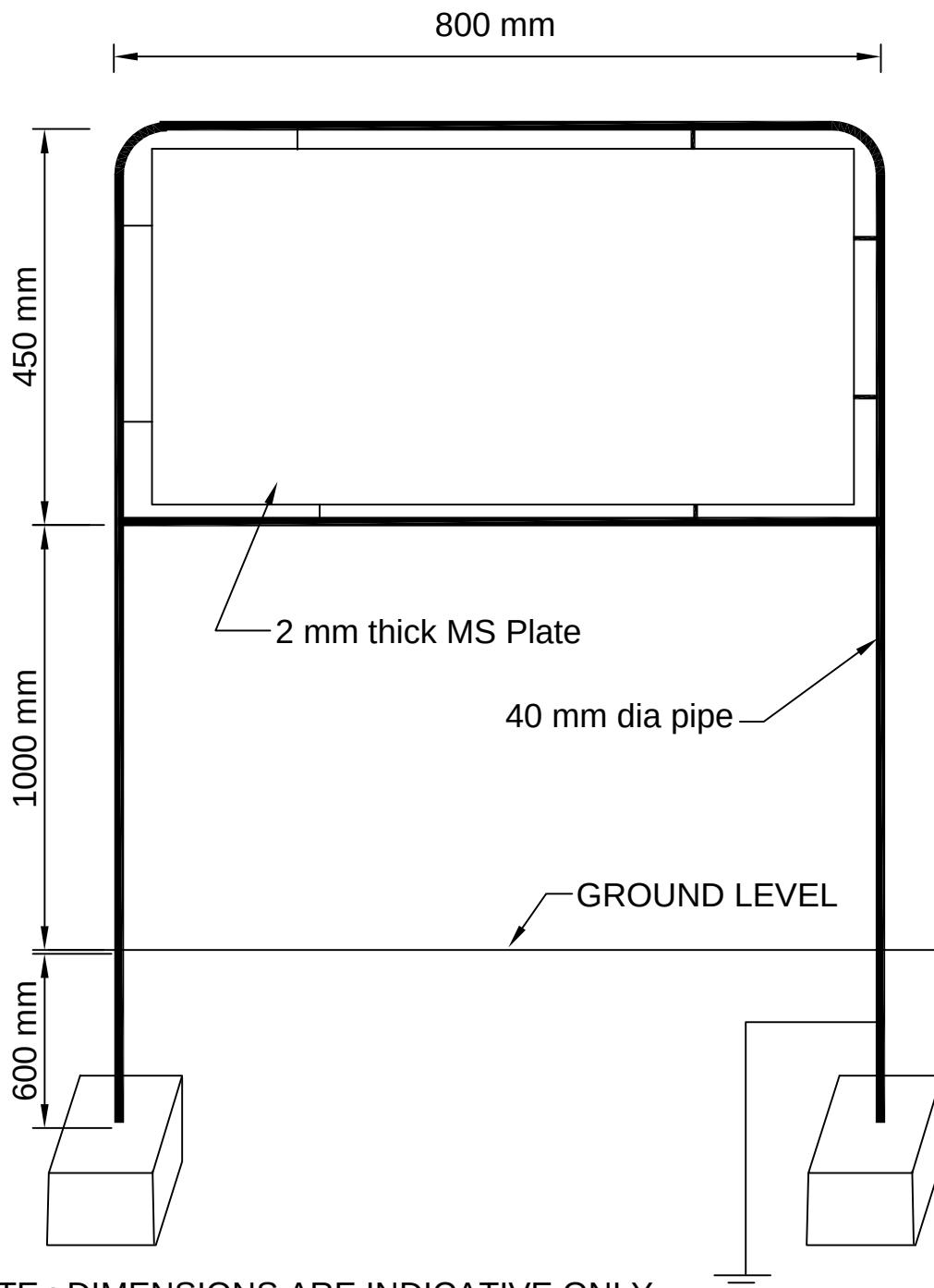




NOTE : DIMENSIONS ARE INDICATIVE ONLY.
IT MAY VARY AS PER SITE REQUIREMENT.

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)



PROJECT :- STANDARD

TITLE:- STANDARD BAY NAME PLATE

SKD Parthar

SKD Parthar

18/02/2008

Drawing No.:

Rev.

CKD BY

PRPD BY

Date

C/ENG/STD/BAY NAME PLATE

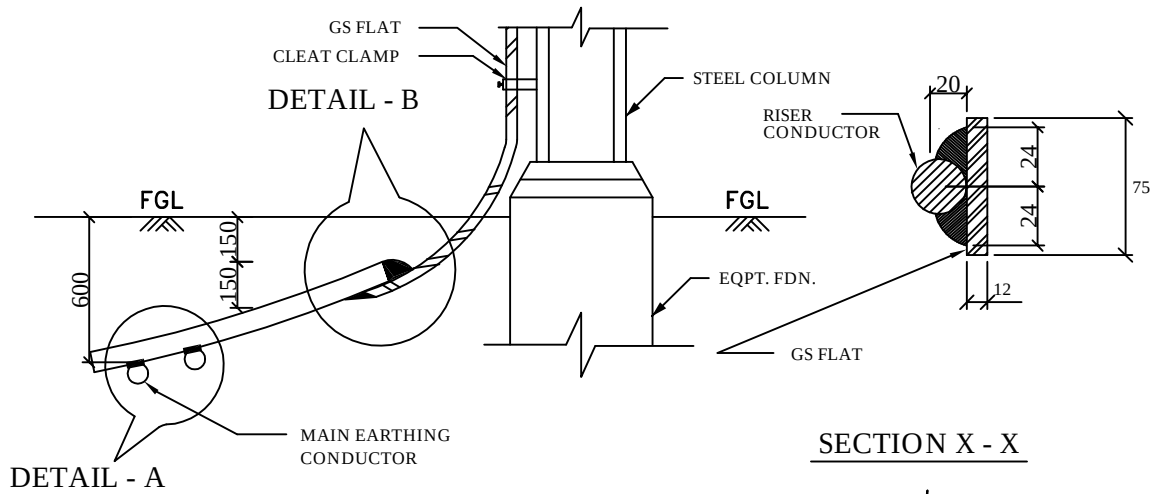
00

GENERAL INSTRUCTION FOR EARTHING:

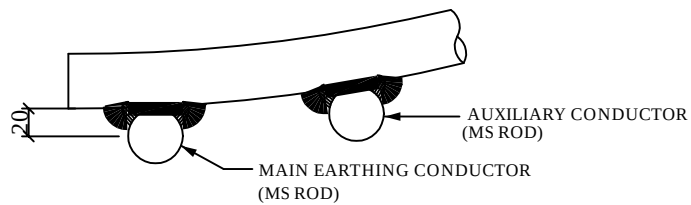
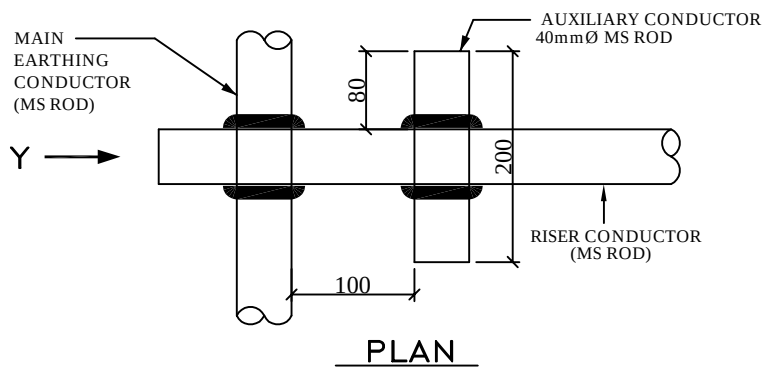
1. Location of earthing conductors / risers shown in the earthing drawing may change to suit the site condition.
2. Two different risers of one structure / equipment shall be connected to different conductors of main earthmat.
3. Earthing conductor around the building shall be buried at a minimum distance of 1500 mm from the outer boundary of the building.
4. Minimum distance of 6000 mm shall be maintained between two treated (pipe) electrode.
5. For surge arrester, earthing lead from surge counter to main earthmat shall be shortest in length as practically as possible. Earthing lead from surge arrester shall not be passed through any pipe.
6. No welding is allowed in the over ground earthing leads / risers.

RELEASED FOR CONTRUCTION

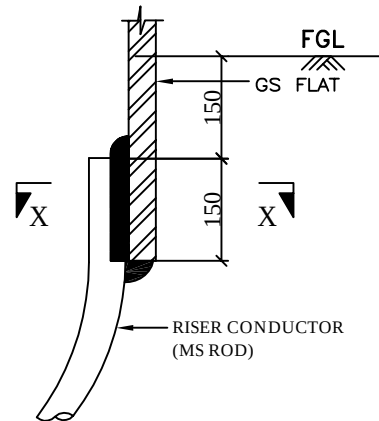
POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)			 पावरग्रिड	
PROJECT :- STANDARD				
TITLE:- STANDARD EARTHING DETAILS				
<i>HKPankar</i>	<i>HKPankar</i>	12/11/2007	Drawing No.: C / ENG / STD / EARTHINGS SHEET # 1	Rev. 00
CKD BY	PRPD BY	Date		



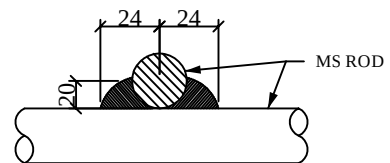
TYPICAL DETAILS OF RISER



**ELEVATION
DETAIL - A**



**ELEVATION
DETAIL - B**



VIEW - Y

RELEASED FOR CONTRUCTION

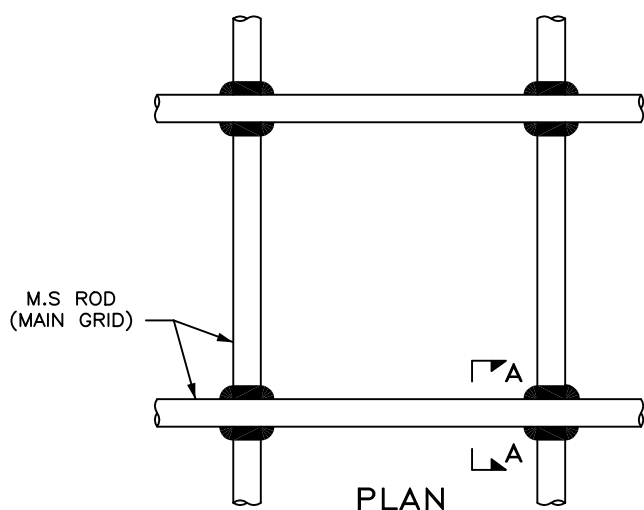
**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)



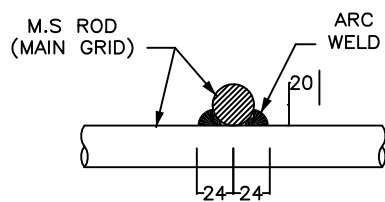
PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

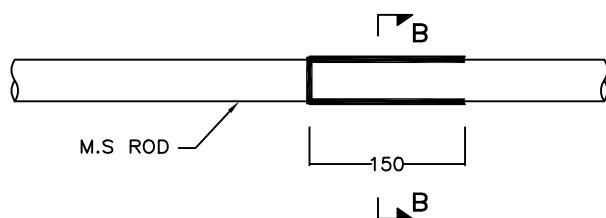
<i>HKPankar</i>	<i>HKPankar</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS SHEET # 2	Rev. 00
CKD BY	PRPD BY	Date		



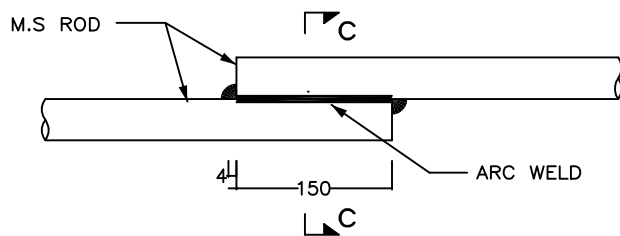
DETAIL OF CROSS JOINT



SECTION A - A

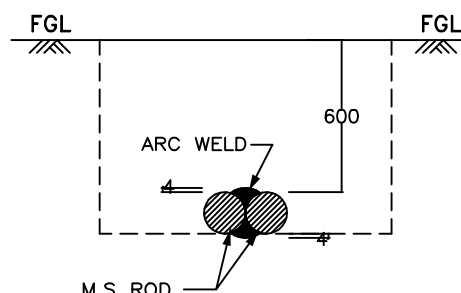


(CONDUCTORS KEPT ON SIDES)

