

**TRANSMISSION BUSINESS GROUP
(Subcontracts Management)**

Doc. No. TBSM/Std-Spec/Cov-Str/01

Rev. 01

SPECIFICATION FOR COVERED STORE FOR SWITCHYARD

1. The covered store shall be constructed of adequately designed steel columns and tubular trusses (span 10m) placed at an interval of 5.00m centre to centre with suitable purlins and runners provided to support the roofing & cladding. The length of the store shall be 20.00/15.00/10.00m. depending on the requirement as indicated in the BOQ.
2. The roofing and side cladding shall be of GS corrugated sheets (0.8mm thick) fixed to purlins & runners with suitable polymer/GI coated J or L hooks, bolts and nuts 8 mm diameter with bitumen and G.I. Limpet washers or with G.I limpet washers filed with white lead and including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete (up to a pitch of 60 degrees).. The roof shall be made with proper arrangements to prevent water leakage.
3. The bottom of the truss shall be 4.50m. above FFL (Finished floor level).
4. The steel columns shall be supported on adequately designed concrete pedestals & footings. The following minimum requirements shall be ensured..
 - Depth of footing below existing ground level = 1.00m
 - Size of footing = 1.50m X 1.50m
 - Depth of footing = 0.30m
 - Reinforcement in footing = 12dia @ 150 c/c bothways, top & bottom.
 - Size of pedestal = 0.50m X 0.50m
 - Reinforcement in pedestal – Longitudinal = 8 Nos 16dia
 - Ties = 8dia @ 200c/c
5. 230mm thick brick walls in cement mortar 1:6 shall be provided all along the periphery and shall be 1.50m above the FFL. This shall rest on suitable brick masonry foundation which shall extend to minimum 500mm below the FFL. 12/15mm plaster in cement mortar 1:6 shall be provided on the walls which shall be finally painted with 3 coats of colourwash.
6. The floor of the store shall be made with 100mm thick PCC 1:4:8 neatly finished and laid over 150mm thick boulder soling with interstices filled with suitable material. The area below this upto the natural ground level shall be filled with well compacted earth.
7. The store shall be provided with a 4.00m wide X 4.50m high lockable & painted rolling shutter with all accessories, as required. In addition, painted steel ventilators of size 1.20m wide X 0.50m high shall be provided between each span and along both longitudinal

directions and at a height of 4 Mts above FFL. In front of the rolling shutter, suitable ramp shall be provided for material entry.

8. Adequate no. of fire extinguishers (min. 4 nos. CO₂ and 2 nos. foam type) and sand & water buckets shall be provided in the store area.
9. Adequate illumination arrangements shall be made inside the store - comprising of min. of 4 tube light fittings and a 15Amp. power socket and suitable switchboard at the entrance to the stores. The switch board shall also serve as the controlling point for illumination of open store yard. Providing of incomer cable and giving supply to the switchboard is NOT in the scope of store construction.
10. All materials shall conform to IS and shall be procured from approved sources & reputed manufacturer(s). The execution of work shall be as per latest CPWD/IS specifications & directions of Engineer-in-Charge.

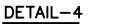
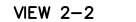
**TRANSMISSION BUSINESS GROUP
(Subcontracts Management)**

Doc. No. TBSM/Std-Spec/Open-Str/02

Rev. 01

SPECIFICATION FOR OPEN STORE FOR SWITCHYARD

1. The area of the open store shall be as indicated in the BOQ.
2. The area identified for the open store shall be enclosed with barbed wire fencing-1.8 M high above ground level with 8 strands of horizontal and two diagonal barbed wires (between 2 posts). The posts shall be of medium M.S tubes of 50mm dia or angle 50x50x6 and shall be spaced 3.0m centre to centre. Inclined post supports shall be provided at all corners and at every 10th post. All posts shall be embedded at least 0.4m in PCC 1:2:4 block of size 0.40x0.40x0.6m. 75mm thick PCC 1:4:8 shall be provided below concrete block.
3. One 5m wide X 1.8m high (2 leaf) gate suitable for truck/ trailer entry and one 1m wide X 1.8m high wicket gate suitable for personnel entry shall be provided. The gate shall be of pipe framework (having suitable stiffness) with welded mesh suitably fixed on it.. The gate shall be provided with suitable locking arrangement.
4. The area of the open store shall be raised minimum 150mm above the surrounding ground level with compacted earth. Over this, flat brick soling or some other suitable alternative material of minimum thickness 75mm shall be provided.
5. One central road 3.75 mts. wide located centrally along the long axis of the stores shall be constructed with 150mm compacted thickness boulder soling interstices filled with moorum and adequately rolled and compacted. The top of the road shall be 150mm above the yard soling level. The total area of the road shall be maximum 15% of the area of the open store.
6. One security cabin of size 2.0m x 2.0m shall be provided inside the fence adjacent to the gate. Four nos. of sand and water buckets on suitable stand shall be provided adjacent to the cabin.
7. The area shall be adequately illuminated with min. 4 nos. of halogen lamps at the four corners of the stores and 1 tube light in the security cabin. The scope includes cabling from the main switch in the covered stores and interconnected cabling. Where the scope includes only the open store, the main switch shall be provided inside the security cabin
8. All materials shall conform to IS and shall be procured from approved sources & reputed manufacturer(s). The execution of work shall be as per latest CPWD/IS specifications & directions of Engineer-in-Charge.

