

SPECIFICATIONS

- Item No.:-** Excavation for foundation upto 1.5 m depth including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead.(B) Dense or Hard Soil
The Item shall be executed as per the relevant specifications of general technical Specification for building work booklet Item No.4.0.0(B)/ Page No.22
- Item No. :-** Excavation for foundation for depth from 1.5 m to 3.0 m including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead (B) Dense or Hard Soil
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.4.001 (B)/ Page No.25
- Item No. :-** Filling in plinth with sand under floors including watering, ramming, consolidating and dressing etc. complete.
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.4.24/ Page No.28
- Item No-** Providing and laying cement concrete 1:4:8 (1:cement,5:coarse sand: 10 graded stone aggregates 20mm nominal size)and curing complete excluding the cost of formwork in : (A) Foundation and plinth
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.5.3.13(A)Page no.32+9.1A/ Page No.54
The Item shall be measured as finished work in Cum and paid accordingly
- Item No.:-** Providing and laying cement concrete 1:2:4 (1:cement,2:coarse sand: 4 graded stone aggregates 20mm nominal size)and curing complete excluding the cost of formwork in : (A) Foundation and plinth
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.5.3.13(A)Page no.32+9.1A/ Page No.54
The Item shall be measured as finished work in Cum and paid accordingly
- Item No. :-** Providing TMT Bar FE 500 /500 D reinforcement for R.C.C. work including bending, binding and placing in position complete upto all floor level
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.5.4.11/ Page No.37 + It. No. 5.4.13[A]/ Page No. 38 except that TMT Fe-500/500D grade bar shall be used instead of HYSD bars
- Item No.-** Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth consolidating each deposited layer by ramming & watering.
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.4.12/ Page No.27

- Item No. :-** Providing and Laying controlled cement concrete M 250 and curing including cost of form work but excluding the cost of reinforcement for reinforced concrete work in (C) For Plinth Beam , Tie Beams at Ground Levels
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.5.8.3(A)/ Page No.39 + Item No. 5.4.13 /P except para 2.2 item shall be carried out for (C). For Plinth Beam , Tie Beams at Ground Levels and the like and Mass concrete
- Item No.:-** Brick work using common Brunt clay building bricks having crushing strength not less than 35 Kg./Sqcm. In super structure above plinth level up to floor two level in cement mortar 1:6 (1cement : 6 fine sand) (B) Conventional AT foundation & plinth
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No 6.19[B]/ Page No.46 except masonry shall be carried out in C.M.1:6 instead of C.M.1:5
- Item No. :-** Filling in foundation and plinth with murrum or selected soil in layers of 20 cm. thickness including watering, ramming and consolidating etc. complete
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.4.004 / Page No.28 except rubble shall be used instead of murrum.
- Item No. :-** Filling in foundation and plinth with quarrydust or selected soil in layers of 20 cm. thickness including watering, ramming and consolidating etc. complete
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.4.004 / Page No.28 except rubble shall be used instead of murrum
- ItemNo :-** Carrying out plinth treatment to post construction existing structure by spraying chemical solution for termite control treatment including labor and materials consistent with I.S.I specification.
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.22.00.09[A]/ page No. 138
The Mode Measurement In s.mt
- Item No. :-** Providing & laying controlled cement concreteM-200 with curing etc. complete incl. the cost of form work but excluding the cost of reinforcement for R.C.C. work in : For G.F **(a) coping**
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.5.8.2(D)/ Page No.39 + 9.1(H)1/ Page 56. Except para 2.2
The Item shall be measured as finished work in Cum and paid accordingly
- Item No. :-** Providing & laying controlled cement concreteM-200 with curing etc. complete incl. the cost of form work but excluding the cost of reinforcement for R.C.C. work in : For **(a)grade slab**
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.5.8.2(D)/ Page No.39 + 9.1(H)1/ Page 56. Except para 2.2
The Item shall be measured as finished work in Cum and paid accordingly

- Item No.-** Providing & laying controlled cement concrete M-200 with curing etc. complete incl. the cost of form work but excluding the cost of reinforcement for R.C.C. work in : For G.F **(a) column**
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.5.8.2(D)/ Page No.39 + 9.1(H)1/ Page 56. Except para 2.2
The Item shall be measured as finished work in Cum and paid accordingly
- Item No.-** Providing & laying controlled cement concrete M-200 with curing etc. complete incl. the cost of form work but excluding the cost of reinforcement for R.C.C. work in : For G.F **(a) slab**
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.5.8.2(D)/ Page No.39 + 9.1(H)1/ Page 56. Except para 2.2
The Item shall be measured as finished work in Cum and paid accordingly
- Item No.-** Providing & laying controlled cement concrete M-200 with curing etc. complete incl. the cost of form work but excluding the cost of reinforcement for R.C.C. work in : For G.F **(a) beam up to floor two level**
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.5.8.2(D)/ Page No.39 + 9.1(H)1/ Page 56. Except para 2.2
The Item shall be measured as finished work in Cum and paid accordingly
- Item No. :-** Brick work using common Brunt clay building bricks having crushing strength not less than 35 Kg./Sqcm. In super structure above plinth level up to floor two level in cement mortar 1:6 (1cement : 6 fine sand) (B) Conventional AT GROUND FLOOR.
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No 6.19[B]/ Page No.46 except masonry shall be carried out in C.M.1:6 instead of C.M.1:5
- Item No. :-** Half brick masonry in common brunt clay building bricks having crushing strength not less than 35 Kg./Sqcm. In cement mortar 1:4 (1cement : 4 coarse sand) in Ground floor.
The Item shall be executed in First floor as per the relevant specifications of general technical specification for building work booklet Item No.6.30.I[B]/ Page No.46
- Item No. :-** Providing & laying controlled cement concrete M-200 with curing etc. complete incl. the cost of form work but excluding the cost of reinforcement for R.C.C. work in : For F.F **(a) lintel**
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.5.8.2(D)/ Page No.39 + 9.1(H)1/ Page 56. Except para 2.2
The Item shall be measured as finished work in Cum and paid accordingly
- Item No :-** Providing & laying controlled cement concrete M-200 with curing etc. complete incl. the cost of form work but excluding the cost of reinforcement for R.C.C. work in : For G.F **(a) chhija**

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.5.8.2(D)/ Page No.39 + 9.1(H)1/ Page 56. Except para 2.2

The Item shall be measured as finished work in Cum and paid accordingly

Item No. :- Providing and Fixing Flush door shutter solid core construction with S.S hinges ,hendle, S.S.door stopper, S.S.latches, S.S. aldrop, and S.S. Tadi, shall cover on entire length and Breadth of the door shall be covered with 1 mm thick leminated sheet on both side & French polish approved by engineer in charge.

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.M.43 p.no.13+10.1(a) p.no.59+10.12(A)(II) P.no.60+19.59 (C)p.no.124 +19.71 P.no.125.

The rate shall be for a unit of one Square meter

Item No. :- Providing and Fixing 35 mm thick sutter of window and clear story window with S.S hinges , hendle, S.S.door stopper, S.S. latches, S.S. aldrop, and S.S. Tadi, shall cover on entire length and Breadth of the door shall be covered with 1 mm thick leminated sheet on both side & French polish approved by engineer in charge.

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.M.43 p.no.13+10.1(a) p.no.59+10.12(A)(II) P.no.60+19.59 (C)p.no.124 +19.71 P.no.125.

