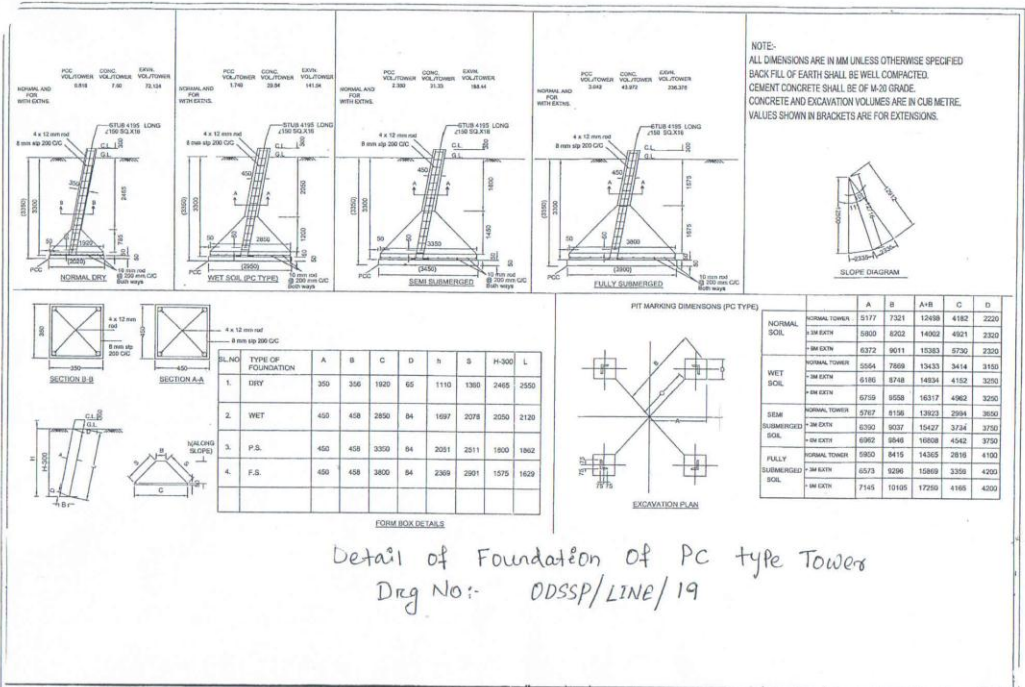


Structural Details of PC Tower.  
Bottom Part.

Dwg No :- ODSSP/LINE/18



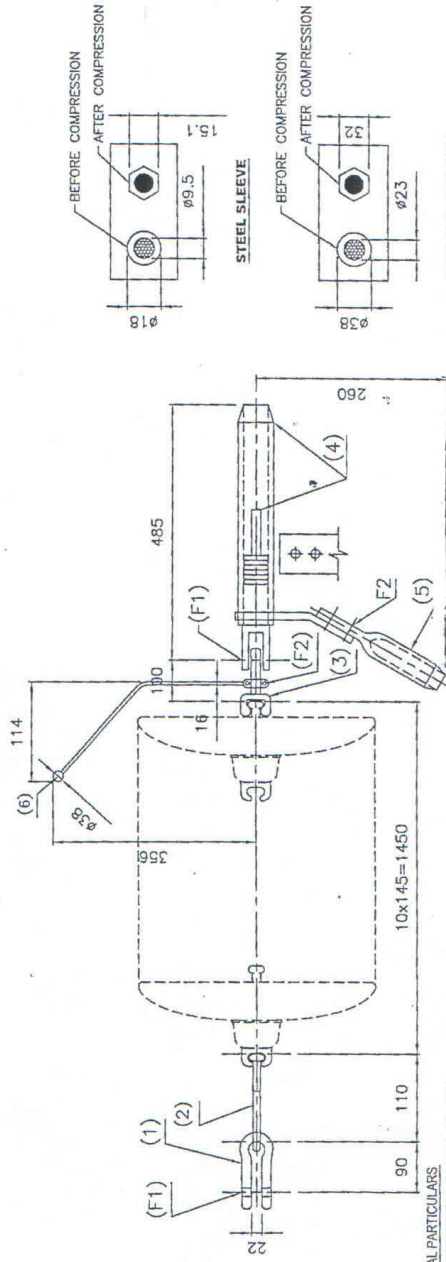
NOTE:-  
 ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.  
 BACK FILL OF EARTH SHALL BE WELL COMPACTED.  
 CEMENT CONCRETE SHALL BE OF M-20 GRADE.  
 CONCRETE AND DILATATION VOLUMES ARE IN CUBIC METRE.  
 VALUES SHOWN IN BRACKETS ARE FOR EXTENSIONS.

SL.NO	TYPE OF FOUNDATION	A	B	C	D	h	S	H-300	L
1.	DRY	350	356	1920	65	1110	1360	2485	2550
2.	WET	450	458	2850	84	1687	2078	2050	2120
3.	P.S.	450	458	3350	84	2051	2511	1900	1902
4.	F.S.	450	458	3800	84	2309	2901	1575	1629

PIT MARKING DIMENSIONS (PC TYPE)

	A	B	A/B	C	D
NORMAL SOIL	5177	7321	12498	4182	2220
WET SOIL	5800	8202	14002	4921	2320
SEMI-SUBMERGED SOIL	6372	9011	15383	5730	2320
FULLY SUBMERGED SOIL	6954	9698	16848	6549	2320

Detail of Foundation of PC type Towers  
 Dwg No:- ODSSP/LINE/19



**TECHNICAL PARTICULARS**

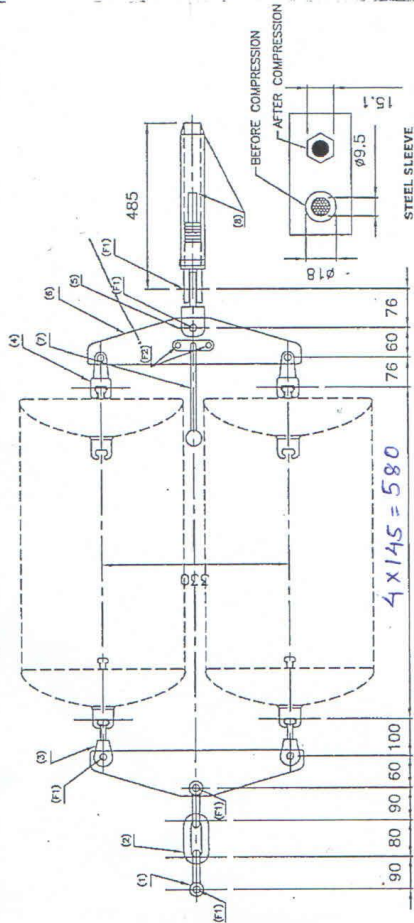
1. ALL DIMENSION ARE IN MM.
2. DIMENSION TOL. ±5% (ONLY MAJOR DIMENSION)
3. REF. IS-2486 (PART 1 TO 4)
4. MECHANICAL STRENGTH :
  - a. ULT. BREAKING - 120 KN.
  - b. SLIP - 95% OF THE UTS OF THE CONDUCTOR.
5. HARDWARE ARE SUITABLE FOR 20 MM BALL & SOCKET.
6. FERROUS PARTS ARE HOT DIP GALVANIZED.
7. SP. & FL. WASHERS ELECTROGALV. - IS : 2633/2629.
8. THE ELECTRICAL RESISTANCE OF DEAD END CLAMP AFTER COMPRESSION WILL NOT BE MORE THAN 75% OF THE RESISTANCE OF EQUIVALENT LENGTH OF CONDUCTOR.

Single Tension Hardware Assembly for single ACSR Pantley

**BILL OF MATERIALS**

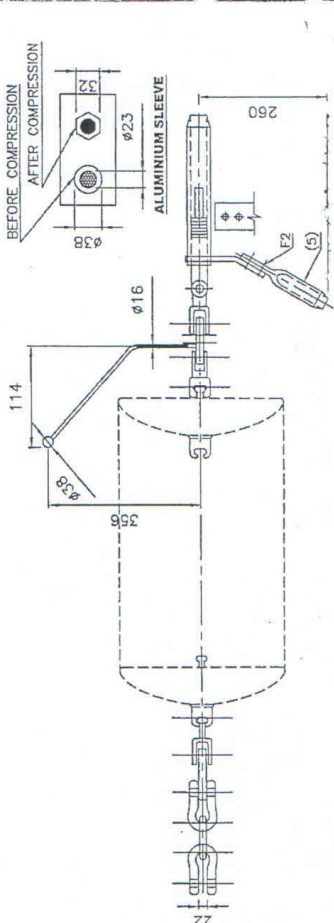
ITEM NO.	DESCRIPTION	MATERIAL	QTY.
1	ANCHOR SHACKLE	FORGED STEEL	1 NO
2	BALL LINK	FORGED STEEL	1 NO
3	SOCKET EYE (HH)	FORGED STEEL	1 NO
4	COMPRESSION TYPE DEAD END ASSEMBLY	VARIOUS AL. ALLOY & STEEL	1 Set
5	JUMPER CONE	EXTRUDED AL. ALLOY	1 NO
6	LS ARCING HORN	MS ROD	1 NO
F1	M20 BOLT, NUT & FL. WASHER	MILD STEEL	2 Nos
F2	M12 BOLT, NUT, FL. & SP. WASHER	MILD STEEL	4 Nos

Drwg No:- ODSSP/LINE/20



**BILL OF MATERIALS.**

ITEM NO.	DESCRIPTION	MATERIAL	QTY.
1	ANCHOR SHACKLE	FORGED STEEL	2 Nos
2	CHAIN LINK	FORGED STEEL	1 NO
3	BALL CLEVIS	FORGED STEEL	2 Nos
4	SOCKET CLEVIS	FORGED STEEL	2 Nos
5	CLEVIS EYE	FORGED STEEL	1 NO
6	YOKE PLATE	MS. PLATE	2 Nos
7	LS ARCING HORN	MS ROD	1 No
8	CUM. TYP. 1000 ASSM. WITH ST. SLEVY & LAMER ONE DRAWING R. AUTY & S	DRILLED R. AUTY & S	1 Set
F1	M20 BOLT, NUT & FL. WASHER	MILD STEEL	8 Nos
F2	M12 BOLT, NUT, SP. & FL. WASHER	MILD STEEL	4 Nos

