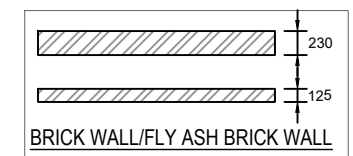
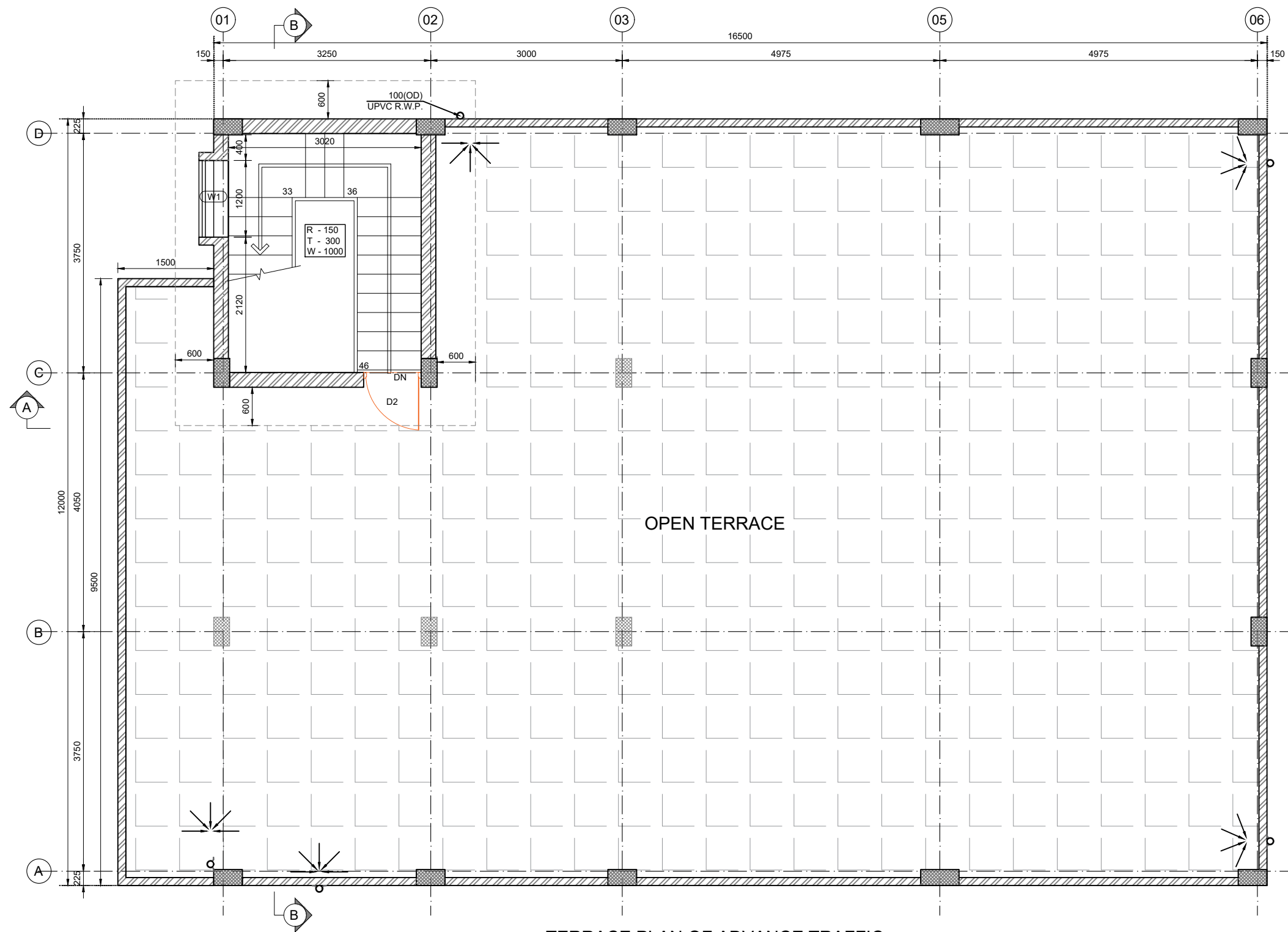


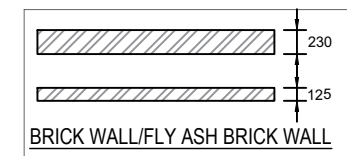
SCHEDULE OF FIRST FLOOR DOORS & WINDOWS					
TYPE	SIZE	SILL LEVEL	LINTEL LEVEL	NO.	DOOR FRAME
D	1500x2100	0	2100	01	GLASS DOOR
D2	900x2100	0	2100	03	GLASS DOOR
D3	750x2100	0	2100	01	PVC DOOR
W	1200x1350	750	2100	03	GLASS WINDOW
SW	1200x7350	-	-	01	GLASS WINDOW
V	750x450	1650	2100	01	GLASS WINDOW

