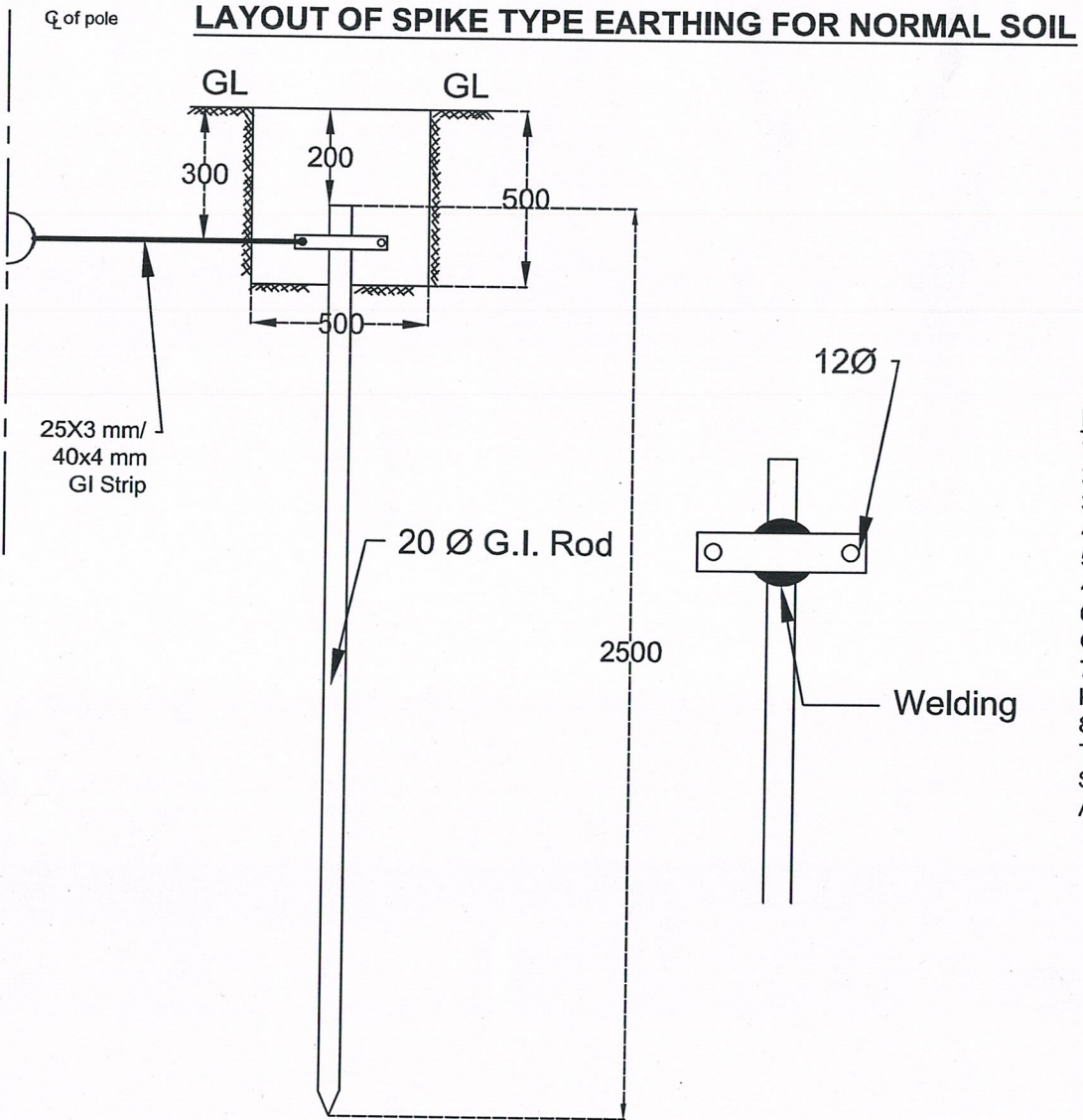


### **Comments on Earthings to be provided on Pole and Distribution Transformers.**

1. For each pole of Voltage Level 33kV, 11kV or LT, one Earth Electrode of GI Pipe type or Spike type as per KPDCL Drawing No. **CE/P&P/Drg./2022/E-001** and Drawing No. **CE/P&P/Drg./2022/E-002** shall be provided.
2. The interconnection between the pole and the Earth Electrode shall be through 25 X 3 mm flat GI Strip for LT and 11kV Poles and for 33kV Poles, it shall be 40 X 4 mm.
3. To facilitate proper connection with sufficient contact area between the ST pole and GI Flat Strip, each ST Poles shall be provided with welded 75 X 40 mm GI channel piece as per KPDCL Drawing No **CE/P&P/Drg./2022-STP-E-001**
4. Each 11/0.433 kV Distribution Sub Station shall be provided with three Earth Electrodes of GI Pipe type or Spike type as per KPDCL Drawing No. **CE/P&P/Drg./2022/E-001** and Drawing No. **CE/P&P/Drg./2022/E-002** The Electrodes shall be fixed in Triangular formation as per KPDCL Drawing No. **CE/P&P/Drg./2022/E-003** wherever sufficient land is available. The connection to the three DT Electrodes shall be as follows:
  - i. To one of Electrodes (Farthest from DT Poles and other two Electrodes), one direct connection from the 11kV Lightning Arrester.