The rate shall be for a unit of one Square meter

Item No :- Providing and Fixing glazed louverd glass ventilater with teak wood frame S.S hinges ,hendle, S.S.door stopper,S.S.latches,S.S.aldrop,and S.S. Tadi, shall cover on entire length and Breadth of the door shall be covered with 1 mm thick leminated sheet on both side & French polish approved by engineer in charge.

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.M.43 p.no.13+10.1(a) p.no.59+10.12(A)(II) P.no.60+19.59 (C)p.no.124 +19.71 P.no.125.

The rate shall be for a unit of one Square meter

Item no- Marble stone cladding on sill and jambs :- Mirror polished green marble stone 18 mm thick of approved quality shall be fixed on jambs & sill of opening of ventilator as directed by the Engineer in charge. The relevant specifications of Item No. 14.36(A) /Page No. 97 shall be applicable except para.3.0.

IT.NO. providing and fixing 30mm thick Factory made solid panel HD PVC door shutter consisting of frame out of M.S tube of 19 guage thickness and size of 19mm X 19mm for stiles and 15mm X 15mm for top and bottom rails M.S Frame shall have a coat of steel primer of approved make and manufacture M.S frame shall be covered with a 5 mm thick heat molded PVC C channel of size 30mm X 50 mm for mining stiles and 5 mm thick 75mm wide PVC sheets For a Top rail , Lock rail and bottom on either side and 10mm (5mm X 2mm) Thick 20mm wide cross PVC sheet as gape insert for top rail and Bottom rails panning of 5 stiles and rail with 30mm wide X 5mm thick PVC sheets bedding on either side jointing together with solvent cement adhere and additional 5mm thick PVC strip of 20mm width is to be stuck on interior side of the C channel using PVC Solvent cement adhere It is completion as per direction of

engineer in charge manufacture specification and drawing ncl, S.S fixtures and fastenings etc complete

Material and Workmanship

- × 30mm thick Factory made solid panel HD PVC with panel design finish shutter having extra reinforcement on sides and edges and in Gel coat finish

The core of the shutter is to be filled up with injected fire retardant grade polyurethane foam done in situ along with embedded wooden pieces for stiffening and also for taking hinges and fixtures.

The 30mm thick Factory made solid panel HD PVC with mild acid/Alkali. Rates are to be inclusive of S.S hinges with necessary screws and aluminum fixtures and fastening.

The product should have 3 years performance guarantee and complete have ISO 9001-2000 certification.

Mode of Measurement and Payment

The rate shall be for a unit of one sq. meter

Item No. :- Providing 10 mm thick mala cement plaster in single coat on fair side bricks/concret walls for interior plastering up to floor two level to floor three level (G.F.) finished even and smooth in cement mortar 1:3 (1 cement : 3 sand) (G.F.+F.F.+S.F.+T.F.)

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.17.58[II]/ Page No.105.except that the thickness of plaster shall be 10 mm. + It. No. 17.69 except para 2.0.

The Item shall be measured as finished work in sqm and rate shall be for unit of one sq. meter

Item No. :- Providing 15 mm. Thick mala cement plaster in single coat on fair side Brick/concrete walls for interior plastering up to floor two level and finished even in smooth with finishing with ii) Cement mortar 1:3 (1 cement : 3 sand). G.Floor

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.17.58[II]/ Page No.105.except that the thickness of plaster shall be 15 mm instead of 10 mm. + It. No. 17.69 except para 2.0.

The Item shall be measured as finished work in sqm and rate shall be for unit of one sq. meter.

Item No:- 20 mm. Thick sand faced cement plaster on walls up to height 10 meters above ground level consisting of 12 mm. Thick backing coat of c.m. 1:3 (1 cement : 3 sand) and 8 mm. Thick finishing coat of c.m. 1:1 (1 cement : 1 sand) etc. complete.
The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.17.95/ page No. 107.

Item no- providing thorating or plaster drip and moulding ro rcc chajjs

MODE OF MEASUREMENT & PAYMENT :

The unit rate masured in rmt.

Item No.:- Providing and laying water proofing treatment on terrace including neat cement slurry 2.75 kg/cm² on cement admixed with water proofing component after cleaning the surface /laying cement concrete with brick bat 75 mm to 100 mm thick with 50% of CM 1:5 to required slope including ramming at junction of wall and slab after two days of proper curing applying broken china mosaic flooring for plain and curved surface with 12mm to 20mm broken pieces of ceramic tile/glazed tiles to be laid over 12 mm thick cement mortar bedding of CM 1:3 to plain and slope and to be tempered to bring mortar cream upto surface with using white cement and incl. rounding of junction and extending them upto 15 cm along the wall and curing with bends any patterns or design as per drawing and direction incl. cleaning with water and oxalic acid.

1.0 Material

Material like Water, Cement, Brick bats, sand and water proofing compound shall conform to the requirements as stated in Item No. 57 of this contract.

2.0 WORKMAN SHIP

2.1 First of all surface of the entire terrace shall be cleaned by thoroughly brooming and then by wire brushes. All the loose material dust and debris shall be removed thoroughly for the entire surface of the terrace.

2.2 All joints and cracks shall be raked off and cut in V trench which shall be filled by neat cement slurry admixed with water proofing compound. The joints with parapet shall be raked up to 30 cm height and shall be applied by neat cement slurry admixed with water proofing compound.

2.3 Neat cement slurry shall be prepared and a water proofing compound of approved make shall be mixed with the slurry in proportion specified by the manufacturer of the compound and shall be laid throughout the surface of the terrace by the use of brushes, mala etc. Cement slurry shall be prepared by adding adequate quantity of water so as to spread it uniformly on the surface.

2.4. cement concrete 1:5:10 (using 50% of cement mortar 1:5 1 part of cement and 5 part of coarse sand by volume admixed with water proofing compound of approved make in specified proportion) of specified thickness using brick bats shall be laid (specification of CC 1:5:10 shall be followed for the execution of this layer) over the surface of the terrace in true level and required slope including rounding of junctions of walls and slab.

2.5. After two days of proper curing a second coat of cement slurry on entire surface of the terrace shall be applied.

2.6. the entire surface shall be finished with 20 mm thick CM 1:4 and china mosaic tiling in true level and slope as directed by Engineer in charge & finally finishing the surface with trowel with white cement slurry (specification of white glaze tiles flooring shall be followed for the execution of this item.)

2.7 After two days of proper curing the terrace shall be flooded with water for 15 days.

3.0 MODE OF MEASUREMENT & PAYMENT :

3.1. The unit rate Water proofing treatment 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 providing treatment of 30 cm high all over the length of parapets and corners and sill of doors etc, and all other incidental expenses for producing flooring work to these specifications. They shall also include the cost of making, fixing and removing of all scaffolding and forms required for the work.

Conditions :-

Deposit of 10 % of total amount of this item shall be kept with the executing authority for a period of one year (at least passing of one monsoon after execution) . A guarantee bond shall be given in written on stamp paper for the guarantee of work. Any leakage found in the work shall be repaired

without any extra cost. 50 % of deposit shall be released after one monsoon passed and 50 % deposit will be released after five years

3.2. The Water proofing treatment 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.

3.3. The payment will be made on square Meter basis of the finished work

Item No:- Providing and laying Vitrified Granite tiles 8mm to 10mm thick 24" x 24" size in flooring treads of steps and landings laid on a bed of 12mm thick cement mortar 1:3 (1 cement: 3 coarse sand) pointing in white cement and jointed with white cement slurry dark shade , light shade , anti skit as per requirement and instructed by engineer in charge

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.14.94/ page No.90 The Item shall be measured as finished work in Sqm.