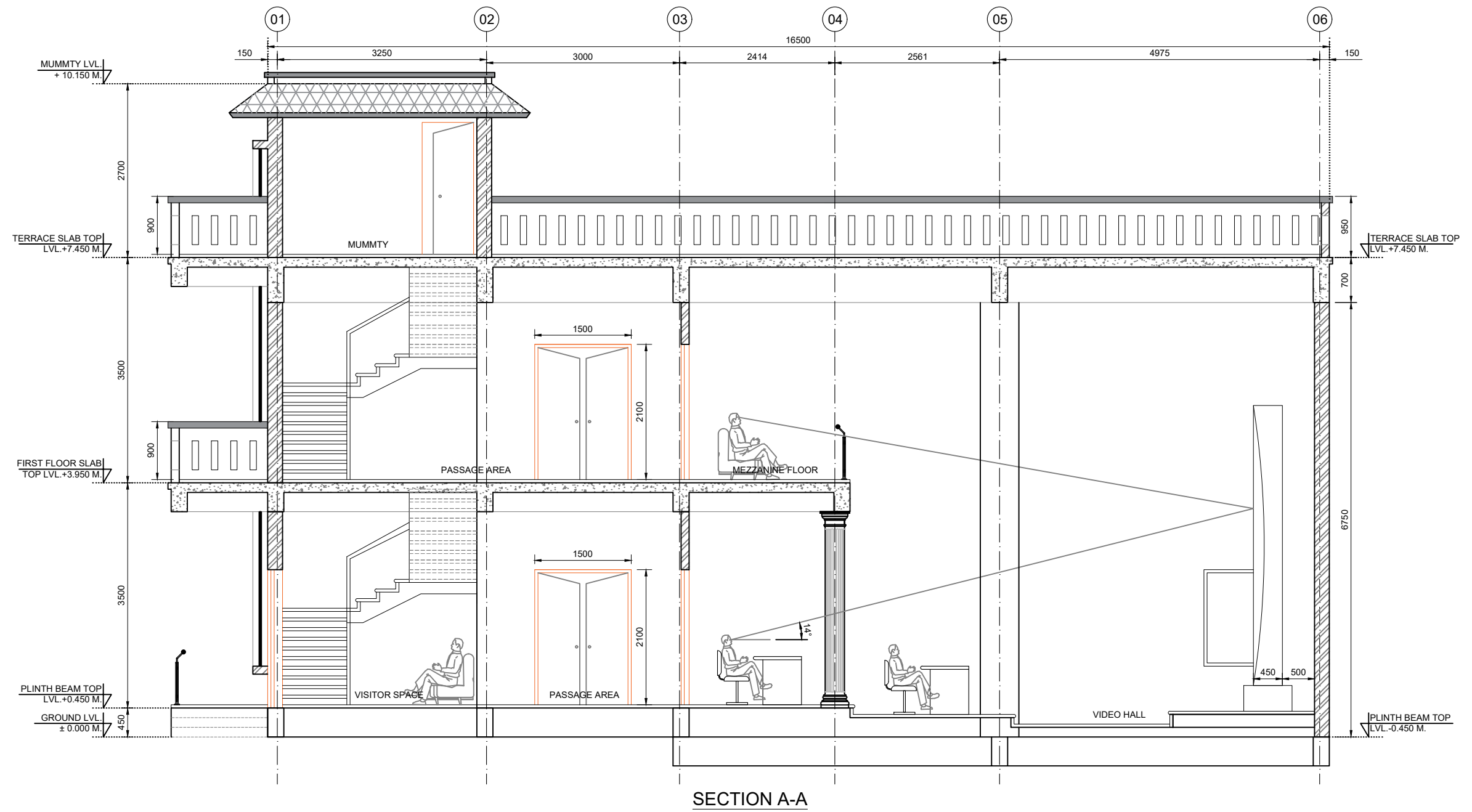


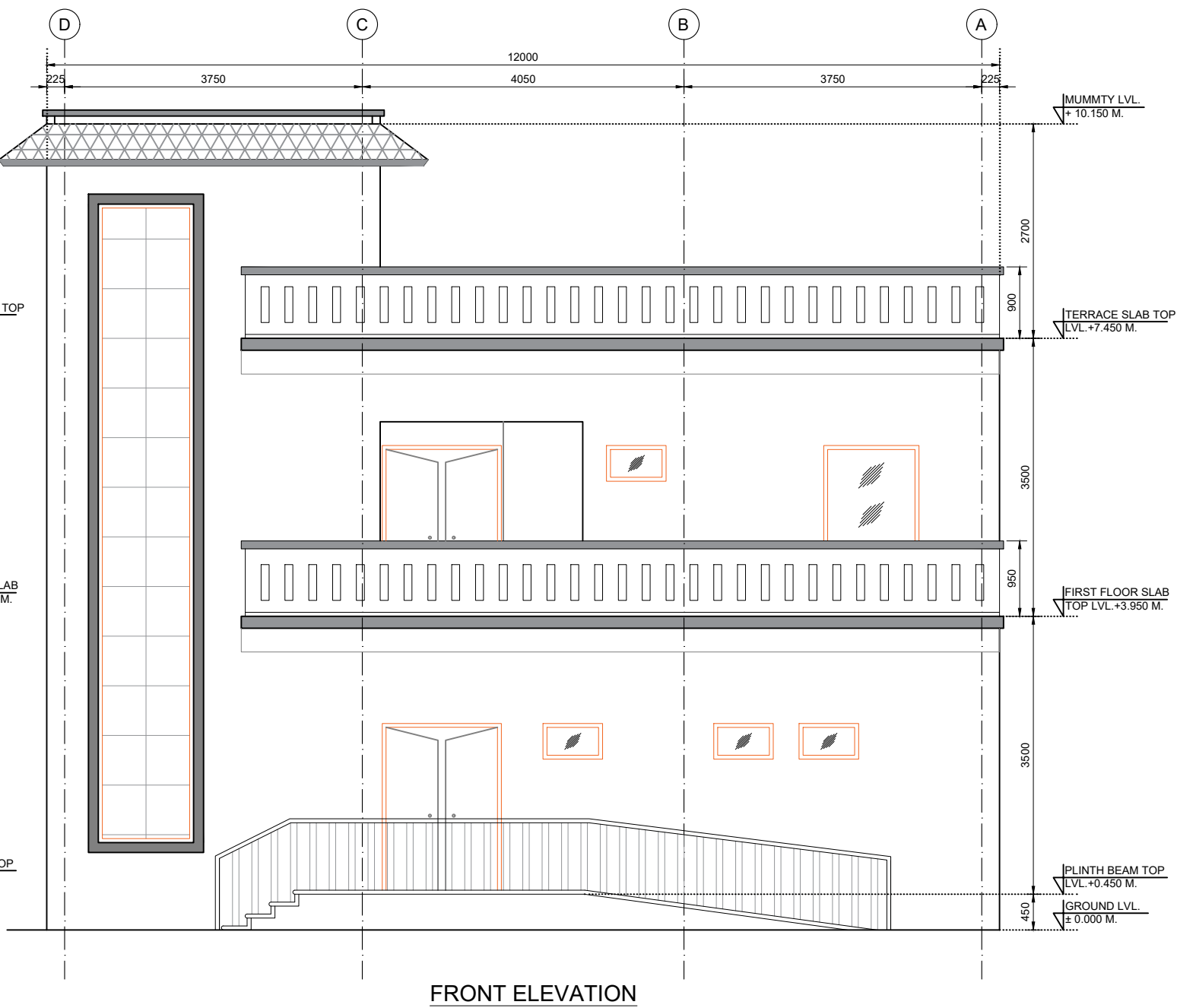
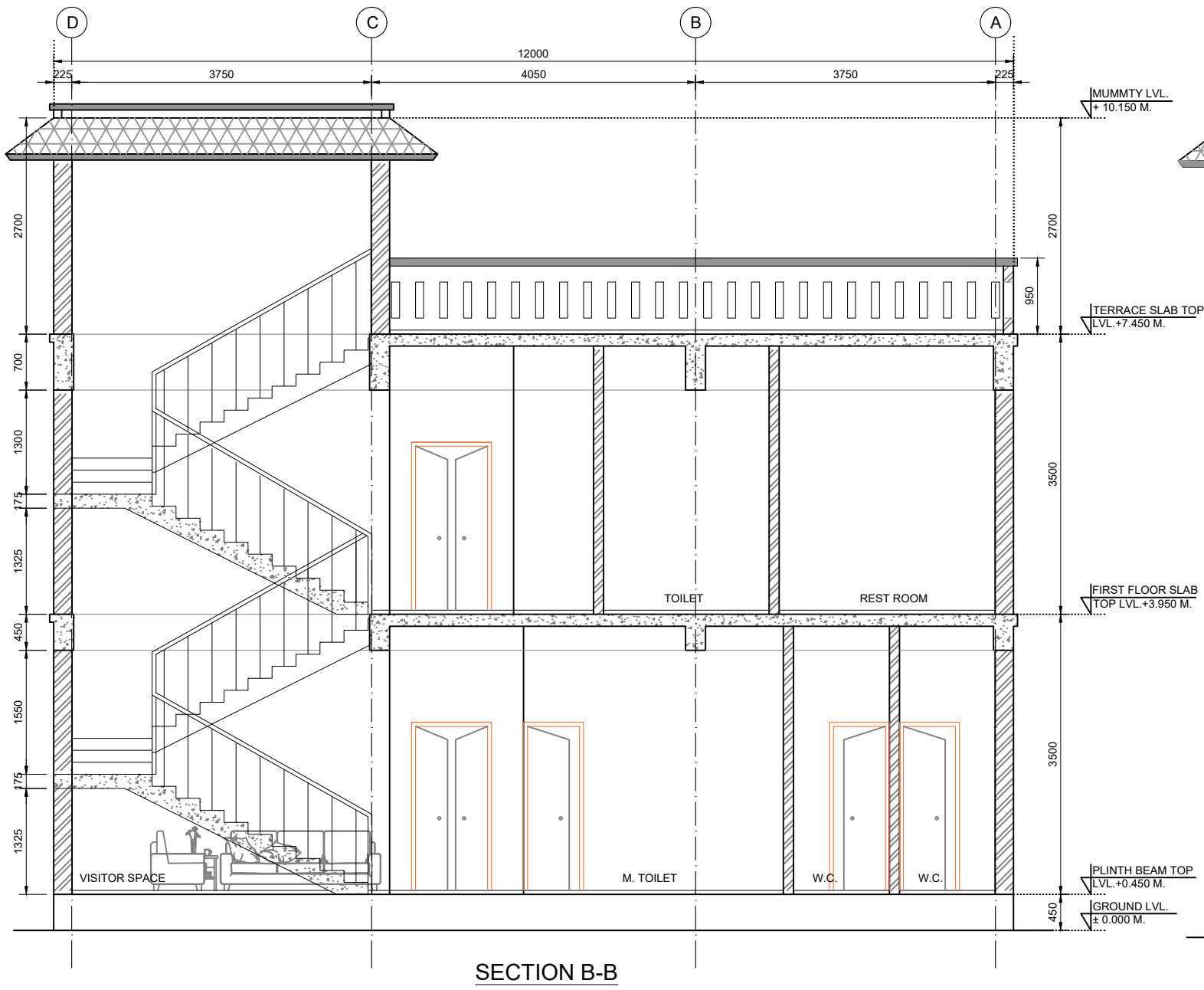


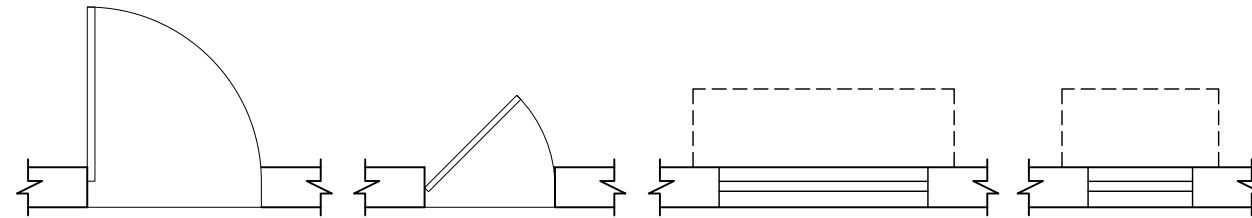
TERRACE PLAN OF ADVANCE TRAFFIC
MANAGEMENT SYSTEM (ATMS) BUILDING

SCHEDULE OF MUMMTY FLOOR DOORS & WINDOWS					
TYPE	SIZE	SILL LEVEL	LINTEL LEVEL	NO.	DOOR FRAME
D2	900x2100	0	2100	01	PVC DOOR



