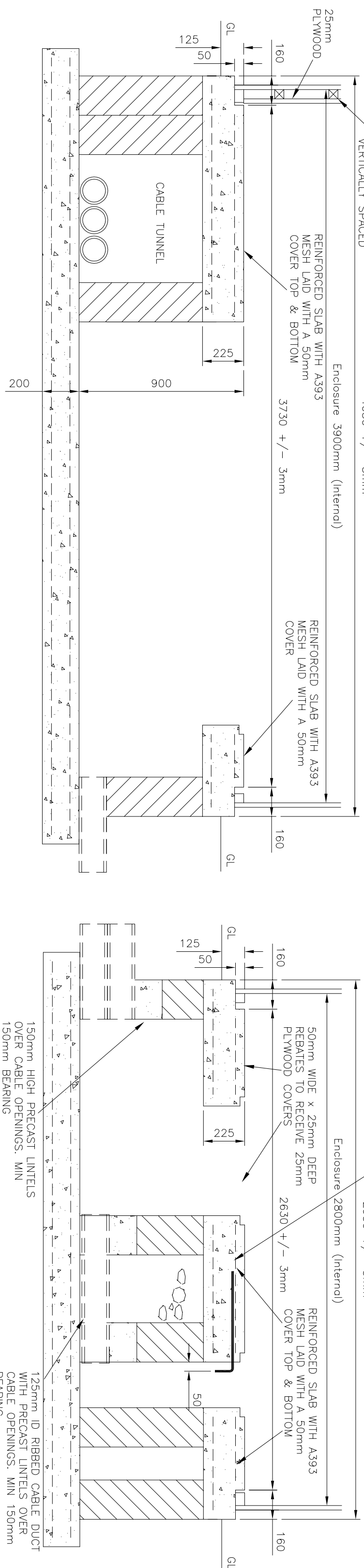


FRONT ELEVATION
SCALE 1:50

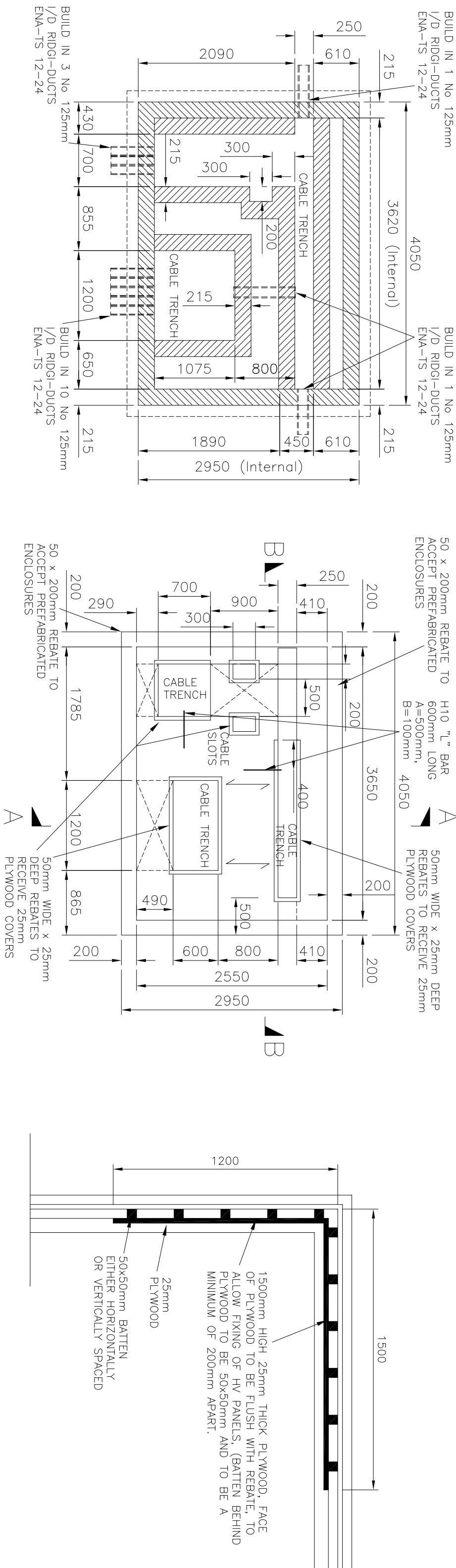
REAR ELEVATION
SCALE 1:50

SIDE ELEVATION
SCALE 1:50



DETAILED SECTION B-B
SCALE 1:20

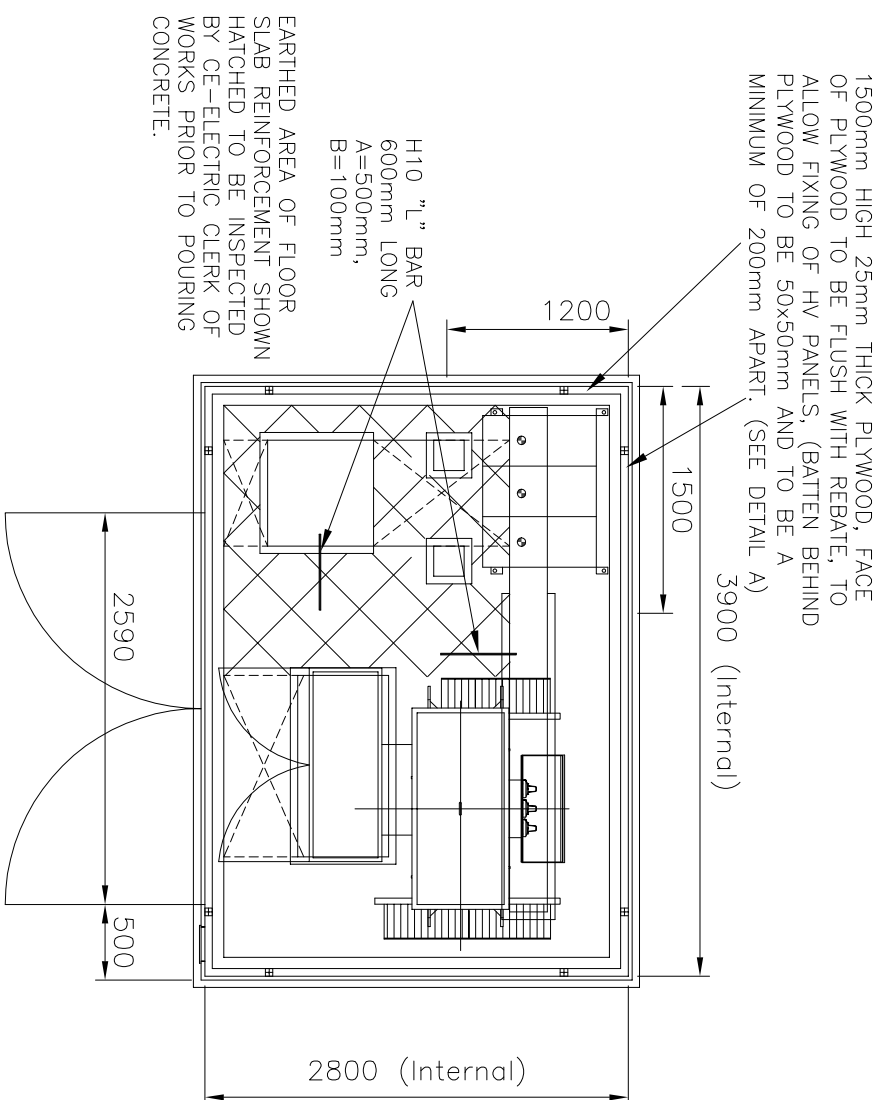
DETAILED SECTION A-A
SCALE 1:20



FOUNDATION PLAN
SCALE 1:50

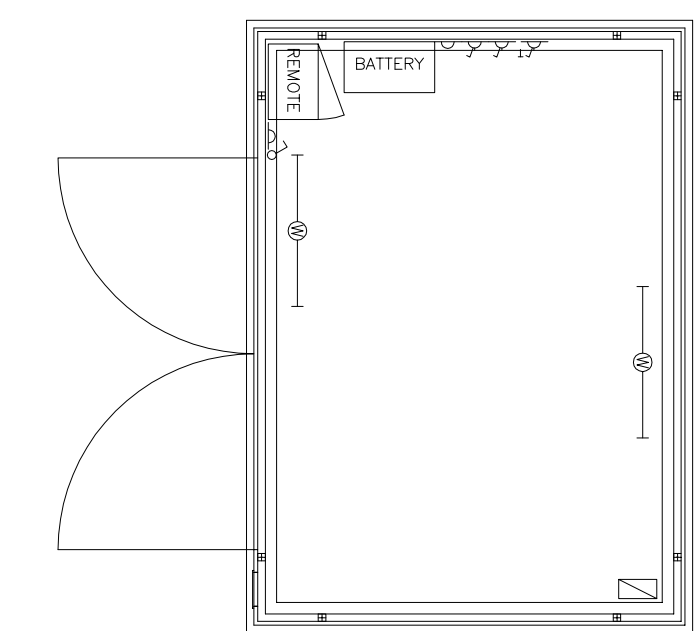
FLOOR PLAN
SCALE 1:50

DETAIL A
SCALE 1:20



PLAN OF EQUIPMENT & ENCLOSURE

SCALE 1:50



INTERNAL POWER AND LIGHTING
SCALE 1:50

EQUIPMENT SCHEDULE		PLEASE TICK UNITS TO BE INSTALLED
SWITCHGEAR	200V Ring Main Unit (RMU) – SAFRING One 200A CB with Relay Protection Commodity Code: 315953 Inc.: Two switches (630A). One with Integral FPI 15kg Rating PR312/P Relay	

TRANSFORMER WITH/LOSE COUPLED LV FUSE CABINETS	
1000KA Transformer with 7 way LV Fused Cabinet Cable Connected Style, Ground Mounted 1x with Phase Reversed Close Coupled 7-way LV Cabinet and HV cable box Commodity Code:350472	