The rate shall be for a unit of one Square meter

Item No.:- Providing and laying polished Kota stone slab flooring over 20mm (Average) thick base of cement mortar 1:6 (1-cement : 6-coarse sand) or L.M. 1.1.5 (1-Lime putty :1.5 - coarse sand) laid over and jointed with grey cement slurry mixed with pigment to match the shade of slab including rubbing and polishing etc. complete. (A) 25mm thick mirror polish

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.14.43/ page No.87 The Item shall be measured as finished work in Sqm.

The rate shall be for a unit of one Square meter.

Item No.:- Providing and laying polished Kota stone slab flooring over 20mm (Average) thick base of cement mortar 1:6 (1-cement : 6-coarse sand) or L.M. 1.1.5 (1-Lime putty :1.5 - coarse sand) laid over and jointed with grey cement slurry mixed with pigment to match the shade of slab including rubbing and polishing etc. complete. (A) 25mm thick mirror polish

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.14.43/ page No.87 The Item shall be measured as finished work in Sqm.

The rate shall be for a unit of one Square meter.

Item No:- Providing and laying chequered tiles 22mm thick in flooring treads of steps and landings laid on a bed of 12mm thick cement mortar 1:3 (1 cement: 3 coarse sand) pointing in white cement and jointed with white cement slurry dark shade , light shade , anti skit as per requirement and instructed by engineer in charge

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.14.94/ page No.90 The Item shall be measured as finished work in Sqm.

The rate shall be for a unit of one Square meter

Item No.- Providing and laying colored ceramic of the 300mm X 450mm X 8mm/10mm in skirting risers of steps and dedo on 10mm thick cement plaster 1:3 (1cement : 3 coarse sand)& jointed with white cement slurry.

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.14.29/ page No85

The Item shall be measured as finished work in Sqm.

The rate shall be for a unit of one Square meter

Item No.:- Providing and laying colored ceramic tiles of the 300mm X 450mm X 8mm/10mm in skirting risers of steps and dedo on 10mm thick cement plaster 1:3 (1cement : 3 coarse sand)& jointed with white cement slurry.

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.14.29/ page No85

The Item shall be measured as finished work in Sqm.

The rate shall be for a unit of one Square meter

Item No.:- Providing, fixing and construction of sandwich type platform with 18mm thick granite platform of uniform size and colour for top & supports at 50 cm interval in Kitchen/Pantry/Counter/Laboratory etc with fascia patty100mm wide including necessary cement mortar 1:3 . Kota shall be fixed over 25 mm thick policed Kota bottom, cement joints and pointing as specified with necessary making of edges, polishing curing etc.complete as per engineer-in-charge.

2.1. Granite shad be of approved colour and quality. The stone shall be hard, even sound and regular in shape and generally uniform in colour. It shall be without any soft veins, cracks of flaws

2.2. The thickness of the stone shall be specified in items

2.3. AH exposed faces shall be double polished to tender truly smooth and even reflecting surface. The

exposed edges and corners shall be rounded off as directed The exposed edges shall be machine cut and shall have uniform thickness.

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.14.43(A)

P.no.86+14.46 (A)p.no.87 +23.130(C) p.no.148 except polished kota shall be polised on both sides as per requirement & Kitchen sink shall be made of stainless steel instead of vitreous china. All work shall be carried out as directed by engineer-in –Charge

Item No.:- Providing and fixing 18mm to 20mm marble slab in sill and jams of window, doors, including cutting , fixing , on thick cement mortar 1: 3 (1 cement : 3 coarse sand) pointing in white cement jointed with white cement slurry including front edge machine cut polishing ,calming , polishing etc complete. (a) Polished marble stone (dark green marble).

marble slab:- Mirror polished marble stone 15mm to 16mm thick of approved quality shall be fixed on jams & sill of opening of windows as directed by the Engineer in charge. The relevant specifications of Item No. 14.36(A) /Page No. 97 shall be applicable except para.3.0.

The rate shall be on Square metre basis of window including frame work. The rate shall include providing and fixing necessary aluminum fittings and fixtures, labour for fixing the frame in position, fixing sliding shutters, cost of providing and fixing mirror polished **Marble** stone 15mm to 16mm in jams & sill of opening of windows including the cost of fixing and making walls good by plaster patch colour etc as may be required

The Item shall be measured and paid as finished work on Sq. Metre basis.

Item No. :- Providing and fixing to wall, ceiling and floor 6 Kg f/cm² working pressure polythelene pipes of the following outside dia. high density, complete with special flange compression type fittings wall clamps etc. including making good the wall, ceiling and floor 50mm

The item shall be executed as per the relevant specifications of general technical specification for building

work booklet Item No.23.8/ page No. 144. except that the diameter of pipe shall be 110 mm and it shall be fixed on wall with clamps with all necessary fittings, bends etc. as directed by the Engineer-in-charge.

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

Item No. :- Providing and fixing to wall, ceiling and floor 10.0 Kg f/cm² working pressure polyethylene pipes of the following outside dia. Low density, complete with special flange compression type fittings wall clamps etc. including making good the wall, ceiling and floor 75mm.

The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.23.8/ page No. 144. except that the diameter of pipe shall be 110 mm and it shall be fixed on wall with clamps with all necessary fittings, bends etc. as directed by the Engineer-in-charge.

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

Item No.:- Providing and fixing to wall, ceiling and floor 10.0 Kg f/cm² working pressure polyethylene pipes of the following outside dia. Low density, complete with special flange compression type fittings wall clamps etc. including making good the wall, ceiling and floor 110mm.

The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.23.8/ page No. 144. except that the diameter of pipe shall be 110 mm and it shall be fixed on wall with clamps with all necessary fittings, bends etc. as directed by the Engineer-in-charge.

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

Item No.:- Providing, laying and jointing in true line and level UPVC pipes (sch-40) line including fittings make or equivalent as approved by engineer in charge .pipe shall be fixed on the wall the help of clamp at every two meter 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 a. 20mm Diameter

The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.0.00[A],page No82-A

Item No. :- Providing, laying and jointing in true line and level UPVC pipes (sch-40) line including fittings make or equivalent as approved by engineer in charge .pipe shall be fixed on the wall the help of clamp at every two meter 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 a. 25mm Diameter

The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.0.00[A],page No82-A

Item No.:- Providing, laying and jointing in true line and level UPVC pipes (sch-40) line including fittings make or equivalent as approved by engineer in charge .pipe shall be fixed on the wall the help of clamp at every two meter 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 a. 40mm Diameter

The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.0.00[A],page No82-A

Item No.- Providing and fixing in position PVC cowl vent to pipes 75mm dia

The PVC cowl vent shall be of 100 mm diameter. The cowl vent shall conform to I.S. 1729-1964. It shall be true to shape, smooth, cylindrical with inner and outer surfaces being as nearly as practicable concentric. It shall be sound and nicely cast and shall be free from cracks, laps, pinholes or other imperfections and shall be neatly dressed and fixed in position

The item shall be measured and paid on number basis

Item No.- Providing and fixing in position PVC cowl vent to pipes 100mm dia

The PVC cowl vent shall be of 100 mm diameter. The cowl vent shall conform to I.S. 1729-1964. It shall be true to shape, smooth, cylindrical with inner and outer surfaces being as nearly as practicable concentric. It shall be sound and nicely cast and shall be free from cracks, laps, pinholes or other imperfections and shall be neatly dressed and fixed in position

The item shall be measured and paid on number basis.