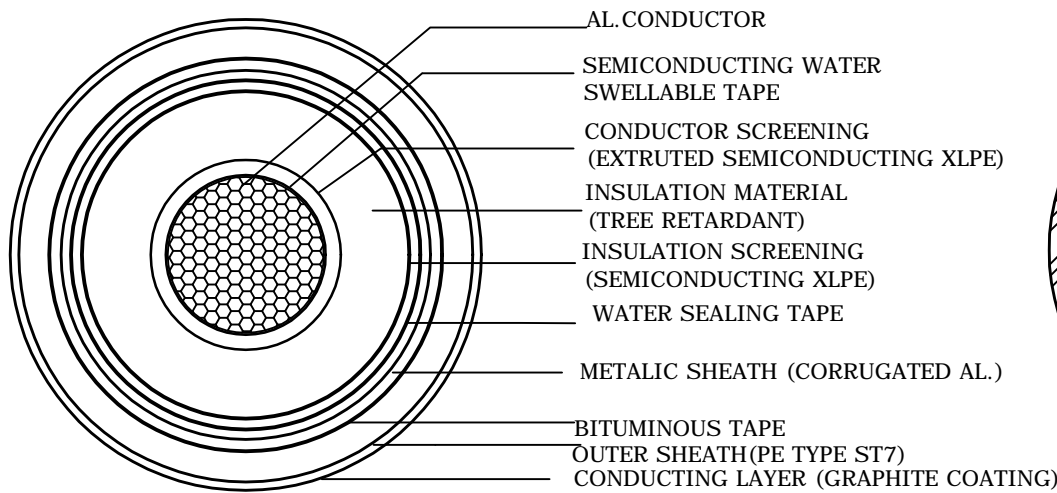


**TECHNICAL PARTICULARS**

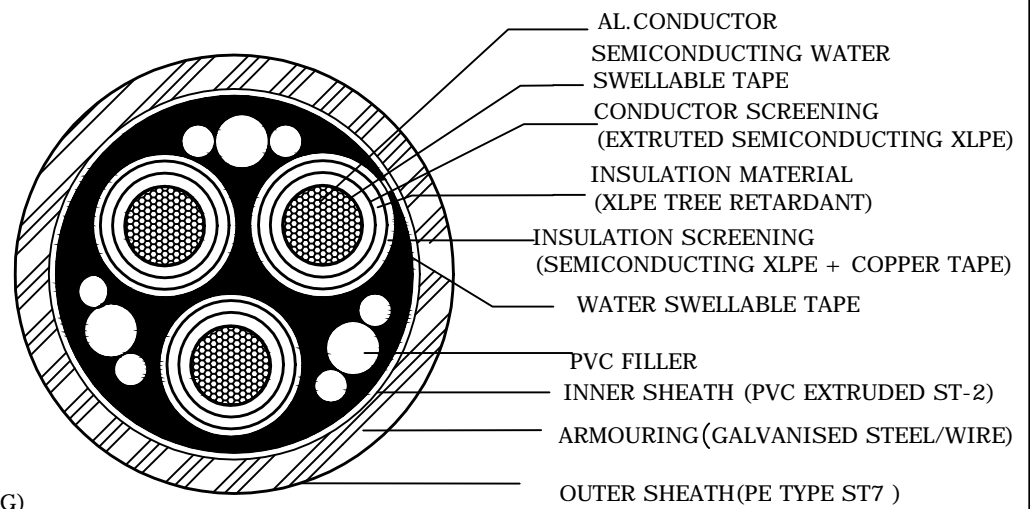
- ALL DIMENSION ARE IN MM.
- DIMENSION TOL.  $\pm 5\%$ . (ONLY MAJOR DIMENSION)
- REF. IS-2486 (PART 1 TO 4)
- MECHANICAL STRENGTH :
  - ULT. BREAKING - 120 KN.
  - SLIP - 95% OF THE UTS OF THE CONDUCTOR.
- HARDWARE ARE SUITABLE FOR 20 MM BALL & SOCKET.
- FERROUS PARTS ARE HOT DIP GALVANIZED. SP. & FL. WASHERS ELECTROGALV. - IS : 2653/2629.
- THE ELECTRICAL RESISTANCE OF DEAD END CLAMP AFTER COMPRESSION WILL NOT BE MORE THAN 75% OF THE RESISTANCE OF EQUIVALENT LENGTH OF CONDUCTOR.

Double Tension Hardware Assemble  
for Single ACSR Panther.  
Dog. No- ODSSP/ LINE/21

CROSS-SECTIONAL VIEW OF 33kV & 11kV CABLE FOR LINE



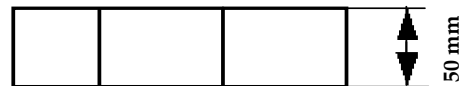
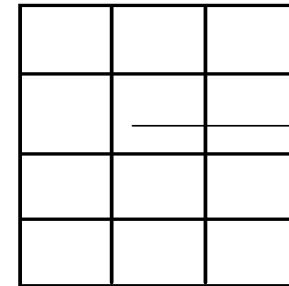
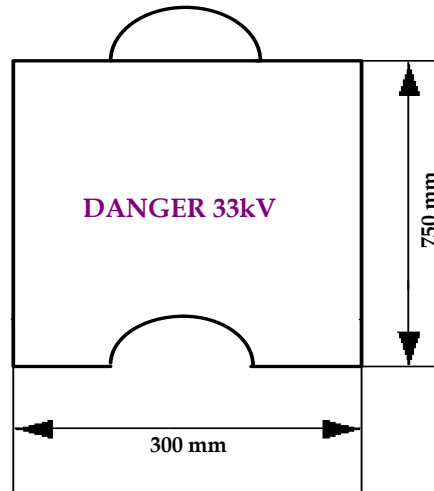
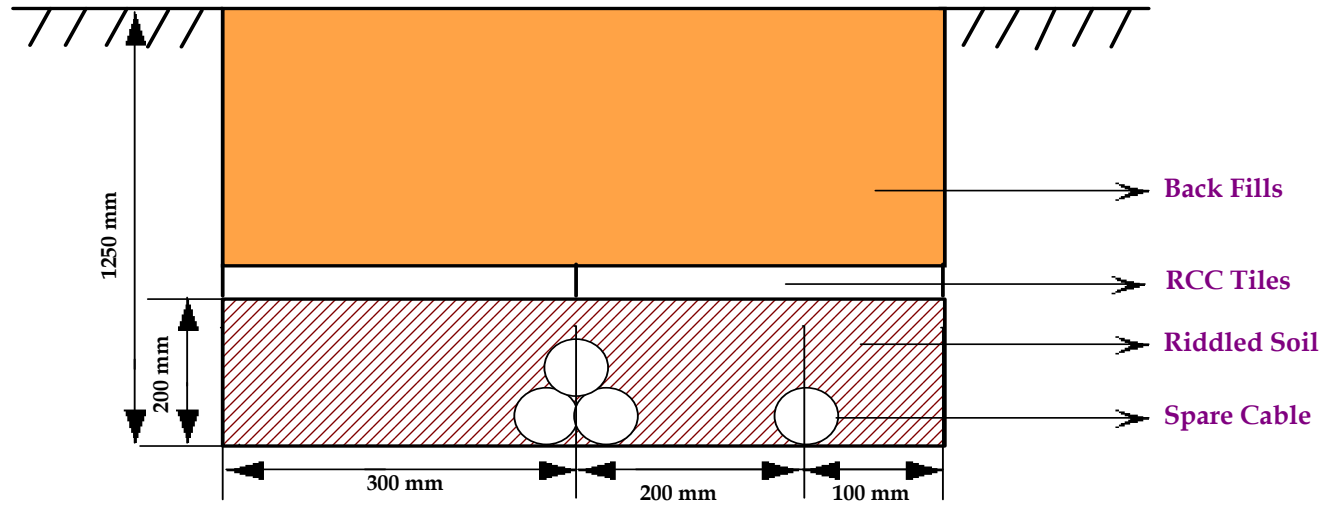
CROSS-SECTIONAL VIEW OF 33kV 1C,  
UN-ARMOURED CABLE



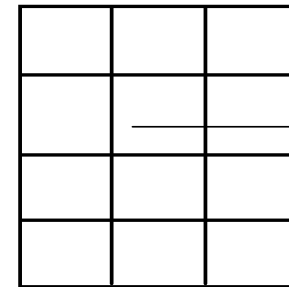
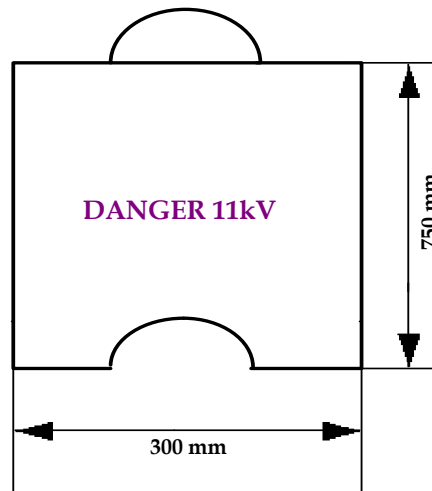
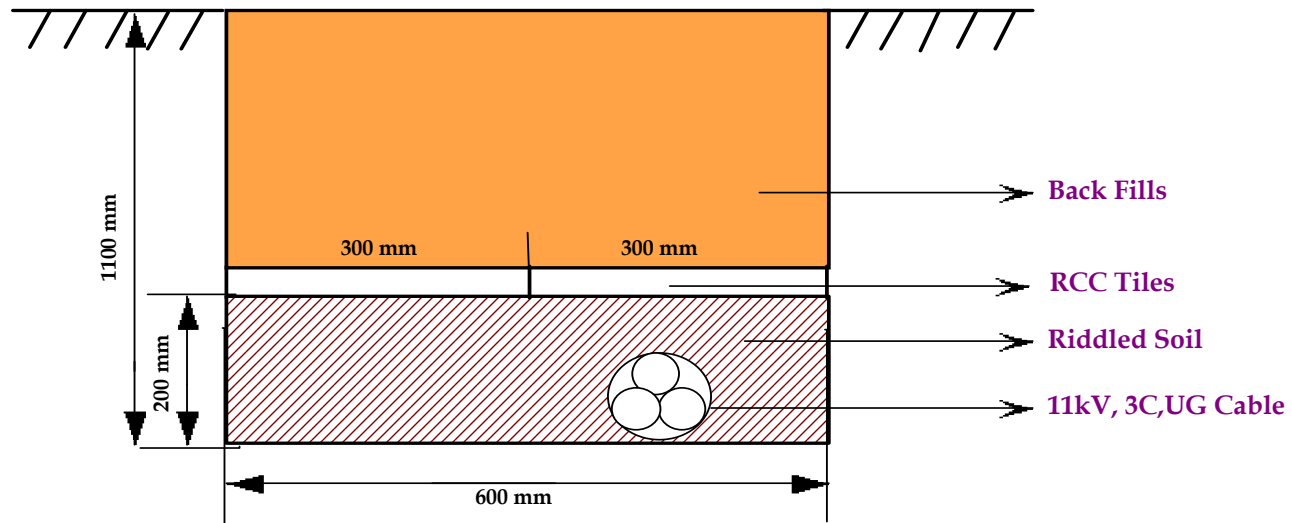
CROSS-SECTIONAL VIEW OF 11kV 3C,  
ARMOURED CABLE

