

TECHNICAL SPECIFICATION

(Sub Estimate-01)

Item No. 1.01 : Dismantling of existing chain link fencing including dismantling all MS post, frame and structure including all earth work concrete in base and making good the disturbed ground stacking useful materials as directed and disposing as directed and disposing of the unserviceable materials with all lead and lift.

1. Workmanship:

- Work complete as per relevant specification of Item No: 20.51 page No -133 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Running Meter.

Item No. 1.02 : Demolition of R.C.C. work for base of fencing and trench including removing reinforcement and stacking of serviceable materials and disposal of unserviceable materials with all lead and lift.

1. Workmanship:

- Work complete as per relevant specification of Sr. No: 20.1(I) page No -130 in General specification R&B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Cubic Meter.

Item No. 1.03 : Dismantling steel work including distempering and stacking the materials with all lead and lift.

1. Workmanship:

- Work complete as per relevant specification of Sr. No: 20.43 page No -132 in General specification R&B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole

work satisfactorily as per instruction of EIC/ Architect.

- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one KG.

Item No. 1.04 : Dismantling the existing pole above 6 m height with brackets, clamps, insulators, stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to the ground level.

1. Workmanship:

- Work complete as per relevant specification of Sr. No: 20.1 (II) page No -130 in General specification R&B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit Each.

Item No. 2.01 : Clearing and grubbing road land including uprooting rank vegetation grass bushes, shrubs, sapling and trees girth up to 300 mm removal of stumps of trees cut earlier and disposal of unserviceable materials (C) By mechanical means in area of light jungle

1. Workmanship:

- Clearing the site: The site on which the structure is to be built shall be cleared and all obstructions, loose stone, materials and rubbish of all kind, bush, wood and Vegetation, grass bushes, shrubs, sapling trees shall be removed as directed: The materials so obtained shall be property of the Government and be conveyed and stacked as directed within 50 M. lead. The roots of the trees coming in the sides shall be cut and coated with a hot asphalt.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of hectare.

Item No. 2.02 : 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.(A) Loose or soft soil

1. Workmanship:

- Work complete as per relevant specification of Item No: 4.0.0. (A) Page No - 21 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labor, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 2.03 : 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

1. Workmanship:

- Work complete as per relevant specification of Item No: 4.001 (A) page No - 25 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labor, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter

Item No. 2.04 : Filling available excavated earth (excluding rock) in trenches. plinth, sides of foundations etc. in layers not exceeding 20 cm. in depth consolidating each disposed layer by ramming and watering.

1. Workmanship:

- Work complete as per relevant specification of Item No: 4.12 page No -27 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The payment shall be made for filling in plinth and trenches. No deduction shall be made for shrinkage or voids, if consolidated as instructed above.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 2.05 : Filling in foundation and plinth with murrum or selected soil in layers of 20cm. thickness including watering, ramming and consolidating etc. complete.

1. Material:

- Sand shall be used for filling as per approved sample and confirming to relevant IS

codes and approved by EIC/Architect.

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 4.004, page No - 28 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 2.06 : Filling in plinth with sand under floors including watering ramming, consolidating and dressing complete

1. Material:

- Sand shall be used for filling as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 4.24, page No - 28 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 2.07 : Disposing of the surplus excavated earth, debris etc. including loading (anywhere from site), transporting by mechanical or manual means & disposal, unloading outside the site at unobjectionable place with 5.0 km leads and all lifts etc. complete as directed by engineer in charge.

1. Workmanship:

- The whole work is to be completed as per requirement shall be as per instruction of Employer's representative/employer.

2. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all labor, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 2.08 : Carrying out plinth treatment to post construction / existing structure by spraying chemical solution for termite control treatment including labour and material consistent with I.S.I specification. Using Chlordane and Chiorpurfiles 20 EC. As Per 6131_paret-II Concentration Weight one percent is recommended i.e one litre 20 EC chemical emulsion with 19 liter give 1 % concentration inclusive of one litre chemical emulsion application at the rate of 5 Litre chemical / Sqm of surface is recommended as per I.S

1. Material:

- For Anti termite treatment
- The Chemical for anti-termite treatment shall be any one of the following:

	Chemical	Relevant IS Code	Concentration by Volume
A)	Chlorpyrifos emulsifiable concentrate	IS 8944	1.0%
B)	Heptachlor emulsifiable concentrate	IS 6439	0.5%
C)	Chlordane emulsifiable concentrate	IS 2682	1.0%

- Chemicals are available in concentrated form in the market & concentration is indicated on the sealed container. ADEN shall satisfy himself about the quality of material and appropriate sealing of containers. Further before accepting the supply of material required tests shall be conducted and proper certification shall be obtained.
- To achieve specified % of concentration chemical should be diluted with water in required quantity. For example to dilute chemical of 30% concentration 59 parts of water shall be added to one part of chemical for achieving 0.5% concentration.
- The material shall be taken over and accounted for as per extent rules in the ledgers/MAS and the same shall be issued to Contractor for day to day work on required basis.

2. WORKMANSHIP:

- Chemicals:
- The chemicals used for the soil treatment shall be any one or a combination of the
- Following with the concentration shown against each in aqueous emulsion: -

Chemicals	Concentration (by weight)
Chlorpyrifos emulsifiable concentrates	1.00
Tyran emulsifiable concentrates	As per manufacturer's instructions
Dursban emulsifiable concentrates	Do-
Endosulphan emulsifiable concentrates	Do-

- conforming IS: 2682-1966
- The work of anti-termite treatment shall be got executed by a specialist firm which must be a member of IPCA and approved by Architect / Project Manager and shall be carried out as per IS:6313 (Part II) of 1981 for pre-construction soil treatment.

3. MODE OF MEASUREMENTS & PAYMENTS:

- The rate shall be for a unit of one Square Meter.

Item No. 3.01 : P.C.C : Providing and laying cement concrete 1:2:4 (1-Cement : 2- Coarse sand : 4- graded stone aggregates 20 mm nominal size) and curing complete including cost of formwork in (A) Foundation and Plinth

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 5.3.13. Page No - 32 & It.No: 9.1(A). Page No - 54 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 3.02 : GRADE SLAB (M200) : Providing and laying controlled cement concrete M.200 Concrete with all lead, including all transportation, pumping, pouring, curing of concrete etc complete including the cost of formwork but excluding the cost of reinforcement for reinforced concrete work in M200 Grade Slab

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 5.8.2(C), page No -39 & Item No: 9.1(B)(I) Page No - 56 in General specification R & B booklet for building

works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect
- The rate shall be for a unit of One Cubic Meter

Item No. 3.03 : Providing and laying controlled cement concrete M.250 concrete With all lead, including all transportation, pumping, pouring, curing of concrete etc complete including the cost of formwork but excluding the cost of reinforcement for reinforced concrete work in M250 all RCC element like foundation, (A) Footing, at all floor level from below plinth and above plinth level

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No 5.8.3 (A), page No -40 & It.No: 9.1(A). Page No - 54 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 3.04 : Providing and laying controlled cement concrete M.250 concrete With all lead, including all transportation, pumping, pouring, curing of concrete etc complete including the cost of formwork but excluding the cost of reinforcement for reinforced concrete work in M250 all RCC element lik, ©Slabs, landing, shelves, Balconies, Girders and Cantilever all floor level.

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No 5.8.3 (C), page No -40 & It.No: 9.1(B) (i). Page No - 56 in General specification R & B booklet for building

works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work Satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 3.05 : Providing and laying controlled cement concrete M.250 concrete With all lead, including all transportation, pumping, pouring, curing of concrete etc complete including the cost of formwork but excluding the cost of reinforcement for reinforced concrete work in M250 all RCC element lik © Slabs, landing, shelves, Balconies, Lintels, Beams, Girders and Cantilever all floor level.

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No 5.8.3 (C), page No - 40 & It.No: 9.1(H) (i) Page No - 56 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 3.06 : Providing and laying controlled cement concrete M.250 concrete With all lead, including all transportation, pumping, pouring, curing of concrete etc complete including the cost of formwork but excluding the cost of reinforcement for reinforced concrete work in M250 all RCC element lik © Landing, Stair case, Lintels, Copping, Beams, Girders, shelves,Balconies, and Cantilever all floor level.

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No 5.8.3 (C), page No -40 & It.No: 9.1(C) Page No - 56 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 3.07 : Providing and laying controlled cement concrete M.250 concrete With all lead, including all transportation, pumping, pouring, curing of concrete etc complete including the cost of formwork but excluding the cost of reinforcement for reinforced concrete work in M250 all RCC element lik (D) Columns, Pillars posts and struts, all floor level.

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

• Workmanship:

- Work complete as per relevant specification of Item No 5.8.3 (D), page No -40 & It.No: 9.1(G) (1) Page No - 56 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 3.08 : Providing and laying controlled cement concrete M.300 concrete With all lead, including all transportation, pumping, pouring, curing of concrete etc complete including the cost of formwork but excluding the cost of reinforcement for reinforced concrete work in M300 all RCC element like foundation, (A) Footing, at all floor level from below plinth and above plinth level

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No 5.8.3 (A), page No -40 & It.No: 9.1(A). Page No - 54 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 3.09 : Providing and laying controlled cement concrete M.300 concrete With all lead, including all transportation, pumping, pouring, curing of concrete etc complete including the cost of formwork but excluding the cost of reinforcement for reinforced concrete work in M300 all RCC element lik, ©Slabs, landing, shelves, Balconies, Girders and Cantilever all floor level.

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No 5.8.3 (C), page No -40 & It.No: 9.1(B) (i). Page No - 56 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work Satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 3.10 : Providing and laying controlled cement concrete M.300 concrete With all lead, including all transportation, pumping, pouring, curing of concrete etc complete including the cost of formwork but excluding the cost of reinforcement for reinforced concrete work in M300 all RCC element lik © Slabs, landing, shelves, Balconies, Lintels, Beams, Girders and Cantilever all floor level.

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No 5.8.3 (C), page No - 40 & It.No: 9.1(H) (i) Page No - 56 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 3.11 : Providing and laying controlled cement concrete M.300 concrete With all lead, including all transportation, pumping, pouring, curing of concrete etc complete including the cost of formwork but excluding the cost of reinforcement for reinforced concrete work in M300 all RCC element lik (D) Columns, Pillars posts and struts, all floor level.

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No 5.8.3 (D), page No -40 & It.No: 9.1(G) (1) Page No - 56 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 4.01 : Brick work using common burnt clay building bricks having crushing strength not less than 35 kg/Sq.Cm. in foundation and plinth in Cement Mortar 1:5. (1- Cement : 5 -fine sand)(B) Conventional

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant approved by EIC/ Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

- Work complete as per relevant specification of Item No: 6.12 (B), page No - 43 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one cubic meter.

Item No. 4.02 : Brick work using common burnt clay building bricks having crushing strength not less than 35 kg/Sq.Cm. in superstructure above plinth level upto floor two level in Cement Mortar 1:5. (1- Cement : 5 -fine sand)(B) Conventional

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant approved by EIC/Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- Work complete as per relevant specification of Item No: 6.12 (B), page No - 43 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one cubic meter.

Item No. 4.03 : Half brick masonry in common burnt clay building bricks having crushing strength not less than 35 Kg/Sq.Cm. in Cement mortar 1:4 (1- Cement : 4 -coarse sand) in superstructure above plinth level upto floor two level (B) Conventional

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 6.30.I. (B) page No -46 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one square meter.

Item No. 5.01 : Flush Door With WPC frame :

Providing and fixing in position 35mm thick solid core wooden flush doors of approved make having fire retardant ply facing on both sides and finished with 1 mm thick laminate as approved, WPC frame size - 125 X 63 MM Well Quality Hardware system of Hinges, Boxer type door closer, Door handle, Euro profile lock, Door stop. work complete including all type of hardware, fittings, fixtures etc complete as per detailed drawings and specifications, sample mock shall be approved from EIC.

1. Material:

- 35 mm thick flush door shall be used as per sample approved by Employer's representative/employer
- Waterproof ply shall be used for door as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer
- WPC frame (125 x 63 mm) shall be used as per approved sample by Employer's representative/employer 8 mm thick milky glass shall be used as per approved sample by Employer's representative/employer
- 1 mm thick laminate shall be used for finish of door as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer Hardware shall use of as per approved by Employer's representative/employer
- All type of material shall be used for Door as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer.
- Flush door shall confirm M-30 of GTS Booklet for building works.
- Fixtures and fastenings shall confirm M-43 of GTS Booklet for building works.

2. Workmanship:

- Fixing of 35 mm thick solid core wooden single leaf flush doors of approved make having Waterproof ply facing on both sides as per approved sample.
- Fixing of WPC frame (125 x 63 mm) shall be used as per approved sample by Employer's representative/employer
- Fixing of Both side 1 mm thick laminate finishes as per selection.
- Fixing of Hardware system of Geze/Dorma like Hinges, Concealed door closer, Door handle, Euro profile, lock, Door stop as per selection work complete.
- All doors should be properly leveled without any sagging and with smooth opening and closing. There should be no variation or deviation of any kinds.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of Employer's representative/employer

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of Employer's representative/employer
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Clear opening area shall be measured & paid in Square meter.

Item No. 5.02 : Internal toilet door

WPC shutter + WPC frame + Hardware

Providing and fixing approximate 30mm thick WPC door shutter of approved make and shade, solid core construction with WPC door frame of 70 to 100mm in size with single rebate for door shutter with required number of anchor fastener of approved make and size. All surface of shutter and frame shall be finished with paint in required coat and of approved make and shade. Door shutter shall be with SS 304 grade butt hinges (3 no as per door size), tower bolt, both side aldrop, pair of handle of required size (150mm to 200mm long). All sample shall be approved before execution.

1. Material:

- 30 mm thick flush door shall be used as per sample approved by Employer's representative/employer
- Waterproof ply shall be used for door as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer
- WPC frame (100 x 70 mm) shall be used as per approved sample by Employer's representative/employer 8 mm thick milky glass shall be used as per approved sample by Employer's representative/employer
- 1 mm thick laminate shall be used for finish of door as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer Hardware shall use of as per approved by Employer's representative/employer
- All type of material shall be used for Door as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer.
- Flush door shall confirm M-30 of GTS Booklet for building works.
- Fixtures and fastenings shall confirm M-43 of GTS Booklet for building works.

2. Workmanship:

- Fixing of 30 mm thick solid core wooden single leaf flush doors of approved make having Waterproof ply facing on both sides as per approved sample.
- Fixing of WPC frame (100 x 70 mm) shall be used as per approved sample by Employer's representative/employer
- Fixing of Both side 1 mm thick laminate finishes as per selection.
- Fixing of Hardware system of Geze/Dorma like Hinges, Concealed door closer, Door handle, Euro profile, lock, Door stop as per selection work complete.

- All doors should be properly leveled without any sagging and with smooth opening and closing. There should be no variation or deviation of any kinds.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of Employer's representative/employer

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of Employer's representative/employer
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Clear opening area shall be measured & paid in Square meter.

Item No. 5.03 : Providing and fixing factory made upvc fenesta wooden colour sliding glazed window with Mosquito net and Approved sample by Architect/ Client/ EIC. all height dimension comprising of upvc multi chambered frame with in built roller track and sash extruded profiles duly reinforced with 1.60 + 0.2 mm thick galvanizd mild steel section made from roll forming process of required lenght (shape & size according to upvc profile), appropriate dimension of upvc extruded glazing beads and upvc extruded interlocks, epdm gasket,wool pile,zinc alloy (white powder coated) touch locks with hook, zinc alloy body with single nylon rollers (weight bearing capacity to be 40 kg),g.i. fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws etc. profile of frame & sash shall be mitred cut and fusion welded at all corners,including drilling of holes for fixing hardware's and drainage of water etc. after fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality,all complete as per approved drawing & direction of engineer-in-charge. two track two panels sliding window of 5 mm thick toughen glass and series 2000 frame 65 x 58 mm & sash 45 x 90 mm both having wall thickness of 1.9+ 0.2 mm and single glazing bead of appropriate dimension.

1. Material:

- Upvc section shall be used as per sample approved by EIC/ Architect.
- 5 mm thick transparent bronze color tinted float glass shall be used as per sample approved by EIC/ Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.
- Aluminum window shall confirm M-31 of GTS Booklet for building works.
- Fixtures and fastenings shall confirm M-43 of GTS Booklet for building works.
- Frame and sash: Specify dimensions, such as 60mm×58mm60 mm cross 58 mm
- for the frame and 78mm×60mm78 mm cross 60 mm for the shutter.
- Multi-chambered design: For improved thermal and acoustic insulation.
- Reinforcement: A galvanized mild steel section of a specified thickness 1.9 ± 0.2 mm 1.6 plus or minus 0.2 mm must be used to reinforce the uPVC profiles.
- Gaskets: EPDM gaskets are standard.
- Fasteners: Stainless steel fasteners (SS 304 grade) for frames, typically 100×8mm

- Rollers: For sliding windows, specify stainless steel rollers with a high load-bearing capacity 40kg.
- Locks: Specify the type of lock, e.g., a multi-point locking system with a zinc alloy handle and a crescent lock on extreme panels.
- Screws: Stainless steel screws should be used for all fixings.

2. Workmanship:

- Work complete as per as described above specification.
- Profile finishing: Frames and sashes are to be mitred cut and fusion welded at all corners.
- Sealing: The gap between the frame and the finished wall must be filled with approved weatherproof silicon sealant over a backer rod.
- Drilling: Ensure holes for hardware and drainage are correctly drilled as per the design.
- Other materials: Include the use of plastic packers and caps as needed for proper installation.
- Work should be properly leveled without any sagging and with smooth opening and closing. There should be no variation or deviation of any kinds.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc. for fixing at all heights and for all floors. Clear opening area shall be measured & paid in Square meter.

Item No. 5.04 : Providing and fixing factory made upvc fenesta wooden colour fixed/ louvered window and ventilation with Mosquito net and Approved sample by Architect/ Client/ EIC. all height dimension comprising of upvc multi chambered frame with in built roller track and sash extruded profiles duly reinforced with 1.60 + 0.2 mm thick galvanizd mild steel section made from roll forming process of required lenth (shape & size according to upvc profile), appropriate dimension of upvc extruded glazing beads and upvc extruded interlocks, epdm gasket, wool pile, GI fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws etc. profile of frame & sash shall be mitred cut and fusion welded at all corners, including drilling of holes for fixing hardware's and drainage of water etc. after fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of engineer-in-charge. with 5 mm thick toughen glass and series 2000 frame 65 x 58 mm & sash 45 x 90 mm both having wall thickness of 1.9+ 0.2 mm and single glazing bead of appropriate dimension.

1. Material:

- Upvc section shall be used as per sample approved by EIC/Architect.
- 5 mm thick transparent bronze color tinted float glass shall be used as per sample approved by EIC/Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- Aluminum window shall confirm M-31 of GTS Booklet for building works.
- Fixtures and fastenings shall confirm M-43 of GTS Booklet for building works.
- Frame and sash: Specify dimensions, such as 60mm×58mm60 mm cross 58 mm
- for the frame and 78mm×60mm78 mm cross 60 mm for the shutter.
- Multi-chambered design: For improved thermal and acoustic insulation.
- Reinforcement: A galvanized mild steel section of a specified thickness $1.9 \pm 0.2\text{mm}$ 1.6 plus or minus 0.2 mm must be used to reinforce the uPVC profiles.
- Gaskets: EPDM gaskets are standard.
- Fasteners: Stainless steel fasteners (SS 304 grade) for frames, typically 100×8mm
- Rollers: For sliding windows, specify stainless steel rollers with a high load-bearing capacity 40kg.
- Locks: Specify the type of lock, e.g., a multi-point locking system with a zinc alloy handle and a crescent lock on extreme panels.
- Screws: Stainless steel screws should be used for all fixings.

2. Workmanship:

- Work complete as per as described above specification.
- Profile finishing: Frames and sashes are to be mitred cut and fusion welded at all corners.
- Sealing: The gap between the frame and the finished wall must be filled with approved weatherproof silicon sealant over a backer rod.
- Drilling: Ensure holes for hardware and drainage are correctly drilled as per the design.
- Other materials: Include the use of plastic packers and caps as needed for proper installation.
- Work should be properly leveled without any sagging and with smooth opening and closing. There should be no variation or deviation of any kinds.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc. for fixing at all heights and for all floors. Clear opening area shall be measured & paid in Square meter.

Item No. 5.05 : 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 pluge with C.P. brass screws and washers.

1. Material:

- The 600 x 450 mm. size mirror shall be of superior glass with edge rounded off or bevelled as specified. It shall be free from flaws specks, or bubbles and its thickness shall not be less than 6 mm. The glass for the mirror shall be uniformly silver plated at the back and shall be free from silvering defects. Silvering shall have a protective uniform covering of red-lead paint.
- The 6 mm. thick plywood shall conform to M-37 of GTS Booklet for building works
- The 6 mm. thick A. C. Sheets shall conform to M-24 of GTS Booklet for building works

2. Workmanship:

- The mirror of 600 mm x 450mm. size mounted on A.C. sheet or plywood 6mm. Thick with. C.P.brass clips shall be fixed as directed, by fixing wooden plugs in wall and C. P. brass screws and washers. The work shall be carried out in best workman like manner.
- Work complete as per relevant specification of Item No: 23.143, page No -150 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Each for area of work done. The rate shall be for a unit of Each.

Item No. 6.01 : Providing 10mm thick cement plaster in single coat on ceiling for interior plastering upto floor two level and finished even and smooth in (i)Cement mortar 1:3 (1-cement:3-sand)

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 17.58.(I), page No -104 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to

complete the whole work satisfactorily as per instruction of EIC/Architect.

- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one square meter.

Item No. 6.02 : Providing 15mm thick cement plaster in single coat on brick/ concrete walls for interior plastering upto floor two level and finished even and smooth in (i) Cement mortar 1:4 (1-cement:4-sand)

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 17.61 (ii), page No -104 to 107 in General specification R & B booklet for building works. Work shall be carried out of 15mm thick plaster instead of 20mm.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one square meter.

Item No. 6.03 : Providing 20 mm thick double coat mala cement plaster on interior/ exterior brick / concrete work for plastering comprising of base coat of 12 mm thick cement plaster in cement mortar (1 Cement : 4 coarse sand) in rough finishing and 8 mm thick top coat of cement mortar 1:2 (1 Cement : 2 Coarse sand) finished with trowel including scaffolding curing etc. complete.

1. Material:

- Cement and sand shall be used for mortar of Double coat mala plaster work as per approved sample and confirming to relevant IS codes and approved by Employer's representative/employer
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer

2. Workmanship:

- Wooden bullies, bamboos, planks, trestles and other scaffolding shall be sound. These shall be properly examined before erection and use. Stage scaffolding shall be provided for ceiling plaster which shall be independent of the walls.
- Preparation of back-ground:
- The surface shall be cleaned of all dust, loose mortar droppings, traces of algae, efflorescence and other foreign matter by water or by brushing. Smooth surface shall be Toughened by wire brushing if it is not hard and by hacking if it is hard. In case of concrete surface, if a chemical retarded has been applied to the form work, the

surface shall be roughened by wire brushing and all the resulting dust and loose particles cleaned off and care shall be taken that none of the readers if left on the surface. Trimming of projections on brick/concrete surfaces where necessary shall be carried out to get an even surface.

- Raking of joints in case of masonry where necessary shall be allowed to dry out for sufficient period before carrying out the plaster work.
- The work shall not be soaked but only damped evenly before applying the plaster. If the surface becomes dry, such area shall be moistened again.
- For external plaster, the peasting operation shall be started from top floor and carried downwards. For internal plaster, the plastering operations may be-started wherever the building frame and cladding work are ready and the temporary supports of the ceiling resting on the wall of the floor have been removed. Ceiling plaster shall be completed before starting plaster to walls.
- Application of plaster:
 - The plaster about 15x15 cms. Shall be first applied horizontally and vertically at not more than 2 meters intervals over the entire surface to serve as gauge. The surfaces of these gauges shall be truly in plane of the finished plastered surface. The mortar shall then be applied in uniform surface slightly more than the specified thickness, then brought to a true surface by working a wooden straight edge reaching across the gauges with small upward and sideways movements at a time. Finally, the surface shall be finished off true with a trowel or wooden float according as a smooth or a smooth or a sandy granular texture is required Excessive troweling or overworking the float shall be avoided. All corners, arises, angles and junctions shall be truly vertical or horizontal as the case may be and shall be carefully finished. Hounding or chamfering, corners, arises junctions etc. shall be carried out with proper templates to be size required.
 - Cement plaster shall be used within half an hour after addition of water. And mortar or plaster which is partially set shall be rejected and removed forthwith from the site.
 - In suspending the work at the end of the day, the plaster shall be left out clean to the line both horizontally and vertically, when recommencing the plaster, the edges of the old work shall be scraped clean and wetted with cement putty before plaster is applied to the adjacent areas to enable the two to properly join together. Plastering work shall be closed at the end of the day on the body of the wall and nearer than 15 cm. to any corners or arises. It shall not be closed on the body of features such as plaster bands and cornices not at the corners or arises. Horizontal joints in plaster work shall not also occur on parapet tops and copings as these invariably lead to leakage. No portion of the surface shall be left out initially to be packed up later on.
 - Each coat shall be kept damp continuously till the next coat is applied or for a minimum period of 7 days. Moistening shall commence as soon as plaster is hardened sufficiently. Soaking of walls shall be avoided and only as much water as can be readily absorbed shall be used, excessive evaporation on the sunny or windward side of building in hot air or dry weather shall be prevented by hanging matting or gunny bags oh the outside of the plaster and keeping them wet.
 - Proportion and thickness and cement mortar as per above specification work.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of Employer's representative/employer
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Square meter.

Item No. 6.04 : Providing and fixing G.I. hexagonal chickenmesh of size 16 x24 of 22 gauge at junction of concrete and brick work or between different materials after making "V" groove between two different material surface and filled with rich cement mortar and @ 100mm on each side of surfaces including necessary "U" nails / screws / washers with cleats for fixing, overlaps, scaffolding at all floors / all levels / all heights / all shapes etc. complete as per drawing / specifications and direction of Engineer-in-charge. For civil, plumbing, electrical & infrastructure works.

1. Material:

- The G.I Hexagonal chicken mesh material as per approved sample by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete including all necessary material, tools, tackles etc.
- Work should be carried out all RCC, masonry joints at any height and instruction of EIC/ Architect
- All work should be carried out as per detailed drawing and instruction of EIC/ Architect
- Bidder shall be responsible for the any type of damage work at the time of execution.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Square Meter.

Item No. 7.01 : Providing and laying water proofing treatment in sunken portion of WCs, bathroom, terrace etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : (a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours. (b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.

1. Materials:

- Cementitious repair mortar (Deucrete CWP or equivalent) shall be used for Cementitious Waterproofing System as per approval by EIC/Architect.
- All type of material shall be used for waterproofing as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Remove all loose material, grease, oil, dust etc. from the surface on which the treatment is to be done.
- All Vertical pipe penetrations must be firmly grouted and an angle fillet must be formed around it.
- Spilled concrete or other material should be cut back to sound concrete and made good with suitable Cementitious repair mortar (Deucrete CWP or equivalent). 2 : 3 Coat Cementitious Waterproofing System (Primer + 2 Coats) (Deucrete CWP, Pidilite , Bal Endura or Equivalent) Once the surface is prepared as per the requirement, Damp down the concrete surface with clean water. 2. Whilst damp, but free from standing water, apply using a short, stiff bristle brush or roller. For heavy 6-10 mm depressions, etc. use less gauging liquid and mix to the desired consistency. 3. A first primer coat of waterproofing chemical Deucrete CWP (or Equivalent), mixed with water, cement and sand in the ratio of 1:1:1:1 is applied to the floor and walls.
- After the primer coat dries, a second coat with the ratio of 1:1:1 (Deucrete CWP/Pidilite/ Bal Endura : Cement: Sand) is applied at an average consumption of waterproofing material at 2 Kg/M².
- Once the second coat is dry, Third coat is applied at the same rate and ratio. Ponding Test 1. Once the Waterproofing work is finished and dried (confirmed by the site supervisor), ponding test must be conducted by filling the entire wet area with water. 2. Once ponding test is certified with absence of any kind of leakage or dampness, further work must be commenced. Work complete including all type of tools, tackles, scaffolding etc complete at any level and height.
- Work complete including all necessary materials, tools, tackles etc. as per described above specification.
- All work should be carried out as per detailed drawing and instruction of EIC/Architect.
- Bidder shall be responsible for the any type of damage work at the time of execution.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Square Meter.

Item No. 7.02 : Providing and laying Integral cement based brickbat coba water proofing treatment average 115mm thick and minimum thickness at khurra as 65 mm including preparation of surface as required for treatment on terraces etc. consisting of following operations and furnishing a guarantee bond of 10 years. Cleaning and applying a cement slurry at the rate 2.75 Kg per sqm mixed with water proofing compound as manufacture's specification over the slab including adjoining walls upto 300 mmheight. Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 admixed with water proofing compound to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. After three days of proper curing applying a second coat of cement slurry at the rate 2.75 Kg per sqm admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge. Finishing the surface to make wired finish with average 12 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound. The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. (Only plan area shall be measured, vata shall not be measured separately and paid for)

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant approved by EIC/Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- Work complete as per relevant specification of Item No: 22.8, page No -1176 in General specification DSR VOL-2 for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Square Meter.

Item No. 7.03 : Providing and laying broken china mosaic flooring for terrace using 12 mm to 20 mm broken pieces of glazed tiles to be laid over cement mortar 1:3 to plain or slope and to be tempered to bring mortar creme out upto surface using white cement including rounding off junctions and extending them upto 15 cm along the wall,clearing with water and oxalic acid etc. as directed.

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- Work complete as per relevant specification of Item No: 14.21 (A), page No - 82 in General specification R & B booklet for building works. Work shall be carried out of 12mm to 20mm broken pieces of glazed tiles instead of marble chips.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one square meter.