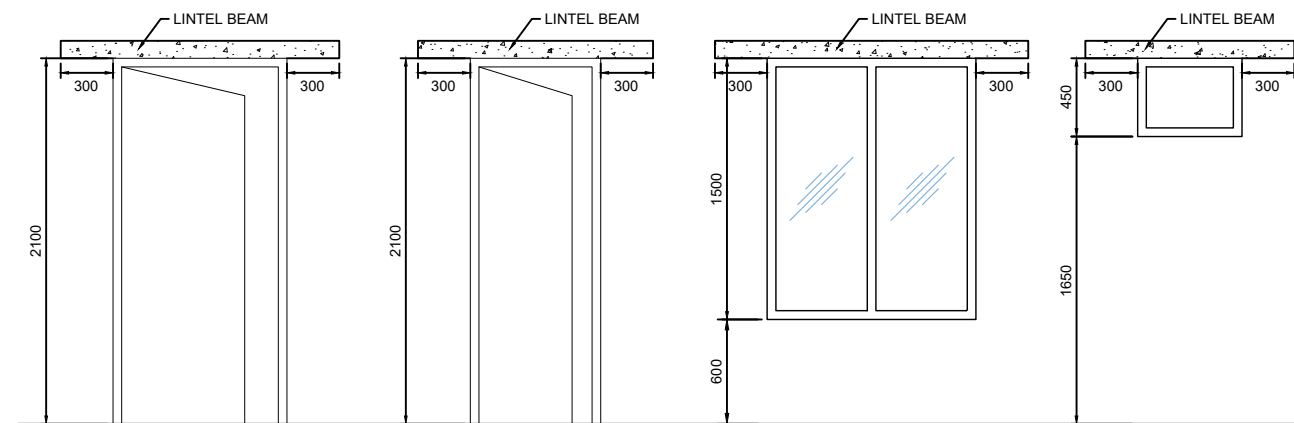




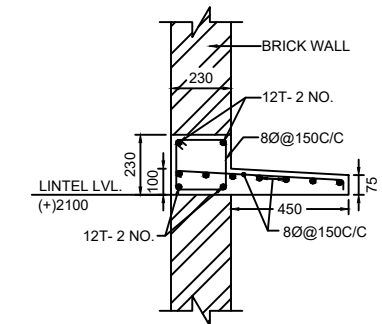


TYP. DOOR PLAN

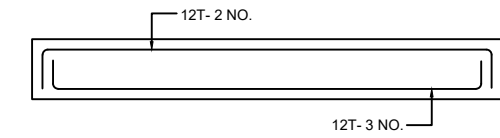
TYP. WINDOW PLAN



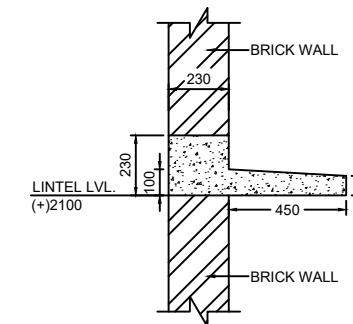
TYP. DOOR & WINDOW ELEVATION FOR EXTERIOR