  - ii. To each one of remaining two Electrodes:
    - (a) One separate connection from the neutral of the transformer on LT side.
    - (b) One separate connection from the Transformer Body and the Handle of 11kV AB Switch.
    - (c) One separate connection from the Earthing Terminal of the poles.
5. At places where sufficient land is not available, like on the pavements of roads, the Electrodes shall be fixed in linear formation, however, the electrode meant for the Lightning Arrester shall be kept as far away from the poles of DT and other two electrodes, as possible. This is to prevent flow of discharged surges from the Lightning Arrester to the Neutral of transformer through other two electrodes. In cases surges travel to the neutral of transformer, these may flow to consumer premises which may pose risk to life and property.
6. The minimum size of Earth Strips shall be 25 X 3 mm.



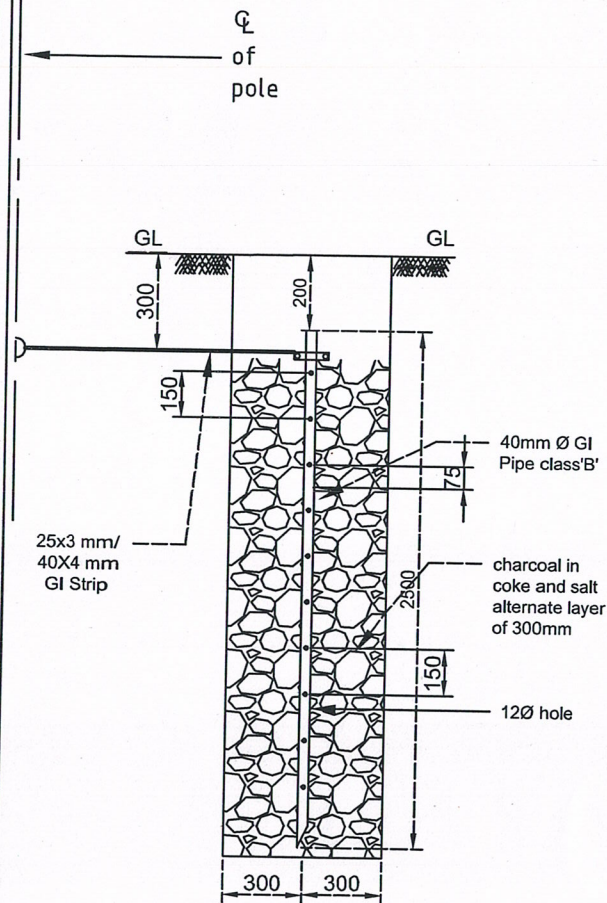
BILL OF MATERIALS						
ERE. CODE	DESCRIPTION	SELECTION	LENGTH (in mm)	QTY (in Nos.)	Wt./Mtr. Kg./Mtr.	Total Wt. (in Kg.)
1	Earth Spike Rod	Dia 20	2500	1	2.500	6.250
2	Clamp for Earth Spike	40x3	190	1	0.900	0.171
3	Bolts & Nuts	M12	30	1	0.058	0.058
4	Spring Washers (3.5 THK.)	M12		1	0.004	0.004
<b>TOTAL</b>						<b>6.483</b>