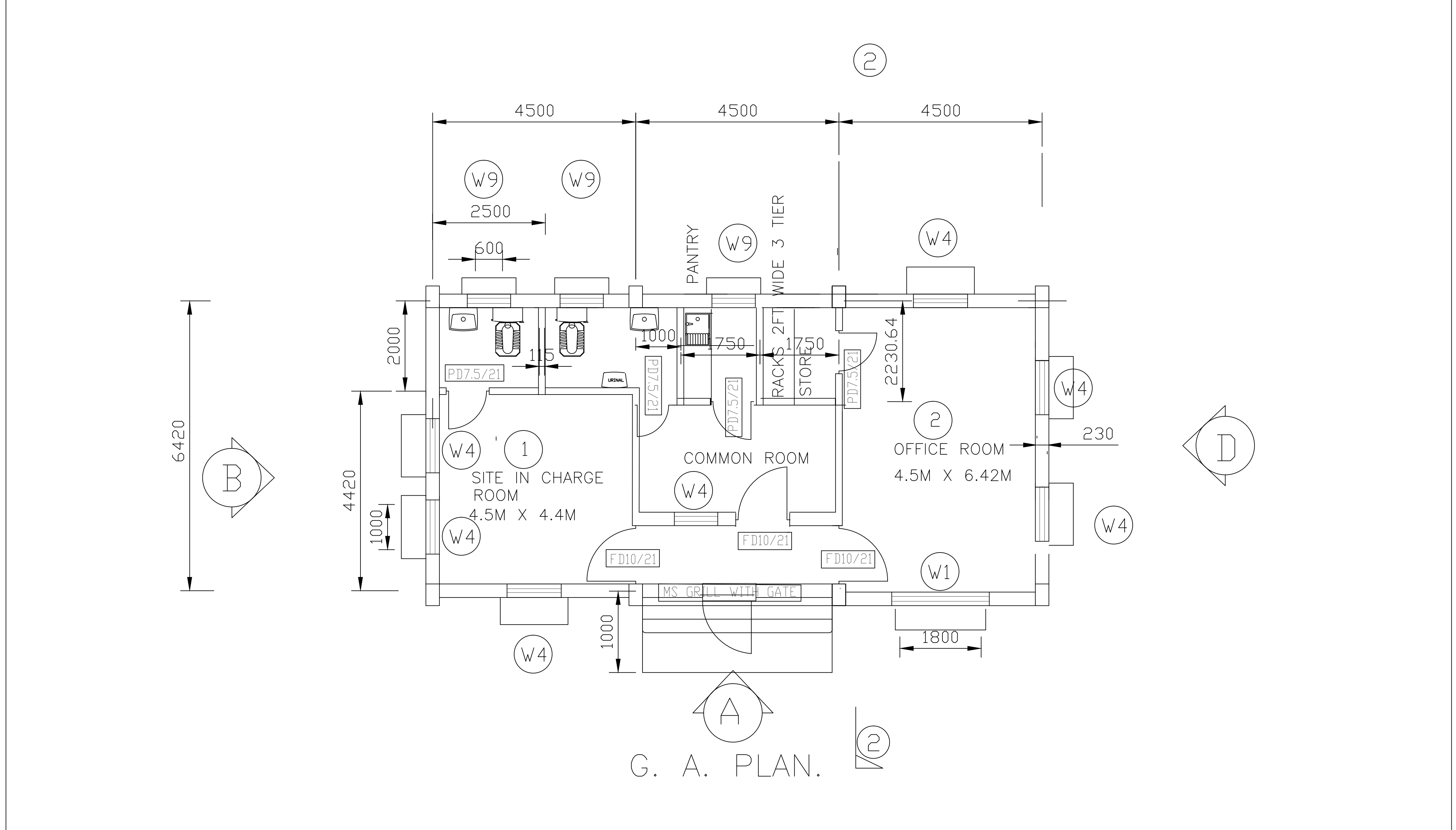


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REMARK - MINOR MODIFICATION MAY BE DONE AT SITE TO SUIT SITE REQUIREMENT.

