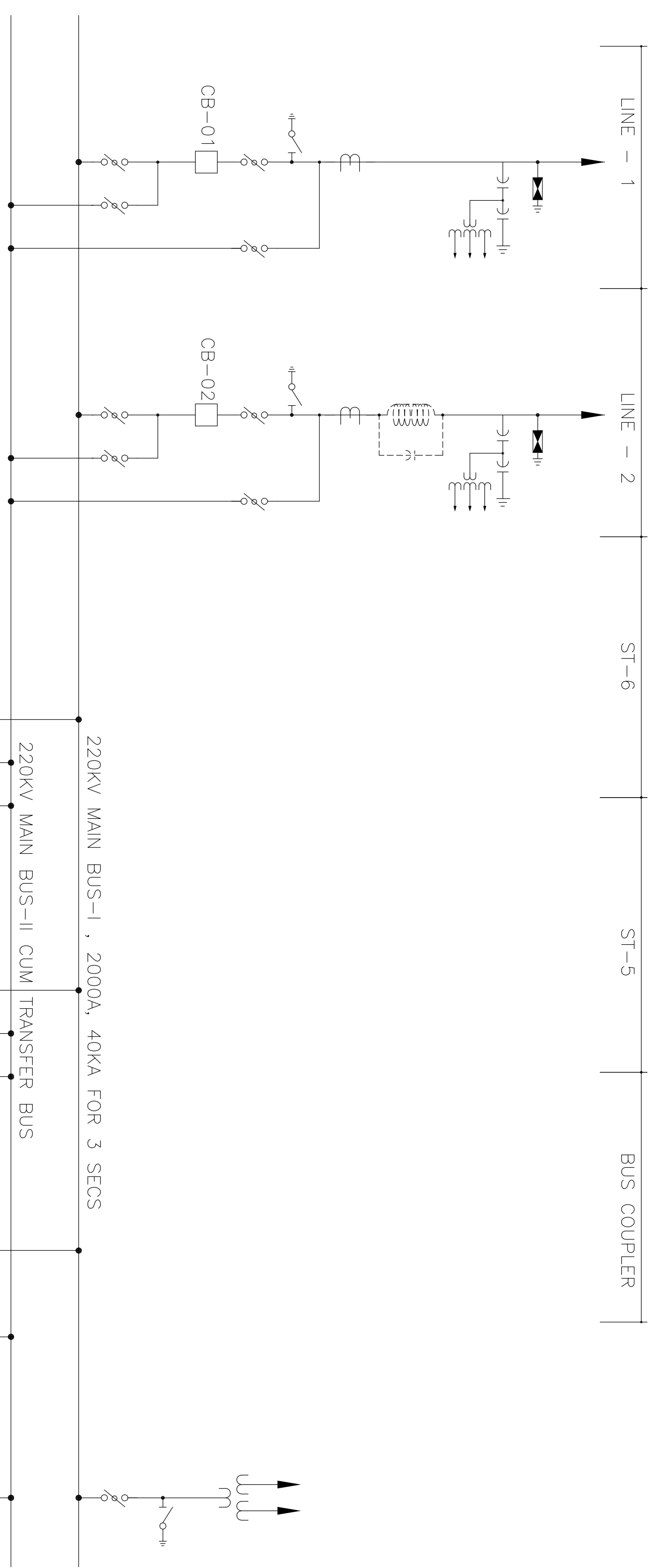
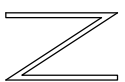




LEGENDS	DESCRIPTION	QTY (Nos.) 220KV
	CURRENT TRANSFORMER	15
	LIGHTNING/SURGE ARRESTOR	12
	CAPACITIVE VOLTAGE TRANSFORMER	06
	WAVE TRAP	-
	DOUBLE BREAK ISOLATOR WITH ONE ES	06
	DOUBLE BREAK ISOLATOR WITHOUT ES	14
	CIRCUIT BREAKER	05
	EMVT	06

SINGLE LINE DIAGRAM (SLD) OF 220KV SYSTEM

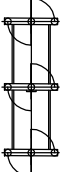
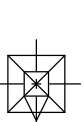


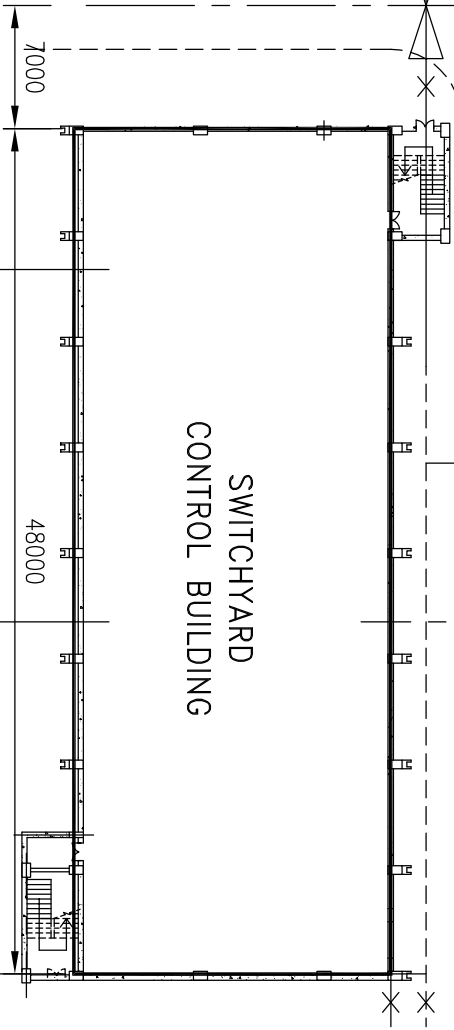
ELECTRICAL LAYOUT : PLAN

S.NO.	DESCRIPTION	VOLTAGE (KV)	QTY.
21	220 KV, 2000 A SF6 CIRCUIT BREAKER	220	5
22	220 KV, 1600 A, DOUBLE BREAK ISOLATOR WITH ONE EARTH SWITCH	220	6
23	220 KV, 1600 A, DOUBLE BREAK ISOLATOR WITHOUT EARTH SWITCH	220	10
24	220 KV, 1600 A, DOUBLE BREAK TANDEM ISOLATOR WITHOUT EARTH SWITCH	220	4
25	220 KV, 4400 PF CAPACITIVE VOLTAGE TRANSFORMER	220	6
26	216 KV GAPLESS LIGHTNING ARRESTER	220	12
27	SOLID CORE BUS POST INSULATOR (8 KN)	220	49
28	220 KV CURRENT TRANSFORMER FOR SUT	220	6
29	220 KV CURRENT TRANSFORMER FOR LINE	220	6
30	220 KV CURRENT TRANSFORMER FOR BUS COUPLER	220	3
31	220 KV WAVE TRAP (NPCL SCOPE OF SUPPLY)	220	-
32	220 KV EMT	220	6
33	SINGLE TENSION INSULATOR WITH H/W FOR TRIPLE MOOSE WITH TURNBUCKLE (WITHIN SWITCHYARD)	220	15
34	SINGLE TENSION INS. WITH H/W FOR TRIPLE MOOSE WITHOUT TURNBUCKLE (WITHIN SWITCHYARD)	220	15
35	SINGLE SUSPENSION INSULATOR WITH H/W FOR TRIPLE MOOSE (WITHIN SWITCHYARD)	220	9
36	SINGLE TENSION INSULATOR WITH H/W FOR TWIN MOOSE WITH TURNBUCKLE (WITHIN SWITCHYARD)	220	12
37	SINGLE TENSION INS. WITH H/W FOR TWIN MOOSE WITHOUT TURNBUCKLE (WITHIN SWITCHYARD)	220	12
38	SINGLE SUSPENSION INSULATOR WITH H/W FOR TWIN MOOSE (WITHIN SWITCHYARD)	220	24

