

Name of Work : Repairing & Renovation of Collector Office Building at Valsad (False Ceiling Work, Flooring Work, Door Window Repairing and Miscellaneous Work) Ta. Dist: Valsad

ITEM WISE SPECIFICATIONS

Item No: 1 Dismantling tiled of stone floors laid in mortar including stacking of serviceable materials and disposal of unserviceable materials with all lead and lift

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.20.00I P.No.148

Mode of measurements:

The rate shall be for a unit of **one square meter**.

Item No: 2 Demolition and disposal of unserviceable materials with all lead and lift. (i) Lime concrete.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.20.1(ii) P.No.130

Mode of measurements:

The rate shall be for a unit of **one cubic meter**.

Item No: 3 Providing and laying water proofing treatment by conventional method including cleaning the slab surface by wire brush as directed including providing first layer of C.M. 1:4 of 40 mm thickness mixed with water proofing compound at rate prescribed by manufacturer, including putting of brick bats of average thickness 40 mm Well immersed in water laid uniformly on first layer of mortar including applying cement slurry @ rate of 0.08 bag/sqm. on fixed layer of brick bats including maintaining necessary slope, in second layer 40 mm thick C.M 1:4 mixed with water proofing compound as directed, including finishing smooth with cement slurry as directed complete.

The relevant specification shall be followed as per General Technical specification for Building work booklet Annexure – P

Mode of measurements:

The rate shall be for a unit of **one square meter**.

Item No: 4 Dismantling sanitary fittings like wash basin, W.C.Pan Indian and European type, flushing tank etc. including stacking the materials with all lead and lift.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.20.00I P.No.151

Mode of measurements:

The rate shall be for a unit of **one number**.

Item No: 5 Dismantling C.I. pipes G.S.W.pipes and A.C. rain water pipes with fittings and clamps including stacking the materials with all lead and lift (for any dia, of pipe)

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.26.56 P.No.133

Mode of measurements:

The rate shall be for a unit of **one running meter**.

Item No: 6 Dismantling doors, windows, ventilators etc. (wood or steel) shutters including chowkhats architraves, holdfasts and other attachment etc. complete and stacking them within all lead and lift. (i) Not exceeding 3 Sq.M. in area.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.20.49(ii) P.No.133

Mode of measurements:

The rate shall be for a unit of **one number**.

Item No: 7 P & L 30x30 cm. Matt Finished Ceramic Tiles 6 mm thick in flooring treads of steps and landing laid on a bed of 12 mm thick cement mortar 1:3(1-cement:3-coarse sand) finishing with flush pointing in colour cement slurry etc. complete. Colour and Shade approved by Engineer-In-Charge

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.14.32 P.No.97 P & L 30x30 cm. Matt Finished Ceramic Tiles 6 mm thick tile instead of white glazed tiles.

Mode of measurements:

The rate shall be for a unit of **one square meter**.

Item No: 8 Providing and laying coloured glazed tiles of the size 300 mm x600 mm x 8 mm in skirting, risers of steps and dado on 10 mm. thick cement plaster 1:3 (1 cement : 3 coarse sand) & jointed with white cement slurry.

The relevant specification shall be followed as per General Technical specification for Building work booklet For Floorings,treads of steps 14.29 page 85. For dado and landings 14.32 page.85

Mode of measurements:

The rate shall be for a unit of **one square meter**.

Item No: 9 Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials."

The relevant specifications of Building Booklet It. No.23.8.(A) Page No.162 shall be followed expect use level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings and Pipe shall be fixed on the wall with the help of clamp at every two metre C C or shall be concerned as directed as approved by Engineer In Charge and instead of 6 kgs sq.cm. working pressure polythene pipes of 15mm dia.

Mode of measurements:

The rate shall be for a unit of **one running meter**.

Item No: 10 Providing laying and jointing in true line and level 25mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as

directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.

The relevant specifications of Building Booklet It. No.23.8.(A) Page No.162 shall be followed expect use level 25mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings and Pipe shall be fixed on the wall with the help of clamp at every two metre C C or shall be concerned as directed as approved by Engineer In Charge and instead of 6 kgs sq.cm. working pressure polythene pipes of 25mm dia.

Mode of measurements:

The rate shall be for a unit of **one running meter**.

Item No: 11 Providing laying and jointing in true line and level 40mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.

The relevant specifications of Building Booklet It. No.23.8.(A) Page No.162 shall be followed expect use level 40mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings and Pipe shall be fixed on the wall with the help of clamp at every two metre C C or shall be concerned as directed as approved by Engineer In Charge and instead of 6 kgs sq.cm. working pressure polythene pipes of 40mm dia.

Mode of measurements:

The rate shall be for a unit of **one running meter**.

Item No: 12 Providing laying and jointing in true line and level 50mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be cancelled as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.

The relevant specifications of Building Booklet It. No.23.8.(A) Page No.162 shall be followed expect use level 50mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings and Pipe shall be fixed on the wall with the help of clamp at every two metre C C or shall be concerned as directed as approved by Engineer In Charge and instead of 6 kgs sq.cm. working pressure polythene pipes of 50mm dia.

Mode of measurements:

The rate shall be for a unit of **one running meter**.