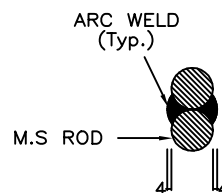


(CONDUCTORS ONE ABOVE THE OTHER)

DETAIL OF LAP JOINT



SECTION B - B



SECTION C - C

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)



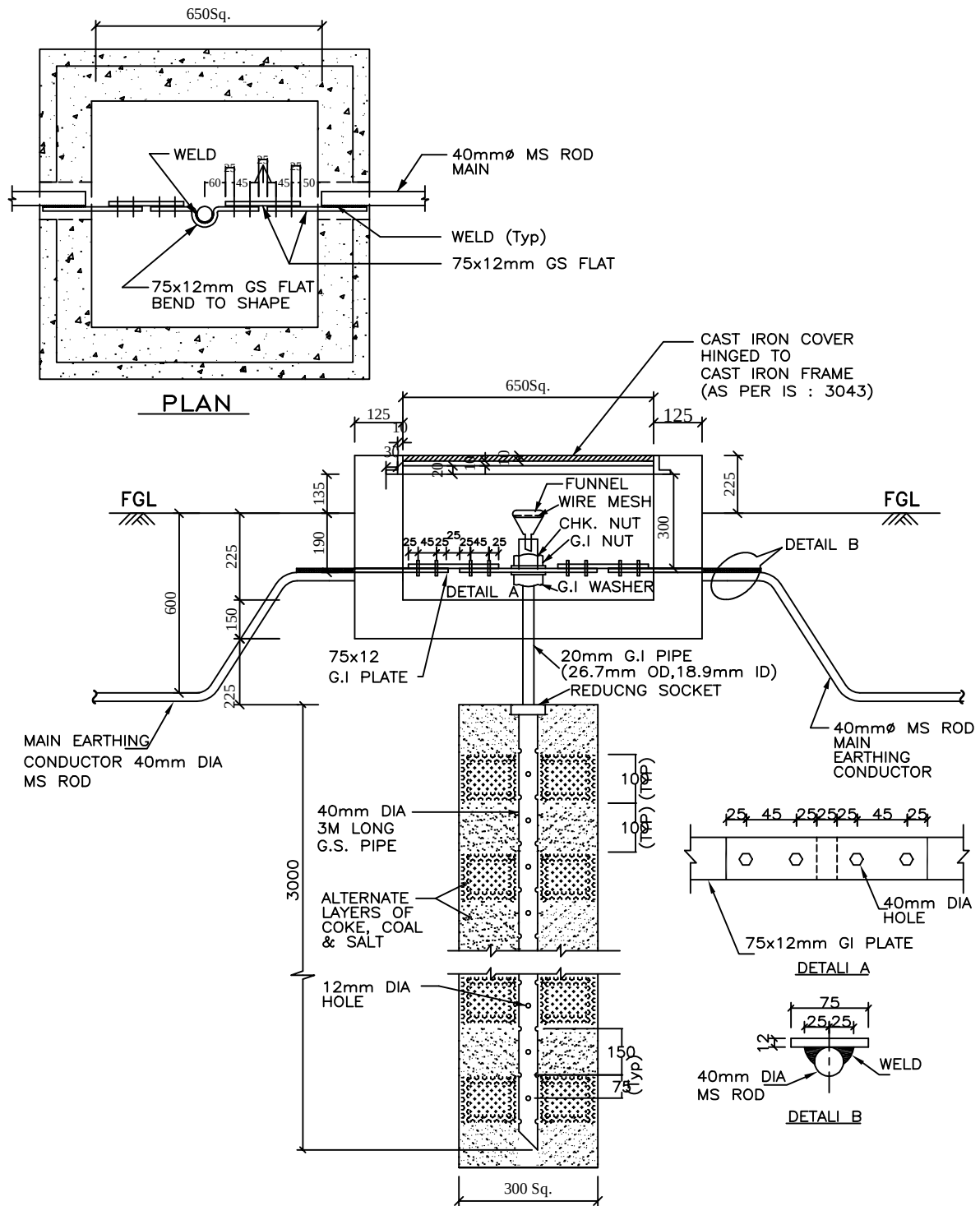
PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>CKD</i>	<i>PRPD</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS	Rev. 00
CKD BY	PRPD BY	Date	SHEET # 3	



<i>KKH Parker</i>	<i>KKH Parker</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS SHEET # 4	Rev. 00
CKD BY	PRPD BY	Date		



RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

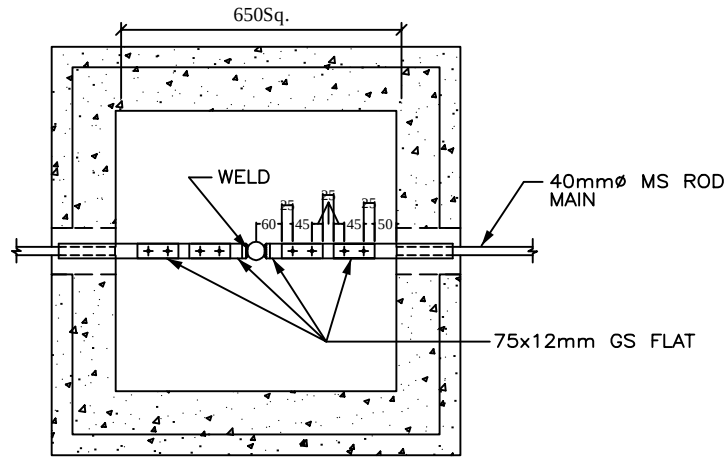


PROJECT :- STANDARD

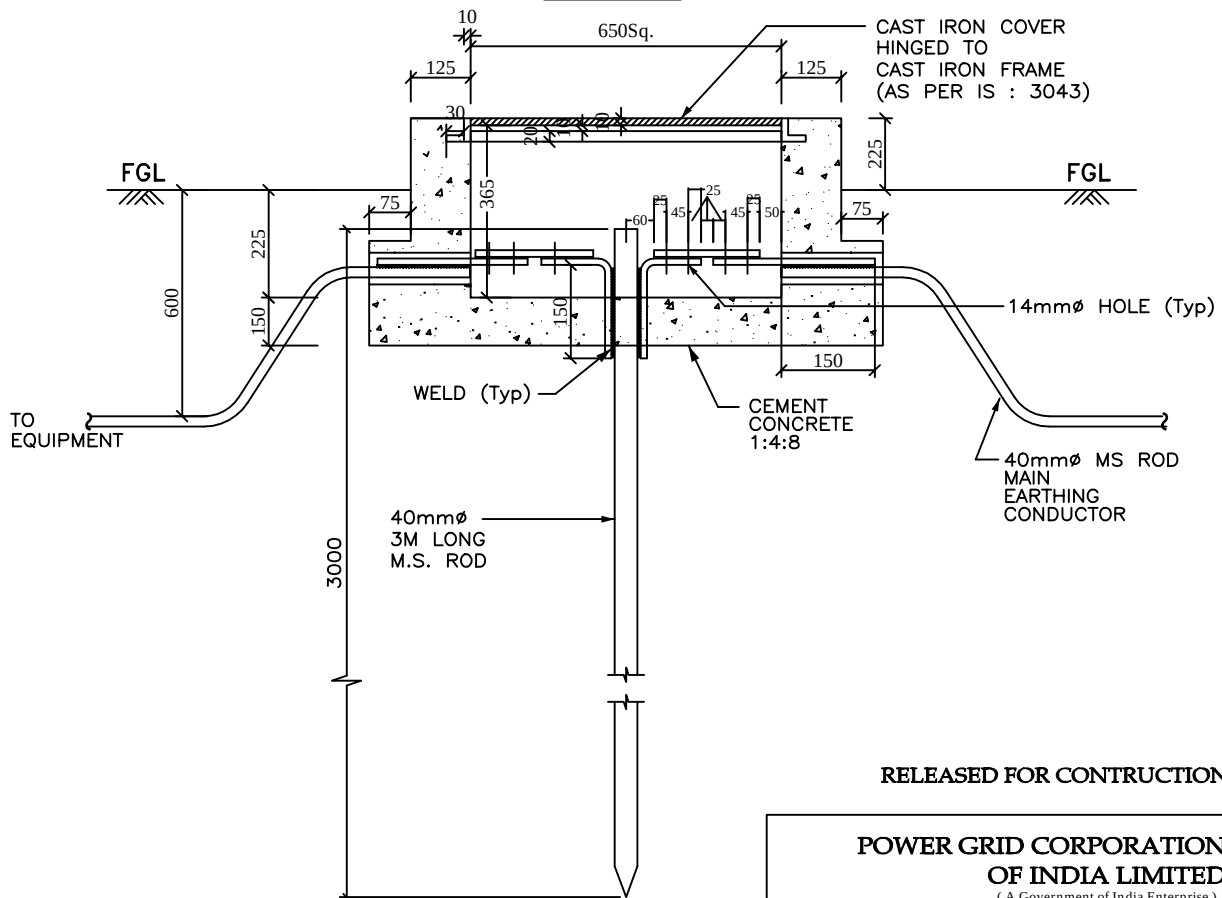
TITLE:- STANDARD EARTHING DETAILS

CKD BY	PRPD BY	Date	Drawing No.: C/ENG/STD/EARTHINGS SHEET # 5	Rev. 00
--------	---------	------	--	------------

ROD ELECTRODE WITH TEST LINK FOR LM, TOWER WITH PEAK, CVT, LA



PLAN



ELEVATION

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

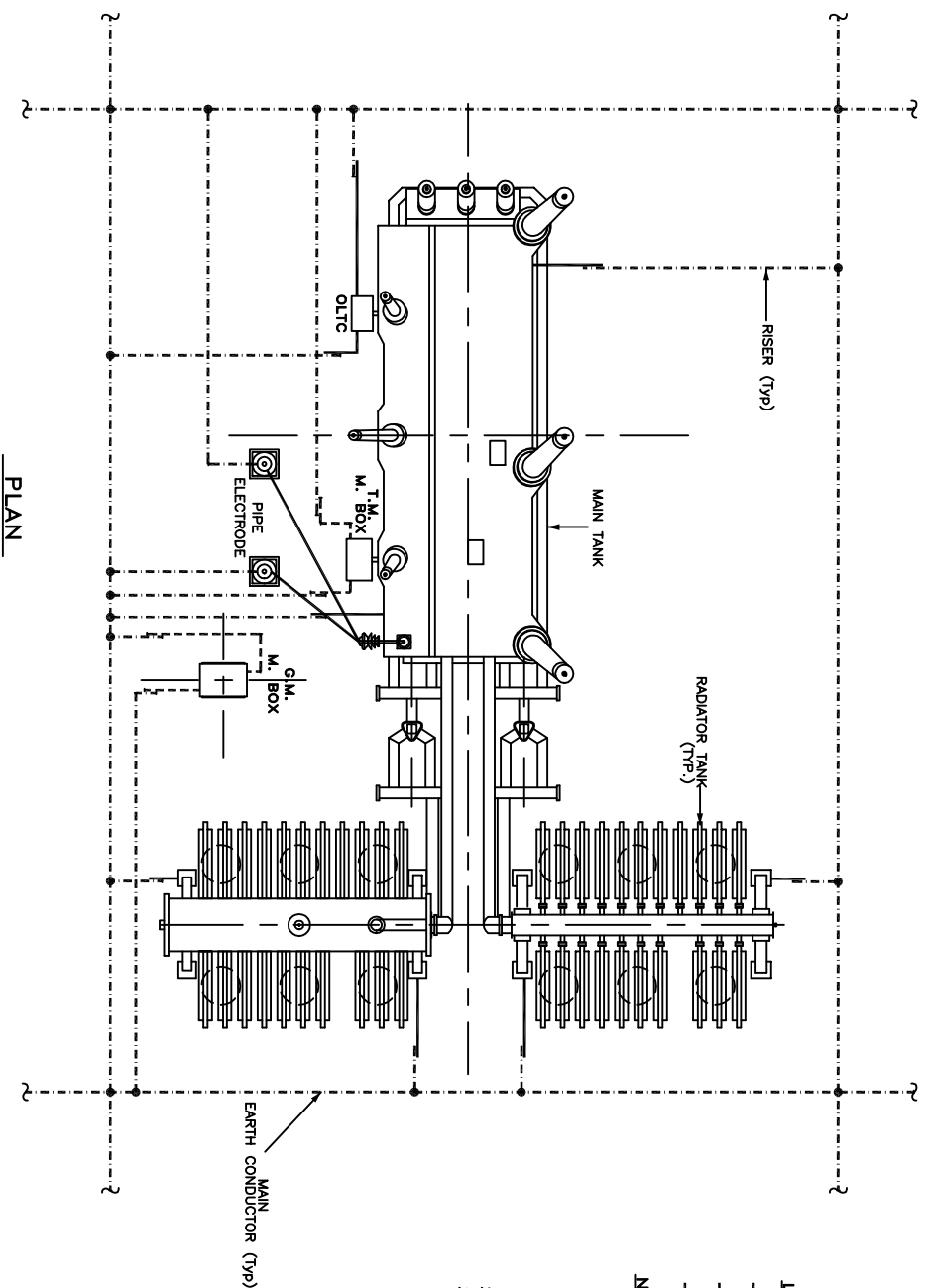


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

CKD BY	PRPD BY	Date	Drawing No.: C/ENG/STD/EARTHING SHEET # 6	Rev. 00
SKD/Perkar	SKD/Perkar	12/11/2007		