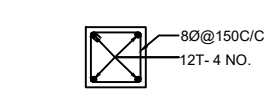
TYP. DETAIL OF CHAJJA
SCALE-1:20



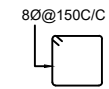
TYP. LINTEL BEAM



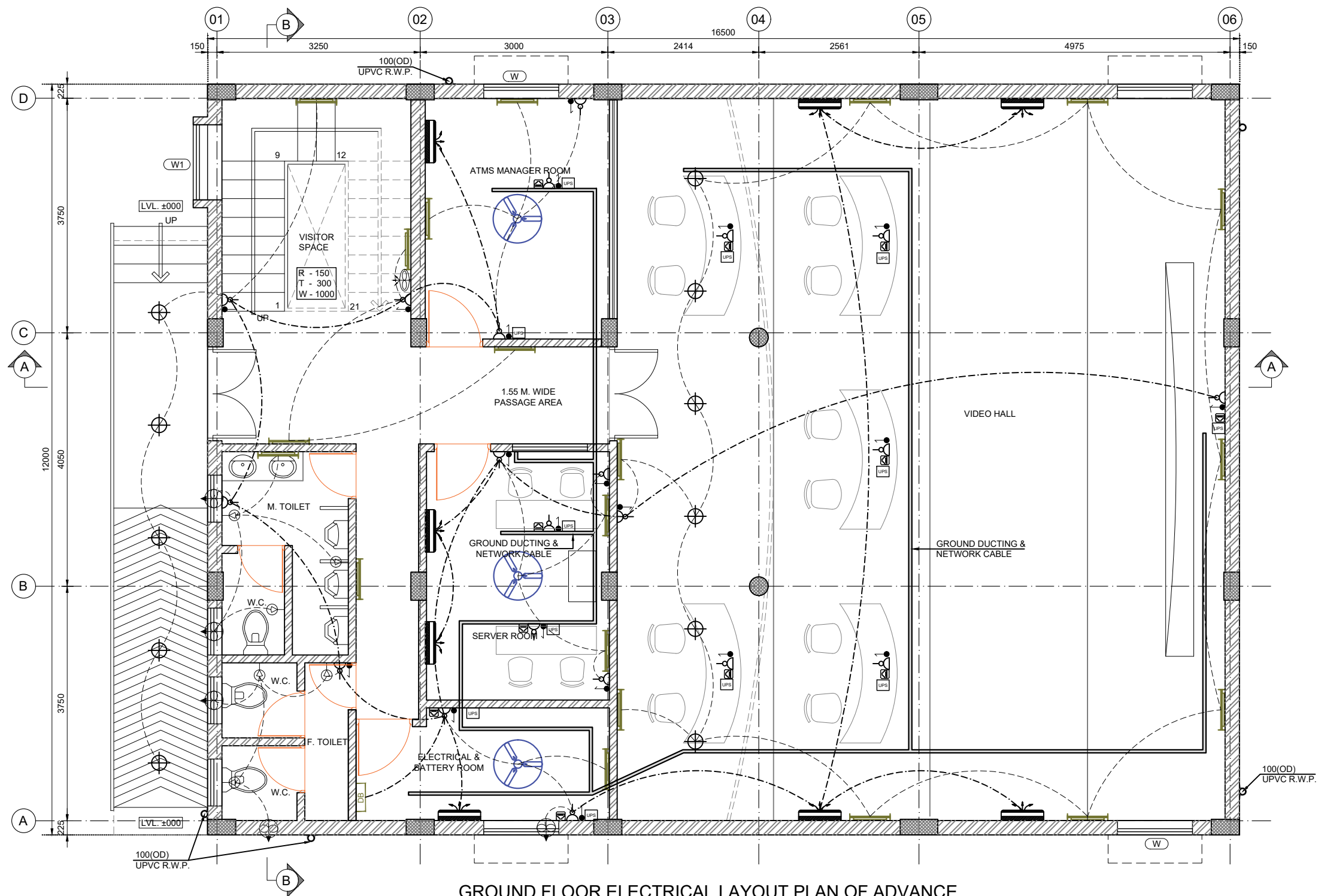
TYP. DETAIL OF CHAJJA
SCALE-1:20



LINTEL BEAM

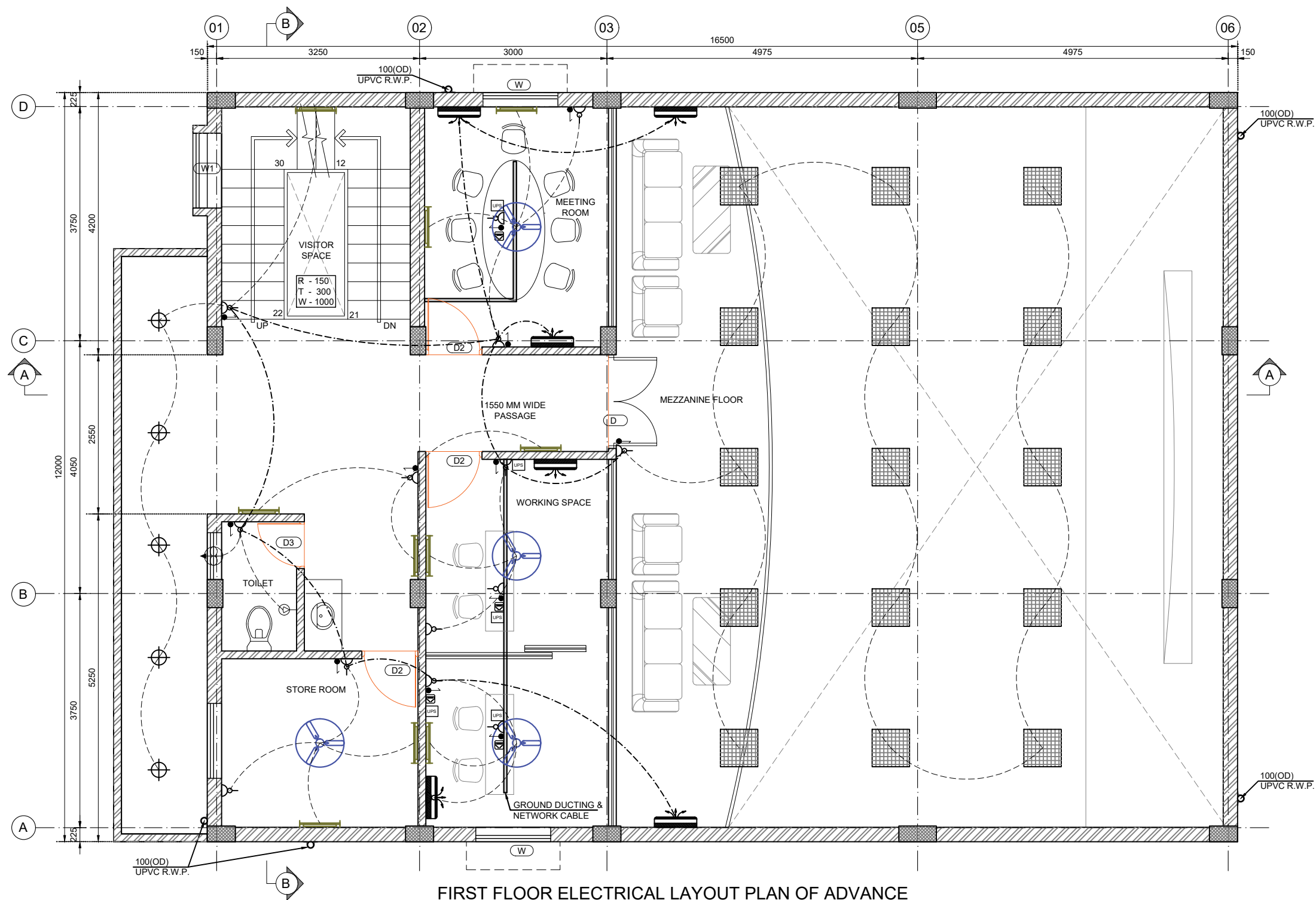


STIRRUPS

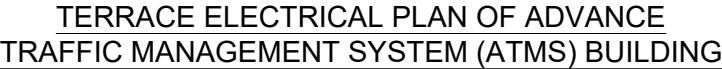


**GROUND FLOOR ELECTRICAL LAYOUT PLAN OF ADVANCE
TRAFFIC MANAGEMENT SYSTEM (ATMS) BUILDING**

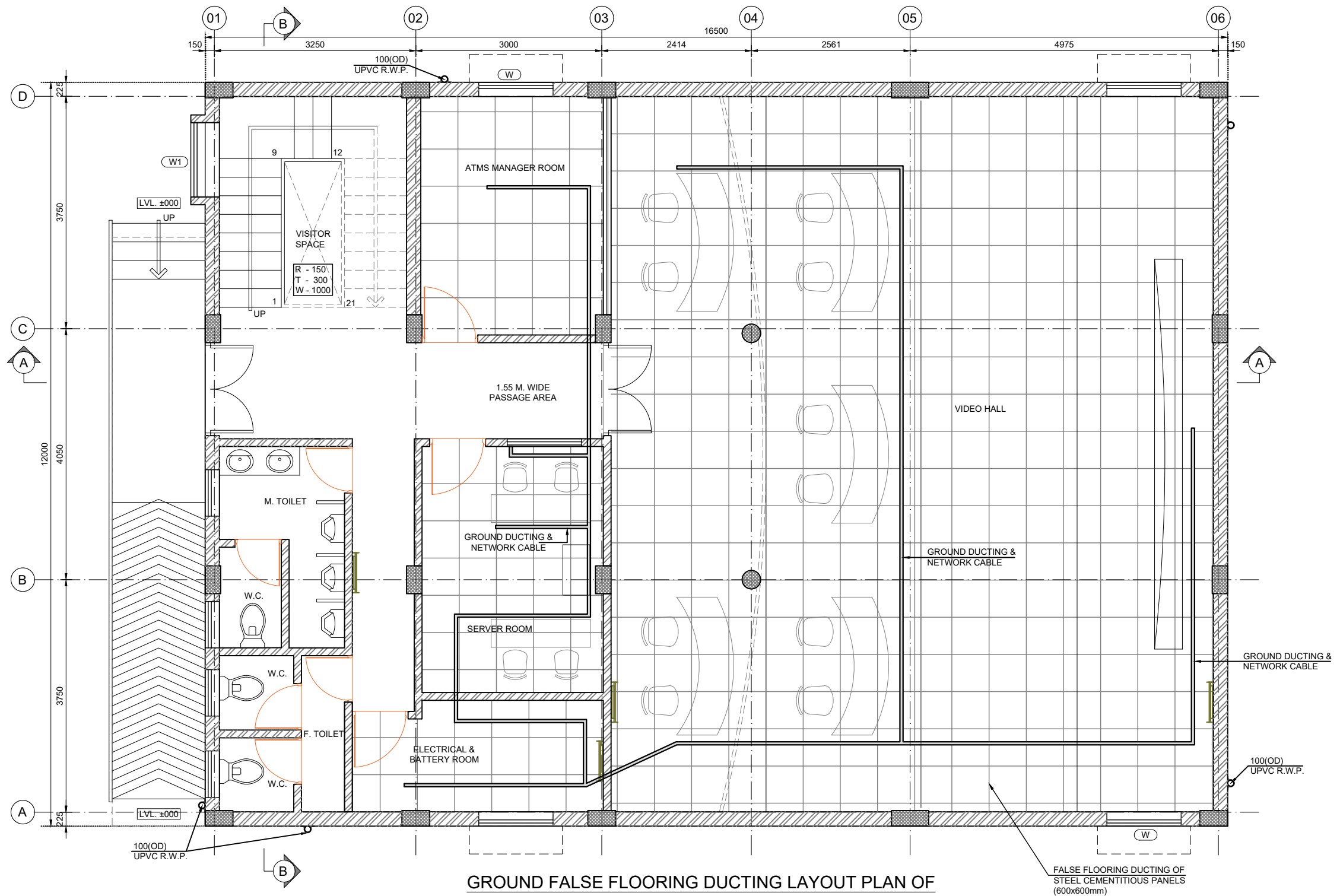
LEGEND		
SN.		DESCRIPTION
1		SWITCH BOARD
2		20W LED TUBE LIGHT FIXTURE (WALL MOUNTED)
3		6 AMP. SWITCH SOCKET WITH SWITCH BOARD
4		16 AMP. SWITCH SOCKET WITH SWITCH BOARD
5		DISTRIBUTION BOARD
6		EXHAUST FAN
7		AC
8		LOOP FOR NORMAL SUPPLY
9		MAIN SUPPLY
10		1200MM DIA CEILING FAN
11		9W LED DOWN LIGHT FIXTURE (SURFACE MOUNTED)
12		WALL FAN
13		PANEL LIGHT
14		LAN PORTS
15		UPS