Item No: 13 Providing erecting and fixing double coated (ISI) water tank of required capacity each with all necessary fittings and connection etc. complete on terrace.

1.0 MATERIAL

1.1.PVC Water tank

PVC double coated Water tank of specified capacity and of approved in litters of approved make and quality

Net capacity shall be net volume of water stored between the lowest level of overflow and lowest specified level.

1.2. Nipple

Galvanize pipe nipple shall be of approved make and of best quality

1.3. Ball valve

Ball valve shall be of approved make and of best quality

1.4. Connections

Connections shall be of approved make and of best quality

2.0 WORKMAN SHIP

2.1. Tank shall be approved quality and standard make. The material of tank and lead and fittings which may come in contact of water should be such that it does not impart any taste, colour or odour. It does not have any toxic effect and it does not contaminate the water. Thereby making it unpotable.

2.2. The tank shall be fixed properly in a level position and making all required necessary correction like inlet outlet flushing overflow and air vent. Tank shall be satisfying the standards of public health.

3.0 MODE OF MEASUREMENT and PAYMENT

3.1. The unit rate PVC tank shall include the cost of all materials, tools and plant required for lifting to required height with all lead and lift, placing and fixing in position, all required specials and jointing adhesive compound, finishing as per direction of the Engineer-in-charge, and all other incidental expenses for producing PVC water tank work of specified diameter to complete the structure or its components as shown on the drawings and according to these specifications. They shall also include the cost of making, fixing and removing of all scaffolding and forms required for the work.

3.2. The PVC water tank work shall be measured for its number limiting to specified capacity to those specified on plan or as directed. The rate shall be for a unit of one number.

3.3. The payment will be made on **liter basis** of the finished work.

Item No: 14 Providing and fixing ball cock of approved. quality as directed.(A) Copper Metal (ii) 50mm dia.

The relevant specification shall be followed as per General Technical specification for Building work booklet Item No. 23.005(A) / Pg.No. 153

Mode of measurements:

The rate shall be for a unit of **one Number**.

Item No: 15 Providing, laying and jointing in true line and level 75 mm dia. UPVC SWRType B pipe conforming to IS 13592-1992 with one end plain and other end socketed with rubbering and fitting conforming to ISI 14735-1999 of approved make for drainage system pipe line, pipe shall be jointed with each other with rubber lubricant, pipe shall be fixed on wall using of PVC clamp at every 2000 mm c/c or shall be concealed in walss as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all materials.

The relevant specifications of Building Booklet It. No.23.8.(A) Page No.162 shall be followed expect use level 75 mm dia. UPVC SWRType B Pipe shall be fixed on the wall with the help of clamp at every two metre C C or shall be concerned as directed as approved by Engineer In Charge and instead of 6 kgs sq.cm..

Mode of measurements:

The rate shall be for a unit of **one running meter**.

Item No: 16 Providing, laying and jointing in true line and level 110 diameter U.P.V.C (Type B) conforming to IS 13592-1992 with one end plain and other end socketed with rubber ring, & fittings conforming to ISI 14735-1999 of approved make for drainage system pipe line, pipe shall be jointed with each other with rubber lubricant, pipe shall be fixed on wall using of PVC clamp of the size 110 mm diameter x 149 mm length x 145 mm heigh at every 2000 mm center

to center or shall be concealed in walls as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all materials.

The relevant specifications of Building Booklet It. No.23.8. Page No.162 shall be followed expect use 110 diameter U.P.V.C (Type B) conforming to IS 13592-1992 with one end plain and other end socketed with rubber ring, and fittings conforming to ISI 14735-1999 of approved make for drainage system pipe line, pipe shall be jointed with each other with rubber lubricant, pipe shall be fixed on wall using of PVC clamp of the size 160 mm diameter x 210 mm length x 196 mm height at every 2000 mm center to center or shall be concealed instead of 6 kgs sq.cm. working pressure polythene pipes.

Mode of measurements:

The rate shall be for a unit of **one running meter.**

Item No: 17 Providing and fixing in PVC SWR cowl vent 75mm dia to pipes.(B) 75mm dia.

The relevant specification shall be followed as per General Technical specification for Building work booklet Item No. 23.70 P.No.163

Mode of measurements:

The rate shall be for a unit of **one Number.**

Item No: 18 Providing and fixing in PVC SWR cowl vent 110mm dia to pipes.(B) 110mm dia.

The relevant specification shall be followed as per General Technical specification for Building work booklet Item No. 23.70 P.No.163

Mode of measurements:

The rate shall be for a unit of **one Number.**

Item No: 19 Providing and fixing PVC SWR Nahi trap IS 14735 for drain - 100 mm diameter with jali of the following nominal diameter of self cleansing design with C.I scribed down or hinged grating including the cost of cutting and making good the walls.