Drg No. -ODSSP/LINE/25/REV-C

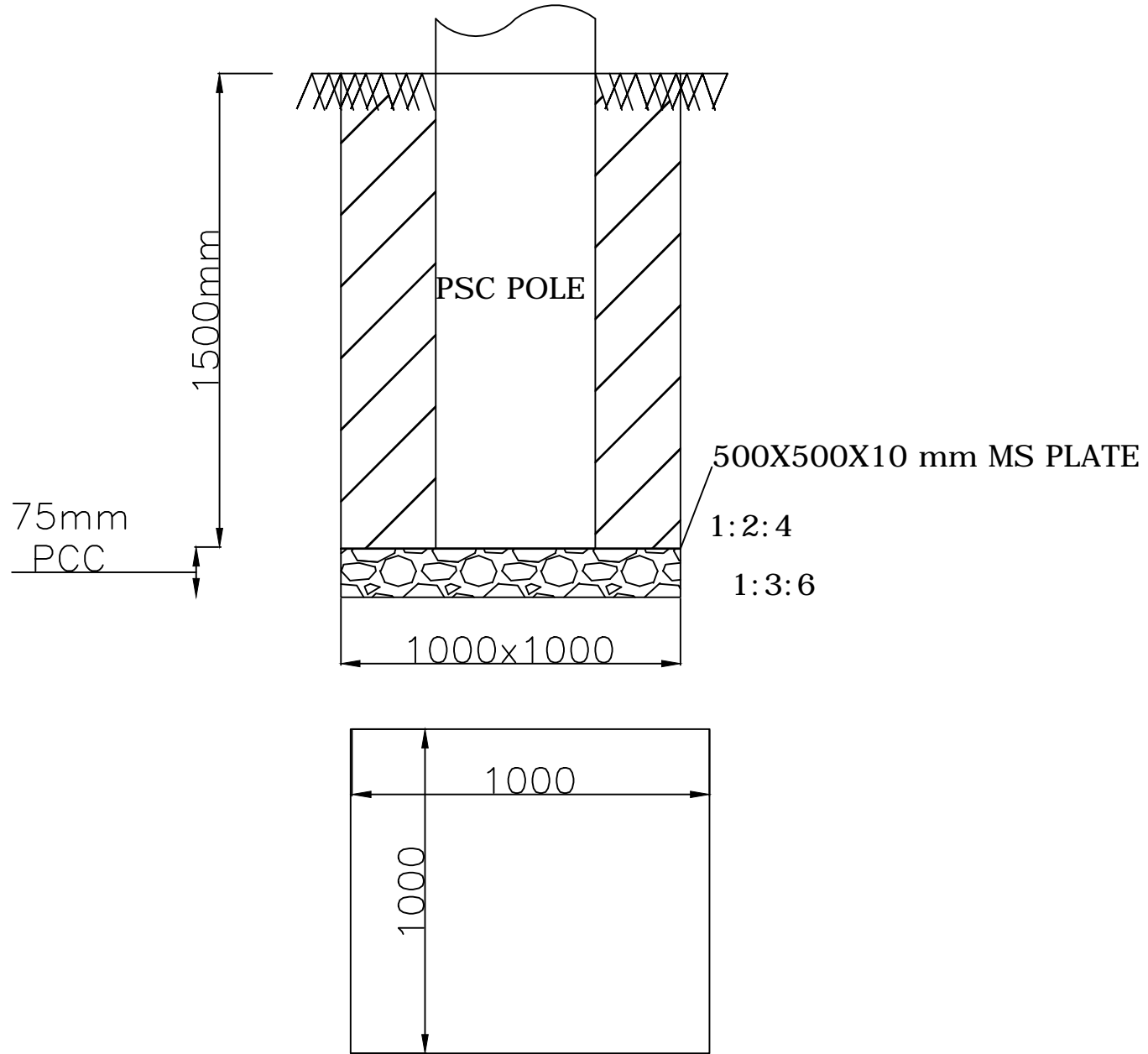
# 33kV SINGLE CIRCUIT LAYING ARRANGEMENT



# 11kV SINGLE CIRCUIT LAYING ARRANGEMENT



# CONCRETING OF PSC POLES



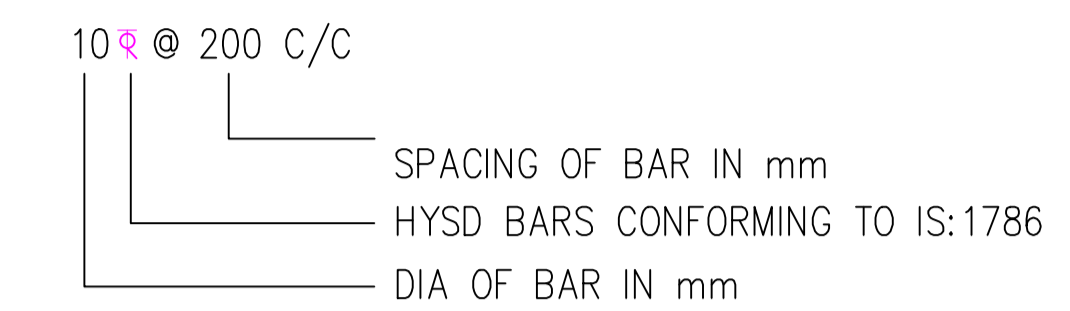
Drg No.-ODSSP/CIVIL/1-REV-A



# FOUNDATION FOR RS JOIST POLE

## LEGEND:

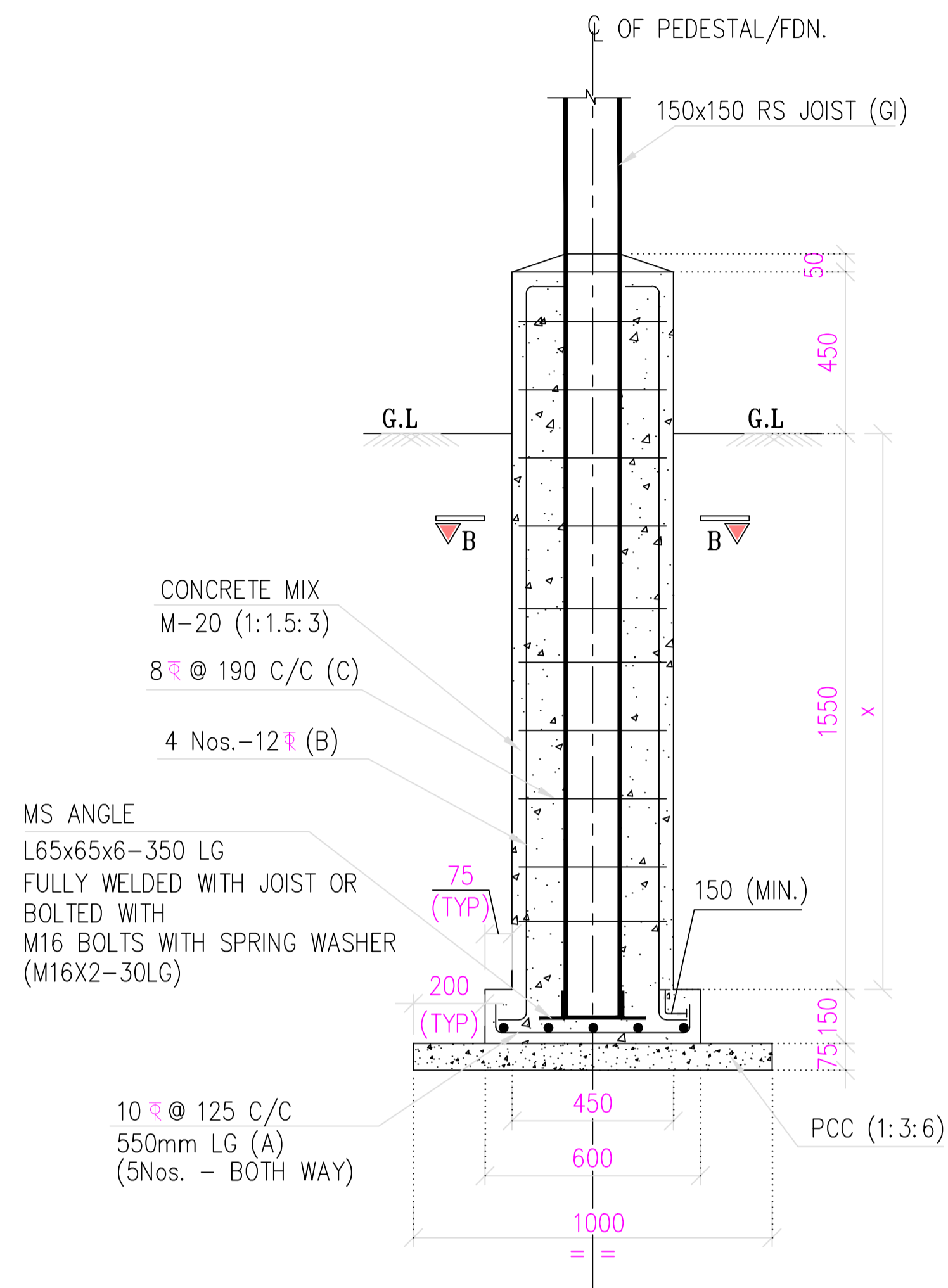
- — — — — CENTER LINE
- GL — GROUND LEVEL
- FGL — FINISHED GROUND LEVEL



## NOTES:-

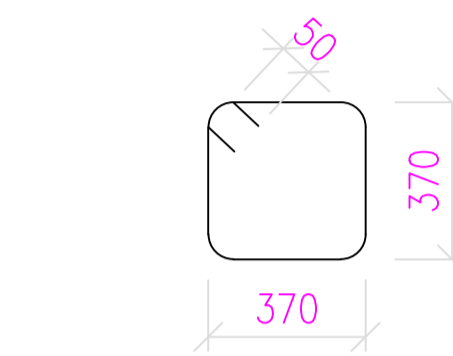
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNO.
2. MS ANGLE, L65x65x6 FULLY WELDED WITH JOIST OR BOLTED WITH 30MM LENGTH M16 BOLT WITH SPRING WASHER (2NOS. FOR EACH CLEAT) 0.35X(3.8kg/mtr)=1.33kg
3. A) 'X' WILL VARY DEPENDING UPON THE LENGTH OF THE POLE.  
B) ALL OTHER DIMENSIONS WILL REMAIN AS IT IS.  
C) RODS HAS TO BE PROVIDED IN ANGLE LOCATION MORE THAN 10 DEGREE.