Item No. 8.01 : 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) on new surface or fixing on existing flooring by adhesive material including dismantling of existing flooring and jointed with color cement slurry including finised with flush pointing & cleaning the surface etc. complete for antiskid

1. Material:

- 8 mm thick Vitrified tiles shall be used and as per sample approved by EIC/Architect.
- Epoxy grouting shall be used of Laticrete or equivalent approved material by EIC/Architect.
- All type of material shall be used for flooring work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Bedding:
- Bedding shall be cleaned, wetted and mopped. The bedding shall then be laid evenly over the surface tamped and corrected to desired level and allowed to harden enough to offer a rigid cushion to tiles and to enable the monsoon to place wooden planks across and squat on it.
- The Vitrified tiles shall be laid on cement mortar bedding of 20 mm. thick in CM.1:6. The mortar shall have sufficient plasticity for laying and there shall be no hard lumps that would interfere with the evenness of bedding. The bedding shall be cleared and well wetted. The mortar shall then be spread in thickness not less than 20 mm. at any place and average 20 mm thickness. The proportion of the cement mortar shall be as specified in the item.
- Fixing tiles:
- The tiles before laying shall be soaked in water for at least two hours. Neat grey cement grout at 33 kg/Cement/Sqmt. of honey like consistency shall be spread over the mortar bedding as directed. The edges of the tiles shall be smeared with neat cement slurry.
- The tiles shall be well pressed and gently tapped with a wooden mallet till they are properly bedded and in level with the adjoining tiles.' There shall be no hollows in bed or joints. The joints between the tiles shall be as in straight line or as per pattern as per detailed drawing.

- The tiles shall not have staggered joints. The joints shall be true to centre line both ways. The Nahni trap coming in the flooring shall be so positioned that its grating shall replace only one tile as far as possible. Where full size tiles cannot be fixed they shall be cut (Swan) to the required size and the edges rubbed smooth to ensure straight and true joints. The joints shall be filled with laticrete grouting with wire brush or trowel to a depth of 6 mm. and loose material removed. Laticrete shall be used for pointing the joints. After fixing the tiles finally in an even plane the flooring shall be kept wet and allowed to nature undisturbed for 7 days.
- Cleaning:
- The surplus grouting material that may have come out of the joints shall be cleaned off before it sets. Once the floor has set, it shall be carefully washed, cleared and dried. Proper precautions and measures shall be taken to ensure that the tiles are not damaged in any way till the completion of the construction.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in square meter for visible area of work done. The length and width of the flooring shall be measured between the faces of Skirting or dado or plastered face of wall as the case may be. The paving under dado or skirting shall not be measured. No deduction shall be made not extra paid for any opening in the floor of area Up to 0.1 sqmt. Nothing extra shall be paid for laying the floors at different levels in the same rooms. The rate shall be for a unit of one square meter.

Item No. 8.02 : Providing and laying Vitrified tiles 8 to 10 mm thick , in skirting risers of steps and dado on 10mm thick cement plaster 1:3 (1-cement : 3-coarse sand) and jointed with white cement slurry

1. Materials:

- Vitrified tiles shall be used as per sample approved by EIC/ Architect.
- Epoxy grouting shall be used of Laticrete or equivalent approved material by EIC/ Architect.
- All type of material shall be used for flooring work as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- The relevant specifications of item No. 14.32 page no. 84 shall be followed except that the tiles shall be fixed for risers of steps, dado or skirting in C.M. 1:3 shall be done.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured and paid in one square meter.

Item No. 8.03 : 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

1. Materials:

- 25 mm thick Polished Kota stone slab of yellow/brown shall be used as per sample approved by EIC/Architect.
- Epoxy Grouting shall be used as per approved material by EIC/Architect.
- Work complete as per relevant specification of Item No: 14.43, (A) page No -86 in General specification R & B booklet for building works
- All type of material shall be used as per approved make list and confirming to relevant IS codes 1134- 1974 and approved by EIC/Architect.

2. Workmanship:

- Stone Slab:
 - Each slab shall be cut to the required size and shape and fine chisel dressed at all the edges. The sides thus dressed shall have a full contact if a straight edge is laid along. The sides shall be table rubbed with coarse and before paving.
 - All angles and edges of the slabs shall be true square and free from clippings and giving a plane surface. The thickness shall be 25 mm. as specified in the item but not less than 20 mm. at any place of the slab.
- Bedding:
 - For the kotah stone slabs shall be cement mortar 1:6 (1 cement; 6 coarse sand) of thickness 20 mm. & jointed with 12 mm thick laticrete grouting as given in the description of the item.
 - Sub grade shall be cleaned, wetted and mopped. Mortar of the specified mix and thickness shall be then be spread on an area sufficient to receive one kotah stone slab. The slab shall be washed clean before laying.
 - It shall be laid on top pressed, tapped gently to bring it in level with the other slabs. It shall then be lifted and laid aside.
 - Top surface of the mortar shall then be corrected by adding fresh mortar at hollows or depressions. The mortar shall then be allowed to harden bit. Over this surface, cement slurry of honey like consistency shall be applied.
 - The slab shall then be gently placed in position and lapped with wooden mallet till it is properly padded in level with and close to the adjoining slab.

- The joint shall be as fine as possible. The slabs fixed in the floor adjoining the wall shall enter not less than 10 mm. under the plaster, skirting or dado. The junction between the wall floors shall be finished neatly.
- The finished surface shall be true to levels and slopes as directed.
- The floor shall be kept wet for a minimum period of 7 days, so that bedding and joints set properly.
- Polishing shall be normally commenced after 14 days of laying the stone slab. Polishing shall be done as per suggestion of EIC/Architect. Water shall be properly used during polishing. The stone shall then be washed clean with water.
- The holes required for Nahni traps, pipes any other fittings shall be made without any extra cost.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Square meter for visible area of work done. The rate shall be for a unit of one Square meter.

Item No. 8.04 : Providing and laying polished kota stone slab 25mm thick in risers of steps,skirting Dedo and pillars laid on 10mm 3thick cement mortar 1:3 (1-Cement : 3 coarse sand) and jointed with gray cement slury mixed with pigment to match the shade of slab including rubbing and polishing etc. complete.

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant approved by EIC/Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- Work complete as per relevant specification of Item No: 14.44, page No -87 in General specification R & B booklet for building works

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one square meter.

Item No. 8.05 : Providing and laying 16 to18 mm thick polished Granite stone slab machine cut in single piece in risers of steps, dedo, pillar, sill and jambs or dedo laid on 10 mm thick cement mortar 1 : 3 (1 cement : 3 coarse sand) laid over and jointed withgrey cement slurry incl. rubbing and polishing etc complete. The rate includes loddging, unloading, scaffolding, wastage, making hole, cutting/ chasing, rounding champhering, edge polishing of edges. The work shall be carried out as per the approval of architect and engineer-in-charge. for all floors

1. Material:

- 16 to 18 mm polished thick Granite with finish shall be used as per Basic rate and sample approved by EIC/Architect.
- Epoxy adhesive shall be used of approved material by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes 1134 - 1974 and approved by EIC/Architect.

2. Workmanship:

- Bedding: Granite slab shall be laid on Bedding on 16 to 18 mm thick cement mortar 1:3 (1 cement: 3 Fine sand) as given in description of item. The mortar shall have sufficient plasticity for laying and there shall be no hard lumps that would interfere with the evenness of bedding. The bedding shall be cleared and well wetted. The mortar shall then be spread in thickness not less than 10 mm. at any place and average 10 mm thickness. The proportion of the cement mortar shall be as specified in the item.
- Laying: The surface of sub-grade shall be cleared, wetted and mopped. Mortar of specified mix and thickness shall then be spread on an area sufficient to receive one slab. The slab be washed clean before laying. It tie laid on top pressed and tapped gently to bring it in level with other slabs. It shall then be lifted and a side. The top surface of the mortar shall then be corrected by adding fresh mortar at hollows, or depressions. The mortar shall then be allowed to harden it over this surface cement slurry or honey like consistency at 3.3 Kg. of cement per sq. meter. The edges of slabs already paved shall be buttered with gray cement. The slab shall then be gently placed in position and tapped with wooden mallet till it is properly bedded in level with and close to the adjoining slab. The joints shall be as fine as possible. Surplus cement on the surface of the slab shall be removed. The slab fixed in the floor adjoining the walls shall enter not less than 10 mm. under the plaster skirting or dado. The junction between the walls and floors shall be finished neatly. The finished surface shall be true to level and slopes as directed. The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one square meter.

Item No. 8.06 : Basin Counter/Granite Platform : Providing and constructing approved shade and sample of Mirror finish granite platform , 750mm width 25 mm thick Machine polished kotah stone as vertical supports at sides,including cutting granite & kotah as per required shape , dedo 1'6" ht & size to fit kitchen sink, moulding, tiles adhesive nosing, chamfered front edges, fixing, disposal of debris etc complete with all labour and materials and as per detailed drawings / architects instruction and approval by Engineer-in-charge. The sample mock shall be approved from EIC.

1. Material:

- Granite shall be used as per Basic rate is Rs. 1347.46/Sqmt and sample approved by

EIC/Architect.

- Granite adhesive and Pigments shall be used of as per approved by EIC/Architect.
- All type of material shall be used for basin counter work as per approved make list and confirming to relevant IS codes 1134- 1974 and approved by EIC/Architect.

2. Workmanship:

- Two layers of wash basin counter, first layer using 25mm thick Kotastone of approved shade and second layer using approved shade and sample of Mirror finish Granite, joined together with 1:4 Cement mortar bedding / approved tile adhesive ,to true plane & level or to slopes, or close jointed with cement slurry with pigment of matching shade and colour and finishing with the same,
- Work including dado 1'6" ht , cutting kotah as per required shape & size to fit Wash basin,& 3" to 9" facia with moulding, nosing, chamfered front edges, fixing disposal of debris etc.
- Work complete including all type of joining material, tools, tackles, with finishing, proper even surface etc. as per specification and suggestion.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Square Meter.

Item No. 8.07: Urinal partition: Providing & laying 16 to 18 mm thick both side mirror polished granite of approved shade and quality, seleted and sorted for uniform color for urinal partition/ division plate as per design and in required sizes and shapes after chasing /cutting of dado with cutter machine fixing shall be carried out in white cement sand mortar (1:1) with matching pigment and/ or necessary adhesive. (Only finished granite work shall be measured). All expose edges shall be champhered and polished. The rate includes making hole, cutting/ chasing, rounding champhering, edge polishing of edges. The work shall be carried out as per the approval of architect and engineer-in-charge.

1. Material:

- 16 to 18 mm thick both side mirror polished Granite shall be used as per sample approved by EIC/Architect.
- Epoxy adhesive shall be used of approved material by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes 1134- 1974 and approved by EIC/Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to

complete the whole work satisfactorily as per instruction of EIC/Architect.

- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one square meter.

Item No. 8.08: Concrete flooring (IPS Flooring): Concrete flooring: Providing and laying cement concrete flooring 1:2:4 (1-cement: 2-coarse sand: 4-graded stone aggregate 20mm nominal size) laid in one layer and finished with a floating coat of neat cement. (B) 50mm thick.

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- Cement shall confirm M-3 of GTS Booklet for building works.
- Sand shall confirm MS sand (M6) of GTS Booklet for building works.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- Work complete as per relevant specification of Item No: 14.71 (B), page No - 89 in General specification R & B booklet for building works

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one square meter.

Item No. 9.01: Providing, fabricating, assembling, hoisting/ erecting and fixing in position at all heights/ all levels/ all floors/ all shapes & sizes with all leads & lifts using MS Rolled Steel Sections, Hollow sections, MS Plates/ sheet, Chequered Plates, Perforated Sheet, Flats, Bright Bars, Anchor bar, deep threaded MS bolts, threaded J bolts, insert plate, support plate etc as per drawing and all confirming to latest relevant IS codes for steel structures like staircases, railings, handrail, jali, gates, grills, bracings, platforms, brackets, monkey ladder, cattle trap, rungs, roof canopy, or similar etc. including straightening, cutting, bending, bolting and welding the members, scaffolding/ staging, profile cutting, smooth grinding, machine drilling of holes for joining/ anchoring etc complete. Standard measurements will be paid for as actual cut length used at site. The rate shall include dry sanding, degreasing (wet cleaning) & preparation of rustfree surface manually or mechanically, metal putty to make the surface even and smooth, 2 coat epoxy/ zinc rich primer and 2 coat of PU paint of approved make, shade and finish over all the surfaces of the steel sections.

1. Materials:

- Fabrication section, plate, pipe and sheet shall be used as per approved sample by EIC/Architect.
- All type of material shall be used for work as per approved make list and confirming

to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Fabricating, supply and erecting in position Standard Structural steel sections conforming to IS 2062 with for regarding dome work or other works using ISMB, ISA, ISMC, section, plate, pipe and sheet etc. including welding, cutting, wastage, etc. complete. The rate is inclusive of welding road, supply & fixing of correct size nut, High strength bolts of 8.8 grade, washers, paint, with all Bidder's materials, labour, tools & plants, in bolted / welded construction as directed by Engineer-in-Charge.
- Work complete as per above specification, drawing and instructions of the EIC/Architect. Work complete including all type of finishing.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Area shall be measured & paid in KG.

Item No.9.02: SS RAILING : Providing and fixing stainless steel (Grade 304) railing Horizontal top pipe of 50mm dia., verticle Sq pipe 32X32 mm 900 mm c/c and 16 mm Dia. 3 Nos. Horizontal Pipe equval Spacing Hollow Pipes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts, Plates and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners, stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in charge, (for payment purpose only weight of stainless steel members shall be considered including fixing accessories such as nuts, bolts, fasteners etc.). As per Drawing and Approve by Engineer in Charge.

1. Material:

- SS 304 grade element for railing work shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Railing shall be made with Stainless steel seamless tube of grade 304, continuously welded and grinded smooth polished smooth/ rough, bend/ curved at turning as per design, fixed/ welded with the Stainless steel balusters complete as per architectural drawing.
- All members of railing shall be machine cut, machine polished to get the best finishing. The balusters to be fixed with floor/wall as the case may be with hidden type metal fasten of approved make and approved size.
- Base of baluster shall be covered with 2mm thk SS covering as per design
- All the work complete as per the detailed drawing and instruction of EIC/Architect.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Area shall be measured in Running Meter.

Item No.9.03: SS RAILING: Providing & Fixing Stainless steel 304 grade pipe railing Horizontal 50 mm dia. 2 Nos. and Supprt pipe from wall 16mm Dia. at everymax 0.90mtr C/C including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts, Plates and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners, stainless steel bolts etc., fixed on Concrete or brick work. Rate including of all materials.labour, fixing & polishing etc. comp. as per Drawing and Approve by Engineer in Charge.

1. Material:

- SS 304 grade element for railing work shall be used as per approved make and sample by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Railing shall be made with Stainless steel seamless tube of grade 304, continuously welded and grinded smooth polished smooth/ rough, bend/ curved at turning as per design, fixed/ welded with the Stainless steel balusters complete as per architectural drawing.
- All members of railing shall be machine cut, machine polished to get the best finishing. The balusters to be fixed with floor/wall as the case may be with hidden type metal fasten of approved make and approved size.
- Base of baluster shall be covered with 2mm thk SS covering as per design.
- All the work complete as per the detailed drawing and instruction of EIC/ Architect.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Area shall be measured in Running Meter.

Item No.10.01: Wall painting (two- three coats) with plastic emulsion paint of approved brand and manufacture on undecorated wall and ceiling surface to give an even shade including

thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth.

1. Material:

- Wall paint shall be used as per sample approved by EIC/ Architect.
- Work complete as per relevant specification of Item No: 18.57, page No -120 in General specification R & B booklet for building works.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Scaffolding: Wherever scaffolding is necessary it shall be erected in such a way that as far as possible on part of scaffolding shall rest against the surface to be colour washed. A properly secured strong and well tied suspended platform (Zoola) may be used for painting. Where ladders are used, pieces of old gunny bag shall be tied at top and bottom to prevent scratches to the floors and walls. For paint of ceilings proper stage scaffolding shall be erected where necessary.
- Preparation of surface: The substrate must be sound, clean, dry, free from dust, oil, grease and laitance etc. All traces of release agents must be removed. On chalky and dusty surfaces, all loose material must be removed by stiff bristle brushing. The primer
- / Paint application is to be done with the rollers. Rate shall be including crack filling and levelling as per manufacturer's specification.
- Application: Applying two coats of Acrylic co-polymer Stucco putty of Jotun or equivalent on a one coat of PVA primer/Decoprime or equivalent and two coats of paint, scaffolding to at any height with all labour and material thoroughly brushing the surface free from mortar droppings and other foreign matter and sand prepared smooth etc. complete.
- Precautions: Splashes on floors etc. shall be cleaned out without delay as they will be difficult to remove after hardening. Washing of surfaces treated with Paints shall not be done within 3to4weeks of application.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- Rate shall be including crack filling and leveling as per manufacturer's specification.
- Low VOC content. 2) Crack Bridging ability upto 1 mm. 3) Ability to resist bacteria/fungus 4) APEO (Alkyl Phenol Ethoxylate) and Formaldehyde free 5) Very Low Flame spread 6) Superior Washability.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Area shall be measured & paid in Square Meter.
- The rate shall be for a unit of Square meter.

Item No. 10.02: Finishing wall with weather proof exterior emulsion paint on wall surface (two coats) to give an required shape even shade after thoroughly brushing the surface to remove all dirt, and remains of loose powdered materials. etc complete

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- Work complete as per relevant specification of Item No: 18.51, page No -119 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one square meter.

Item No. 10.03: Providing and applying external finish of average 2 to 2.5mm thick acrylic polymer based texture and pattern with standard tool and applicator as specified by manufacturer on exterior surfaces at all heights including scaffolding to give even shades including thoroughly brushing the surfaces free from mortar dropping and other foreign matter and sand paper smoothed etc. complete as per the manufacture specifications and up to the satisfaction of Engineer in-charge/ Architect. The rate includes making of grooves, pattas and finishing as directed by Architect/ EIC. Paint shall be measured and paid in seperate tender item. (Item should be executed by approved applicator only.)

1. Material:

- Acrylic polymer based texture and pattern shall be used as per sample approved by EIC/Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Scaffolding: Wherever scaffolding is necessary it shall be erected in such a way that as far as possible on part of scaffolding shall rest against the surface to be color washed. A properly secured strong and well tied suspended platform (Zoola) may be used for painting. Where ladders are used, pieces of old gunny bag shall be tied at top and bottom to prevent scratches to the floors and walls. For paint of ceilings proper stage scaffolding shall be erected where necessary.
- Preparation of surface: The substrate must be sound, clean, dry, free from dust, oil, grease and laitance etc. All traces of release agents must be removed. On chalky and dusty surfaces, all loose material must be removed by stiff bristle brushing. The primer / paint application is to be done with the rollers. Rate shall be including crack filling and leveling as per manufacturer's specification.
- Application: Wall painting two coats with low VOC Jota shield Tax Ultra of Jotun or

equivalent approved brand in any shades and color as directed on wall surface to give an even shade including applying of a one coat of Penetrating primer or equivalent and two coats of paint, scaffolding to at any height with all labor and material thoroughly brushing the surface free from mortar droppings and other foreign matter and sand prepared smooth etc. complete.

- Precautions: Splashes on floors etc. shall be cleaned out without delay as they will be difficult to remove after hardening. Washing of surfaces treated with Paints shall not be done within 3 to 4 weeks of application.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- Rate shall be including crack filling and leveling as per manufacturer's specification.
- 1) Low VOC content. 2) Crack Bridging ability up to 2.6 mm. 3) 100% pure acrylic emulsion
- 4) Anti-Carbonation concrete protection 5) Very Low Flame spread 6) Superior Wash ability.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Area shall be measured & paid in Square Meter.

Item No. 10.04 : Fencing : Providing and fixing 'Y' shaped barbed wire fencing on compound wall top with vertical angle of 50x50x6mmx0.50 mt. height, two cross angle 50x50x6mmx0.45mt. Length, having 3 horizontal and two diagonal rows of barbed wire (9.38 kg/100 rmt) on vertical angle and three horizontal and two diagonal barbed wire rows on each cross angle incl. cost of barbed wire, necessary GI stapplings, fixing on top of compound wall, painting angle with one coat of anticorrosive primer and two coats of enamel paint of approved quality, necessary scaffolding etc. complete as per the direction of the Engineer in charge.

1. Materials:

- Vertical and cross members shall be Mild Steel angles of size 50 × 50 × 6 mm, conforming to IS:2062 or latest relevant Indian Standard.
- Barbed wire shall be galvanized steel barbed wire, weighing 9.38 kg per 100 running metres, conforming to IS:278 (Part 1) or latest revision.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- GI staples, bolts, nuts, washers, clamps, and other fixing accessories shall be of approved quality and corrosion-resistant.
- One coat of approved anticorrosive primer and two coats of synthetic enamel paint of approved brand and shade, conforming to relevant IS standards

2. Workmanship:

- 'Y'-shaped MS angle posts shall be fabricated accurately to the required dimensions and securely fixed on the top of the compound wall at approved spacing using bolts, grouting, or welding, as directed by the Engineer-in-Charge.

- Each vertical angle shall carry three horizontal and two diagonal rows of barbed wire.
- Each cross angle shall also carry three horizontal and two diagonal rows of barbed wire.
- Barbed wire shall be tightly stretched, uniformly aligned, and properly fastened using GI staples to prevent sagging.
- All MS surfaces shall be cleaned of rust, oil, grease, and scale before painting.
- One coat of anticorrosive primer shall be applied, followed by two coats of enamel paint, ensuring uniform finish and adequate drying time between coats.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- All work shall be executed strictly in accordance with the drawings, specifications, and directions of the Engineer-in-Charge.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Running Meter.

Item No.11.01: PLUMBING FIXTURE: Providing, fixing, jointing and testing in position of various Bathroom C.P. Fixtures with hydraulic testing complete as per design, drawing and instruction of site incharge. 25mm Dia Control Valve.

1. Material:

- Control Valve shall be used as per approved sample by EIC/ Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Control Valve shall be fixed with necessary fittings, accessories etc complete as per detailed drawing.
- The whole works is to be completed as per design, sample material, and any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Number for area of work done.
- The rate shall be for a unit of one number.

Item No.11.02: Providing and fixing screw down bib taps of following size. (B) Brass chromium plated screws down Bib Tap. (i) 15mm dia.

1. Material:

- Bib tap shall be used as per approved sample by EIC/ Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.
- A BIB cock shall confirm M-57 of GTS Booklet for building works

2. Workmanship:

- Bib tap shall be fixed with necessary fittings, accessories etc complete as per detailed drawing.
- The whole works is to be completed as per design, sample material, and any other requirement shall be as per instruction of EIC/ Architect.
- Work complete as per relevant specification of Item No: 23.92.(A),(I) page No - 150 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Number for area of work done.
- The rate shall be for a unit of one number.

Item No.11.03: Providing and fixing health faucet with 1 m PVC tube and swivel hook including all fittings complete.

1. Material:

- Health faucet with 1mt PVC tube and swivel hook shall be used as per approved sample by EIC/ Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Health faucet with 1mt PVC tube and swivel hook shall be fixed with necessary fittings, accessories etc complete as per detailed drawing.
- The whole works is to be completed as per design, sample material, and any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Number for area of work done.

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

Item No.11.04: Providing, fixing, jointing and testing in position of various Bathroom C.P. Fixtures (Angle Cock) with hydraulic testing complete as per design, drawing and instruction of site incharge. Urinal stop cock.

1. Material:

- C.P. fixture Angle cock shall be used as per approved sample by EIC/ Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.
- A angle cock shall confirm M-57 of GTS Booklet for building works

2. Workmanship:

- C.P. fixture Angle cock shall be fixed with necessary fittings, accessories etc. complete as per detailed drawing.
- The whole works is to be completed as per design, sample material, and any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Number for area of work done.
- The rate shall be for a unit of one number.

Item No.11.05: Providing and fixing white glazed vitreous china wall mounting type (European type) water closet with C.P. bolts, nuts, C.I. Chair or other hanging arrangement, white solid plastic seat with lid, C.P. brass hinges and rubber buffers, Metropole flush valve reguler 40mm size (concealed body) with exposed shut off provision , C.P. brass screws and washers complete, including cutting and making good the walls floors where required. Wall hung EWC matching white plastic seat with lid & CP brass hinges & CP push plate.

1. Material:

- Wash down water closet (European type, W.C. Pan) with integral P or S trap as per approved make and sample by EIC/ Architect.
- Metro pole flush valve as per approved make and sample by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.
- European type water closet/with low level flushing shall confirm M-60 of GTS Booklet for building works.
- Work complete as per relevant specification of Item No: 23.112.(A),(I) page No - 146 in General specification R & B booklet for building works.

2. Workmanship:

- 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)

- Work complete as per above specification.
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Number for area of work done.
- The rate shall be for a unit of one number.

Item No.11.06: Providing and fixing White glazed vitreous Wash Basin Round Over-Counter, size 450 mm dia., with supporting in stone flooring, 1 no, 32 mm CP Bottle trap with extension piece to wall flange with rubber adopter for waste connection, 1.2m Flexible Pipe [1No] and waste coupling. Etc complete. Wash Basin Table Top - 420x420x155 mm.

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.
- The white glazed vitreous wash basin round over-counter shall be of best quality.
- The white glazed vitreous wash basin round over-counter shall be above description.
- Wash Basin Table Top - 420x420x155 mm
- Wash Basin shall confirm M-59.1 of GTS Booklet for building works.

2. Workmanship:

- The White glazed vitreous Wash Basin Round Over-Counter, size 450 mm dia. shall be fixed as per drawing or as directed.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.
- Work complete as per relevant specification of Item No: 23.127 page No-148 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in number for visible area of work done.
- The rate shall be for a unit of one number.

Item No.11.07: Providing & fixing in position 15 mm C.P. brass angle cock of best quality with 1.2 Rmt Long pvc Tube and accessories with necessary fittings etc. complete.

1. Material:

- All type of material shall be used as per approved make list and confirming to

relevant IS codes and approved by EIC/Architect.

- 15 mm C.P. Brass angle cock shall be used as per approved sample by EIC/ Architect.
- A angle cock shall confirm M-57 of GTS Booklet for building works

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.
- 15 mm C.P. Brass angle shall be fixed with necessary fittings, accessories etc complete as per detailed drawing.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Number for area of work done.
- The rate shall be for a unit of one number.

Item No.11.08: Providing & fixing in position 15 mm C.P. brass pillar cock of best quality with necessary fittings etc. complete.

1. Material:

- C.P. Brass Pillar cock shall be used as per approved sample by EIC/ Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- C.P. Brass Pillar cock shall be fixed with necessary fittings, accessories etc complete as per detailed drawing.
- The whole works is to be completed as per design, sample material, and any other requirement shall be as per instruction of EIC/ Architect.
- Work complete as per relevant specification of Item No: 23.95.(A) Page No-151 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Number for area of work done.
- The rate shall be for a unit of one number.

Item No.11.09: Providing and fixing towel rail of approved make including, providing and fixing C.P. brass screws, making holes in walls and making good etc. complete as per suggestion of Architect/EIC.

1. Material:

- Towel rail shall be used as per approved sample by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to

relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- Towel ring square shall be fixed with necessary fittings, accessories etc complete as per detailed drawing.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Number for area of work done.
- The rate shall be for a unit of one number.

Item No.11.10: Providing and fixing Towel Ring Round with Round Flange, as approved by the architect. Work complete including all type of fittings, etc complete as per suggestion of Architect/EIC.

1. Material:

- Towel Ring Round shall be used as per approved sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- Towel ring square shall be fixed with necessary fittings, accessories etc complete as per detailed drawing.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Number for area of work done.
- The rate shall be for a unit of one number.

Item No.11.11: Providing & fixing stainless steel recessed type soap dish of approved make. Including providing & fixing screws, washers, cutting & making good the walls etc.complete as per suggestion of Architect/EIC.

1. Material:

- Soap Dish Holder shall be used as per approved sample by EIC/ Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Soap Dish Holder shall be fixed with necessary fittings, accessories etc complete as per detailed drawing.

- The whole works is to be completed as per design, sample material, and any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The rate shall be for a unit of one number.

Item No.11.12: Supply, Installation, Testing & Commissioning vitreous matrix set (For Handicap) including matrix EWC (European type water closet) with cistern, wall hung matrix wash basin, lever arm faucet for ease of operation, centre pre-punched tap hole, grab bar with slightly lower height for added convenience & fixed to wall with brackets including cutting and making good the wall and floors as required. Colour Star White.

- Where specified, in washroom facilities designed to accommodate physically disabled, accessories shall be provided as directed by the Owner's Site Representative
- Stainless steel garb brass of required size suitable for concealed or exposed mounting and preened non-slip gripping surface shall be provided in all washroom. The flushing cistern/valve shall be provided with chromium plated long handles.

1. Material:

- Supplying, Installation of floor mounted water closet for disabled people. The distance of p trap is 180 mm. Features:
- Increased height for convenient
- Cistern with raised soft-push button for convenience access
- Flushes with 6ltr
- Grab and hinged rails for support
- Easy to install and maintain
- Conversion Bend available to convert 'P' to 'S' Trap
- Supplying, Installation of wash basin for differently able people. The distance of p trap is 180 mm. The size of wash basin is 460x 360 mm
- Features:
- Wall hung compact basin
- Optional lever arm faucet for ease of operation
- Centre pre punched tap hole
- Recommended for installation at a slightly lower height for added convenience
- Fixed to wall with bracket

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.
- Matrix Set shall be fixed with necessary fittings, accessories etc complete as per detailed drawing.

3. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Number for area of work done.
- The rate shall be for a unit of one number.

Item No.11.13: 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.

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- Work complete as per relevant specification of Item No: 22.124(A), page No -152 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one each.

Item No.11.14: Providing and fixing Kitchen sink with C.I. Or M.S. brackets, painted white including cutting holes in walls and making good the same but excluding fittings. (C) Vitreous China Sink.(i) 600mm x 450mm x 150mm size.

1. Material:

- Kitchen sink with C.I. or M.S. brackets shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- Work complete as per relevant specification of Item No: 23.130 (C), page No -148 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Number for area of work done.

- The rate shall be for a unit of one each.