Item No.- Providing and fixing PVC, Nanhi trape of 100 mm inlet and 50 mm outlet of self cleaning design with CI screed down or hinged grating including cost of cutting and making good the walls and floors including providing and fixing 150mm x 150 mm size.

The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.23.87/ page No. 164. Instead of cast iron (spun) Nahni trap

Item No. :- Providing and fixing white or colored glazed china vitreous china Orissa pattern water closet of size 580 x 440 mm including providing and fixing vitreous china 100 mm size 'P' or 'S' trap including jointing the trap with pan and soil pipe in CM (1:1) (1 cement : 1 fine sand) including providing & fixing a pair of white vitreous china 250 x 130 x 30mm foot rest for long pattern squatting pan including providing & fixing G.I.Inlet connection for flush pipe with W.C. Pan.

The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.23.111[A]/ page No163 + It. No. 23.113[A]/ Page 165 + It. No. 23.114/P165 + It. No. 23.120/Page No. 167.

Item No.- Providing and fixing flat back washbasin 550mm x 400mm size white in colour with single hole for pillar tap with C.I. or M.S. brackets painted with including cutting holes and making good the same including providing and fixing C.P. brass waste coupling 32mm dia.& Pillar tap capstan head screw down high pressure with screw, back nuts, PVC waste pipe,15x600mm inlet connection and 15mm brass screw down stop tap etc. complete.

The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.23.127/ page No167 + It. No. 23.135[A]/ Page 168 + It. No. 23.136[A]/Page No. 168.+ It. No. 23.95 (A)/ P171 + It. No. 23.96/P 171

ItemNo.- Providing and fixing stainless steel kitchen sink of approved make with CI or MS brackets painted white including cutting holes in walls and making good the same including providing and fixing 40mm dia CP waste coupling rails providing fixing PVC waste pipe etc. complete as approved by the engineer in charge.(Size 600mm X 450mm X 200mm)

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.23.130(C) p.no.148 except Kitchen sink shall be made of stainless steel instead of vitreous china. All work shall be carried out as directed by engineer-in –Charge.

Item No. :- Providing and fixing 600 mm. X 450 mm. Beveled edge mirror of superior glass mounted on 6 mm. Thick A.C. sheet or plywood sheet and fixed wooden plugs with C.P. brass screws and washers

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.23.143 p.no.150

Item No. :- Providing & fixing CP brass towel rail comp. with CP brass bracket fixed with wooden plugs with CP brass screws (B) 600mm x 20mm size
The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.23.144[B]/ page No169

Item No.- Providing and fixing screw down bib taps of following size :

(B) Brass chromium plated screw down bib tap(I) 15 mm dia.

The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.23.92B[I]/ page No151

Item No. :- Providing and fixing 25mm dia gun metal check or non return full way wheel valve etc. complete.
The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.23.99[C]/ page No. 171.

Item No.:- Providing erecting and fixing double coated syntex or equivalent PVC (ISI) mark water tank of required capacity each with all necessary fitting & connection etc. complete on terrace.

General

This work shall consist of furnishing and placing **P V C water tank**, equivalent to Sintex make of the shape and dimensions shown on the drawings and conforming to these Specifications or as approved by the Engineer in charge.

1.1. PVC Water tank

PVC Water tank of specified capacity and of I.S.I. mark of approved in liters 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 Relevant specification given in Booklet of Building specification shall be applied for the execution of this item

1.4. Connections

Connections shall be of approved make and of best quality. Relevant specification given in Booklet of Building specification shall be applied for the execution of this item

2.0 WORKMAN SHIP

2.1. Tank shall be approved quality and as per IS standard make. Material used in manufacturing tank shall be confirmed to relevant IS code. 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 odor. 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 & PAYMENT :

3.1. The unit rate of **P V C water tank** shall include the cost of all materials, tools and plant required for fitting, the same to specified position as per drawings, and as directed by Engineer in charge. It shall also include the cost of making, fixing and removing of all scaffolding and forms required for the work.

3.2. The **P V C water tank** shall be measured in terms of storage capacity of water in Liter.

The rate shall be for a unit of one Liter

Item No. :- Providing and fixing S.W. Gully trap with C.I. Grating brick masonry chamber and water tight C.I. Cover with frame of 300 mm. X 300 size (inside) with standard weight.

(I) Square mouth traps

(B) 150 mm. X 100 mm size P or R type.

The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.24.19[I]/ page No. 156.

The rate shall be for a unit of one No.

Item No.. Cleaning and grubbing of site area incl up rooting wild vegetation grass, bushes, shrubs, saplings and trees girth up to 300 mm removal of stumps of such trees cut earlier and disposal of unserviceable materials and stacking of serviceable materials to be used or auctioned up to a lead of 1000 m including removal and disposal of top organic soil not exceeding 150 mm in thickness by mechanically or manually.

201.1. Scope

This work shall consist of cutting, removing and disposing of all materials such as trees, bushes, shrubs, stumps, roots, grass, weeds, top organic soil not exceeding 150 mm in thickness, rubbish etc., which in the opinion of the Engineer are unsuitable for incorporation in the works, from the area of road land containing road embankment, drains, cross-drainage structures and such other areas as may be specified on the drawings or by the Engineer. It shall include necessary excavation, backfilling of pits resulting from uprooting of trees and stumps to required compaction, handling, salvaging, and disposal of cleared materials. Clearing and grubbing shall be performed in advance of earthwork operations and in accordance with the requirements of these Specifications.

201.2. Preservation of Property/Amenities

Roadside trees, shrubs, any other plants, pole lines, fences, signs, monuments, buildings, pipelines, sewers and all highway facilities within or adjacent to the highway which are not to be disturbed shall be protected from injury or damage. The Contractor shall, provide and install at his own expense, suitable safeguards approved by the Engineer for this purpose.

During clearing and grubbing, the Contractor shall take all adequate precautions against soil

erosion, water pollution, etc., and where required, undertake additional works to that effect vide Clause 306. Before start of operations, the Contractor shall submit to the Engineer for approval, his work plan including the procedure to be followed for disposal of waste materials, etc., and the schedules for carrying out temporary and permanent erosion control works as stipulated in Clause 306.3.

201-3. Methods, Tools and Equipments

Only such methods, tools and equipment as are approved by the Engineer and which will not affect

the property to be preserved shall be adopted for the Work. If the area has thick vegetation/roots/trees, a crawler or pneumatic tyred dozer of adequate capacity may be used for clearance purposes. The dozer shall have ripper attachments for removal of tree stumps. All trees, stumps, etc., falling within excavation and fill lines shall be cut to such depth below ground level that in no case foil within 500 mm of the subgrade. Also, all vegetation such as roots, under-growth, grass and other deleterious matter unsuitable for incorporation in the embankment/subgrade shall be removed between fill lines to the satisfaction of the Engineer. On areas beyond these limits, trees and stumps required to be removed as directed by the Engineer shall be cut down to 1 m below ground level so that these do not present an unsightly appearance.

All branches of trees extending above the trimmed as directed by the Engineer.

All excavations below the general ground level arising out of the removal of trees, stumps, etc., shall be filled with suitable material and compacted thoroughly so as to make the surface at these points conform to the surrounding area.

Ant-hills both above and below the ground, as are liable to collapse and obstruct free subsoil water flow shall be removed and their workings, which may extend to several metres, shall be suitably treated.