(i) VOLUME OF PCC (1:3:6)	= 1X1X0.075	= 0.075CUM
(ii) VOLUME OF RCC (1:1.5:3)	= 0.6X0.6X0.150	= 0.054CUM
	0.45X0.45X2.00	= 0.405CUM
TOTAL VOLUME OF RCC = 0.459CUM		
(iii) WEIGHT OF REINFORCEMENT		
ROD = A)	0.650X10X(0.616kg/mtr)	= 4.004kg
B)	2.15X4X(0.887kg/mtr)	= 7.628kg
C)	1.58X11X(0.394kg/mtr)	= 6.847kg
TOTAL QTY = 18.479kg		



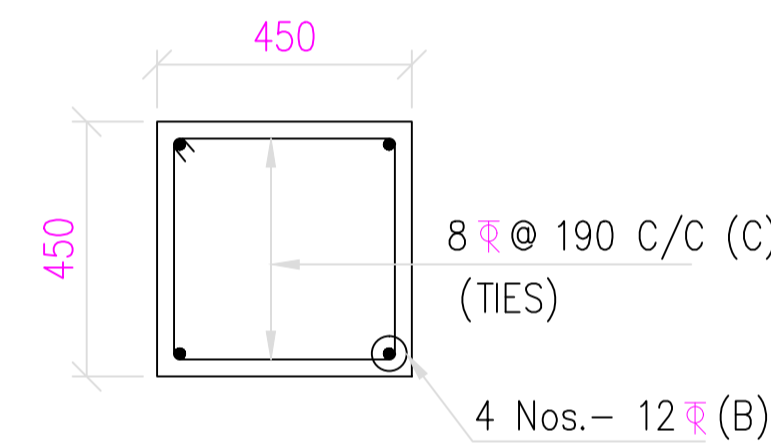
SECTION A-A

(A) 10 TOR (10Nos.)  
(SCALE NTS)

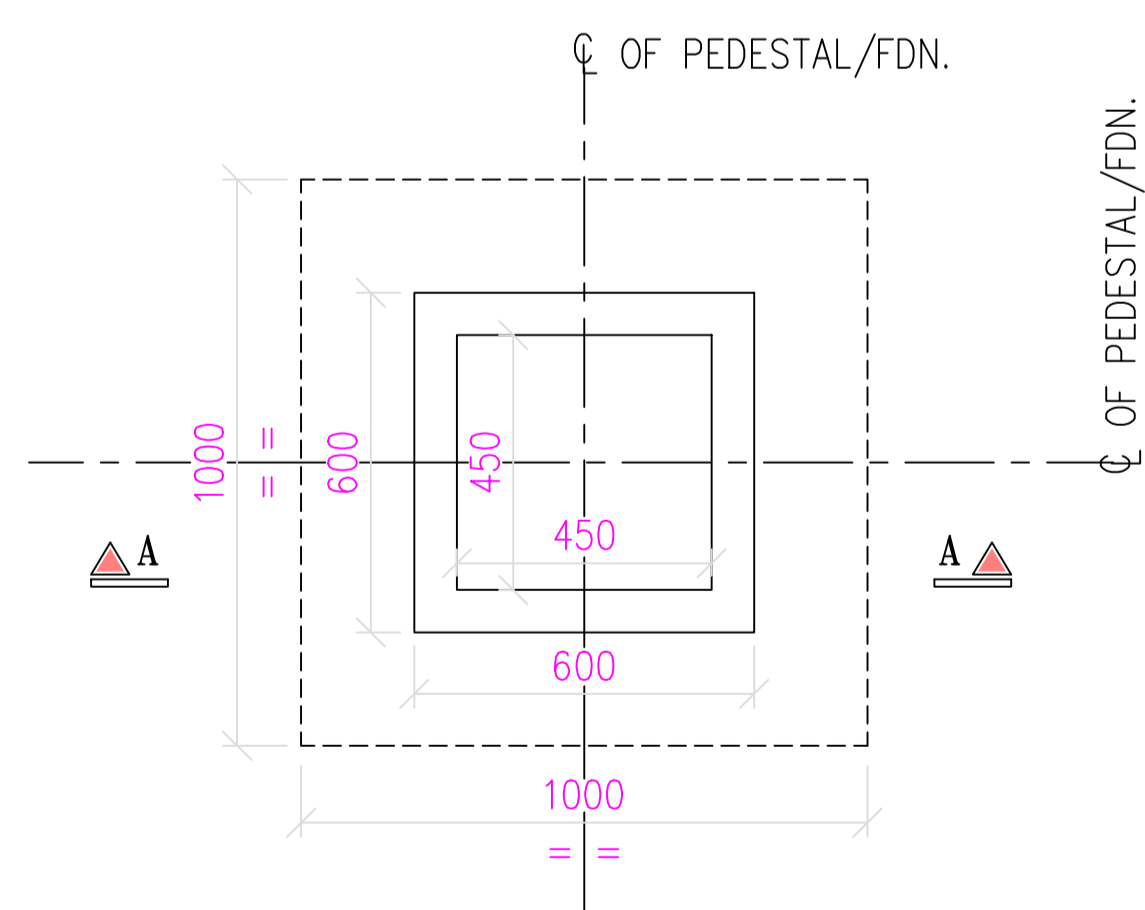


(C) 8 TOR (11Nos.)  
(SCALE NTS)

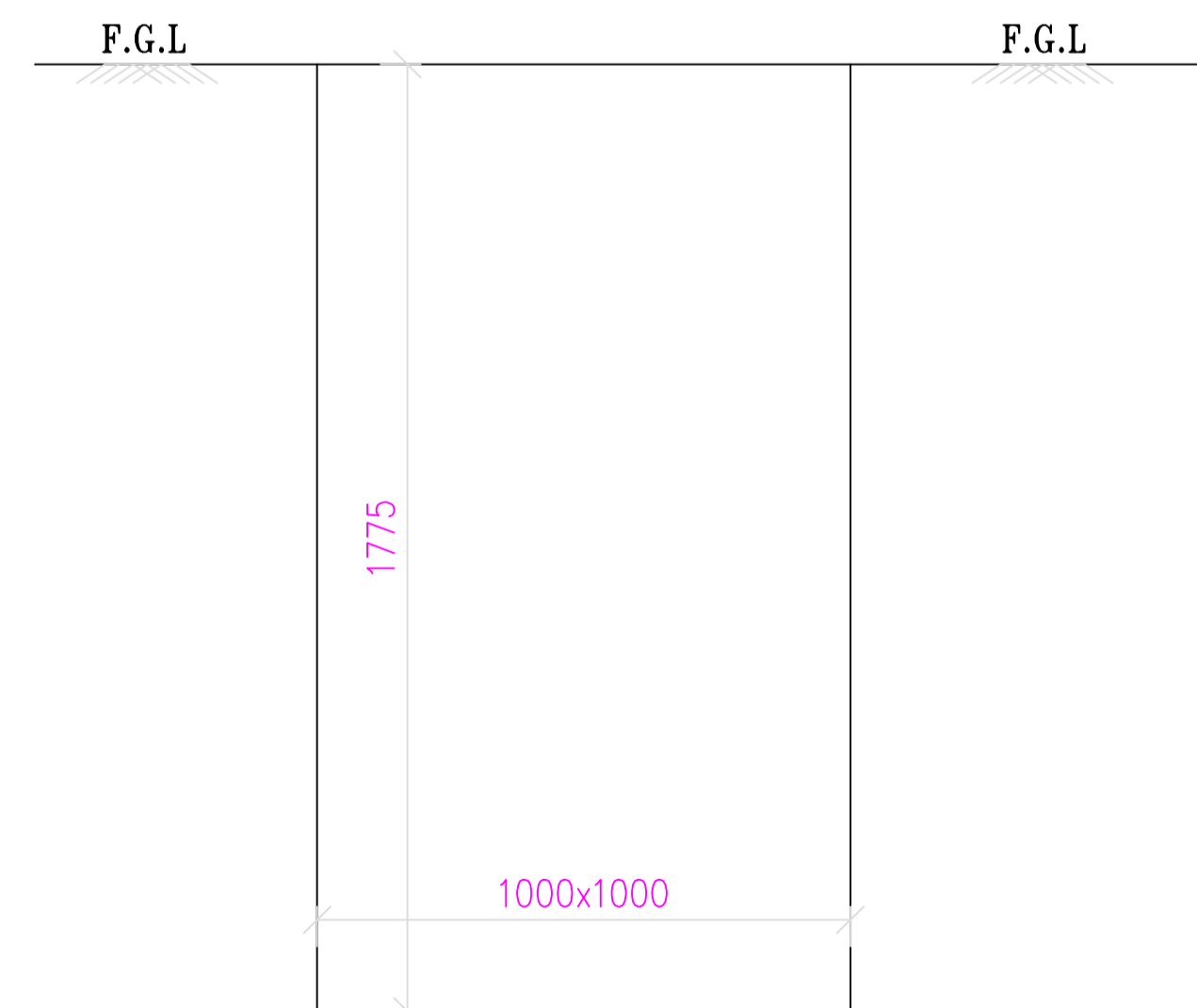
(B) 12 TOR (4Nos.)  
(SCALE NTS)



SECTION B-B  
(FOR 4 NOS. BARS)

