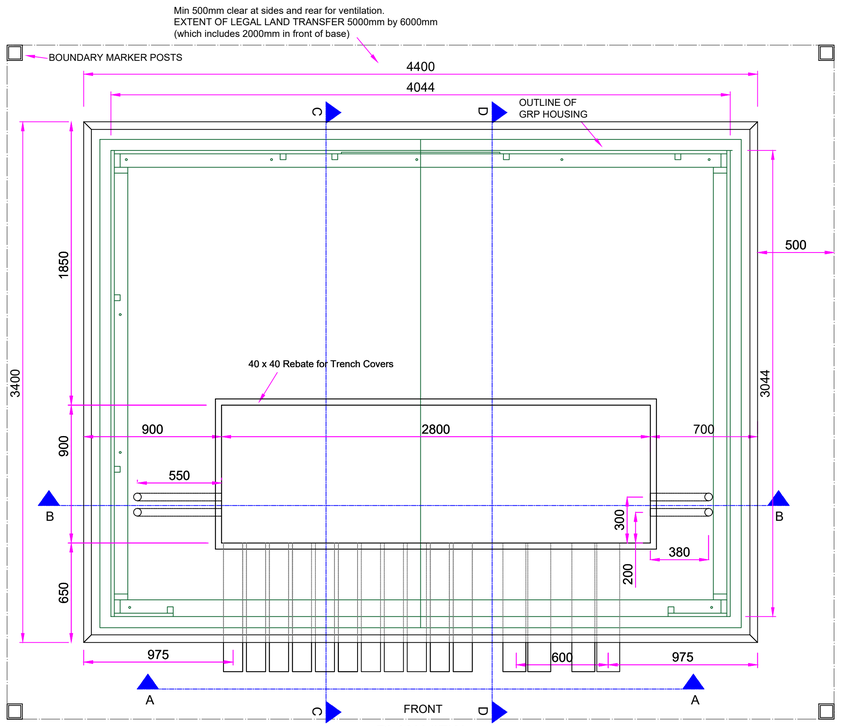
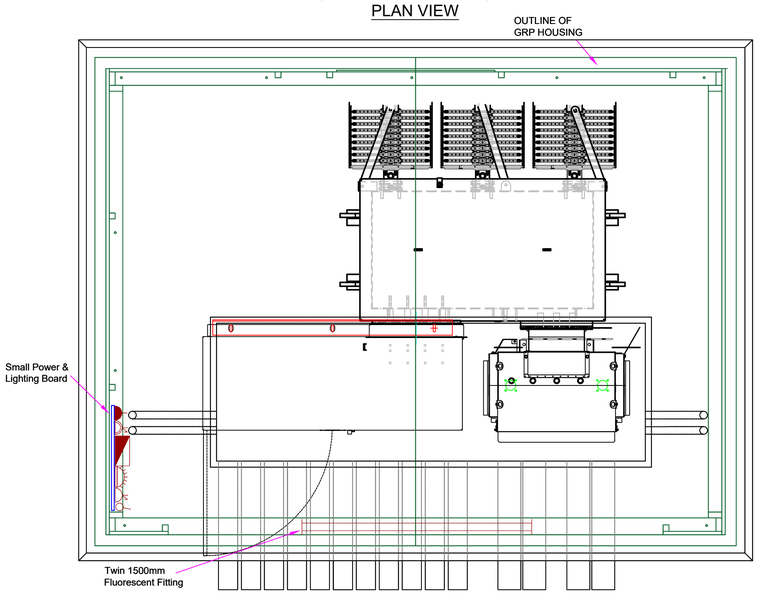
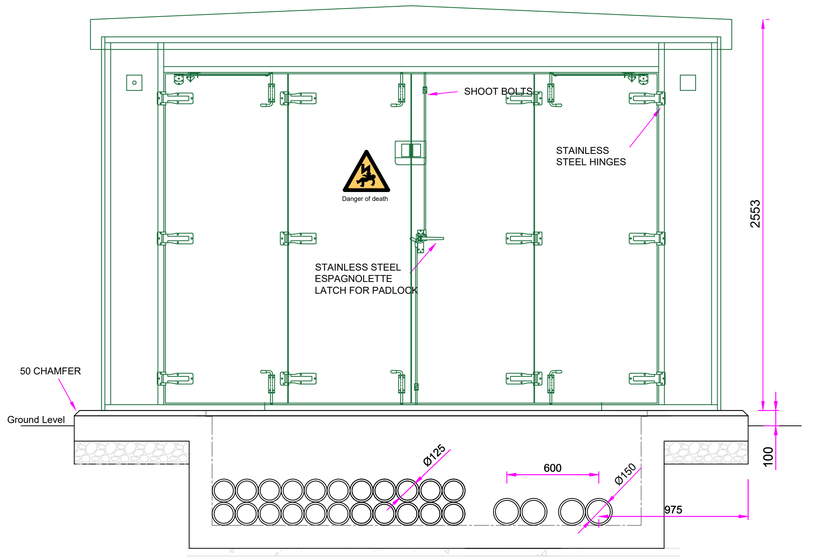
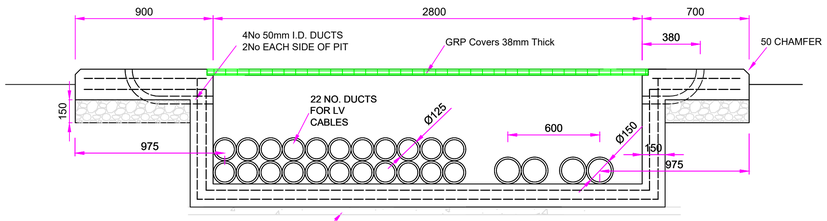