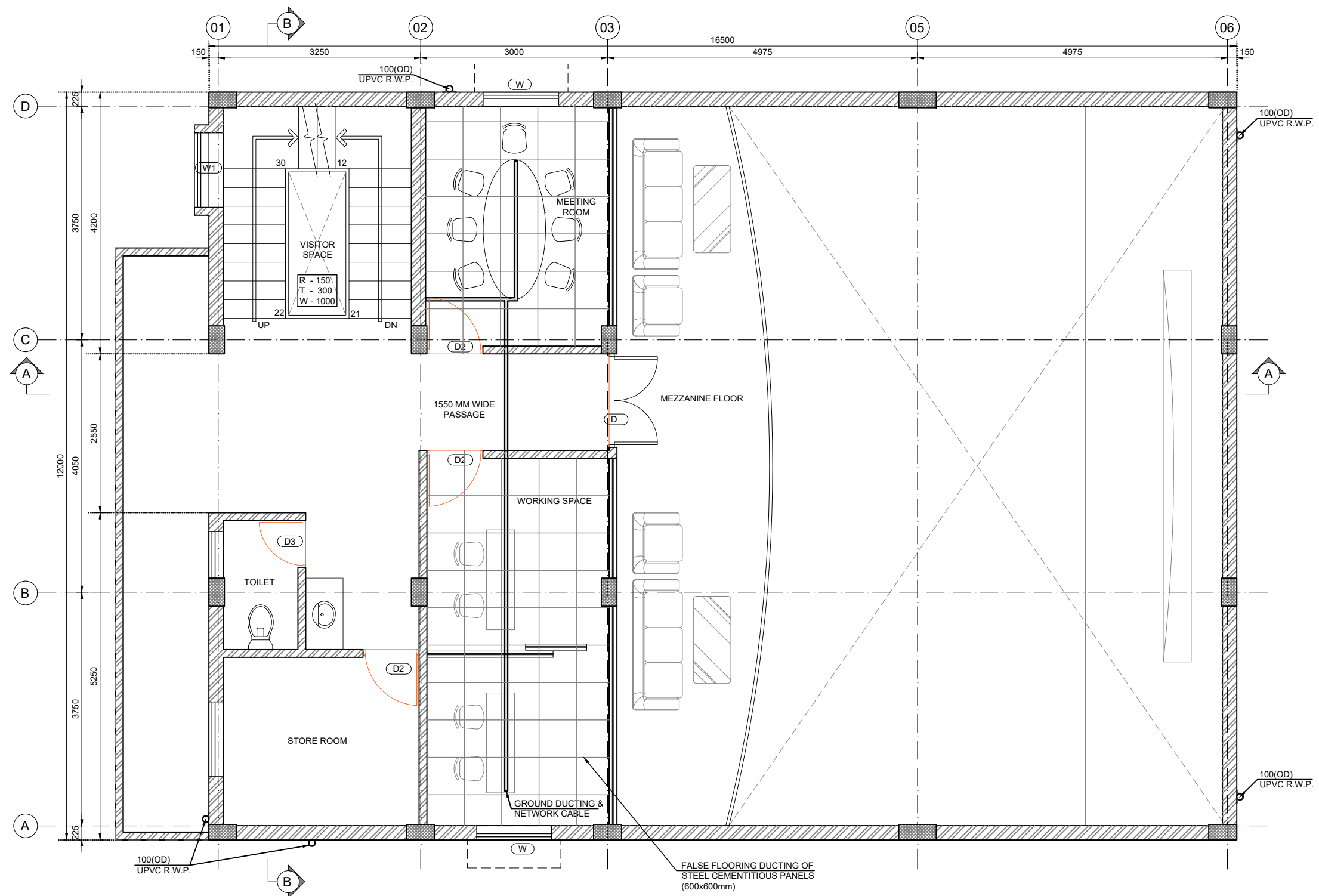


LEGEND		
SN.		DESCRIPTION
1		SWITCH BOARD
2		20W LED TUBE LIGHT FIXTURE (WALL MOUNTED)
3		6 AMP. SWITCH SOCKET WITH SWITCH BOARD
4		16 AMP. SWITCH SOCKET WITH SWITCH BOARD
5		DISTRIBUTION BOARD
6		EXHAUST FAN
7		AC
8		LOOP FOR NORMAL SUPPLY
9		MAIN SUPPLY
10		1200MM DIA CEILING FAN
11		9W LED DOWN LIGHT FIXTURE (SURFACE MOUNTED)
12		WALL FAN
13		PANEL LIGHT
14		LAN PORTS
15		UPS

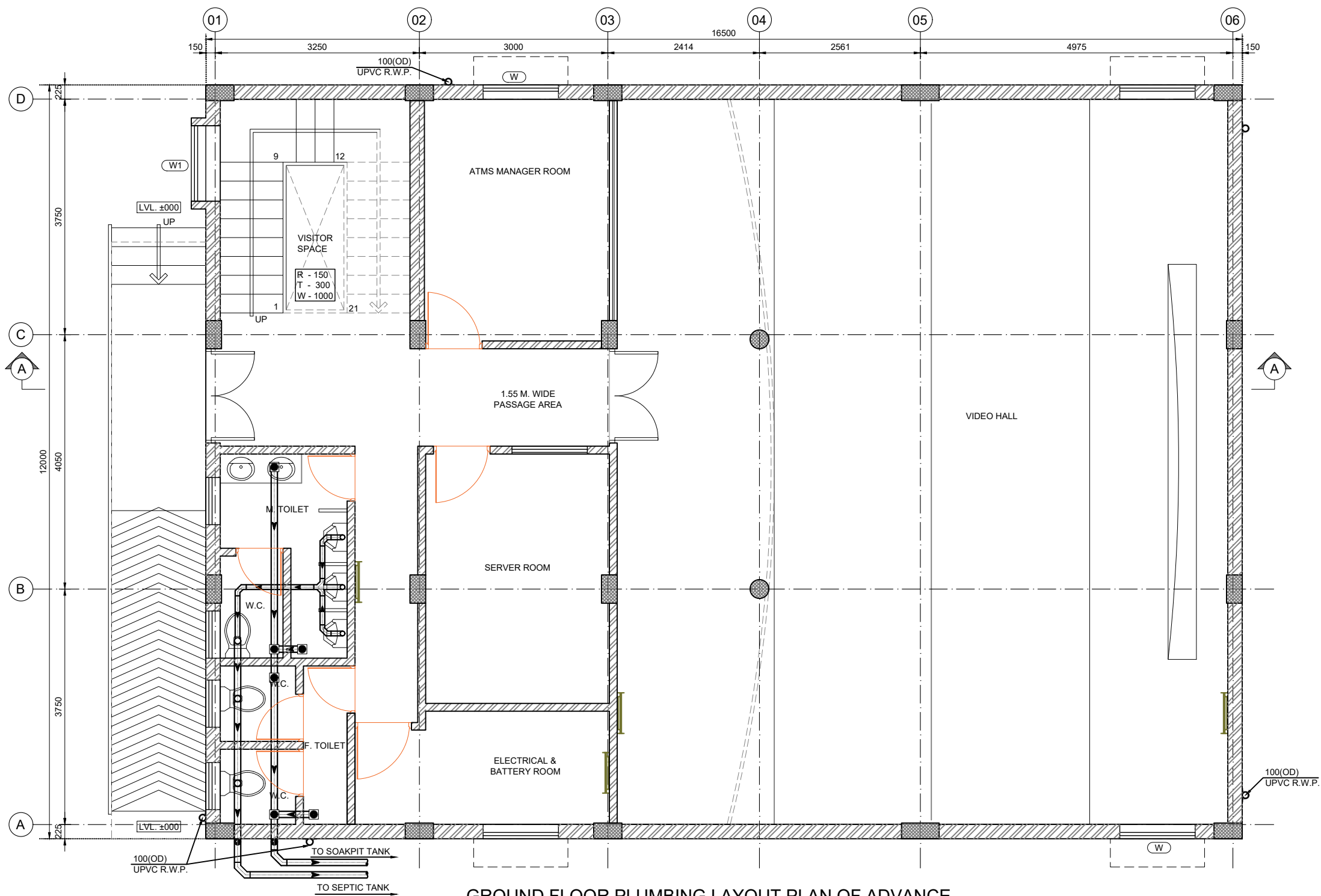


LEGEND		
SN.		DESCRIPTION
1		SWITCH BOARD
2		20W LED TUBE LIGHT FIXTURE (WALL MOUNTED)
3		6 AMP. SWITCH SOCKET WITH SWITCH BOARD
4		16 AMP. SWITCH SOCKET WITH SWITCH BOARD
5		DISTRIBUTION BOARD
6		EXHAUST FAN
7		AC
8		LOOP FOR NORMAL SUPPLY
9		MAIN SUPPLY
10		1200MM DIA CEILING FAN
11		9W LED DOWN LIGHT FIXTURE (SURFACE MOUNTED)
12		WALL FAN
13		PANEL LIGHT
14		LAN PORTS
15		UPS