201.4. Disposal of Materials

All materials arising from clearing and grubbing operations shall be the property of Government and shall be disposed of by the Contractor as hereinafter provided or directed by the Engineer. Trunks, branches and stumps of trees shall be cleaned of limbs and roots and stacked. Also boulders, stones and other materials usable in road construction shall be neatly stacked as directed by the Engineer. Stacking of stumps, boulders, stones etc., shall be done at specified spots with all lifts and upto a lead of 1000 m.

All products of clearing and grubbing which, in the opinion of the Engineer, cannot be used or auctioned shall be cleared away from the roadside in a manner as directed by the Engineer. Care shall be taken to see that unsuitable waste materials are disposed of in such a manner that there is no likelihood of these getting mixed up with the materials meant for embankment, subgrade and road construction.

201.5. Measurements for Payment

Clearing and grubbing for road embankment, drains and cross-drainage structures shall be measured on area basis in terms of hectares. Clearing and grubbing of borrow areas shall be deemed to be a part of works preparatory to embankment construction and shall be deemed to have been included in the rates quoted for the embankment construction item and no separate payment shall be made for the same. Cutting of trees upto 300 mm in girth including removal of stumps and roots, and trimming of branches of trees extending above the roadway shall be considered incidental to the cleaning and grubbing operations. Removal of stumps left over after trees have been cut by any other agency shall also be considered incidental to the clearing and grubbing operations.

201.6. Rates

201.6.1. The Contract unit rates for the various items of clearing and grubbing shall be payment in full for carrying out, the required operations including full compensation for all labour, materials, tools, equipment and incidentals necessary to complete the work. These will also include removal of stumps of trees less than 300 mm in girth as well as stumps left over after cutting of trees carried out by another agency, excavation and back-filling to required density, where necessary, and handling, salvaging, piling and disposing of the cleared materials with all lifts and up to a lead of 1000 m.

201.6.2. The Contract unit rate for cutting (including removal of stumps and roots) of trees of girth above 300 mm shall include excavation and backfilling to required compaction, handling, salvaging, piling and disposing of the cleared materials with all lifts and up to a lead of 1000 m.

Item No :- Providing and fixing 25mm dia half turn flush cock full way wheel valve etc. complete.

The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.23.99[C]/ page No. 171.

Item No. :- Providing and fixing 19mm thick water proof plywood shutters with both side 1 mm thick Formica for kitchen / cupboard cabinet including using approved Formica on shutter and teakwood decorative batten Patti in front portion with necessary S.S.fixtures and fastening including polishing work etc. complete and direction of engineer in charge

The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No. M.43 P.no.13 M.29 P.no.9,M37 p.no.11,It.no.19.87 p.no.126.& 10.85 p.no.64 except 19mm tk plywood shall be used in shutter. instead of 4mm ply.

Item No.:- Steel work, welded in built up sections framed work including cutting, hoisting, fixing in position and applying a priming coat of red lead paint and two coat of oil paint. (A)In beams and joists, channels angles Tees, flats, with connecting plates or angle cleats as in main and cross beams. Hip and jack rafters, purlins conneted to common rafters and the like (upto 10 ton)

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.11.2(A)/pg no-74 .

The rate shall be for a unit of one quintal.

Item No:- providing and fixing m.s grills including cutting, hoisting, fixing in position and applying a priming coat of red lead paint and two coat of oil paint. (A)In beams and joists, channels angles Tees, flats, with connecting plates or angle cleats as in main and cross beams. Hip and jack rafters, purlins conneted to common rafters and the like (upto 10 ton)

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.11.2(A)/pg no-74 .

The rate shall be for a unit of one kg.

Item No. :- Providing and fixing (600 X 450 X 150 mm) size vitreous china laboratory sink with CI or MS brackets painted white including cutting holes in wall and making good the same 40 mm dia CP waste couplin rails etc. complete.

The Item shall be executed as per the engineering charge

The rate shall be for a unit of Nos.

Item No. :- Supplying of crushed stone aggregates, chippings etc. of 40mm to 63mm hard stone of following nominal size free of disintegrated pieces, deletrious and organic matter (for bitumen surface dressing etc.) and grading as per I.R.C. code with all lead and lift.

The Item shall be executed as per the engineering charge

The rate shall be for a unit of Cu.mt.

Item No. :- Spreading the stone aggregate for soling and W.B.M. including filling the interstices forming the surface to required camber and gradient.

(i) 40 to 63mm size crust stone.

(ii) Quarry spall

The Item shall be executed as per the engineering charge

The rate shall be for a unit of Cu.mt.

Item No. :- Supplying of murrum/ binding materials.

The Item shall be executed as per the engineering charge

The rate shall be for a unit of Cu.mt.

Item No.:- Spreading blindage or road crust filling the gaps in metal and leveling to camber and gradient as directed (i) Murrum.

The Item shall be executed as per the engineering charge

The rate shall be for a unit of Cu.mt.

Item No.:- Rolling of earthwork in layers with vibrator and roller including filling in depressions which occurs during the process. (It.Sr.No.10-A P.No.88) Power roller 8 tonne to 12 tonne.

The Item shall be executed as per the engineering charge

The rate shall be for a unit of sq.mt.

Item No.:- Providing M-200 controlled cement concrete road using Trimix vacuum dewatering system with mixing Conplast P-211 (water reduction concrete admixture) @ 100 ML per bag of cement with mixing of Recon 3S fibers (reliance product) at 125 gms per bag of cement with providing and fixing & removing of "C" channel having required depth as per required level slope and thickness of concrete and leveling and finishing the concrete using surface vibrator, power floater and trowel light brooming on as directed including making expansion joint of size 20 x 200 mm & filling the expansion joint using Colpar 200 as per manufactures specifications by cutting of joint using concrete cutter machine etc. complete. This work shall consist of providing concrete pavement of 12.5 cm thick using M-250 grade ready mix concrete & recon fibers etc. according to the following specifications

Design Mix Concrete

1. For controlled concrete, design of the mix shall be approved after preliminary tests and all necessary precautions shall be taken in its production to ensure that the required work cube strength is attained and maintained. The controlled concrete shall be in eight grades designated as M.100, M. 150, M. 200, M. 250, M.300, M. 350, M. 400 and M. 450 with the suffix 'controlled' added to it.
2. In the designation of a concrete mix, letter M refers to the mix and the number to the specified 28 days work cube compressive strength of that mix on 150 mm. cubes, expressed in kg/cm² where ordinary Portland cement conforming to IS : 269 or Portland blast furnace cement conforming to IS : 455 is used, the compressive strength requirements for various grades of concrete shall be as given below.

Grade of Concrete	Compressive work test strength in kg/cm ² on 150 mm. cubes, conducted in accordance with IS:516	
	Min.at 7 days	Min. at 28 days
M 100	70	100
M 150	100	150
M 200	135	200
M 250	170	250
M300	200	300
M350	235	350
M400	270	400
M450	300	450

NOTE - In all cases, the 28 days compressive strength specified in the above Table shall alone

be the criterion for acceptance or rejection of the concrete.

Where the strength of a concrete mix, as indicated by tests, lies in between the strength

for any two grades specified in the above Table such concrete shall be classified for all purposes as a concrete belonging to the lower of the two grades between which its strength lies.