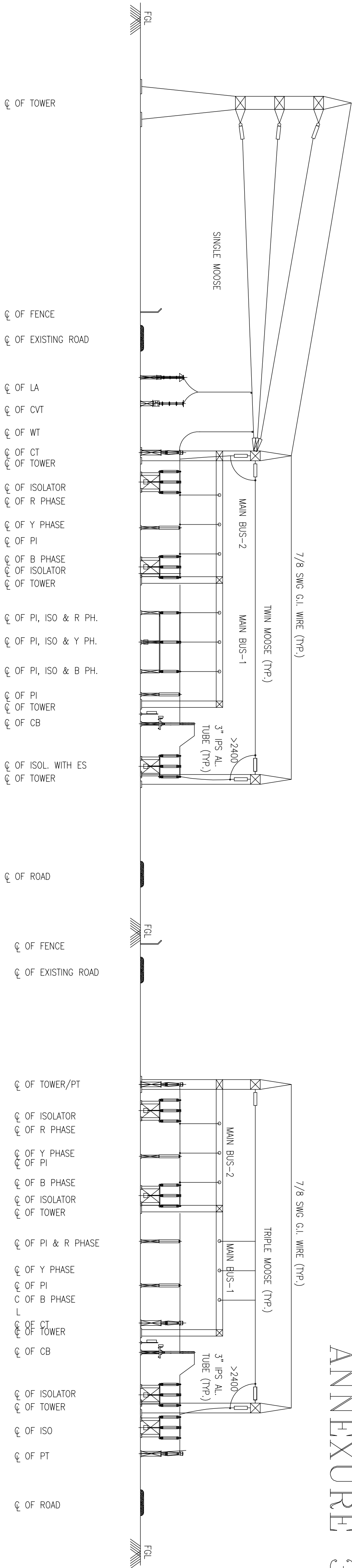
DESCRIPTION	220 KV
PHASE TO EARTH	2400 mm
PHASE TO PHASE	2700 mm
SECTION CLEARANCE	4300 mm
GROUND CLEARANCE	5500 mm
HEIGHT OF LOWEST POINT ON THE INSULATOR FROM THE GROUND LEVEL	2500 mm
MIN CREEPAGE DISTANCE	6125 mm

LEGENDS :—

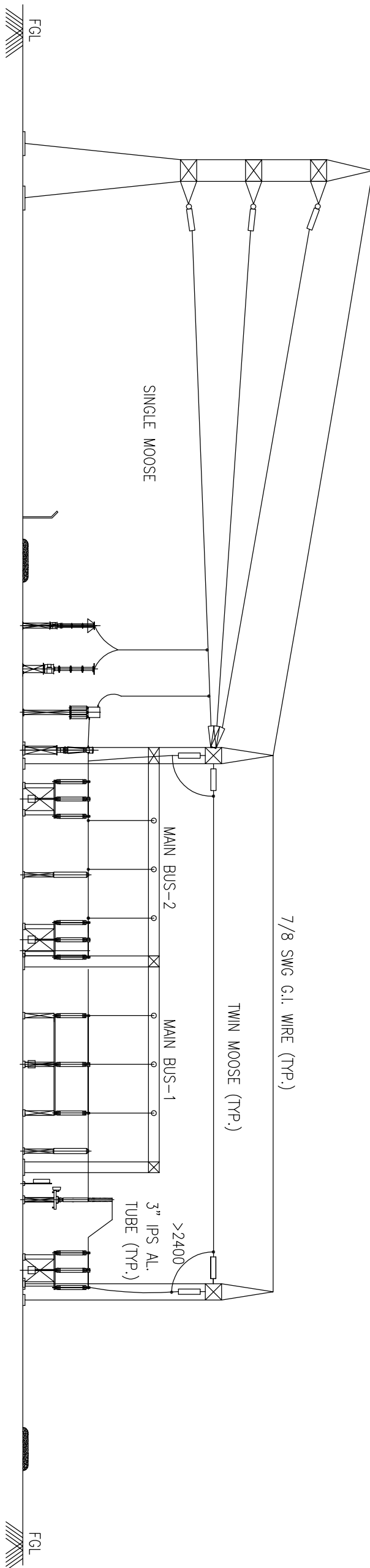
	INDICATES 7/8 SWG GI SHIELD WIRE.
	INDICATES MOOSE CONDUCTOR
	INDICATES ALUMINIUM TUBE.
	INDICATES NOT IN SCOPE OF BHEL.
	DOUBLE BREAK ISOLATOR
	CIRCUIT BREAKER
	CURRENT TRANSFORMER
	CAPACITIVE VOLTAGE TRANSFORMER
	WAVE TRAP
	LIGHTNING ARRESTOR
	POST INSULATOR
	SUSPENSION INSULATOR
	220 KV SINGLE TENSION INSULATOR
	SHIELD WIRE
	TRANSMISSION LINE TOWER
	TOWER WITH PEAK
	TOWER WITHOUT PEAK



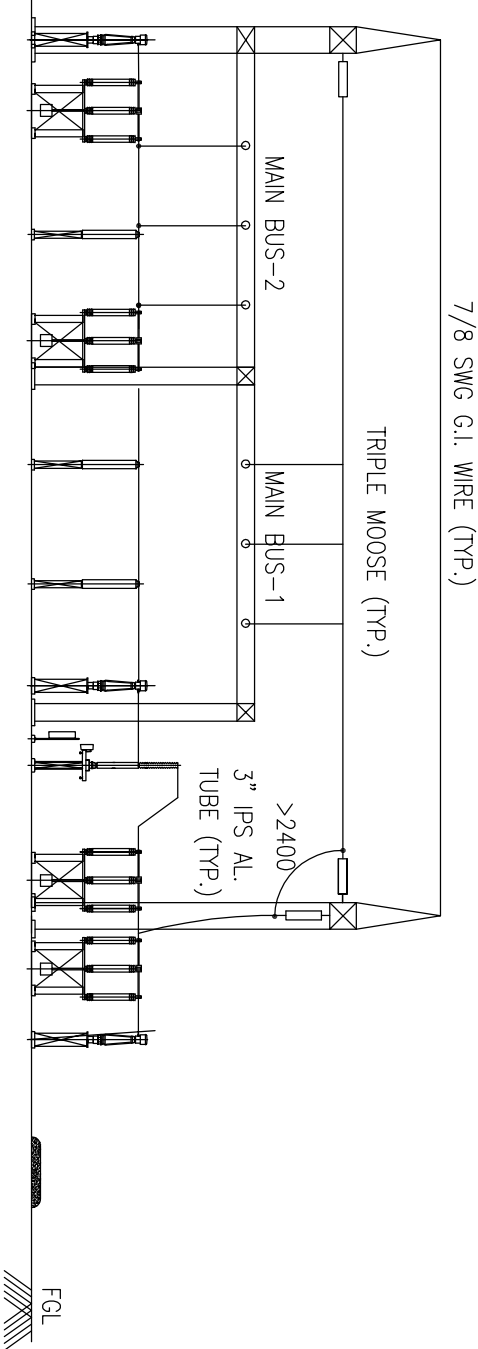
1. FOLLOWING CONDUCTORS SHALL BE USED :-
 - a. 220 KV MAIN BUS : TRIPLE ACSR MOOSE (300 mm SPACING)
 - b. 220 KV JACK BUS : TRIPLE ACSR MOOSE (FOR B/C) / TWIN ACSR MOOSE (FOR SUT,LINES)
 - c. 220 KV EQUIPMENT INTERCONNECTION : 3" IPS ALUMINIUM TUBE (HEAVY DUTY) / TRIPLE MOOSE (FOR B/C) / TWIN ACSR MOOSE (FOR SUT,LINES)
 - d. SHIELD WIRE - 7/8 SWG GI WIRE