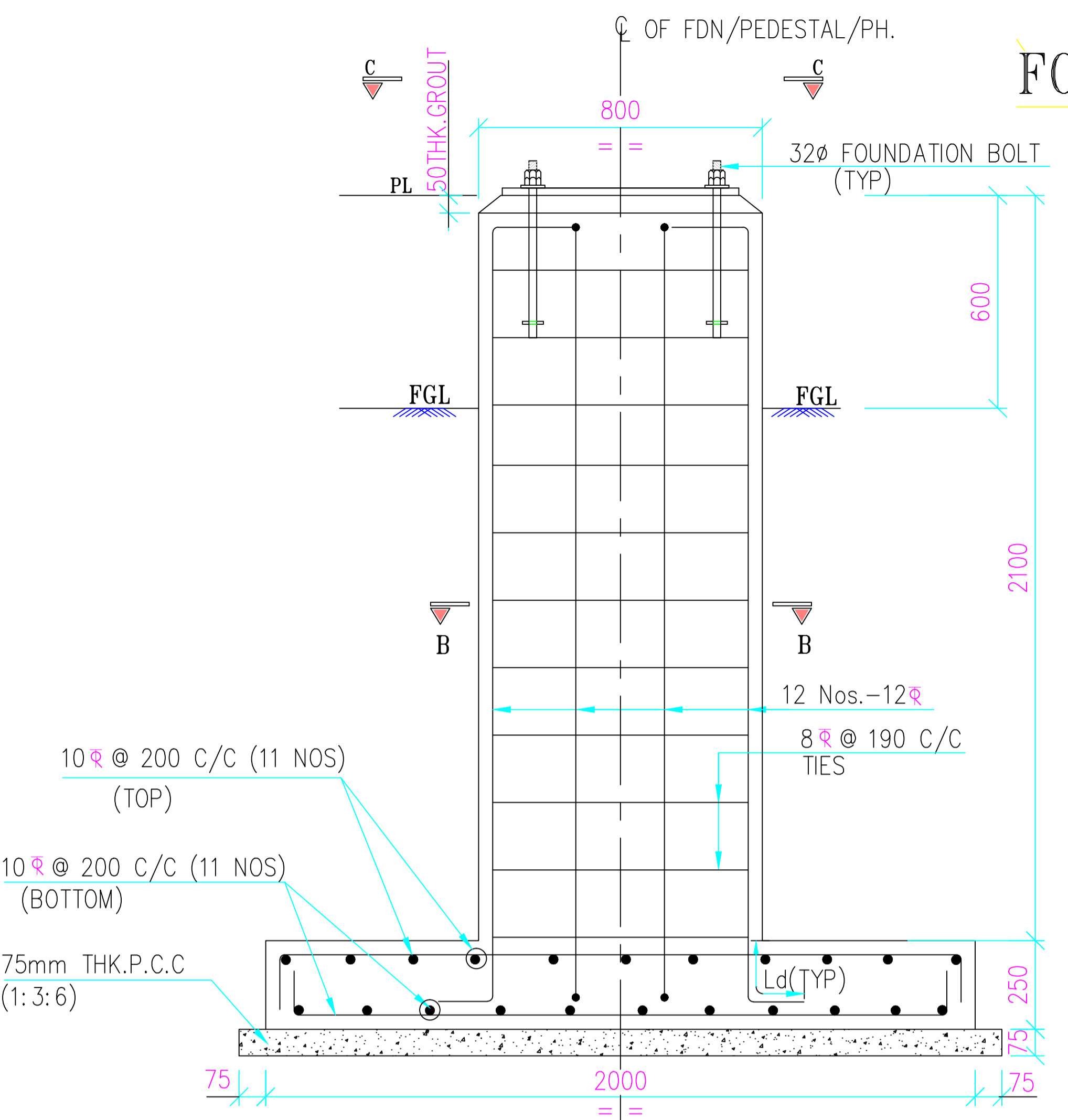


FOUNDATION PLAN

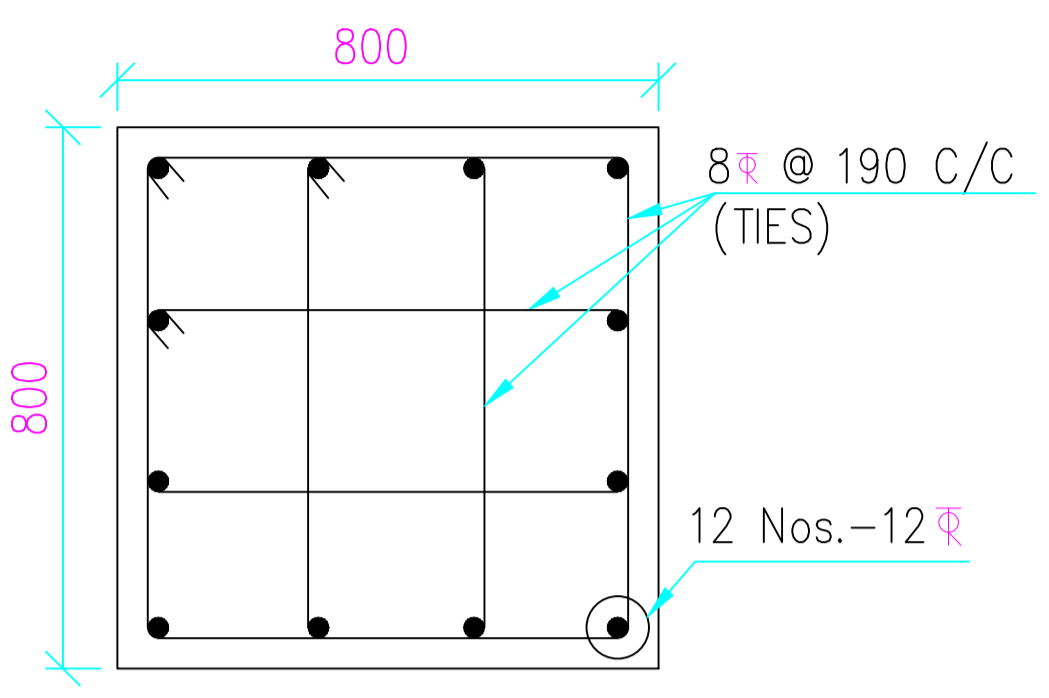


POLE PIT TO BE EXCAVATED

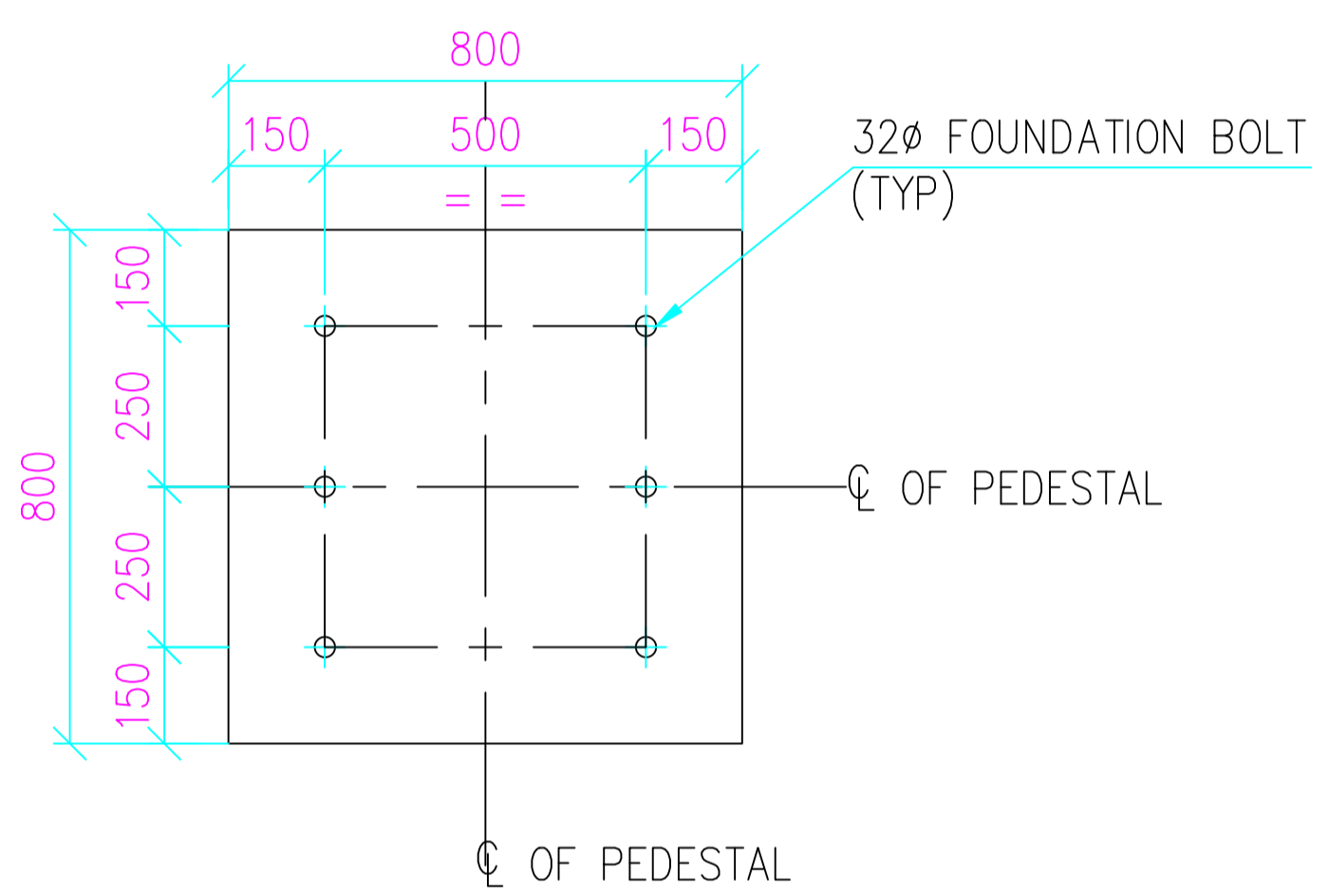
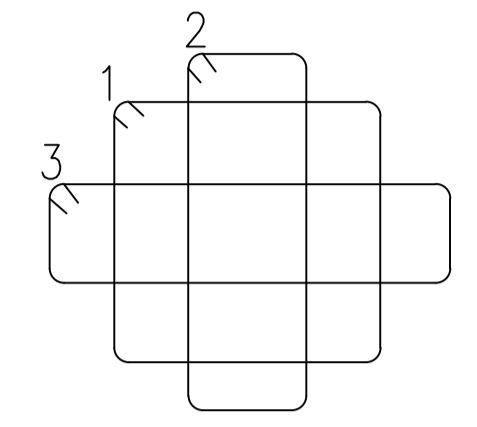
# FOUNDATION DETAIL FOR T1 & T2 COLUMNS



