including watering and compacting the layers to give at least 95% of maximum dry density as per IS:2720 with all leads and lifts complete.	m <sup>3</sup>	35.00		
3	Providing, laying and compacting dry rubble soling 230mm thick compacted thickness below foundations, of all structures, rafts, trenches etc. including handpacking in regular lines, filling the interstices with stone chips/grits and murrum/stone dust on top including watering and compacting complete as directed by Engineer-in-charge.	m <sup>2</sup>	30.00		
<b>b</b>	<b><u>Plain Cement Concrete</u></b>				
1	Providing and laying plain cement concrete 1:3:6(1 cement: 3 coarse sand: 6 stone aggregate 40mm and down graded) in foundations including shuttering, ramming and curing complete.	m <sup>3</sup>	10.00		
<b>c.</b>	<b><u>Reinforcement Cement Concrete</u></b>				
1	Providing and laying in position M30 & Fe 500 grade of reinforced cement concrete mix excluding cost of reinforcement and shuttering which shall be paid for separately under relevant items but including curing etc. complete as per drawing & specification .				
	<b>A : For work below Plinth Level</b>	m <sup>3</sup>	21.18		

S. NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=a×b)
	<b>B : For work Above Plinth Level</b>	m <sup>3</sup>	8.75		
2	Providing and laying in position Reinforcement of grade Fe500 (HYSD)& M30 for RCC work as per ductile detailing wherever required including preparation and getting approval of bar bending schedule, straightening, removal of mill scales and rust, cutting, bending to the required shape, placing and binding in position from foundation to all heights including the cost of approved type of binding wires etc. complete.	Mt	5.00		
3	Providing centering & shuttering including strutting, propping etc. and removal of form for foundations, footings, base of columns, trenches, silos & trestles etc.				
	<b>A : For work below plinth level</b>				
	1. Ply-wood shuttering	m <sup>2</sup>	67.33		
	<b>B : For work above plinth level</b>				
	1. Steel Shuttering	m <sup>2</sup>	30.00		
	2. Ply-wood shuttering	m <sup>2</sup>	78.00		
<b>d</b>	<b>Disposal</b>				
1	Transportation and disposal of earth / debris etc. including dressing at disposal site complete as directed by the Engineer In-charge lead upto 5 Km from the work site .	m <sup>3</sup>	15.00		
<b>e</b>	<b>Brick Work</b>				
1	150mm thk. Brick wall : Providing & Constructing full brick wall for super structure 150 mm thick made out of well burnt bricks confirming to IS 1077 1986 specification in cement mortar 1:6 in any location / floor. All materials such as brick, cement, fine aggregate, water etc should confirm to relevant IS specification . Necessary scaffolding at all levels etc. complete as per directions, including carting away the debris.				
	<b>A : For work above plinth level</b>	sqm	25.00		
	<b>B: For Work below plinth level</b>	na	na		
<b>f</b>	<b>Flooring</b>				
1	Providing and laying 100mm thick, M20 grade of PCC flooring as per specifications complete in all respect. Form work(if any).	m <sup>2</sup>	30.00		

S. NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=a×b)
2	Providing and laying Rectified Glazed Vitrified floor tiles 600mm x 600mm (thickness to be specified by the manufacturer ) of 1st quality confirming to IS : 15622 of approved make in all colours, shade of johnson / Kajaria / NITCO with 3" skirting; laid to pattern & design with paper thin joint,set in 20 mm. thk. cement mortar 1:4,suitable roughened cement slurry and pointing of joints with epoxy based joint filler to match the colour of tiles,curing,oxalic acid washing etc.,complete(works at all level).Flooring shall be laid with joints neatly flushed and filled with cement mortar and neatly tooled to finish the groove as per the pattern including with colour pigment.The contractor shall provide and lay the tiles as per the designs approved by Architect.Rate to include for removing the existing flooring/screeding to match the floor finish.Cost to include for skirting as per direction of the Architect.	m <sup>2</sup>	30.00		
3	Providing and laying of 18 mm thick ROUGH GRANITE stone with upper surface fine dressed set in cement slurry, joints not to exceed 3 mm including 25 mm base lime concrete of kankar lime and brick ballast.	m <sup>2</sup>	5.00		
<b>g</b>	<b>Plaster Work</b>				
1	Providing 12 mm thick finished plaster in cement mortar 1:5 (1 cement : 5 coarse sand) on brickwork or reinforced cement concrete surfaces internally including, staging, scaffolding and curing etc. as per specifications complete in all respect.	m <sup>2</sup>	110.00		
2	Providing 18mm thick cement plaster in two coats, under layer 12mm thick in cement mortar (1:5) mix and above layer 6mm thick with water proofing compound in cement mortar (1:4) sand faced including staging, scaffolding and curing etc.as per specifications complete in all respect.	m <sup>2</sup>	125.00		
3	Providing 6 mm thick finished cement plaster on ceiling, soffits to RCC slab, chajjas, stairs etc. internally or externally in cement mortar 1:3 (1 cement : 3 sand) including staging, scaffolding and curing etc. as per specifications complete in all respect.	m <sup>2</sup>	25.00		
<b>h</b>	<b>Painting Work</b>				
	<b>A.For Exterior Painting Work</b>				

S. NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=axb)
1	Providing, applying and finishing walls with Acrylic Smooth Exterior Paint "APEX ULTIMA" of M/S Asian Paints Ltd. or equivalent (two or more coats) in required shade and colour on exterior surface over and including suitable priming coat including preparation of surface as per specification complete in all respect.	m <sup>2</sup>	135.00		
2	Single Coat of Red oxide Cleaning of the Structural Steel from Dirt, Grease, Rust Etc with necessary roughning of the Surface, with required thinner. Followed by a Single Coat of Oil based Paint of M/S Asian Paints Ltd. Or equivalent make.	m <sup>2</sup>	60.00		
	<b>B.For Interior Painting Work</b>				
1	Providing & making wall surface ready for paint with good quality Gypsum of Diamond stucco brand wall punning in line,level & right angle etc. complete as per Architect's instructions.	m <sup>2</sup>	110.00		
2	Providing & Applying 3 coats of Luster Paint of approved shade and make alongwith cleaning of the existing surface and making it neat,plain and ready to take paint by applying 2 coats of putti & primer each. The rate shall include the cleaning of laminates, glass, furniture, flooring etc. complete as per the instructions and to the satisfaction of the Architect.	m <sup>2</sup>	110.00		
i	<b>Door/Window</b>				
1	<b>ENTRANCE GATE</b> Providing, fabricating and fixing in position switch operated MS sliding entrance gate of approved manufacturer ,Self locking electromechanical operators, Self braking, smooth functioning etc as per the attached detail drawing .	Nos	1.00		
2	<b>SINGLE LEAF PEDISTRIAN GATE</b> Providing fabricating & fixing in position manual oprated pedestrian gate with hinges of hattich brand smooth functioning with locking arrangment as per the attached detail including painting etc. complete.	Nos	1.00		
3	<b>ALUMINIUM WINDOWS</b> NOTE: All aluminium work shall be PU Powder Coated with minimum 30 micron thickness unless noted otherwise. Rate shall be inclusive of rough ground frame and sample for all accessories of doors & windows shall be furnished by contractor well in advance for approval of Engineer -in-charge.				

S. NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=a <b>×</b> b)
3.1	Providing & fixing Pu powder coated(thickness of coating should not be less than 30 micron) Aluminium framed glazed composit window (panel size not more than 4') with approximately 4/5 portion as fixed and 1/5 portion as double leaf openable window using Al standard extruded section of Jindal or equivalent;outer frame weighing approximately 0.55 Kg/m, shutter frame weighing approximately 0.5 Kg/m, Mullion section weighing approximately 0.8 Kg/m with EPDM weather strip in main and shutter frame to ensure air & water tightness including fixing of 5.5 mm thick clear toughened glass through EPDM gaskets for holding the glass firmly including fixing the frame to masonry through FISHER or equivalent brand screws with compatible polyamide including all powder coated fittings, fixtures, glazing clips and sealant etc. complete as per drawings specifications and direction of Engineer-in-charge.	m <sup>2</sup>	4.00		
3.2	Providing and fixing Pu power coated aluminium framed fixed glazed ventilators of aluminium section 50mm x 50mm x 5 guage all around. The rate also to include fixing of 5.5 mm thick clear glass with necessary Al beading, EPDM rubber gasket.	m <sup>2</sup>	1.00		
3.3	Providing and fixing toughened glass 12mm thick of Sain Gobin make as per front elevation drawing.	m <sup>2</sup>	12.00		
3.4	<b>MARINE DOORS</b> Internal And External doors except the Toilet Doorsof 35 mm Thk of size 900mm X 2100mm with Single leaf Marine Flush door of Futura or Swistik make as per the Architects design with Provision for Fixed Glass, with Godrej make Latch Lock, with door stoper , Tower bolt of Hetich make. The frame should be of seasoned Teak wood of size 75mm X 100mm with M.S. Hold fast.	Nos.	2.00		
3.5	<b>TOILET DOOR</b> Providing and fixing toilet door 35mm thk of size 700mm X 2100mm of PVC meterial of Futura or Swastik make.	Nos	1.00		
3.6	<b>DOOR , WINDOWS, TOI. WINDOWS AND VENTILATOR JAMBS</b> Providing , laying and fixing 18 mm thk black granite door/window jambs at Lintle level bottom, sides and Cill level with Chamfer moulding on the edges etc complete as per design.Basic cost of Black Granite- Rs.1600/- psqmt.	m <sup>2</sup>	10.00		

S. NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=AXB)
3.7	<b>FRONT SECURITY WINDOW JAMB</b> Providing, laying and Fixing 18 mm window jambs at Lintle level , sideswith 18 Marble double layer granite on the bottom cill of the Window for adding strength as a writing Platform and with Chamfer moulding on the edges etc complete as per design. Basic cost of Black Granite Rs.1600/- psqmt	m <sup>2</sup>	8.00		
j	<b>Roof work</b>				
1.1	Brick bat coba of average thickness shall be laid to required slope as shown on the drawing. Proportion of brickbat shall be 2 parts of brick bat to one part of the lime mortar (one part of lime to 2 parts of sand). The brick bats shall be hard, well brunt and of size varying from 12mm to 25mm Limeshall be of best quality of hydraulic lime double ground. While preparing brick bat concrete, jaggery in proportion indicated by the Engineer shall be added. The brick bat coba shall then be laid to slopes, providing necessary vattas, and beaten and thoroughly soaked atleast for 48 hours after laying and properly consolidated. The surface of brickbat coba shall be grouted with neat cement slurry. Indian patent stone flooring shall be laid in two layers, an under bed of 34 mm thick and topping of 6 mm thick. Before placing the under bed any excess standing water shall be mopped out. The under bed shall consist of cement concrete with 10 mm down clean well graded, hard, approved stone chips and clean, sharp, coarse sand. The proportions of the mix shall be 1 part cement 1.5 parts sand and 3 parts stone chips by volume. Water proofing compound of approved make shall be added as per manufacturer's specifications. Water content shall be minimum, just sufficient to give a workable consistency, which will allow a smooth finish to be obtained without excessive trowelling.	m <sup>2</sup>	40.50		
1.2	Providing and Fixing in position 100mm dia class I PVC Rain Water Pipes with necessary PVC clamps as required with all specials, bends, offsets, shoes, junctions, etc.complete in all respect. (rate shall be inclusive of such specials measured on linear basis)	R.N.M.	15.00		

S. NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=axb)
1.3	Providing Khurras of size 450mm x 450mm x 50mm shall be formed of cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) for Rain water Pipes. The khurra and the sides of the outlet shall be rendered with 12mm coat of cement plaster 1:3 mix ( 1 cement : 3 coarse sand). An Iron grating shall be provided at the outlet as a safeguard against choking shall be of overall size 200mm x 250mm with an outer frame of 15mm x 3mm MS flat to which 4 nos. MS bars of 10mm dia shal be welded in a vertical direction keeping equal clear spacing of 25mm or as directed by Engineer In-charge.	Nos.	3.00		
<b>k</b>	<b>BHEL Signage</b>				
1	<b>BHEL Signage</b> Designer signage of to be provided as per the attached detail .	Nos.	2.00		
<b>l</b>	<b>Toilet- Tiles and Fixtures</b>				
<b>1</b>	<b>Tiles</b>				
1.1	<b>Floor Tiles</b> Providing & laying anti-skid ceramic tile flooring with approved size & colour including pointing with colour pigment,acid wash etc complete as per design & pattern.Tile size 12" x 12".	m <sup>2</sup>	2.50		
1.2	<b>Wall Tiles</b> Providing & laying ceramic tile dado with approved size and colour including pointing with colour pigment,acid wash etc complete as per design and pattern.Tile size 12" x 18"	m <sup>2</sup>	14.00		
<b>2</b>	<b>Water Proofing</b>				
1	Providing & filling the toilet block sunken/raised portion with brick bat coba for toilets with necessary lead,lift,cleaning etc complete.	m <sup>2</sup>	2.50		
<b>3</b>	<b>Plumbing</b>				
<b>3.1</b>	<b>EWC</b> Providing & fixing 1st quality type glazed vitreous china wall hung EWC with 'P' or 'S' trap,matching colour heavy duty seat cover and semi deluxe colour lid,C.P.brass hinges, flushing system,flexible pipe,angle cock with CP nuts,bolts etc.,complete including making holes in walls,floors and making good.All complete as per drawing,approval and instructions of the Architect. Make-Hindware/Parryware with 50% colour.	Nos.	1.00		



S. NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=axb)
3.2	<b>URINAL</b> Providing & fixing 1st quality type glazed vitreous china large flat back urinal having CP spreaders with union,CP brass hinges,flushing system,CP waste pipe,CP bottle trapwith CP nuts,bolts etc.,complete including cutting and making good the floor & walls wherever required.All complete as per drawing,approval and instructions of the Architect.Make- Hindware/Parryware with 50% colour.	Nos.	1.00		
3.3	<b>WASH BASIN WITH ACCESSORIES</b> Providing,fixing & making operational 1st quality vitreous china wash basin of semi deluxe colour,undercounter resting on marble with all necessary accessories like pillar cock,flexible pipe,angle cock,CP bottle trap, required brackets,,brass screws etc complete.All complete as per drawing,approval and instructions of the Architect.Make- Hindware/Parryware with 50% colour.	Nos.	1.00		
3.4	<b>MIRRORS</b> Providing & fixing mirrors with protective coat of copper sulphate with necessary holes for providing & fixing 10mm S.S. studs on the tiled wall surface complete.All complete as per design & as per Architects instructions. Mirror Size 4'x 2'6". (Saint gobain/Modifloat)	Nos.	1.00		
3.5	<b>Extra Accessories</b> All products should be in Stainless Steel and shall be approved by the Engineer -in charge. The Accessories include towel rod, Liquid soap dispenser.	Nos.	1.00		
m	<b>Additional items</b>				
1	Excavation work in foundation of walls, columns, trenches, drains etc. in hard rock (blasting prohibited) with all leads and lifts including getting out and stacking the excavated earth at least 3 m away from the edge of foundation trenches and dressing of bottoms and sides of trenches complete.	m <sup>3</sup>	10.00		
2	Felling trees of all girths including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable material	Nos.	15.00		
0	<b>Demolition of existing security cabin &amp; gate</b>				

S. NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=axb)
	Demolition of existing brickwork and R.C.C work of the security cabin and gate without damaging structure, gate, doors, windows and adjoining structures by appropriate masking of the site either by barricading the site if required. Also removal of existing column/shearwalls/walls, foundations etc below ground level and removal of debris. Dismantling materials as per instructions. Reusable items need to be deposited to BHEL. Arranging for transport from site to the dump yard and seeking necessary Municipal permissions for the concerned authority and payments for the same complete. Also cleaning the site free from debris or other harmful materials with filling of excavated areas to avoid accidents or injuries. The work should be carried out either on a holiday so as to avoid the nuisance.	L.S			
<b>P</b>	<b>Canopy works</b>				
1	Demolition of existing RCC canopy with supporting columns as shown in drawings and columns upto ground level with required supporting arrangement to the existing beam as well. Dismantling materials as per instructions. Reusable items need to be deposited to BHEL. Arranging for transport from site to the dump yard and seeking necessary Municipal permissions for the concerned authority and payments for the same complete. Also cleaning the site free from debris or other harmful materials with filling of excavated areas to avoid accidents or injuries. The work should be carried out either on a holiday so as to avoid the nuisance. Note: Prior to demolishing the required strengthening as per drawings and specification is to be done. This demolishing should preferably be done by deploying high skill machineries like diamond core cutting machines etc.	L.S			
2	Strengthening of the existing beam/ column as per procedure specified below.				
2.1	Providing and <b>applying 'Rusticide ss' Rust passivator</b> ( or equivalent as specified in the list of brand names) to existing r/f bars. Including wire brushing, cleaning etc. complete as directed. <u>The item shall be paid on actual Consumption of 'Rusticide SS' or equivalent.</u>	Lit	7.00		
2.2	Providing and <b>applying two coats of rust preventor slurry</b> made out of "polyalk Fixoprime" and cement (or equivalent as specified in the list of brand names) in proportion 1:1:5 to existing r/f. bars as directed complete. <u>The item shall be paid on the actual Consumption of "polyalk Fixoprime" or equivalent.</u>	Kg	7.00		

S. NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=AXB)
2.3	Providing and <b>applying bonding coat of slurry made</b> out of " polyalk EP" and cement ( or equivalent as specified in the list of brand names) in proportion 1:1 to concrete and r/f substrates complete as directed. Including surface preparation etc. complete. <u>The item shall be paid on the actual Consumption of "Polyalk EP" or equivalent.</u>	Kg	25.00		
2.4	Providing and <b>applying "Polyalk EP" Polymer modified</b> ( or equivalent as specified in the list of brand names) in required proportions to RCC members including Hand packing, curing and making the surface rough for plastering etc. complete as per specified and directed. <u>The item shall be paid on the actual Consumption of "Polyalk EP" or equivalent.</u>				
a)	<b>In proportion of 1:5:15</b>	Kg	50.00		
b)	<b>In proportion of 1:20:60</b>	Kg	QRO		
	<b>Note.</b> The rate of both these items shall be inclusive of chipping off existing loose , damaged concrete from RCC member beyond main r/f( If required in the opinion of the consultant), carefully with chisel and hammer as directed including wire brushing and washing of concrete substrats and reinforcing bars directed upto a maximum concrete thickness of 100 mm.				
2.5	<b>Drilling holes of required size upto 16 mm diameter</b> and upto 50mm depth in concrete and cleaning the same as directed.	NO.	11.00		
2.6	<b>Providing and fixing 12 mm diameter aluminium/ PVC injection nipples</b> and securing the same as directed. Drilling if any shall be paid seperately.	NO.	11.00		
2.7	<b>Providing and injecting cementitious grout using CEBEX-100</b> additive of 'Fosroc' at the rate of 255 grams per bag of cement and using suitable mechanical gun/pump including mixing etc. complete. The item shall be paid on actual consumption of the cement used.	Bag	1.00		
2.8	Finishing the retained elements by providing 18mm thick cement plaster in two coats, under layer 12mm thick in cement mortar (1:5) mix and above layer 6mm thick with water proofing compound in cement mortar (1:4) sand faced including staging, scaffolding and curing etc.as per specifications complete in all respect.	m <sup>2</sup>	30.00		

S. NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=axb)
	Total Cost				



**MUMBAI**

SECURITUY CABIN & GATE AND  
MODIFICATION OF TOILET BLOCK AT  
BHEL MUMBAI

170/TD/02

ANNEXURE – II : SOR FOR CIVIL  
WORKS FOR TOILET

REV-2 DATE :  
02/11/2012

A CIVIL WORK					
Sr.No.	Item	Unit	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=axb)
<b>a</b>	<b>Demolition work for toilet area</b>				
1	Demoilition of existing brickwork, carting away the Debris & cleaning the area as per instructions.	m <sup>2</sup>	26.0		
2	Breaking existing floor tile	m <sup>2</sup>	22.0		
3	Breaking existing wall tile.	m <sup>2</sup>	30.0		
4	Removing existing sanitary ware, wash basin, and urinal.	Lumpsum	-		
<b>b</b>	<b>Internal finishing</b>				
1	<b>100mm thk. Brick wall :</b> Providing & Constructing full brick wall for super structure 100mm thick made out of well burnt bricks confirming to IS 1077 1986 specification in cement mortar 1:6 in any location / floor. All materials such as brick, cement, fine aggregare, water etc should confirm to relevant IS specification and the workmanship should also confirm to the relevant specification inclduing providing reinforcement either 20mm wide 3mm thick M. S. flats or 6mm dia M. S. bars - 2 Nos. at every 90cm interval. necessary scaffolding at all levels etc. complete as per directions, including carting away the debris.	m <sup>2</sup>	2.7		
2	<b>150mm thk. Brick wall</b>				
	Providing & Constructing full brick wall for super structure 150mm thick made out of well burnt bricks confirming to IS 1077 1986 specification in cement mortar 1:4 in any location / floor. All materials such as brick, cement, fine aggregare, water etc should confirm to relevant IS specification and the workmanship should also confirm to the relevant specification inclduing providing reinforcement either 20mm wide 3mm thick M. S. flats or 6mm dia M. S. bars - 2 Nos. at every 90cm interval. The rate should include charges for cutting, chasing the existing brick wall / floor or concrete surface to make proper bonding with the surface inclduing racking out the joints, curing, cleaning the site, necessary scaffolding at all levels etc. complete as per directions, including carting away the debris.	m <sup>2</sup>	4.0		

