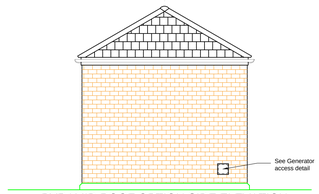
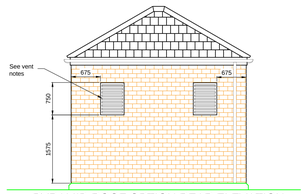
PYRAMID ROOF OPTION FRONT ELEVATION

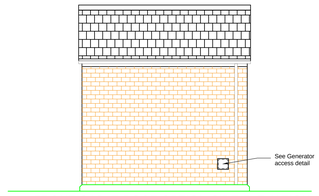


PYRAMID ROOF OPTION SIDE ELEVATION

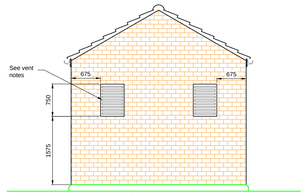


PYRAMID ROOF OPTION REAR ELEVATION

FRONT GABLE ROOF OPTION FRONT ELEVATION

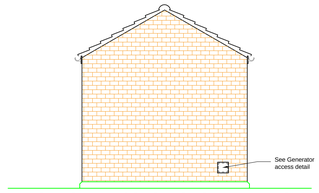


FRONT GABLE ROOF OPTION SIDE ELEVATION

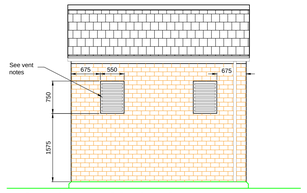


FRONT GABLE ROOF OPTION REAR ELEVATION

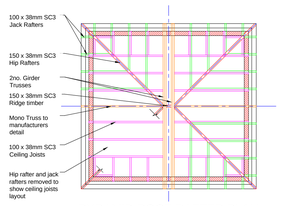
SIDE GABLE ROOF OPTION FRONT ELEVATION



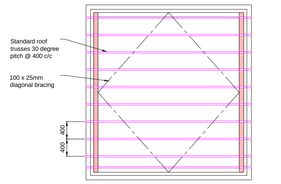
SIDE GABLE ROOF OPTION SIDE ELEVATION



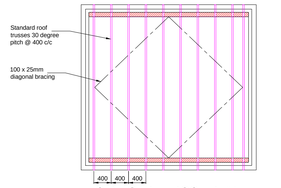
SIDE GABLE ROOF OPTION REAR ELEVATION



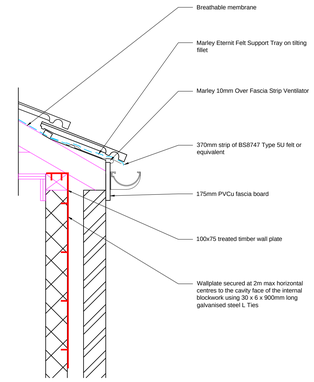
PYRAMID ROOF RAFTER PLAN



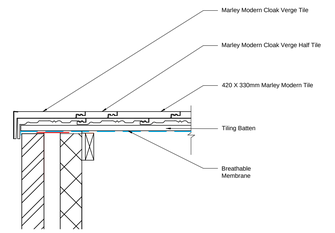
FRONT GABLE ROOF PLAN



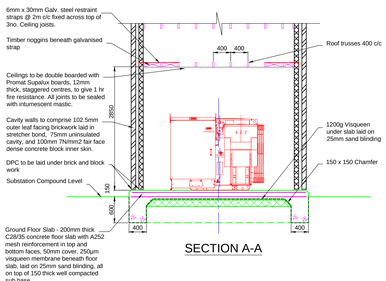
SIDE GABLE ROOF PLAN



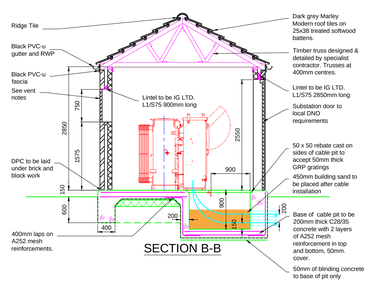
EAVES - DETAIL
SCALE 1:10



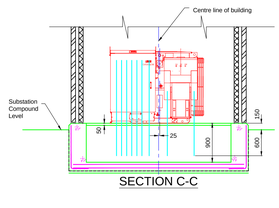
GABLE ROOF VERGE - DETAIL
SCALE 1:10



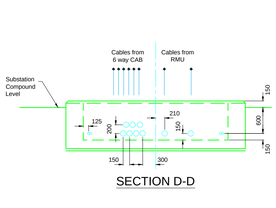
SECTION A-A



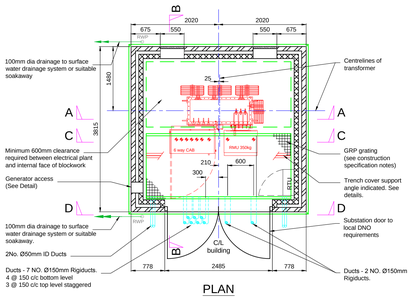
SECTION B-B



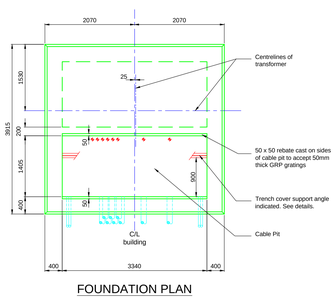
SECTION C-C



SECTION D-D

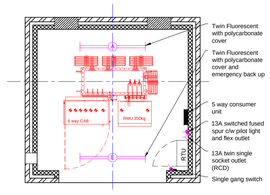


PLAN

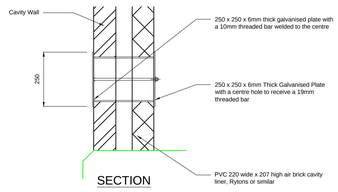