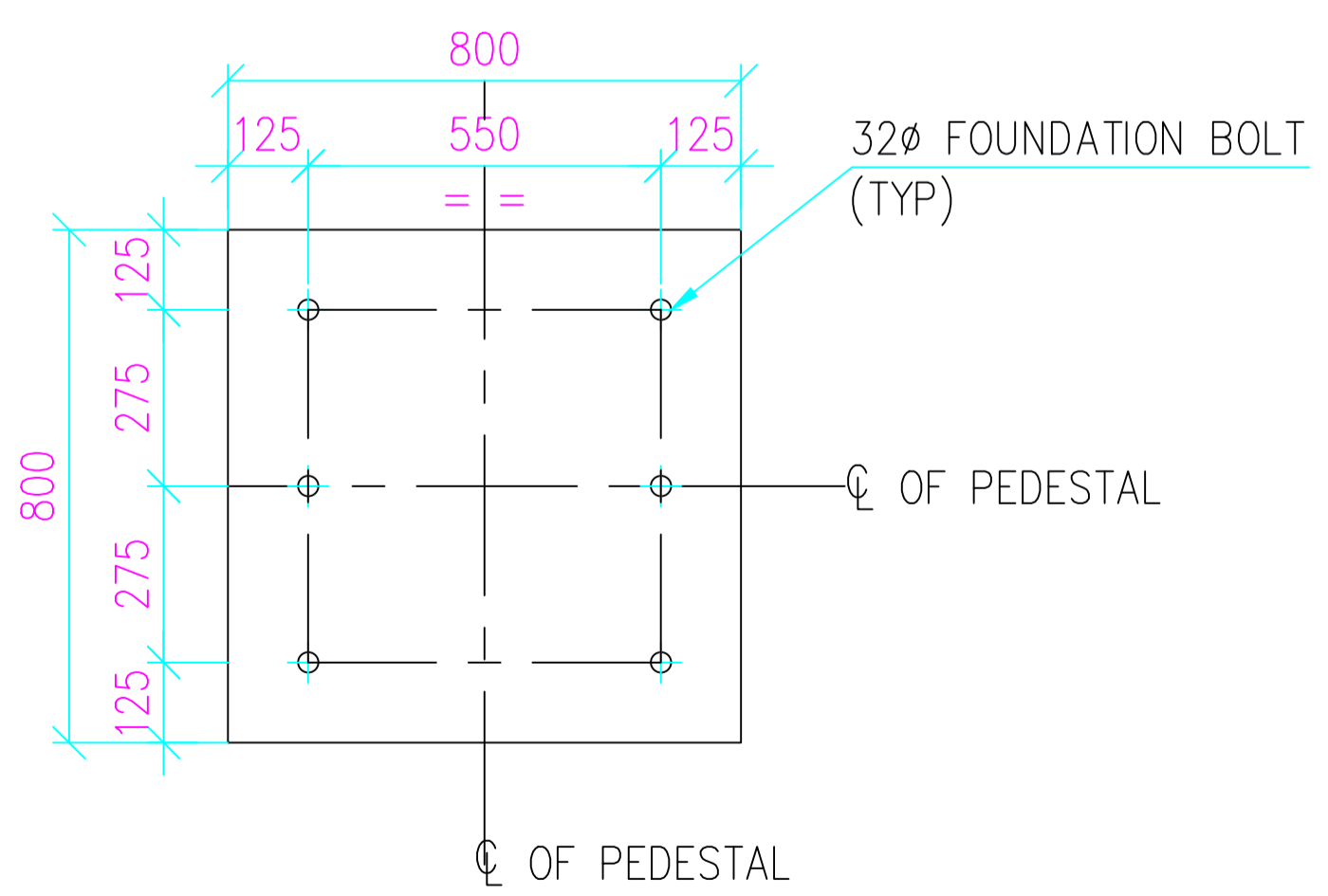
**SECTION A-A**



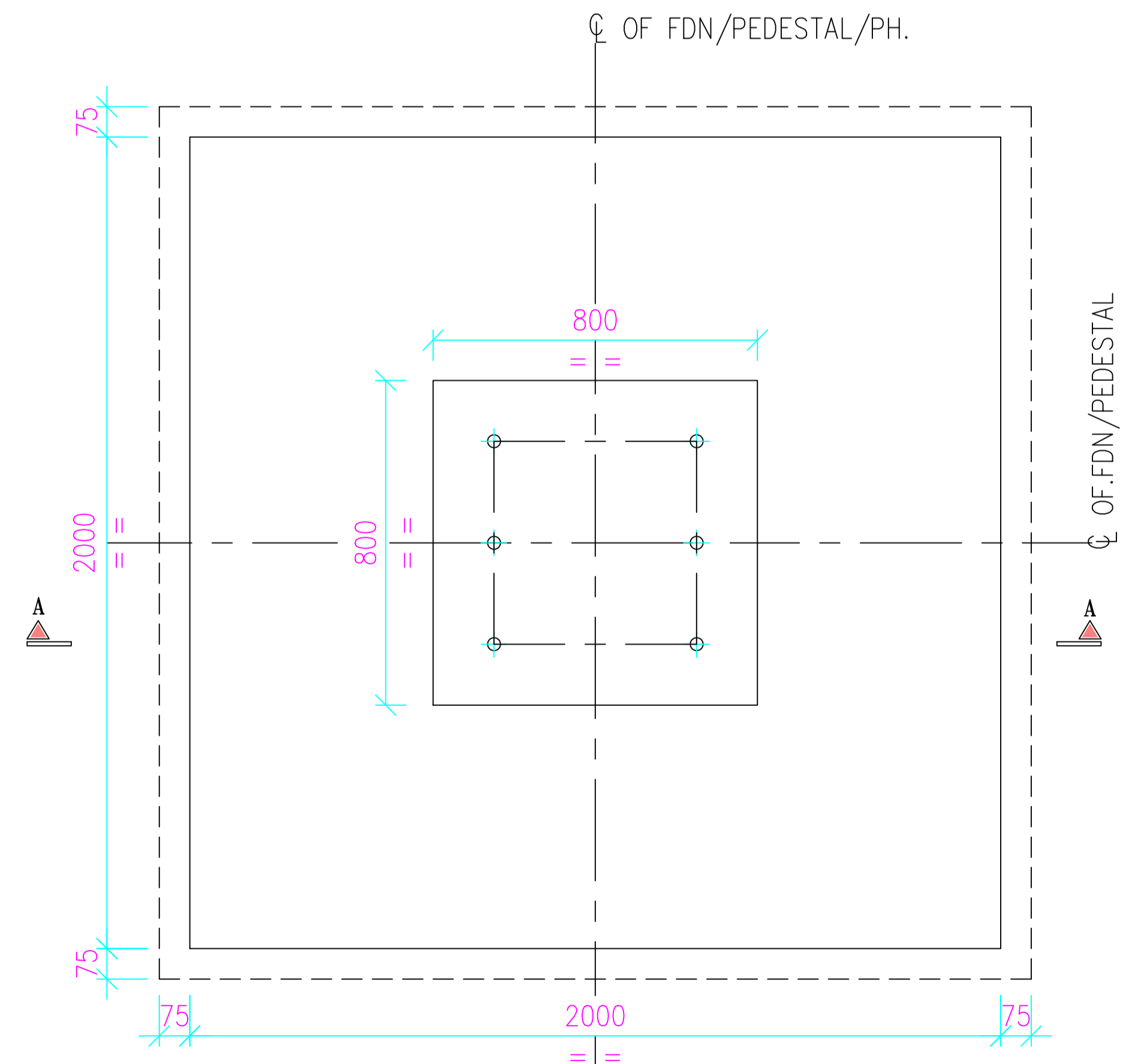
**SECTION B-B**



**FOUNDATION BOLT ARRANGEMENT FOR COLUMN -T1**



**FOUNDATION BOLT ARRANGEMENT FOR COLUMN -T2**



**FOUNDATION PLAN FOR T1 & T2 COLUMNS**

**LEGEND:-**

- - CENTER LINE
- FGL - FINISHED GROUND LEVEL
- TYP. - TYPICAL
- C/C - CENTER TO CENTER
- $\phi$  - CENTER LINE
- Ld - DEVELOPMENT LENGTH
- FDN. - FOUNDATION
- PL - PLINTH LEVEL
- PH - PHASE
- U.N.O - UNLESS NOTED OTHERWISE

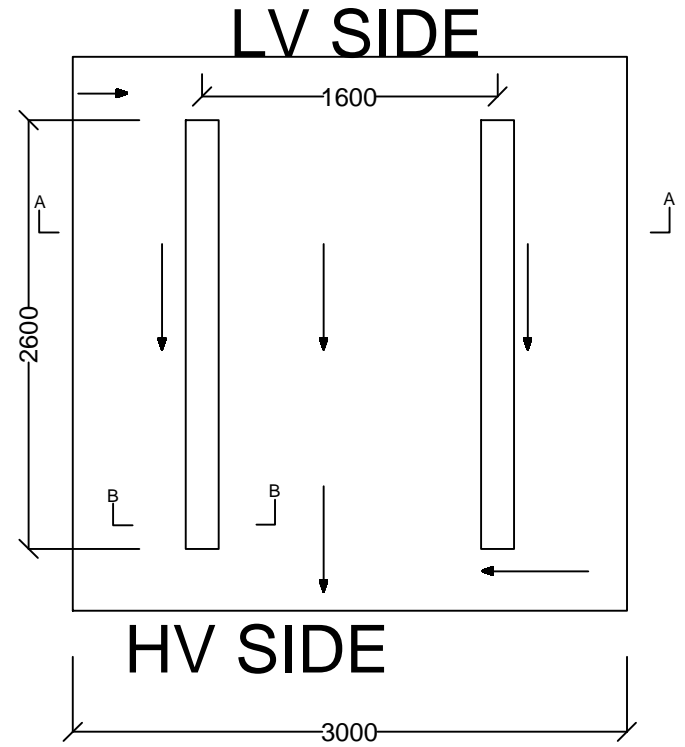
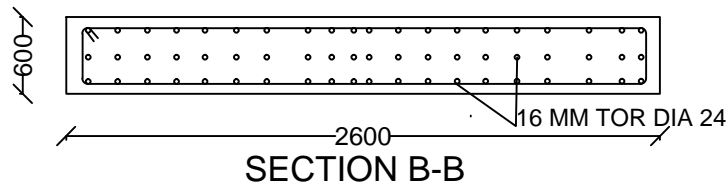
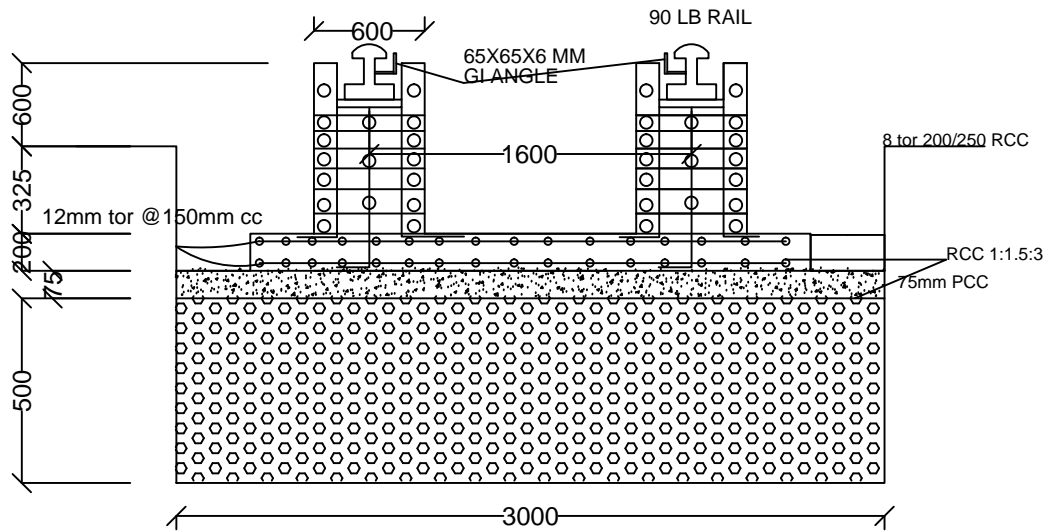
**REFERENCE DRAWING:-**