EARTHING OF TRANSFORMER/ REACTOR



PLAN

LEGEND

-----	40mm ϕ MS ROD
—————	75 x 12 mm GS FLAT
-----	50 x 6 mm GS FLAT

NOTES :-

1. No. OF RISERS :-
 MAIN TANK — 2 Nos.
 RADIATOR TANK — 4 Nos. (ICT only)
 OLT/C — 2 Nos./M. BOX
 M. BOX — 2 Nos.
 NEUTRAL EARTH — 2 Nos.
 ELECTRODE — 2 Nos.
2. No. OF PIPE ELECTRODE REQUIRED = 2 Nos.
3. Pylon SUPPORTS SHALL BE EARTHED TO THE MAIN EARTHING CONDUCTOR BY GS FLAT.

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

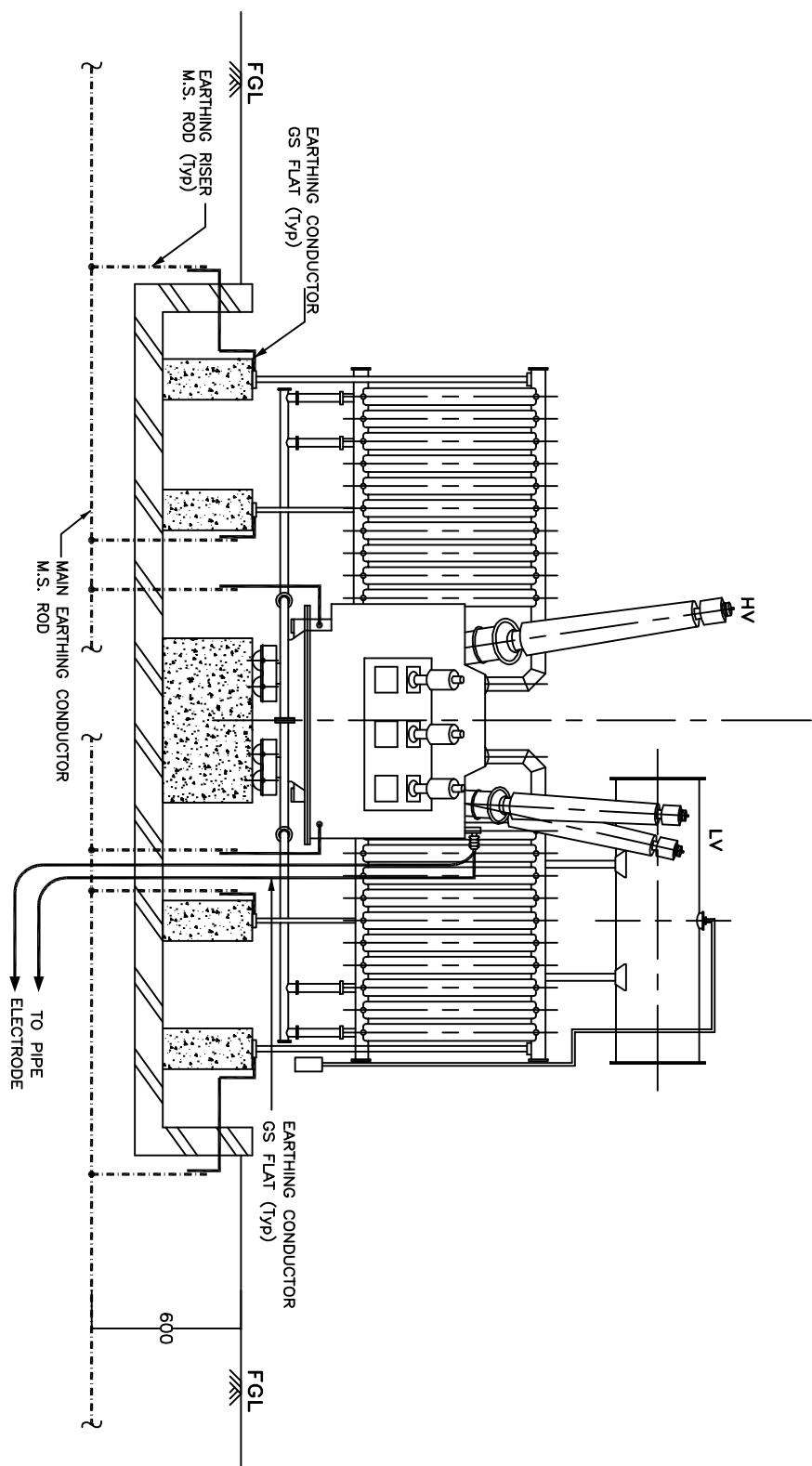


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

2007/2008	2007/2008	12/11/2007	Drawing No.:	Rev.
CKD BY	PRPD BY	Date	C/ENG/STD/EARTHINGS	00
			SHEET # 7	

EARTHING OF TRANSFORMER / REACTOR



LEGEND

- 40mm ϕ MS ROD
- 75 x 12 mm GS FLAT
- 50 x 6 mm GS FLAT

END VIEW

RELEASED FOR CONSTRUCTION

POWER GRID CORPORATION
OF INDIA LIMITED
(A Government of India Enterprise)

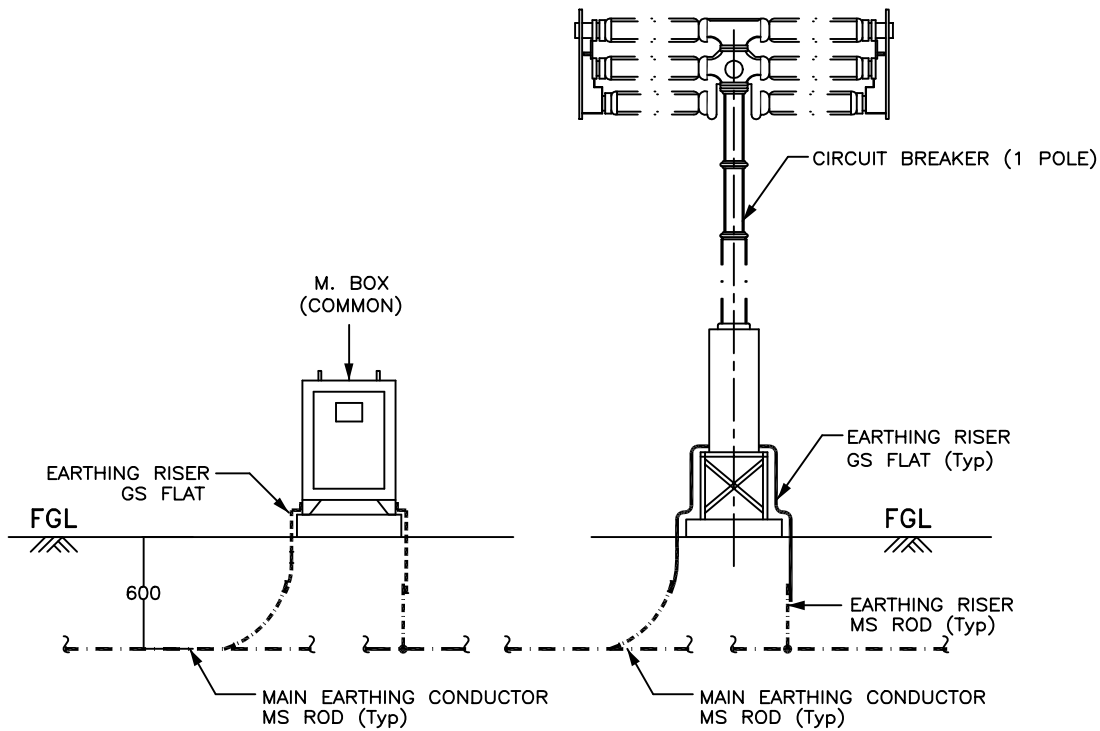


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

CKD BY	PRPD BY	Date	Drawing No.: C/ENG/STD/EARTHINGS SHEET # 8	Rev. 00
20/08/2007	20/08/2007	12/11/2007		

EARTHING OF CIRCUIT BREAKER



ELEVATION

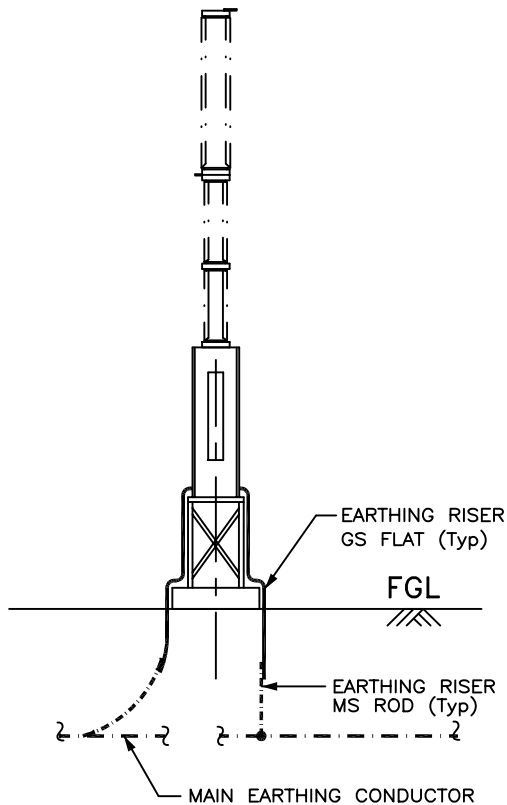
NOTES :-

1. No. OF RISERS FOR CIRCUIT BREAKER = 2 Nos. / PHASE
1. No. OF RISERS FOR LADDER (IF Applicable) = 2 Nos.
2. No. OF RISERS FOR MAR. BOX = 2 Nos.
3. CLEAT CLAMP SHALL BE PROVIDED AT 1000mm INTERVAL.