Item No.12.01: 4 DOOR PERSONAL LOCKER UNIT - 400 W x 500D x 1830H : The lockers are made up of CRCA having 4 compartments in every tower. The size of the tower is 400 (W) X 500 (D) X 1830 (H). The tower is equally divided into 4 compartments. Each compartment has an individual locking mechanism pre-fitted to it. The top of the Tower is made up of 2mm thick CRCA duly powder coated to approved finish. The carcass and shelf are made up of 0.8mm CRCA Duly Powder Coated. The skirting is made up of 1.2mm CRCA duly powder coated to the approved finish. The powder coating is of 50-60 microns. All CRCA material confirm to IS 513 CR2 2008. Rate shall inclusive of shop drawing, mock up sample, all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, all accessories as described in item description. As approval of architect.

1. Material:

- Locker Unit shall be used as per approved make and sample by EIC/Architect.
- The Lockers are made up of CRCA Compartments.
- All CRCA material confirm to IS 513 CR2 2008.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per standard Manufacturers specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The Size of Tower is 400w x 500d x 1830h. And they are Equally Divided into 4 Compartments.
- The top of the Tower is made up of 2mm thick CRCA duly powder coated to approved finish.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Numbers for area of work done.
- The rate shall be for a unit of one Numbers.

Item No.12.02: Table: Providing & fixing office table / staff table having ht of 750 mm Top, with 19mm thk plywood as per Architect/ Engineer Design or Selection and Back and side Ply of table is also made up of 19mm Thick. Top of Table is 19mm thk ply with laminate Finish per Requirement and all internal & external Joints finished with teakwood beading Patti. Item includes fixing of drawers and keyboard tray and storage with shutters under table as per drawing. With grooves shown as per drawing. All exposed and internal surfaces covered with Laminate Finish of approved shade & Complete as per detail drawings & as instructed by Architect/consultant/ Engineer In charge. Complete with all necessary hardware like nails, ss

screws, table chain, TDS channel, adhesives etc. Contractor has to provide all necessary cut outs for Electrical works & no extra payment shall be made for it. All ply should follow IS 710.

1. Material:

- IS 710 ply shall be used as per approved make and sample by Employer's representative/employer
- Laminate shall be used as per approved make and sample by Employer's representative/employer
- Hardware's shall be used as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer.

2. Workmanship:

- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of Employer's representative/employer

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of Employer's representative/employer
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Numbers for area of work done.
- The rate shall be for a unit of Square Meter.

Item No.12.03: Chair Type - 01 (Main Chair):- Supplying and providing High Back Mesh office Chair As per specification below:

-Metal frame seat made of Mesh fabric upholstery (foam base)

-Adjustable Head rest

-Fixed Arm rest

-Knee tilt mechanism

-360 swivel motion/ 100mm stroke gas

-Nylon Star base

-Pushback mechanism & comfy seating.

-Complete as per architectural design and concept and approved by Architect & Client.

1. Material:

- Chair Type - 01 (Cabin Main Chair) High Back Mesh office Chair shall be used as per approved make and sample by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Metal frame seat made of Mesh fabric upholstery (foam base)
- Adjustable Head rest
- Fixed Arm rest
- Knee tilt mechanism
- 360 swivel motion/ 100mm stroke gas
- Nylon Star base
- Pushback mechanism & Comfy seating.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate shall be inclusive of all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, polishing and all accessories as described in item description.
- The work done shall be measured in Numbers for area of work done.
- The rate shall be for a unit of one Numbers.
- The rate shall be for a unit of one Numbers.

Item No.12.04: Chair Type - 02 (Visitor Chair) :Supplying and providing Mid Back Mesh office Chair As per specification below:

-Metal frame seat made of Mesh fabric upholstery (foam base)

-Center tilt mechanism

-100mm class 4 gas lift

-PP Fixed Arm rest

-Nylon Star base/Twin wheel nylons casters

-Complete as per architectural design and concept and approved by Architect & Client.

1. Material:

- Chair Type - 02 (Cabin Visitor Chair) Mid Back Mesh office Chair shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Metal frame seat made of Mesh fabric upholstery (foam base)
- Center tilt mechanism
- 100mm class 4 gas lift
- PP Fixed Arm rest

- Nylon Star base/Twin wheel nylons casters
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate shall be inclusive of all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, polishing and all accessories as described in item description.
- The work done shall be measured in Numbers for area of work done.

Item No.12.05: Single Bed : Providing and Placing Single Bed - 2050mm L X 973mm W X 720mm H1 * 412 H2 mm with headboard with combination of Tubular Steel, Particle Board and slatted mattress base with headboard. Material: Headboard panels are made of 18 mm thick Pre laminated Particle board. All the exposed edges should be edge banded with 2 mm thick PVC edge banding. Bed Leg Frame Structure consists of metal frames made of M.S. 50 x 25 mm box section in 1.2 thicknesses. Internal pipes are made of 19 x 19 mm box section in 0.9 mm thickness. Headboard pipes are made of 25 x 25 mm box section in 0.9 mm thickness. Mattress holding bkt is made of 0.6 mm CRCA SHEET Hardware: The High quality hardware should are used. Construction: Knock down construction Finish: 18 mm thick pre laminated particle board, Bed leg frame structure is powder coated in shade To thickness of 50 microns (+/- 10) Rest all metals are powder coated in shade to thickness of 50 microns (+/-10) The rate shall include all materials, hardware and labour etc. complete.

1. Material:

- Single Bed shall be used as per approved make and sample by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per standard Manufacturers specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- All the exposed edges should be edge banded with 2 mm thick PVC edge banding.
- The size of single bed is 2050mm L x 973mm W x 720mm H.
- Headboard pipes are made of 25 x 25 mm box section in 0.9 mm thickness.
- Thickness of 50 microns (+/- 10) Rest all metals are powder coated in shade to thickness of 50 microns (+/-10).
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all

heights and for all floors.

- The work done shall be measured in Numbers for area of work done.
- The rate shall be for a unit of one Numbers.

Item No.12.06: Providing and Placing Single Bed Mattress, pillow, bedsheet with pillow cover ,with 12mm thick prelam mdf back- 900x1950x100mm - goldline plus pu form 40 density 300 gsm cotton satin quilt cover.Mattress back putti made of 12mm thick prelam mdf bothside white finish.Kurlon dew pillow 600x400 Fill: Polyester Fibre Quality of shell fabric: 110 GSM cotton satin patti Outer Shell Layer: Cotton Fill Weight (in gms): 650.Bedsheet with pillow 100% cotton of bombay dyeing or eq.

1. Material:

- Mattress back board shall be made from 12 mm thick pre-laminated MDF with a both-side white finish
- The mattress shall be made of Goldline Plus PU foam of 40 density, and covered with a 300 GSM cotton satin quilt cover.
- The pillow shall be of Kurlon Dew type, filled with polyester fibre, with a 110 GSM cotton satin patti shell fabric, an outer cotton shell layer, and a fill weight of 650 gms.
- The bedsheet with pillow cover shall be made of 100% cotton and shall be of Bombay Dyeing make or an equivalent approved brand.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above specification.
- All components shall be new, clean, defect-free, and of approved quality.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- Mattress size 900 mm × 1950 mm × 100 mm shall be considered one complete unit.
- Pillow size 600 mm × 400 mm shall be measured per number.
- No extra payment will be given for any of the reasons.
- The rate shall include all materials, hardware and labour etc. complete.(Including Mattress & Pillow)
- The work done shall be measured in Numbers for area of work done. The rate shall be for a unit of one Set.

Item No.12.07: Providing and fixing cupboard of size 916W*530D*1980H mm with 4 shelves. Material - 0.7mm thick (+/-0.07mm) CRCA for shelf; 0.8mm thick (+/-0.08mm) high yield strength CRCA for doors & back; 0.9mm thick (+/-0.08mm) CRCA for all other components. It should have 2 way locking mechanism with shooting bolt & Brase handle. It should have height wise adjustable shelf with uniformly distributed load capacity per each full shelf 40kg maximum. Finish - Epoxy Powder Coated to the thickness of 50 microns (+/-10).

1. Material:

- Cupboard shall be used as per standard Manufacturer's specification and approved sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to

relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Welded Construction. 0.7 mm thk. CRCA for Base Frame & Door 0.8 mm thk. CRCA for All Body, Back, Shelve.
- Epoxy powder coated to the thickness of 50 micron(+10%) All material treated with 10 tank pre-cleaning Chemical process and powder coating having minimum 50 micron coating as per colour scheme.
- Multipurpose locking system with Approval Handle.
- All shelve are Adjustable. UDL capacity per each full shelf is 40kg.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- The size of cupboard is 916 mm W x 530 mm D x 1980 mm H. with 4 Sleevs Material
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Numbers for area of work done. The rate shall be for a unit of one Numbers.

Item No.13.01: Providing and fixing SS 304 grade brush finish 1.0 mm thick Internal signage of any shape any size and in any language like Gujarati, Hindi and English with letter, numbers, graphic, arrow, symbol etc made by etching with duco paint/ laser print or vinyle sticker with lamination of approved shade. All signage plates shall be made in CNC water jet cutting, with all smoothen edges and pencil round corner. Signage matter shall be as per drawing. The plate shall be fixed on brick masonry or RCC wall/ door with the necessary fixing like stud, fastner, self adhesive or adhesive etc complete for all floor all height as directed by Architect and Engineer in charge. The rate shall be inclusive of all material, labour, drilling, fasteners/ adhesive, scaffolding etc. at all heights. Only elevation area shall be measured and paid. The contractor shall submit the shop drawings based on concept design and prepare the sample and get it approval before execution.

1. Material:

- Signages shall be used as per approved make and sample by Employer's representative/employer.
- SS 304 grade brush finish shall be used as per approved make and sample by Architect/Engineer in Charge.
- All Signages plates shall me made in CNC water jet cutting.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by Employer's representative/employer.

2. Workmanship:

- Work complete as per above manufacturer's specification.

- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- All signage plates shall be made in CNC water jet cutting, with all smoothen edges and pencil round corner. Signage matter shall be as per drawing.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of Employer's representative/employer.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of Employer's representative/employer
- No extra payment will be given for any of the reasons.
- The work done shall be measured in number for area of work done. The rate shall be for a unit Sqm.

Item No.13.02: SS letter sign:- Providing and fixing SS 304 letter of required height made of 3/4" SS 304 channel (1mm thick) for signage in Gujarati, Hindi and English languages and the font style (letter/ number) as approved sample or as per design and drawings. It shall be made from ISI Brushed S.S. 304 using Water jet / CNC cutting machine. It shall be fixed on the wall with chemical anchor fastener at any level any height. All Edges and corners shall be smoothened. Width of the letter shall as per the proportion of the word for depth 1". Stainless Steel Patti shall be argon welded. Duco paint of approved make, shade in required coat with necessary primer and putty shall be applied on external surface of letter. It shall be paid in as per alphabet no. In Gujarati/ Hindi language one letter shall considered with its contents (i.e. Kano, Matra etc.) i.e. 'chhi' letter in Gujarati shall be considered as one letter. Height of letters may vary + 3" shall be included in quoted rate. The rate shall be inclusive of scaffolding, drilling, adhesive material etc. complete for all heights as directed by Architect and EIC. The contractor shall submit the shop drawings based on concept design and prepare the sample and get it approval before execution.

1. Material:

- Signages shall be used as per approved make and sample by Employer's representative/employer.
- SS 304 3/4" grade brush finish shall be used as per approved make and sample by Architect/Engineer in Charge.
- All Signages plates shall be made in CNC water jet cutting.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by Employer's representative/employer.

2. Workmanship:

- Work complete as per above manufacturer's specification.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- Width of the letter shall as per the proportion of the word for depth 1".
- Height of letters may vary + 3" shall be included in quoted rate.
- All signage plates shall be made in CNC water jet cutting, with all smoothen edges and pencil round corner. Signage matter shall be as per drawing.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of Employer's representative/employer.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of Employer's representative/employer
- No extra payment will be given for any of the reasons.
- The work done shall be measured in number for area of work done. The rate shall be for a unit Sqm.

Item No.13.03: ACP sheet signage on Existing Pole/ New Pole: Providing and fixing signage board made of 4 mm thick ACP sheet in any shape and size and of approved make, to be cut on CNC router cutting and smoothen all corners and edges. Matter shall be cut in 3M High intensity prismatic Reflective vinyl ASTM Type 4 and paste on it as per design and detail and as per manufacturer's specifications. UV stabilized lamination shall be done on it. The ACP sheet shall be fixed with clamp and angle on new or existing MS Pole as per drawing. Content of sign shall be letters (In Gujarati & English), number, arrow, graphics / maps, logo, signs etc. in any colour as per design, drawing and approved by Architect and Engineer. All side of box shall be covered with same ACP sheet, but only one side elevation area shall be measured and paid in sqmt. Cost of MS Pole and Civil works shall be paid as per relevant tender items. The rate shall also include cost of scaffolding, drilling, fabrication, finishing, adhesive material, etc at all height and all lead, angle, fixing charges, etc. The contractor shall submit the shop drawings based on concept design submitted by architect for approval, prepare the sample and get it approve by architect before mass execution.

1. Material:

- Providing, fabricating, supplying, and fixing of ACP (Aluminium Composite Panel) signage boards on existing or new MS poles, complete in all respects as per approved drawings, specifications, and instructions of the Engineer/ Architect.
- The Thickness of ACP is 4mm and type of sheet shall be used is Exterior grade, weather-resistant.
- Matter shall be cut in 3M High intensity prismatic Reflective vinyl ASTM Type 4 and paste on it as per design and detail and as per manufacturer's specifications.
- Finishes shall be Matte/Glossy as per approved by Architect /Engineer in Charge.

2. Workmanship:

- Work complete as per above manufacturer's specification.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- All side of box shall be covered with same ACP sheet, but only one side elevation area shall be measured and paid in sqmt.
- The ACP sheet shall be fixed with clamp and angle on new or existing MS Pole as per drawing.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of Employer's representative/employer.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of Employer's representative/employer
- No extra payment will be given for any of the reasons.

- The work done shall be measured in number for area of work done. The rate shall be for a unit Sqm.

Item No.14.01: 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.

1. Workmanship:

- Work complete as per relevant specification of Item No: 4.0.0. (B) Page No - 22 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labor, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No.14.02: Box cutting the road surface to proper slope and camber for making a base for road work including removing the excavated stuff and depositing on the road side slope as directed for all lead and all lift as directed by Engineer in charge.

1. Material:

- All type of material/machinery shall be used as per approved list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete including all necessary material, tools, tackles etc.
- All work should be carried out as per detailed drawing and instruction of EIC/Architect
- Bidder shall be responsible for the any type of damage work at the time of execution.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No.14.03: Rolling and consolidation of earth including filling in depression which occur during the process, with power roler 8 tonne to 12 tonne, watering etc complete ans as directed by Engineer in charge.

1. Material:

- All type of material/machinery shall be used as per approved list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete including all necessary material, tools, tackles etc.
- All work should be carried out as per detailed drawing and instruction of EIC/Architect.
- Bidder shall be responsible for the any type of damage work at the time of execution.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Sqm.

Item No.14.04: P.C.C: Providing and laying cement concrete 1:2:4 (1-Cement: 2- Coarse sand: 4-graded stone aggregates 20 mm nominal size) and curing complete including cost of formwork in (A) Foundation and Plinth.

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 5.3.13. Page No - 40 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No.14.05: Construction of Granular Sub Base (GSB) by providing coarse graded material of any grade, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, including all material, labour, machinery with all leads and lifts etc. complete as per MORTH specification and as directed by Engineer in charge.

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant approved by EIC/Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.
- Work complete as per relevant specification of Item No: 16.62, page No - 845 in General specification DSR VOL-2 for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Cubic Meter.

Item No.14.06: Providing, laying, spreading and compacting graded stone aggregate to Wet Mix Macadam (WMM) specification including premixing the material with water at OMC in mechanical mix plant carriage of mixed material by tripper to site, laying in uniform layers with paver in sub base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density including all material, labour, machinery with all leads and lifts etc complete as per MORTH specification and as directed by Engineer in charge.

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant approved by EIC/ Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.
- Work complete as per relevant specification of Item No: 16.63, page No - 847 in General specification DSR VOL-2 for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Cubic Meter.

Item No. 14.07: TRIMIX Road (M200) : Providing & Laying M200 grade controlled cement concrete without fly ash trimix using P21 (water reducing concrete admixture at 100 ml per bag of cement & recon 3 s fiber at 125 gm per bag of cement including Cutting, Filling, Rolling, consolidating and Shuttering of C channel required to maintain level, slope and thickness of the concrete road leveling of placed concrete with surface vibrator and finishing with power floater & trowel light brooming the surface & including Construction joints to be formed at every 5 mt distance by grooving with mechanical saw within 48 hrs. Groove/sawed joints shall be made of 5 mm width and depth min (1/3 rd depth of the pavement) as shown in the drawing and shall be filled with ready to use PU sealant of UV grade cutting & filling of expansion joint as directed by Engineer in charge.

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 5.8.2 page No- 47 & Item No: 9.1(A)Page No - 63 in General specification R & B booklet for building works. Work shall be carried out for road.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labor etc. to complete the whole work satisfactorily as per instruction of Employer's representative/employer
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Area shall be measured & paid in Cubic Meter.

Item No. 14.08 : Providing and applying Road marking with hot applied thermoplastic paints with reflectorizing glass beads on concrete/ bitumen surface providing and laying a hot applied thermoplastic compound 2.5 mm thick including reflectorizing glass beads @ 250gms per sqm area, thickness of 2.5mm is excluding of surface applied glass beds as per IRC:35-2015. The finished surface to be level, uniform and free from streaks and holes. Thermoplastic paint contains zebra patta/ bump patta lane/ center line/ edge line/ cut patta/ arrow marking/ parking symbol/ any letter/ number etc. in any colour as approved by Architect. The white color marking shall provide luminance coefficient on cement road shall be min 130 mcd/m²/lux and asphalt road shall be min 100 mcd/m²/lux during the service life during the day time. The marking shall meet the performance criteria for night time reflectivity, wet reflectivity and skid resistance as mentioned in the section-15 of IRC 35-2015. Warranty for the Retro reflectivity shall be two years.

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.
- The road marking paint shall conform to I. S. 164-1951.

2. Workmanship:

- Work complete as per relevant specification of Item No: 12.126 (I) in General specification R & B booklet for building works.
- Work complete including all type of joining material, tools, tackles, with finishing, proper even surface etc as per government standard specification and suggestion.

3. Measurements:

- The rate shall be consolidated for all above items.

- The relevant specifications of item No. 5.8.1. shall be followed.
 - The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
 - No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Square Meter.

Item No.14.09 : Cat Eye / Road Stud / RPM: Providing and fixing Raised Pavement Markers made of polycarbonate and ABS moulded body and reflective panels with Micro prismatic lens (No Glass bead lens) capable of providing total internal reflection of the light entering the lens face and shall support a load of 13635 kgs. tested in accordance to ASTM D 4280 Type H and complying to Specifications of Category A of MORTH Circular No RW/NH/33023/10-97 & DO III Dt 11.06. 1997. The height, width and length shall not exceed 20 mm, 130 mm and 130 mm and with minimum reflective area of 13 Sqcm on each side and the slope to the base shall be 35 +/- 5 degree. The body of the marker shall having finger grip for easy and accurate placement and application with epoxy/ bituminous Adhesive as recommended by the manufacturer of the marker. The colour of the marker shall be as per the IRC 35-2015 and as directed by Architect and Engineer-in-charge.

1. Material:

- Cat Eye/Road Stud/RPM shall be used as per approved make and sample by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per standard Manufacturers specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Each for area of work done.
- The rate shall be for a unit of one Each.

Item No. 14.10 : Pre cast concrete kerb, - 300 x 150mm

Providing and fixing pre-cast concrete kerb stone of gray cement based concrete block 30cm length, 30cm height and 15cm thick of M250 grade concrete as per approved design and including excavation for fixing in proper line and level, filling the joint with C:M 1:3 (1cement:3fine sand) etc complete.

1. Materials:

- Kerb stone shall be used and sample approved by EIC/Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The sub base, either PCC or other shall be properly cleaned , leveled and prepared to lay the paver blocks.
- The blocks shall be fixed as per approved design, pattern and detailed drawing.
- The pre-cast blocks shall be fixed by the skilled and experience laborers' only.
- Necessary cutting of blocks as required shall be done without any extra cost at edges, ends of walls as per site conditions.
- No extra cost shall be paid for wastage.
- After laying the blocks the finished job shall be thoroughly compacted/vibrated by means of mechanical vibration.
- If any settlement /dislocation is found after vibration, the same will be got rectified without any extra cost.
- After completion of the work the pavements shall be made neat and clean.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour,etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Running Meter.

Item No. 14.11: Paver Block - Providing and fixing pre-cast Rubber Dye / steel Dye inter locking concrete block 60mm thick with grade of concrete M300 pneumatic compressed / vibrated mechanically and as per approved design Confirming to IS 15658 : 2006 including 35 mm Sand layer for levelling and filling the joint with sand in proper line and level as per guidelines of IRC : SP 63-2018 etc. Complete.

1. Material:

- Paver block shall be used as per IS code.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The sub base, either PCC or other shall be properly cleaned, leveled and prepared to lay the paver blocks.
- The blocks shall be fixed as per approved design, pattern and detailed drawing.

- The interlocking blocks shall be fixed by the skilled and experience laborers' only.
- Necessary cutting of blocks as required shall be done without any extra cost at edges, ends of walls as per site conditions.
- No extra cost shall be paid for wastage.
- After laying the blocks the finished job shall be thoroughly compacted/vibrated by means of mechanical vibration.
- If any settlement /dislocation is found after vibration, the same will be got rectified without any extra cost.
- After completion of the work the pavements shall be made neat and clean.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour,etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Square meter. any opening /chamber whose area is more than 0.25 square meter shall be deducted.

Item No. 14.12: High strength Paver Block - For Parking area

Providing and fixing pre-cast Rubber moulded inter locking concrete block 80 mm thick with grade of concrete M40 pneumatic compressed by mechanically pressed and as per approved design including 75mm sand layer for levelling and filling the joint with sand in proper line and level etc. complete and including cost of carting of debris in out side of premises with all lead & bit as directed by engineer in charge

1. Material:

- Paver block shall be used as per IS code.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- The sub base, either PCC or other shall be properly cleaned, leveled and prepared to lay the paver blocks.
- The blocks shall be fixed as per approved design, pattern and detailed drawing.
- The interlocking blocks shall be fixed by the skilled and experience laborers' only.
- Necessary cutting of blocks as required shall be done without any extra cost at edges, ends of walls as per site conditions.
- No extra cost shall be paid for wastage.
- After laying the blocks the finished job shall be thoroughly compacted/vibrated by means of mechanical vibration.
- If any settlement /dislocation is found after vibration, the same will be got rectified without any extra cost.

- After completion of the work the pavements shall be made neat and clean.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.

The rate shall be for a unit of one Square meter. any opening /chamber whose area is more than 0.25 square meter shall be deducted.

Item No.14.13: Providing and fixing in position Duel (2 No) of Dustbin for wet and dry garbage, of suggested size, material (corrosion resistance), finish (PU painted/ polyster powder coated), with logo of client and type/ function of dustbin and as per sample approved by Architect. The rate shall be for duel dustbin or two seperate dustbin (min 40 Lit each capacity) as per selection. Rate shall be inclusive of fixing of dustbin with all required civil work, anchor fastners of approved make and required capacity and making good.

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.
- Duel (2 No) of Dustbin for wet and dry garbage, of suggested size, material (corrosion resistance), finish (PU painted/ polyster powder coated), with logo of client and type/ function of dustbin shall be used as per approved make and sample By Employer's representative/employer

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.
- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Number.

Item No.14.14 : Supplying of factory made precast U shape storm water drain of size 450mm x 450mm x 2000mm long,T-25 load carrying capacity - 10T Axle Load - 5T Wheel Load Wheel Load confirming to JIS having high performance self-compacting concrete of M40 Cylinder Strength /M50 Cube Strength & Fe500D shall be use for reinforcement. The product shall have tie shape joint 10 - 20mm width X 25mm depth groove as per JIS on both sides of each storm

water drain for jointing two precast storm water drain using cement mortar or suitable non shrink grout. The precast utility duct must consist of special in built inlets at appropriate location for fixing De-shackle for mechanical installation, including supply, transportation, installation on specific location at site in line, level, gradient and plumb with necessary testing commissioning etc complete as per instruction of engineer incharge. In no case the casting shall be allowed to be prepared at site. It should be casted in the stringent atmospheric & pre-defined condition, as per approved QAP by Engineer in charge.

1. Materials:

- The precast U-shaped surface storm water drain shall be of size 450mm × 450 mm × 2000 mm long, made with High Performance Self Compacting Concrete (HPSCC) of M-40 cylinder strength / M-50 cube strength as per IS 456 and IRC:SP:63.
- Reinforcement shall be Fe 500D grade TMT steel (as per IS: 1786) of appropriate diameter, spacing, and cover to sustain T-5 traffic load (suitable for light motor vehicles).
- The product shall have a tie-shaped groove on both longitudinal faces, 10-20 mm wide and 25 mm deep, for proper jointing.
- The overall size of each unit shall be 450 mm wide × 450 mm deep × 2000 mm long.
- Jointing material shall be cement mortar or non-shrink grout of approved quality to ensure watertight connection between precast units.
- Each precast unit shall be provided with in-built inserts at suitable locations for fixing de-shackles to allow safe and efficient mechanical installation.
- All type of material shall be used as per approved make list and confirming to relevant IS codes 1134- 1974 and approved by EIC/ Architect.

2. Workmanship:

- The precast units shall be factory manufactured under controlled conditions using suitable moulds, vibration/compaction processes, and proper curing (preferably steam cured).
- Precast units shall be free from visible cracks, honeycombing, deformation, and any other defects.
- Transportation and handling of units shall be done with proper lifting equipment to prevent damage, using the provided insert locations.
- Installation shall be carried out at site in correct line, level, gradient, and plumb as per site drawings and instructions.
- Final finishing, cleaning, and joint sealing shall be completed before the drain is tested and approved by the Engineer-in-Charge.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The measurement shall be done on a per unit basis (in running meter or per precast piece of 2.0 m length) for precast U drains supplied, fitted, and accepted at site.
- The length shall be measured along the invert (bottom inner surface) of the installed U-drain.

- The rate quoted shall include cost of materials, manufacturing, reinforcement, inserts, jointing materials, transportation, handling, placement, and alignment.
- No separate payment shall be made for lifting hooks, de-shackle provisions, or jointing material unless specified in BOQ.
- Units found damaged, defective, or not matching the specification shall be excluded from the measurement and payment.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Running Number.

Item No.14.15 : Supplying of factory made Precast Lid having length of 500mm, width suitable for placing on U-Shape storm water drain sizes 450 x 450mm, thickness of 70mm respectively. Lid should have T-25 load carrying capacity - 10T Axle Load - 5T Wheel Load, confirming to JIS & meeting IS requirements having High Performance Self Compacting Concrete of M-40 cylinder strength / M-50 cube strength. The Fe 500/ Fe500D shall be used for reinforcement. The each lid unit should have slits of 155 mm X 20 mm slit on two sides along the width of the lid for storm water in take. Lid should have anti-skid finish at top. In no case the casting shall be allowed to be prepared at site. It should be casted in the stringent atmospheric & pre-defined condition, as per approved QAP as per Engineer in charge.

1. Material:

- The precast lid shall be manufactured using High Performance Self Compacting Concrete (HPSCC) with M-40 cylinder strength / M-50 cube strength, conforming to IS 456:2000 and IRC:SP:62/63 for SCC.
- The dimensions of each lid shall be 500 mm × 155 mm × 20 mm thick, suitable for covering a 450 mm × 450 mm precast U-shape drain.
- Fe 500D grade reinforcement steel shall be used, conforming to IS 1786, adequately designed to bear a T-25 loading class.
- Special inserts, loops, or lifting holes shall be provided at suitable locations for safe manual or mechanical installation.
- All raw materials (cement, fine and coarse aggregates, admixtures) shall be from approved sources and must comply with relevant IS codes.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by Employer / Employer's representative.
- Work complete as per above manufacturers specification.
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height
- Lid should have anti-skid finish at top.
- In no case the casting shall be allowed to be prepared at site.

2. Workmanship:

- Lids shall be precast in a controlled factory environment using accurate moulds and proper curing methods (preferably steam curing) to ensure early strength and durability.

- All edges and surfaces shall be smooth, free from honeycombing, cracks, or dimensional variations, and finished with an anti-slip surface, if required.
- Lids shall be installed in correct line, level, gradient, and plumb to match with the Udrain alignment, as per site drawings and instructions.
- Special lifting points or inserts shall be used to avoid any cracking or edge damage during transportation and placement.
- The completed work shall be tested and approved by the Engineer-in-Charge before acceptance.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of Employer / Employer's representative.
- The relevant specification for this item shall be followed as per Item Description and instruction given by Engineer in charge.

3. Measurements:

- Measurement shall be made in numbers (Nos) for each precast lid of approved size (500 mm × 155 mm × 20 mm) supplied, fitted, and accepted at site.
- The quoted rate shall include all components such as concrete, reinforcement, inserts/lifting hooks, surface finishing, transportation, and installation.
- No extra payment shall be made for mechanical/manual lifting arrangements or testing, as these are deemed part of the item.
- Lids not conforming to the required dimensions, quality, or structural integrity shall not be measured for payment.
- Final payment shall be based on the number of units satisfactorily installed and certified by the Engineer-in-Charge.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- The rate shall be for a unit of one Rmt.