3. Concrete mix shall be designed on the basis of preliminary tests so as attain a strength at

least 33 per cent higher than that required on work tests. The proportions for ingredients chosen shall be such that concrete has adequate workability for conditions prevailing on the work in question and can be properly compacted with the means available. Except where it can be shown to the satisfaction of the Engineer-in-charge that supply of properly graded aggregate of uniform quality can be maintained till the completion of work, grading of aggregate should be controlled by obtaining the coarse aggregates in different sizes and blending them in the right proportions as required. Aggregates of different sizes shall be stocked in separate stock piles. Required quantity of material shall be stock piled several hours, preferably a day, before use. Grading of coarse and fine aggregate shall be checked as frequently as possible, frequency for a given job being determined by the Engineer-in-charge to ensure that the suppliers are maintaining the uniform grading as approved for samples used in the preliminary tests.

4. In proportioning concrete, the quantity of both cement and aggregate shall be determined

by weight. Where the weight of cement is determined by accepting the maker's weight per bag, a reasonable number of bags shall be weighed separately to check the net weight. Where cement is weighed from bulk stocks at site and not by bags, it shall be weighed separately from the aggregates. Water shall either be measured by volume in calibrated tanks or weighed. All measuring equipment shall be maintained in a clean, and serviceable condition. Their accuracy shall be periodically checked.

5. It is most important to keep the specified water-cement ratio constant and at its correct

value. To this end, moisture content in both fine and coarse aggregates shall be determined by the Engineer-in-charge according to the weather conditions. The amount of mixing water shall then be adjusted to compensate for variations in the moisture cement. For the determination of moisture content in the aggregates, IS : 2386 (Part -III) shall be referred to. Suitable adjustments shall also be made in the weights of aggregates to allow for the variation in weights of aggregates due to variation in their moisture content. Minimum quantity of cement to be used in controlled concrete shall not be less than 210 Kg. per cubic meter in plain concrete and not less than 300 kg/per cubic meter in reinforced concrete structural members. The minimum quantity of cement for prestressed concrete work shall not less than 360 kg/per cubic meter of concrete nor shall it be more than 540 kg/per cubic meter of concrete.

6. Following shall be the maximum nominal size of coarse aggregate for the different items of work :

Sr. No.	Item of construction	Maximum nominal size of Coarse aggregate
(i)	R.C.C. well curb, R.C.C. well steining and R.C.C. piles.	40 mm
(ii)	P.C.C. well steining	63 mm.
(iii)	Well cap or pile cap; solid type piers, abutments and wing-walls, their pier caps.	40 mm.
(iv)	R.C.C. works in cross girders, deck slab, wearing coarse, kerb, light posts, blast walls approach slab etc., and hollow type piers,	20 mm.

	abutments, wing-walls and their pier caps.	
(v)	R.C.C. bearings	20mm
(vi)	For any other item of construction not covered by items (i) to (v) above	As specified on the drawing or as desired by the Engineer-in-charge in case it is not specified on drawing.

For heavily reinforced concrete members as in the case of ribs of main beams, nominal maximum size of aggregate shall usually be restricted to 5 mm. less than the minimum lateral clear distance between the main bars or 5 mm. less than the minimum cover to the reinforcement whichever is the smaller.

7. Fine aggregate shall be clean, hard, coarse sand. It shall be free dust and such other substances. The sand be get approved by the Engineer-in-charge.
8. All materials shall be stored as to prevent their deterioration of there quality and fitness for the work. Any material which has deteriorated or has been damaged or is otherwise considered defective by the Engineer-in-charge shall not be used in the works.
9. Cement shall be stored above the ground level in perfectly dry and watertight sheds. Wherever bulk storage containers are used, their capacity should be sufficient to cater to the requirements at site and should be cleaned at least once every 3 to 4 month s. The aggregates shall be stored in such a way as to prevent admixture of foreign materials. Different sizes of fine or coarse aggregate shall be stored in separate stock piles sufficiently away from such other to prevent intermixing the materials.
10. The water for mixing shall be potable water to satisfaction of the Engineer-in-charge. The quantity of water shall be just sufficient to produce a dense concrete of required workability for the job.
11. For road pavement work concrete shall be mixed in R.M.C. plant and it shall be conveyed to the site of work . The grade of ready mix concrete shall be M250
12. Before starting concrete the base shall be cleared of all loose materials leveled watered and rammed as directed. And 200 micron thick LDPE membrane shall be laid over prepared sub base,

Water reducing concrete ad mixture at 100 ml per bag of cement and recron 3 S fiber (reliance Product) at 875 gram per one cum of concrete shall be used including making channel 75 mm x 75 mm required to level and slope and thickness of the concrete road leveling of placed concrete with surface vibrator and finishing with power floater shall be done. Floater and trowel light booming the surface shall be done Expansion joints shall be cut as directed

13. The method of transporting and placing concrete shall be approved by the Engineer-in-charge. Concrete shall be so transported and placed that no contamination, segregation or loss of its constituent material takes place. All form work and reinforcement contained in it shall be cleaned and made free from standing water, dust, snow or ice immediately before placing of concrete. No concrete shall be placed in any part of the structure until the approval of the Engineer-in-charge has been obtained.
14. If concreting is not started within 24 hours of the approval being given. It shall have to be obtained again from the Engineer-in-charge. Concreting then shall proceed continuously over the area between construction joints. Fresh concrete shall not be placed against concrete which has been in position for more than 30 minutes unless a proper construction joint is formed. Concrete shall be

compacted in its final position within 30 minutes of its discharge from the mixer-unless carried in properly design agitators, operating continuously when this time shall be within 3 hours of the addition of cement to the mix and within 30 minutes of its discharge from the agitator Except where otherwise agreed to be the Engineer-in-charge. Concrete shall be deposited in horizontal layers to a compacted depth of not more than 0.45 meter when internal vibrator are used not exceeding 0.30 meter in all other cases.

15. Unless otherwise agreed to be the Engineer-in-charge concrete shall not be dropped into place from a height exceeding 2 meters. When trunking or chutes are used they shall be kept clean and used in such a way as to avoid segregation. When concreting has to be resumed on a surface which has hardened, it shall be roughened, swept clean, thoroughly wetted and covered with a 13mm. thick layer of mortar composed of cement and sand in the same ratio as in the concrete mix itself. This 13 mm. layer of mortar shall be freshly mixed and placed immediately before placing of new concrete. Where concrete has not fully hardened, all laitance shall be removed by scrubbing the wet surface with wire or bristle brushes, care being taken to avoid dislodgement of any particles of coarse aggregate. The surface shall then be thoroughly wetted all free water removed and then coated with neat cement grout. The first layers of concrete to be placed on this surface shall not exceed 150 mm. in thickness and shall be well rammed against old particular attention being given to corners and close sports.
16. All concrete shall be compacted to produce a dense homogeneous mass with the assistance of Vibrators, unless otherwise permitted by the Engineer-in-charge for exceptional cases, such as concreting under water, where vibrators can not be used. Sufficient vibrator in serviceable condition shall be kept at site so that spare equipment is always available in the event of break downs,
17. Immediately after compaction, concrete shall be protected against harmful effects of weather including rain, running water, shocks, vibration, traffic, rapid temperature changes, frost and drying out process. It shall be covered with wet sacking, hessian or other similar absorbent material approved by the Engineer-in-charge soon after the initial set, and shall be kept continuously wet for a period of not less than 14 days from the date of placement. Masonary work over the foundation concrete may be started after 48 hours of its laying but the curing of concrete shall be continued for a minimum period of 14 days
18. Form work shall include all temporary or permanent forms required for forming the concrete, together with all temporary construction required for their support. Formwork shall however be of the following two distinct categories :-
 - (1) Shuttering i.e form work required for forming the concrete
 - (2) Scaffolding i.e. formwork required for supporting shuttering.

