



#### COLD Site - (Combined Site)

- The external earth electrode is to be laid for a minimum of 80M out with the incoming cables or length of the HV trench if less than 80M. (Conductor to be 70mm<sup>2</sup> CSA Bare Cu). **Note: To be installed on a COLD Site only.**
- Perimeter electrode to be installed in direct contact with the soil at a depth of 0.6M to 1.2M on the outer edge of the foundation. (25mm x 4mm Copper earth tape to be used with 'Property of Northern Powergrid' engraved on tape).
- Earth rods to be installed at a depth of 1.2M (2.4M in Rural Environments).
- Bonding from perimeter nest to switchgear, transformer, LV cabinet and rebar to be 95mm<sup>2</sup> Cu Black PVC covered conductor.
- Bonding from metal door frame to switchgear to be 16mm<sup>2</sup> Cu Green / Yellow PVC covered conductor.
- All external joints to be covered with denso mastic tape.
- Substations with metal doors will require additional perimeter earth electrode at the front of the substation, see additional layout on drawing.
- The maximum resistance value for the combined HV / LV earth electrode must be less than 20ohms.

Use this drawing in conjunction with Northern Powergrid policy – IMP/010/011 Code of Practice for Earthing LV Networks and HV Distribution Substations and supplementary drawing C978643 (Earth Point Connection Details).

For cold site substations that are integral to a building where a full perimeter electrode cannot be installed, the earthing should be installed to drawing C1065495.

Steel Kiosk Substations will require additional perimeter earth electrode; these will be considered on an individual basis.

		Lloyds Court, 78 Grey Street, Newcastle Upon Tyne, NE1 6AF	
		11KV RMU AND METERING UNIT WITH OPTIONAL EXTENSIBLE SW EARTHING ARRANGEMENT COMBINED SITE (COLD)	
Manufacturer Details		Type PLANT DIAGRAMS WIRING	
Sheet No. 1	Scale N.T.S.	Ref No. C1010827	
Prepared By Barbara.Gordon	Grid Reference	Historic Drg.No. C1010827	
Revised 05/01/17	Checked By S. CRAWFORD	Revision C	Notes DOC C1011099
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