Item No.14.16 : Constructing Under Ground water tank with Providing and laying controlled cement concrete M250 mix for R.C.C. work including reinforcement, boxing, centering, vibrating, curing and mixed with approved water proofing cement compound or "CEMWET" or "PIDICRETE LW" integral water proofing admixture as water proofing agent to be mixed with 50 kgs. bags shall be as recommended by the manufacture of the water proofing material, concrete work for top, bottom slab & side pardi, column, beam for under ground water tank item incl. 300mm Free Board and Necessary excavation & refilling the available earth, raft thickness 250mm & wall thickness 230mm, 20 mm thk., Sunctipn Pit size 600mmX600mmX600mm water proofing cement plaster 20mm thick Double Coat with smooth finishing & Glazes tile Dedo, vata 10cm X 10cm , 50mm thick cement concrete flooring watering etc. Comp. to all face of tank. including locking arrangement outlet, inlet, overflow and washout outlet pipe arrangement as necessary & C.I. Cover 0.60 x 0.45 weight not less then 35 kg with locking arrngement.C.I. steps etc. comp as per structural detail drawing Including thermo Mechanically treated bars (TMT BARS) Fe 500/500D as directed by Eng-in-charge.

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.
- Work complete including all necessary materials, tools, tackles etc. as per described above specification.
- All work should be carried out as per detailed drawing and instruction of EIC/Architect.
- Bidder shall be responsible for the any type of damage work at the time of execution.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Litre.

Item No.15.01 : Tree Plantation on Ground

Providing & construction Tree plants required Digging of pits 0.6mt. x 0.6m 0.5mt, filling with goodearth with mixing of cow dong and pesticide planting the following plant of 4' to 6' height stack it well, maintain it for 3 month name of plants Neem Nagor, Avonla, Aritha, Garmala Neem, Nagor, Aronia Artha Garmala, Neem, nagor, Avonala, Aritha, Garmala etc. Completed as directed by EIC.

1. Material and workmanship:

- Providing & construction Tree plants required Digging of pits 0.6mt. x 0.6mt x 0.6mt, filling with goodearth with mixing of cow dong and pesticide planting the following plant of 4' to 6' height stack it well, maintain it for 3 month name of plants Neem, Nagor, Avonla, Aritha, Garmala, Neem, Nagor, Avonla, Aritha, Garmala, Neem, Nagor, Avonla, Aritha, Garmala, etc completed as directed by E.I.C/PMC.

2. Mode of measurement payment:

- The rate shall be for a unit of one Nos.

Item No.15.02 : Hedge/ Shrub/ Ground cover plantation

Supplying well grown Hedge plants/ shrub plants and ground cover plants of specified species and height proposed planting pallette in specification and planting in planter/ on land with good soil, manure, sludge, pesticide & insecticide/ anti termite, fertilizer etc. Plants shall be disease free and fungus free in polythene bag. Plastic bags or pots shall be removed carefully and soil around the roots shall not be dropped or disturbed much. Shrub shall be plant @ average c/c depend on type of species as per palette. Work shall be done as shown in the drawing or as directed and approved by architect and EIC. The ground coverage shall be dense and uniform throughout the planting area. Rates of mortality up to maintenance period to be inclusive, in that condition contractor has to replace the plant of same specification with

out any extra cost. Rate shall be for in to in area of planter or ground area in square meter. Rate shall be for cost of shrub, loading, transporting, unloading, planting, pesticides, fertilizers, anti termite treatment, watering, maintaining, replanting (if plant will be died) etc but excluding the cost of garden soil and it shall be paid in relevant tender item.

Shrub plants/ Hedge plants and ground cover plants varieties shall be as per proposed planting pallette.

Rate shall be inclusive of maintainace for period of 365 days from date of substantial handover.

1. Material:

- Shrub plants shall be used as per approved sample by Employer's representative/employer
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer

2. Workmanship:

- Shrub plants shall be used as per approved sample.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of Employer's representative/employer

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of Employer's representative/employer
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Number for area of work done. The rate shall be for a unit of one square meter.

Item No.15.03 : Providing and laying Lawn Plantation with earth 50mm to 60mm thickness on prepared ground with proper level and ramming with tools wooden (Dhurmos) and than rolling the surface with light roller make the surface smoothen and light watering with sprinkler and maintenance more till the grass establish properly, as per direction of officer-in-charge. Rate shall be inclusive of surface preparation/ rough dressing/ fine dressing/ ploughing/ clod breaking of the ground and anti-termite Treatment (vertically and horizontally) with the use of approved pesticides (neem cake oil or similar as suggested and approved by EIC) as per specification and as per manufacturer's recommendation, fertilizers, but excluding the cost of garden soil, which shall be paid in relevant tender items.

Rate shall be inclusive of establishment of lawn, gap filling between turf pecies and application of roller and maintainace for period of 365 days from date of substantial handover.

All steps have to followed by contractor as specified in specification for proper establishment of lawn. From surface preparation to after lawn establishment, all steps are inclusive in this item.

1. Materials:

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.
- Lawn plantation shall be used as per approved sample by Employer's representative/employer
- The lawn plantation shall be filling with good quality garden soil obtained from outside, including watering, ramming well, consolidating, compacting and dressing etc. complete, as directed.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.
- The relevant specification for this item shall be followed as per Item Description and instruction given by Engineer in Charge.
- Rate shall include complete preparation of surface for lawn work.
- Supply and laying of turf/grass shall be included.
- Watering, rolling, gap filling, and all necessary maintenance works shall be included.
- Lawn shall be properly established as per specifications.
- Contractor shall maintain the lawn for 365 days from the date of substantial handover.
- All labour, materials, tools, equipment, and related works are included in this item.

3. Measurement:

- The rate shall be consolidated for all above items.
- The rate shall be for a unit of One Square Meter.

Item No. 16.01 : Cutting for Ground - 200 MM : The work comprises of excavating the ground to the required depth as per the survey layout plan and requirements , reconstructing the same within the specified time with the treatment as per the specifications and levels given in the enclosed drawing and dressing the excavated earth as per the directions and levels.

1. Materials

- The work involves earth excavation; no additional materials are required. All excavated earth shall be reused or disposed of as per the Engineer-in-Charge' s instructions.
- Any additional material required for dressing or reconstruction, including approved fill material, shall conform to the relevant specifications and be approved prior to use.

2. Workmanship

- The ground shall be excavated carefully to a depth of 200 mm as per the approved survey layout plan and requirements.
- Excavation shall be carried out in a controlled manner to avoid disturbance to adjacent structures or surfaces.
- The excavated area shall be dressed to the required levels, slopes, and contours as shown in the drawings or as directed.
- If reconstruction or backfilling is required, it shall be completed within the specified

time, ensuring proper compaction, treatment, and finishing in accordance with the specifications.

- Excavated earth shall be temporarily stored, reused, or disposed of as approved, and all works shall be executed under the supervision of the Engineer-in-Charge to achieve the desired level and surface quality.

3. Mode of Measurements and Payment

- The work shall be measured in cubic metres (cum) of excavated and dressed earth, calculated based on the actual depth (200 mm) and area excavated, measured between finished levels.
- The rate shall include excavation, removal or temporary storage of excavated earth, reconstruction or refilling if required, dressing, compaction, and all incidental operations necessary for completion of the work as per specifications and directions of the Engineer-in-Charge.
- Payment will be made only for completed and approved work.
- The rate shall be for a unit of One Cubic Meter.

Item No.16.02 : Sandy loom soil 8" thick : first 4" layer (2" + 2") Layer of Sandy Loom Soil Compaction By Vibro Roller in Dry and Wet Form than 2" x 2 Layer of Sandy Loom Soil Compaction By vibro roller and next layers by plate vibrator first 4" layer required compaction by vibro roller in dry and wet form and next layer required in 2" only statics rolling in form of layer by plate vibrator.

1. Materials

- Sandy loam soil shall be of approved quality, free from stones, roots, debris, and other deleterious materials.
- The soil shall have good moisture retention properties, proper particle size distribution, and be suitable for compaction to the required density.
- Water used for moistening during compaction shall be clean and free from harmful impurities.

2. Workmanship

- The 8" thick filling shall be laid in layers as specified:
- 4" layer: Laid and compacted using a vibro roller, either in dry or wet form, until the required compaction is achieved.
- 2" layer: Laid and compacted using a plate vibrator, with static rolling applied for uniform density.
- 2" layer: Laid and compacted similarly using a plate vibrator with static rolling to achieve proper compaction.
- Each layer shall be evenly spread and properly moistened as required for compaction.
- Compaction shall continue until the specified density and uniformity are achieved, and the surface is level and stable.
- Care shall be taken to avoid over-compaction or under-compaction, ensuring a uniform and firm base for subsequent works.
- All works shall be executed as per drawings, specifications, and directions of the Engineer-in-Charge.

3. Mode of Measurements and Payment

- The work shall be measured in cubic metres (cum) of compacted sandy loam soil laid in layers to the specified thickness.
- Measurement shall be taken between the finished levels as shown in the drawings or as directed by the Engineer-in-Charge.
- The rate shall be all-inclusive, covering the cost of approved sandy loam soil, spreading, layering, watering, compaction with vibro roller and plate vibrator, labour, tools, machinery, and all incidental operations necessary for proper execution of the work. Payment will be made only for approved and properly compacted layers as certified by the Engineer-in-Charge.
- The rate shall be for a unit of One Cubic Meter.

Item No.16.03 : Providing & laying of Grassing with selection No.1 Doob grass In rows 5 cm apart in both directions including watering and maintenance of the lawn for 3 months or more till the grass forms a thick lawn, free from weeds and fit for mowing includag supplying farm clay up 300 mm thick, sludge, manure, pesticides, extra earth, disposal of rubbish, trench excavation and all labour with lead and lift etc. complete as directed by EIC.

1. Material and workmanship:

- Supplying farm clay up 300 mm thick, sludge, manure, pesticides, extra earth, disposal of rubbish, necessary trench and excavation.
- Laying Grassing with selection No.1 grass In rows 5 cm apart in both directions including watering and maintenance of the lawn for 12 months or more till the grass forms a thick lawn, free from weeds and fit for mowing including.

2. Mode of measurement and payment:

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

Item No. 16.04 : Providing and making Cricket Pitch having size of 22.65mt x 3.66mt. - 2 Nos. of Turf Wicket as below.

1st Layer - Supply and Laying Ballast (Stone + Sum dup up Soil) 9" Layering (as per approved sample) supply of all labour, also includes dressing leveling of trench.

2nd Layer - 9" Two layer of Brick.

3rd Layer - Supply & laying Charcol and Fine Sand 1" Laying(as per approved sample)suplly fo all labour also includes dressing leveliing of trancht.

4th Layer - For making pitch supply & laying 9" dry and wet compaction equally from bottom of top level but in the form of Soil Mixture (Black/Clay Soil+red Soil+ Morrurum) (as per approved sample) including supply of labour with dressing & levelling,Compaction and quantity is compacted @35 to 40 %.

5th Layer - For making pitch supply & laying 3" dry and wet compaction equally from bottom of top level but in the form of Soil Mixture (Black/Clay Soil+red Soil+ Morrurum+manure) (as per approved sample) including supply of labour with dressing & levelling,Compaction and quantity is compacted @35 to 40 %.

6th Layer - For making pitch supply & laying 6" dry and wet compaction equally from bottom of top level but in the form of Rich Mixture of Soil and Natural grass (Black/Clay Soil+red

Soil+ Morrum+manure) (as per approved sample) including supply of labour with dressing & levelling.

scratching by panja and using plate vibrator x 4 times (as per approved sample) with water spray, labour with proper grinding & shorting, dressing & levelling of pitch as per desired level and compaction, quality of clay soil shall be-as per BCCI Norms supply of all labour, T & P etc and also includes dressing leveling of trench.

1. Have high clay contents 50-70%, Silt 5-20%, Fine sand -10-20%, Medium sand -0-10%, Course sand - 1%.
2. Have good hydraulic conductivity.
3. Swell and shrink well, cracks to allow water and air to penetrate deep and regenerate.
4. Retain moisture.
5. Encourage grass recovery.
6. PH Value shall be 7-8.
7. Crushing strength -0.8-1.6 MPA.
8. Cracking pattern -breaking in to 2-5 pcs.
9. Linear shrinkage- 8-15 preferably 10
10. Dispersion - between 0 & 8
11. Sodium content-,<3%
12. Organic matter-<5%.

Drain Pipe - Supply & laying 110 MM PVC Pipe (underneath) around the Pitch Square with a gradient of 1:100 Feet and connected to the main outward Drainage system through PVC / 4" dia PVC perforated pipe (perforation at half of the pipe at top level), wrapped with geo-fabric cloth, covered by stone granules, sand etc and at any one direction along with the desired slope ratio. connected with boundary storm water drain line.

Supply & laying ISI 150 MM PVC Pipe plain connect to main storm water line with pitch block rain water drain line.

1. Material

- **Black/Clay Soil**

Characteristics

- a) High water retaining capacity
- b) Swells and will become sticky when wet and shrink when dried.
- c) Self-ploughing is a characteristic of the black soil as it develops wide cracks when dried.
- d) Rich in: Iron, lime, calcium, potassium, aluminum and magnesium.
- e) Colour: Deep black to light black

The soils are fine grained contain high proportion of Calcium and Magnesium carbonates. Black soil holds more moisture and available for a long time. A typical black soil is highly argillaceous with a large clay factor, 62 per cent or more, without gravel or coarse sand. It also contains 10 per cent of alumina, 910 percent of iron oxide

and 6-8 percent of lime and magnesium carbonates.

- **Red Soil**

Characteristics

Red soil contains large amounts of clay and thin organic and organic-mineral layers of highly leached soil resting on an alluvium red layer. The fertility of red soil is due to its high levels of organic matter and nutrients, such as nitrogen, phosphorus, and potassium. These nutrients are essential for plant growth. Red soil is also well-drained, which is important for agriculture.

- **Murum**

The murum shall be clean of good binding quality and approved quality obtained from approved quarries of disintegrated rocks which contain silicon material and natural mixture of clay of calcarison origin. The size of murum shall not be more than 20mm.

- **Manure**

It is a valuable fertilizer that contains a broad range of nutrients such as nitrogen (N), phosphorus (P) and potassium (K) as well as micronutrients such as copper (Cu), manganese (Mn) and zinc (Zn).

2. Workmanship

Preparation of a New Pitch

Main factor in preparing a good bouncy pitch is that the base of the pitch should be hard and firm.

- The square should be 100 ft. in length. The breadth will vary and will depend upon the number of wickets required. Dig up the square upto 3 ft. After the earth is taken out then water the square and roll it with a heavy roller so that the base becomes firm and strong. Ballast stones should then be spread all over about 9 inches and then the dug up earth spread over the surface. Again this should be rolled with a heavy roller so that this layer also become absolutely firm, levelled and hard.
- Put two layers of bricks - one layer pointing in one direction and the other layer pointing in another direction (9" layer).
- On the bricks then have a very thin layer of charcoal and fine sand which not only will fill the gaps between the bricks but will also help in quickly drying of the pitch due to any rain having fallen on it.
- Make a soil mixture (9" layer) of Black/Clay soil (1 part) +red earth (1 part) + murum (1 part) and spread it over the brick layer and sprinkle water on it. Try and see that the top of the layer spread on the bricks is having an even layer.
- This will enable the fine turf sown on the top surface to grow and spread underneath.
- This has to be followed strictly otherwise the turf on the pitch will not grow properly and evenly and even dies in some cases.
- Last two layers of the soil mixture is very important and the behavior of the pitch will entirely depend on the same.

Make a soil mixture (3" layer) of and spread the same. This will give a good foundation

when the grass is sprinkled on the pitch.

- a) Black/Clay soil (1 part)
- b) Red Soil (1/2 part)
- c) Morrum (2 parts)
- d) Manure (2 parts)
- Spread wet grass on the pitch and on this grass spread again the following mixture of soil (6" layer) and after a day or two of sun, sprinkle water by sprinkler or watered through the hose pipe. See that the direction of the water from the hose pipe is turned upwards otherwise spots through force of water will appear on the pitch.
- Black soil/Clay soil (1 part)
- Red Soil (1/2 part)
- Morrum (2 parts)
- Manure (2 parts)
- Proportion of the soil mixture to be used will depend upon the soil of the place where the pitch is being prepared. Hence one has to use his judgement and this can be achieved only through experience.
- Watering of the pitch should be done twice during the day and that too in the morning and evening when the sun is not so hot. If after watering the pitch shows unevenness of the top layer, then the above mixture of soil with grass be spread or even sown on that portion to get evenness of the pitch.
- To see the levelling of the pitch, strings can be fixed ten feet apart both length wise and breadth wise. This will enable the curator to see whether the pitch is at even level. Wherever it is not the same, area can be filled up or the excess can be removed as the case maybe.
- Once the grass starts growing evenly and is 4" to 6" high, then a very light roller be used on the pitch so as to get some levelling of the pitch and some firmness to the growth of the grass. If there is some area where proper levelling is not there, then the above mixture of soil to be used on such area.
- Daily watering of the pitch and rolling will then give a firm pitch. While rolling care should be taken that over rolling is not done whereby the grass will get killed; so one will have to adjust not only the frequency and timing of rolling but also the weight of the roller light, medium, heavy.
- If it is found that the grass on the wicket is not growing as it should, some manured water or fertilizer could be sprinkled on the pitch. However, care to be taken that enough water is sprinkled on the pitch otherwise the grass may die of the heat from manure/fertilizer.
- Preseason rolling is absolutely essential to the production of fast and firm pitches. Curator is the only person who can decide when the conditions are suitable, but he should aim to start as soon as possible. First he should start with a light roller and gradually increase the weight if possible to a 2 to 2 1/2 tonnes tendon type roller. The pitch should be rolled in all directions but should finish on the line of the pitches. The aim is to consolidate the square to a depth of about 4 inches before the commencement of the season.

- Pace and evenness of bounce can be aided by the selection of the right type of grass. The species should be of a fine but strong texture developing a healthy root growth. Species that propagate by creeping stems should not be used. Some species grow better than others in certain areas and the curator should choose the grass or grasses best suited to the environment.

3. Mode of Measurements and Payment

- The rate shall be for a unit of One Job.

Item No.16.05 : Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5m in width as well as 10 sqm on plan) including dressing of sides and ramming of bottom disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. (No extra lift is payable if work is done by mechanical means) All kinds of soil.

1. Workmanship:

- The relevant specification of item No. 4.0.0. (C) shall be followed except that the excavation work shall be carried out upto to 1.5 M. lift in any kind of Soil.

2. Mode of measurement and payment:

- The relevant specification of item No. 4.0.0. (A) shall be followed.
- The excavation work upto 1.5 M. Shall be measured under this item.
- The rate shall be for a unit of one cubic metre.

Item No.17.01 : Excavation of Foundation in Soft Murrum, Soil or Sand from 0.0 mtr. to 1.50 mtr depth including lifting laying in 90 mtr. Lead area as instructed.

1. Workmanship:

- Work complete as per relevant specification of Item No: 4.0.0.(A) page No -21 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labor, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No.17.02 : Rolling and Consolidating of soling including filling in depression which occurs during the process with power roller 8 tonne to 12 tonne. and compacting the bed as per specifications.

1. Materials

- Brick bats used for the work shall be obtained from well-burnt, sound and hard bricks.
- The brick bats shall be free from dust, organic matter, loose particles, and other deleterious substances.
- The size of brick bats shall generally range between 40 mm and 75 mm unless

otherwise specified.

- Water used for filling depressions and for consolidation shall be clean and free from harmful impurities.

2. Workmanship

- The brick bat layer shall be spread uniformly over the prepared surface to the required thickness and profile as shown in drawings or as directed by the Engineer-in-Charge.
- Rolling shall be carried out using a hand roller having a capacity between 8 tonne and 12 tonne.
- Rolling shall commence from the edges and progress gradually towards the center, overlapping each pass uniformly.
- During the rolling operation, any depressions, voids, or unevenness noticed shall be made good by adding additional brick bats and/or fine material as required, followed by further rolling.
- Water shall be sprinkled lightly, if necessary, to aid proper consolidation.
- Rolling shall continue until the surface becomes dense, even, and stable, and no further visible movement of material occurs.
- The finished surface shall conform to the required line, level, and camber.

3. Mode of Measurements and Payment

- The work shall be measured in square meters (Sqm) of finished surface area consolidated, measured along the surface actually laid and compacted.
- The rate shall include the cost of all materials, labour, tools, plant, watering, filling of depressions, rolling, and all incidental operations necessary to complete the work in watering, filling of depressions, rolling, and all incidental operations necessary to complete the work in accordance with the specifications and directions of the Engineer-in-Charge.
- No separate payment shall be made for filling depressions or additional rolling required to achieve proper consolidation.
- The rate shall be for a unit of One Square Meter.

Item No.17.03 : Providing and laying of One Layer of WBM of 150mm thick, aggregate size 63mm well graded down to 40mm with filling up the voids with Quarry dust and water as lubricant to be rolled wet to achieve strong and stable base. Brushing the excess material until needed.

1. Material:

- B.T.M.C stone aggregates of 63 to 40mm size should be used as per approved sample by EIC/Architect.
- W.B.M 150mm thick including spreading in uniform thickness should be used as per approved sample by EIC/Architect.
- It shall be sound Clean free from clay, dirt, ash or other deleterious matter.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- B.T.M.C. stone aggregates of 63mm to 40mm size to W.B.M.150mm thick including spreading in uniform thickness, hand packing, rolling with vibratory roller 8-10 tones to proper grade and camber.
- Applying and brooming requisite type of screening / binding / filler materials to fill up the interstices of coarse aggregate, watering and compacting to the required density. Grading - II using screening type - A (13.2mm Agg.)
- Work complete including all type of joining material, tools, tackles, with finishing, proper even surface etc as per government standard specification and suggestion.
- the site of shall be cleared of all debris, brick bats, mortar dropping etc; and filled with Cinder in layers as per required thickness. Each layer shall be adequately watered, rammed and consolidated before the succeeding layer is laid. The BTMC stone and WBM shall be rammed with iron rammers
- Work complete including all necessary materials, tools, tackles etc.
- All work should be carried out as per detailed drawing and instruction of EIC/Architect.
- Bidder shall be responsible for the any type of damage work at the time of execution.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Cubic Meter.

Item No.17.04 : Providing, laying, spreading and consolidation graded stone aggregate to Wet mix macadam 150mm compacted thick as per MORT & H specifications including premixing the material with water at OMC in mechanical plant carriage of mixed material by tippers to site, laying in uniform layers in sub base/ base course on well prepared surface and compacting with roller to achieve the desired density.

1. Material:

- The graded stone aggregates shall conform to MORTH specifications for Wet Mix Macadam, well-graded and free from clay, silt, or organic matter. Water used shall be clean and suitable for mixing at Optimum Moisture Content (OMC).
- All materials shall be approved by the Engineer-in-Charge before use.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect. Clean and suitable for mixing at Optimum Moisture Content (OMC). All materials shall be approved by the Engineer-in-Charge before use.

2. Workmanship:

- The materials shall be premixed with water at OMC in a mechanical mix plant, transported to site in tippers, and laid in uniform 150 mm compacted thickness layers using a paver. Each layer shall be compacted with a vibratory roller to achieve the required density and finished true to grade and cross-section. Work shall be executed as per MORTH specifications and as approved by the Engineer-in-Charge.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- Measurement shall be in square metres of compacted Wet Mix Macadam surface completed to the specified thickness and density. Quantities shall be recorded as per approved drawings and site records, and payment shall be made for finished work meeting specifications.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Area shall be measured in cum.

Item No.17.05: Cleaning and brushing the Existing surface incl. removing of excess binding material and other foreign matter with wire brushes and small picks, sweeping with brooms or soft brushes to receive bituminous treatment complete in all respects as per specification.

Cleaning and brushing the Existing surface incl. removing of excess binding material and other foreign matter with wire brushes and small picks, sweeping with brooms or soft brushes to receive bituminous treatment complete in all respects as per specification.

Area shall be Measured in Sqm

Item No.17.06: Providing and applying primer coat with Bitumen VG-30 / Bitumen 60/70 Grade on prepared surface and spraying primer uniformly at the rate of 1.0 kg per sqm using mechanical means, complete as per MoRTH Specifications.

1. Material:

- The primer shall be VG 30 (60/70 grade) bitumen.
- It shall conform to relevant IS and MoRTH specifications.
- The material shall be clean, homogeneous, and free from impurities.
- The bitumen shall be of approved make and quality.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- The granular base surface shall be prepared by removing dust and loose particles.
- Cleaning shall be done using approved mechanical means.
- The primer shall be applied uniformly at the rate of 1 kg per square metre.
- Application shall be carried out using mechanical spraying equipment.

- The surface shall be completely and evenly covered.
- All work shall be executed as directed by the Engineer-in-Charge.

3. Measurements:

- Measurement shall be in square metres of surface primed.
- It shall include surface preparation, material, labour, and application.
- Only completed and approved work shall be measured for payment.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Area shall be measured in sqm.

Item No.17.07: Providing and laying of one layer of B.M.(Bitumen Macadam) thickness of 50mm aggregate size 12mm down to 6mm well graded bitumen content 4.5 to 5% by wt adding special binder in an appropriate proportion and will be rolled and taking care of the undulations and compacting the surface while the mix is hot and in an appropriate temperature maintaining the required slope.

1. Scope

- The work shall consist of construction, in a single course, of compacted crushed aggregates premixed with a bituminous binder, to serve as base/binder course, laid immediately after mixing, on a base prepared previously in accordance with the requirement of these Specifications and in conformity with the lines, grades and cross-sections shown on the drawing or as directed by the Engineer.

2. Materials

- **Bitumen:** The bitumen shall be paving bitumen of suitable viscosity grade **VG-30 (60/70)** as per IS: 73. The actual grade of bitumen to be used shall be decided by the Engineer appropriate to the region, traffic, rainfall and other environmental conditions. Guidelines on selection of the grade of bitumen are given in *Appendix - 4*.

	VG - 10	VG-20	VG-30	VG-40
Grade (VG)				
Bitumen Specifications per IS 73: 2006				
Characteristics				
• Absolute Viscosity 60°C, poises, min	800	1600	2400	3200
• Kinematic Viscosity 135°C, min	250	300	350	400

• Flash point, C, min	220	220	220	220
• Solubility in trichloro ethylene, % min	99.0	99.0	99.0	99.0
• Penetration at 25°C	80-100	60-80	50-70	40-60
• Softening point, C min	40	45	47	50
• Test on residue from thin film oven test / RTFOT :				
• (A) Viscosity ratio at 60°C, max	4.0	4.0	4.0	4.0
• (B) Ductility at 25°C, cm, min after thin film over test	75	50	40	25

Item No. 17.08 : Providing and applying primer coat with Bitumen VG-30 / Bitumen 60/70 Grade on prepared surface and spraying primer uniformly at the rate of 1.0 kg per sqm using mechanical means, complete as per MoRTH Specifications.

- As Per Item No.17.06 Specification

Item No.17.09: Providing and laying of one layer of BC. aggregate size 6mm down well graded to 2mm average thickness 40mm. Bitumen content 6% by wt of the mix with stone dust and adding special binder in an appropriate proportion and will be rolled by 8 to 10 tons of roller taking care of the undulations and wheel marks.

Item No. 17.10 : Providing and laying one layer of Seal coat

Item No. 17.11 : P.C.C : Providing and laying cement concrete 1:2:4 (1-Cement : 2- Coarse sand : 4- graded stone aggregates 20 mm nominal size) and curing complete including cost of formwork in (A) Foundation and Plinth.

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 5.3.13. Page No - 40 & It.No: 9.1(A). Page No - 63 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.

Item No. 17.12: Brick work using common burnt clay building bricks having crushing strength not less than 35 kg/Sq.Cm. in foundation and plinth in Cement Mortar 1:5. (1- Cement : 5 -fine sand)(B) Conventional.

1. Material:

- Brick shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 6.12(B) page No- 43,44 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic meter.

Item No. 17.13 : Providing 15mm thick cement plaster in single coat on brick/ concrete walls for interior plastering upto floor two level and finished even and smooth in (i) Cement mortar 1:4 (1-cement:4-sand)].

1. Material:

- Cement and sand shall be used for mortar of 15mm thick plaster work as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 17.58 page No- 104 in General specification R & B booklet for building works shall be follow except that the proportion and thickness and cement mortar as per above specification work.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Square meter.

Item No. 17.14 : Providing and fixing (Chainlink Fencing) with fabrication of M.S. Angle vertical support of size 75x75x6 mm and horizontal support of 50x50x6 mm on top, centre and bottom with galvanize chain link 50x50 10 guage jali fitted with 40x6 mm M.S. flat including welding and erecting the same in position incement concrete (1:2:4) foundation blocks including excavation of size 600 × 600 × 900 mm, placing concrete, setting posts in line and level, and refilling around the foundation complete. Posts shall be provided at 3.00 m centre to centre spacing. with necessary excavation including two coats of oil Painting over single coat of primer etc complete as directed & inclurling one open able gate 3' ft wide and 7 ft in ht. including of two coats of oil paint on M.S. Structure as per drawing & directed by Engineer in charge.

1. MATERIALS

- The M.S. box pipes for vertical supports shall be 75×75×6 mm and horizontal supports shall be 50×50×6 mm, with 40×6 mm M.S. flat for chain link fixing.
- The galvanized chain link mesh shall be 50×50 mm, 10-gauge, of approved make.
- All steel shall be painted with one coat of primer and two coats of oil paint, and cement concrete 1:2:4 with FE500D TMT bars shall be used for foundations.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. WORKMANSHIP

- The vertical supports shall be fixed at 3 m centre-to-centre spacing in 50×50×60 cm foundations, with horizontal members at top, centre, and bottom.
- The chain link mesh shall be securely fixed with flats, and one openable gate of 0.90 m width and 2.10 m height shall be provided.
- All fabrication, welding, painting, and erection shall be done as per drawing and as approved by the Engineer-in-Charge.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architec.

3. Measurements:

- Measurement shall be in running metres of completed fencing including all posts, chain link mesh, foundations, painting, and gate as specified.
- Quantities shall be recorded as per approved drawings and site records, and payment shall be made for the finished work meeting specifications.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the

whole work satisfactorily as per instruction of EIC/ Architect.

- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Area shall be measured in sqm.

Item No.17.15: Providing and laying Synthetic Surface- ITF Approved -8 layer full cushion Synthetic surface which consists of 1 layer of Acrylic resurfacer 5 layers of rubber cushion ,and 2 layers of color with line marking according to the international standards.