Sr.No.	Item	Unit	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=axb)
3	Internal and external Plastering work				
	Preparing surface,providing & applying water proof 12mm thk. plaster using approved quality integral water proofing liquid admixture over internal walls of base coat with CM 1:4 and finishing coat in panels with jointless finish wherever required including sacffolding,curing,lead,lift etc., complete at all levels.	m <sup>2</sup>	120.0		
4	Toilet Waterproofing work				
	Providing & filling the toilet block sunken/raised portion with brick bat coba for toilets with necessary lead,lift,cleaning etc complete.	m <sup>2</sup>	15.0		
5	Toilet Floor Tiles				
	Providing & laying anti-skid ceramic tile flooring with approved size & colour including pointing with colour pigment,acid wash etc complete as per design & pattern.Tile size 12" x 12".Providing and laying plain CM 1:4 and finishing coat in panels with jointless finish wherever required.	m <sup>2</sup>	18.0		
6	Toilet wall tiles/Dado				
	Providing & laying ceramic tile dado with approved size and colour including pointing with colour pigment,acid wash etc complete as per design and pattern.Tile size 12" x 18".CM 1:4 and finishing coat in panels with jointless finish wherever required including sacffolding,curing,lead,lift etc., complete at all levels.	m <sup>2</sup>	144.0		
7	Toilet Door/Window Jambs				
	Providing & laying black granite door/window jambs with half chamfer on the edges as per design with polish etc complete as per design.Basic cost of Black Granite- 150/- psqft.	m <sup>2</sup>	30.0		
8	Black granite platform for wash basin				
	Providing & fixing 18 mm thk. black granite platform with half round moulding on the edges with polish etc complete as per design.Basic cost of Black Granite- 150/- psqft.To be fixed with SS brackets with 18 mm thick White marble basic cost of white marble is 55/- psqft.	m <sup>2</sup>	3.0		
<b>C</b>	<b>PLUMBING WORK</b>				
1	EWC				

Sr.No.	Item	Unit	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=a×b)
	Providing & fixing 1st quality type glazed vitreous china wall hung EWC with 'P' or 'S' trap, matching colour heavy duty seat cover and semi deluxe colour lid, C.P. brass hinges, flushing system, flexible pipe, angle cock with CP nuts, bolts etc., complete including making holes in walls, floors and making good. All complete as per drawing, approval and instructions of the Architect. Make-Hindware/Parryware with 50% colour.	Nos	4.0		
2	Urinal				
	Providing & fixing 1st quality type glazed vitreous china large flat back urinal having CP spreaders with union, CP brass hinges, flushing system, CP waste pipe, CP bottle trap with CP nuts, bolts etc., complete including cutting and making good the floor & walls wherever required. All complete as per drawing, approval and instructions of the Architect. Make- Hindware/Parryware with 50% colour.	Nos	3.0		
3	Wash basin with accessories				
	Providing, fixing & making operational 1st quality vitreous china wash basin of semi deluxe colour, undercounter resting on marble with all necessary accessories like pillar cock, flexible pipe, angle cock, CP bottle trap, required brackets, brass screws etc complete. All complete as per drawing, approval and instructions of the Architect. Make- Hindware/Parryware with 50% colour.	Nos	3.0		
4	Mirrors				
	Providing & fixing mirrors with protective coat of copper sulphate with necessary holes for providing & fixing 10mm S.S. studs on the tiled wall surface complete. All complete as per design & as per Architects instructions. (Saint gobain/Modifloat)	Sq.ft	20.0		
5	Jet Spray				
	Providing & fixing Jet spray (Jaguar or eq make-CP finish) with necessary flanges, screws as per Architects instructions.	Nos	4.0		
6	Bip Cock				
	Providing & fixing Bip cocks (Jaguar or eq make-CP finish) with necessary flanges, screws as per Architects instructions.	Nos	4.0		
7	Tissue Paper holder,				
	Providing & fixing Tissue paper holder (Jaguar or eq make) fitted with necessary hardware.	Nos	4.0		