LEGEND

— · — · — · —	40mm ϕ MS ROD
—————	75 x 12 mm GS FLAT
-----	50 x 6 mm GS FLAT

RELEASED FOR CONTRUCTION



**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

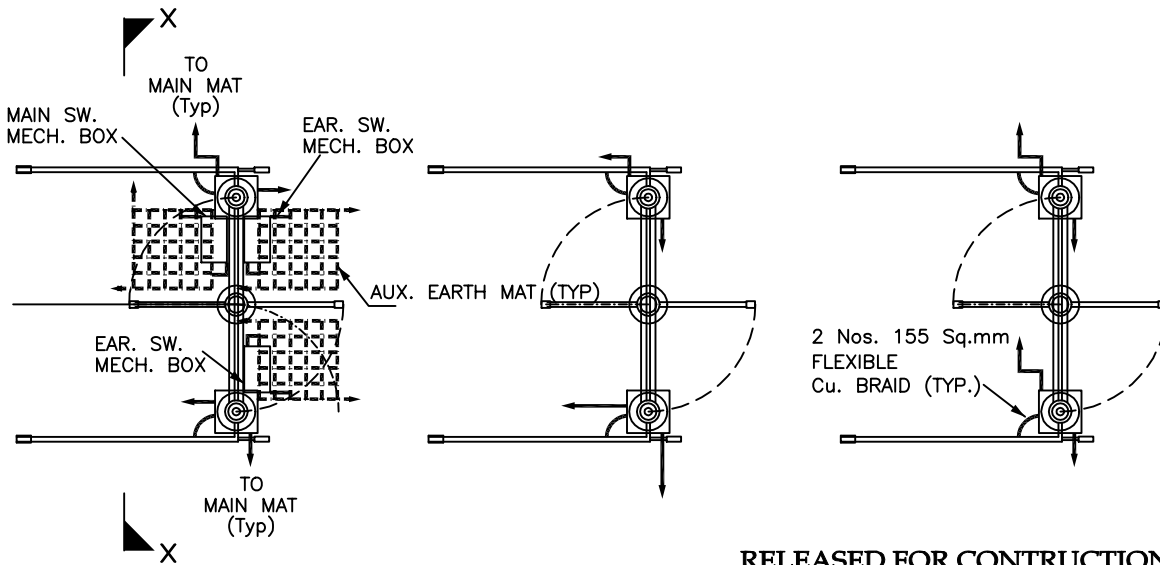
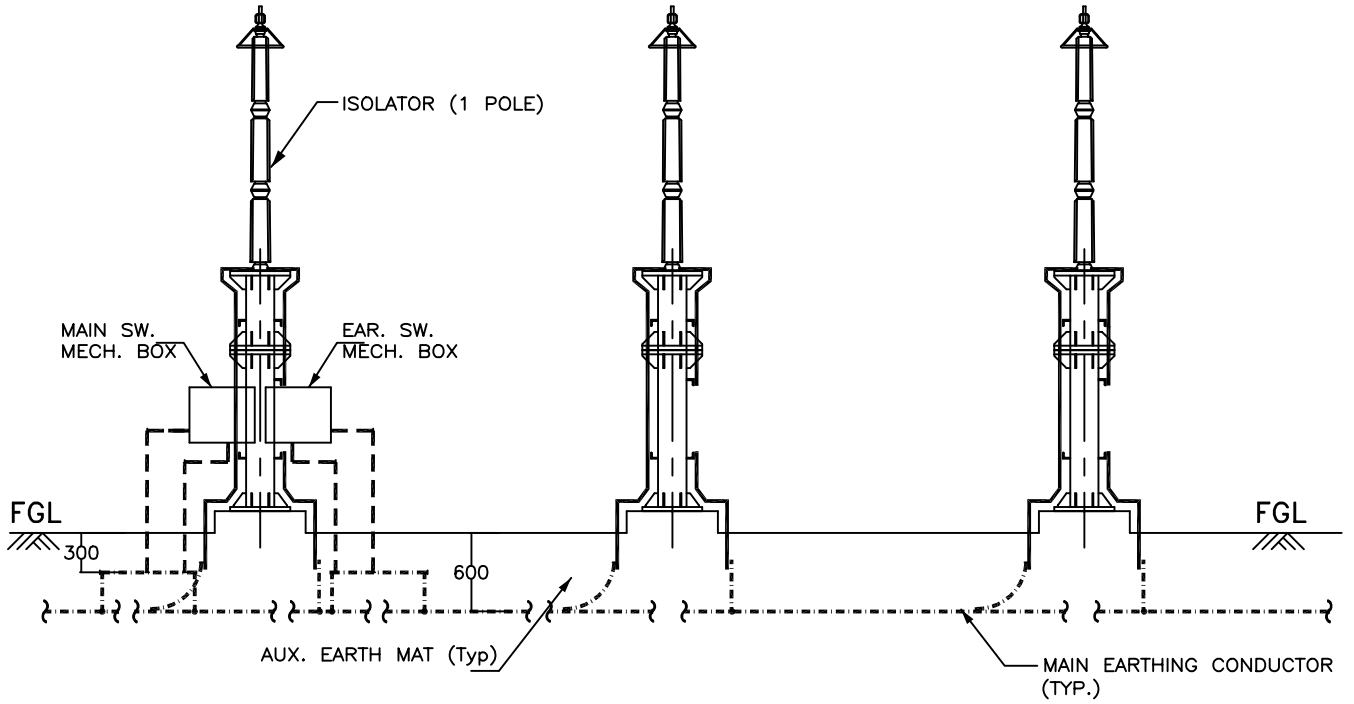


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>KK Parkar</i>	<i>KK Parkar</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS SHEET # 9	Rev. 00
CKD BY	PRPD BY	Date		

EARTHING OF ISOLATOR



RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

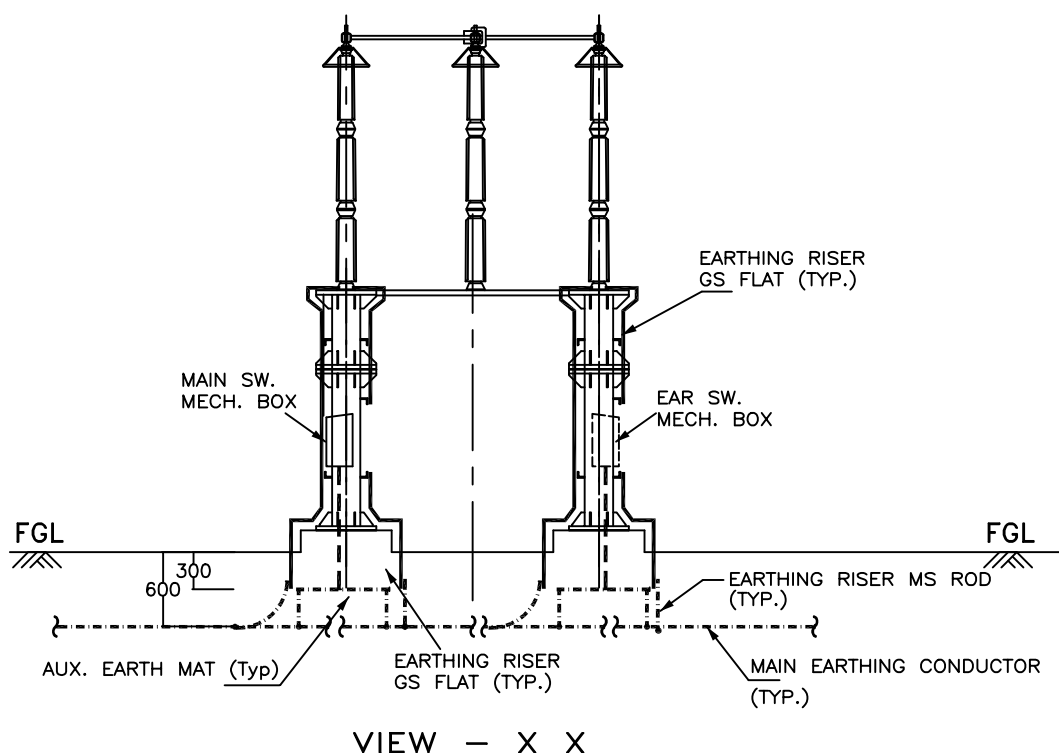


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>HN Parkar</i>	<i>HN Parkar</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS	Rev. 00
CKD BY	PRPD BY	Date	SHEET # 10	

EARTHING OF ISOLATOR (1 PH)



LEGEND

— · — · — · —	40mm ϕ MS ROD
—————	75 x 12 mm GS FLAT
-----	50 x 6 mm GS FLAT

NOTES :-

1. No. OF RISERS FOR ISOLATOR = 4 Nos. / PHASE.
2. No. OF RISERS FOR MAIN MECH. BOX = 2 Nos.
3. No. OF RISERS FOR EARTH SW. MECH. BOX = 2 Nos. / BOX.
4. No. OF AUXILIARY EARTH MAT = 1 Nos. FOR EACH MB
5. CLEAT CLAMP SHALL BE PROVIDED AT 1000mm INTERVAL.
6. NO. OF AUX. EARTHMAT IS INDICATIVE ONLY. IT SHALL BE EXECUTED AS PER ACTUAL NUMBER/POSITION OF EARTH SWITCHES.

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

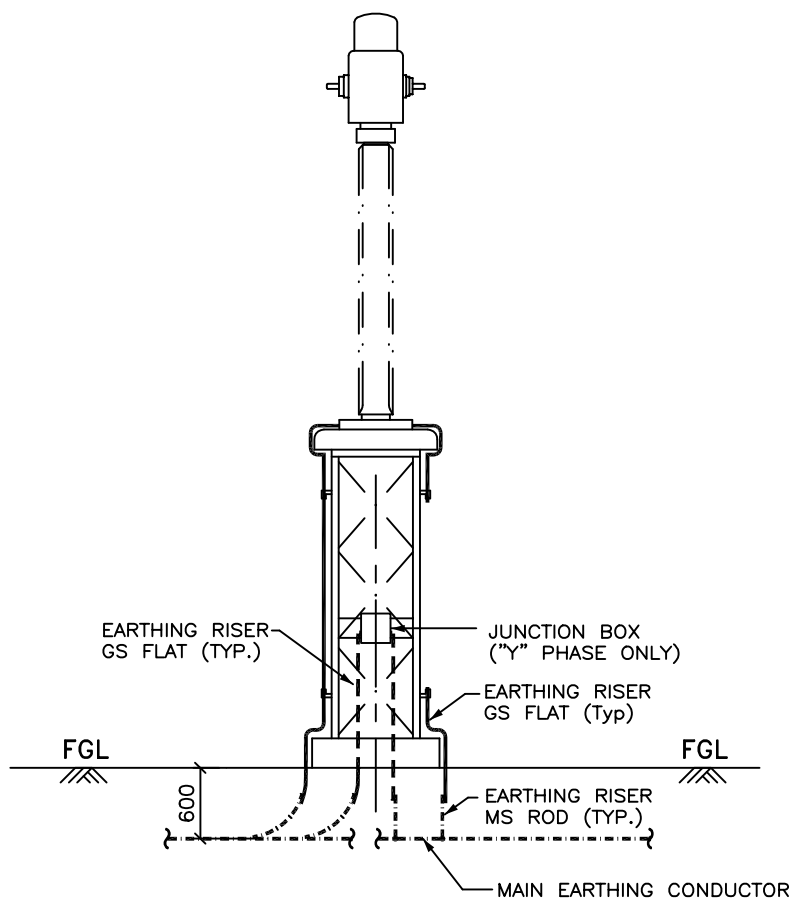


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>KKPankar</i>	<i>KKPankar</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS	Rev. 00
CKD BY	PRPD BY	Date	SHEET # 11	

EARTHING OF CURRENT TRANSFORMER (1 PH)



ELEVATION

LEGEND

	40mm ϕ MS ROD
	75 x 12 mm GS FLAT
	50 x 6 mm GS FLAT

NOTES :-

1. No. OF RISERS = 2 Nos. / PHASE.
2. No. OF RISERS FOR JUN. BOX = 2 Nos.
3. CLEAT CLAMP SHALL BE PROVIDED AT 1000mm INTERVAL.