Forms for shuttering shall be constructed only, in metal suitably lined Forms for scaffolding shall be constructed of metal or timber. Both shuttering and scaffolding shall be substantial rigid construction and shuttering shall be true to shape and dimensions show on the drawings. All bolts and rivets shall be counter-sunk and well ground to provide. a smooth, plane surface.
19. Forms shall be mortar-tight and shall be made sufficiently rigid by the use of ties and bracings to prevent any displacement or sagging between supports. They shall be strong enough to with stand all pressure, ramming and vibration, without deflection from the prescribed lines occurring during and after placing the concrete. Screw jacks or hardwood wedges where required shall be provided to make up any settlement in the formwork either before or during the placing of

concrete. Suitable camber shall be provided in horizontal members of structure specially in long spans to counteract the effects of any deflection. The formwork shall be so fixed as to provide for such camber. Forms shall be so constructed as to be removable in sections in the desired sequence. Without damaging the surface of concrete or disturbing other sections. Unless otherwise specified or directed, chamfers or fillets of sizes 25 mm x 25 mm shall be provided at all angles of formwork to avoid sharp corners.

20. The inside surface of shuttering shall, except in the case of permanent form work or where otherwise agreed to be the Engineer- in-charge, be coated with an approved material to prevent adhesion of concrete to the form work. Release agents shall be applied strictly in accordance with the manufacture's instructions and shall not be allowed to come into contact with any reinforcement or prestressing tendons and anchorages. Different release agent shall not be used in form work for concrete which will be visible in the finished works.
21. Special measures shall be taken to ensure that the form does not hinder the shrinkage of concrete because without these cracking could occur before the form work is removed. Wherever applicable arrangements must be made to ensure that the form work does not restrain the shortening and hogging of the beams or slabs during tensioning of the tendons. The formwork should take due account of the calculated amount of positive or negative camber so as to ensure the correct final shape of the structure having regard to the deformation due of false work, scaffolding or propping and the instantaneous or deferred deformation due to various causes affecting prestressed structures. Where they are re-entrant angles in the concrete sections the form work should be removed at these sections as soon as possible after the concrete has set in order to avoid cracking due to shrinkage of concrete. Form work shall be tight enough to prevent any appreciable loss of cement during vibrations. Suitable tolerance should be provided in the formwork. Immediately before concreting all forms shall be thoroughly cleaned. Contractor shall give the engineer-in-charge due notice before placing any concrete in the forms to permit him to inspect and accept the false work and forms as to their strength, alignment and general fitness, out such inspection shall not relieve the contractor of his responsibility for safety of men, machinery, materials and for results obtained.
22. The Engineer-in-charge shall be informed in advance by the contractor of his intention to strike any formwork. While fixing the time for removal of formwork, due consideration shall be given to local conditions that influence the setting of concrete and of concrete and of the materials used in the mix. Where field operations are controlled by strength tests of concrete the removal of the load supporting of soffit forms may commence when concrete has attained strengthening props including the effect or any further addition! of loads. When field operations are not controlled by strength tests of concrete the vertical forms of beams, columns and walls may be removed after 2 days, The props of slabs and beams may be removed after 14 and 21 days respectively. All formwork shall be removed without causing any damage to the concrete. Centering shall be gradually and uniformly lowered in such a manner as to permit the concrete to take stresses due to its own weight uniformly und gradually. Where internal metal ties are permitted, they or their removable parts shall be extracted without causing any damage to the concrete and remaining holes filled with mortar No permanently embedded metal part shall have less

than 25 mm. cover to the finished concrete surface. Where it is intended to cleaned and made good to the satisfaction of the Engineer-in-charge.

23. Immediately after the removal of forms, all exposed bars or boils passing through the Cement Concrete member to" a depth of at least 25 mm. below the surface of the concrete and the resulting holes be filled by cement mortar. All fins caused by form joints, all cavities produced by the removal of form ties and all other holes and depressions, honeycomb spots, broken edges or corners and other defects, shall be thoroughly cleaned, saturated with water and carefully pointed and rendered true with mortar of cement and fine aggregated mixed in the proportions used in the grade of concrete that is being finished and of as dry a consistency as is possible to use. Considerable pressure shall be applied in filling and pointing to ensure through filling in all voids. Surfaces which have been pointed shall be kept moist for a period of twenty four hour. If rock pockets/honey-combs, in the opinion of the Engineer-in-charge are of such an extent or character as to effect the strength of the structure materially or to endanger the life of the steel reinforcement, he may declare the concrete defective and require the removal and replacement of the portions of the structure affected.
24. In the case of reinforced concrete work, workability shall be such that the concrete surrounds and properly grips all reinforcement. The degree of consistency, which shall depend upon the nature of work and methods of vibration of concrete shall be determined regular slump tests. Following slump shall be adopted for different types of works

Type of work	Slumps	
	Where vibrators are used	Where vibrators are not used
(i) Mass concrete in R.C.C. foundations footings and retaining walls	10 mm to 25 mm.	80mm.
(ii) Beams, slabs and columns simply reinforced	25 mm. to 40mm	100 mm. to 120 mm
(iii) Thin R.C.C. section or section with congested steel	40 mm. to 50mm	125mm. to 150mm.

25. For controlled concrete preliminary tests shall consist of three sets of separate tests, and in each set, tests shall be conducted on six specimens. Not more than one set of six specimens shall be made on any particular day. Of the six specimen in each set, three shall be tested at seven days and the remaining three at 28 days. The preliminary tests at 27 days are intended only to indicate the strength likely to be attained at 28 days. Work strength tests shall be made in accordance with IS : 516. EACH test shall be conducted on ten specimens five of which shall be tested at seven days and the remaining five at 28 days. The samples of concrete shall be taken on each day of concreting and cubes shall be made at the rate of one for every 5 cubic meter of concrete or a part thereof. However, if concreting done in a day is than 15 cubic meter , the minimum number of cubes can be reduced to 6 with the specific permission of the Engineer-in- charge. Similar works tests shall be carried out when ever the quality and grading of materials is changed irrespective of the quantity of concrete poured. The number of specimens may be suitably increased as deemed necessary by the Engineer-in-charge when procedure to tests given above reveals a poor quality of concrete and in other special cases.

26. The average strength of the group of cubes cast for each day shall not be less than the specified works cube strength. 20 per cent of the cubes cast each day may have values less than the specified strength, provided the lowest value is not less than 85 per cent of the specified strength.
27. R.C.C. work shall have exposed concrete surface. Centering design and its erection shall be approved by the Engineer-in-charge. One carpenter with helper will invariably be kept through out the period of concreting. Movement of labour and other persons shall be totally prohibited over reinforcement laid in position. For access to different parts, suitable mobile platforms shall be provided so that steel reinforcement in position as not disturbed. For ensuring proper cover, mortar blocks of suitable size shall be cast and tied to the reinforcement. Timber, kapachi or metal pieces shall not be used for this purpose. Concreting of important structural members shall always be done in the presence and under the supervision of departmental person not below the rank of Asstt. Engineer/Addl. Asstt. Engineer/Overseer or as instructed by the Engineer-in-charge. After removal of form work and shuttering, the executive Engineer shall inspect the work and satisfy by random checks that concrete produced is of good quality. Plastering shall not be allowed to the exposed faces of concrete.
28. In reinforced concrete the volume occupied by reinforcement shall not be deducted. The slab shall be measured as running continuously through and the beam as the portion below the slab.
29. All necessary labour, materials, equipment, etc., for sampling, preparing test cubes, curing etc., shall be provided by the Contractor. Testing of the materials and concrete may be arranged by the Engineer-in-charge in an approved laboratory at the cost of the contractor.
30. The payment will be made on square Meter basis of the finished work of road pavement.
31. The unit rate for concrete shall include the cost of all materials including admixtures and recron etc. as required, labour, tools and plant required for mixing, placing in position, vibrating and compacting finishing as per directions of the Engineer-in-charge, curing and all other incidental expenses for producing concrete of specified strength to complete the structure or its components as shown on the drawings and according to these specifications. The rate shall also include the cost of making fixing and removing of all centering and forms required for the work.