LOCATION OF SANITARY FIXTURES ARE INDICATIVE ONLY. TOILET SEAT MAY BE OF INDIAN / WESTERN STYLE AS PER SITE REQUIREMENT.

A	1. ALL DIMENSIONS & LEVELS ARE IN MILLIMETRES UNLESS OTHERWISE STATED. 2. ±0 LEVEL CORRESPONDS TO FINISHED FLOOR LEVEL,WHICH IS 500 MM ABOVE FINISHED GROUND LEVEL (FGL). 3. FOR LOCATION & ORIENTATION OF BUILDING REFER RELEVANT PLOT PLAN OF THE SITE. 4. ALL BRICK MASONRY WALL CONSTRUCTION SHALL BE AS FOLLOWS: a). EXTERNAL: i) CEMENT & SAND MORTER OF 1:6 MIX FOR 250 & ABOVE THICK BK.WORK IN FOUNDATION & UPTO PLINTH LEVEL ii) CEMENT & SAND MORTER OF 1:4 MIX FOR 250 THK BK.WORK IN SUPERSTRUCTURE b). INTERNAL: i) CEMENT & SAND MORTER OF 1:4 & 1:3 MIX FOR 125 THK & 75 THK BK WORK RESPECTIVELY IN SUPERSTRUCTURE. ii) CEMENT & SAND MORTER 1:4 MIX FOR 250 THK BK.WORK IN SUPERSTRUCTURE. 5. ALL PLASTER FINISHES SHALL BE DONE AS FOLLOWS: a) EXTERNAL: 15 THK CEMENT-SAND PLASTER (1:6 MIX). b) INTERNAL: 12 THK CEMENT-SAND PLASTER (1:6 MIX). c) CEILING & SOFFIT OF PROJ.N.BANDS: 6 THK CEMENT-SAND PLASTER (1:4 MIX).				6. 600 MM WIDE APRON AS SHOWN IN DRG.TD BE MADE WITH P.C.C.(1:3:6) OVER ONE LAYER OF B.F.S. AROUND THE BLDG. 7. GRADE OF P.C.C. IN CONCRETE SUB FLOOR AT GROUND FLOOR & OTHER ENCASINGS SHALL BE 1:3:6 UNLESS OTHERWISE INDICATED. 8. THICKNESS & GRADE OF CONCRETE IN D.P.C. SHALL BE 25 THK & 1:2:4 RESPECTIVELY WITH APPROVED WATER PROOFING COMPOUND AS SPECIFIED. 9. ALL WINDOWS SHALL BE PROVIDED WITH M.S.GRILL (WT=16KG/SQMT) ON ITS INSIDE FACE. 10. ALL BRICKS SHALL BE FIRST CLASS BRICKS WITH MIN COMP. STRENGTH OF 100 KG/SQ.CM 11. ALL TOILETS SHALL HAVE ONE WC WITH FLUSHING CISTERN, ONE WASH BASIN WITH TAP, MIRROR, SOAP HOLDER, TOWEL RAIL AND ONE 15 MM TAP. 12. EACH ROOM SHALL HAVE MIN., 1 CEILING FAN, 2-TUBE LIGHT , 1-15amp POWER PLUG , 3-5AMP POWER PLUG ETC. 13. RCC SLAB PLATFORM AT 1000 HEIGHT IS TO BE PROVIDED IN PANTRY 14. RCC SLAB RACKS - 3 NOS @500MM C/C ARE TO BE PROVIDED IN STORE. 15. ONE WINDOW IN ROOM 1 & 2 SHOULD HAVE PROVISION FOR SPLIT AC INSTALLATION WITH REMOVABLE WINDOW'S GRILL AND LOCKING ARRANGEMENT.				A P P R O V A L				BHARAT HEAVY ELECTRICALS LTD. TRANSMISSION BUSINESS GROUP, NOIDA		DCO. R																																																																																																																																																																																																								
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