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

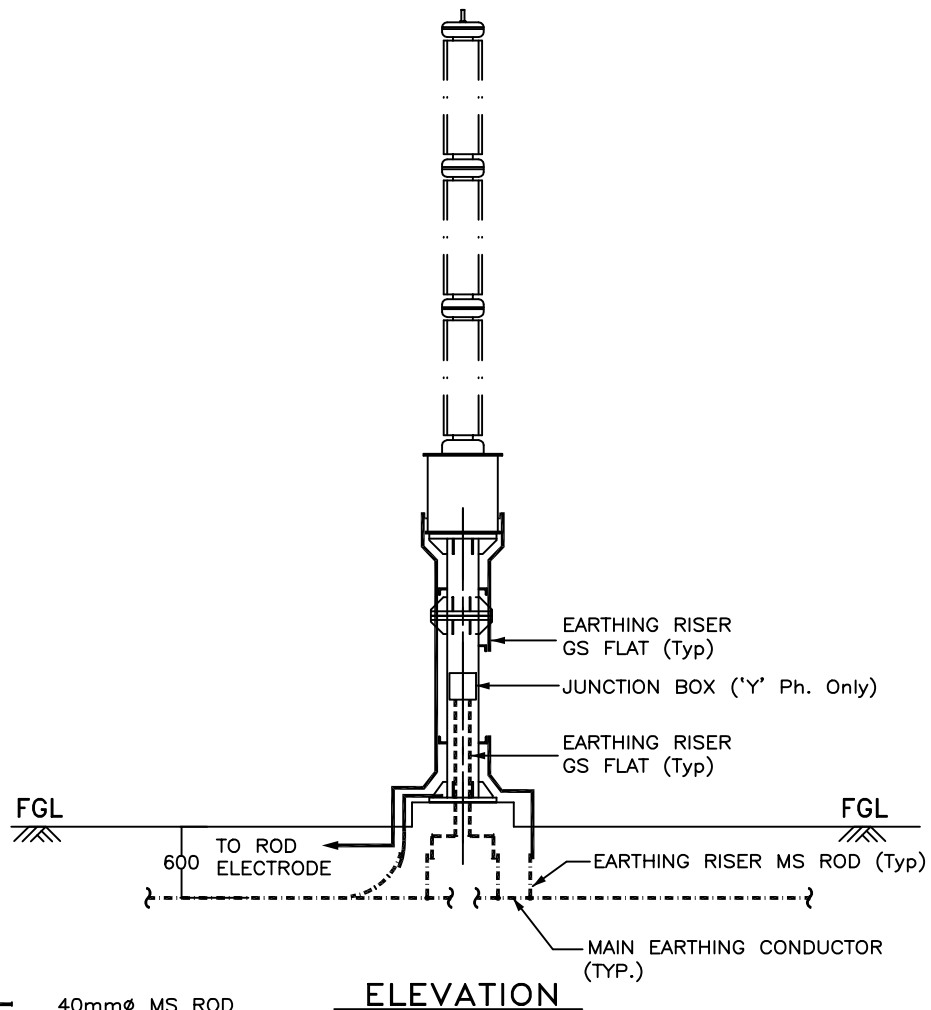


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

		12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS SHEET # 12	Rev. 00
CKD BY	PRPD BY	Date		

EARTHING OF CAPACITIVE VOLTAGE TRANSFORMER (1 PH)



LEGEND

	40mm $\varnothing$ MS ROD
	75 x 12 mm GS FLAT
	50 x 6 mm GS FLAT

NOTES :-

1. No. OF RISERS = 3 Nos. / PHASE.
2. No. OF RISERS FOR J. BOX = 2 Nos.
3. No. OF ROD ELECTRODE REQUIRED = 1 No. / PHASE.
4. CLEAT CLAMP SHALL BE PROVIDED AT 1000mm INTERVAL.

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

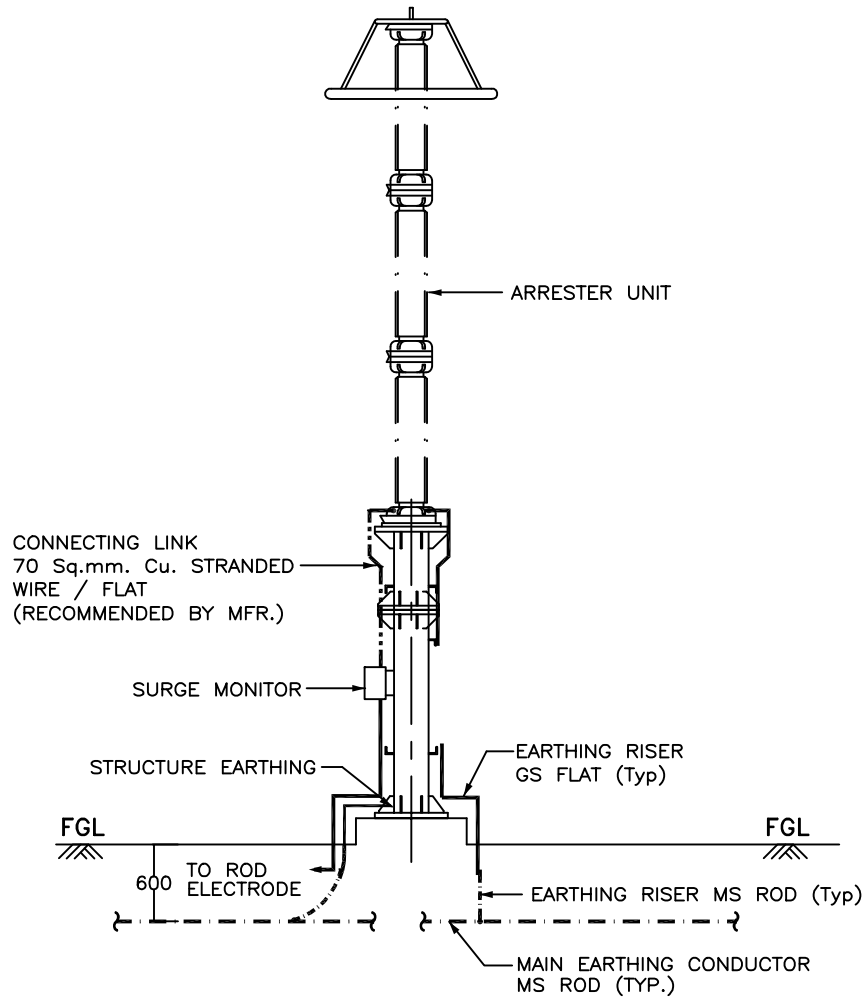


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>CKD</i>	<i>PRPD</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS	Rev.
CKD BY	PRPD BY	Date	SHEET # 13	00

EARTHING OF SURGE ARRESTER (1PH)



ELEVATION

LEGEND

— · — · — 40mm ϕ MS ROD

————— 75 x 12 mm GS FLAT

NOTES :-

- 1 . No. OF RISERS = 3 Nos. / PHASE.
- 2 . No. OF ROD ELECTRODE REQUIRED = 1 No. / PHASE.
- 3 . CLEAT CLAMP SHALL BE PROVIDED AT 1000mm INTERVAL.

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

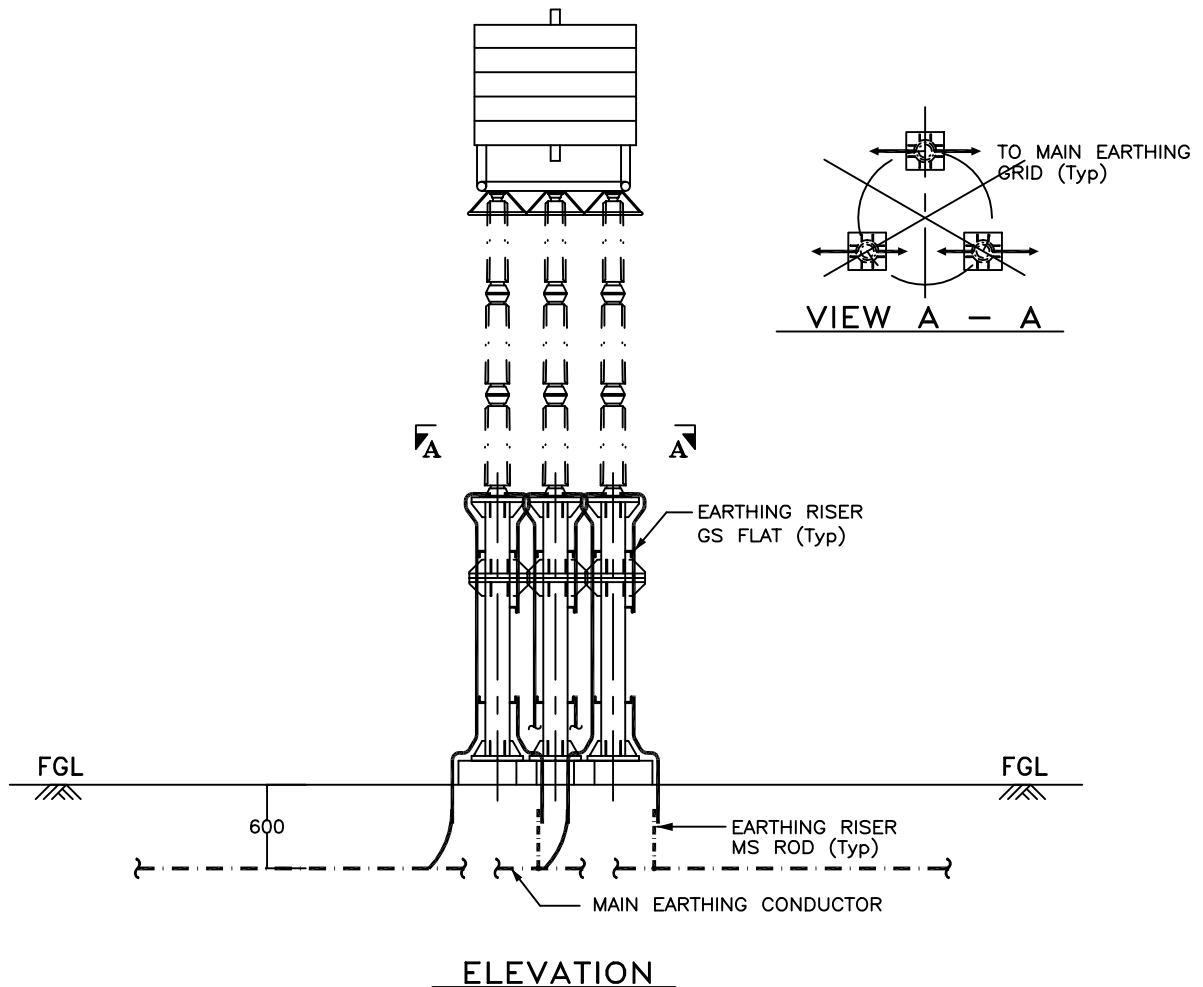


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>CKD</i>	<i>PRPD</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS	Rev. 00
CKD BY	PRPD BY	Date	SHEET # 14	

EARTHING OF WAVE TRAP (1PH)



LEGEND

- 40mm ϕ MS ROD
 75 x 12 mm GS FLAT

NOTE :-

1. No. OF RISERS = 6 Nos. / PHASE.
2. CLEAT CLAMP SHALL BE PROVIDED AT 1000mm INTERVAL.

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

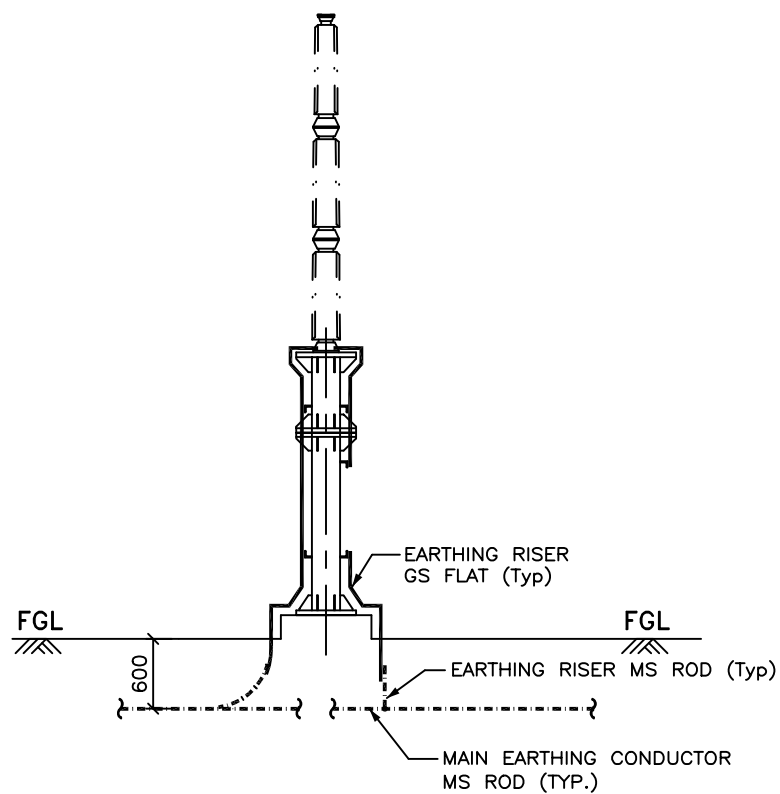


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>CKD</i>	<i>PRPD</i>	12 / 11 / 2007	Drawing No.: C / ENG / STD / EARTHINGS	Rev. 00
CKD BY	PRPD BY	Date	SHEET # 15	