The relevant specification shall be followed as per General Technical specification for Building work booklet Item no.23.87, The Relevant specification of Item 23.139 shall be followed. Except Aluminium 15cms X 15cms grating I/O 100mm dia sand cast iron P.No.146-149

Mode of measurements:

The rate shall be for a unit of **one Number.**

Item No: 20 Providing and fixing screw down bib taps of following size.(B) Brass chromium plated screws down Bib Tap. (i) 15mm dia.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.23.92. (A)(I) P.No.170

Mode of measurements:

The rate shall be for a unit of **one Number.**

Item No: 21 Providing and fixing brass screw down stop tap.(A) 15mm dia.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.23.92. (A)(I) P.No.170

Mode of measurements:

The rate shall be for a unit of **one Number.**

Item No: 22 Providing and fixing pillar tap, capstan head, screw down high pressure with screws, shanks and back nuts. (i) 15mm dia.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.23.95 (A) P.No.171 except that using for 15mm dia.

Mode of measurements:

The rate shall be for a unit of **one Number**.

Item No: 23 Providing and fixing wsh down water closet (European type, W.C. Pan) with integral P or S trap including jointing the trap with soil pipe in Cement Mortar 1:1 (1-Cement : 1-fine sand) (Seal and cover to be measured and paid for separately (A) vitreous China Pattern : (i) in white colour

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.23.112 (A) P.No.165

Mode of measurements:

The rate shall be for a unit of **one Number**.

Item No: 24 Providing and fixing 12.5 Litres low level flushing cistern with a pair, of C.I. or Mild brackets, complete with fittings such as lead valve less syphon, 15mm nominal size brass ball valve with polythene float, C.P brass handle unions and couplings for connections, with inlet, outlet and overflow pipes, 40mm dia. porcelain enamelled flush bend including cutting holes in walls and making good the same connecting the flush bend with cistern and closet (overflow pipe to be measured and paid for separately)(A) Vitreous China (I) In white colour

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.23.115 (A) P.No.165

Mode of measurements:

The rate shall be for a unit of **one Number**.

Item No: 25 Providing and fixing Urinal or approved quality including connecting the Urinal with waste pipe , tap etc. complete.(A) White earthenware flat back or corner type size 430mm x 260mm x 350mm.

Providing and fixing approved quality White Earthenware Flat Back/Corner Urinal complete, including all fittings and fixtures, in approved position and alignment, comprising:

- White glazed earthenware flat back or corner type urinal of size **430 mm × 260 mm × 350 mm**.
- Fixing the urinal to wall with suitable brackets, screws, bolts, and cement mortar as required.
- Providing and fixing approved quality **CP brass bib cock/pillar tap** with all necessary fittings.
- Connecting the urinal to waste pipe using suitable size PVC/GI waste pipe with couplings, unions, rubber washers, clamps, etc.
- Providing and fixing PVC/GI spreader, inlet connection, waste coupling, bottle trap or nahani trap wherever required.
- Making proper connection to water supply line and soil/waste pipe complete.
- Cutting and making good walls/floors after fixing.
- Testing for leakage and proper functioning.
- Complete in all respects as directed by the Engineer-in-Charge.

Mode of measurements:

The rate shall include cost of urinal, fittings, labour, materials, conveyance, fixing, testing, and all incidental works complete.

Measurement shall be per **number** (Each).

Item No: 26 Providing and fixing Urinal of approved quality including connection with trap and with integral longitudinal flush pipe.(A) Squating plate pattern white earthenware 550mm x 300mm.

Providing and fixing approved quality White Earthenware Squatting Plate Pattern Urinal complete with trap and integral longitudinal flush pipe, including all fittings and accessories, in approved position and alignment, comprising:

- White glazed earthenware squatting plate pattern urinal of size **550 mm × 300 mm**.
- Providing and fixing integral longitudinal flush pipe of approved make and suitable size.
- Providing and fixing suitable trap with grating, waste fittings, and connection to soil/waste pipe complete.
- Fixing the urinal properly in cement mortar bed with necessary supports and making proper slope for drainage.
- Connecting flush pipe to water supply line with all necessary fittings, unions, clamps, nipples, valves, etc.
- Providing and fixing PVC/GI waste pipe and accessories required for complete installation.
- Cutting and making good walls and floors wherever necessary after installation.
- Testing the installation for proper flushing, drainage, and leak-proof performance.
- Complete in all respects as directed by the Engineer-in-Charge.

Mode of measurements:

The rate shall include cost of urinal, trap, flush pipe, fittings, labour, materials, conveyance, fixing, testing, and all incidental works complete.

Measurement shall be per **number** (Each).

Item No: 27 Providing and fixing plastic seat and cover for wash down water closer with C.P. brass hinges and rubber buffers. (B) Plastic seal and cover.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.23.112 (A) P.No.165 171 except that using for Plastic seal and cover

Mode of measurements:

The rate shall be for a unit of **one Number**.

Item No: 28 "Providing and fixing Jet spray heavy duty with S.S. Braided hose 60 cm long with wall hook and other accessories etc. completed"

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.23.112 (A) P.No.165 171 except that using for Jet spray heavy duty

Mode of measurements:

The rate shall be for a unit of **one Number**.

Item No: 29 Providing and fixing wash basin with single hole for pillar tap with C.I. Or M.S. brackers painted white including cutting holes and making good the same including pillar tap, Brass waste, stop cack , bottle trap and M I fisher union fittings :(ii) Flat back wash basin 500mm x 400mm size including all necessary fittings etc complete shade and pattern as approved by Engineer in charge.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.23.127. / P.No.167 +It.No.23.135(A) / P.No.168+It.No 23.136.(A)/ P.No.168 +It.No 23.96.(A)/ P.No.171+It.No.23.95 (A) / P.No.170

Mode of measurements:

The rate shall be for a unit of **one Number**.