**NOTES:-**

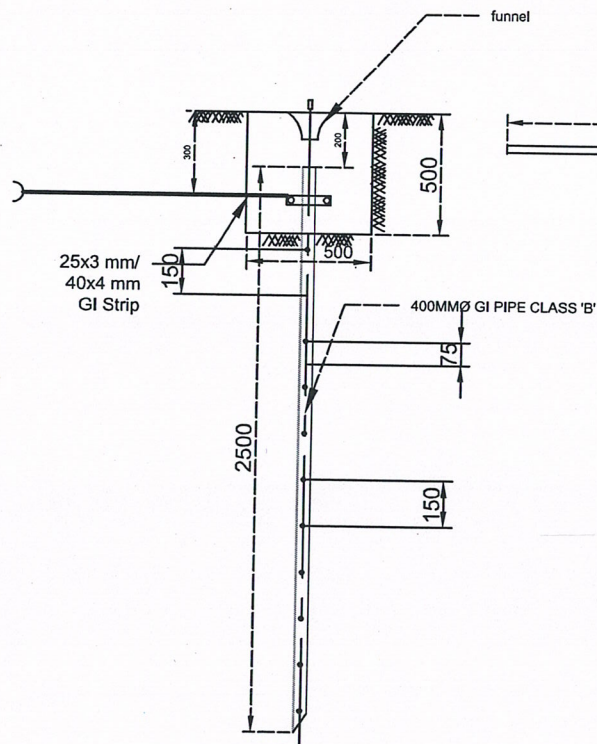
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED
2. EARTH TERMINAL OF GI STRIP 40X3 WITH 1 NO 12Ø STUD.
3. CLAMP IS TO BE WELDED TO SPIKE.
4. MS PARTS SHALL CONFIRM TO IS:2062
5. ALL MS PARTS TO BE HOT DIP GALVANISED AS PER IS:2629 & 4759
6. WEIGHT MENTIONED IS FOR PACKING & FORWARDING PURPOSE ONLY.
7. INCASE OF ANY DISCRIPANCY, PLEASE REPORT CE, P&P WING KPDCL
8. THESE ARE TENDER DRAWINGS SUBJECT TO MODIFICATION BY THE OWNER AS PER FIELD REQUIREMENT. CONTRACTOR TO SUBMIT HIS DRAWINGS AFTER AWARD OF CONTRACT FOR APPROVAL OF THE OWNER.

 <b>P&amp;P Wing, Kashmir Power Distribution Corporation Ltd.</b>		Name	Signature	Date
	DRAWN BY	Er. Amin (AEE)	<i>[Signature]</i>	17-11
	CHECKED BY	Er. Manzoor (EE)	<i>[Signature]</i>	18-11
	CHECKED BY	Er. Muzaffar (SE)	<i>[Signature]</i>	19-11-22
	APPROVED BY	Er. Muzaffar (CE)	<i>[Signature]</i>	21-11
TITLE: SPIKE TYPE EARTHING FOR NORMAL SOIL			Scale	NTS
Drawing no	CE/P&P/Drg./2022/E-001		Rev	0
Date of issue			<i>21-11-2022</i>	