800KA Transformer with 5-Way LV Fuse Cabinet Cable Connected Style, Ground Mounted 1x with Phase Reversed Close Coupled 5-way LV Cabinet and HV cable box Commodity Code:350468	
500KA Transformer with 5-Way LV Fuse Cabinet Cable Connected Style, Ground Mounted 1x with Phase Reversed Close Coupled 5-way LV Cabinet and HV cable box Commodity Code:350464	
315KA Transformer with 3 Way LV Fuse Cabinet Cable Connected Style, Ground Mounted 1x with Phase Reversed Close Coupled 3-way LV Cabinet and HV cable box Commodity Code:350462	

TRANSFORMER WITH ACB (Air Circuit Breaker) and LV Fuse Ways	
1000kVA Transformer	
1600A ACB (Air Circuit Breaker) + 2 feeder ways Phase Reversed	
Supplier Ref: ECE09PRR4 Commodity Code: 218619	
800kVA Transformer	
1250A ACB (Air Circuit Breaker) + 2 feeder ways Phase Reversed	
Supplier Ref: ECE08PRR4 Commodity Code:218618	
500kVA Transformer	
800A ACB (Air Circuit Breaker) + 2 feeder ways Phase Reversed	
Supplier Ref: ECE07PRR4 Commodity Code: 218617	

CABLES	
LV 300M ² Al/Cu Connmodity code – 1100978	
HV 185A1 T XLPE Connmodity code – 1100937	
SWA Cables – 4 core SWA 2.5mm (used with PB Trip) connmodity code: 125460	
PROTECTION (SITE SPECIFIC – TO BE CONFIRMED AT COMMISSIONING)	
PB Trip – REQUIRED FOR ACB	
30V Battery Unit with Charger Connmodity Code:215989	
Push Button Trip Connmodity Code: 093457	
EARTHING	
S/S Earthing complies with Earthing Drawing C1010842 – (Cold Site)	
S/S Earthing complies with Earthing Drawing C1010867 – (Hot Site)	
Earthing drawing to be attached with design approval submission	
ALL OUTGOING LV WAYS TO BE FUSED TO COMPLY WITH IEP/001/9/11	