SECTION A-A
TIE LINE BAY



SECTION B-B
BUS COUPLER BAY



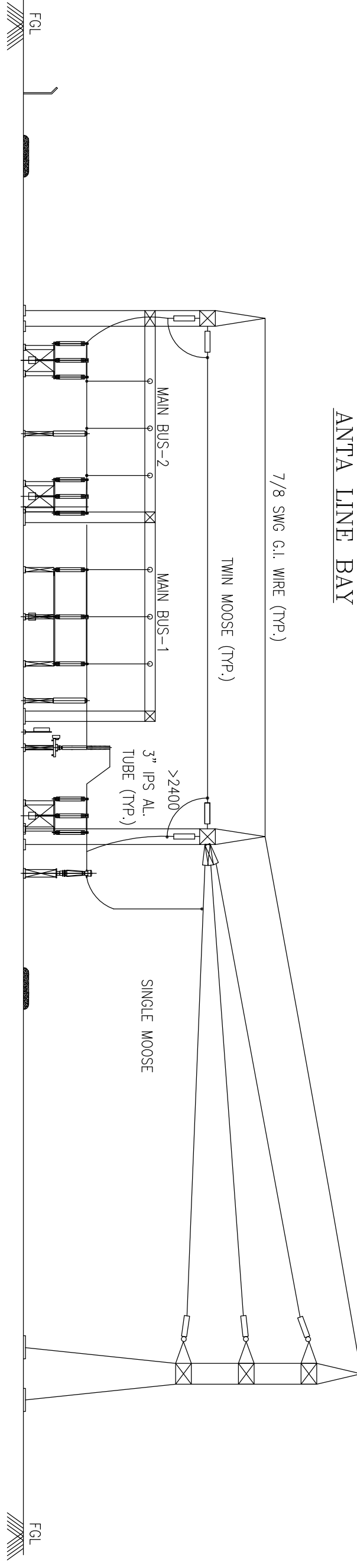
NOTES :-

1. ALL DIMENSIONS ARE IN MM & ELEVATION/REDUCED LEVELS ARE IN M.
2. EQUIPMENTS SHOWN IN DOTTED LINES ARE NOT IN SCOPE OF BHEL SUPPLIES.
3. FGL DENOTES FINISHED GROUND LEVEL WHICH IS AT EL

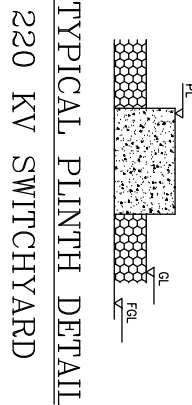
LEGENDS :-

- INDICATES SHIELD WIRE
- INDICATES MOOSE CONDUCTOR SINGLE/TWIN/TRIPLE OR AL. TUBE
- - - - - INDICATES NOT IN BHEL SCOPE

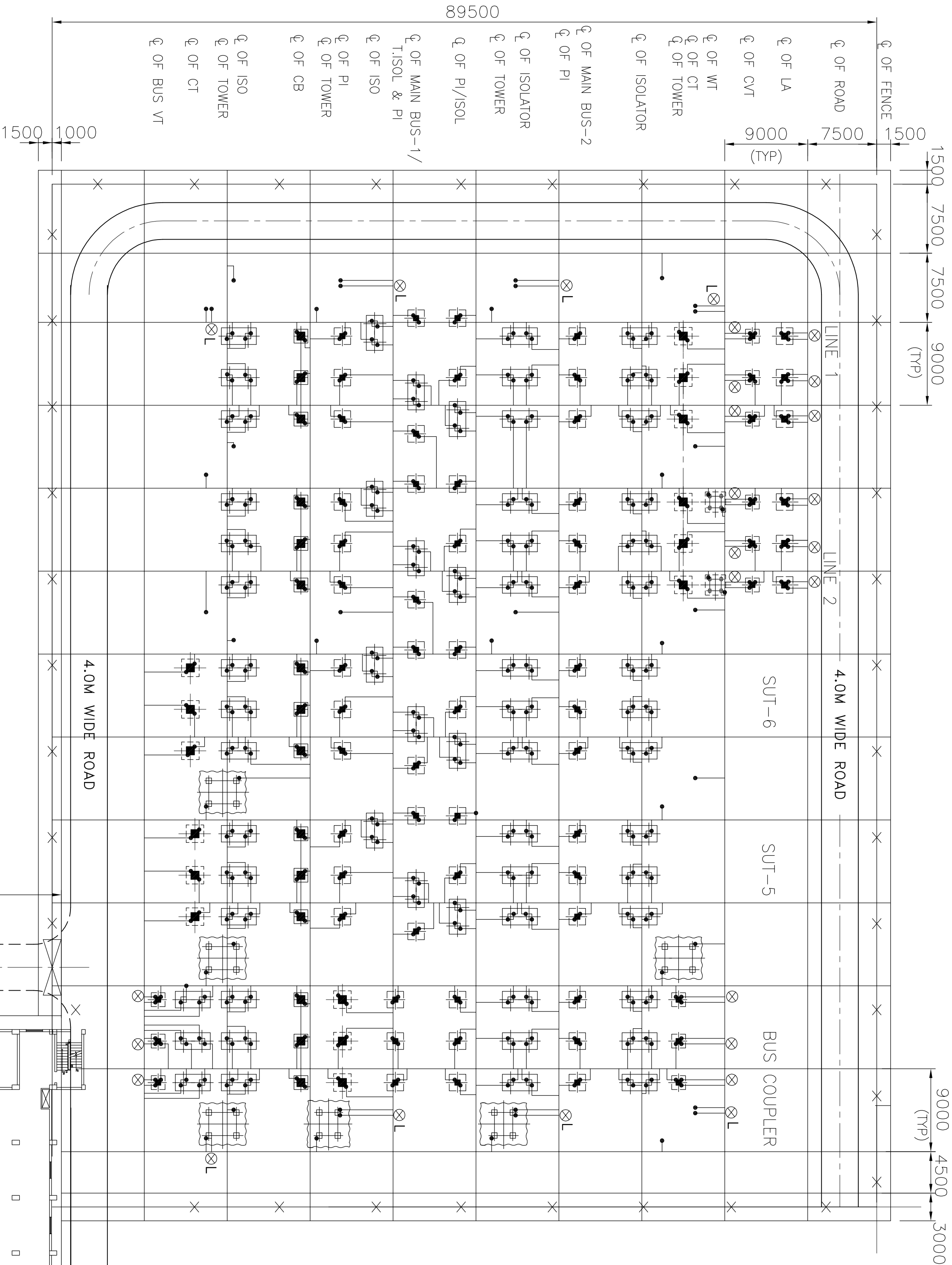
SECTION E-E
ANTA LINE BAY



SECTION C-C
SUT BAY



TYPICAL PLINTH DETAIL
220 KV SWITCHYARD



LEGEND :-

INDICATES BELOW GROUND EARTHMAT (40MM DIA MS ROD)

INDICATES RISER (40MM DIA MS ROD) FROM BELOW GROUND MAT

ROD ELECTRODE (40MM DIA MS ROD 3000MM LONG)