1. Materials

- Level Master: 1 layer of level master, ITF-approved quality, durable, and suitable for synthetic court base preparation.
- Thick Rubber Cushion: 2 layers of high-quality thick rubber cushion to provide shock absorption and resilience.
- Dense Rubber Cushion: 3 layers of dense rubber cushion for elasticity and uniform support.
- Color Layers & Line Marking: 2 layers of ITF-approved colored surface material, including precise line markings conforming to international standards.
- Adhesives & Primers: Approved bonding agents as per manufacturer specifications for proper adhesion between layers.
- Water, Tools & Equipment: Clean water, brushes, rollers, and other application tools required for proper installation.

2. Workmanship

- Surface Preparation: The base must be clean, dry, level, and free from dust, grease, cracks, or loose particles before starting.
- Layer Application: Each layer shall be applied as per manufacturer' s instructions, ensuring proper thickness, compaction, curing, and uniformity.
- Level Master: 1 layer to create smooth base.
- Thick Rubber Cushion: 2 layers for full cushioning effect.
- Dense Rubber Cushion: 3 layers for uniform elasticity.
- Color & Line Marking: 2 layers with accurate line markings according to ITF standards.
- Quality Control: Each layer shall be inspected for adhesion, uniformity, and density.
- Supervision: Work shall be executed under supervision of the Engineer-in-Charge, ensuring compliance with
- ITF specifications and manufacturer guidelines.

3. Measurements

- The work shall be measured in square metres (sqm) of finished synthetic surface, including all 8 layers and line markings, as installed and approved by the Engineer-in-Charge.
- The rate shall be all-inclusive, covering supply of approved materials, surface preparation, application of all 8 layers, adhesives, color coating, line markings, labour, tools, equipment, curing, and all incidental operations required for proper completion of the work.

- Payment shall be made only for approved, satisfactorily installed surfaces that meet ITF standards.
- The rate shall be for a unit of One Square Meter.

Item No.17.16 : Providing and fixing 1 Pair of Basketball Pole made of MS Pipe 150mm x 150mm according to international standard. Fiber glass backboard - 20 mm thick transparent acrylic 184 x 106 Cms with International standard die made frame with Dunking Ring including of cement concrete foundation 0.900 x 0.900x 0.900 mm.

1. Material :

- Material and structure : Heavy-duty Mild Steel (MS) square pipe of 150mm x150mm
- Minimum structure wall thickness of 5mm to 6mm to withstand intense vibration and dunking impacts.
- A minimum extension of 1.20m to 3.20m from the main Vertical Pole to the backboard to ensure the pole sits outside the regulation boundary lines.
- 20mm thick transparent cast acrylic offering shatterproof, tempered glass like performance for rebounds.

2. Workmanship :

- Cement Concrete foundation pit measuring exactly 0.90 x 0.90m x 0.90.
- Minimum M-25 or M-30 grade cement concrete is recommended to provide the dead weight required for stability and vibration dampening.
- The Pole must be bolted to the concrete foundation using heavy-duty, rust-resistant anchor bolts to allow for vertical alignment and leveling.

3. Measurements :

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labor, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Pair.

Item No.18.01 : OUTDOOR VOLLEYBALL COURT A Excavation of Foundation in Soft Murrum, Soil or Sand from 0.0 mtr. to 1.50 mtr depth including lifting laying in 90 mtr. Lead area as instructed.

1. Workmanship:

- Work complete as per relevant specification of Item No: 4.0.0.(A) page No -21 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labor, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.

- The rate shall be for a unit of One Cubic Meter.

Item No. 18.02 : Rolling and Consolidating of soling including filling in depression which occurs during the process with power roller 8 tonne to 12 tonne. and compacting the bed as per specifications to core test 97% compacting complete in all respects to the entire satisfaction of the Engineer-in -charge.

1. Materials

- Brick bats used for the work shall be obtained from well-burnt, sound and hard bricks.
- The brick bats shall be free from dust, organic matter, loose particles, and other deleterious substances.
- The size of brick bats shall generally range between 40 mm and 75 mm unless otherwise specified.
- Water used for filling depressions and for consolidation shall be clean and free from harmful impurities.

2. Workmanship

- The brick bat layer shall be spread uniformly over the prepared surface to the required thickness and profile as shown in drawings or as directed by the Engineer-in-Charge.
- Rolling shall be carried out using a hand roller having a capacity between 8 tonne and 12 tonne.
- Rolling shall commence from the edges and progress gradually towards the center, overlapping each pass uniformly.
- During the rolling operation, any depressions, voids, or unevenness noticed shall be made good by adding additional brick bats and/or fine material as required, followed by further rolling.
- Water shall be sprinkled lightly, if necessary, to aid proper consolidation.
- Rolling shall continue until the surface becomes dense, even, and stable, and no further visible movement of material occurs.
- The finished surface shall conform to the required line, level, and camber.

3. Mode of Measurements and Payment

- The work shall be measured in Square meters (Sqm) of finished surface area consolidated, measured along the surface actually laid and compacted.
- The rate shall include the cost of all materials, labour, tools, plant, watering, filling of depressions, rolling, and all incidental operations necessary to complete the work in accordance with the specifications and directions of the Engineer-in-Charge.
- No separate payment shall be made for filling depressions or additional rolling required to achieve proper consolidation.
- The rate shall be for a unit of One Square Meter.

Item No. 18.03 : Providing, laying, spreading and consolidation 150 MM Brick Bats as per the instruction of engineer in charge including spreading to required density watering etc complete.

1. Material:

- Brick bats should be obtained from well-burnts, sound, and hard clay bricks.
- The bats should typically range from 25 mm to 150 mm in size. They must be free of salts, organic matter, mortar dropping, or other deleterious foreign materials.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- The Sub-grade or base concrete surface must be completely cleaned of all debris, loose dust, and mortar droppings.
- The brick bats must be thoroughly soaked in water for at least 6 hours before being laid to prevent them from absorbing moisture from the surrounding building mortar or dry base.
- The Brick bats should be spread evenly to the required thickness 150 MM.
- The Bats should be packed tightly in regular lines and levels. Interstices should be carefully filled with smaller pieces, stone chips or sand to create a dense, interlocking.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No.18.04 : Filling in plinth with sand under floors including watering ramming, consolidating and dressing complete.

1. Material:

- Sand shall be used for filling as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 4.24, page No - 35 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.

- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 18.05: Filling in Red soil as aproved by engineer in charge For ground top layers in including watering, ramming and consolidating and achieving required density soil must have property of not eroding ,holds water and soft. The rate includes all labour and machinary and spreading in layers and transportation complete.

1. Materials

- Red soil shall be of approved quality obtained from an approved source and specifically suitable for sports grounds and Kabaddi courts.
- The soil shall be free from stones, gravel, roots, organic matter, and other deleterious materials.
- It shall possess good binding properties, shall not be prone to erosion, shall have adequate water-holding capacity, and shall remain soft and pliable after compaction to ensure player safety.
- The soil shall be approved by the Engineer-in-Charge prior to use. .
- Water used for watering and compaction shall be clean and free from harmful impurities.

2. Workmanship

- The ground surface shall be properly cleared, leveled, and prepared to the required lines and levels before commencement of filling.
- Approved red soil shall be spread uniformly in layers not exceeding 15-20 cm in loose thickness, or as directed by the Engineer-in-Charge, suitable for Kabaddi court requirements.
- Each layer shall be adequately watered and compacted by ramming or suitable mechanical means to achieve the required density while maintaining a soft and resilient playing surface.
- Compaction shall be carried out uniformly to avoid hard patches. The filling shall be brought to the required level, slope, and profile as per approved drawings and standards for Kabaddi courts.
- The finished surface shall be smooth, even, well-consolidated, non-erodible, and safe for play.
- All labour, tools, plant, machinery, and transportation required for spreading, watering, and compaction shall be included in the work.

3. Measurements and Payment

- The work shall be measured in cubic meters (cum) of consolidated red soil filling actually executed for the Kabaddi court area, measured between the specified lines and levels.
- The rate shall include the cost of approved red soil, labour, tools and plants, machinery, watering, ramming, consolidation, spreading in layers, transportation from source to site, finishing to required levels, and all incidental operations necessary to complete the work in accordance with the specifications and directions of the Engineer-in-Charge.

- No separate payment shall be made for watering, compaction, machinery usage, or transportation.
- The rate shall be for a unit of One Cubic Meter.

Item No.18.06 : P.C.C : Providing and laying cement concrete 1:2:4 (1-Cement : 2- Coarse sand : 4- graded stone aggregates 20 mm nominal size) and curing complete including cost of formwork in (A) Foundation and Plinth

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 5.3.13. Page No - 40 & It.No: 9.1(A). Page No - 63 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.

Item No. 18.07 : Brick work using common burnt clay building bricks having crushing strength not less than 35 kg/Sq.Cm. in foundation and plinth in Cement Mortar 1:5. (1-Cement : 5 -fine sand)(B) Conventional Material:

1. Material:

- Brick shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 6.12(B) page No- 43,44 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic meter.

Item No. 18.08 : Providing 15mm thick cement plaster in single coat on brick/ concrete walls for interior plastering upto floor two level and finished even and smooth in (i) Cement mortar 1:4 (1-cement:4-sand).

1. Material:

- Cement and sand shall be used for mortar of 15mm thick plaster work as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 17.58 page No- 104 in General specification R & B booklet for building works shall be follow except that the proportion and thickness and cement mortar as per above specification work.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Square meter.

Item No. 18.09 : Providing and fixing (Chainlink Fencing) with fabrication of M.S. Angle vertical support of size 75x75x6 mm and horizontal support of 50x50x6 mm on top, centre and bottom with galvanize chain link 50x50 10 guage jali fitted with 40x6 mm M.S. flat including welding and erecting the same in position incement concrete (1:2:4) foundation blocks including excavation of size 600 × 600 × 900 mm, placing concrete, setting posts in line and level, and refilling around the foundation complete. Posts shall be provided at 3.00 m centre to centre spacing. with necessary excavation including two coats of oil Painting over single coat of primer etc complete as directed & inclurling one open able gate 3' ft wide and 7 ft in ht. including of two coats of oil paint on M.S. Structure as per drawing & directed by Engineer in charge.

1. MATERIALS

- The M.S. box pipes for vertical supports shall be 75×75×6 mm and horizontal supports shall be 50 × 50 × 6 mm, with 40 × 6 mm M.S. flat for chain link fixing.
- The galvanized chain link mesh shall be 50 × 50 mm, 10-gauge, of approved make.
- All steel shall be painted with one coat of primer and two coats of oil paint, and cement concrete 1:2:4 with FE500D TMT bars shall be used for foundations.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. WORKMANSHIP

- The vertical supports shall be fixed at 3 m centre-to-centre spacing in 50 × 50 × 60 cm foundations, with horizontal members at top, centre, and bottom.
- The chain link mesh shall be securely fixed with flats, and one openable gate of 0.90 m

width and 2.10 m height shall be provided.

- All fabrication, welding, painting, and erection shall be done as per drawing and as approved by the Engineer-in-Charge.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- Measurement shall be in running metres of completed fencing including all posts, chain link mesh, foundations, painting, and gate as specified.
- Quantities shall be recorded as per approved drawings and site records, and payment shall be made for the finished work meeting specifications.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Area shall be measured in sqm.

Item No. 18.10 : Providing and fixing Net poles and net with Ground fixing sleeves.

1. Material:

- Heavy duty structural steel or high grade aluminum with minimum 76mm to 89 mm outer diameter with a wall thickness at least 3 mm.
- Surface treated with rust resistant epoxy primer and finished with a weather proof, UV resistant polyurethane or baked on polyester powder coat.
- Ground fixing sleeves made with Galvanized steel or heavy wall PVC.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Measure the court precisely and dig foundation holes according to the required Ground sleeves specification.
- Position the ground sleeves perfectly plumb into the excavations.
- Pour High strength, non-shrink grout or concrete into the hole securing the sleeve and leaving a drainage hole at the base to prevent water accumulation and corrosion.
- Insert the poles into the sleeves, thread the net onto the hooks/pulley system, and crank to standard regulation tension.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.

- The rate shall be for a unit of One Pair.

Item No. 19.01 : OUTDOOR TENNIS COURT: Excavation of Foundation in Soft Murrum, Soil or Sand from 0.0 mtr. to 1.50 mtr depth including lifting laying in 90 mtr. Lead area as instructed.

1. Workmanship:

- Work complete as per relevant specification of Item No: 4.0.0.(A) page No -21 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labor, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 19.02 : Carrying out plinth treatment to post construction / existing structure by spraying chemical solution for termite control treatment including labour and material consistent with I.S.I specification. Using Chlordane and Chlorpyrifos 20 EC. As Per 6131_paret-II Concentration Weight one percent is recommended i.e one litre 20 EC chemical emulsion with 19 liter give 1 % concentration inclusive of one litre chemical emulsion application at the rate of 5 Litre chemical / Sqm of surface is recommended as per I.S

1. Material:

- For Anti termite treatment
- The Chemical for anti-termite treatment shall be any one of the following:

Materials	Chemical	Relevant IS Code	Concentration by Volume
a)	Chlorpyrifos emulsifiable concentrate	IS 8944	1.0%
b)	Heptachlor emulsifiable concentrate	IS 6439	0.5%
c)	Chlordane emulsifiable concentrate	IS 2682	1.0%

- Chemicals are available in concentrated form in the market & concentration is indicated on the sealed container.
- ADEN shall satisfy himself about the quality of material and appropriate sealing of containers.
- Further before accepting the supply of material required tests shall be conducted and proper certification shall be obtained.
- To achieve specified % of concentration chemical should be diluted with water in required quantity.
- For example to dilute chemical of 30% concentration 59 parts of water shall be added to one part of chemical for achieving 0.5% concentration.

- The material shall be taken over and accounted for as per extent rules in the ledgers/MAS and the same shall be issued to Contractor for day to day work on required basis.

2. Workmanship:

Chemicals:

- The chemicals used for the soil treatment shall be any one or a combination of the following with the concentration shown against each in aqueous emulsion.
- The work of anti-termite treatment shall be got executed by a specialist firm which must be a member of IPCA and approved by Architect / Project Manager and shall be carried out as per IS:6313 (Part II) of 1981 for pre-construction soil treatment.

Chemicals	Concentrations
Chlorpyrifos emulsifiable concentrates	1.00
Tyran emulsifiable concentrates	As Per Manufacturer's Instructions
Dursban emulsifiable concentrates	-Do-
Endosulphan emulsifiable concentrates	-Do-

3. Measurements:

- The rate shall be for a unit of one Smt.

Item No.19.03: Rolling and Consolidating of soling including filling in depression which occurs during the process with power roller 8 tonne to 12 tonne. and compacting the bed as per specifications.

1. Materials

- Brick bats used for the work shall be obtained from well-burnt, sound and hard bricks.
- The brick bats shall be free from dust, organic matter, loose particles, and other deleterious substances.
- The size of brick bats shall generally range between 40 mm and 75 mm unless otherwise specified.
- Water used for filling depressions and for consolidation shall be clean and free from harmful impurities.

2. Workmanship

- The brick bat layer shall be spread uniformly over the prepared surface to the required thickness and profile as shown in drawings or as directed by the Engineer-in-Charge.
- Rolling shall be carried out using a hand roller having a capacity between 8 tonne and 12 tonne.
- Rolling shall commence from the edges and progress gradually towards the center, overlapping each pass uniformly.
- During the rolling operation, any depressions, voids, or unevenness noticed shall be made good by adding additional brick bats and/or fine material as required, followed by further rolling.
- Water shall be sprinkled lightly, if necessary, to aid proper consolidation.

- Rolling shall continue until the surface becomes dense, even, and stable, and no further visible movement of material occurs.
- The finished surface shall conform to the required line, level, and camber.

3. Measurements

- The work shall be measured in square meters (Sqm) of finished surface area consolidated, measured along the surface actually laid and compacted.
- The rate shall include the cost of all materials, labour, tools, plant, watering, filling of depressions, rolling, and all incidental operations necessary to complete the work in accordance with the specifications and directions of the Engineer-in-Charge.
- No separate payment shall be made for filling depressions or additional rolling required to achieve proper consolidation.
- The rate shall be for a unit of One Square Meter.

Item No. 19.04 : Providing and laying of One Layer of WBM of 150mm thick, aggregate size 63mm well graded down to 40mm with filling up the voids with Quarry dust and water as lubricant to be rolled wet to achieve strong and stable base. Brushing the excess material until needed.

1. Material:

- B.T.M.C stone aggregates of 63 to 40mm size should be used as per approved sample by EIC/Architect.
- W.B.M 150mm thick including spreading in uniform thickness should be used as per approved sample by EIC/Architect.
- It shall be sound Clean free from clay, dirt, ash or other deleterious matter.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- B.T.M.C. stone aggregates of 63mm to 40mm size to W.B.M.150mm thick including spreading in uniform thickness, hand packing, rolling with vibratory roller 8-10 tones to proper grade and camber.
- Applying and brooming requisite type of screening / binding / filler materials to fill up the interstices of coarse aggregate, watering and compacting to the required density. Grading - II using screening type - A (13.2mm Agg.)
- Work complete including all type of joining material, tools, tackles, with finishing, proper even surface etc as per government standard specification and suggestion.
- the site of shall be cleared of all debris, brick bats, mortar dropping etc; and filled with Cinder in layers as per required thickness. Each layer shall be adequately watered, rammed and consolidated before the succeeding layer is laid. The BTMC stone and WBM shall be rammed with iron rammers
- Work complete including all necessary materials, tools, tackles etc.
- All work should be carried out as per detailed drawing and instruction of EIC/Architect.

- Bidder shall be responsible for the any type of damage work at the time of execution.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Cubic Meter.

Item No.19.05 : Providing, laying, spreading and consolidation graded stone aggregate to Wet mix macadam 150mm compacted thick as per MORTH & H specifications including premixing the material with water at OMC in mechanical plant carriage of mixed material by tippers to site, laying in uniform layers in sub base/ base course on well prepared surface and compacting with roller to achieve the desired density.

1. Material:

- The graded stone aggregates shall conform to MORTH specifications for Wet Mix Macadam, well-graded and free from clay, silt, or organic matter. Water used shall be clean and suitable for mixing at Optimum Moisture Content (OMC).
- All materials shall be approved by the Engineer-in-Charge before use.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect. Clean and suitable for mixing at Optimum Moisture Content (OMC). All materials shall be approved by the Engineer-in-Charge before use.

2. Workmanship:

- The materials shall be premixed with water at OMC in a mechanical mix plant, transported to site in tippers, and laid in uniform 150 mm compacted thickness layers using a paver. Each layer shall be compacted with a vibratory roller to achieve the required density and finished true to grade and cross-section. Work shall be executed as per MORTH specifications and as approved by the Engineer-in-Charge.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- Measurement shall be in square metres of compacted Wet Mix Macadam surface completed to the specified thickness and density. Quantities shall be recorded as per approved drawings and site records, and payment shall be made for finished work meeting specifications.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all

heights and for all floors.

- Area shall be measured in cum.

Item No.19.06 : Cleaning and brushing the Existing surface incl. removing of excess binding material and other foreign matter with wire brushes and small picks, sweeping with brooms or soft brushes to receive bituminous treatment complete in all respects as per specification.

1. Workmanship:

- Remove stubborn dirt, clay, caked mud, and old excess binding material.
- Workers use wire brushes and small picks to scrape the degraded surface, joints, or localized patches where old binders have hardened or caked up.
- The surface thoroughly swept with brooms or soft brushes until all foreign matter and debris are eliminated.

2. Measurements:

- Measurement shall be in square metres of surface primed.
- It shall include surface preparation, material, labour, and application.
- Only completed and approved work shall be measured for payment.

Item No.19.07 : Providing and applying primer coat with Bitumen VG-30 / Bitumen 60/70 Grade on prepared surface and spraying primer uniformly at the rate of 1.0 kg per sqm using mechanical means, complete as per MoRTH Specifications.

1. Material:

- The primer shall be VG 30 (60/70 grade) bitumen.
- It shall conform to relevant IS and MoRTH specifications.
- The material shall be clean, homogeneous, and free from impurities.
- The bitumen shall be of approved make and quality.
- All type of material shall be used as per approved make list and confirming to relevant
- IS codes and approved by EIC/ Architect.

2. Workmanship:

- The granular base surface shall be prepared by removing dust and loose particles.
- Cleaning shall be done using approved mechanical means.
- The primer shall be applied uniformly at the rate of 1 kg per square metre.
- Application shall be carried out using mechanical spraying equipment.
- The surface shall be completely and evenly covered.
- All work shall be executed as directed by the Engineer-in-Charge.

3. Measurements:

- Measurement shall be in square metres of surface primed.
- It shall include surface preparation, material, labour, and application.
- Only completed and approved work shall be measured for payment.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.

- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Area shall be measured in sqm.

Item No.19.08 : Providing and laying of one layer of B.M.(Bitumen Macadam) thickness of 50mm aggregate size 12mm down to 6mm well graded bitumen content 4.5 to 5% by wt adding special binder in an appropriate proportion and will be rolled and taking care of the undulations and compacting the surface while the mix is hot and in an appropriate temperature maintaining the required slope.

- As per Item No. 17.07 Specification

Item No.19.09 : Providing and applying primer coat with Bitumen VG-30 / Bitumen 60/70 Grade on prepared surface and spraying primer uniformly at the rate of 1.0 kg per sqm using mechanical means, complete as per MoRTH Specifications.

- As Per Item No.17.06 Specification

Item No.19.10 : Providing and laying of one layer of BC. aggregate size 6mm down well graded to 2mm average thickness 40mm. Bitumen content 6% by wt of the mix with stone dust and adding special binder in an appropriate proportion and will be rolled by 8 to 10 tons of roller taking care of the undulations and wheel marks.

Providing and laying of one layer of BC. aggregate size 6mm down well graded to 2mm average thickness 40mm. Bitumen content 6% by wt of the mix with stone dust and adding special binder in an appropriate proportion and will be rolled by 8 to 10 tons of roller taking care of the undulations and wheel marks.

The rate shall be for a unit of One MT.

Item No. 19.11 : Providing and laying one layer of Seal coat.

- As Per Item No.17.10 Specification

Item No. 19.12 : P.C.C : Providing and laying cement concrete 1:2:4 (1-Cement : 2- Coarse sand : 4- graded stone aggregates 20 mm nominal size) and curing complete including cost of formwork in (A) Foundation and Plinth.

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 5.3.13. Page No - 40 &
- It.No: 9.1(A). Page No - 63 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.

Item No. 19.13 : Brick work using common burnt clay building bricks having crushing strength not less than 35 kg/Sq.Cm. in foundation and plinth in Cement Mortar 1:5. (1-Cement : 5 -fine sand)(B) Conventional.

1. Material:

- Brick shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 6.12(B) page No- 43,44 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic meter.

Item No. 19.14 : Providing 15mm thick cement plaster in single coat on brick/ concrete walls for interior plastering upto floor two level and finished even and smooth in (i) Cement mortar 1:4 (1-cement:4-sand).

1. Material:

- Cement and sand shall be used for mortar of 15mm thick plaster work as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 17.58 page No- 104 in General specification R & B booklet for building works shall be follow except that the proportion and thickness and cement mortar as per above specification work.

3. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Square meter.

Item No. 19.14 : Providing and fixing (Chainlink Fencing) with fabrication of M.S. Angle vertical support of size 75x75x6 mm and horizontal support of 50x50x6 mm on top, centre and bottom with galvanize chain link 50x50 10 guage jali fitted with 40x6 mm M.S. flat including welding and erecting the same in position incement concrete (1:2:4) foundation blocks including excavation of size 600 × 600 × 900 mm, placing concrete, setting posts in line and level, and refilling around the foundation complete. Posts shall be provided at 3.00 m centre to centre spacing. with necessary excavation including two coats of oil Painting over single coat of primer etc complete as directed & inclurling one open able gate 3' ft wide and 7 ft in ht. including of two coats of oil paint on M.S. Structure as per drawing & directed by Engineer in charge.

1. Materials

- The M.S. box pipes for vertical supports shall be 75×75×6 mm and horizontal supports shall be 50×50×6 mm, with 40×6 mm M.S. flat for chain link fixing.
- The galvanized chain link mesh shall be 50×50 mm, 10-gauge, of approved make.
- All steel shall be painted with one coat of primer and two coats of oil paint, and cement concrete 1:2:4 with FE500D TMT bars shall be used for foundations.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship

- The vertical supports shall be fixed at 3 m centre-to-centre spacing in 50×50×60 cm foundations, with horizontal members at top, centre, and bottom.
- The chain link mesh shall be securely fixed with flats, and one openable gate of 0.90 m width and 2.10 m height shall be provided.
- All fabrication, welding, painting, and erection shall be done as per drawing and as approved by the Engineer-in-Charge.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architec.

3. Measurements:

- Measurement shall be in running metres of completed fencing including all posts, chain link mesh, foundations, painting, and gate as specified.
- Quantities shall be recorded as per approved drawings and site records, and payment shall be made for the finished work meeting specifications.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all

heights and for all floors.

- Area shall be measured in sqm.

Item No. 19.15 : Providing and laying Synthetic Surface- ITF Approved -8 layer full cushion Synthetic surface which consists of 1 layer of Acrylic resurfacer 5 layers of rubber cushion, and 2 layers of color with line marking according to the international standards.

1. Materials

- Level Master: 1 layer of level master, ITF-approved quality, durable, and suitable for synthetic court base preparation.
- Thick Rubber Cushion: 2 layers of high-quality thick rubber cushion to provide shock absorption and resilience.
- Dense Rubber Cushion: 3 layers of dense rubber cushion for elasticity and uniform support.
- Color Layers & Line Marking: 2 layers of ITF-approved colored surface material, including precise line markings conforming to international standards.
- Adhesives & Primers: Approved bonding agents as per manufacturer specifications for proper adhesion between layers.
- Water, Tools & Equipment: Clean water, brushes, rollers, and other application tools required for proper installation.

2. Workmanship

- Surface Preparation: The base must be clean, dry, level, and free from dust, grease, cracks, or loose particles before starting.
- Layer Application: Each layer shall be applied as per manufacturer's instructions, ensuring proper thickness, compaction, curing, and uniformity.
- Level Master: 1 layer to create smooth base.
- Thick Rubber Cushion: 2 layers for full cushioning effect.
- Dense Rubber Cushion: 3 layers for uniform elasticity.
- Color & Line Marking: 2 layers with accurate line markings according to ITF standards.
- Quality Control: Each layer shall be inspected for adhesion, uniformity, and density.
- Supervision: Work shall be executed under supervision of the Engineer-in-Charge, ensuring compliance with
- ITF specifications and manufacturer guidelines.

3. Measurements

- The work shall be measured in square metres (sqm) of finished synthetic surface, including all 8 layers and line markings, as installed and approved by the Engineer-in-Charge.
- The rate shall be all inclusive, covering supply of approved materials, surface preparation, application of all 8 layers, adhesives, color coating, line markings, labour, tools, equipment, curing, and all incidental operations required for proper completion of the work.
- Payment shall be made only for approved, satisfactorily installed surfaces that meet ITF standards.

- The rate shall be for a unit of One Square Meter.

Item No.19.16: Providing and Fixing Tennis Post, Net Wire and Net - HD Canvas/Terton tape machine knitted 3mm.

1. Material

- Wire Material: High-strength, corrosion-resistant wire suitable for tennis net support. Galvanized steel or stainless steel as approved by the Engineer-in-Charge.
- Wire Diameter & Strength: Wire of appropriate diameter and tensile strength to maintain proper tension of the tennis net, compliant with ITF or relevant standards.
- Accessories: Approved hooks, turnbuckles, tensioners, clamps, and other fastening devices as required for proper installation.
- Net Fabric: High-density (HD) Canvas or Tetron tape, machine-knitted with a 3 mm thickness, durable, tear-resistant, and UV-stabilized.
- Tapes & Edging: Heavy-duty top and bottom tapes for reinforcement and tensioning.
- Ropes & Fasteners: Nylon or polypropylene ropes, stainless steel or rust-proof hooks, and other fasteners for secure fixing to posts.
- Tennis Posts: Standard steel or aluminum posts, powder-coated or painted to prevent corrosion.
- All materials shall be approved by the Engineer-in-Charge and conform to ITF or relevant standards for tennis courts.

2. workmanships:

- The wire shall be stretched tightly between the tennis posts, maintaining the correct net height: 0.914 m at the center and 1.07 m at the posts.
- Proper tensioning devices shall be used to ensure uniform tension along the entire length of the net.
- Hooks, clamps, and fasteners shall be securely fixed to prevent loosening or sagging.
- All installation work shall be executed under the directions of the Engineer-in-Charge and in accordance with manufacturer specifications and international tennis standards.
- Providing Tennis net wire:- The net shall be properly stretched between the posts, with uniform tension and alignment at the required height as per international standards (0.914 m at the center, 1.07 m at the posts).
- All ropes, hooks, and fasteners shall be securely fixed, and excess rope shall be neatly tied to prevent interference with play.
- Care shall be taken to avoid twisting, sagging, or damage during installation. The net should hang evenly without gaps or looseness.
- Installation shall be carried out under the directions of the Engineer-in-Charge, ensuring compliance with manufacturer instructions and ITF standards.

3. Measurement

- The work shall be measured in Numbers (Nos.) of wire installed between the posts, including hooks, clamps, and tensioning devices.
- The rate shall be including covering supply of approved wire, accessories, labour, tools, equipment, and installation as per specifications. Payment shall be made only for wires installed and approved by the Engineer-in-Charge.
- The rate shall be for a unit of One Number.

Item No. 19.17 : Providing and fixing Tennis referee chair foldable.

1. Material and workmanship:

- Providing Tennis referee chair foldable

2. Measurements:

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

Item No.19.18 : Providing and fixing Tennis Score board Manual score board, portable and movable, all construction steel.

1. Material and workmanship:

- Providing Tennis Score board Manual score board , portable and movable, all construction steel .

2. Measurements:

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

Item No. 20.01: Excavation of Foundation in Soft Murrum, Soil or Sand from 0.0 mtr. to 1.50 mtr depth including lifting laying in 90 mtr. Lead area as instructed.