1. FOR BASE PLATE & FOUNDATION BOLT DETAILS FOR T1 & T2 COLUMNS REFER DRG.NO: ODSSP/CIVIL/8.

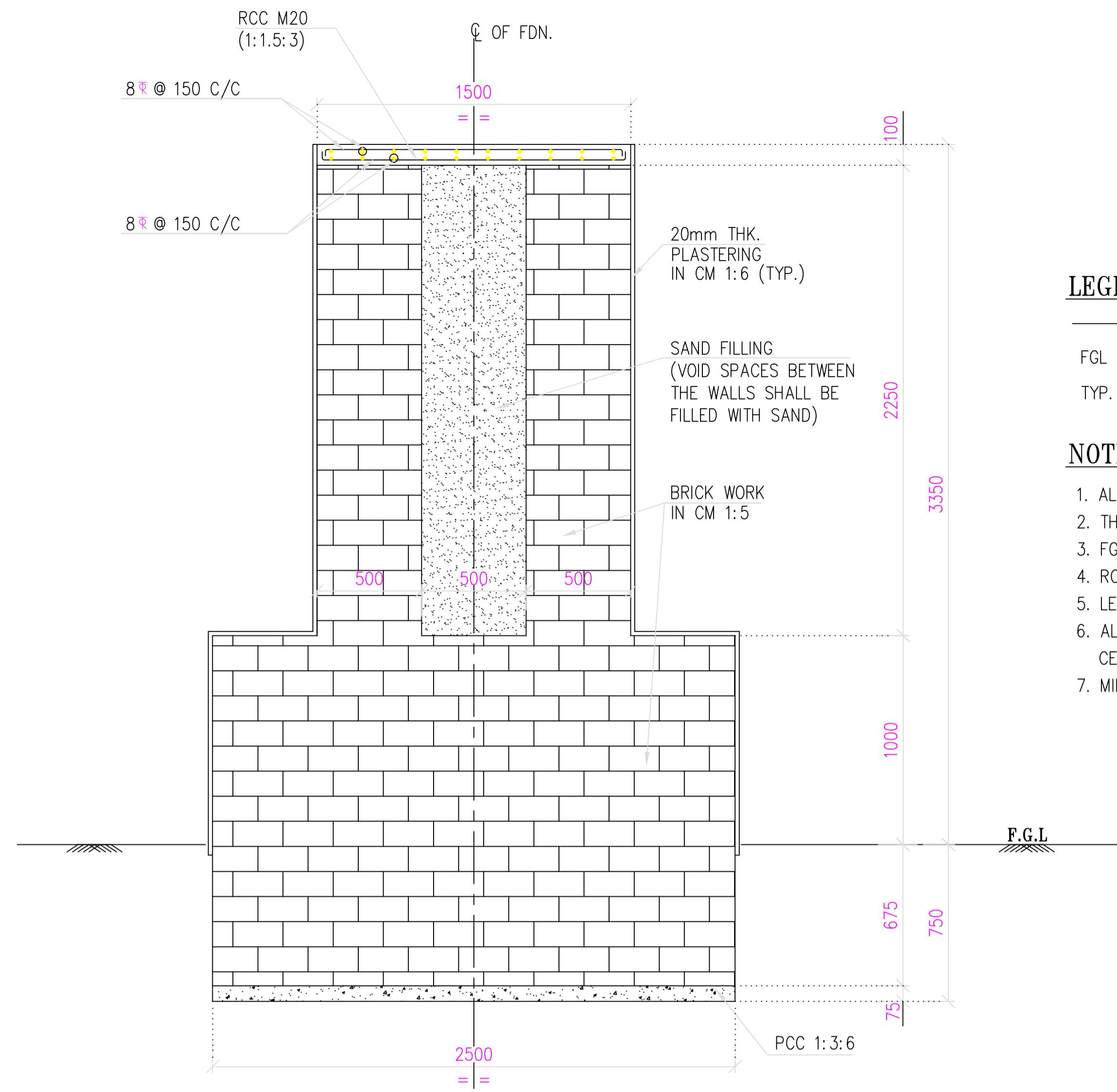
**NOTES:-**

1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNO.
2. THIS DRAWING IS NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
3. FGL CORRESPONDS TO FINISHED GROUND LEVEL.
4. RCC SHALL BE OF GRADE M20 (1:1.5:3).
5. LEAN CONCRETE (PCC) GRADE SHALL BE (1:3:6).
6. CLEAR COVER OF REINFORCEMENT SHALL BE AS BELOW, BOTTOM PAD - 40mm AT TOP, BOTTOM & AT SIDES, COLUMN - 40mm AT SIDES & AT TOP.
7. DEVELOPMENT LENGTH/LAP LENGTH FOR REINFORCEMENT BARS SHALL BE 55 x DIA OF BAR.
8. MINM. SAFE BEARING CAPACITY IS CONSIDERED AS 10 T/SQ.M. AT FOUNDING LEVEL.
9. FOUNDATION BOLTS SHALL BE PLACED IN POSITION DURING CONCRETING.
10. MINOR ADJUSTMENTS MAY BE DONE AT SITE IN CONSULTATION WITH CLIENT'S ENGINEERS IN CHARGE.

# FOUNDATION OF 5MVA/8MVA/12.5MVA TRANSFORMER



DRG NO-ODSSP/CIVIL/4-REV-C

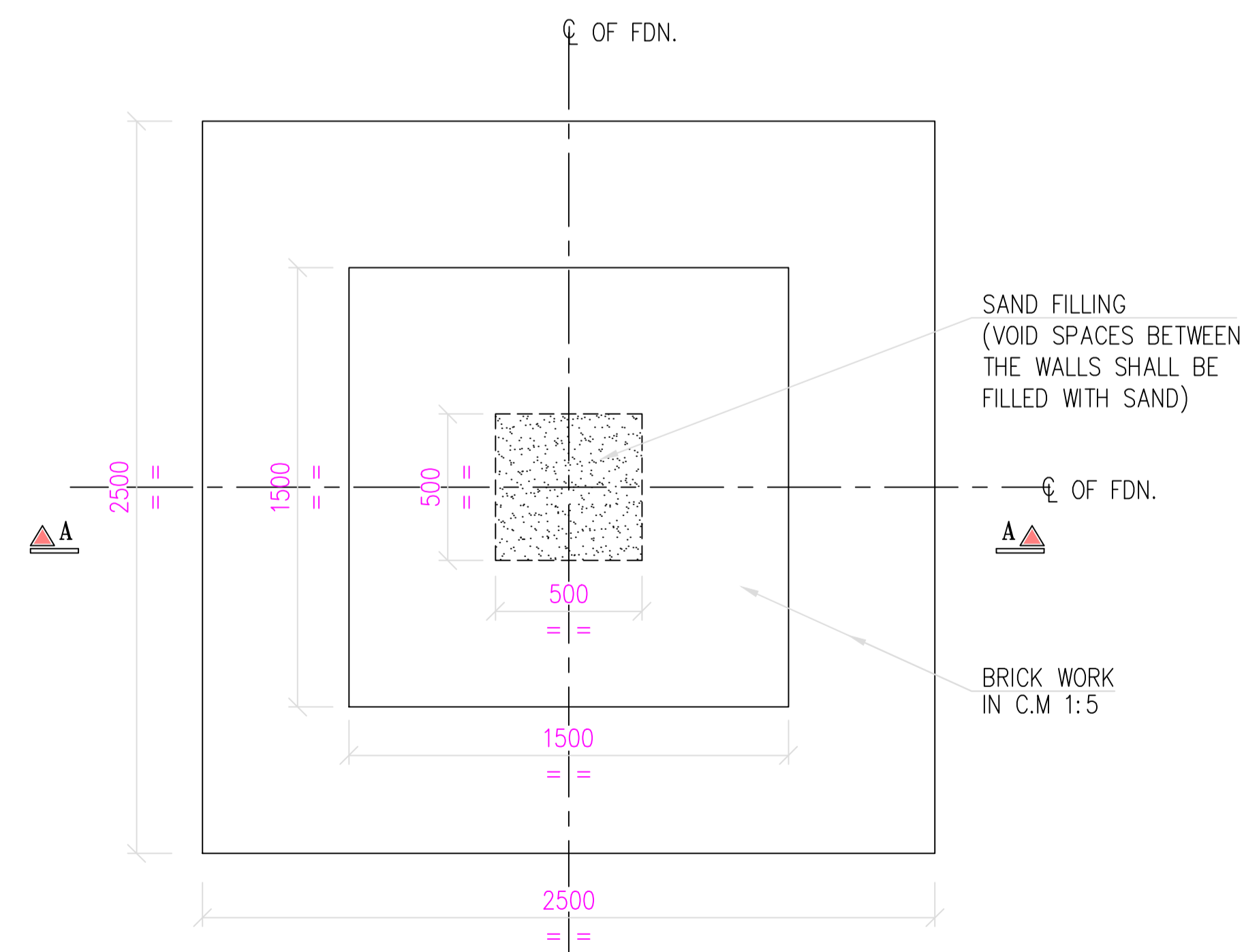


**LEGEND:-**

- - - - - CENTER LINE
- FGL - FINISHED GROUND LEVEL
- TYP. - TYPICAL

**NOTES:-**

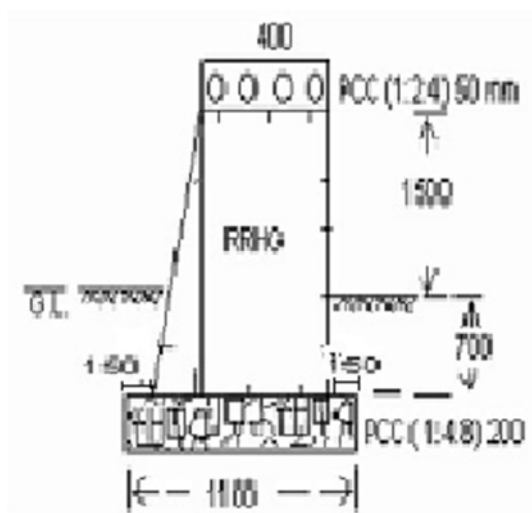
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNO.
2. THIS DRAWING IS NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
3. FGL CORRESPONDS TO FINISHED GROUND LEVEL.
4. RCC SHALL BE OF GRADE M20 (1:1.5:3).
5. LEAN CONCRETE (PCC) GRADE SHALL BE (1:3:6).
6. ALL EXPOSED SURFACES OF BRICKWORK SHALL BE PLASTERED WITH 20mm THICK CEMENT PLASTER IN CM 1:6.
7. MINOR ADJUSTMENTS MAY BE DONE AT SITE IN CONSULTATION WITH CLIENT'S ENGINEERS IN CHARGE.