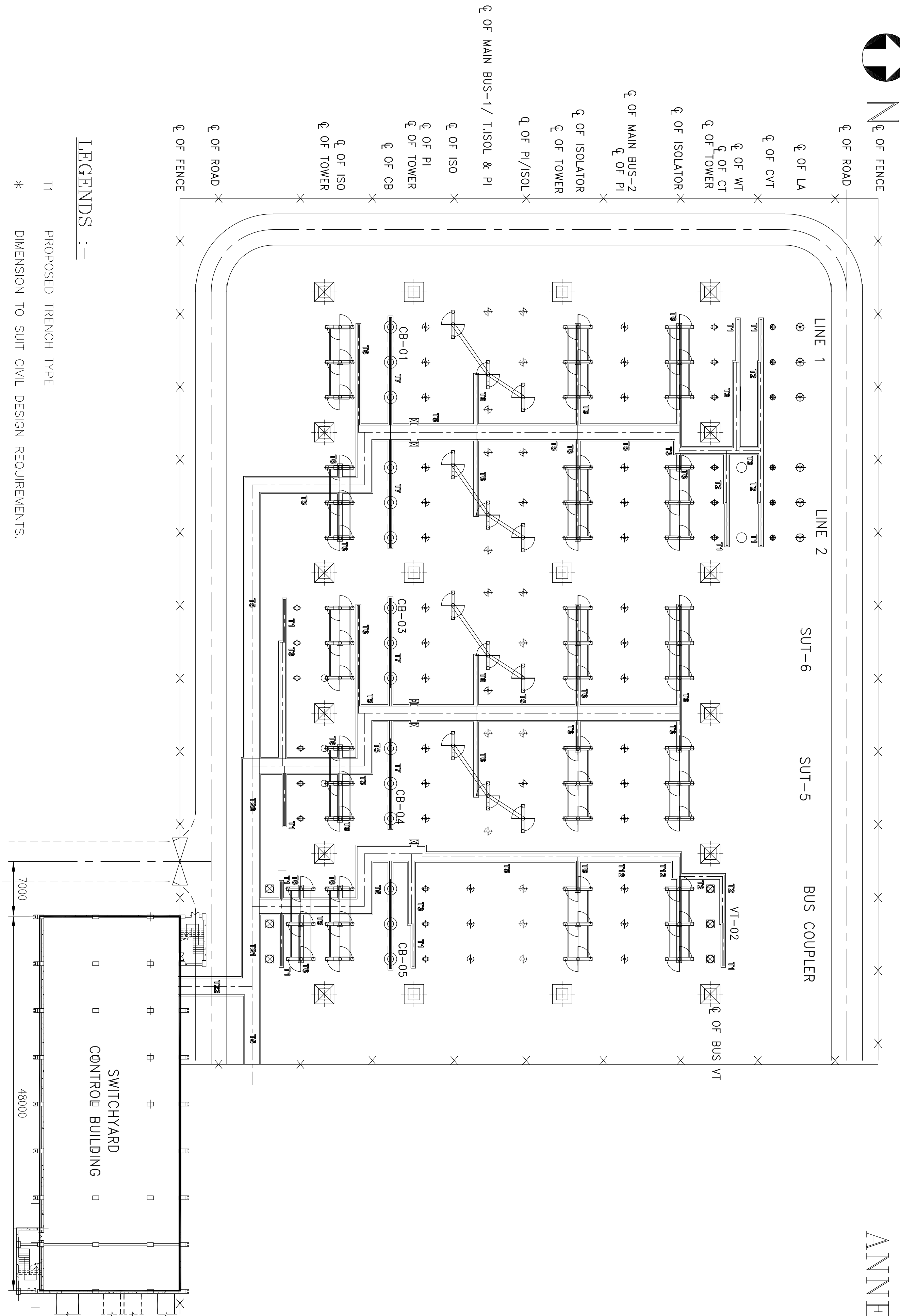
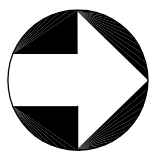
AUX. EARTHMAT FOR OPERATING BOXES OF ISOLATOR/EARTH SWITCH.
(600 MM BELOW GROUND LEVEL)

ROD ELECTRODE FOR LIGHTNING PROTECTION.

NOTES :-

- EARTHMAT SHALL BE LAID 1000mm BELOW FGL.
- ROD ELECTRODES ARE MADE OF 3000 mm LONG, 40 mm DIA MS ROD & BURIED BELOW GROUND LEVEL.