EARTHING OF POST INSULATOR (1PH)



ELEVATION

LEGEND

- · — · — 40mm ϕ MS ROD
———— 75 x 12 mm GS FLAT

NOTES :-

1. No. OF RISERS = 2 Nos. / PHASE.
2. CLEAT CLAMP SHALL BE PROVIDED AT 1000mm INTERVAL.

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

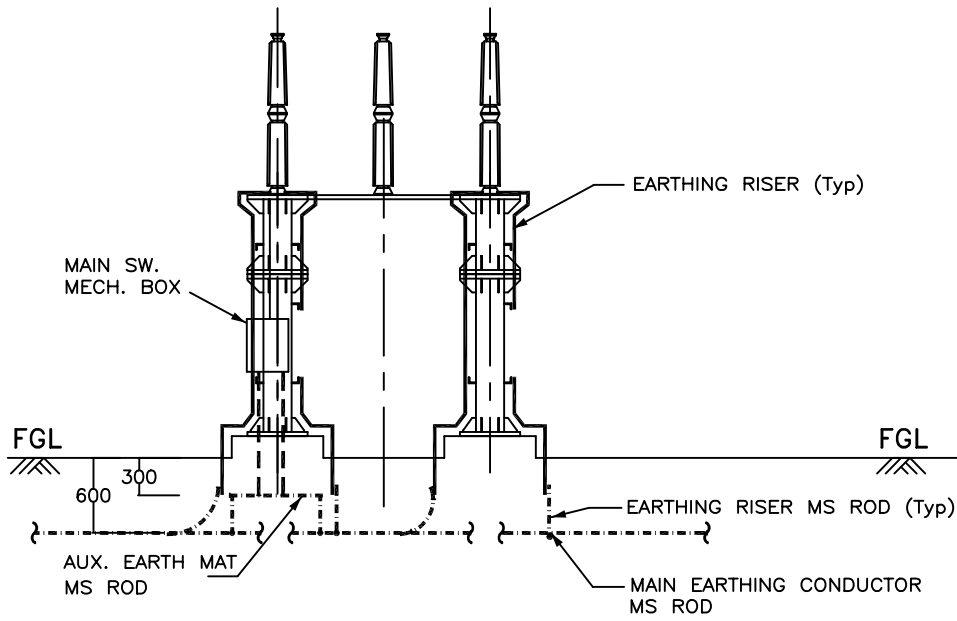


PROJECT :- STANDARD

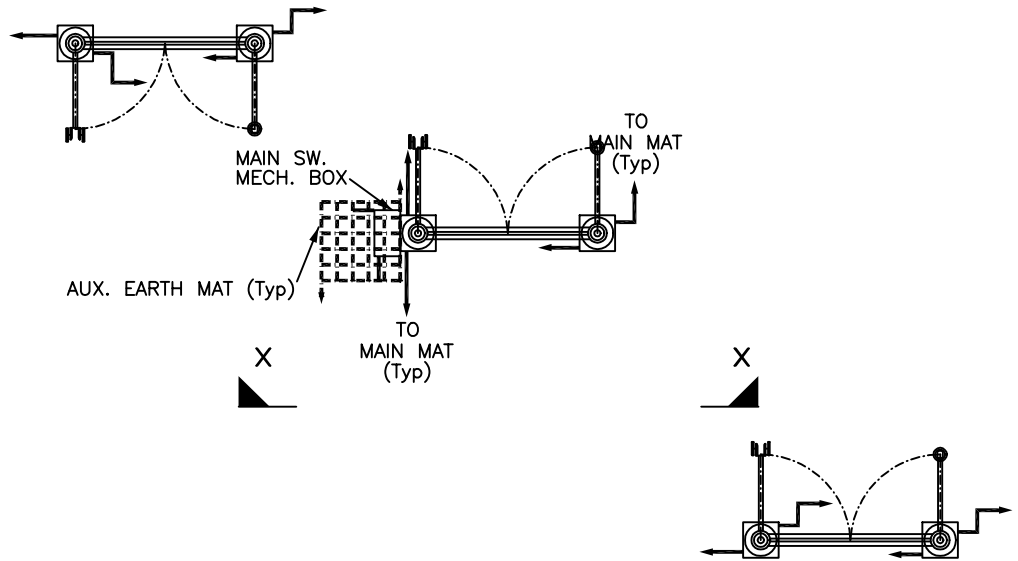
TITLE:- STANDARD EARTHING DETAILS

<i>CKD</i>	<i>PRPD</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS SHEET # 16	Rev. 00
CKD BY	PRPD BY	Date		

TANDEM ISOLATOR



VIEW - X X



PLAN

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)



PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

NDPankar

CKD BY

NDPankar

PRPD BY

12 / 11 / 2007

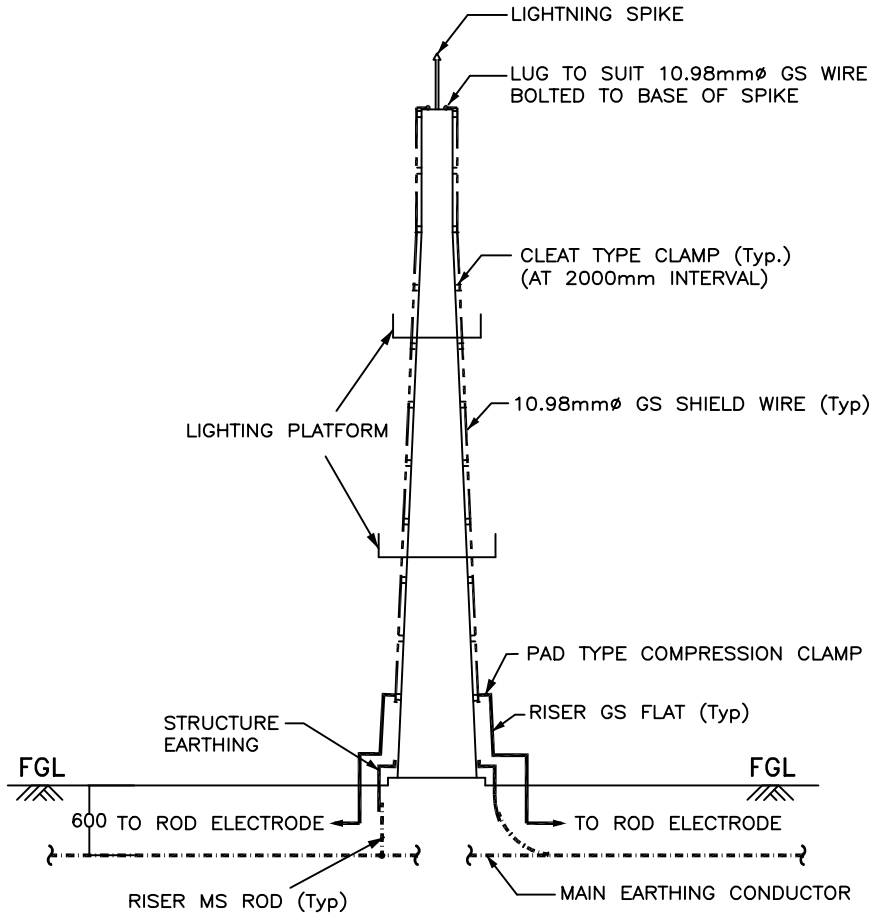
Date

Drawing No.:
C / ENG / STD / EARTHINGS
SHEET # 17

Rev.

00

EARTHING OF LIGHTNING MAST



NOTES :-

1. No. OF RISERS = 4 Nos.
2. No. OF ROD ELECTRODE REQUIRED = 2 Nos.
3. No. OF PAD TYPE CLAMP = 2 Nos.

LEGEND

- · — · — 40mm ϕ MS ROD
- 75 x 12 mm GS FLAT

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

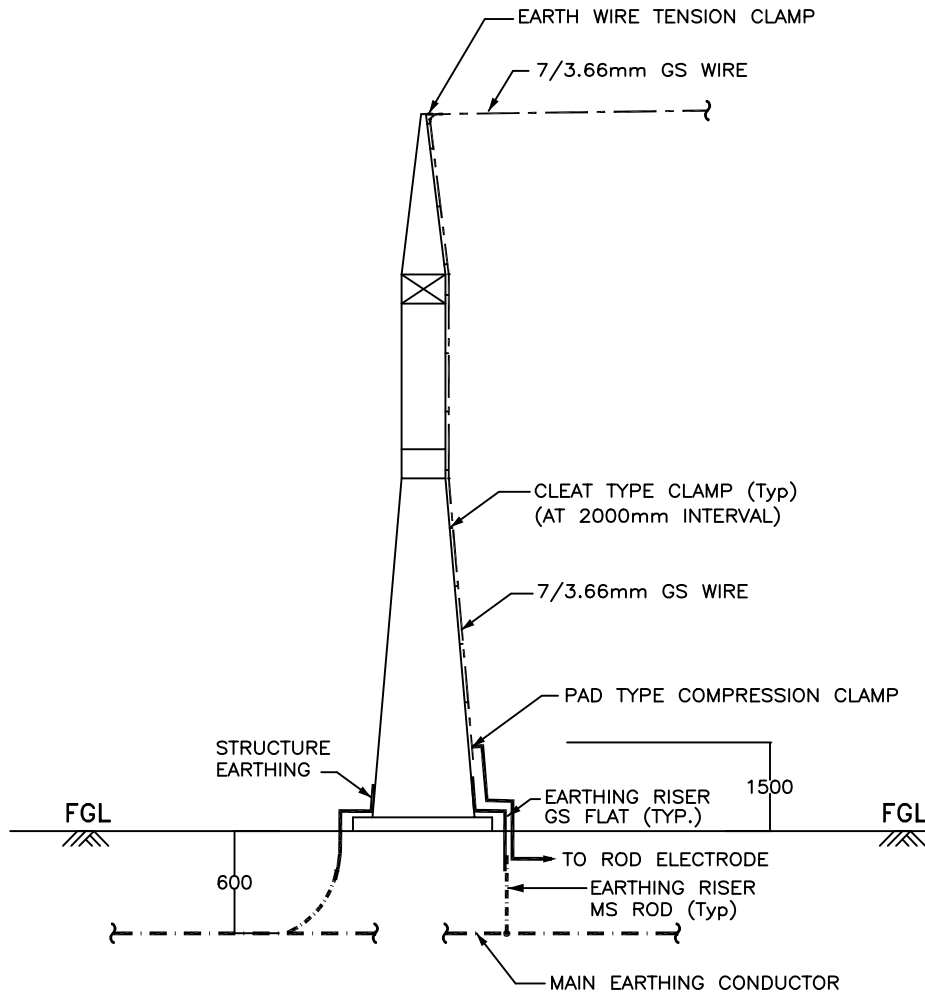


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>CKD</i>	<i>PRPD</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS	Rev. 00
CKD BY	PRPD BY	Date	SHEET # 18	

EARTHING OF TOWER WITH PEAK



ELEVATION

NOTES :-

1. No. OF RISERS = 3 Nos.
2. No. OF ROD ELECTRODE REQUIRED = 1 No.
3. No. OF PAD TYPE CLAMP = 1 No.

LEGEND

- · — · — · — · — · — · — 40mm ϕ MS ROD
 ————— 75 x 12 mm GS FLAT

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

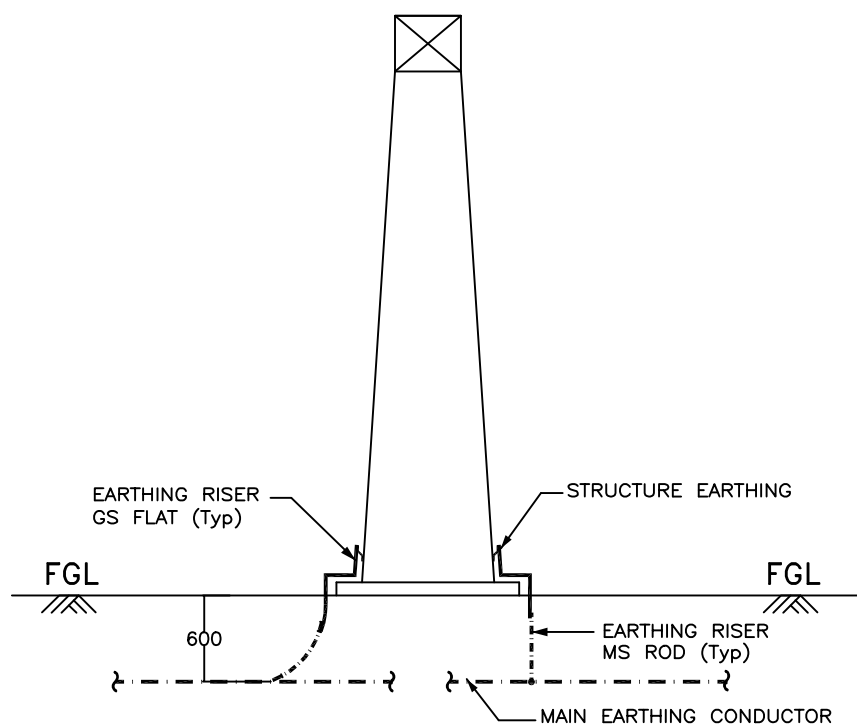


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

CKD BY	PRPD BY	Date	Drawing No.: C/ENG/STD/EARTHINGS SHEET # 19	Rev. 00
SKS/Parhar	SKS/Parhar	12/11/2007		