DRG NO- ODSSP/CIVIL/5/REV-B

**FOUNDATION FOR 100KVA STATION TRANSFORMER**

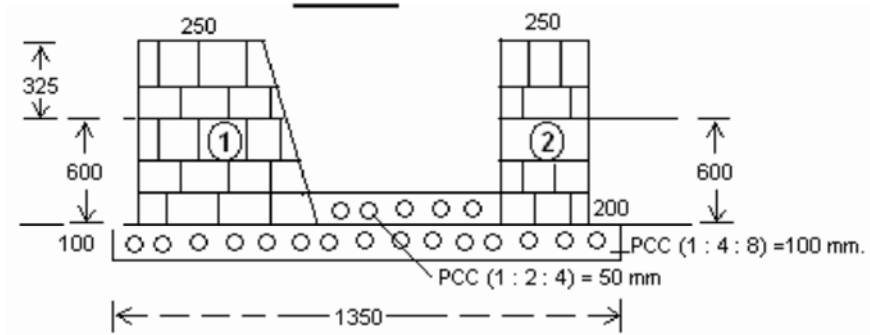
## RETAINING WALL WHERE EARTH FILLING 1 MTR.



PCC 1:4:8 MENTIONED ABOVE IS TO BE PCC 1:3:6

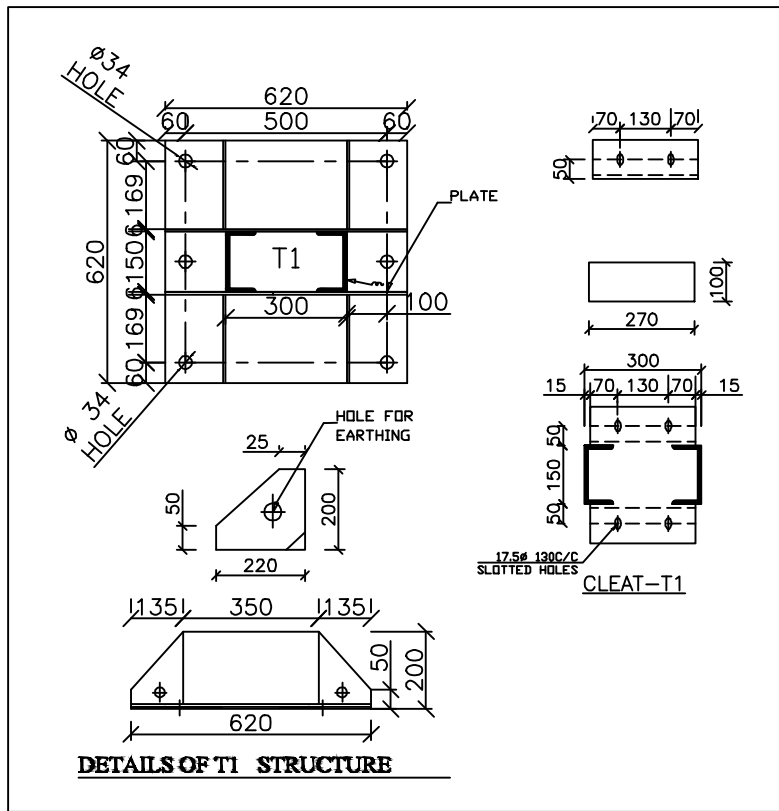
DRG NO.-ODSSP /CIVIL/6-REV-A

## DRAIN

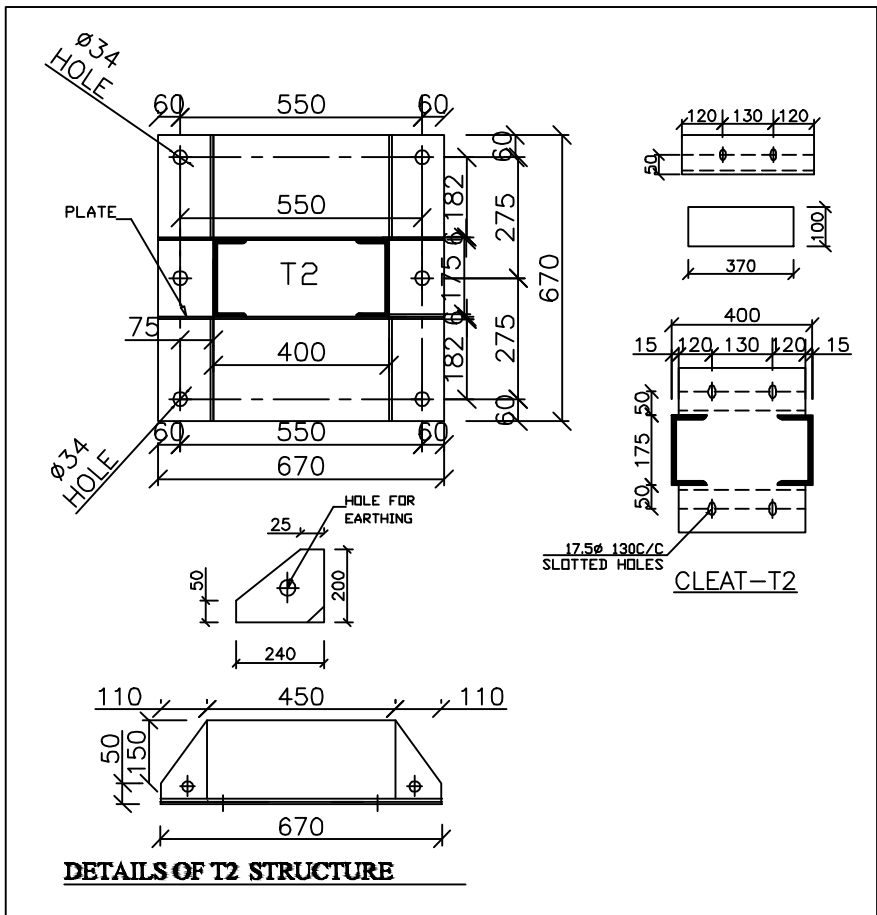


PCC 1:4:8 MENTIONED ABOVE IS TO BE PCC 1:3:6

DRG NO.-ODSSP /CIVIL/7-REV-A

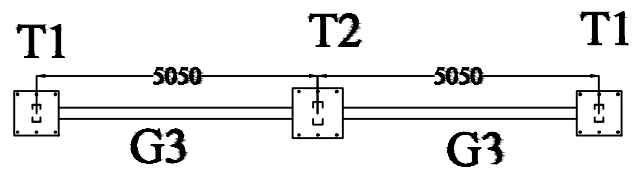


**DETAILS OF T1 STRUCTURE**



**DETAILS OF T2 STRUCTURE**

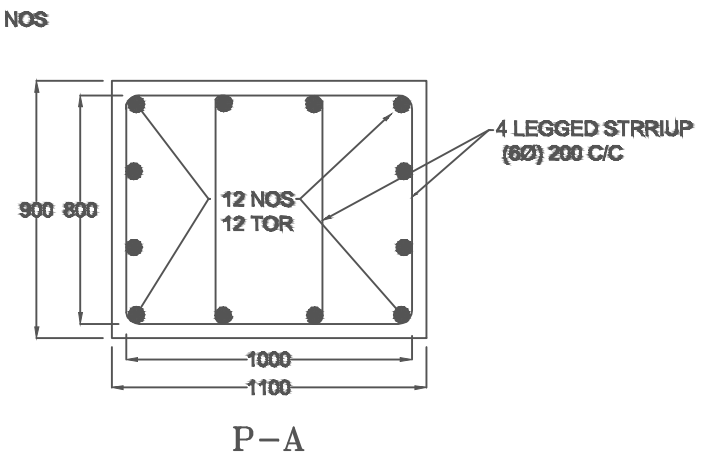
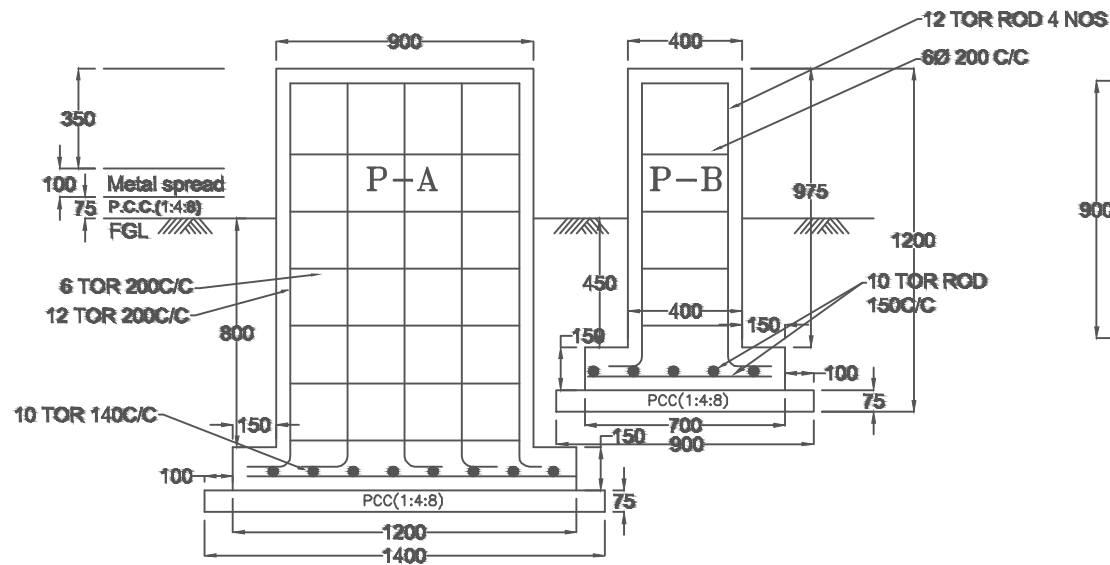
**FOUNDATION PLAN FOR T1 & T2 COLUMN**



**FOUNDATIONBOLT FOR INDOOR ARRANGEMENT**

BILL OF MATERIAL								
ERECTION MARKS	DESCRIPTION	A	B	C	TOTAL B+C	D	E	F
1	T1/T2	205	6970	280	7250	150	125	4000
2	FOUNDATION BOLT	T1	T2	T1A	T2A	T3		
	a.32x1400	0	6 NOS	0	6 NOS	0		
	b.32x1000	6 NOS	0	6 NOS	0	0		
	c.25x750					4 nos		

# FOUNDATION DETAILS FOR 33KV VCB WITH CT FOUNDATION AT SOURCE S/S



FOUNDATION BOLT  
20MMX1000MM GI  
(SUPPLIED WITH BEAKER BUT  
THE LENGTH SHOULD  
BE INCREASE TO 1000mm  
BY WELDING REQUIRED  
SIZE RODS)