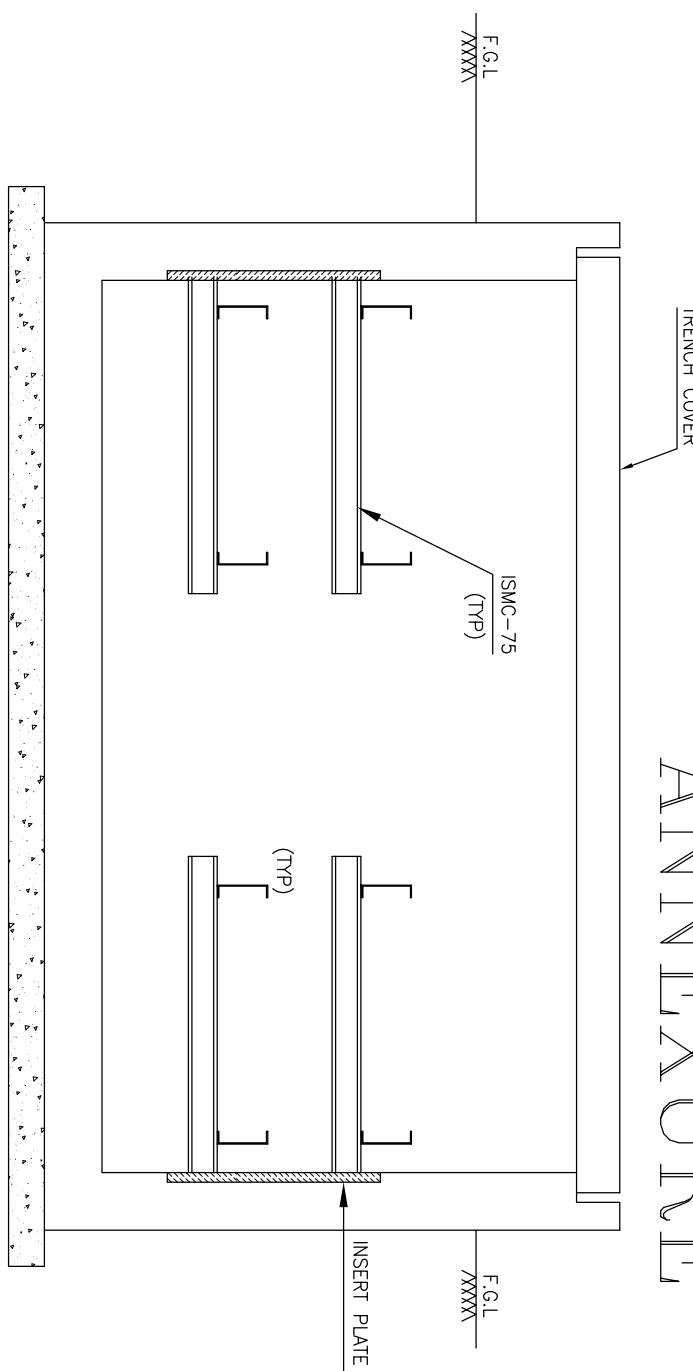
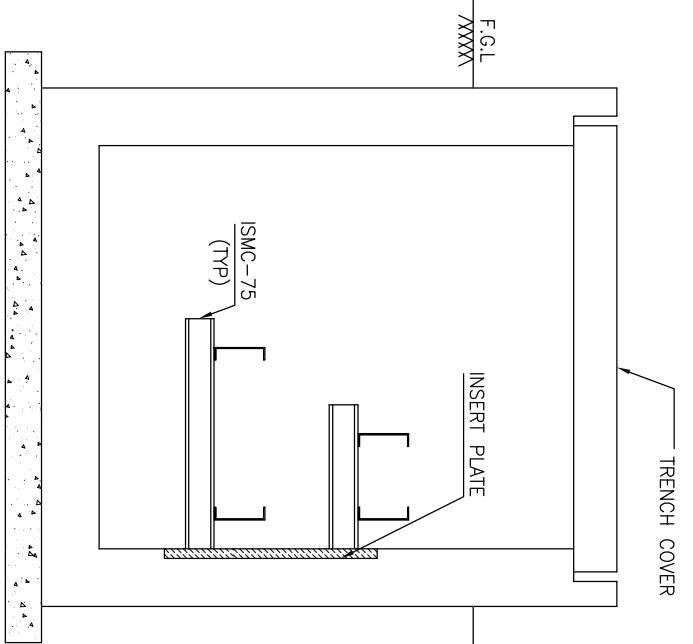
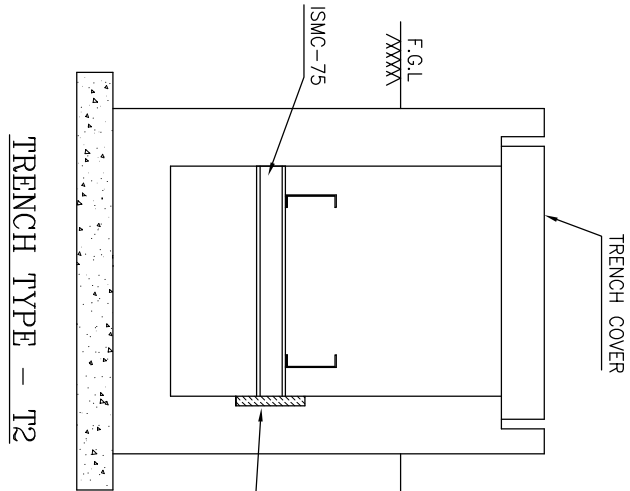
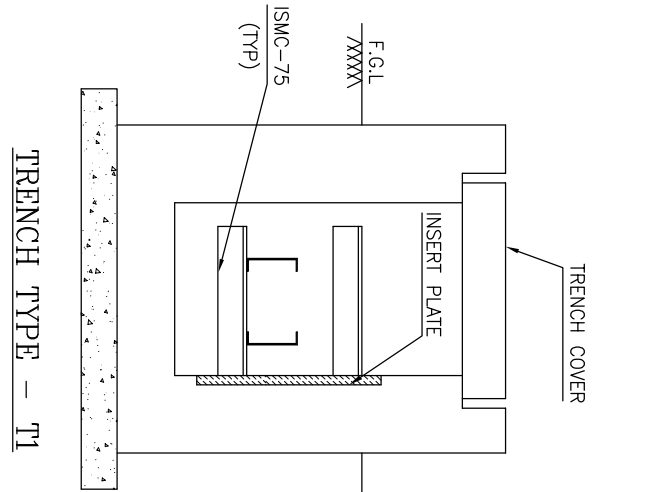
EARTHING LAYOUT PLAN



LEGENDS :-

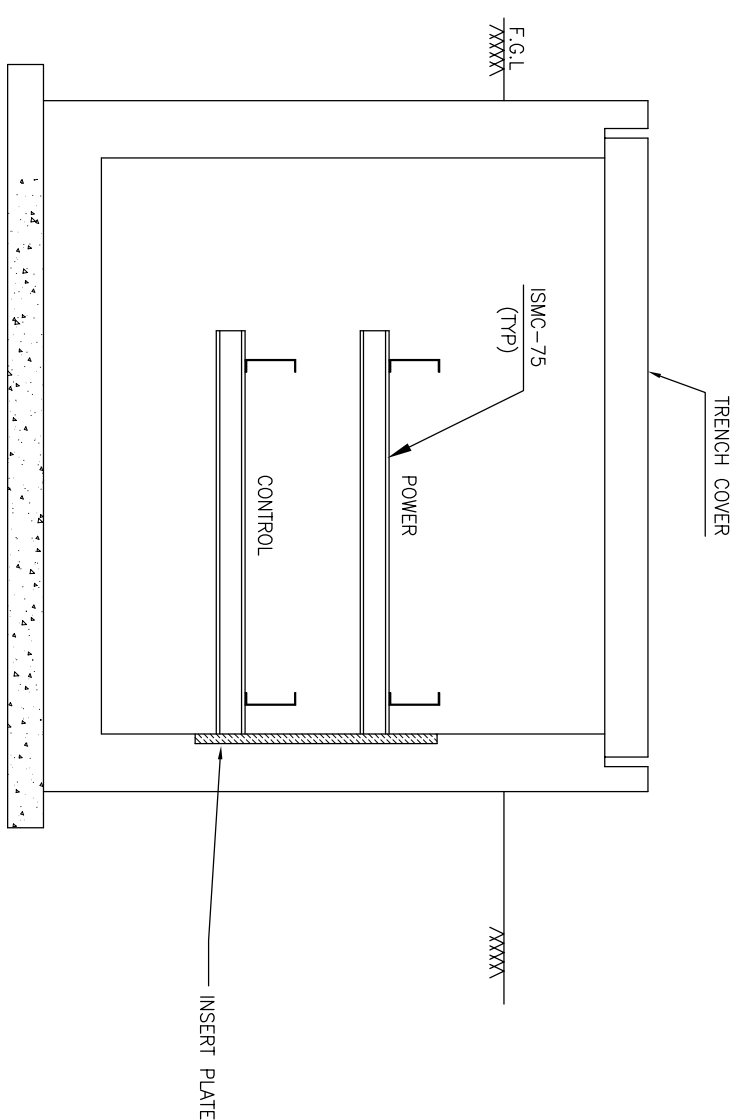
- T1 PROPOSED TRENCH TYPE
- * DIMIGN TO SUIT CIVIL DESIGN REQUIREMENTS.