PLAN VIEW



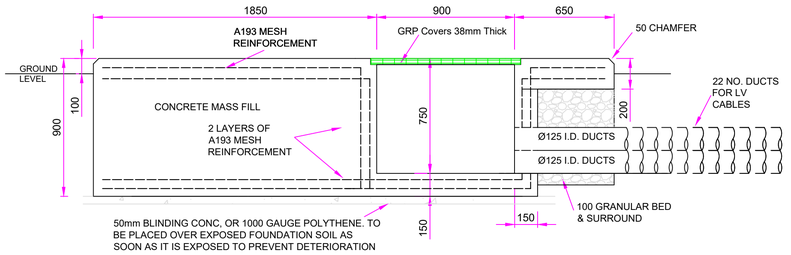


FRONT ELEVATION A-A



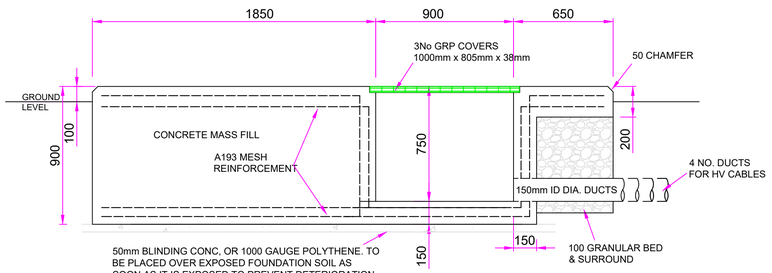
50mm BLINDING CONC, OR 1000 GAUGE POLYTHENE. TO BE PLACED OVER EXPOSED FOUNDATION SOIL AS SOON AS IT IS EXPOSED TO PREVENT DETERIORATION