Item No. :- Constructing brick masonry chamber for under ground C.I. Inspection chamber and bends with bricks having crushing strength not less than 35 Kg/cm² in cm. 1:5 C.I. Cover with frame (light duty) 600 mm. X 850 mm. Internal dimensions, total weight of cover with frame to be not less than 38 Kgs. weight of cover 23 Kg. and wt. of frame 15 Kg) R.C.C. top slab with 1:2:4 mix(1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm. size) foundation concrete 1:5:10 inside plaster 15 mm. thick with cement mortar 1:3 finished smooth with a floating coat of neat cement on walls & abed concrete etc. complete.

(i) Inside dimension (i) 600 mm. X 850 mm. x 450 mm deep for single pipe line

The item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.24.44[III]/ page No. 163.

The rate shall be for a unit of one No

Item no- Supplying & fixing reinforcement concrete heavy duty non-pressure pipes with collars for coverters including setting and joining for pipes in C.M 1:2 watering and laying (To level ore slope of I.S. class) NP-3 of following internal dia.meter (iii) 750mm dia.

The Item shall be executed as per the engineering charge

The rate shall be for a unit of Rmt.

Item No.- Wall painting (three coats) with plastic emulsion paint of approved brand and manufacture on wall surface to give an even brushng the surface free from mortar droppings and other foreign matter and sand prepared smooth

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.18.57/ page No. 67

ItemNo. :- Finishing wall with Acrylic emulsion paint (Apex ultima or equivalent only) on exterior wall surface (two Coats) to give an even shade of an approved brand and manufacture and even shape after thoroughly brushing the surface to remove all dirt, and remains of loose powdered materials at any floor, any level and any height. (First Grade)

Specification as per quotation

Payment will be made on square Meter basis of the finished work.

Item No.- Providing and supplying in standard length ISI mark high density polyethylene H.D.P.E. pipes suitable for potable water as per IS specification no. 4984/1995 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to site of work. a) 40 mm dia H.D.P.E. Pipe PE-80, 10 kg/cm²

The item shall be measured as finished work in position in running meter.

The rate shall be for a unit of onr running meter.

Item no- Providing sock pit of specific volumn of 13.00 cum volumn including excavating pit upto 5.00mt depth, on base of P.C.C. honeycomb brick masonry work 0.35mt thick upto 0.30mt below G.L. One 6"th coping is provided (including reinforcement) on parifare of brick masonry work. Dry brick masonry work is provided 0.30mt above G.L. At Top 0.15mt thick R.C.C. 1:2:4 Slab is provided, including Cast iorn cover 455mm x 610mm Size and outside 15mm smooth plaster is provided on expose surface.

Cm high masonry in 1:6 for 40 cm height inc. providing vitas in C.M and top RCC slab in 1:2:4 with SFRC cover with frame and 15mm plaster in 1:4 with floating coat of neat cement slurry on Top of slab and 0.35 mm deep around pit with finishing . curing etc. complete as per instruction of engineer in charge (size of dia 2.0)

Materials :-

Cement shall be conform to M – 3

Stone aggregate shall be conform to M – 12

Sand shall conform to M -6

Using TMT bars as per branded and directed engineer in charge

Workmanship :-

the relevant specification of item no. 4.1.00 and 4.200 shall be followed of excavation for the soak pit.

The relevant specification of item no. 6.12 (B) shall be followed for the brick masonry 0.20 Mt. in bottom and 0.30 Mt. t Top.

Honey comb brick masonry in dry mortar in 3.80 mt. at top 0.10 mt RCC slab in 1:2:4 cement concrete including form work the relevant specification of item no 5.0 (B) shall be followed RCC slab

Relevant specification of item no. 5.4.11 shall be followed for the TMT steel including bending and biding

Providing and SFRC precast cement concrete cover heavy duty with frame size 0.45 X 0.60 sqmt. Filling brick bat chara in 1.65 in 1.65 mtr form bottom of the soak pit.

15mm thick plaster in Cm 1:4 with floating coat of meat cement slurry top of slab and side at 0.45 mtr. Depth of brick masonry.

Relevant specification of item no. 17.60 + 17.69 shall be followed for the 15mm thick cement plaster size of soak pit 2.00 mtr. Internal dia 4.25 depth 0.23 mtr.. Thick brick masonry wall in 1:6 cm

Mode of measurement 1 No. basis.

Mode of payment 1 No. basis.

Item no-79 Construction Septick tank of the required dimension as shown and mentioned in the drawing ,(inside 3.70 X 1.00 X1.5 Mtr Deep) including providing and laying 0.15 mtr thick PCC in 1:4:8 (1 Cement: 4 Coarse Sand: 8 Hand Broken stone aggregates 40mm nominal size.) and 0.10 mtr thick plain cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded seone agg. 20mm nominal size) at Bottom, brick masonry Wall 23 cm thick and intermediate partition , in 11.5 cm thick wall in CM 1:4 including 12 cms thick RCC slabs in CC 1:2:4 at top ,and 15 mm thick cement plaster in CM 1:3 etc complete, septick tank as per detailed drawing.

The Item shall be executed as per the engineering charge

The rate shall be for a unit of Nos.

Item no- Providing and fixing 30mm wire guage shutters using galvanised M.S. wire of I.S. guage designation of 85G. With wire of 0.56mm dia, for windows and clearstory windows including indian teak wood frame with S.S. butt hinges with neccesary S.S. screws.(A) Indian teak wood.

The Item shall be executed as per the engineering charge

The rate shall be for a unit of Sqmt.

Item no- Writing letter or figures on front side of Sub center building outer wall with white oil paint

The Item shall be executed as per the engineering charge

The rate shall be for a unit of Nos.

Item No.:- Providing and fixing of 60 mm thick polioride/damru/unipaver block having compressive strength 25 MPa in red/yellow colour having rubber moulding finish in proper line and level and giving proper slope so as to not do position of water over sand filling having thickness 75 mm including supplying, spreading, levelling,watering and compacting of sand including finishing at end with cement mortar. etc. complete.

The Item shall be executed as per the relevant specifications of general technical specification for building work booklet Item No.ch. item code 04010B

The rate shall be for a unit of Sq meter

Item No :- Drilling in soil with lowering pipes sealing including gravels packing clay trucking and development of bore with air compressor of reqd. capacity vert. test Etc.include the cost of 200 mm borehole

The rate shall be for a unit of Rmt

Item No.:- Providing, fixing and lowering of Casing PVC pipes of approved quality at site of work confirming to IS 1239-1974-150 mm &PVC. Pipes of 6 Kg\Cm2 of approved quality

The rate shall be for a unit of Rmt

Item No. :- Providing, fixing and lowering of stainer PVC pipes of approved quality at site of work confirming to IS 1239-1974-150 mm &PVC. Pipes of 6 Kg\Cm² of approved quality
The rate shall be for a unit of Rmt