Item No: 30 Providing and fixing 600mm x 450mm bevelled edge mirror of superior glass mounted on 6mm thick A.C. sheet or plywood sheet and fixing to wooden plug with C.P. brass screws and washers.

Material:

Providing and fixing 600mm x 450mm bevelled edge mirror of superior glass mounted on 6mm thick A.C. sheet or plywood sheet and fixing to wooden plug with C.P. brass screws and washers.

Mode of measurements:

The rate shall be for a unit of **One number**.

Item No: 31 Removing dry or oil bound distemper by a washing and scraping and sand papering the wall surface smooth including necessary repairs to scratches complete

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.18.33 P.No.129

Mode of measurements:

The rate shall be for a unit of **one square meter**.

Item No: 32 Removing dry or oil bound distemper by a washing and scraping and sand papering the ceiling surface smooth including necessary repairs to scratches complete.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.18.33 +18.34 P.No.129

Mode of measurements:

The rate shall be for a unit of **one square meter**.

Item No: 33 Applying two coats of putty & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.18.57+18.59 / P.No.136

Mode of measurements:

The rate shall be for a unit of **one square meter**.

Item No: 34 Wall painting (two coats) with plastic emulsion paint of approved brand and manufacture on undecorated wall surface to give an even shade including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.18.57+18.59 / P.No.136 & It.No.18.60 / P.No.137.

Mode of measurements:

The rate shall be for a unit of **one square meter**.

Item No: 35 Wall painting (two coats) with plastic emulsion paint of approved brand and manufacture on undecorated wall surface to give an even shade including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.18.57+18.59 / P.No.136 & It.No.18.60 / P.No.137.

Mode of measurements:

The rate shall be for a unit of **one square meter**.

Item No: 36 Painting Two coats (excluding priming coat) on previously painted steel and other metal surface with enamel paint, brushing to give an even shade including cleaning the surface of all dirt, dust and other foreign matter.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.19.59(B) P.No.141

Mode of measurements:

The rate shall be for a unit of **one square meter**.

Item No: 37 Providing and laying Vitrified tiles 8 to 10 mm thick, 24"x 24" in flooring treads of steps and landing laid on a bed of 12mm thick cement mortar 1:3 (1-cement : 3- coarse sand) finishing with flush pointing in white cement.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.14.32 P.No.97 Except P & L 24" x 24" vitrified 8 mm thick tile flooring over 20 mm (average) base of cement mortar 1:6 (1 cement: 6 coarse sand) instead of white glazed tiles.

Mode of measurements:

The rate shall be for a unit of **one square meter**.

Item No: 38 Providing & Fixing in position standard extruded approved colour anodised Aluminum Ventilator with outer frame 65 x 25 mm Stander Box Frame with 5mm thick Ground Glass Louvers and Fixed Mosquito Net For ventilation including all required materials, fixtures, fastenning, labours and equipments as per detailed drawing as directed. For Ventilators V,V1

Providing, fabricating and fixing in position approved colour anodized/powder coated aluminium ventilator made from standard extruded aluminium sections comprising outer frame of size 65 mm × 25 mm standard box frame section.

The ventilator shall be provided with 5 mm thick ground/frosted glass louvers fixed in suitable aluminium louver channels complete with necessary supports, clips and fixtures to ensure proper alignment and operation.

The ventilator shall also include a fixed mosquito mesh/net of approved quality fixed in aluminium frame complete with all necessary accessories.

The work shall include all required materials, accessories and hardware such as:

- Aluminium cleats and brackets
- Screws and fasteners
- Rubber gasket
- Silicone sealant
- Louvers supports/clips
- Mesh fixing arrangement
- Necessary fittings and fixtures

All aluminium sections shall be anodized/powder coated in approved colour and shade. Fabrication and installation shall be carried out true to line, level and plumb, ensuring proper ventilation and neat finish.

The item includes cutting, fabrication, assembly, fixing in position, sealing all joints, making good adjoining surfaces and completing the work in all respects as per approved detailed drawings and directions of the Engineer-in-Charge.

Mode of measurements:

The consolidated item shall be measured and paid on its breadth, length and height dimensions to those specified in estimate/plan or as directed.

The payment will be made on **SQMT** basis of the one complete finished.

Item No: 39 Providing and fixing 35 mm thick flush door Single shutter, solid core with Shutter of Factory made & Stamped I.S 12823 Grade one ,Type one ,melamine faced three layred resin Flushed Door Having Decorative Lamination on both sides & 12 mm T.W.Beading Around the Door,FROM HOLDING LICENCE FOR MINIMUM 5 YEARS .and stainless steel handle and necessary Locking system of Godrej, zinc coated hinges ,fixtures & fastenings etc directed by engineer in charge.D2

General

Providing and fixing 35 mm thick flush door Single shutter, solid core with Shutter of Factory made & Stamped I.S 12823 Grade one ,Type one ,melamine faced three layred resin Flushed Door Having Decorative Lamination on both sides & 12 mm T.W.Beading Around the Door,FROM HOLDING LICENCE FOR MINIMUM 5 YEARS .and stainless steel handle and necessary Locking system of Godrej, zinc coated hinges ,fixtures & fastenings etc directed by engineer in charge.D2

All works shall be carried out as per item specifications, drawing, image and as per required condition or as directed by engineer in charge.