TRENCH LAYOUT PLAN

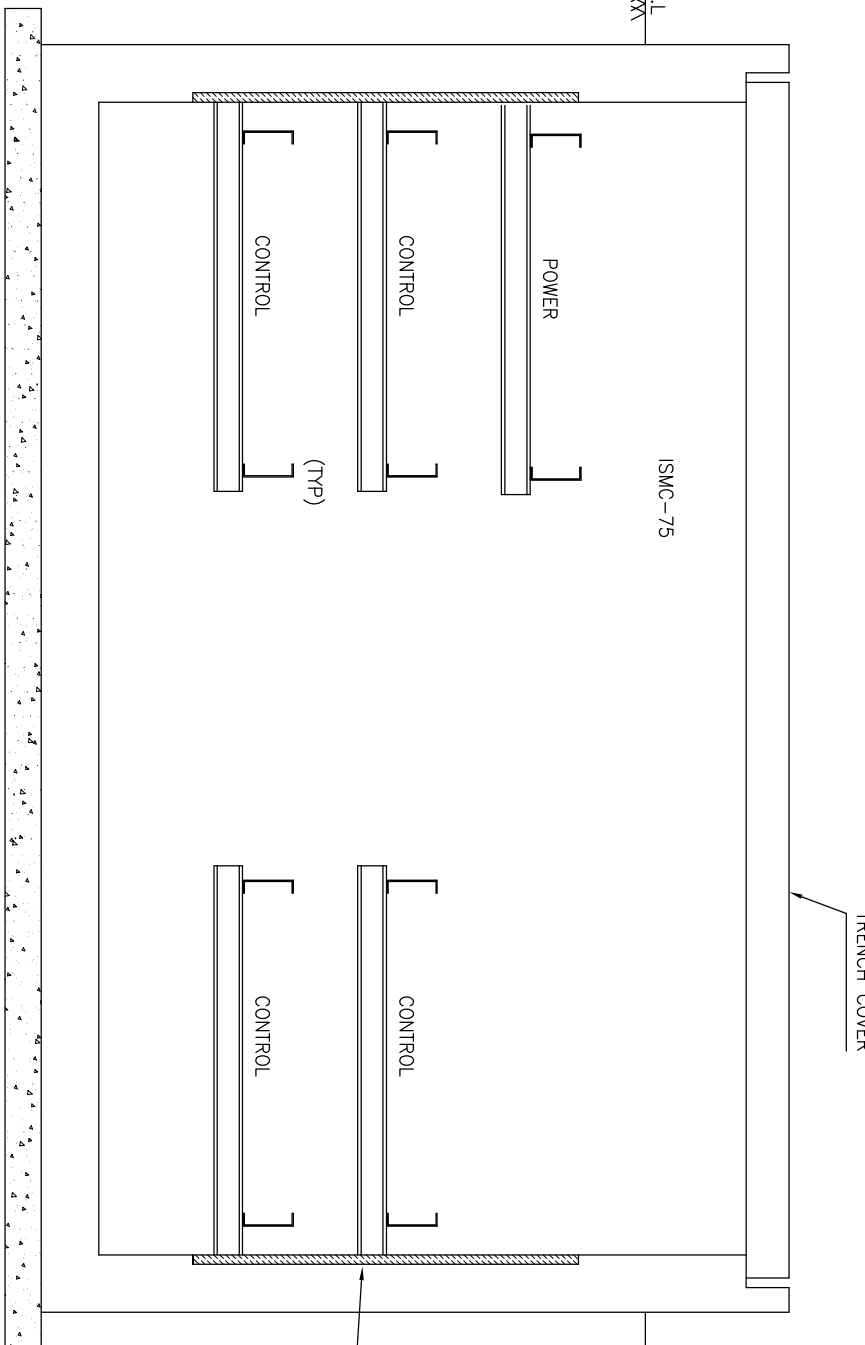


TRENCH TYPE - T3

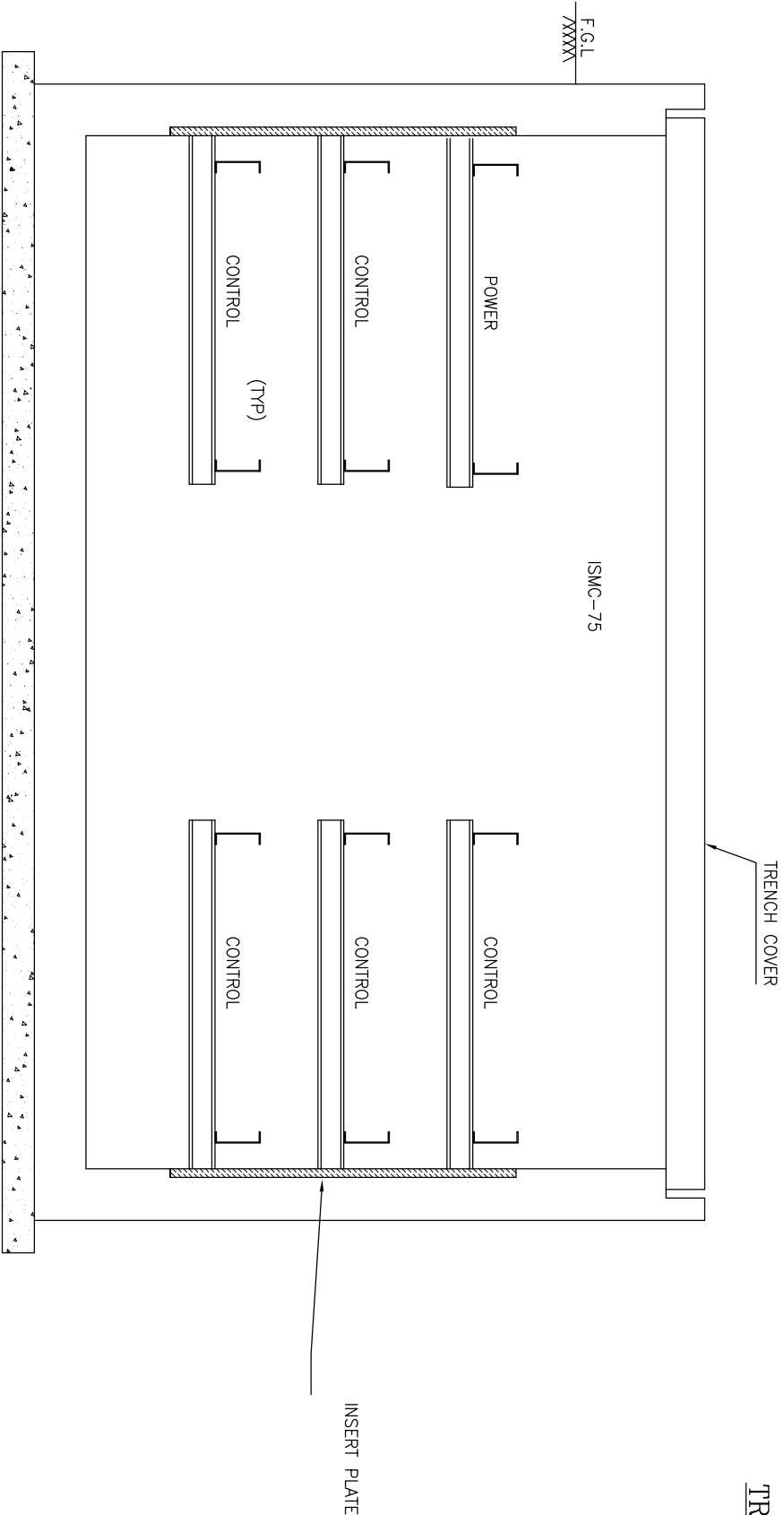
TRENCH TYPE - T5



TRENCH TYPE - T12

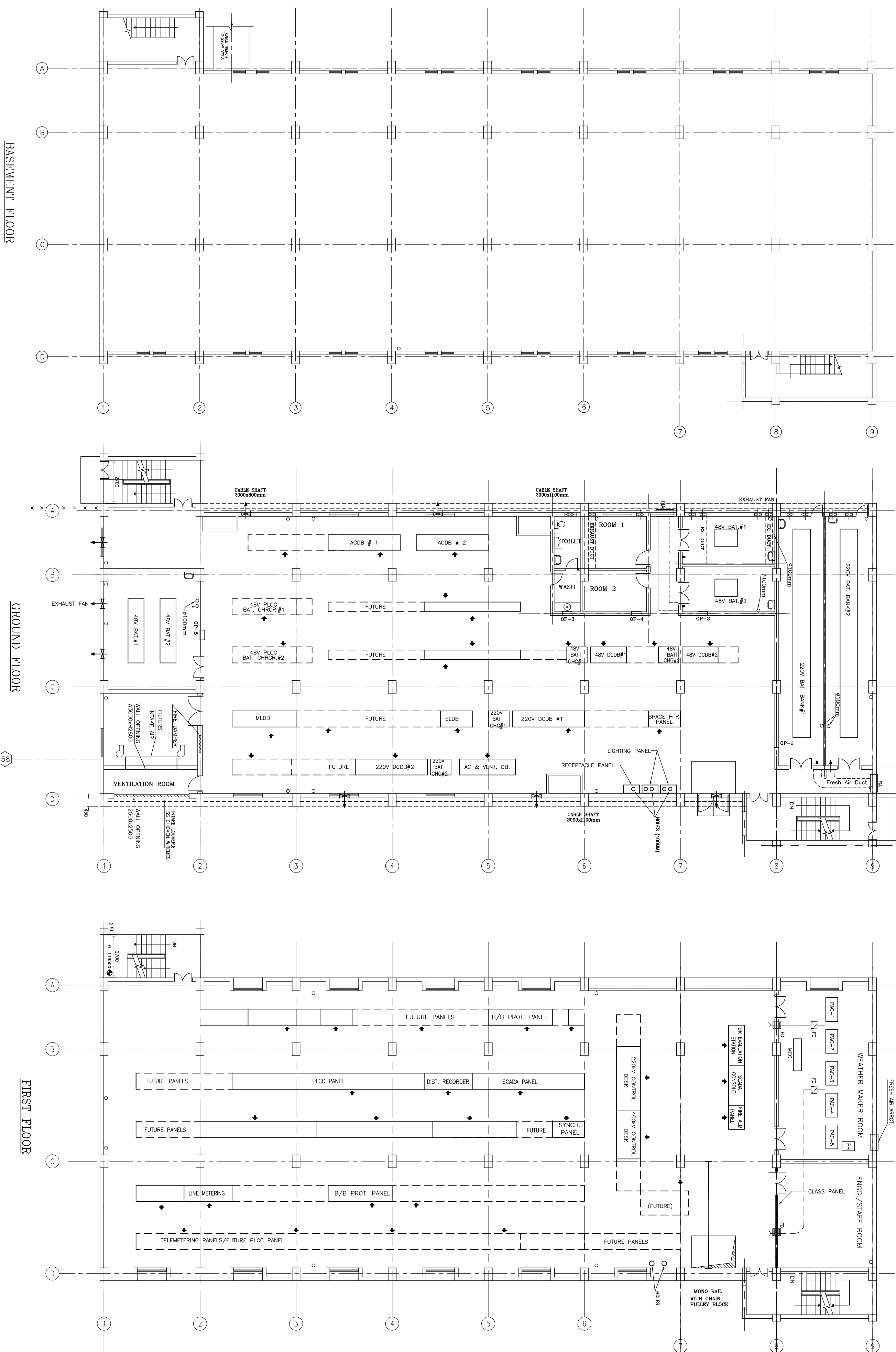