SUBSTATION CONSTRUCTION DETAILS

FLOOR:

1. Foundations shall be based on a maximum weight of transformer of 40kN and a minimum ground bearing pressure of 80kN/m². Floor slab shall be designed to carry a minimum load of 7.5kN/m². Floor to be level, steel floor finish concrete, and sealed with approved concrete sealer or concrete paint before equipment installation.
2. Customer to undertake a ground investigation survey, substation foundations to be submitted to Northern Powergrid for comment prior to construction.
3. Earthing area of floor shall fulfil minimums shown (attached for electrical layout) to be inspected by Northern Powergrid clerk of works prior to pouring.
4. Floor to be cast to front face of door opening, providing solid threshold. External level to be 125mm below finished floor level, allow unrestricted access for gear, have a level landing area.
5. Trench covers to be 25mm exterior quality WBP, ply, maximum width 1200mm, each cover point both sides and all edges
6. External paving and site finishes shall be provided as agreed with Northern Powergrid representative on site. As a minimum this should consist of paving to full width of substation doors x 1200mm deep, with paving linking nearest highway path
7. Walls below ground level to be 7N dense concrete blockwork, fair faced in cable trenches.

GRF ENCLOSURE

8 GRF enclosure to be high security rated (unless otherwise agreed with Northern Powergrid). Details to be submitted to Northern Powergrid for comment prior to ordering and fabrication.

9 Doors to include ventilation where shown via steel door louvers to Northern Powergrid specification and approval.

- Core is to be taken to ensure that access to cable openings is not impured.
- No Gas, Sanitary, Water or other Services to run through or under the substation.
- Substation doors to be set back a minimum of 1500mm from back edge of footpath. Any proposed reduction in this clearance to be approved by Northern Powergrid following submission of site specific risk assessment and operational method statement.
- 2.0 metre strip around the substation is required for access and maintenance.

REFERENCE DRAWINGS

- C969426 - Door Louvre Details
- C969428 - Roof Details (GRP/STEEL)
- C969938 - Generator Cable Access Detail
- C978643 - Earth Point Connection Details

Customer or their agent to obtain all necessary Planning and Building approvals before construction work commences.

This drawing is intended to indicate the minimum requirements for the installation of Northern Powergrid apparatus and is not in any way intended to describe the building to architectural, structural or other requirements.

Substation to be designed in accordance with Northern Powergrid flood mitigation policy – IMP/001/012.


Northern Powergrid Project Engineer to be notified of commencement of site works to enable site inspections to be carried out during construction.

APPROVED SUPPLIERS

GRP ENCLOSURES

www.kingsleypastics.co.uk
www.enviroengineering.com
www.npsgroup.co.uk

NOTE: THE FULL LIST OF NORTHERN POWERGRID MATERIALS CAN BE FOUND ON THE ASSESSED PRODUCT DATABASE LINKED HERE: <http://www.northernpowergrid.com/asset/6/document/1828.xlsx>

 NORTHERN POWERGRID		Loyds Court, 78 Grey Street, Newcastle Upon Tyne, NE1 6AF	
Manufacturer Details			
Sheet No.	Scale	20kV DISTRIBUTION SUBSTATION IN PREFABRICATED ENCLOSURE (ICP)	
Prepared By	AS SHOWN B41		
	JW	Document Details STANDARD DISTRIBUTION SUBSTATION DRAWING	
Modified	Grid Reference	Drawing No.	Historic Drawing No.
		C1065716	Y001512150
Created	Checked By	Revision	Notes
24.11.2016	JJ	0	
		<div>BSA1</div> <div>CAD</div>	