FOUNDATION PLAN

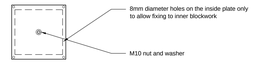
This drawing is for a Schneider - Transformer to BS EN 60076:1997, IEC 60076:2000, with a 6 way CAB



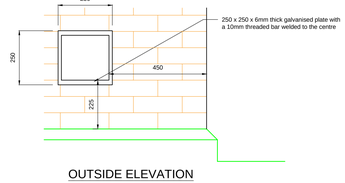
SMALL POWER AND LIGHTING



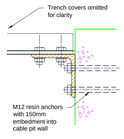
SECTION

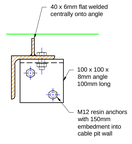


INSIDE ELEVATION

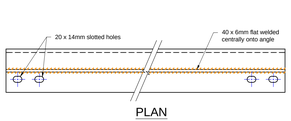


OUTSIDE ELEVATION

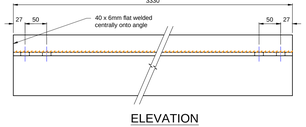




TRENCH COVER SUPPORT ANGLE ON BRACKET DETAIL
SCALE 1:5

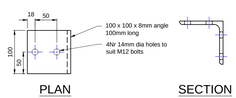


PLAN



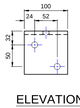
ELEVATION

TRENCH COVER SUPPORT ANGLE
SCALE 1:5



PLAN

SECTION



ELEVATION

ANGLE BRACKET 2 Nr
SCALE 1:5

GENERATOR ACCESS - DETAIL
SCALE 1:10

NOTES

General
This drawing to be read in conjunction with SMS-ELEC-022 Energetics Secondary Package Substation, Brick Built With Roof Variants, Civil Specification.
Do not scale drawings.
All work is to be carried out to the approval of Energetics.
Workmanship and materials to conform to the latest edition of the relevant codes of practice or British Standards and Eurocodes.
The contractor is to locate and divert services as necessary prior to excavation work.
All proprietary materials and products to be installed in accordance with the manufacturers recommendations.