Also including below specify points as per following:

1 Teak wood Batten

The Non Teak wood Batten shall be confirm General Technical Specification no M-29 from specification booklet for Building works

Screws and nails should be provided as per requirement or as directed.

Workmanship should be done with good quality.

The Non Teakwood Patti should be fixed with level and line and workmanship should be good &as per drawing and item specification.

2 flush door shutter

The flush door shutter shall be confirm General Technical Specification no M-30 from specification booklet for Building works

3 Lamination sheet(1mm thick)

The lamination sheet (1mm thick) should be standard quality or as directed

The 1mm thick lamination sheet should be provide all visible parts of all component of Door

Lamination of 1.0mm thick in single or double shade or equivalent make of plain or textures finish, design and grooves as directed by architecture drawing.

Fixing the lamination sheets with adhesive materials like Favicol or equivalent.

Workmanship should be done with good quality.

The lamination sheet should be fixed with level and line & as per drawing and item specification.

4 Fixtures and Fastenings

The Fixtures and Fastenings shall be confirm General Technical Specification for Building work booklet M-43 / P.No.19. Use Stainless steel instead of iron, brass and aluminium.

All Fixtures and Fastenings should be S.S 304

Providing and 60cm long stainless steel handle and other necessary Fastenings

5 Godrej Lock

Lock should be Godrej or Standard Quality or as directed.

Providing floor lock per Door

Mode of measurements:

The consolidated item shall be measured and paid on its breadth, length and height dimensions to those specified in estimate/plan or as directed.

The payment will be made on **SQMT** basis of the one complete finished

Item No: 40 Providing and fixing FRP frame size 100 x 50 mm and 35 mm thick FRP depress panel Single shutter having extra reinforcement on sides & edges in Gel coat finish. The core of the shutter & frame is to be filled up with injected fire retardant grade polyurethane foam done in situ along with embedded wooden pieces for stiffening & also taking hinges & fixtures. The whole FRP frame & shutter is to be waterproof, weatherproof, termite proof & resistance to mild acid/alkali. Rates are to be inclusive of S.S hinges with necessary screws & aluminum fixtures & fastenings & fastener sleeve. Colour and Shade approved by Engineer-In-Charge. D3

1.0 MATERIAL

1.1. FRP Frame 100x50mm

1.5 to 2.0 mm thick fire retardant grade FRP skin in depressed panel shall be of approved make as approved by Engineer in charge

FRP skin in depressed panel shall be of water proof weather proof termite proof mild acid and alkali proof, sound proof and fire resistance

FRP frame size as per required and 35 mm shall be in standard factory made members fabricated in factory including necessary stainless steel fixtures and fastenings of approved brand and make as approved by Engineer in Charge

Whole section shall be of water proof weather proof termite proof mild acid and alkali proof, sound proof and fire resistance

The frame shall be of best quality and free from any defect

1.2. FRP shutter 35mm thick

FRP Shutters of 35 mm thick in standard design of FRP and 3.12 mm hide and dandified molded wood primer coated skin on both side of shutter skin is to be confirmed to ASTM D - 1037 pressed under hot process over wood style 65 x 27 mm top and bottom rail and lock rail 125 mm x 27 mm including stainless steel hinges with necessary aluminum fixture and fastening remaining hole of portion is to be filled up with PUF and shutters is to be finished in gel coat

Whole section shall be of water proof weather proof termite proof mild acid and alkali proof, sound proof and fire resistance

The shutters shall be of best quality and free from any defect

2.0. S. S. FIXTURES AND FASTENINGS

2.1 Hinges,

Hinges shall be of approved make. shall be Free from any scratches or holes or any damages on surface. and shall have finished luster surface on all sides

The hinges shall be of best quality and free from any defect

2.2 Handles,

Handles shall be of approved make. shall be Free from any scratches or holes or any damages on surface. and shall have finished luster surface on all sides

The handles shall be of best quality and free from any defect

2.3 Bolts

All bolts shall be of approved make. shall be Free from any scratches or holes or any damages on surface. and shall have finished luster surface on all sides

The bolts shall be of best quality and free from any defect

3.0 WORKMANSHIP

3.1. The Work of FRP door shall be done with extreme finishing. The FRP Shutters and granite frame shall be fixed in position in true line and level and shall be fitted as directed by Engineer in charge with all required fixtures and fastenings shall be fitted at right place as shown in the drawing and as directed by Engineer in charge.

3.2. The back of each Stone slab to be fixed shall be smeared with cement paste of matching colour and the Stone slab shall then be gently tapped against the surface, with a wooden mallet. The skirting shall be done only after the fixing is completed. Any pipes coming out of the wall through the dado or skirting shall only be at the intersection of the horizontal and vertical joints. The Stone slab shall not have staggered joints. The joints shall be true to entire line both ways and vertical joints shall be in line with joints or flooring. Stone slab shall be fixed as close as possible to the adjoining tiles and any difference in the thickness of the Stone slab shall be evened out in the cement paste so that all the tiles faces are set in conformity with one another. The skirting shall project uniformly and not more than 6 mm, thickness beyond the finished surface above. Top of skirting or dado shall be truly horizontal. The risers of steps, skirting or dado shall rest on top of treads of flooring. Wherever required the Stone slab shall be cut (saw n) and thin edges smoothed before use.