1. Workmanship:

- Work complete as per relevant specification of Item No: 4.0.0.(A) page No -21 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labor, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No.20.02 : Rolling and Consolidating of soling including filling in depression which occurs during the process with power roller 8 tonne to 12 tonne. and compacting the bed as per specifications to core test 97% compacting complete in all respects to the entire satisfaction of the Engineer-in -charge.

1. Materials

- Brick bats used for the work shall be obtained from well-burnt, sound and hard bricks.
- The brick bats shall be free from dust, organic matter, loose particles, and other deleterious substances.
- The size of brick bats shall generally range between 40 mm and 75 mm unless otherwise specified.
- Water used for filling depressions and for consolidation shall be clean and free from harmful impurities.

2. Workmanship

- The brick bat layer shall be spread uniformly over the prepared surface to the required thickness and profile as shown in drawings or as directed by the Engineer-in-Charge.
- Rolling shall be carried out using a hand roller having a capacity between 8 tonne and 12 tonne.
- Rolling shall commence from the edges and progress gradually towards the center, overlapping each pass uniformly.
- During the rolling operation, any depressions, voids, or unevenness noticed shall be made good by adding additional brick bats and/or fine material as required, followed by further rolling.
- Water shall be sprinkled lightly, if necessary, to aid proper consolidation.
- Rolling shall continue until the surface becomes dense, even, and stable, and no further visible movement of material occurs.
- The finished surface shall conform to the required line, level, and camber.

3. Mode of Measurements and Payment

- The work shall be measured in square meters (Sqm) of finished surface area consolidated, measured along the surface actually laid and compacted.
- The rate shall include the cost of all materials, labour, tools, plant, watering, filling of depressions, rolling, and all incidental operations necessary to complete the work in watering, filling of depressions, rolling, and all incidental operations necessary to complete the work in accordance with the specifications and directions of the Engineer-in-Charge.
- No separate payment shall be made for filling depressions or additional rolling required to achieve proper consolidation.
- The rate shall be for a unit of One Square Meter.

Item No.20.03 : P.C.C : Providing and laying cement concrete 1:2:4 (1-Cement : 2- Coarse sand : 4- graded stone aggregates 20 mm nominal size) and curing complete including cost of formwork in (A) Foundation and Plinth.

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 5.3.13. Page No - 40 & It.No: 9.1(A). Page No - 63 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.

Item No. 20.04 : Brick work using common burnt clay building bricks having crushing strength not less than 35 kg/Sq.Cm. in foundation and plinth in Cement Mortar 1:5. (1-Cement : 5 -fine sand)(B) Conventional.

1. Material:

- Brick shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 6.12(B) page No- 43,44 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic meter.

Item No.20.05: Providing 15mm thick cement plaster in single coat on brick/ concrete walls for interior plastering upto floor two level and finished even and smooth in (i) Cement mortar 1:4 (1-cement:4-sand).

1.Material:

3. Cement and sand shall be used for mortar of 15mm thick plaster work as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
4. All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

5. Work complete as per relevant specification of Item No: 17.58 page No- 104 in General specification R & B booklet for building works shall be follow except that the proportion and thickness and cement mortar as per above specification work.

3. Measurements:

6. The rate shall be consolidated for all above items.
7. The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
8. No extra payment will be given for any of the reasons.
9. The rate shall be for a unit of One Square meter.

Item No.20.06: Filling in Red soil as aproved by engineer in charge For ground top layers in including watering, ramming and consolidating and achieving required density soil must

have property of not eroding ,holds water and soft. The rate includes all labour and machinery and spreading in layers and transportation complete.

3. Materials

- Red soil shall be of approved quality obtained from an approved source and specifically suitable for sports grounds and Kabaddi courts.
- The soil shall be free from stones, gravel, roots, organic matter, and other deleterious materials.
- It shall possess good binding properties, shall not be prone to erosion, shall have adequate water-holding capacity, and shall remain soft and pliable after compaction to ensure player safety.
- The soil shall be approved by the Engineer-in-Charge prior to use. .
- Water used for watering and compaction shall be clean and free from harmful impurities.

4. Workmanship

- The ground surface shall be properly cleared, leveled, and prepared to the required lines and levels before commencement of filling.
- Approved red soil shall be spread uniformly in layers not exceeding 15-20 cm in loose thickness, or as directed by the Engineer-in-Charge, suitable for Kabaddi court requirements.
- Each layer shall be adequately watered and compacted by ramming or suitable mechanical means to achieve the required density while maintaining a soft and resilient playing surface.
- Compaction shall be carried out uniformly to avoid hard patches. The filling shall be brought to the required level, slope, and profile as per approved drawings and standards for Kabaddi courts.
- The finished surface shall be smooth, even, well-consolidated, non-erodible, and safe for play.
- All labour, tools, plant, machinery, and transportation required for spreading, watering, and compaction shall be included in the work.

5. Measurements and Payment

- The work shall be measured in cubic meters (cum) of consolidated red soil filling actually executed for the Kabaddi court area, measured between the specified lines and levels.
- The rate shall include the cost of approved red soil, labour, tools and plants, machinery, watering, ramming, consolidation, spreading in layers, transportation from source to site, finishing to required levels, and all incidental operations necessary to complete the work in accordance with the specifications and directions of the Engineer-in-Charge.
- No separate payment shall be made for watering, compaction, machinery usage, or transportation.
- The rate shall be for a unit of One Cubic Meter.

Item No.20.07 : Providing, laying, spreading and consolidation 150 MM Brick Bats as per the instruction of engineer in charge including spreading to required density watering etc complete.

- As Per Item No.18.03 Specification

Item No.20.08: Filling in plinth with sand under floors including watering ramming, consolidating and dressing complete.

1. Material:

- Sand shall be used for filling as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 4.24, page No - 35 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No.20.09 : Movable Goal Posts Made with branded high-quality MS Steel Pipe in 4" Dia of Branded Epoxy Paint with Rust & Corrosion Free and Zero Vibration the Size: 24 Feet x 8 Feet (7.32 mt Long and 2.44 mt Hight, Back Support of 1.5" . The Poles Comprise wheels which make it easy to move with Goal Nets High Rigidity Material 4.5 mm machine knitted the color will be as per the standards requirements.

Movable Goal Posts Made with branded high-quality MS Steel Pipe in 4" Dia of Branded Epoxy Paint with Rust & Corrosion Free and Zero Vibration the Size: 24 Feet x 8 Feet (7.32 mt Long and 2.44 mt Hight, Back Support of 1.5" . The Poles Comprise wheels which make it easy to move with Goal Nets High Rigidity Material 4.5 mm machine knitted the color will be as per the standards requirements.

- The rate shall be for a unit of Nos.

Item No.20.10: Providing and fixing (Chainlink Fencing) with fabrication of M.S. Angle vertical support of size 75x75x6 mm and horizontal support of 50x50x6 mm on top, centre and bottom with galvanize chain link 50x50 10 guage jali fitted with 40x6 mm M.S. flat including welding and erecting the same in position incement concrete (1:2:4) foundation blocks including excavation of size 600 × 600 × 900 mm, placing concrete, setting posts in line and level, and refilling around the foundation complete. Posts shall be provided at 3.00 m centre to centre spacing. with necessary excavation including two coats of oil Painting over single coat of primer etc complete as directed & inclurling one open able gate 3' ft wide and 7 ft in ht.

including of two coats of oil paint on M.S. Structure as per drawing & directed by Engineer in charge.

1. MATERIALS

- The M.S. box pipes for vertical supports shall be 75×75×6 mm and horizontal supports shall be 50×50×6 mm, with 40×6 mm M.S. flat for chain link fixing.
- The galvanized chain link mesh shall be 50×50 mm, 10-gauge, of approved make.
- All steel shall be painted with one coat of primer and two coats of oil paint, and cement concrete 1:2:4 with FE500D TMT bars shall be used for foundations.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. WORKMANSHIP

- The vertical supports shall be fixed at 3 m centre-to-centre spacing in 50×50×60 cm foundations, with horizontal members at top, centre, and bottom.
- The chain link mesh shall be securely fixed with flats, and one openable gate of 0.90 m width and 2.10 m height shall be provided.
- All fabrication, welding, painting, and erection shall be done as per drawing and as approved by the Engineer-in-Charge.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- Measurement shall be in running metres of completed fencing including all posts, chain link mesh, foundations, painting, and gate as specified.
- Quantities shall be recorded as per approved drawings and site records, and payment shall be made for the finished work meeting specifications.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Area shall be measured in sqm.

Item No. 21.01 : KHO - KHO COURT: Excavation of Foundation in Soft Murrum, Soil or Sand from 0.0 mtr. to 1.50 mtr depth including lifting laying in 90 mtr. Lead area as instructed.

1. Workmanship:

- Work complete as per relevant specification of Item No: 4.0.0.(A) page No -21 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labor, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No.21.02 : Rolling and Consolidating of soling including filling in depression which occurs during the process with power roller 8 tonne to 12 tonne. and compacting the bed as per specifications to core test 97% compacting complete in all respects to the entire satisfaction of the Engineer-in -charge.

1. Materials

- Brick bats used for the work shall be obtained from well-burnt, sound and hard bricks.
- The brick bats shall be free from dust, organic matter, loose particles, and other deleterious substances.
- The size of brick bats shall generally range between 40 mm and 75 mm unless otherwise specified.
- Water used for filling depressions and for consolidation shall be clean and free from harmful impurities.

2. Workmanship

- The brick bat layer shall be spread uniformly over the prepared surface to the required thickness and profile as shown in drawings or as directed by the Engineer-in-Charge.
- Rolling shall be carried out using a hand roller having a capacity between 8 tonne and 12 tonne.
- Rolling shall commence from the edges and progress gradually towards the center, overlapping each pass uniformly.
- During the rolling operation, any depressions, voids, or unevenness noticed shall be made good by adding additional brick bats and/or fine material as required, followed by further rolling.
- Water shall be sprinkled lightly, if necessary, to aid proper consolidation.
- Rolling shall continue until the surface becomes dense, even, and stable, and no further visible movement of material occurs.
- The finished surface shall conform to the required line, level, and camber.

3. Mode of Measurements and Payment

- The work shall be measured in square meters (Sqm) of finished surface area consolidated, measured along the surface actually laid and compacted.
- The rate shall include the cost of all materials, labour, tools, plant, watering, filling of depressions, rolling, and all incidental operations necessary to complete the work in accordance with the specifications and directions of the Engineer-in-Charge.

- No separate payment shall be made for filling depressions or additional rolling required to achieve proper consolidation.
- The rate shall be for a unit of One Square Meter.

Item No.21.03 : P.C.C : Providing and laying cement concrete 1:2:4 (1-Cement : 2- Coarse sand : 4- graded stone aggregates 20 mm nominal size) and curing complete including cost of formwork in (A) Foundation and Plinth.

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 5.3.13. Page No - 40 & It.No: 9.1(A). Page No - 63 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.

Item No.21.04 : Brick work using common burnt clay building bricks having crushing strength not less than 35 kg/Sq.Cm. in foundation and plinth in Cement Mortar 1:5. (1- Cement : 5 -fine sand)(B) Conventional.

1. Material:

- Brick shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 6.12(B) page No- 43,44 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic meter.

Item No. 21.05: Providing 15mm thick cement plaster in single coat on brick/ concrete walls for interior plastering upto floor two level and finished even and smooth in (i) Cement mortar 1:4 (1-cement:4-sand).

1.Material:

- Cement and sand shall be used for mortar of 15mm thick plaster work as per approved sample and confirming to relevant IS codes and approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 17.58 page No- 104 in General specification R & B booklet for building works shall be follow except that the proportion and thickness and cement mortar as per above specification work.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Square meter.

Item No.21.06: Filling in Red soil as aproved by engineer in charge For ground top layers in including watering, ramming and consolidating and achieving required density soil must have property of not eroding ,holds water and soft. The rate includes all labour and machinary and spreading in layers and transportation complete.

1. Materials

- Red soil shall be of approved quality obtained from an approved source and specifically suitable for sports grounds and Kabaddi courts.
- The soil shall be free from stones, gravel, roots, organic matter, and other deleterious materials.
- It shall possess good binding properties, shall not be prone to erosion, shall have adequate water-holding capacity, and shall remain soft and pliable after compaction to ensure player safety.
- The soil shall be approved by the Engineer-in-Charge prior to use. .
- Water used for watering and compaction shall be clean and free from harmful impurities.

2. Workmanship

- The ground surface shall be properly cleared, leveled, and prepared to the required lines and levels before commencement of filling.
- Approved red soil shall be spread uniformly in layers not exceeding 15-20 cm in loose thickness, or as directed by the Engineer-in-Charge, suitable for Kabaddi court requirements.
- Each layer shall be adequately watered and compacted by ramming or suitable mechanical means to achieve the required density while maintaining a soft and

resilient playing surface.

- Compaction shall be carried out uniformly to avoid hard patches. The filling shall be brought to the required level, slope, and profile as per approved drawings and standards for Kabaddi courts.
- The finished surface shall be smooth, even, well-consolidated, non-erodible, and safe for play.
- All labour, tools, plant, machinery, and transportation required for spreading, watering, and compaction shall be included in the work.

3. Measurements and Payment

- The work shall be measured in cubic meters (cum) of consolidated red soil filling actually executed for the Kabaddi court area, measured between the specified lines and levels.
- The rate shall include the cost of approved red soil, labour, tools and plants, machinery, watering, ramming, consolidation, spreading in layers, transportation from source to site, finishing to required levels, and all incidental operations necessary to complete the work in accordance with the specifications and directions of the Engineer-in-Charge.
- No separate payment shall be made for watering, compaction, machinery usage, or transportation.
- The rate shall be for a unit of One Cubic Meter.

Item No.21.07 : Providing, laying, spreading and consolidation 150 MM Brick Bats as per the instruction of engineer in charge including spreading to required density watering etc complete.

- As per Above specification of Item No.18.10

Item No.21.08 : Filling in plinth with sand under floors including watering ramming, consolidating and dressing complete.

1. Material:

- Sand shall be used for filling as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 4.24, page No - 35 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.

- The rate shall be for a unit of One Cubic Meter.

Item No.21.09 : Providing and fixing KHO KHO POST (HEAVY WOODEN) Or Fiber For Kho-Kho including all required materials labours as approved by Engineer Incharge.will be as per the standards requirements.

Providing and fixing KHO KHO POST (HEAVY WOODEN) Or Fiber For Kho-Kho including all required materials labours as approved by Engineer Incharge.will be as per the standards requirements.

- The rate shall be for a unit of One Nos..

Item No. 22.01: Excavation of Foundation in Soft Murrum, Soil or Sand from 0.0 mtr. to 1.50 mtr depth including lifting laying in 90 mtr. Lead area as instructed.

1. Workmanship:

- Work complete as per relevant specification of Item No: 4.0.0.(A) page No -21 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labor, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No. 22.02 : Rolling and Consolidating of soling including filling in depression which occurs during the process with power roller 8 tonne to 12 tonne. and compacting the bed as per specifications to core test 97% compacting complete in all respects to the entire satisfaction of the Engineer-in -charge.

1. Materials

- Brick bats used for the work shall be obtained from well-burnt, sound and hard bricks.
- The brick bats shall be free from dust, organic matter, loose particles, and other deleterious substances.
- The size of brick bats shall generally range between 40 mm and 75 mm unless otherwise specified.
- Water used for filling depressions and for consolidation shall be clean and free from harmful impurities.

2. Workmanship

- The brick bat layer shall be spread uniformly over the prepared surface to the required thickness and profile as shown in drawings or as directed by the Engineer-in-Charge.
- Rolling shall be carried out using a hand roller having a capacity between 8 tonne and 12 tonne.

- Rolling shall commence from the edges and progress gradually towards the center, overlapping each pass uniformly.
- During the rolling operation, any depressions, voids, or unevenness noticed shall be made good by adding additional brick bats and/or fine material as required, followed by further rolling.
- Water shall be sprinkled lightly, if necessary, to aid proper consolidation.
- Rolling shall continue until the surface becomes dense, even, and stable, and no further visible movement of material occurs.
- The finished surface shall conform to the required line, level, and camber.

3. Mode of Measurements and Payment

- The work shall be measured in square meters (Sqm) of finished surface area consolidated, measured along the surface actually laid and compacted.
- The rate shall include the cost of all materials, labour, tools, plant, watering, filling of depressions, rolling, and all incidental operations necessary to complete the work in accordance with the specifications and directions of the Engineer-in-Charge.
- No separate payment shall be made for filling depressions or additional rolling required to achieve proper consolidation.
- The rate shall be for a unit of One Square Meter.

Item No.22.03: Providing and laying of One Layer of WBM of 150mm thick, aggregate size 63mm well graded down to 40mm with filling up the voids with Quarry dust and water as lubricant to be rolled wet to achieve strong and stable base. Brushing the excess material until needed.

1. Material:

- B.T.M.C stone aggregates of 63 to 40mm size should be used as per approved sample by EIC/Architect.
- W.B.M 150mm thick including spreading in uniform thickness should be used as per approved sample by EIC/Architect.
- It shall be sound Clean free from clay, dirt, ash or other deleterious matter.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- B.T.M.C. stone aggregates of 63mm to 40mm size to W.B.M.150mm thick including spreading in uniform thickness, hand packing, rolling with vibratory roller 8-10 tones to proper grade and camber.
- Applying and brooming requisite type of screening / binding / filler materials to fill up the interstices of coarse aggregate, watering and compacting to the required density. Grading - II using screening type - A (13.2mm Agg.)

- Work complete including all type of joining material, tools, tackles, with finishing, proper even surface etc as per government standard specification and suggestion.
- the site of shall be cleared of all debris, brick bats, mortar dropping etc; and filled with Cinder in layers as per required thickness. Each layer shall be adequately watered, rammed and consolidated before the succeeding layer is laid. The BTMC stone and WBM shall be rammed with iron rammers
- Work complete including all necessary materials, tools, tackles etc.
- All work should be carried out as per detailed drawing and instruction of EIC/Architect.
- Bidder shall be responsible for the any type of damage work at the time of execution.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Cubic Meter.

Item No. 22.04 : Providing, laying, spreading and consolidation graded stone aggregate to Wet mix macadam 150mm compacted thick as per MORT & H specifications including premixing the material with water at OMC in mechanical plant carriage of mixed material by tippers to site, laying in uniform layers in sub base/ base course on well prepared surface and compacting with roller to achieve the desired density.

1. Material:

- The graded stone aggregates shall conform to MORTH specifications for Wet Mix Macadam, well-graded and free from clay, silt, or organic matter. Water used shall be clean and suitable for mixing at Optimum Moisture Content (OMC).
- All materials shall be approved by the Engineer-in-Charge before use.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect. Clean and suitable for mixing at Optimum Moisture Content (OMC). All materials shall be approved by the Engineer-in-Charge before use.

2. Workmanship:

- The materials shall be premixed with water at OMC in a mechanical mix plant, transported to site in tippers, and laid in uniform 150 mm compacted thickness layers using a paver. Each layer shall be compacted with a vibratory roller to achieve the required density and finished true to grade and cross-section. Work shall be executed as per MORTH specifications and as approved by the Engineer-in-Charge.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- Measurement shall be in square metres of compacted Wet Mix Macadam surface completed to the specified thickness and density. Quantities shall be recorded as per approved drawings and site records, and payment shall be made for finished work meeting specifications.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Area shall be measured in cum.

Item No. 22.05: Providing and applying primer coat with bitumen VG 30 60/70 Grade on prepared surface of granular base including clearing of road surface and spraying primer at the rate of 1kg/1sqm using mechanical means.

1. Material:

- The primer shall be VG 30 (60/70 grade) bitumen.
- It shall conform to relevant IS and MoRTH specifications.
- The material shall be clean, homogeneous, and free from impurities.
- The bitumen shall be of approved make and quality.
- All type of material shall be used as per approved make list and confirming to relevant
- IS codes and approved by EIC/ Architect.

2. Workmanship:

- The granular base surface shall be prepared by removing dust and loose particles.
- Cleaning shall be done using approved mechanical means.
- The primer shall be applied uniformly at the rate of 1 kg per square metre.
- Application shall be carried out using mechanical spraying equipment.
- The surface shall be completely and evenly covered.
- All work shall be executed as directed by the Engineer-in-Charge.

3. Measurements:

- Measurement shall be in square metres of surface primed.
- It shall include surface preparation, material, labour, and application.
- Only completed and approved work shall be measured for payment.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Area shall be measured in sqm.

Item No.22.06: Providing and laying of one layer of B.M.(Bitumen Macadam) thickness of 50mm aggregate size 12mm down to 6mm well graded bitumen content 4.5 to 5% by wt adding

special binder in an appropriate proportion and will be rolled and taking care of the undulations and compacting the surface while the mix is hot and in an appropriate temperature maintaining the required slope.

- As Per Item No.17.07 Specification

Item No. 22.07 : Providing and applying primer coat with bitumen VG 30 60/70 Grade on prepared surface of granular base including clearing of road surface and spraying primer at the rate of 1kg/1sqm using mechanical means.

- As Per Item No.17.06 Specification

Item No.22.08 : Providing and laying of one layer of BC. aggregate size 6mm down well graded to 2mm average thickness 40mm. Bitumen content 6% by wt of the mix with stone dust and adding special binder in an appropriate proportion and will be rolled by 8 to 10 tons of roller taking care of the undulations and wheel marks.

Providing and laying of one layer of BC. aggregate size 6mm down well graded to 2mm average thickness 40mm. Bitumen content 6% by wt of the mix with stone dust and adding special binder in an appropriate proportion and will be rolled by 8 to 10 tons of roller taking care of the undulations and wheel marks.

- The rate shall be paid for a unit of one MT

Item No.22.07 : TRIMIX Road (M200) : Providing & Laying M200 grade controlled cement concrete without fly ash trimix using P21 (water reducing concrete admixture at 100 ml per bag of cement & recon 3 s fiber at 125 gm per bag of cement including Cutting, Filling, Rolling, consolidating and Shuttering of C channel required to maintain level, slope and thickness of the concrete road leveling of placed concrete with surface vibrator and finishing with power floater & trowel light brooming the surface & including Construction joints to be formed at every 5 mt distance by grooving with mechanical saw within 48 hrs. Groove/sawed joints shall be made of 5 mm width and depth min (1/3 rd depth of the pavement) as shown in the drawing and shall be filled with ready to use PU sealant of UV grade cutting & filling of expansion joint as directed by Engineer in charge.

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant approved by EIC/ Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 5.8.2 page No- 47 & Item No: 9.1(A)Page No - 63 in General specification R & B booklet for building works. Work shall be carried out for road.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labor etc. to complete the whole work satisfactorily as per instruction of Employer's representative/employer
- No extra payment will be given for any of the reasons.

- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Area shall be measured & paid in Cubic Meter.

Item No.22.08 : Providing and Laying 14 mm thick full synthetic running track of IAAF certified product - Class-II with SBR 10/11 mm (Minimum 7 kg SBR /smt) bonded together with Binder (Minimum 18% Binder to be mixed with 7kg SBR /smt) with PU sealer (Minimum 1.3 kg/smt) , PU Top/Wear Layer (Minimum 2 kg/smt) binding with EPDM 1 - 4 mm (3.5 kg/smt). including lane seperator laid down by IAAF and contractor has to procure IAAF certification class-II for the same as direction of the engineer-in-charge.

Providing and Laying 14 mm thick full synthetic running track of IAAF certified product - Class-II with SBR 10/11 mm (Minimum 7 kg SBR /smt) bonded together with Binder (Minimum 18% Binder to be mixed with 7kg SBR /smt) with PU sealer (Minimum 1.3 kg/smt) , PU Top/Wear Layer (Minimum 2 kg/smt) binding with EPDM 1 - 4 mm (3.5 kg/smt). including lane seperator laid down by IAAF and contractor has to procure IAAF certification class-II for the same as direction of the engineer-in-charge.

- The rate shall be paid for a unit of one Smt

Item No. 22.09 : Providing and Laying Geo- Textile Fabric Membrane 150 GSM as directed by Engineer in charge etc. complete.

- The rate shall be paid for a unit of one Smt

Item No. 22.10 : Filling in plinth with sand under floors including watering ramming, consolidating and dressing complete.

1. Materials

- Sand shall conform to M 6

2. Workmanship

- The relevant specifications of item No. 4.12 shall be followed except that sand shall be filled in under floors, including watering, ramming, consolidating and dressing etc., complete.

3. Measurements

- The relevant specifications of item No. 4.12 shall be followed.
- The rate includes cost of collecting, carting sand with all lead and labour for filling the same in plinth under floors.
- The rate shall be for a unit of one cubic meter

Item No.22.11 : Supply, Transportation and spreading of filter media (Gravel) in necessary layer with required labour etc. complete.

Supply, Transportation and spreading of filter media (Gravel) in necessary layer with required labour etc. complete.

- The rate shall be for a unit of one cubic meter

Item No.22.12 : Root zone material and additives Supplying and mix COCOPEAT@ 10.00 kg / M3 of sand.

- The rate shall be paid for a unit of one Kg

Item No.22.13 : Supply and mix organic matter content with microbial enrichment and carbon to Nitrogen ratio of 20:1,@ 10kg/m³ of sand as per technical specification attached and direction of Engineer in charge.

- The rate shall be paid for a unit of one Kg

Item No.22.14 : Supply and spread the homogenous mixture of medium fines and, USGA Standards and organic matter as above to a minimum 225 mm depth over the whole of the field and margin area including required Grading and grass bed preparation Grade the field of play with equipments fitted with ripping tines and laser receivers for dual grade laser grading to +/-5mm tolerance.

Step 4 ■ The Root Zone Mixture

Sand Selection:

The sand used in a USGA root zone mix shall be selected so that the particle size distribution of the final root zone mixture is as described in Table 3.

TABLE 3

PARTICLE SIZE DISTRIBUTION OF USGA ROOT ZONE MIX		
Name	Particle Diameter	Recommendation (by weight)
Fine Gravel	2.0 – 3.4mm	Not more than 10% of the total particles in this range, including a maximum of 3% fine gravel (preferably none)
Very Coarse Sand	1.0 – 2.0mm	
Coarse Sand	0.5 – 1.0mm	Minimum of 60% of the particles must fall in this range
Medium Sand	0.25 – 0.50mm	
Fine Sand	0.15 – 0.25mm	Not more than 20% of the particles may fall within this range
Very Fine Sand	0.05 – 0.15mm	Not more than 5%
Silt	0.002 – 0.05mm	Not more than 5%
Clay	less than 0.002mm	Not more than 3%
Total Fines	very fine sand + silt + clay	Less than or equal to 10%

Soil Selection:

If soil is used in the root zone mix, it shall have a minimum sand content of 60%, and a clay content of 5% to 20%. The final particle size distribution of the sand/soil/peat mix shall conform to that outlined in these recommendations, and meet the physical properties described herein.

Organic Matter Selection:

Peats – The most commonly used organic component is a peat. If selected, it shall have a minimum organic matter content of 85% by weight as determined by loss on ignition (ASTM D 2974 Method D).



Figure 6 – Rootzone components must be blended uniformly. Mechanical blenders are best suited to this task.

Other organic sources – Organic sources such as rice hulls, finely ground bark, sawdust, or other organic waste products are acceptable if composted through a thermophilic stage, to a mesophilic stabilization phase, and with the approval of the soil physical testing laboratory. Composts shall be aged for at least one year. Furthermore, the root zone mix with compost as the organic amendment must meet the physical properties as defined in these recommendations.

Composts can vary not only with source, but also from batch to batch within a source. Extreme caution must be exercised when selecting a compost material. Unproven composts must be shown to be nonphytotoxic using a bentgrass or bermudagrass bioassay on the compost extract.

Inorganic and Other Amendments:

Porous inorganic amendments such as calcined clays (porous ceramics), calcined diatomites, and zeolites may be used in place of or in conjunction with peat in root zone mixes, provided that the particle size and performance criterion of the mix are met. Users of these products should be aware that there are considerable differences among products, and long term experience with some of these materials is lacking. It should also be noted that the USGA requires any such amendment to be incorporated throughout the full 12-inch (300 mm) depth of the root zone mixture. Polyacrylamides and reinforcement materials are not recommended.

Physical Properties of the Root Zone Mix:

The root zone mix shall have the properties summarized in Table 4, as tested by USGA protocol (proposed ASTM Standards).

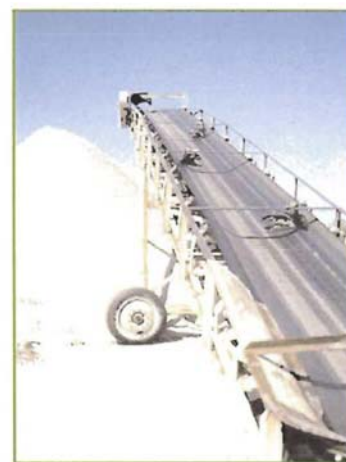


Figure 7 – The final product.

TABLE 4

PHYSICAL PROPERTIES OF THE ROOT ZONE MIX	
Physical Property	Recommended Range
Total Porosity	35% – 55%
Air-filled Porosity	15% – 30%
Capillary Porosity	15% – 25%
Saturated Hydraulic Conductivity	Minimum of 6 inches/hr (150 mm/hr)

(7)

USGA Recommendations For A Method Of Putting Green Construction

IT IS ABSOLUTELY ESSENTIAL TO MIX ALL ROOT ZONE COMPONENTS OFF-SITE. No valid justification can be made for on-site mixing, since a homogeneous mixture is essential for success.

A QUALITY CONTROL PROGRAM DURING CONSTRUCTION IS STRONGLY RECOMMENDED. Documents describing quality control programs in detail can be found on the USGA's Web site at www.usga.org/green/coned. Arrangements should be made with a competent laboratory to routinely check gravel and root zone mixtures during production and blending. It is imperative that these materials conform to the recommendations approved by the laboratory in all respects.

Care should be taken to avoid overshredding the peat, since it may influence performance of the mix in the field. Peat should be moist during the mixing stage to ensure uniform mixing and to minimize peat and sand separation.

Test Methods and Material Specifications

ASTM C 88-99a. Standard Test Method for Soundness of Aggregates by Use of Sodium Sulphate or Magnesium Sulfate. American Society for Testing and Materials.