Foundations
Excavations to be kept free from water at all time.
All concrete to be grade C28/35 with min. cement content of 300 Kg/m3 and max. w/c ratio of 0.6. Cement to be Sulphate Resisting to BS 12. Aggregate size to be 20mm maximum.
Cover to reinforcement be 50mm. Minimum lap of A252 mesh reinforcement to be 400mm
Reinforcement mesh to be supported on proprietary chairs. Mesh is not to be trodden into the concrete surface.
Floor slab, front and rear walls and base of cable pit to be 200mm thick C28/35 concrete with A252 mesh reinforcement as indicated, 50mm cover. Floor slab to be steel float finish to plus or minus 3mm in 3m length.
Trench fill foundations up to underside of floor slab to be C28/35 concrete.
The concrete plinth and chamfers above ground level, and external to the building to be Type B finish to BS8110. The concrete should be thoroughly compacted and all surfaces should be true, with clean arises. Only very minor surface blemishes should occur, with no staining or discoloration from the release agent.
1200g (250µm) visqueen membrane beneath floor slab, laid on 25mm sand blinding, all on top of 150 thick well compacted subbase.

Masonry
Cavity walls to comprise 102.5mm outer leaf facing brickwork laid in stretcher bond, 75mm un-insulated cavity, and 100mm 7N/mm2 fair face dense concrete block inner skin.
Facing bricks to be F2,52 quality. Brick colour and type to be agreed with the local planning authority.
Outer facing brickwork and inner fair face blockwork to have bucket handle finish joints.
Mortar designation ii to BS5628, 1:6 cement:sand with plasticiser for all brickwork and blockwork above DPC.
Wall ties to cavity walls to be Type 2 to PD 6697 (Masonry General Purpose). Ties at 450mm vertical and 900mm horizontal staggered centres.
Wall ties to be placed 225 mm from door and vent opening reveals at 225mm vertical centres.
At all door and vent openings, the cavity to be closed with blockwork and vertical / horizontal DPC.

Lintels
Lintel over double door to be IG Ltd. LL/S75 2850mm long.
Lintels over vents to be IG Ltd. LL/S75 900mm long.

Cable Pit Covers
Cable pit covers to be 50mm thick GRP gratings, light grey in colour, with 50mm x 50mm cellular structure and an anti-slip top surface. Cable pit cover plan dimensions to be not greater than 1m x 1m. Minimum cable pit cover width to be 300mm.
GRP gratings to be supported on 50x50mm formed concrete recesses cast into the pit wall, or galvanised steelwork supports as per drawing details. Gratings to be seated level, without noticeable rocking and finish flush with the concrete floor level.
Gratings to be installed on completion of the floor construction, and cable cut-outs to be formed after cable installation.
Covers to be manufactured by Fibergrate Ltd, or similar approved.

Security Doors
Security doors shall meet the requirements of the local DNO. The type (Steel or GRP) will be based on risk assessment and local DNO's requirement. Standard security doors to be 45mm thick flush double pan construction formed from 1.2mm nominal thickness zinc coated steel.
Doors to incorporate louvred panels top and bottom of each leaf.
Right hand leaf viewed from outside to open out, with a dual locking facility to meet the requirements of the local DNO. Passive leaf to be secured with 16mm spring loaded bolts top and bottom.
Both door leaves fitted with 90 degree hold open door stays. Each door leaf to have a minimum of 3 number heavy duty stainless steel hinges with dog bolts.
Security strip to be provided to the leading edge of the opening door.
Door sets to be fitted with weather seals.
An overpanel with a removable transom and may be required, which shall be of the same construction as the door leaves. The removable transom shall be securely bolted in place internally to allow normal operation of the doors.
Doors and frames to be polyester powder coated with colour to suit customer / Planning Authority requirements.
Door frames to be 1.5mm nominal thickness zinc coated steel sheet to BSEN 10152 (BS6687). Construction can be either single or double rebate providing there is sufficient width to cover any vertical damp proof course, and to provide sufficient fixing points.
Mastic pointing to frames externally.