TRENCH TYPE - T20

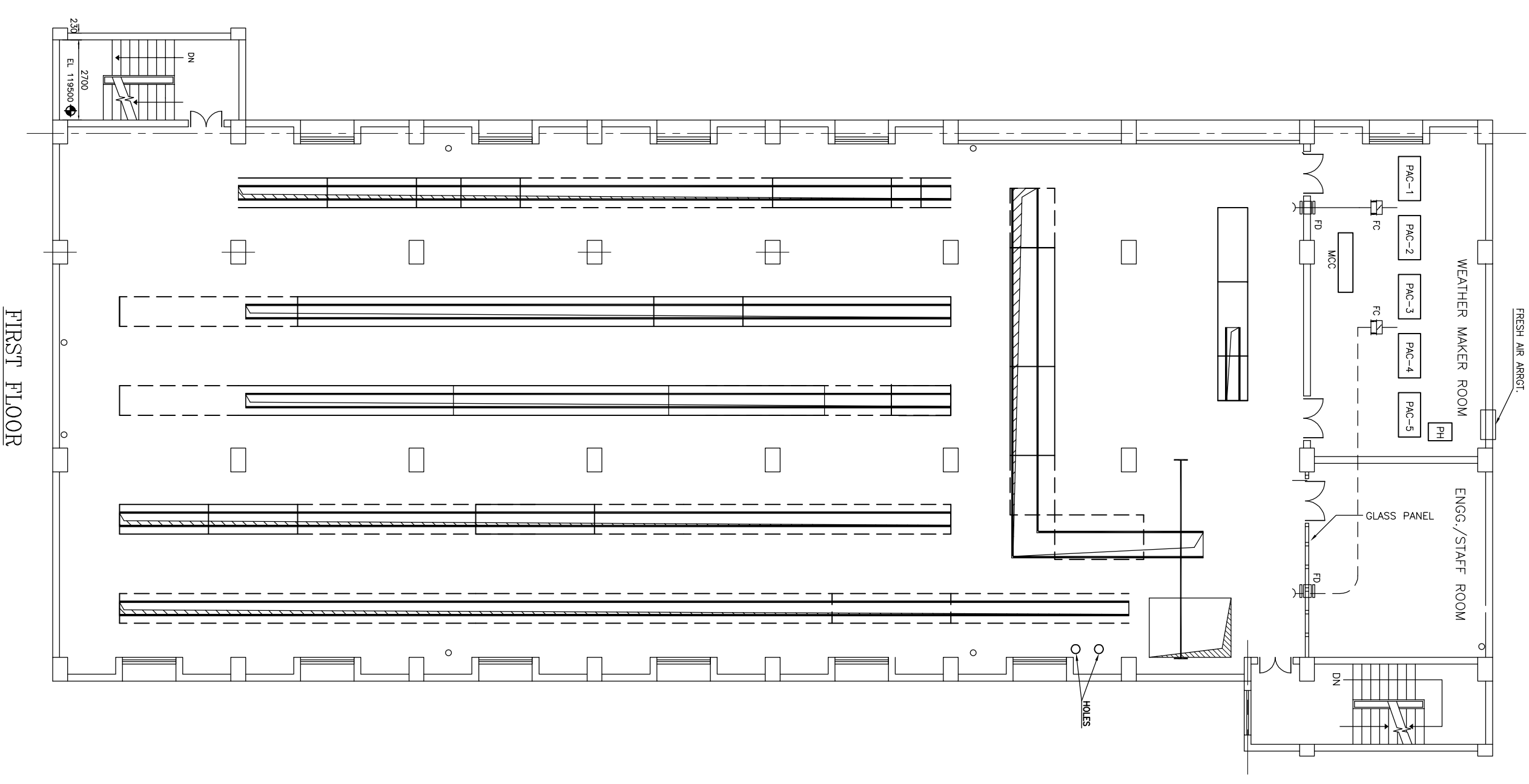
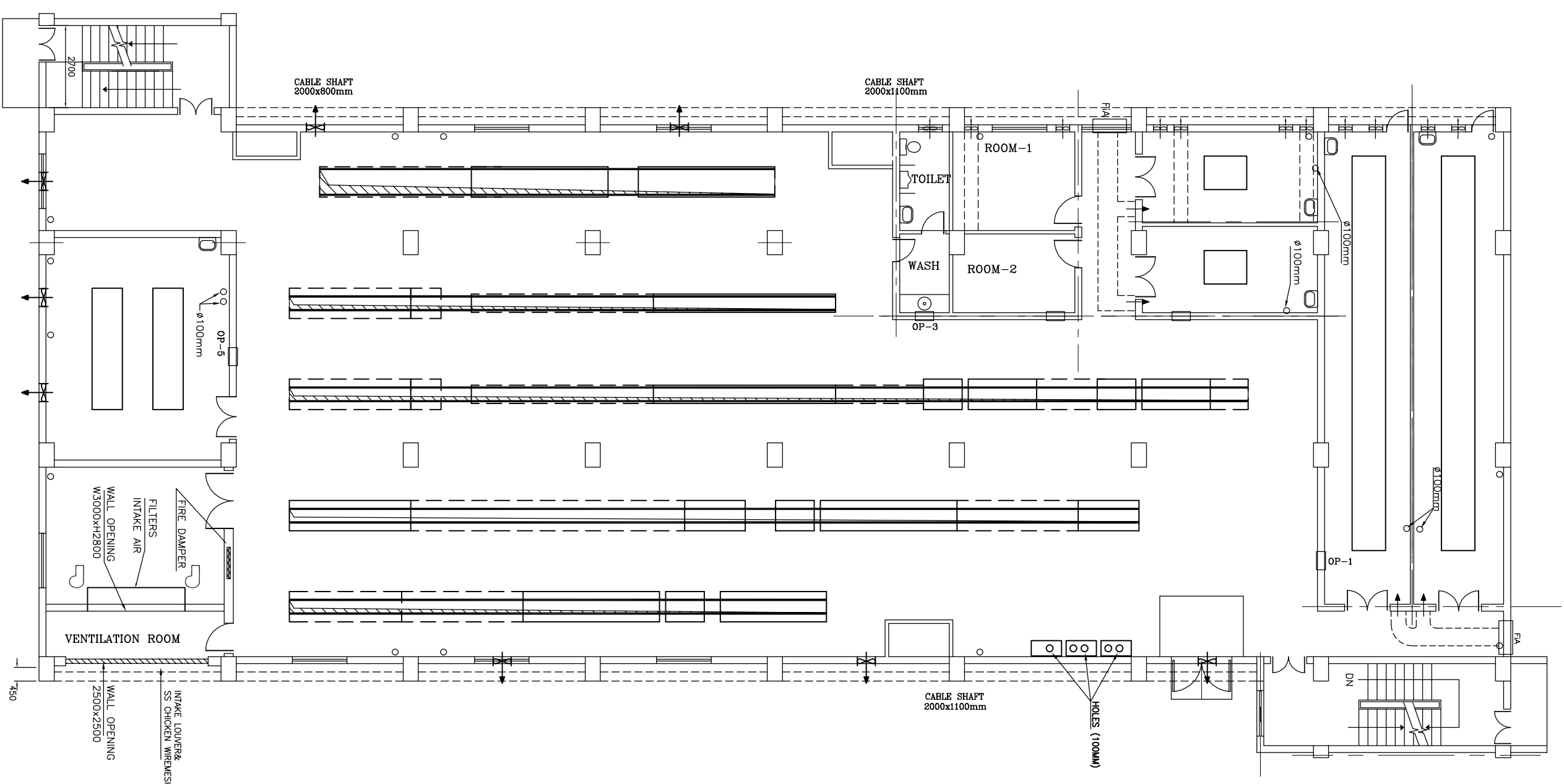
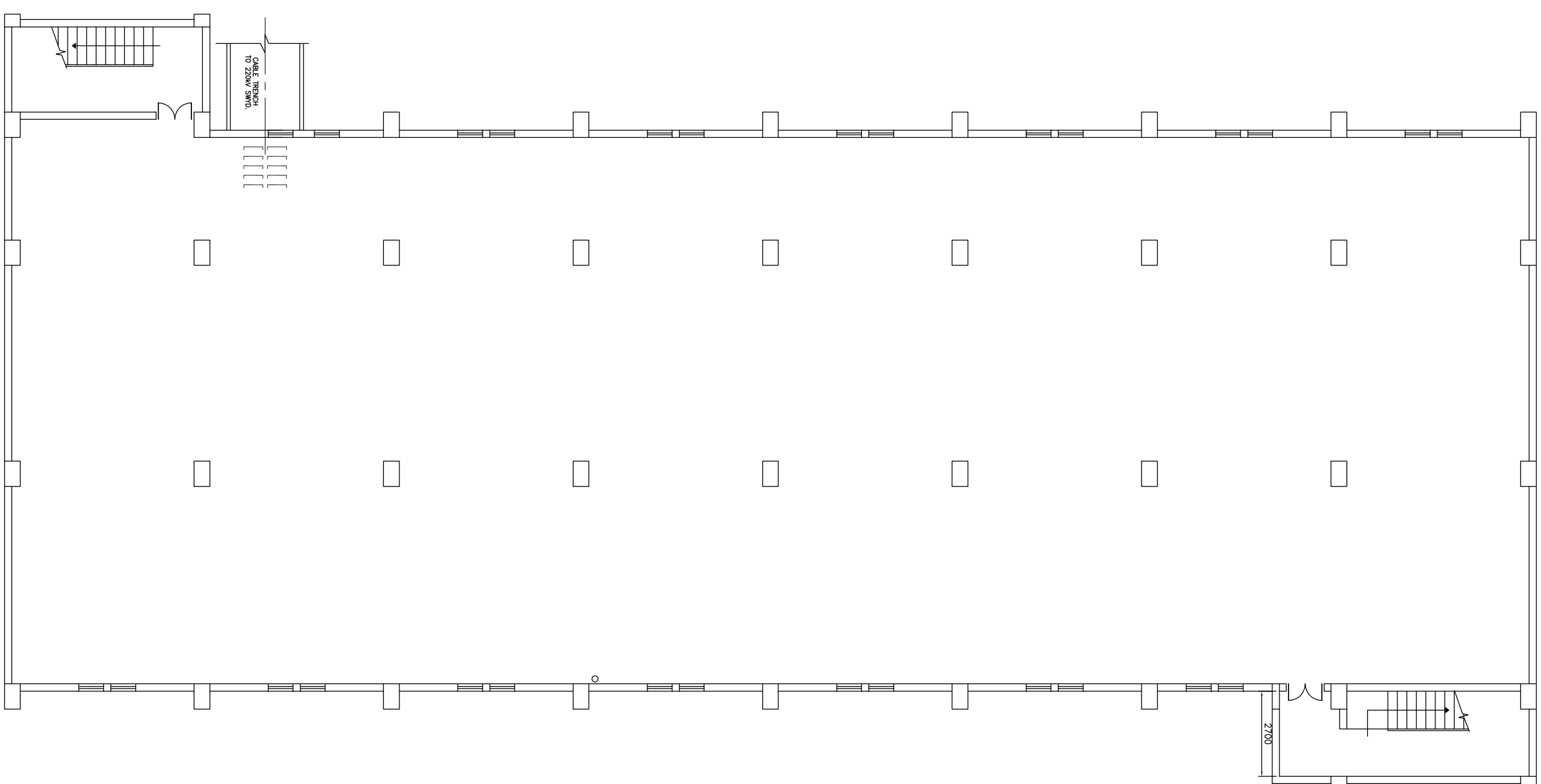


TRENCH TYPE - T21

TRENCH LAYOUT SECTION



CONTROL ROOM LAYOUT PLAN



CONTROL ROOM – CUTOFF DETAILS

EMBEDDED PLATE (200x100MM) ON FLOOR FOR WELDING OF PANELS

EMBEDDED PLATE (300x100MM) ON FLOOR FOR WELDING OF PANELS