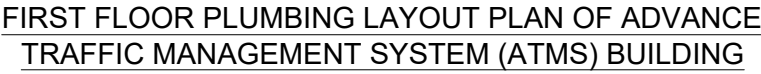


FIRST FALSE FLOORING DUCTING LAYOUT PLAN OF
ADVANCE TRAFFIC MANAGEMENT SYSTEM (ATMS) BUILDING

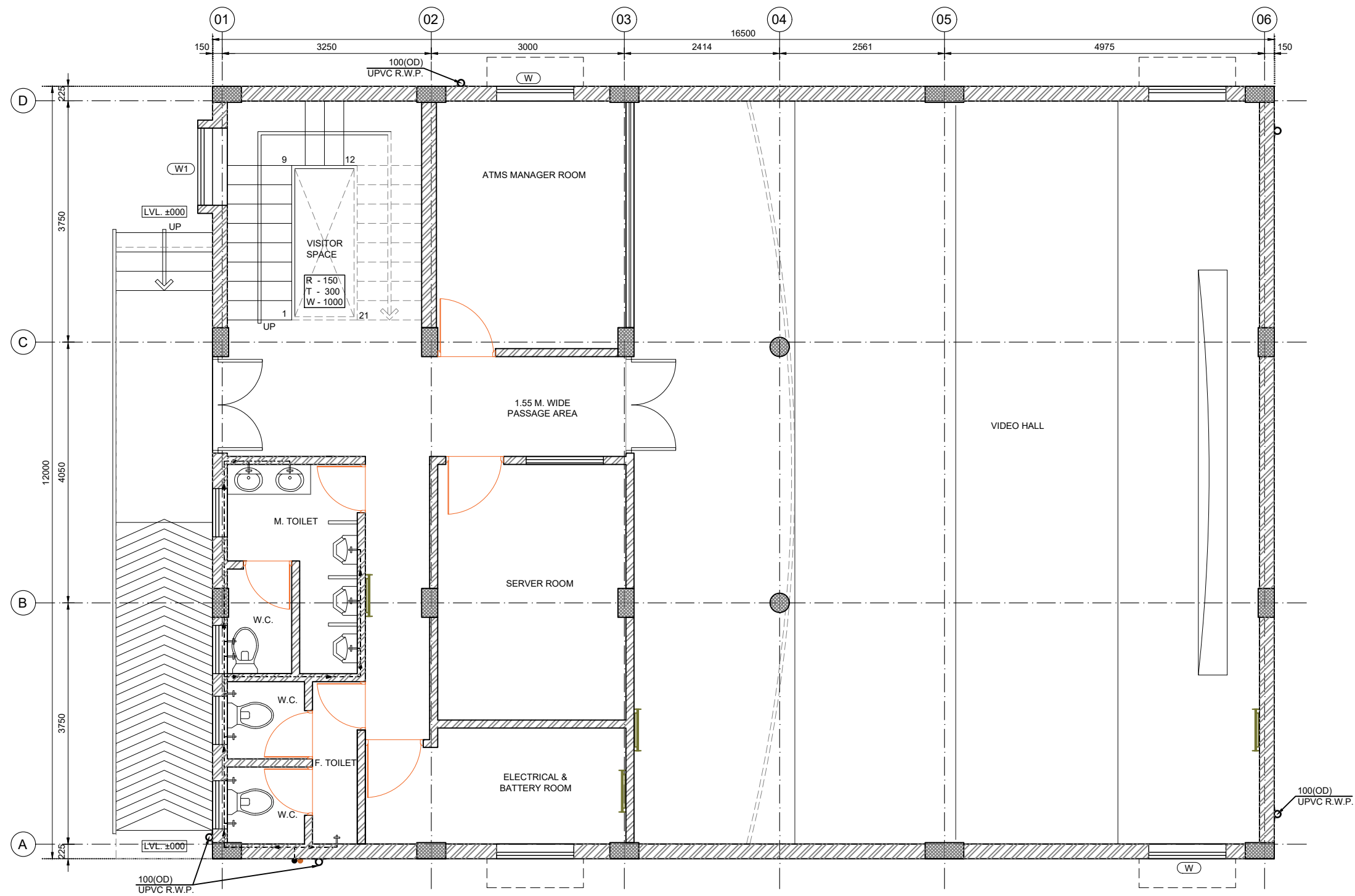


GROUND FLOOR PLUMBING LAYOUT PLAN OF ADVANCE
TRAFFIC MANAGEMENT SYSTEM (ATMS) BUILDING

LEGEND		
S.N.	PLAN	SPECIFICATION
01		BIB TAP
02		TOILET PAPER HOLDER
03		SOAP DISH
04		BOTTLE TRAP
05		FLOOR TRAP
06		TOWEL HANGER
07		WASH BASIN
08		SHOWER+MIXER
09		W.C.
10		100(OD) UPVC WASTE PIPE SLOPE 1:50
11		110(OD) UPVC SOIL PIPE SLOPE 1:50
12		75(OD) UPVC SOIL PIPE SLOPE 1:50

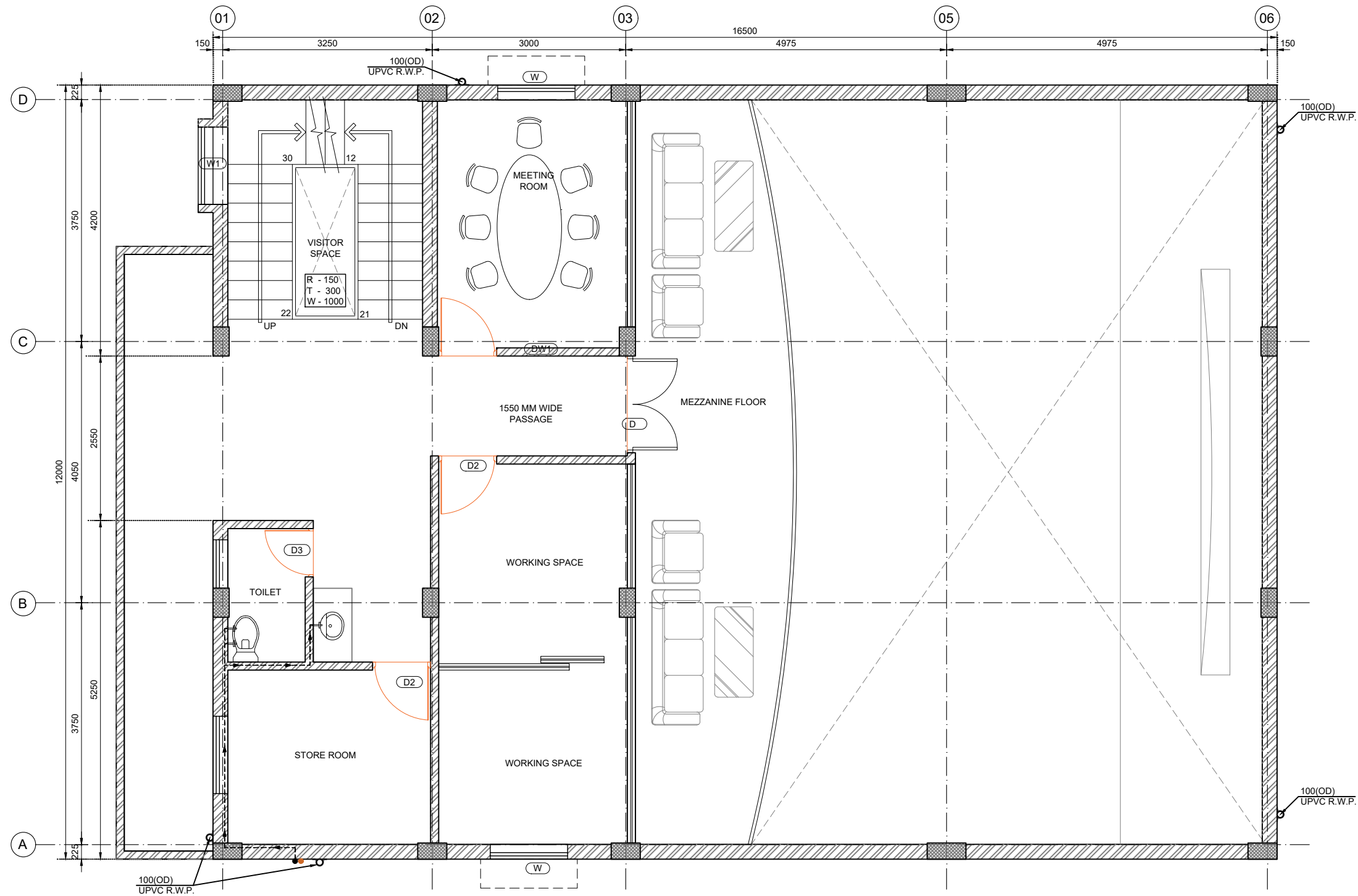


LEGEND		
S.N.	PLAN	SPECIFICATION
01		BIB TAP
02		TOILET PAPER HOLDER
03		SOAP DISH
04		BOTTLE TRAP
05		FLOOR TRAP
06		TOWEL HANGER
07		WASH BASIN
08		SHAWER+MIXER
09		W.C.
10		100(OD) UPVC WASTE PIPE SLOPE 1:50
11		110(OD) UPVC SOIL PIPE SLOPE 1:50
12		75(OD) UPVC SOIL PIPE SLOPE 1:50