Vents
Two louvre vents to be positioned at the rear of the switchgear, as indicated on rear elevations. The type (Steel or GRP) will be based on risk assessment and local DNO's requirement. Each louvre vent to be made to suit 550mm wide by 750mm high structural opening. The type (Steel or GRP) will be based on risk assessment and local DNO's requirements.
Where steel vents are selected these are to be polyester powder coated in a colour to suit developer or DNO requirements, and fitted with an internal insect mesh.
Vents to be fixed internally,utilising proprietary brackets and sleeve anchors to brick / block cavity walls.
Vents to be flush with brick face and mastic pointed all around framework.

Roof Construction
Roof tiles to be Marley modern tile, or similar approved, on 25x38mm treated battens on breathable membrane on 30 degree pitch roof trusses / rafters.
Roof trusses to be designed by manufacturer and to be vac-vac treated. Trusses to be at 400mm centres.
Horizontal, diagonal and chevron bracing to be detailed as per manufacturers drawings.
Ceilings to be double boarded with Promat Supalux boards, 12mm thick, staggered centres, to give 1 hr fire resistance. All joints to be sealed with intumescent mastic.
Wallplate to be double boarded internally with Promat Supalux boards, 100mm wide x 12mm thick.
Other roof construction variants may be considered, subject to Energetics approval.

Paint Specification
There is no specific requirement for Energetics; however, internal painting should meet the requirements of the local DNO where they are to adopt it.

Structural Steel Work
All steelwork to be hot dip galvanised to BS EN ISO 1461:2009.
No Galvanised steel work is to be cut to suit on site.

Cable Ducts
HV Cable ducts shall be (ID) 125mm . Twin wall HDPE, complying with Energy Networks Association (ENA) Technical Specification 12-24, Plastic Ducts for Buried Electric Cables. All cable ducts are to be sealed on completion of cable installation. Cables installed in ducts are to be centred in the duct before the sealing material is applied. The sealing material must conform to local DNO requirement which may be Rayflate or expanded polyurethane foam.
Any earth wires to be positioned in cable ducts prior to sealing.

Small Power and Lighting
Small power and lighting to be installed in accordance with BS 7671.
Internal lighting to achieve a minimum lux level of 500 lux as per HSG 38.
Emergency lighting to be installed to meet BS 5266 part 1 and 7.

Rev	Revision Details	By	Date
H			
G			
F			
E			
D			
C			
B	Drawing Details revised	YT/MW	03.10.16
A	Preliminary Design	YT/MW	26.09.16

SITE LAYOUT CHANGES ARE RECORDED IN THE REVISION BOX ABOVE.

N.B THE .DWG SHOULD NEVER BE UP REVVED ONLY LAYERS ADDED TO CONTROL THE SITE LAYOUT.

energetics
NETWORKS4ENERGY
International House
Stanley Boulevard
Hamilton International Technology Park
High Blantyre G72 0BN
Tel:01698 404949
Fax:01698 404940
Email: info@energetics-uk.com

Drawing Title:	SECONDARY PACKAGE SUBSTATION BRICK BUILT WITH ROOF VARIANTS CIVIL LAYOUT (1 of 1)
Supporting Document:	SMS-ELEC-022 SECONDARY PACKAGE SUBSTATION BRICK BUILT WITH ROOF VARIANTS CIVIL SPECIFICATION.
Revision:	B
Drawn by: YT	Prepared by: ML / EW
Date Drawn: 03.10.16	Reviewed by: AO/JM
Scale: 1:50 U.O.S	Approved by: MW
Sheet Size: A0	Date Approved: 03.10.16