ASTM C 131-03. Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine. American Society for Testing and Materials.

ASTM C 136-96a. Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates. American Society for Testing and Materials

ASTM D 75-97. Standard Practice for Sampling Aggregates. American Society for Testing and Materials.

ASTM D 854-02. Standard Test Method for Specific Gravity of Soil Solids by Water Pycnometer. American Society for Testing and Materials.

ASTM D 2729-03. Standard Specification for Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings. American Society for Testing and Materials.

ASTM D 2974-00. Standard Test Methods for Moisture, Ash, Organic Matter of Peat and Other Organic Soils. American Society for Testing and Materials.

ASTM D 2976-71. Standard Test Method for pH of Peat Materials. American Society for Testing and Materials.

ASTM 4972-01. Standard Test Method for pH of Soils. American Society for Testing and Materials.

ASTM D 7001-XX. Standard Specification for Geocomposites for Pavement Edge Drains and Other High-Flow Applications

ASTM F 405-97. Standard Specification for Corrugated Polyethylene (PE) Pipe and Fittings. American Society for Testing and Materials.

ASTM F 1632-03. Standard Test Method for Particle Size Analysis and Sand Shape Grading of Golf Course Putting Green and Sports Field Rootzone Mixes. American Society for Testing and Materials.

ASTM F 1647-02a. Standard Test Method for Organic Matter Content of Putting Green and Sports Turf Root Zone Mixes. American Society for Testing and Materials.

ASTM F 1815-97. Standard Test Methods for Saturated Hydraulic Conductivity, Water Retention, Porosity, Particle Density, and Bulk Density of Putting Green and Sports Turf Root Zone Mixes. American Society for Testing and Materials.

1. Measurement

- The rate shall be paid for a unit of one KG.

Item No.22.15 : Grassing with Hybrid Bermuda cultivar Supplying and spring Hybrid Bermuda cultivar grass calibrated to apply the exact rate required.

- A) GENERAL
- Horticultural operations shall be started on ground previously levelled and dressed to require formation levels and slopes.
- In case where unsuitable soil is met with, it shall be either removed or replaced or it shall be covered over to a thickness decided by the Engineer-in-Charge with good earth.
- In the course of excavation or trenching during horticultural operations, any walls, foundations, etc., met with shall not be dismantled without pre-measurement and prior to the written permission of the Engineer-in-Charge.

1. MATERIAL

a) Grass

- Cynodon Dactylon-Doob, Calcutta, Rajghat Bermuda
- Improved/hybrid strains of Bermuda grass
- Zoyasia grasses.
- The grass shall be fresh, free from weed and rank vegetation but having #Rhizome#

- with sufficient nodes and shall be approved by Engineer-in-Charge before planting.
- b) Farm yard manure : It shall be well decayed free from grits and any other unwanted materials.
- c) Good Earth : The soil shall be suitable for gardening free from kanker, Moorum, shingle, rocks, stones, brick-bats, building rubbish and any other foreign matter.
The earth shall be free from clods or lumps of sizes bigger than 75 mm in any direction.
It shall have P.H. Value ranging from 6 to 8.5.
- d) Oil Cake (Neem/Castor) : The cake shall be free from husk, dust, grit and any other foreign matter.
- e) Sludge: It shall be obtained from approved disposal works.
- C) EXECUTION
- a) Trenching: Trenching shall consist of the following operations :
 - 1) The whole plot shall be divided into narrow rectangular strips of about 1.5 m. width or as directed by the Engineer-in-Charge.
 - 2) These strips shall be sub-divided lengthwise into about 1 m. long sections. Such sections shall be excavated serially and excavated soil deposited in the adjacent section preceding it.
 - 3) In excavation and depositing care shall be taken that the top soil with all previous plant growth including roots, get buried in the bottom layers of trenched area, the dead plants so buried incidentally being formed into humus.
 - 4) The excavated soil shall be straight away dumped into the adjoining sections so that double handling otherwise involved in dumping the excavated stuff outside and in back filling in the trenches with leads is practically eliminated.
- b) ROUGH DRESSING THE TRENCHED GROUND:
 - Rough dressing the area shall include making kiaries for flooding. The trenched ground shall be levelled and rough dressed and if there are any hollows and depressions resulting from subsidence which cannot be so levelled, these shall be filled properly with earth brought from outside to bring the depressed surface to the level of the adjoining land and to remove discontinuity of slope and then rough dressed again. The supply and spreading of soil in such depressions is payable separately. In rough dressing, the soil at the surface and for 75 mm depth below, shall be broken down to particle to size not more than 10 mm in any direction.
- c) SPREADING GOOD EARTH
 - Good earth sludge shall be removed from stacks by head load and spread evenly over the surface to the thickness ordered by the Engineer-in-Charge. It shall be spread with a twisting motion to avoid segregation and to ensure that spreading is uniform over the entire area.
- d) UPROOTING WEEDS FROM TRENCHED AREAS
 - After 10 days and within 15 says of flooding the rough dressed trenched ground with water, the weeds appearing on the ground, shall be rooted out carefully and the rubbish disposed off as directed by the Engineer-in-Charge.
- e) FINE DRESSING THE GROUND
 - Slight unevenness, ups and downs and shallow depressions resulting from the settlement of the flooded ground, in drying and from the subsequent weeding operations, shall be

removed by fine dressing the surface to the formation levels of the adjoining land as directed by the Engineer-in-Charge, and by adding suitable quantities of good earth, brought from outside, if necessary. Such supply and spreading of good earth stacked at site is however, payable separately. In fine dressing, 89

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- the soil at the surface and for 40 mm depth below shall be broken down to particles of size not exceeding 6 mm in any
- direction.
- f) MIXING OF GOOD EARTH AND SLUDGE / MANURE
- The stacked earth shall, before mixing, be broken down to particles of sizes not exceeding 6 mm in any direction. Good earth shall be thoroughly mixed with sludge or manure in specified proportion as described in the item or as directed by the Engineer-in- Charge. The mixing shall be spread as described in 18.5.1 to the thickness ordered by the Engineer-in-Charge.
- g) GRASSING WITH 'DOOB GRASS'
- The area from where the grass roots are to be obtained shall be specified by the Engineer-in-Charge at the time of execution of the work and no royalty shall be charged on account from the contractor. The soil shall be suitably moistened and then the operation of planting grass shall be commenced. The grass shall be dibbled at 10 cm, 7.5 cm., 5cm., apart in any direction or other spacing as described in the item. Dead grass and weeds shall not be planted. The contractor shall be responsible for watering and maintenance of levels and the lawn for 30 days or till the grass forms a thick lawn free from weeds and fit for moving whichever is later. Generally planting in either direction at 15 cm., 10 cm, spacing is done in the case of large open spaces, at 7.5 cm. spacing in residential lawns and at 5 cm, spacing for Tennis Courts and sports ground lawns.
- D) PRECAUTIONS :
- During the maintenance period, any irregularities arising in ground levels due to watering or
- due to trampling by labour, or due to cattle straying thereon, shall be constantly made upto
- the proper levels with earth as available or brought from outside as necessary. Constant
- watch shall be maintained to ensure that dead patches are replanted and weeds are
- removed.

2. Measurement

- The rate shall be for a unit of one Smt.

Item No.22.16 : Anti termite treatment of lawn area through premix 30.50% I P. 1 liter premix diluted in 499 liters water and applying solution @ 1.00 litre solution per sqm lawn or bed area.(two application) i/c cost of chemical)and as per direction of officer-in-charge.

1. Materials

- The chemical used for anti-termite treatment shall be Chlorpyrifos 30.50% E.C. of approved make and quality, conforming to relevant BIS / statutory requirements.
- The emulsion shall be prepared by diluting 1 litres of Chlorpyrifos 30.50% E.C. in 499 litres of clean water to obtain the required concentration.
- Water used for dilution shall be clean and free from impurities. The chemical and method of application shall be approved by the Engineer-in-Charge prior to execution.

2. Workmanship

- The lawn / bed area shall be properly prepared and cleared of debris before application.
- The prepared Chlorpyrifos solution shall be applied uniformly over the lawn or bed area at the rate of 1.00 liter of solution per square meter per application.
- The treatment shall be carried out in two applications, with suitable interval between applications, or as directed by the Engineer-in-Charge.
- Application shall be done using suitable sprayers or watering equipment to ensure uniform distribution and proper penetration into the soil.
- Care shall be taken to avoid damage to plants, turf, or surrounding areas.
- All safety precautions shall be followed during handling, mixing, and application of the chemical.

3. Measurements

- The work shall be measured in square meters (Sq.m) of lawn / bed area actually treated.
- The rate shall include the cost of Chlorpyrifos 30.50% ., water, labour, tools, plants, spraying equipment, preparation of solution, two applications, and all incidental operations necessary to complete the work as per specifications and directions of the Engineer-in-Charge.
- No separate payment shall be made for chemical, labour, or equipment used in the treatment.
- The rate shall be for a unit of One Square Meter.

Item No.22.17: Providing and fixing of IAAF approved instrument as follows:

Discus/Hammer Throwing Circle/Ring without Throwing safety cages with required poles net incl. the ground fixing sleeves and ground hooks etc. for Discus and Hammer Throw. The product should be IAAF approved as per IAAF's latest certified competition equipment list.

- The rate shall be paid for a unit of one Nos.

Item No.22.18 : Providing and fixing of IAAF approved instrument as follows:

Discus/Hammer Throwing Circle/Ring with Throwing safety cages with required poles net incl. the ground fixing sleeves and ground hooks etc. for Discus and Hammer Throw. The product should be IAAF approved as per IAAF's latest certified competition equipment list.

- The rate shall be paid for a unit of one Nos.

Item No.22.19 : Providing and fixing of IAAF approved instrument as follows: Shot Put Throwing Circle/Ring without Throwing safety cages with required poles net incl. the ground fixing sleeves and ground hooks etc. The product should be IAAF approved as per IAAF's latest certified competition equipment list.

- The rate shall be paid for a unit of one Nos.

Item No.22.20 : Providing and fixing of IAAF approved instrument as follows: Stop board for shot put including installation as directed by E.I.C. The product should be IAAF approved as per IAAF's latest certified competition equipment list.

- The rate shall be paid for a unit of one Nos.

Item No.22.21 : Providing and fixing of IAAF approved instrument as follows: Take off boards alongwith plasticine indication Boards and Blanking Boards for Long Jumps including installation as directed by E.I.C.. The product should be IAAF approved as per IAAF's latest certified competition equipment list.

- The rate shall be paid for a unit of one Nos.

Item No.22.22 : Providing and fixing of IAAF approved instrument as follows: Take off boards alongwith plasticine indication board and Blanking Boards for triple jump including installation as directed by E.I.C. The product should be IAAF approved as per IAAF's latest certified competition equipment list.

- The rate shall be paid for a unit of one Nos.

Item No.22.23 : Providing and fixing of IAAF approved instrument as follows:

Aluminum fixing arrangement to fix hurdles for water pit/jump along with adustable hurdle for water pit. Heavy duty foldable beam made square Pipe inside & covered with thick Water proof solid plywood. Base legs & base made of steel square pipe with spring loaded snap lock system for easy adjustment of three different required heights. 762m.m. , 838m.m. , 914 m.m. Legs are fitted into sockets grouted in to the ground. Painted with premium quality Poly urethane paint for longer life & durability. Easy to install & foldable to transport. The product should be IAAF approved as per IAAF's latest certified competition equipment list.

Providing and fixing of IAAF approved instrument as follows:

Aluminum fixing arrangement to fix hurdles for water pit/jump along with adustable hurdle for water pit. Heavy duty foldable beam made square Pipe inside & covered with thick Water proof solid plywood. Base legs & base made of steel square pipe with spring loaded snap lock system for easy adjustment of three different required heights. 762m.m. , 838m.m. , 914 m.m. Legs are fitted into sockets grouted in to the ground. Painted with premium quality Poly urethane paint for longer life & durability. Easy to install & foldable to transport. The product should be IAAF approved as per IAAF's latest certified competition equipment list.

- The rate shall be paid for a unit of one Nos.

Item No.22.24: Providing and fixing of IAAF approved instrument as follows:

Aluminum fixing arrangement to fix hurdles for Steeplechase. Barrier beam made of 100 mm x 100 mm Steel Tube, covered with water proof plywood. Base legs have spring loaded snap-locks for easy height (3 heights) adjustment. The product should be IAAF approved as per IAAF's latest certified competition equipment list.

Aluminum fixing arrangement to fix hurdles for Steeplechase. Barrier beam made of 100 mm x 100 mm Steel Tube, covered with water proof plywood. Base legs have spring loaded snap-locks for easy height (3 heights) adjustment. The product should be IAAF approved as per IAAF's latest certified competition equipment list.

- The rate shall be paid for a unit of one Nos.

Item No.22.25 : Pole Vault Box including installation as directed by E.I.C. The product should be IAAF approved as per IAAF's latest certified competition equipment list.

- The rate shall be paid for a unit of one Nos.

Item No.22.26 : Providing Pole Vault Pit:This pit is made of best quality non-tear water proof thick fabric, P.U. foam. The special design of this pit allows smooth and soft landing and is made as per the new IAAF specifications. Comes with spike proof top. Cover made of vinyl coated fabric for extra durability. Consists of seven base units and one top pad with four side handles on each base for easy carrying. With Rain Cover. Size- 600cm x 800cm x 80cm.

Providing Pole Vault Pit:This pit is made of best quality non-tear water proof thick fabric, P.U. foam. The special design of this pit allows smooth and soft landing and is made as per the new IAAF specifications. Comes with spike proof top. Cover made of vinyl coated fabric for extra durability. Consists of seven base units and one top pad with four side handles on each base for easy carrying. With Rain Cover. Size- 600cm x 800cm x 80cm.

- The rate shall be paid for a unit of Set.

Item No.22.27 : Starting Block;(IAAF Certified. Centre rail made of special 75 mm slotted aluminium channel with ribs to slip in anchor plates ensuring high ground stability. Heavy aluminium paddles with thick rubber pads. Rust proof plates with spikes to hold the starting block on synthetic tracks / cinder tracks.).

Starting Block;(IAAF Certified. Centre rail made of special 75 mm slotted aluminium channel with ribs to slip in anchor plates ensuring high ground stability. Heavy aluminium paddles with thick rubber pads. Rust proof plates with spikes to hold the starting block on synthetic tracks / cinder tracks.).

- The rate shall be paid for a unit of Nos.

Item No.22.28 : Fixed Goal Post Anchored at BottomMade with branded high-quality MS Steel Pipe in 4" Dia of Branded Epoxy Paint with Rust & Corrosion Free and Zero Vibration the Size: 24 Feet x 8 Feet (7.32 mt Long and 2.44 mt Hight, Back Support of 1.5".

Fixed Goal Post Anchored at BottomMade with branded high-quality MS Steel Pipe in 4" Dia of Branded Epoxy Paint with Rust & Corrosion Free and Zero Vibration the Size: 24 Feet x 8 Feet (7.32 mt Long and 2.44 mt Hight, Back Support of 1.5".

- The rate shall be paid for a unit of Nos.

Item No.22.29 : Movable Goal Posts Made with branded high-quality MS Steel Pipe in 4" Dia of Branded Epoxy Paint with Rust & Corrosion Free and Zero Vibration the Size: 24 Feet x 8 Feet (7.32 mt Long and 2.44 mt Hight, Back Support of 1.5" . The Poles Comprise wheels which make it easy to move with Goal Nets High Rigidity Material 4.5 mm machine knitted the color will be as per the standards requirements.

Movable Goal Posts Made with branded high-quality MS Steel Pipe in 4" Dia of Branded Epoxy Paint with Rust & Corrosion Free and Zero Vibration the Size: 24 Feet x 8 Feet (7.32 mt Long and 2.44 mt Hight, Back Support of 1.5" . The Poles Comprise wheels which make it easy to move with Goal Nets High Rigidity Material 4.5 mm machine knitted the color will be as per the standards requirements.

- The rate shall be paid for a unit of Nos.

Item No.22.30 : Goal Nets High Rigidity Material 4.5 mm machine knitted the color will be as per the standards requirements.

Goal Nets High Rigidity Material 4.5 mm machine knitted the color will be as per the standards requirements.

- The rate shall be paid for a unit of Nos.

Item No.22.31 : Corner Premium Flag Posts made of 25 mm pvc post with non-pointed top, unbreakable , flexible base , high signal optics,1.5 m hight and 25 mm diameter.

Corner Premium Flag Posts made of 25 mm pvc post with non-pointed top, unbreakable , flexible base , high signal optics,1.5 m hight and 25 mm diameter.

- The rate shall be paid for a unit of Nos.

Item No.22.32 : Field Marker that can mark Lines of the same width 12 cm using Machinery etc Completed As directed bt EIC.

Field Marker that can mark Lines of the same width 12 cm using Machinery etc Completed As directed bt EIC.

The rate shall be paid for a unit of job.

Item No.22.33 : Providing and laying 400mtr length alluminum curbing IAAF approved make etc. Complete as directed by EIC.

- The rate shall be paid for a unit of one Nos.

Item No.22.34 : Providing and fixing (Chainlink Fencing) with fabrication of M.S. Angle vertical support of size 75x75x6 mm and horizontal support of 50x50x6 mm on top, centre and bottom with galvanize chain link 50x50 10 guage jali fitted with 40x6 mm M.S. flat including welding and erecting the same in position incement concrete (1:2:4) foundation blocks including excavation of size 600 × 600 × 900 mm, placing concrete, setting posts in line and level, and refilling around the foundation complete. Posts shall be provided at 3.00 m centre to centre spacing. with necessary excavation including two coats of oil Painting over single coat of primer etc complete as directed & inclurling one open able gate 3' ft wide and 7 ft in ht. including of two coats of oil paint on M.S. Structure as per drawing & directed by Engineer in charge.

1. Materials

- The M.S. box pipes for vertical supports shall be 75 × 75 × 6 mm and horizontal supports shall be 50 × 50 × 6 mm, with 40 × 6 mm M.S. flat for chain link fixing.
- The galvanized chain link mesh shall be 50 × 50 mm, 10-gauge, of approved make.
- All steel shall be painted with one coat of primer and two coats of oil paint, and cement concrete 1:2:4 with FE500D TMT bars shall be used for foundations.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship

- The vertical supports shall be fixed at 3 m centre-to-centre spacing in 50 × 50 × 60 cm

foundations, with horizontal members at top, centre, and bottom.

- The chain link mesh shall be securely fixed with flats, and one openable gate of 0.90 m width and 2.10 m height shall be provided.
- All fabrication, welding, painting, and erection shall be done as per drawing and as approved by the Engineer-in-Charge.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- Measurement shall be in running metres of completed fencing including all posts, chain link mesh, foundations, painting, and gate as specified.
- Quantities shall be recorded as per approved drawings and site records, and payment shall be made for the finished work meeting specifications.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Area shall be measured in sqm.

TECHNICAL SPECIFICATION

(Sub Estimate: 02 Borewell)

Item No. 01: Drilling 300mm dia.pilot hole hydrolic drilling machine & drilling trully vertically (testing by vertically test) bore hole in alluvial strata,any kind of soil incl.sand,murum,hard murum,soft rock,hard rock incl.cost of bentonite powder done by mud flushed rottary equipment bore hole should stand at least for 27hrs.incl.lowering the pipes in position as directed and incl.supplying and packing gravel of 4mm to 6 mm size etc. comp. as directed.

In General following sequence shall be adopted in carrying out the job:

- Pushing of the completed segments of the pipe shall be commenced as per the procedure described in above paras till the entire length of the pipe in the embankment is built up.
- Permission for Highway & Canal crossing shall be procured by agency/department from competent authority of the concerned department. Necessary letter of recommendation shall be given by department.
- At canal, public state highways, at such other crossings as are shown in the construction drawings issued by the company the pipeline shall be installed in MS casing of as recommended by canal / state highway authority casing pipes conforming to the specifications given herein.
- The casing pipes / box shall be installed in accordance with the details given in drawing and the casing, bushing and insulators, etc., shall be installed on the carrier pipe as detailed in drawings. Casing pipe size shall be as per Engineer in charge instruction to facilitate the insertion of the later without disturbing the casing pipe and to provide adequate drainage, Casing shall be installed with even bearing throughout its length and shall slope towards one end, as specified or desired by the engineer-in-charge. The ends of the casing shall be sealed to outside of carrier pipe in accordance with the details given in drawing.
- Before installation, holes for installing vent pipes shall be cut and burrs if any shall be removed. The welding of both carrier pipe and casing pipe shall be done in accordance with the welding specifications, given herein. Before installing the casing pipe, it should be cleaned of all internal obstructions and during installation care should be taken to keep the inside clean
- The section of carrier pipe to be placed in any casing shall be closed at each end, hydrostatically tested preferably with dead weight tester for at least two hours. Only

on successful completion of this test, the carrier pipe shall be inserted in the casing pipe. The installation of casing may open cut as circumstances may permit or require as directed by the engineer-in-charge.

- The installation of casing in bended section of the carrier pipe shall be performed by meter bends of the casing pipe provided that the length of each meter cut out of casing pipe shall be such as to provide a clearance of at least 1-1/2" between the inside of the casing pipe and the outside of the coated carrier pipe.
- Excavation for casing installation shall be immediately backfilled at the completion of the work with suitable solid matter and packed thoroughly to prevent seepage of water into the excavation.

ROAD, RAILWAY AND IRRIGATION CANAL CROSSINGS:

- At road, canal and railway crossings the work shall be performed to the specifications of local authorities or
- Such public bodies as may be in charge (S) of roads, railways and canals to be crossed.
- In case, however the minimum requirements of the governing agencies are less than those set out in the drawing or the specifications given herein, then the requirements given in the drawings and the specifications given for encased line shall be followed.
- Whereas the casing pipe in the case of encased line to be laid normal by boring, tunneling, engineer- in-charge may at his discretion permit open-cuts to be made for the installation of casing provided, however, that the TENDERER shall procure the necessary permit / license for the same from competent authority. At locations wherein the open cut methods are permitted, the TENDERER shall pass the carrier pipe through the casing located in the trench after the approval of the engineer-in-charge in writing and care shall be exercised to avoid damage to pipe coating and wrapping during this operation. The TENDERER shall produce a certificate in writing from concerned authorities for its satisfactory restoration and payment therefore.
- At all crossings the carrier pipe shall be laid straight without bends so that if necessary the pipe at a later date may be replaced without cutting the casing. The carrier pipe shall extend at least 2 meters beyond the end of casing pipe at either end.
- At railway crossings the TENDERER shall eliminate unnecessary bending of pipe to conform to the contour of ground by gradually deepening the ditch at such approaches as directed by the engineer-in- charge. Where the installation of the casing has been made by open cut TENDERER shall install suitable temporary bridge work ensuring the safety of the traffic aids and safeguards for protection of the public safety, or he shall provide suitable diversions as desired by the engineer-in-charge.
- At all railways pipeline crossings shall be bored with horizontal boring machine. The method of carrying out a cased crossing by boring for various crossings on this pipeline route shall be jointly inspected by the representative of the COMPANY and TENDERER for each category of work prior to commencement of actual work.
- Pipeline under railway track and irrigation canal an applicable portion of the right-of-way shall be encased in accordance with the specification. This item of work shall include, necessary clearing and grading required therefore, trenching to the depths and widths required, welding of casing and carrier pipes, testing, lowering in,

installation of vent assemblies, end seals, insulator and all other fittings that may be required, backfilling, clean up, complete restoration to the original condition and further strengthening and protective works as may be required. The work shall be carried out in accordance with the drawings and as directed by the engineer-in-charge. For various operations mentioned above, the specifications pertaining to these operations shall apply in addition to the specifications given herein.

- The TENDERER shall be permitted to use William Sons type Neoprene seals in place of concrete end seals for the crossings. The item shall be procured by the TENDERER himself as per the provisions under the appropriate head of work in case TENDERER so desires. The representative of the COMPANY may also be associated to determine the quality of the material and its delivery schedule from the open market. However, the particular work defined under the proper head shall not be delayed on account of non-availability of Neoprene end seals. In such case, concrete seals may be provided.
- On both ends of pushing concrete supports are to be provided as per direction of engineer in-charge.

Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in running meter of work done. The rate shall be for a unit of Running Meter.

Item No. 02: Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 mild steel screwed and socketed/plain ended casing pipes of required dia, conforming to IS: 4270, of reputed & approved make, including painted with outside surface with two coats of anticorrosive paint of approved brand and manufacture, including required hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer-in-charge.

(B) 200 mm nominal 6 mm thick

1. Material:

- The M.S. E.R.W plain end medium duty pipe as per approved sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete including all necessary material, tools, tackles etc.
- All work should be carried out as per detailed drawing and instruction of EIC/Architect
- Bidder shall be responsible for the any type of damage work at the time of execution.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Meter.

Item No. 03: Development of hole by air compressor having capacity 400 cfm/100 psi till sand free discharge of water incl.testing of water supply flow etc. comp. as directed.

1. Material:

- The 400 CFM/100 PSI capacity air Compressor as per approved sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete including all necessary material, tools, tackles etc.
- All work should be carried out as per detailed drawing and instruction of EIC/Architect
- Bidder shall be responsible for the any type of damage work at the time of execution.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Job.

Item No. 04: Providing & laying approved make ISI marked HDPE 6Kg/cm² (Class-3) as per IS:4984:1995 PE-80 to be erected at road crossing on or floor as directed for laying of cable. The pipes as following size of dia & weight per 6 mtr

(B) 50 mm inner Dia.

1. Scope of Work

- Providing, lowering, and fixing approved make HDPE pipes for borewell application, including lowering inside bore, jointing, alignment, and completion of work as directed by the Engineer-in-Charge.

2. Material & Standards

- HDPE pipes shall be **ISI marked** and shall conform to **IS:4984:1995** (latest amendments).
- Material grade shall be **PE-80**.

- Pressure rating shall be **6 kg/cm² (Class-III)** suitable for borewell conditions.
- Pipes shall be of uniform thickness, smooth internal surface, and free from manufacturing defects.

3. Size & Length

- **Internal Diameter:** 50 mm
- **Standard Length:** 6.0 meters per pipe

4. Jointing & Installation

- Jointing shall be done by **threaded / compression fittings / butt fusion**, as approved by the Engineer-in-Charge.
- Pipes shall be lowered vertically into the borewell without twisting or damage.
- Proper care shall be taken to ensure verticality and alignment throughout the depth.
- Pipe ends shall be protected to avoid entry of sand, silt, or foreign matter.

5. Quality Control & Testing

- Manufacturer's test certificates and ISI license shall be submitted for approval.
- Pipes showing cracks, deformation, or defects shall not be accepted.
- Pressure suitability shall be as per borewell operating conditions.

6. Measurement

- Measurement shall be in **running meters** of HDPE pipe installed in the borewell.

7. Rate Includes

- Cost of HDPE pipes and fittings
- Transportation, loading, unloading, and storage
- Jointing, lowering, alignment, and fixing
- All labour, tools, tackles, and incidental works
- Completion of work as per specifications and directions of Engineer-in-Charge

Item No. 05: Supplying & Fixing 50 mm dia heavy top bottom piece, G.I.Bend, Coupling, sand guard MS clamp with Nut Bolt etc.complete as directed by EIC.

1. Material:

- 50 mm dia heavy top bottom piece, G.I.Bend, Coupling, sand guard MS clamp with Nut Bolt etc as per approved sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above specification / manufacturer's specification.
- Work complete including all necessary material, tools, tackles etc.
- All work should be carried out as per detailed drawing and instruction of EIC/Architect
- Bidder shall be responsible for the any type of damage work at the time of execution.
- The whole work is to be completed as per design; sample material & any other

requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Pair.

Item No. 06: Water Analysis test in Govt. approved laboratory incl. all water testing etc. comp. as directed

1. Workmanship:

- Work complete as per slandered specification and General specification of GWSSB, R&B and CPWD booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Nos.

Item No. 07: Providing water harvesting pit of 5.50 m Dia well and 2.46 mt x 2.46mt x 4.00 mt size brick masonry well for water logging with excavation in any strata upto four meter depth, filling the pit with B.T. Metal 40 mm in 0.80 mt. depth with 25-40mm kapachi, 0.80 mt. depth and 0.50 mt. depth with coarse sand & charcoal in layers including making P.V.C. line for water inlet etc. as directed with 300mm dia bore 40 mt. depth and 200mm dia UPVC CM type casing pipe as slott 1.5 to 2.0 mm size and ordinary pipe with gravel packing or as directed.

Construction of Water Harvesting Pit with Recharge Borewell

1. Scope of Work

- Providing, constructing, and commissioning a water harvesting structure comprising masonry well, filter media, inlet arrangement, and recharge borewell complete in all respects, as per drawings and directions of the Engineer-in-Charge.

2. Excavation

- Excavation shall be carried out in any type of strata up to a depth of 4.00 meters.
- Excavated earth shall be disposed of as directed.
- Necessary shoring, strutting, and safety measures shall be provided.

3. Water Harvesting Well/ Pit

- Circular well: 5.50 m diameter
- Rectangular brick masonry well:
- Size: 2.46 m × 2.46 m × 4.00 m depth

- Brick masonry shall be constructed with approved quality bricks in cement mortar of approved proportion.
- Internal surfaces shall be finished as directed to ensure durability and proper percolation.
- Filter Media Filling (in Layers)
The pit shall be filled with the following layers from bottom upwards:
- 0.80 m depth of 40 mm size B.T. metal
- 0.80 m depth of 25–40 mm size kapachi (broken stone)
- 0.50 m depth of coarse sand mixed with charcoal, laid in layers
- Materials shall be clean, well-graded, and free from dust, silt, and organic matter.

4. Water Inlet Arrangement

- Providing and fixing PVC pipe line of approved diameter for water inlet into the harvesting pit.
- Pipe connections shall be properly aligned, sealed, and fixed to ensure smooth flow of rainwater.

5. Recharge Borewell

- Providing and drilling 300 mm diameter borewell up to a depth of 40 meters or as directed.
- Borewell shall be drilled using rotary / DTH method suitable for site strata.