4.0 Mode of Measurement and Payment

4.1. The unit rate of FRP door shall include the cost of all materials, cost of all necessary fixtures and fastenings, labour charges for fixing frames, doors and fixing the FRP door in wall at the place shown in drawing and as instructed by Engineer in charge, all tools and plant required for assembling and fixing in position, finishing as per direction of the Engineer-in-charge, and all other incidental expenses for preparing door frame and shutter of specified size to complete the door structure or its components as shown on the drawings and according to these specifications. They shall also include the cost of making, fixing and making walls good by plaster patch colour etc as required

4.2. The FRP door shall be measured for its **length** or **width** and **height**, limiting dimensions to those specified on plan or as directed.

4.3. The rate shall be for a unit of one **square meter**.

Item No: 41 Providing and fixing Mirror polished 18 mm thick Granite stone in Single piece with full round edge and polished of approved quality in clading on Cill & Jambs and around the doors/ windows/ ventilation with 12 mm thick cement motor CM (1:4) and fixing with cement slurry & adhesive including moulding of exposed edges as directed by engineering in charge etc. complete.

MATIRIAL

WATER

Water Shall confirm Material Specification no M- 1

CEMENT

Cement Shall confirm Material Specification no M- 3

SAND

Sand Shall confirm Material Specification no M- 6

4.0 Mirror polished 18 mm thick Granite stone:

4.1. 18mm thick **mirror polished granite stone** shall be hard even sound, and regular in shape and generally uniform in colour. The colour of the stone shall be approved by engineer in charge. Brown coloured shall not be allowed for use. They shall be without any soft veins cracks or flaws

4.2. The size of the stone to be used shall be of full length single piece and required width as directed. However smaller sizes will be allowed to be used to the extent of maintaining required pattern. Thickness shall be as specified.

4.3. Tolerance of minus 18 mm. on accounts of chisel dressing of edges shall be permitted for length as well as breadth. Tolerance in thickness shall be ± 3 % in mm.

4.5. When machine cut edges are specified the exposed and the edges at joints shall be machine cut the thickness of the exposed machine cut edges shall be uniform.

4.6. The stones shall have mirror polished surface.

5.0 WORKMANSHIP

5.1 Granite stone of approved quality shall be laid evenly to level and slope as directed by Engineer in charge over a bed of a base layer consisting of cement mortar 1:4 (1 cement: 4 coarse sand by volume).

5.2. Cement and sand for base layer shall be mixed in proportions of 1:4 (1 cement : 4 coarse sand by volume) Cement and sand shall be proportioned by volume after making due allowance for bulking. The required quantity of water shall then be added and the mortar mixed to produce workable consistency before mixing platform shall be thoroughly cleaned before changing from one type of cement to another.

5.3. The mixing for base layer shall be done intimately, The operation shall be carried out on clean water tight platform, and cement sand shall be first mixed dry in the required proportion to obtain uniform colour and then the mortar shall be mixed for at least two minutes after addition of water. In case of cement mortar, that has suffered because of evaporation of water the same shall be re-tempered by adding water as frequently as needed to restore the requisite consistency but its re-tempering shall be permitted only within thirty minute from the time of addition to water at the time of initial mixing.

5.4. Cement and sand for base layer shall be mixed in proportion as specified in the item, Cement and sand shall be proportioned by volume after making due allowance for bulking. The required quantity of water shall then be added and the mortar mixed to produce workable consistency.

5.5. Curing shall be started as soon as the mortar used for finished has hardened sufficiently so as not to be damaged when watered. It shall be kept wet for a period of at least 7 days. During this period, it shall be suitably protected from all damages;

5.6. During hot weather, all finished or partly finished work shall be covered or wetted in such manner as will prevent rapid drying of the flooring work.

5.7. Joints of flooring shall be through and continuous throughout the building as directed by Engineer in charge

5.8. joints shall be filled with a stiff mixture of gray cement surly

5.9. The flooring work shall be finished by rubbing and mirror polishing after the the work of flooring is set properly

6.0 PROPORTION OF MIX

6.1. The proportion of cement and sand for base layer shall be one part of cement. 4 (four) parts of sand and shall be measured by volume.

7.0 MODE OF MEASUREMENT & PAYMENT :

7.1. The unit rate cladding shall include the cost of all materials, tools and plant required for mixing, laying of base layer in true level and slope as required applying & placing stones in position, compacting, finishing, curing mirror polishing, and all other incidental expenses for producing flooring work to complete the structure or its components as shown on the drawings and according to these

specifications. They shall also include the cost of making, fixing and removing of all scaffolding and forms required for the work.

The rate of cladding shall include the cost of all labour, materials tools and plant scaffolding and all incidental expenses as described herein above.

7.2. The cladding work shall be measured for its **length** and **width**, limiting dimensions to those specified on plan or as directed. The rate shall be for a unit of one square meter.