SECTION B-B



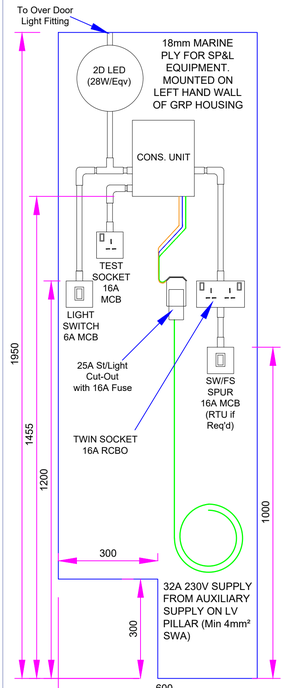
50mm BLINDING CONC, OR 1000 GAUGE POLYTHENE. TO BE PLACED OVER EXPOSED FOUNDATION SOIL AS SOON AS IT IS EXPOSED TO PREVENT DETERIORATION

SECTION C-C (LV Ducts)



50mm BLINDING CONC, OR 1000 GAUGE POLYTHENE. TO BE PLACED OVER EXPOSED FOUNDATION SOIL AS SOON AS IT IS EXPOSED TO PREVENT DETERIORATION

SECTION D-D (HV Ducts)

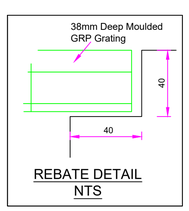


SMALL POWER & LIGHTING BOARD
(NOT TO SCALE)

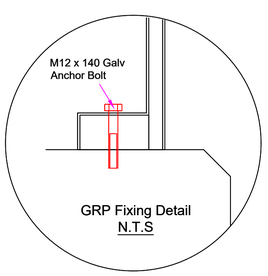
KEY:
(SEE NOTES FOR EQUIPMENT DETAILS)

- TWIN 1500mm FLUORESCENT LUMINAIRE
- 2D 28W LED LIGHT FITTING
- 13A UNSWITCHED FUSED SPUR FOR RTU
- 13A SWITCHED SINGLE SOCKET LABELLED FOR TEST EQUIPMENT
- 13A SWITCHED DOUBLE SOCKET
- LIGHT SWITCH
- CONSUMER UNIT

ELECTRICAL LAYOUT



REBATE DETAIL
NTS



GRP Fixing Detail
N.T.S

Specification Notes:

ALL BUILDERSWORK TO BE PROVIDED BY CLIENTS DEVELOPER / BUILDER UNLESS EXPRESSLY STATED OTHERWISE.

General Notes:

a. This drawing should not be scaled and no variations to the stated dimensions or materials specified will be permitted without prior written consent from ESPE.
b. The running of heating, gas, water and any other service pipes through or under the Substation is not permitted.
c. It is the responsibility of the principle contractor to ensure all measurements on site are correct ad any discrepancies are to be reported to ESPE.

Substation Location:

- It is important that the position and orientation of the substation is discussed and agreed with the ESPE prior to the commencement of any building works on site.
- Substations should be located adjacent to a public highway or reached by a private dedicated access way with full control and associated legal rights.
- Substations should be located 7000mm (min) from occupied buildings to minimize the potential risk of noise, vibration and fire spread to / from the Substation.
- 24 hour unimpeded ESPE personnel access is required at all times, 365 days of the year, any doors or gates on the access route are to be locked via ESPE dual locking device.
- Consideration is to be given at the design stage if adjacent soft landscaping is proposed ~ planting schemes must allow adequate provision for future plant growth without compromising access or ventilation through doors and louvres.
- Substation doors must not encroach over public footpath.

NOTE: This design is not suitable if located within 10m of a watercourse or within 50m of a borehole ~ use the fully bunded variant for these locations.