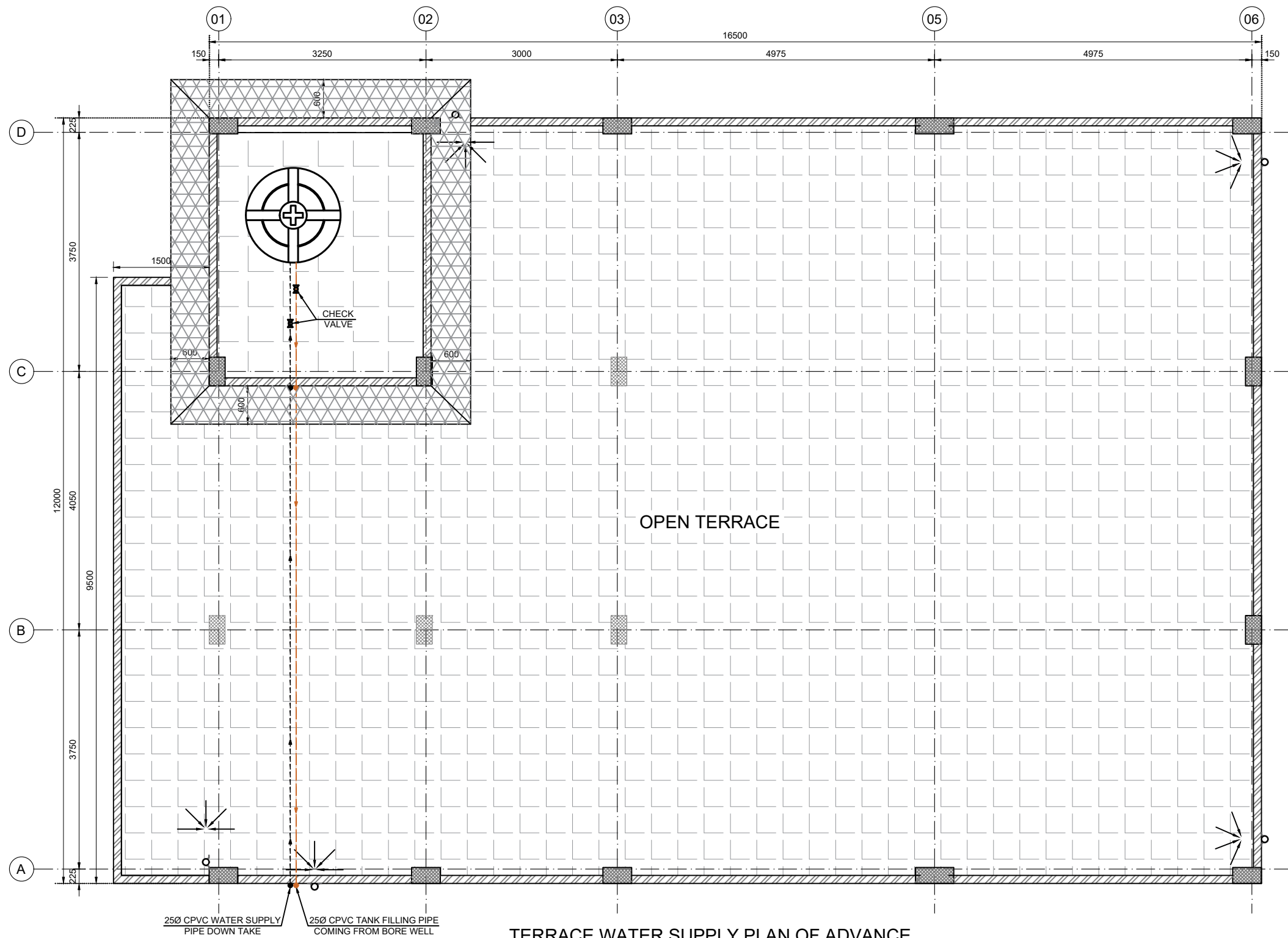
LEGEND		
S.N.	PLAN	SPECIFICATION
01		BIB TAP
02		TOILET PAPER HOLDER
03		SOAP DISH
04		BOTTLE TRAP
05		FLOOR TRAP
06		TOWEL HANGER
07		WASH BASIN
08		SHOWER+MIXER
09		W.C.
10		HOT WATER PIPE
11		COLD WATER PIPE
12		GYSER
13		250 CPVC WATER SUPPLY PIPE DOWN TAKE
14		250 CPVC TANK FILLING PIPE COMING FROM BORE WELL

**GROUND FLOOR WATER SUPPLY LAYOUT PLAN OF ADVANCE
TRAFFIC MANAGEMENT SYSTEM (ATMS) BUILDING**



**FIRST FLOOR WATER SUPPLY LAYOUT PLAN OF ADVANCE
TRAFFIC MANAGEMENT SYSTEM (ATMS) BUILDING**

LEGEND		
S.N.	PLAN	SPECIFICATION
01		BIB TAP
02		TOILET PAPER HOLDER
03		SOAP DISH
04		BOTTLE TRAP
05		FLOOR TRAP
06		TOWEL HANGER
07		WASH BASIN
08		SHOWER+MIXER
09		W.C.
10		HOT WATER PIPE
11		COLD WATER PIPE
12		GYSER
13		250 CPVC WATER SUPPLY PIPE DOWN TAKE
14		250 CPVC TANK FILLING PIPE COMING FROM BORE WELL



TERRACE WATER SUPPLY PLAN OF ADVANCE
TRAFFIC MANAGEMENT SYSTEM (ATMS) BUILDING

LEGEND		
S.N.	PLAN	SPECIFICATION
01		BIB TAP
02		TOILET PAPER HOLDER
03		SOAP DISH
04		BOTTLE TRAP
05		FLOOR TRAP
06		TOWEL HANGER
07		WASH BASIN
08		SHOWER+MIXER
09		W.C.
10		HOT WATER PIPE
11		COLD WATER PIPE
12		GYSER
13		250 CPVC WATER SUPPLY PIPE DOWN TAKE
14		250 CPVC TANK FILLING PIPE COMING FROM BORE WELL