# LAYOUT OF PIPE TYPE EARTHING



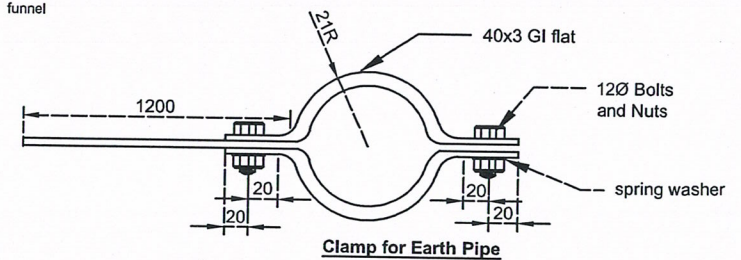
Earthing for hard stiff or medium clay



Earthing For Ordinary soil where Pipe could be Hammered

## BILL OF MATERIAL

S. NO	DESCRIPTION	ERECTION MARK	SECTION	LENGTH IN MM	Wt/Mtr Kg/M	QTY	TOTAL Wt Kg
1	Clamp for Earth Pipe		GI flat 40x3	146	0.942	2 Nos	0.275
2	Bolts &Nuts		M12	30	0.057	2 Nos	0.114
3	Spring Washer		M12	3.5mm thk	0.006	2 Nos	0.012
<b>Total wt.</b>							<b>0.401</b>