EARTHING OF TOWER WITHOUT PEAK



ELEVATION

LEGEND

- · — · — 40mm ϕ MS ROD
- 75 x 12 mm GS FLAT

NOTES :-

1. No. OF RISERS = 2 Nos.

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

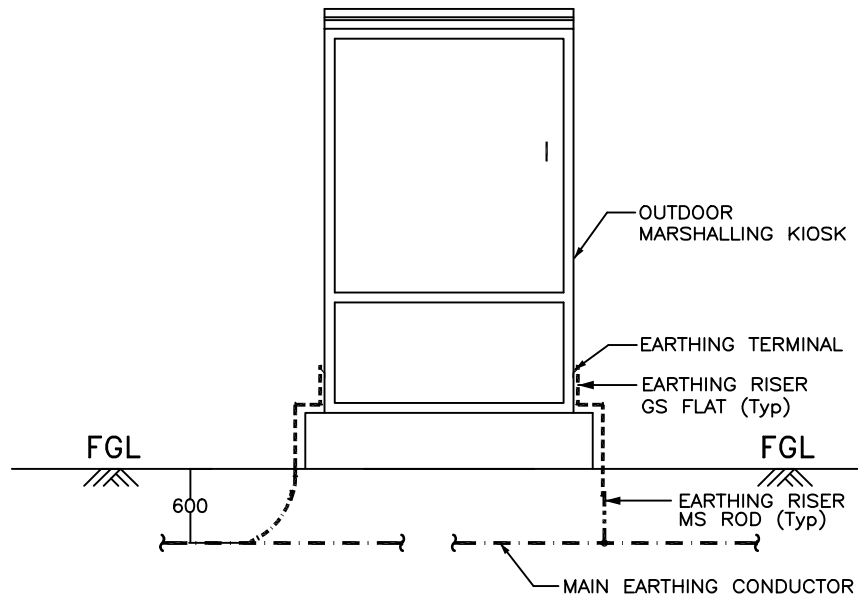


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>MDPankar</i>	<i>MDPankar</i>	12 / 11 / 2007	Drawing No.:	Rev.
CKD BY	PRPD BY	Date	C / ENG / STD / EARTHINGS	00
			SHEET # 20	

EARTHING OF BAY MARSHALLING BOX



LEGEND

	40mm $\varnothing$ MS ROD
	75 x 12 mm GS FLAT
	50 x 6 mm GS FLAT

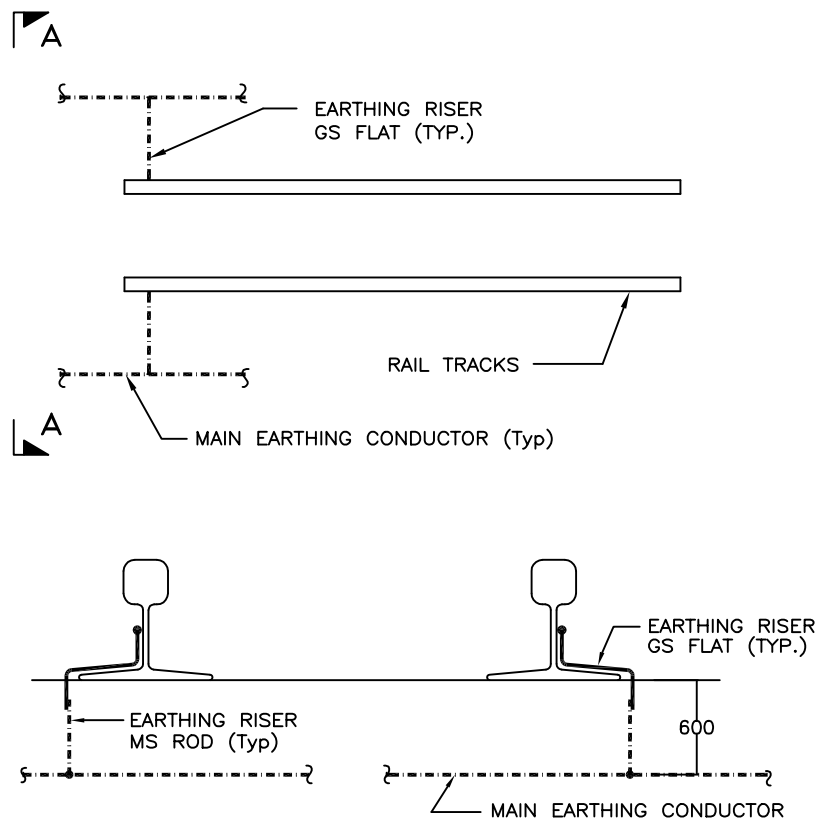
NOTE :-

- No. OF RISERS = 2 Nos.

RELEASED FOR CONTRUCTION

POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)				 पावरग्रिड
PROJECT :- STANDARD				
TITLE:- STANDARD EARTHING DETAILS				
<i>CKD</i>	<i>PRPD</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS SHEET # 21	Rev. 00
CKD BY	PRPD BY	Date		

EARTHING OF RAIL TRACK



LEGEND

— · — · — · —	40mm ϕ MS ROD
—————	75 x 12 mm GS FLAT

NOTES :-

1. EACH RAIL SHALL BE EARTHED AT 30M INTERVAL AND ALSO AT BOTH ENDS.

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

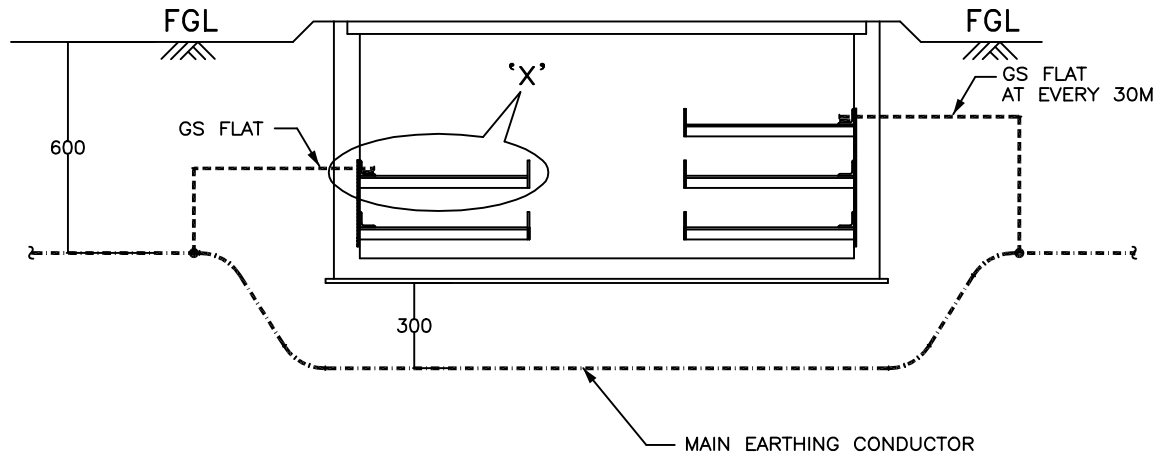


PROJECT :- STANDARD

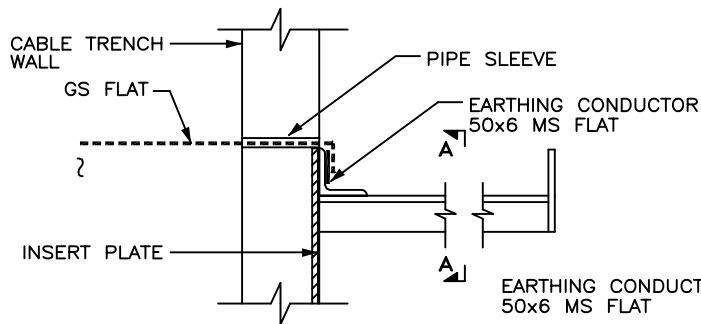
TITLE:- STANDARD EARTHING DETAILS

<i>HN Parkar</i>	<i>HN Parkar</i>	12/11/2007	Drawing No.: C / ENG / STD / EARTHINGS SHEET # 22	Rev. 00
CKD BY	PRPD BY	Date		

EARTHING OF CABLE TRENCH



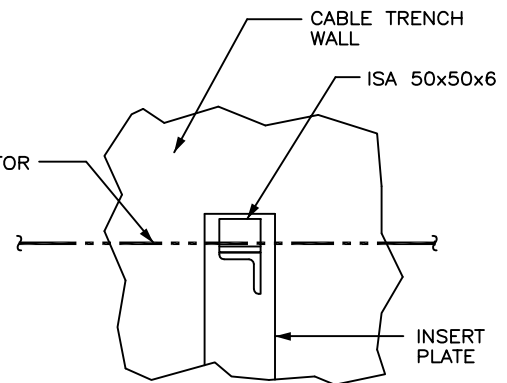
TYPICAL CROSS SECTION OF CABLE TRENCH



DETAIL - X

NOTES :-

1. MS FLAT SHALL RUN ON TOP TIER ALL ALONG THE CABLE TRENCHES & WELDED TO EACH OF THE RACKS.
2. MS FLAT SHALL BE EARTHED AT 30M INTERVAL AND ALSO AT BOTH ENDS.



SECTION A - A

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

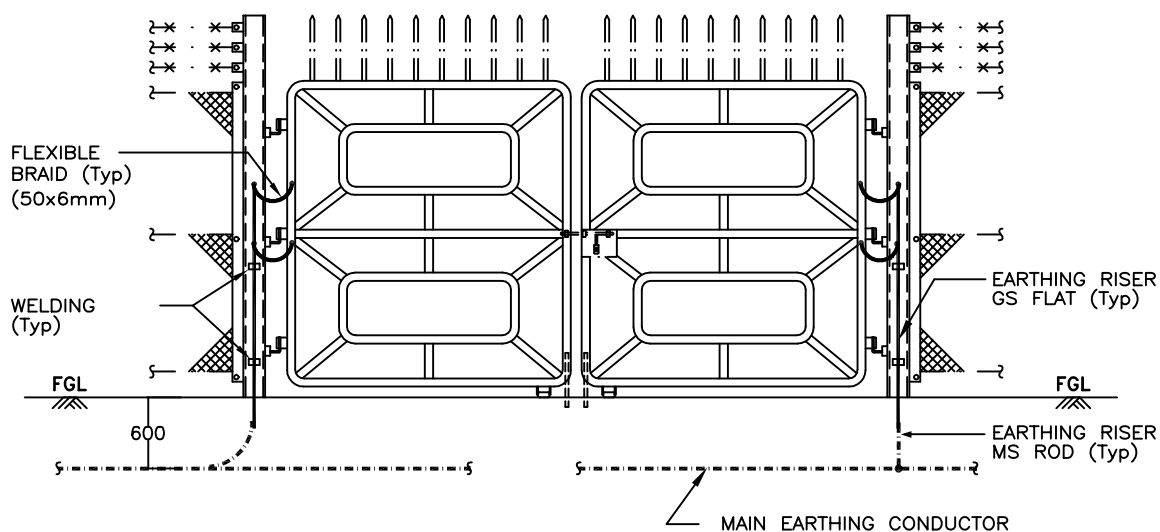


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>KK Parkar</i>	<i>KK Parkar</i>	12/11/2007	Drawing No.:	Rev.
CKD BY	PRPD BY	Date	C/ENG/STD/EARTHINGS	00
			SHEET # 23	

EARTHING OF GATES & FENCE



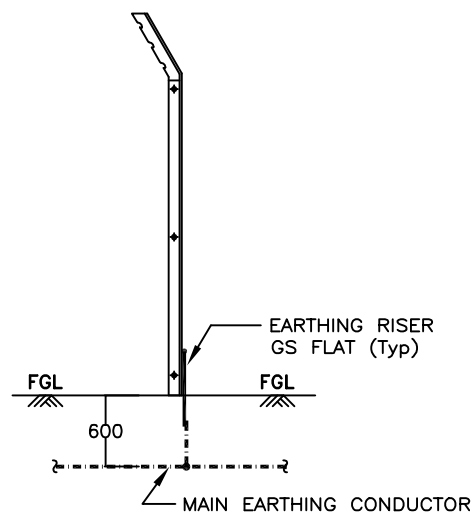
MAIN GATE

LEGEND

	40mm $\varnothing$ MS ROD
	75 x 12 mm GS FLAT
	50 x 6 mm MS FLAT

NOTES :-

	FENCE POST	MAIN GATE
1 . No. OF RISERS REQUIRED	1	2
2 . No. OF FLEXIBLE BRAID	—	4
3. ALL GATES SHALL BE CONNECTED TO EARTHING GRID.		
4. EVERY ALTERNATE FENCE SHALL BE CONNECTED TO EARTHING GRID.		