Foundations, Concrete & Reinforcement:

- The standard design shown is based on a net increase of ground pressure at formation level not exceeding 25kN/m², this is considered adequate for normal ground conditions, should special site conditions exist such as made up ground or variable bearing pressures then the client's structural engineer is to design suitable alternative foundations ~ all alternative proposals to be submitted to ESPE For Comment / Approval prior to building works commencing on site.
- Local soft spots must be excavated and brought up to foundation formation level with a designated GEN1 mix to BS 8500-2 with a cement combination to ensure sulphate resistance or sulphate resisting portland cement to BS 4027.
- Concrete to be designated RC40P mix with 20mm aggregate, to BS 8500-2 with a cement combination to ensure sulphate resistance or sulphate resisting portland cement to BS 4027.
- Reinforcement shall be two layers of A193 Mesh to have a minimum cover of 40mm and a nominal cover of 50mm,
- Vertical faces to be formed using full depth plywood shuttering to provide a fair face finish.
- Top of all concrete works to be finished smooth & level within ±2mm with a steel trowel ~ it should be noted that a high standard of workmanship is required.

GRP Housing:

ESPE Kiosk No. 2 , Kinglsey Plastics, The Airfield, Winkleigh, Devon. EX19 8DW

Gratings & Grating Support:

- 38mm deep moulded GRP gratings open type with gritted surface, colour green by TW Engineering Co Ltd, Angular House, Eagle Rd, Quarry Hill Ind Park, Ilkeston, Derbyshire, DE7 4RB, or Captrad.

Small Power & Lighting Notes:

- The electrical installation shall be installed and tested to the current issue of BS 7671.
- All workes are to be undertaken by a contractor who is registered with NICEIC or ECA.

Internal Lighting:

- Internal lighting shall provide a minimum luminscence of 500 LUX in accordance with HSE guide HSG38 lighting at work.
- Wall Mounted LED 2D (Equivalent to 28w) minimum degree of protection of IP55 min in accordance with BE EN 60529.
- Over Door Mounted Twin 1500mm Flourescent Fitting (Protection IP55 min)
- 1 gang, 1 way light switch with surface back box or surface mounted pull cord shall be positioned immediately adjacent to the access into the substation building.

Power Circuit Fittings:

- Fittings shall be corrosion resistant non-metallic surface units.
  - ~ 1 x 13A IP55min switched twin socket, via 16A 30mA RCBO.
  - ~ 1 x 13A IP55min switched socket for test equipment, via 16A MCB.

Consumer Unit:

- An insulated consumer unit conforming to BE EN 60439-3 and BS 5486-12.
  - ~ A 6A MCB for the lighting circuit.
  - ~ A 16A MCB for the test socket.
  - ~ A 16A RCBO for the twin socket
  - ~ A Spare
  - ~ 25A St/Light Cutout with 16A Fuse.

Cabling:

- All cables shall have stranded copper conductors.
  - ~ L.V. pillar to Cut-out. 4mm² 3 core S.W.A.
  - ~ Cut-out to Consumer Unit 4mm².
  - ~ Lighting - 1.5mmØ (min).
  - ~ Small Power - 2.5mmØ (min).

Trunking and Conduit:

- All cables shall be insulated in trunking or conduit.
- Trunking and accessories shall comply to BS EN 50086 and shall be Rigid PVC suitable for indoor use. ~ Non-flame propagating and self extinguishing, heavy duty PVC. Trunking shall be supported at intervals of NO MORE than 2m horizontally and 2.5m vertically and shall be adequately sized for the number of cables installed.
- Conduit shall be round, high impact, non-flame propagating, self extinguishing, heavy duty PVC to BS EN 50086.

WHEN A HOT EARTHING SITES AN ISOLATION TRANSFORMER WILL NEED TO BE INSTALLED IN THE LV PANEL.

UNCONTROLLED
WHEN PRINTED

For Construction

ESP ELECTRICITY LTD

ICP SERVICES
Specialist Engineering

CLIENT: IONITY

PROJECT: CARLISLE

TITLE: Substation Drawing

DNO		IDNO: ESPE
SCALE: 1:20 @ A1	DRAWN: LD	DESIGNED: LD
REVIEWED: JT	APPROVED: JT	FIRST ISSUE DATE: 30-07-22

TO BE READ IN CONJUNCTION WITH

DRAWING NO: Substation GA-01 | VER.: B

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