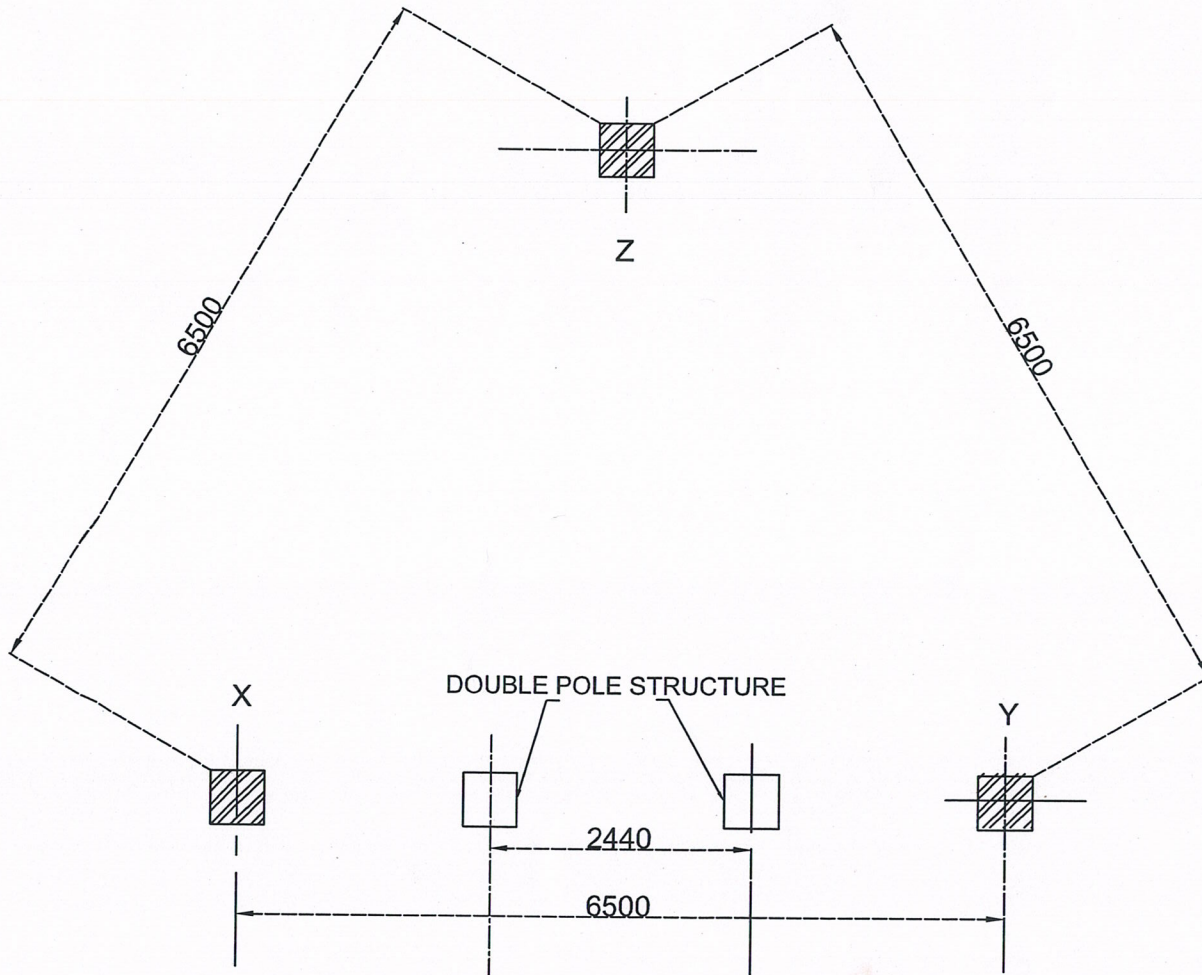


### NOTES:-

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED
2. EARTH TERMINAL OF GISTRIP 40X3 WITH 2 NOS 12Ø STUD
3. MS PARTS SHALL CONFIRM TO IS:2062
4. ALL MS PARTS TO BE HOT DIP GALVANISED AS PER IS:2629 & 4759
5. WEIGHT MENTIONED IS FOR PACKING & FORWARDING PURPOSE ONLY
6. INCASE OF ANY DISCRIPANCY, PLEASE REPORT CE, P&P WING KPDCL
7. THESE ARE TENDER DRAWINGS SUBJECT TO MODIFICATION BY THE OWNER AS PER FIELD REQUIREMENT. CONTRACTOR TO SUBMIT HIS DRAWINGS AFTER AWARD OF CONTRACT FOR APPROVAL OF THE OWNER.






		Name	Signature	Date
 <b>P&amp;P Wing, Kashmir Power Distribution Corporation Ltd.</b>	DRAWN BY	Er. Amin (AEE)		17-11
	CHECKED BY	Er. Manzoor (EE)		18-11
	CHECKED BY	Er. Muzaffar (SE)		19-11-22
	APPROVED BY	Er. Muzaffar (CE)		21-11
TITLE: PIPE TYPE EARTHING				Scale NTS
Drawing no	CE/P&P/Drg./2022/E-002			REV 0
Date of issue				21-11-2022

## LAYOUT FOR EARTH PIT LOCATIONS OF 11/0.433 KV DISTRIBUTION SUB-STATION



**NOTES:-**

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED
2. INCASE OF ANY DISCRIPANCY, PLEASE REPORT CE, P&P WING KPDCL
3. THESE ARE TENDER DRAWINGS SUBJECT TO MODIFICATION BY THE OWNER AS PER FIELD REQUIREMENT. CONTRACTOR TO SUBMIT HIS DRAWINGS AFTER AWARD OF CONTRACT FOR APPROVAL OF THE OWNER.

 <b>P&amp;P Wing, Kashmir Power Distribution Corporation Ltd.</b>	Name	Signature	Date	
	DRAWN BY Er. Amin (AEE)		17-11	
	CHECKED BY Er. Manzoor (EE)		18-11	
	CHECKED BY Er. Muzaffar (SE)		19-11-22	
APPROVED BY Er. Muzaffar (CE)		21-11		
TITLE: EARTH PIT LOCATIONS OF 11 / 0.433 KV DISTRIBUTION SUB-STATION			Scale	NTS
Drawing no	CE/P&P/Drg./2022/E-003		REV	0
Date of issue			21-11-2022	