FENCE POST (ALTERNATE FENCE POST)

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)

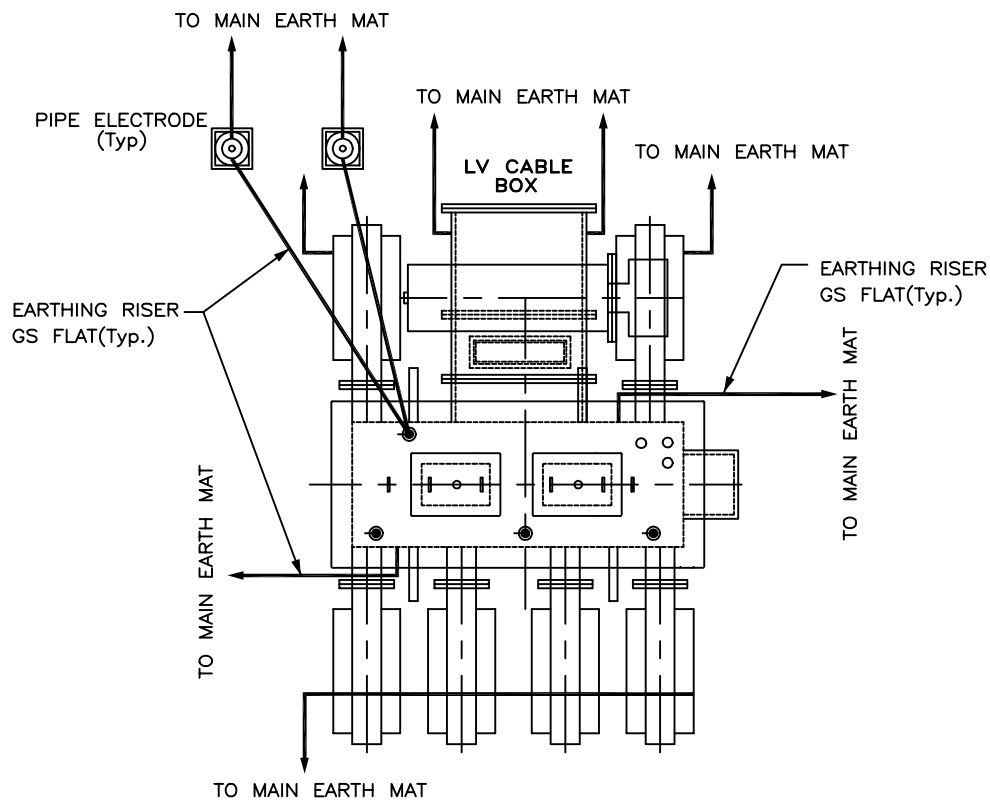


PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>CKD</i>	<i>PRPD</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS	Rev.
CKD BY	PRPD BY	Date	SHEET # 24	00

EARTHING OF LT TRANSFORMER



PLAN

LEGEND

	40mm ϕ MS ROD
	75 x 12 mm GS FLAT
	50 x 6 mm GS FLAT

NOTES :-

1. No. OF RISERS FOR MAIN TANK & T.M. MAR. BOX = 4 Nos.
2. No. OF RISERS FOR LV CABLE BOX & RADIATOR = 4 Nos.
3. No. OF RISERS FOR PIPE ELECTRODE = 2 Nos.
4. No. OF PIPE ELECTRODES REQUIRED = 2 Nos.

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)



PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>SKP</i>	<i>SKP</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS	Rev. 00
CKD BY	PRPD BY	Date	SHEET # 25	

The diagram is a cross-sectional view of a transformer substation. At the top, a transformer is shown with its cooling fins and a tap changer. Below the transformer is a central vertical structure. To the left of this structure is an LV cable box. To the right is a marshalling box. Below these boxes is a large rectangular area representing the earthing system, which is filled with a stippled pattern. This area is labeled 'EARTHING RISER GS FLAT(Typ.)'. Below this area is a horizontal line representing the 'MAIN EARTHING CONDUCTOR MS ROD (Typ.)'. The ground level is indicated by a horizontal line with diagonal hatching, labeled 'FGL'. A dimension of 600 is shown between the FGL and the earthing riser. The diagram is labeled 'END VIEW' at the bottom.

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)



TITLE:- STANDARD EARTHING DETAILS

<i>CKD Parker</i>	<i>CKD Parker</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS SHEET # 26	Rev. 00
CKD BY	PRPD BY	Date		

EARTHING OF PYLON SUPPORTS

Pylon supports shall be grounded through 50x6mm GI flat to the ring around the Pylon supports of 75x12mm GI flat which in turn is connected to the main grid (40 mm dia MS rod) at 2 to 3 points as available.

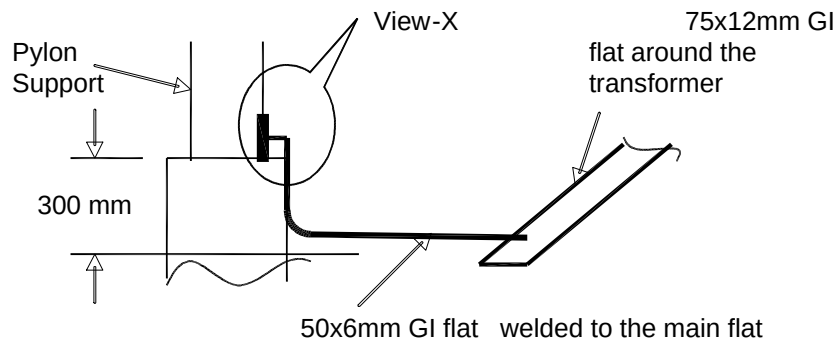


Fig.- Elevation (Earthing of Pylon Supports)

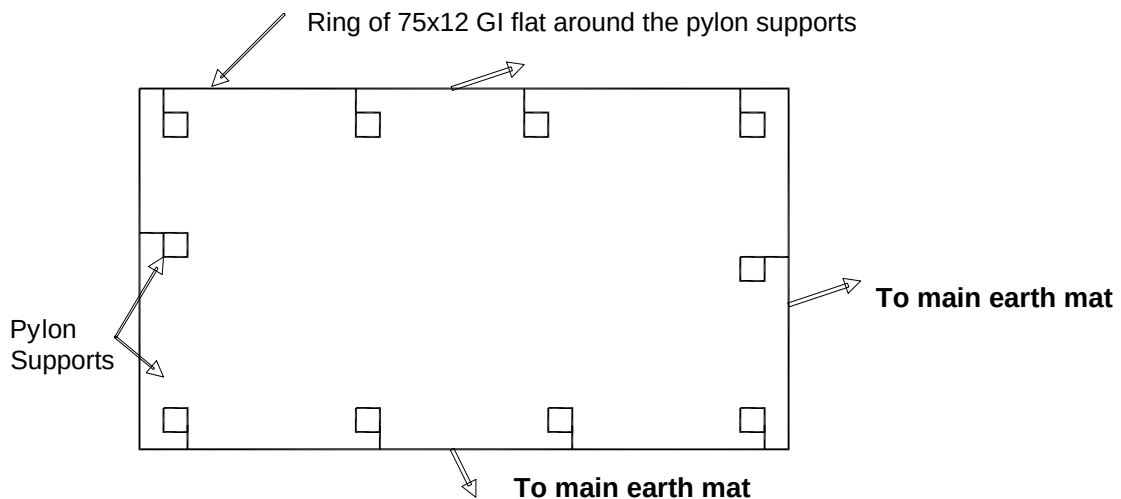


Fig.- Layout (Earthing of Pylon Supports)

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)



PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>CKD</i>	<i>PRPD</i>	12/11/2007	Drawing No.: C/ENG/STD/EARTHINGS SHEET # 27	Rev. 00
CKD BY	PRPD BY	Date		

EARTHING OF HYDRANT/ HVW SPRAY PIPING

These pipes shall be grounded at pump house through 50x6mm GI flat connected to the main flat, 75x12mm running around the room.

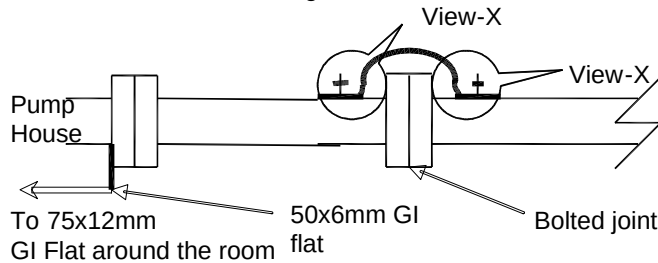


Fig.-Earthing of Hydrant / HVW Spray Piping

EARTHING OF HYDRANT POST/ HOSE BOX

A bolt shall be welded to these structures at the time of installation which can be used to connect them to the nearest riser or main 75x12mm GI flat through 50x6mm GI flat.

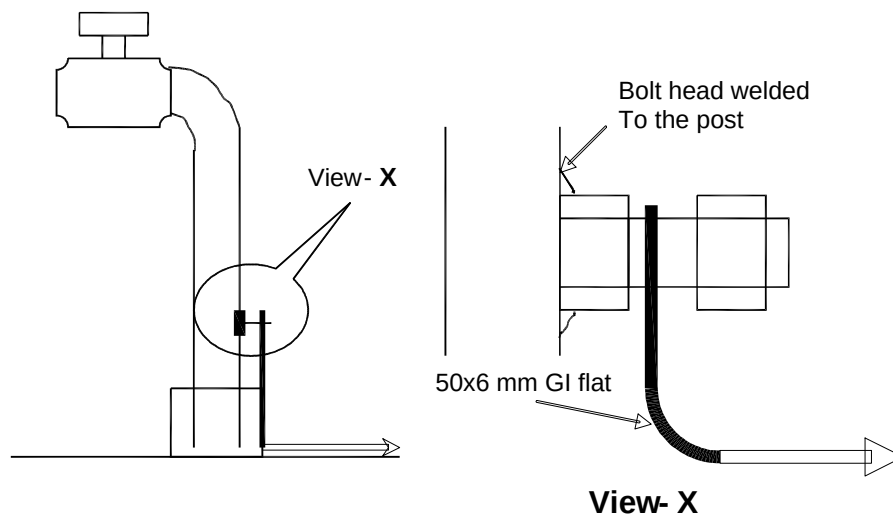


Fig.- Earthing of hydrant box / hose box

RELEASED FOR CONTRUCTION

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A Government of India Enterprise)



PROJECT :- STANDARD

TITLE:- STANDARD EARTHING DETAILS

<i>KKPankav</i>	<i>KKPankav</i>	12/11/2007	Drawing No.:	Rev.
CKD BY	PRPD BY	Date	C / ENG / STD / EARTHINGS	00
			SHEET # 28	