Technical Specification for Control Room Interior and Control Desk

Sr. No. Technical Specification

1. The purpose of this document is to define the specifications of control room interior and control desk. System Integrator / Contractor to ensure that the control room interior solution provider has all these certificates / reports prior to tender RF P release date, and these certificates / test reports must be Enclosed along with the bid. These certificates a re mandatory to ensure that the solution meets the desired functionality & norms therefore, general compliance / self -compliance shall be deemed unacceptable.
2. The scope of the project includes designing; engineering, supply & installation of 24X7 mission critical Control centre interiors. Being a project of national reput e this state-of-the-art Control room interior facility & all its components like metal ceiling, acoustic flooring, metal panelling/partition, glass partitions, control desks, ceiling ligh t & luminaire's electrical etc. shall look integrated and therefore it shall be treated as a part of one single solution i.e., Control Room Interior Solution . Main bidder to submit MAF (Manufacturer's Authorization Form) from Professional Control Room Inte rior Solution provider. To ensure an integrated solution, to qualify as per the international control room design & safety norms; main bidder shall bring one single professional control room interior solution provider on board with an experience of atleast twenty Control rooms interiors along with Control desks. Corresponding purchase orders/work orders and their appreciation/completion letters to be submitted along with the technical bid.
3. The Control Room Interior Solution Provider shall have experience of supplying below products in any one year out of last seven financial years to qualify: -
- a. Minimum 100 Sq. Meter of Greenguard Gold & RoHS (from UL/Intertek) Modular rigid PVC Metal Wall Panelling/Partition system supplied with ASTM e84 (from UL/Intertek) certified tiles.
 - b. Minimum 100 Sq. Meter of Greenguard Gold & RoHS (from UL/Intertek) Modular Metal False Ceiling system supplied with ASTM e84 (from UL/Intertek) on tiles.
 - c. Minimum 100 Sq. Meter of Greenguard Gold certified Acoustic laminate/carpet flooring .
 - d. Minimum 20 Nos. of Greenguard Gold certified control desk modules along with Polyurethane Edge.
4. It is mandatory for the main bidder that the Control room interior solution provider supplies all elements & executes all the activities at site like metal ceiling, flooring, control desks, metal panelling, partitions & illumination to avoid interface & quality-related issues.
5. The project demands for a contemporary, aesthetically appealing, ergonomically designed, safe and 24X7 working facility. Conventional wooden cladding, Aluminium composite panels, Laminates, Fabric, Paint, Plaster of Paris (for Control room area) are prone to damages & ageing. These components shall not be used to ensure maintenance -free working environment. Control room interior soluti on provider to submit an undertaking on letterhead along with the technical bid.
6. The critical components of the Control room i.e., designer metal ceiling, modular metal wall panelling/partitions & acoustic flooring shall not emit formaldehydes, TVOC bey ond permissible limits i.e. 9 ig/m³, 0.22 mg/m³ respectively. This is to ensure healthier air quality for the operators. Therefore, the Control room interior shall be Greenguard Gold certified (Modular metal ceiling, acoustic false flooring & Modular metal wall panelling) from UL / Intertek. The necessary certificate / test report should be valid on bid due date and must be submitted along with the technical bid.
7. The proposed "Acoustic Modular Designer Control Room Interiors with Modular Metal Paneling and Designer Metal Ceiling" should be assessed (from an authorized practitioner of LCA) for environmental impacts associated with all the stages of a product's life for cradle to gate with end of life. Valid report/document from UL/Intertek to be submitted along with technical bid.
8. The EPD of the Acoustic Modular Designer Control Room Interiors shall be verified in accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 (from UL/Intertek) for impacts on environment by Acoustic Modular Designer Control Room Interiors with Modular Metal Panelling and Designer Metal Ceiling. The necessary certificate / test report should be valid on bid due date and must be submitted along with the technical bid.
9. The metal panelling shall be factory made removable type Modular Metal P anelling system. The front sheet shall be constructed from preformed textured hot-dip galvanized metal with a rigid polyvinyl-chloride (PVC) film on one side and a rust-resistant coating on the other side. The metal ceiling shall be factory made acoustic modular metal false ceiling of powder coated panels. The flooring top surface shall be acoustic laminate flooring. The acoustic laminate shall be made up of twin -layer linoleum built up from 2mm Laminate. The metal panelling, metal ceili ng and acoustic flooring shall be Greenguard gold certified from UL/Intertek. The necessary certificate / test report should be valid on bid due date and must be submitted along with the technical bid.
10. Tiles Perforation – To achieve acoustics without det eriorating the aesthetical appeal of the control room it is necessary that the wall panelling shall have micro -perforations (less than 1.8mm diameter each) all over the surface with a density of 5000 holes per square feet. Audit certified design feature (from Intertek/ UL) on modular wall panelling tile having clean perforations and providing smooth finish on front fascia of tiles. The tile shall have 5000 holes per square feet on front side of the tile. Valid certificate/report shall be valid on bid due da te and shall be Enclosed along with the technical bid.
11. The modular metal wall partition/partition shall meet the fire resistance rating criteria of 60 minutes with respect to Thermal Insulation (I), Integrity (E), and Stability (R) in accordance with BS 476 Part 20 & 22. The fire resistance test must be conducted by UL/Intertek/ an authorized Fire Research Laboratory under the Government of India. Valid test reports/certifications to be submitted along with the technical bid.

12. The modular glass partition shall be Greenguard Gold certified from Intertek/ UL. It shall consist of 12mm toughened glass integrated into a modular metal panelling/partition system at the top and bottom.
13. Seismic safety of user & Control room equipment i s a prime concern area. The metal panelling & metal ceiling shall sustain the seismic vibrations as per design spectrum IS 1893 for zone 4 or better vibrations. The test shall be carried out by authorized government agency. Test Report to be Enclosed along with the technical bid.
14. It is well known that metal is resistant to fire as compared to wood & fabric. However, from fire and safety point of view, to ensure that the used material is not subjected to any kind of surface treatment which provokes fire.The proposed metal
15. The modular metal panelling shall comply to the lead -free directive to ensure restriction of hazardous substances so that the final product does not contaminate the environment. The final product i.e., modular metal panelling and metal ceiling does not contain hazardous substances and we give a healthy life to our coming generations it is necessary that the modular metal panelling and metal ceiling system shall be RoHS certified (from UL / Intertek). Val id certificate/test report to be submitted along with the technical bid.
16. The wall partition shall be robust & strong enough to sustain the routine loads/minor impacts of typical Control room environment. The wall partition/partition structure shall have UL audit certified feature of Load bearing capacity of 300 Kgs to hold any display unit on clamp having minimum length of 750mm. Valid UL audit certificate to be submitted along with the technical bid.
17. As control room is a mission critical area and in an unlikely case of damage to the existing wall panelling tiles of minimum size 2100X310mm, the same shall be replaceable within 120 seconds and thereby preventing loss of time of operators and ongoing operations. UL audit certified feature of modular wall p anelling tile having secure locking arrangement for equidistant mounting. Locking arrangement enables easy replacement using required tool within 120 seconds. The feature shall provide flexibility of locking all tiles in one column through screwing. Valid UL audit certificate to be submitted along with the technical bid.
18. To avoid dark spots/areas in the control room it is necessary that continuous linear lights are used across the width/length of the control room. UL audit certified design feature of integrated channel in ceiling for quick installation & replaceability of continuous linear light. The ceiling system having integrated inbuilt channel for installation of cove lights and shall permit quick and easy replacem ent of cove light without using any tools. Replacement to be carried out within 120 seconds per meter. Valid UL audit certificate/report shall be valid on bid due date and shall be enclosed along with the technical bid.
- 19 Technical Specifications of Control Desk :-
The Control Desk shall conform to high standard of engineering as mentioned in the document; meeting the specified codes, standards and designs. It shall be capable of performing 24X7 operations under the specified environmental condition in compliance to control room ergonomic norms i.e. ISO 11064. All the certificates and reports mentioned below and in BOQ shall be submitted along with the technical bid.
- 19.1 Structure:
Made of heavy -duty extruded vertical and horizontal aluminium profiles. The extrusions shall be duly powder coated with 40+ microns over all surfaces. All sheet metal parts shall be finished with a durable, black, electrostatic powder coating. OEM shall have a valid trademark registration certificate issued by the Go vernment of India for the Control Desk proposed in this tender. Valid Trademark registration certificate to be submitted along with the technical bid.
To allow future extension and expansion, a weld -free system shall be proposed. Interconnecting joints sha ll not be visible. The structure shall allow easy assembly of hinged shutters, slat wall, gland plate, and monitor arms in extremely rigid manner.
- 19.2 The EPD (Environmental product declaration) of Control Desk shall be verified in accordance with ISO 14025 (from UL/Intertek) for Impacts on Environment by Control Desk. Valid report/document from UL/Intertek to be submitted along with the technical bid.
- 19.3 Table top: The material of the working surface shall be minimum 25 mm thick MDF with High-Pressure laminate. The proposed Control Desk's life cycle should be assessed (from approved LCA consultant) for environmental impacts associated with all the stages of a product's life for cradle to grave analysis. Valid report/document from UL/Intertek to be submitted along with the technical bid.
- 19.4 Slat Wall : Slat wall shall be made of approximately 2mm thick extruded aluminium (aluminium alloy). The proposed Control Desk shall be UL Listed and valid certificate to be submitted along with the technical bid
- 19.5 The proposed control desk shall be ANSI/BIFMA e3 -2019 certified/tested at least for level 3 from UL/Intertek as per Furniture Sustainability Standard to identify the sustainability level of the furniture with respect to the environmental, health & wellness, and social impacts applicable to product(s). Valid certificate to be submitted along with the technical bid.
- 19.6 Modular removable PU nosing: The front edge of consoles is the component which comes in frequent contact of the operator. The soft polyurethane edge is meant to prevent injury (accidental impact) to operator during emergency and it also reduces the contact stress . In case of damage to this edge the desk design shall permit quick & easy replacement within half an hour without taking any shutdowns or removal of the tabletops. Audit certified design feature of modular PU Edge: High -density poly -urethane moulded on in dustrial grade aluminium core to form 50mm deep tapered edge to be installed on worktop. In case of damage or wear, the edge shall be mechanically replaceable within 30 minutes without opening or removing the worktop. Valid UL audit certificate to be submi tted along with the technical bid. Extruded PU edging/PVC T -beading shall be deemed unacceptable.
- 19.7 Monitor Arm: Aluminium die -casted Articulating Monitor arm shall be able to mount monitors complying VESA standards 75 x 75, 100 x 100 mm.
- 19.8 Shu tters & Side Legs: Front, and back shutters shall be of 18 mm Laminated MDF Board with premium finish. Side leg shall be of 25mm of the same finish. To ensure healthier air quality for the operators. The proposed console shall be Greenguard Gold certified (from UL/Intertek). Valid certificate to be submitted along with the technical bid.