6. Casing Pipe

- Providing and fixing 200 mm diameter UPVC CM type casing pipe.
- Pipes shall conform to relevant IS standards.
- Slotted pipes:
- Slot size: 1.5 mm to 2.0 mm, as directed
- Combination of slotted and plain casing pipes shall be used as per bore strata.

7. Gravel Packing

- Providing and filling approved size gravel packing around the slotted casing pipe to facilitate effective percolation, or as directed by the Engineer-in-Charge.

8. Completion & Quality

- All materials shall be of approved make and quality.
- The structure shall be completed true to dimensions and levels.
- The work shall be carried out in a workmanlike manner ensuring proper recharge functionality.

9. Measurement

- Measurement shall be in Job as per completed work, including excavation, masonry, filter media, borewell drilling, casing, gravel packing, and inlet arrangement.

10. Rate Includes

- Excavation in all strata
- Brick masonry work

- Supply and filling of filter materials
- PVC inlet piping
- Borewell drilling
- UPVC casing and slotted pipes
- Gravel packing
- Labour, tools, plants, machinery, and all incidental works
- Complete water harvesting system ready for use

Item No.08: Providing and constructing filter chamber of size 1.50 x 1.50 x 1.50 mt. as directed including connection rainwater pipes as per detailed as directed by Engineer in charge including cost of labour and material

Providing and Constructing Filter Chamber for Rainwater

1. Scope of Work

- Providing and constructing a filter chamber for rainwater harvesting, including connection of rainwater pipes, complete in all respects, as per detailed drawings and directions of the Engineer-in-Charge.

2. Size of Filter Chamber

- Internal size: 1.50 m × 1.50 m × 1.50 m depth

3. Construction

- Excavation shall be carried out in all types of soil to the required depth and dimensions.
- Chamber walls shall be constructed in brick masonry of approved quality bricks in cement mortar of approved proportion.
- Base shall be properly prepared and finished as directed.
- Internal plastering/finishing shall be carried out to ensure smooth flow and durability, wherever required.

4. Filter Media

- Providing and filling graded filter media such as broken stone, sand, charcoal, or as specified in the detailed drawings.
- Materials shall be clean, well-graded, and free from silt and organic matter.

5. Rainwater Pipe Connection

- Providing, laying, and connecting PVC rainwater inlet and outlet pipes of approved diameter.
- Pipe joints shall be leak-proof and properly aligned.

6. Quality & Workmanship

- All materials shall be of approved make and quality.
- Construction shall be true to line, level, and dimensions.
- The chamber shall function effectively for filtration of rainwater.

7. Measurement

- Measurement shall be in **numbers (each)** of completed filter chambers.

8. Rate Includes

- Excavation and disposal of surplus earth
- Brick masonry and finishing works
- Supply and filling of filter media
- PVC pipe connections
- All labour, materials, tools, and incidentals
- Completion of work as per specification and directions of Engineer-in-Charge

Item No.09: RCC Hume Pipe: Providing & laying. R.C.C. Hume pipe for cable to be laid 90 cm. below ground across the road crossing or on floor with necessary material in an approved manner and making the ground as per original.(C) 300 mm dia

- The pipes shall be with or without reinforcement as required and shall be of class not lesser than NP2.
- These shall conform to IS 458 and shall be capable of withstanding a test pressure of 0.07 MPa (7 m head). The reinforced cement concrete pipes shall be manufactured by centrifugal (or spun) process while un-reinforced cement concrete pipes by spun or pressure process. All pipes shall be true to shape, straight, perfectly sound and free from cracks and flaws. The external and internal surface of the pipes shall be smooth and hard. The pipes shall be free from defects resulting from imperfect grading of the aggregate mixing or moulding.
- Concrete used for the manufacture of un-reinforced and reinforced concrete pipes and collars Shall not be leaner than 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate). The maximum Size of aggregate should not exceed one third of the thickness of the pipe or 20 mm whichever is Smaller for pipes above 250 mm internal diameter. But for pipes of internal diameter 80 to 250 mm, the maximum size of aggregate should be 10mm. The reinforcement in the reinforced concrete pipes shall extend throughout the length of the pipe. The circumferential and longitudinal reinforcements shall be adequate to withstand the specified hydrostatic pressure and further bending stresses due to the weight of water when running full across a span equal to the length of pipe plus three times its own weight.
- 19.2.2.1 Laying and Jointing Cement Concrete Pipes and Specials Trenches: Trenches shall be as described in 18.4.4. (CPWD Specification) Where the pipes are to be bedded directly on soil, the bed shall be suitably rounded to fit the lower part of the pipe, the cost for this operation being included in the rate for laying the pipe itself.
- Loading, transporting and unloading of concrete pipes shall be done with care. Handling Shall be such as to avoid impact. Gradual unloading by inclined plane or by chain pulley Block is recommended. All pipe sections and connections shall be inspected carefully before Being laid. Broken or defective pipes or connections shall not be used. Pipes shall be Lowered into the trenches carefully. Mechanical appliances may be used. Pipes shall be Laid true to line and grade as specified. Laying of pipes shall proceed upgrade of a slope.

- If the pipes have spigot and socket joints, the socket ends shall face upstream. In the case Of pipes with joints to be made with loose collars, the collars shall be slipped on before the
- Next pipe is laid. Adequate and proper expansion joints shall be provided where directed.
- In case where foundation conditions are unusual such as in the proximity of trees or holes, Under existing or proposed tracks manholes etc. the pipe shall be encased all-around in 15 cm thick cement concrete 1:5:10 (1 cement: 5 fine sand: 10 graded stone aggregate 40 Mm nominal size) or compacted sand or gravel.
- In cases where the natural foundation is inadequate the pipes shall be laid either in concrete Cradle supported on proper foundations or on any other suitably designed structure. If a Concrete cradle bedding is used the depth of concrete below the bottom of the pipe shall Be at least $1/4^{\text{th}}$ of the internal dia of the pipe subject to the min. of 10 cm and a maximum Of 30 cm. The concrete shall extend up the sides of the pipe at least to a distance of $1/4^{\text{th}}$ of the outside diameter of pipes 300 mm and over in dia. The pipe shall be laid in this Concrete bedding before the concrete has set. Pipes laid in trenches in earth shall be Bedded evenly and firmly and as far up the haunches of the pipe as to safely transmit the Load expected from the backfill through the pipe to the bed. This shall be done either by Excavating the bottom of the trench to fit the curve of the pipe or by compacting the earth Under around the curve of the pipe to form an even bed. Necessary provision shall be

Made for joints wherever required.

- When the pipe is laid in a trench in rock hard clay, shale or other hard material the space Below the pipe shall be excavated and replaced with an equalizing bed of concrete, sand or compacted earth. In no place shall pipe be laid directly on such hard material.
- The method of bedding and laying the pipes under different conditions are illustrated in When the pipes are laid completely above the ground the foundations shall be made even And sufficiently compacted to support the pipe line without any material settlement.
- Alternatively the pipe line shall be supported on rigid foundations at intervals. Suitable Arrangements shall be made to retain the pipe line in the proper alignment, such as by Shaping the top of the supports to fit the lower part of the pipe. The distance between the Supports shall in no case exceed the length of the pipe. The pipe shall be supported as far as possible close to the joints. In no case shall the joints come in the center of the span.
- Care shall be taken to see that super imposed loads greater than the total load equivalent to the weight of the pipe when running full shall not be permitted.
- Suitably designed anchor blocks at change of direction and grades for pressure lines shall be provided where required.
- Jointing: Joints are generally of rigid type. Where specified flexible type joints may also be Provided.
- Rigid Spigot and Socket Joint (Fig. 19.10, CPWD Specification): The spigot of each pipe shall be slipped home well into the socket of the pipe previously laid and adjusted in the correct Position. The opening of the joint shall be filled with stiff

mixture of cement mortar in The proportion of 1:2 (1 cement: 2 fine sand) which shall be rammed with caulking Tool.

- After a day's work any extraneous material shall be removed from the inside of the pipe and the newly made joint shall be cured.
- Rigid Collar Joint (Fig. 19.10, CPWD Specification): The two adjoining pipes shall be butted against each other and adjusted in correct position. The collar shall then be slipped over the joint, Covering equally both the pipes. The annular space shall be filled with stiff mixture of cement mortar 1:2 (1 cement: 2 fine sand) which shall be rammed with caulking fool. After a day's work any extraneous materials shall be removed from the inside of the pipe and the newly made joint shall be cured.
- Semi Flexible Spigot and Socket Joint (Fig. 19.10 CPWD Specification): The joint is composed of specially shaped spigot and socket ends on the concrete pipes. A rubber ring shall be placed on the spigot which shall be forced into the socket of the pipe previously laid.
- This compresses the rubber ring as it rolls into the annular space formed between the two surfaces of the spigot and the socket, stiff mixture of cement mortar 1:2 (1 cement: 2 fine sand) shall then be filled into the remaining annular space and rammed with a caulking tool. After day's work any extraneous materials shall be removed from the inside of the pipe and the newly made joint shall be cured.
- Semi Flexible Collar Joint: This is made up of a loose collar which covers two specially shaped pipe ends as shown in the Fig. 19.10.(CPWD Specification) Each end shall be fitted with a rubber ring which when compressed between the spigot and the collar, seal the joint. Stiff mixture of cement mortar 1:2 (1 cement: 2 fine sand), shall then be filled into the remaining annular space and rammed with a caulking tool. After day's work, any extraneous material shall be removed from the inside of the pipe and the newly made joint shall be cured.
- Internal Flush Joint (Fig. 19.10 CPWD Specification): This joint is generally used for culvert pipe of 60 cm dia and over. The ends of the pipe are specially shaped to form a self centering joint with an internal jointing space 1.3 cm wide the finished joint is flush with both inside and outside with the pipe wall as shown in Fig. 19.10. The jointing space is filled with cement mortar 1:2 (1 cement: 2 fine sand) mixed sufficiently dry to remain in position when forced with a trowel or rammer. After day's work, any extraneous material shall be removed from the inside of the pipe and the newly made joint shall be cured.
- External Flush Joint: This joint is suitable for pipes which are too small for jointing from inside. This joint is composed of specially shaped pipe ends as shown in (Fig. 19.10. CPWD Specification) Each end shall be butted against each other and adjusted in correct position. The jointing space shall then be filled With cement mortar 1:2 (1 cement: 2 fine sand) sufficiently dry and finished off flush. Great care shall be taken to ensure that the projecting ends are not damaged as no repairs can be readily affected from inside the pipe.
- In all pressure pipe lines the recess at the end of the pipe line shall be filled with jute braiding dipped in hot bitumen or other suitable approved compound. Pipes shall be so jointed that the bitumen ring of one pipe shall set into the recess of the next pipe. The ring shall be thoroughly compressed by jacking or by any other suitable method.

- The number of pipes that shall be jacked together at a time shall depend on the diameter of the pipes and the bearing capacity of the soil, for small pipes up to 25 cm diameter, six pipes can be jacked together at a time. The quantity of jute and bitumen in the ring shall be just sufficient to fill the recess in the pipe when pressed hard by jacking or by any other suitable method. Before and during jacking care shall be taken to see that there is no offset at the joint.
- **Testing:** For pressure pipes, the completed pipeline shall be tested for pressure (Known as site test pressure) which shall not be less than the maximum pipeline operating pressure plus the calculated surge pressure, but in no case shall it exceed the hydrostatic test pressure. For non-pressure pipes the joints shall be tested as per procedure laid down under Para 19.2.1.2 (iv) CPWD Specification.
- **Refilling of Trenches:** The specification described in 19.2.1.2 (v) CPWD Specification shall apply. In case where pipes are not bedded on concrete special care shall be taken in refilling, trenches to prevent the displacement and subsequent settlement at the surface resulting in uneven street surfaces and dangers to foundations etc. The backfilling materials shall be packed by hand under and around the pipe and rammed with a shovel and light tamper. This method Of filling will be continued up to the top of pipe. The refilling shall rise evenly on both sides of the pipe and continued up to 60 cm above the top of pipe so as not to disturb the pipe. No tamping shall be done within 15 cm of the top of pipe. The tamping shall become progressively heavier as the depth of the backfill increases.

Measurements:

- The lengths of pipes shall be measured in running metres nearest to a cm as laid or fixed, from inside of one manhole to the inside of the other manhole. The length shall be taken along the centre line of the pipes over all fittings such as bends, collars, junctions, etc. which shall not be measured separately. Excavation, refilling, shoring and timbering in trenches, and cement concreting wherever required shall be measured separately under relevant items of work.
- No extra payment will be given for any of the reasons, the work done shall be measured in running meter of work done. The rate shall be for a unit of one Running Meter.

Item No. 10 : Construction of granular sub-base by providing close graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge. With material conforming to Grade-I (size range 75 mm to 0.075 mm) having CBR Value-30

1. Material:

- All type of material shall be used as per approved make list and confirming to relevant approved by EIC/ Architect.

2. Workmanship:

- The whole work is to be completed as per design; sample material & any other

requirement shall be as per instruction of EIC/ Architect.

- Work complete as per relevant specification of Item No: 16.62, page No - 845 in General specification DSR VOL-2 for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Cubic Meter.

Item No. 11 : Construction of granular sub-base by providing close graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge. With material conforming to Grade-II (size range 53 mm to 0.075 mm) having CBR Value-25

4. Material:

- All type of material shall be used as per approved make list and confirming to relevant approved by EIC/ Architect.

5. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.
- Work complete as per relevant specification of Item No: 16.62, page No - 845 in General specification DSR VOL-2 for building works.

6. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Cubic Meter.

Item No. 12 : Providing, laying, spreading and compacting graded stone aggregate (size range 53 mm to 0.075 mm) to wet mix macadam (WMM) specification including premixing the material with water at OMC in for all leads & lifts, laying in uniform layers with mechanical averfinisher in sub- base / base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achievethe desired density, complete as per specifications and directions of Engineer-in-Charge.

4. Material:

- All type of material shall be used as per approved make list and confirming to relevant approved by EIC/ Architect.

5. Workmanship:

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.
- Work complete as per relevant specification of Item No: 16.63, page No - 847 in General specification DSR VOL-2 for building works.

6. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Cubic Meter.

TECHNICAL SPECIFICATION

(Sub Estimate: 03 Furniture Work)

ItemNo. 01: Table : Providing & fixing office table / staff table having ht of 750 mm Top, with 19mm thk plywood as per Architect/ Engineer Design or Selection and Back and side Ply of table is also made up of 19mm Thick. Top of Table is 19mm thk ply with laminate Finish Per Requirement and All internal & external Joints finished with teakwood beading Patti. Item includes fixing of drawers and keyboard tray and storage with shutters under table as per drawing. With grooves shown as per drawing. All exposed and internal surfaces covered with Laminate Finish of approved shade & Complete as per detail drawings & as instructed by Architect/consultant/ Engineer In charge. Complete with all necessary hardware like nails, ss screws, table chain, TDS channel, adhesives etc. Contractor has to provide all necessary cut outs for Electrical works & no extra payment shall be made for it. All ply should follow IS 710

1. Material:

- IS 710 ply shall be used as per approved make and sample by Employer's representative/employer
- Laminate shall be used as per approved make and sample by Employer's representative/employer
- Hardware's shall be used as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer.

2. Workmanship:

- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of Employer's representative/employer

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of Employer's representative/employer
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Numbers for area of work done.

- The rate shall be for a unit of Square Meter.

ItemNo. 02: Reading Table / Work Station : Providing & fixing work station / table having ht of 750 mm Top, with MS Pipe Structure of Frame as per Architect/ Engineer Design or Selection and Back and side Ply of table is also made up of 19mm Thick. Top of Table is 19mm thk ply with laminate Finish Per Requirement and All internal & external Joints finished with teakwood beading Patti. Common or front Part of Table is Sectionalized with MS Perforated Sheet. All exposed and internal surfaces covered with Laminate Finish of approved shade & Complete as per detail drawings & as instructed by Architect/consultant/ Engineer In charge. Complete with all necessary hardware like nails, ss screws, table chain, Key board tray, TDS channel, adhesives etc. Contractor has to provide all necessary cut outs for Electrical works & no extra payment shall be made for it. All ply should follow IS 710

1. Material:

- IS 710 ply shall be used as per approved make and sample by Employer's representative/employer
- Laminate shall be used as per approved make and sample by Employer's representative/employer
- Hardware's shall be used as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer.

2. Workmanship:

- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of Employer's representative/employer

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of Employer's representative/employer
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Numbers for area of work done.
- The rate shall be for a unit of Square Meter.

ItemNo. 03: Book Rack : Providing and Placing Book Rack - 1200mm X 400mm X 1850mm Material - 0.7 mm thick (+/- 0.07mm) CRCA for Top, Side and Shelf. Finish epoxy powder Coated to the thickness of 50 micron.

1. Material:

- Book rack shall be used as per approved make and sample by EIC/ Architect.

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per standard Manufacturers specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Numbers for area of work done.
- The rate shall be for a unit of one Numbers

ItemNo. 04: Supplying and providing reading chairs with PP arms with soft PU pads, Seat and back upholstered with PU cushioned and MS powder coated frame and cantilever legs. Overall dimension 590 L x 600 W x 915 H (Or as specified) complete as directed by architect and product as per given specification. Complete as per architectural design and concept and approved by Architect & Client.

1. Material:

- Reading Chair shall be used as per approved make and sample by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- PP arms with soft PU pads, Seat and back upholstered with PU cushioned and MS powder coated frame and cantilever legs
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate shall be inclusive of all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, polishing and all accessories as described in item description.
- The work done shall be measured in Numbers for area of work done.

- The rate shall be for a unit of one Numbers.

ItemNo. 05: Chair Type - 01 (Cabin Main Chair) :- Supplying and providing High Back Mesh office Chair As per specification below:

-Metal frame seat made of Mesh fabric upholstery (foam base)

-Adjustable Head rest

-Fixed Arm rest

-Knee tilt mechanism

-360 swivel motion/ 100mm stroke gas

-Nylon Star base

-Pushback mechanism & Comfy seating.

-Complete as per architectural design and concept and approved by Architect & Client.

1. Material:

- Chair Type - 01 (Cabin Main Chair) High Back Mesh office Chair shall be used as per approved make and sample by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Metal frame seat made of Mesh fabric upholstery (foam base)
- Adjustable Head rest
- Fixed Arm rest
- Knee tilt mechanism
- 360 swivel motion/ 100mm stroke gas
- Nylon Star base
- Pushback mechanism & Comfy seating.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate shall be inclusive of all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, polishing and all accessories as described in item description.
- The work done shall be measured in Numbers for area of work done.
- The rate shall be for a unit of one Numbers.

ItemNo. 06: Chair Type - 02 (Cabin Visitor Chair) : Supplying and providing Mid Back Mesh office Chair As per specification below:

- Metal frame seat made of Mesh fabric upholstery (foam base)
- Center tilt mechanism
- 100mm class 4 gas lift
- PP Fixed Arm rest
- Nylon Star base/Twin wheel nylons casters
- Complete as per architectural design and concept and approved by Architect & Client.

1. Material:

- Chair Type - 02 (Cabin Visitor Chair) Mid Back Mesh office Chair shall be used as per approved make and sample by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Metal frame seat made of Mesh fabric upholstery (foam base)
- Center tilt mechanism
- 100mm class 4 gas lift
- PP Fixed Arm rest
- Nylon Star base/Twin wheel nylons casters
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate shall be inclusive of all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, polishing and all accessories as described in item description.
- The work done shall be measured in Numbers for area of work done.
- The rate shall be for a unit of one Numbers.

ItemNo. 07: Gang Chair (3 Seater) : Providing and Fixing 3 Seater (moulded foam seat and back In PU upholstery) Pero Cross Beam made of powder coated regular MS ERW tube having 8.0+/-0.03 cm x 4.0 +/- .03 cm x 0.2 +/- 0.014 cm size. Legs to be chrom plated made of rolled steel with 0.12 +/- 0.013 cm thickness.Seat and Back Shell to be perforated made from cold rolled M.S. Sheet (DIN 1623 Part 1 ST -12 Grade), 0.14 +/- 0.013 cm thickness. The side Bar is made of chrome Plate solid steel 3.0 cm +/- 0.03cm x 1.2 cm +/- 0.03 cm with fluting and plastic inserts. The Shell to be assembled on the cross beam with help of M8 Bolts.

1. Material:

- Waiting Area Chair shall be used as per approved make and sample by EIC/ Architect.
- Black powder coated regular MS ERW (Electric Resistance Welded) tube

- Legs: Chrome plated rolled steel, Thickness: 0.12 cm with a tolerance of ± 0.013 cm
- Seat and Back Shell: Material: Perforated cold rolled M.S. (Mild Steel) sheet, conforming to DIN 1623 Part 1 ST "-12" Grade or IS 513 and moulded foam seat and back In PU upholstery
- Thickness: 0.14 cm with a tolerance of ± 0.013 cm.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per standard Manufacturers specification.
- Finish (MS Components): All MS components shall be epoxy polyester powder coated using a multi-chamber pre-treatment process (e.g., 7 or 8 tank process). The dry film thickness (DFT) of the powder coating must be a minimum of 50 microns (range 50-60 microns).
- Fasteners : The shell is to be assembled on the cross beam using M8 bolts. (A specific quantity per seat.)
- MS ERW tube having 8.0 ± 0.03 cm x 4.0 ± 0.03 cm x 0.2 ± 0.014 cm size.
- Legs to be chrom plated made of rolled steel with 0.12 ± 0.013 cm thickness.
- Seat and Back Shell to be perforated made from cold rolled M.S. Sheet (DIN 1623 Part 1 ST -12 Grade), 0.14 ± 0.013 cm thickness.
- The side Bar is made of chrome Plate solid steel 3.0 ± 0.03 cm x 1.2 ± 0.03 cm with fluting and plastic inserts.
- The Shell to be assembled on the cross beam with help of M8 Bolts.
- Model Similar to the picture attached
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Numbers for area of work done. The rate shall be for a unit of one Numbers

ItemNo. 08: Providing and Placing News paper Stand 600 W X 900 D X 900 H mm. To be made from prime-quality CRCA steel tubes and sheets for durability & longevity, and the reading top is made from high-quality pre-laminated MDF for a seamless finish and contemporary look. H-type cross bracings, paired with levelling bolts at the base, provide extraordinary strength and stability, ensuring steady performance even on uneven floors.

1. Material:

- News paper stand shall be used as per approved make and sample by EIC/ Architect.

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/ Architect.

2. Workmanship:

- Work complete as per standard Manufacturers specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/ Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/ Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Numbers for area of work done.
- The rate shall be for a unit of one Numbers

ItemNo. 09: TV UNIT: Providing & fixing projector drawer unit As per detail drawing and reference image and detail shape & size with require accessories. Top 35 MM th made from 12 mm th IS 303 ply & Laminate finish Storage body is made of 19mm 303 MR Grade ply with 1 mm laminate finish and inner side 1 mm thick laminate finish including require nos of drawer with all type of fittings ,cutout for air cerclulation , require fixtures, hardware Hettich/Haffle make etc complete .SS 304 grade conceal handle shall be provide as per approved selection &detailed drawing and instruction of Employer's representative/ Employer.Rate shall incusive require fabrication work considering load capacity of AV equipment.The work shall be done as per the approved specifications, sample approved and as directed by the Architect and Engineer-in-charge. The rate shall be for complete item inclusive of all material, labour, wastages, necessary tools & tackles, adhesives consumable hardware & required SS 304 grade hardware/accessories of approved make.

1. Material:

- IS 303 ply shall be used as per approved make and sample by EIC/ Architect.
- Veneer shall be used as per approved make and sample by EIC/ Architect.
- Hardware's shall be used as per approved make list and confirming to relevant IS codes and Approved by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/ Architect.
- Plywood shall confirm M-37 of GTS Booklet for building works.
- Fixtures and fastenings shall confirm M-43 of GTS Booklet for building works.

2. Workmanship:

- Top 35 MM thick: made from 12 mm th IS 303 ply & veneer finish With matt PU finish.
- Storage body is made of 19mm 303 MR ply with veneer finish and inner side 1.5 mm thick Laminate finish including require no's of drawer with all type of fittings, cut out for air Circulation, require fixtures, hardware Hettich/Haffle make etc. complete.

- SS 304 grade conceal handle shall be provide as per approved selection & detailed drawing and instruction of EIC/Architect. Rate shall inclusive require fabrication work considering Load capacity of AV equipment.
- Rate shall inclusive require fabrication work considering load capacity of AV equipment
- Work complete including all types of tools, tackles, labour etc complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all Heights and for all floors.
- The work done shall be measured in Numbers for area of work done.
- The rate shall be for a Unit of one Number.

ItemNo. 10: Low Height Storage : Providing, making, fixing as per detail drawing made from 19 mm IS 710 BWP ply structure aand both side 1 mm thick laminate finish shall be of approved make & shade and as per the detail drawing. All the edges of ply shall be covered with 1 mm thick laminate finish Rate shall also inclusive of all necessary brass satin finish nickel plated/S.S 304 grade hardware like Hinges, locks, 6" handle , 75 mm tower bolts, ball catches/Magnet, The rate shall be in sqm of elevation area for all floors and at all heights including all costs complete as per the Architectural drawings & instructions. Only the elevation area of the storage unit will be measured and paid for. Item for 1 mm thick laminate fixing and polishing is included in this item. Approval of all loose material (sample of materials to be used) & raw manufacturing to be got approved in advance from EIC & Architect prior to the final production of the work. Manufacturing shall in parts or as whole as per the requirements & or assembled at site as per the requirement and directed by EIC & Architect. All material to be used shall be as per the drawings & confirm to the relevant detailed material specifications of this document. The work shall be measured & paid in sqm The rates shall be inclusive of all wastages, material, labor, taxes, transportation, loading, unloading, fixing in position, etc. complete to the satisfaction of the Architect and EIC. The mock-up of 1 unit shall be approved from EIC and Architecture prior to the final production.

1. Material:

- IS 710 MR Grade ply shall be used for back support as per approved make and sample by Employer's representative/employer
- 1.5 mm thick Laminate shall be used as per approved make and sample by Employer's representative/employer
- Glass shall be used approved make list and confirming to relevant IS codes and approved by Employer's representative/employer
- Hardware's shall be used as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by Employer's representative/employer

- Plywood shall confirm M-37 of GTS Booklet for building works.
- Fixtures and fastenings shall confirm M-43 of GTS Booklet for building works.

2. Workmanship:

- Storage shall be made from IS 710 MR Grade 19 mm thick and 12 mm thick ply, finish with 1.5 mm thick laminate both side as per approved make and shade.
- Solid Shutter: shall be made from IS 710 MR Grade 19 mm thick ply with both side 1. mm thick laminate finish with approved locking arrangement system.
- Shelves from IS 710 MR Grade ply finish with both side approved 1 mm thick laminate.
- Glass with profile shutter: made from aluminium SS finish profile (olive or equivalent approved make) with 4 mm th toughened glass with glass film finish with require all necessary accessories And locking arrangement system
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of Employer's representative/employer

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of Employer's representative/employer
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in Square meter for area of work done.
- The rate shall be for a unit of one Square Meter. Clear elevation area shall be measured and paid

ItemNo. 11: Supplying and Placing Folding Wheel Chair with Overall dimension: (L) 790 x (W) 600 x (H)870mm Frame structure Foldable frame structure is made of section 22x1.2mm A3 carbon steel with chrome finish. Cross bar are made of A3 carbon steel with section 25.4 x 1.2mm. Rear wheel 24 inch Solid mag wheels with alloy in the rim Hand rim Integrated hand rim provide to drive the wheel chair of section 16x1.2mm A3 carbon steel with chrome finish Front wheel 8 inch HUB made of PA polymer and outer with solid rubber Arm rest PU molded arm rest & base is made of ABS for better arm support Calf rest & seat Leatherette strap for calf rest & leatherette cushion for seat Footrest Adjustable alluminium die cast foot rest with updown & swivel type mechanism Push handle Handles are made of moulded rubber grip to push the wheelchair Brakes Hand brakes are provided to lock the wheelchair at desired location. Foot press Extended base with molded plastic for better grip Finish Anti rust chrome finish safe working load 100kg.etc.complete as per drawings and design supplied by architect and instruction given by authority and E.I.C.

1. Material

- The folding wheelchair shall be manufactured from high-quality A3 carbon steel unless otherwise specified, suitable for long-term institutional use.
- **Frame:**
- Foldable frame made of A3 carbon steel section 22 x 1.2 mm.

- Cross bars made of A3 carbon steel section 25.4×1.2 mm.
- All steel components shall be treated with anti-rust chrome finish.
- **Rear Wheels:**
- 24-inch solid mag wheels with alloy rim.
- Integrated hand rim made of A3 carbon steel section 16×1.2 mm, chrome finished.
- **Front Wheels:**
- 8-inch hub made of PA polymer with solid rubber outer.
- **Arm Rest:**
- PU molded arm rest with base made of ABS plastic for durability and comfort.
- **Seat & Calf Rest:**
- Seat cushion made of leatherette material.
- Calf rest provided with leatherette strap.
- **Foot Rest:**
- Adjustable aluminum die-cast footrest, up-down and swivel type mechanism.
- **Push Handles:**
- Handles fitted with molded rubber grips for ease of handling.
- **Brakes:**
- Hand-operated brakes to lock the wheelchair securely at the desired position.
- **Load Capacity:**
- Safe working load shall be minimum 100 kg

2. Workmanship:

- All components shall be manufactured with sound engineering practice, accurate dimensions, and smooth operation.
- Welded joints shall be neat, strong, uniform, and free from cracks, sharp edges, or burrs.
- Folding mechanism, wheels, brakes, and footrests shall operate smoothly without excessive play, noise, or obstruction.
- Chrome finish shall be uniform, corrosion-resistant, and free from peeling, blistering, or surface defects.
- The wheelchair shall be assembled, adjusted, and tested before delivery to ensure stability, safety, and comfort.
- The complete unit shall conform to the drawings, design details, and instructions issued by the Architect, Authority, and Engineer-in-Charge (E.I.C.).

3. Measurements:

- The rate shall be consolidated for all above items.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The rate shall be for a unit of one Number.