Sr.No.	Item	Unit	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=a×b)
8	Liquid Soap Dispenser				
	Providing & fixing heavy duty Liquid soap dispenser(make-Kimberly clark or eq)fitted with incidental hardware.	Nos	2.0		
9	Hand drier				
	Providing & fixing automatic double blower handdrier of Novatech or eq make with necessary accessories.	Nos	2.0		
10	Nahani Trap				
	Providing & fixing 100mm Nahani trap with necessary fittings locations as shown in drawings.(Make- Finolex/Prince/Supreme)	Nos	6.0		
11	P.V.C. for Drain & Sewage				
	Providing and fixing 1st quality P.V.C. waste pipes of Finlolex/Prince make for Wash Basins,Sink etc as per specified in drawings for Ground & First Floor with all connectors,joints, chemical adhesives,making holes in walls,making walls & floor good etc.,complete.All complete as per instrcutions of Architect.				
a	32 mm dia	m	25.0		
b	40 mm dia	m	25.0		
12	Waste Coupling				
	Providing and fixing waste coupling 31mm dia, 79mm long & 62mm breadth for wash basin,sink and urinals weighing not less than 260 gms of approved make.	Nos	8.0		
13	Solid Waste & Vent Pipe work				
14	Providing and fixing on wall face un-plasticised-Rigid PVC sewer pipes conforming to IS:13592 including jointing with seal ring conforming to IS:5382 leaving 10mm gap for thermal expansion single socketed pipes with all accessories as bend, door, horn bend,shoe, crowel etc. complete as directed :				
a	110 mm dia	m	20.0		
b	75 mm dia	m	20.0		
15	Providing and fixing in position un-plasticised-Rigid PVC waste pipes with necessary fittings,cutting & chasing walls/floors etc. and making good the same.				
a	50 mm dia	m	40.0		
b	40 mm dia	m	35.0		



Sr.No.	Item	Unit	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=axb)
16	Water supply				
	Providing and fixing PPR(PolyPropelene Random Copolymer) pipes outer UV stabilised green coloured inner antimicrobial fusion welded having thermal stability for hot and cold water supply including all PP-R plain & brass threaded polypropylene random fittings,fixing the pipe with clamps at 1.00 m spacing.This includes testing of joints complete as per directions.(Internal work-Concealed)				
a	PN-16 Pipe,20 mm OD	m	15.0		
b	PN-16 Pipe,25 mm OD	m	15.0		
c	PN-16 Pipe,32 mm OD	m	30.0		
17					
	Making gully trap of 9" x 12" including 4" brick walls cement concrete 1:2:4,cemet plastered on both sides with cement mortar 1:3 floating coat of neat cement and making necessary channels for drain etc. complete as per Architects Instructions.	Nos	4.0		
D	<b>FALSE CEILING &amp; P.O.P. WORK</b>				
1	Providing & making acrylic false ceiling with aluminium necessary framework in line,level & right angle; and cu-outs for fixing the ceiling light-fixtures,fans etc. The rate shall include necessary scaffolding,cleaning the surface etc. complete. All complete as per design and instructions given by Architect.	m <sup>2</sup>	45.0		
2	Providing & making wall surface ready for paint with good quality P.O.P. wall punning in line,level & right angle etc. complete as per Architect's instructions.	m <sup>2</sup>	50.0		
3	Making 1/4" uniform groove at wall & skirting>window door frames joints in line,level & right angle,and in ceiling etc complete as per Architects instructions.	Rft	850.0		
E	<b>CARPENTRY WORK</b>				
1	Providing and fixing in position wooden partition made out of 50 x 50mm Hard wood frame at 600mm c/c vertically and 450mm c/c horizontally with 6 mm thick IS 303 BWR grade plywood on both sides. The plywood shall be finished with 1.0 mm thick approved laminate in pattern and design. The rate shall include additional frame work provided up-to slab soffit for fixing the partition. The partition shall be measured up to false ceiling only. The hardwood frame and internal surface of plywood shall have anti termite treatment paint.	Sqft	68.0		
2	Providing & fixing 12mm. frosted glass partition for divide urine area and approved breaket an screw etc. as per design specification.	Sqft	26.0		

Sr.No.	Item	Unit	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=a <b>x</b> b)
3	Providing & fixing indoor made out of 24mm IS 303 BWR grade blockboard etc. Finished in 1.0mm thick laminate externally and internally Laminate . Approved handles, hinges, locks, etc. complete as directed.	No.	5.0		
4	External doors except the Toilet Doorsof 35 mm Thk of size 900mm X 2100mm with Single leaf Marine Flush door of Futura or Swistik make as per the Architects design with Provision for Fixed Glass, with Godrej make Latch Lock, with door stoper , Tower bolt of Hetich make. The frame should be of seasoned Teak wood of size 75mm X 100mm with M.S. Hold fast.	Nos.	2.00		
<b>TOTAL COST</b>					