7.3. The payment will be made on **square Meter basis** of the visible work.

Item No: 42 Constructing brick masonry chamber for underground C.I. Inspection chamber and bends with bricks having crushing strength not less than 35Kg. Cm² in C.M. 1:5 precast RCC cover 455mm x 610mm internal dimensions with frame (R.C.C. top slab with 1:2:4 mix (1-cement :2- coarse sand :4-graded stone aggregate 20mm size) foundation concrete 1:5:10 inside plaster 15mm thick with cement mortar 1:3 finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete (i) Inside dimensions 455mm x 610mm and 450mm deep for single pipe line.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No. 24.44(i) P.No.183

Mode of measurements:

The rate shall be for a unit of **one Number**.

Item No: 43 Constructing brick masonry chamber for underground C.I. Inspection chamber and bends with bricks having crushing strength not less than 35Kg. Cm² in C.M. 1:5 C.I. cover with frame (Light duty) 455mm x 610mm internal dimensions total weight of cover with frame to be not less than 38Kg. (Wt. of cover 23 Kg.) and Wt. of frame 15Kg.) (R.C.C. top slab with 1:2:4 mix (1-cement :2- coarse sand :4-graded stone aggregate 20mm size) foundation concrete 1:5:10 inside plaster 15mm thick with cement mortar 1:3 finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete.(i) Inside dimensions 500mm x 700mm and 450mm deep for single pipe line.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No. 24.44(ii) P.No.184

Mode of measurements:

The rate shall be for a unit of **one Number**.

Item No: 44 Extra over items for every additional depth of 0.1M. of part thereof beyond 450mm depth for Brick masonry chamber.(i) for 455mm x 610mm size.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.24.46. P.No.184 except that using for 455mm x 610mm size.

Mode of measurements:

The rate shall be for a unit of **one Number**.

Item No: 45 Extra over items for every additional depth of 0.1M. of part thereof beyond 450mm depth for Brick masonry chamber.(i) for 500mm x 700mm size.

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.24.46. P.No.184 except that using for 500mm x 700mm size.

Mode of measurements:

The rate shall be for a unit of **one Number**.

Item No: 46 Providing laying (to level or slopes) and jointing reinforced concrete Light duty non-pressure pipes I.S. class NP2 of the following internal diameter with collars and butt ends prepared for collar joints including testing of joints complete.(D) 300mm

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.24.22.(D) P.No.177

Mode of measurements:

The rate shall be for a unit of **one Number**.

Item No: 47 Providing and fixing S.W. gully trap with C.I. grating brick masonry chamber and water tight C.I. cover with frame of 300mm x 300mm size (inside) with standard weight (i) Square mouth traps (B) 150mm x 100mm size P or R type

The relevant specification shall be followed as per General Technical specification for Building work booklet It.No.24.19.(I) P.No.176

Mode of measurements:

The rate shall be for a unit of **one Number**.

Item No: 48 Providing and fixing eco-friendly light weight calcium silicate false ceiling tiles having Tegular edge & 15 mm Thick Densified edges on the Tile Periphery for Extra Strength The Light weight calcium silicate ceiling tiles shall have , light reflection 85% non-combustible as per B.S. 476 part IV, 100% humidity resistance and also having thermal conductivity 0.043° w/m KC.for the best thermal Insulation . The Light weight calcium Silicate tile shall be of approved texture Fine fissured/ Spintone / Cosmos having NRC value of 0.5 & Globe having NRC value of 0.75 NRC or equivalent of size 595 X 595 mm to be laid on true horizontal level suspended inter locking metal grid of hot dipped galvanized steel sections (galvanizing @120 grams per sqm including both side) consisting of main 'T' runner suitably spaced at joints to get required length and size of 24X38mm made from 0.30 mm thick (minimum) sheet, 1200mm centre to centre, and cross 'T' of size 24X28mm made out of 0.33mm (Minimum) sheet spaced 1200mm along spaced between main 'T' at 600mm centre to centre to form agrid of 1200X600mm and secondary cross 'T' of length 600mm and size 24x28mm made of 0.30 mm thick (Minimum) sheet to be interlocked at middle of the 1200X600mm panel to form grid of size 600X600mm resting on periphery walls/partitions on a perimeter wall angle pre-coated steel of size (24X24X3000mm made of 0.40mm thick (minimum) sheet with the help of rawl plugs at 450mm centre to centre with 25mm long dry wall screws @ 230mm interval and laying 15mm thick Densified edges light weight calcium silicate ceiling tiles of approved texture (Fine Fissured/Cosmos/Spintone) in the grid including, cutting /making opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc., wherever required, Main 'T' runners to be suspended from ceiling using G.I. slotted cleats of size 25X35X1.6mm fixed to ceiling with 12.5mm dia and 50mm long dash fasteners, 4mm G.I. adjustable rods with galvanized steel level clips of size 85X30X0.8mm, spaced at 1200mm centre to centre long main 'T' bottom exposed with 24mm of all T-sections shall be pre-painted with polyester baked paint, for all heights, as per specifications, drawings and as directed by engineer-in-charge.Note:- Only calcium silicate false ceiling area will be measured from wall to wall. No deduction shall be made for exposed frames/opening (cut outs) having area less than 0.30 sqm. The calcium silicate ceiling tiles shall have NRC. Value of 0.50