MUMBAI

ELECTRICAL SERVICES FOR INTERIOR  
AND EXTERIOR OF SECURITY CABIN AND  
ENTRANCE GATE AT BHEL MUMBAI

170/TD/01

**ANNEXURE III : SOR FOR ELCTRICAL  
WORK S.CABIN AND GATE.**

REV-2 DATE:  
02/11/12

S.NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=axb)
1	Supply,installation,wiring of mains from main LDB upto individual switch board including supply & installation of 20mm rigid ISI PVC conduit above false ceiling or on wall including concealed vertical drops including PVC supply & pulling of 2.5 sq.mm 600v grade insulated standard POLYCAB make copper wires 1 for phase,1 for neutral and 1 for internal earth including supply of all accessories and necessary hardware and making it good as required in an approved manner.	Rft	600.00		
2	Supply,installation,wiring of lighting point on point basis from switch board to 1st lighting fixture including 20 mm rigid ISI conduit above false ceiling or on wall including concealed vertical drops including supply & pulling of 4.5 sqmm. 440V grade PVC insulated stranded POLYCAB make copper wires 1 for phase,1 for neutral including supply of all accessories and necessary hardware,and making it good as required in an approved manner.	Nos.	40.00		
3	Supply,installation,wiring of AC points on Rft basis including supply & installation of 25 mm rigid PVC pipe with concealing of pipes including POLYCAB make 6 sqmm wire 1 for phase/1 for neutral & 2.5 sqmm as earth.	Nos.	1.00		
4	Supply installation testing & comissioning of Indo-cupp 6 way TPN IP20 class single door type DB with + 20/A SP MCB 1 nos., +2/A 4P ELCB 2 no.as outgoing for UPS	Nos.	1.00		
5	Supply installation testing & comissioning of 5 amp plug points at locations specified in drawings as per directions of Architect	Nos.	5.00		
6	Supply installation 2 fan 1200mm Diameter for security cabin & 1 fan 600mm diameter for toilet.	Nos.	3.00		

S.NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			<b>(a)</b>	<b>(b)</b>	<b>(c=axb)</b>
<b>7</b>	Supply installation testing & comissioning of 5/15 amp plug points at locations specified in drawings as per directions of Architect	Nos.	2.00		
<b>8</b>	Supply,installation of telephone cables as per specifications & drawings.The unit rate considered on Rft basis includes supply,laying of multipair telephone cables through rigid PVC conduit to EPABX system.	Rft	400.00		
<b>9</b>	PL 2 X 18 light fitting	Nos.	10.00		
<b>10</b>	Wall light fitting	Nos.	3.00		
<b>11</b>	Tube light fitting	Nos.	2.00		
<b>12</b>	Decorative Bolards for Landscaping and Street Lighting	Nos.	4.00		
<b>13</b>	Supply installation 4 Exhaust Fan 230mm diameter comissioning of 5 Amp plug points at locations specified in drawings as per directions of Architect	Nos.	1.00		
	<b>Total Cost</b>				



ELECTRICAL SERVICES FOR  
INTERIOR AND EXTERIOR OF TOILET  
AT BHEL MUMBAI

170/TD/01

ANNEXURE IV : SOR FOR ELCTRICAL  
WORK TOILET

REV-2 DATE:  
02/11/12

MUMBAI

S.NO.	WORK DESCRIPTION	UNIT	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
			(a)	(b)	(c=axb)
1	Supply,installation,wiring of mains from main LDB upto individual switch board including supply & installation of 20mm rigid ISI PVC conduit above false ceiling or on wall including concealed vertical drops including PVC supply & pulling of 2.5 sq.mm 600v grade insulated stranded POLYCAB make copper wires 1 for phase,1 for neutral and 1 for internal earth including supply of all accessories and necessary hardware and making it good as required in an approved manner.	Rft	144.00		
2	Supply,installation,wiring of lighting point on point basis from switch board to 1st lighting fixture including 20 mm rigid ISI conduit above false ceiling or on wall including concealed vertical drops including supply & pulling of 4.5 sqmm. 440V grade PVC insulated stranded POLYCAB make copper wires 1 for phase,1 for neutral including supply of all accessories and necessary hardware,and making it good as required in an approved manner.	Rft	36.00		
3	Supply installation testing & comissioning of Indo-cupp 6 way TPN IP20 class single door type DB with + 20/A SP MCB 1 nos., +2/A 4P ELCB 2 no.as outgoing for UPS	Nos.	1.00		
4	Supply installation testing & comissioning of 5 amp plug points at locations specified in drawings as per directions of Architect	Nos.	1.00		
5	Supply installation 1 Fan 600mm diameter comissioning of 5 Amp plug points at locations specified in drawings as per directions of Architect	Nos.	1.00		
6	PL 2 X 18 light fitting	Nos.	10.00		
7	Wall light	Nos.	5.00		
8	Supply installation 4 Exhaust Fan 230mm diameter comissioning of 5 Amp plug points at locations specified in drawings as per directions of Architect	Nos.	4.00		
	<b>Total Cost</b>				