(Minimum) for Fine fissured/Spintone/Cosmos and 0.75 NRC for Globe, light reflection 85% non-combustible as per B.S. 476 part IV, 100% humidity resistance and also having thermal conductivity. 0.043° w/m KC.for the best thermal Insulation

Materials

1. Calcium Silicate Ceiling Tiles

The ceiling tiles shall be:

- Eco-friendly lightweight calcium silicate tiles
- Size: 595 mm × 595 mm
- Thickness: 15 mm
- Edge Profile: Tegular edge with densified edges on tile periphery for extra strength
- Texture: Approved texture such as:
 - Fine Fissured
 - Spintone
 - Cosmos
 - Globe
 - or equivalent approved make

2. Performance Requirements

The tiles shall conform to the following properties:

Property	Requirement
Light Reflection	Minimum 85%
Humidity Resistance	100% RH
Thermal Conductivity	0.043 W/mK
Fire Performance	Non-combustible as per BS 476 Part IV
NRC Value	0.50 minimum for Fine Fissured/Spintone/Cosmos
NRC Value	0.75 minimum for Globe pattern

Suspension Grid System

The ceiling shall be installed on a true horizontal level suspended interlocking metal grid system made of hot dipped galvanized steel sections with galvanizing coating of 120 gsm (minimum including both sides).

Main Runner

- Size: 24 mm × 38 mm
- Thickness: 0.30 mm minimum
- Spacing: 1200 mm centre to centre

Cross Tee

Intermediate Cross Tee

- Size: 24 mm × 28 mm
- Thickness: 0.33 mm minimum
- Length: 1200 mm
- Spacing: 600 mm centre to centre

Secondary Cross Tee

- Size: 24 mm × 28 mm
- Thickness: 0.30 mm minimum
- Length: 600 mm
- To form module size: 600 mm × 600 mm

Perimeter Wall Angle

- Size: 24 mm × 24 mm × 3000 mm
- Thickness: 0.40 mm minimum

- Material: Pre-coated steel

The perimeter angle shall be fixed to walls/partitions using:

- Rawl plugs at 450 mm c/c
- 25 mm long dry wall screws at 230 mm intervals

Suspension Arrangement

Main runners shall be suspended from structural ceiling using:

- G.I. slotted cleats of size 25 mm × 35 mm × 1.6 mm
- Fixed with 12.5 mm dia × 50 mm long dash fasteners
- 4 mm dia G.I. adjustable rods
- Galvanized steel level clips of size 85 mm × 30 mm × 0.8 mm

Suspension spacing:

- Maximum 1200 mm centre to centre

All exposed T-sections of width 24 mm shall be factory pre-painted with polyester baked paint finish.

Installation

The work shall include:

- Laying tiles in true horizontal level
- Interlocking grid assembly
- Cutting and making openings for:
 - Light fixtures
 - Diffusers
 - Grills
 - Smoke detectors
 - Sprinklers
 - Other services wherever required

The installation shall be completed for all heights and levels as per approved drawings and specifications.

Measurement

- Measurement shall be made in square metres of finished ceiling area from wall to wall.
- No deduction shall be made for:
 - Openings
 - Cut-outs
 - Exposed frame having area less than 0.30 sqm.

Mode of Measurement

The rate shall include:

- Supply of tiles
- Suspension system
- Perimeter channels
- Hangers and accessories
- Cutting and fitting around services
- Scaffolding/lifting
- Labour
- Complete installation

Item No: 49 Removing, Repairing and Refixing Old existing wooden door shutter including repairing the shutter/frame using Randha machine and replacing old fixture and fastening with new SS 304 grade fixtures like 3 Hinges, 1 Stoppers, 1 Aldrop , 2 Handle & 1 lock etc. and as directed by engineer in charge etc comp.

Item including Removing, Repairing and Refixing Old existing wooden door shutter including repairing the shutter/frame using Randha machine and replacing old fixture and fastening with new SS

304 grade fixtures like 3 Hinges, 1 Stoppers, 1 Aldrop , 2 Handle & 1 lock etc. and as directed by engineer in charge etc comp.

The payment will be made on No basis of the finished work.

Mode of measurements:

The rate shall be for a unit of **one No.**

Item No: 50 Removing, Repairing and Refixing Old existing wooden window shutter including repairing the shutter/frame using Randha machine and replacing old fixture and fastening with New Glass and SS 304 grade fixtures like 3 Hinges, 2 Stoppers , 2 Handle etc. and as directed by engineer in charge etc comp.

Item including Removing, Repairing and Refixing Old existing wooden door shutter including repairing the shutter/frame using Randha machine and replacing old fixture and fastening with new SS 304 grade fixtures like 3 Hinges, 1 Stoppers, 1 Aldrop , 2 Handle & 1 lock etc. and as directed by engineer in charge etc comp.

The payment will be made on No basis of the finished work.

Mode of measurements:

The rate shall be for a unit of **One No.**

Signature of Contractor

**Deputy Executive Engineer
Valsad (R&B) Sub-Division
Valsad**

**Executive Engineer
Valsad (R&B) Division
Valsad**