

POWDER COATED MILD STEEL LOUVRE DOOR WITH ANTI-VERMIN MESH TO REAR. THRESHOLD ELEVATIONS TO BE 225mm MAX-100mm MIN. EXTERNAL AND INTERNAL. TO THE DIMENSIONS AS SHOWN WITH MINIMUM CLEAR OPENING OF 1485(W) x 2040(H). DOORS TO BE FITTED WITH A 2 POINT LOCKING SYSTEM SECURED INTERNALLY BY A BRITON PANIC BAR. (PADLOCK BY UKPN). DOOR TO BE RH.H. BLANKING PLATES AS SHOWN IN ELEVATION. MASTIC TO OUTSIDE OF DOOR FRAME SURROUND. TO FULL UKPN SPECIFICATIONS. SEE EAS 07-0000 FOR DETAILS OF APPROVED DOORS.

IT IS IMPORTANT THAT SUFFICIENT CLEARANCE EXISTS TO ALLOW DOORS TO OPEN THROUGH 90° WITHOUT BEING IMPEDED

4No. DUCTS TO RUN FROM INTERNAL FACE OF SUBSTATION TRENCH TO BACK EDGE OF PUBLIC FOOTPATH. SEE SPEC NOTES. DEVELOPER TO ENSURE THAT PROPOSED CABLE PIPES LOCATIONS ARE CLEAR OF ANY UTILITY SERVICES / PITS / VAULTS ETC.

GENERAL ARRANGEMENT PLAN

38mm DEEP MOULDED GRP GRATING TRENCH COVERS BY CAPTRAD - OPEN TYPE WITH GRITTED SURFACE FACING UP; COLOUR GREEN.

GRP GRATING AND STEELWORK DETAIL

GRATING AT EDGES OF FLOOR SLAB SUPPORTED ON MILD STEEL ANGLE (45X45X6) KERB SUPPORTS WITH WELDED ON LUGS FOR BOLTING INTO CONCRETE SLAB PRE SCREEDING.

GRATING AT FACE OF WALL (ONLY) SUPPORTED ON (50X6X6) MILD STEEL ANGLE FIXED TO WALL WITH HILT HST ANCHOR, RESIN FIXINGS OR SIMILAR APPROVED.

NOTE: ALTERNATIVE ROOF DESIGNS TO HARMONISE WITH ADJACENT PREMISES ARE ACCEPTABLE PROVIDING THEY STILL HAVE THE STANDARD CONCRETE SLAB DETAIL BELOW - IN ALL CASES DEVELOPERS TO SUBMIT DETAILED PROPOSALS FOR CONSIDERATION. GUTTERING AND DOWNPIPES OMITTED FOR CLARITY.

RTU ANTENNA SHALL BE FITTED EXTERNALLY (WHEN REQUIRED)

STANDARD AND ALTERNATIVE ROOF DESIGNS

P1000T (41x41) SLOTTED CHANNEL UNISTRUT FIXED TO SOFFIT AT 600mm CENTRES TO SUPPORT HV SERVICE CABLE ALONG ITS ROUTE FROM ROOM. SUITABLE FIXINGS INTO SOFFIT TO BE USED, SUPPORTING A MAX. WEIGHT OF 2 CABLES AT 15kg/m EACH.

348(W) X 300(H) CONSUMERS SERVICE CABLE SLOT THROUGH WALL AT HIGH LEVEL AS SHOWN. SLOT TO BE SEALED WITH AN APPROVED 4 HOUR FIRE RATED MORTAR PRODUCT AFTER CABLE INSTALLATION BY BUILDING CONTRACTOR AND IN LIAISON WITH THE SAP ENGINEER. NOTE: ENERGISATION WILL NOT BE GIVEN UNTIL THIS HAS BEEN COMPLETED

TRENCH NOT REQUIRED WITH TOP ENTRY SERVICE CABLE

WHERE INTAKE ROOMS ARE PROPOSED ON THE SAME ADJOINING STRUCTURE AS THE SUBSTATION, THEN SEE UK POWER NETWORKS DRAWING EDS 07-3102.25 FOR SUITABLE CONSTRUCTION/EARTHING ARRANGEMENTS

SUBSTATION DOOR MOVED TO SIDE ELEVATION TO THE DIMENSIONS AS SHOWN

300 CHAMFER TO TRENCH AS SHOWN

MAXIMUM WEIGHT OF ASSEMBLY IS 1000kg

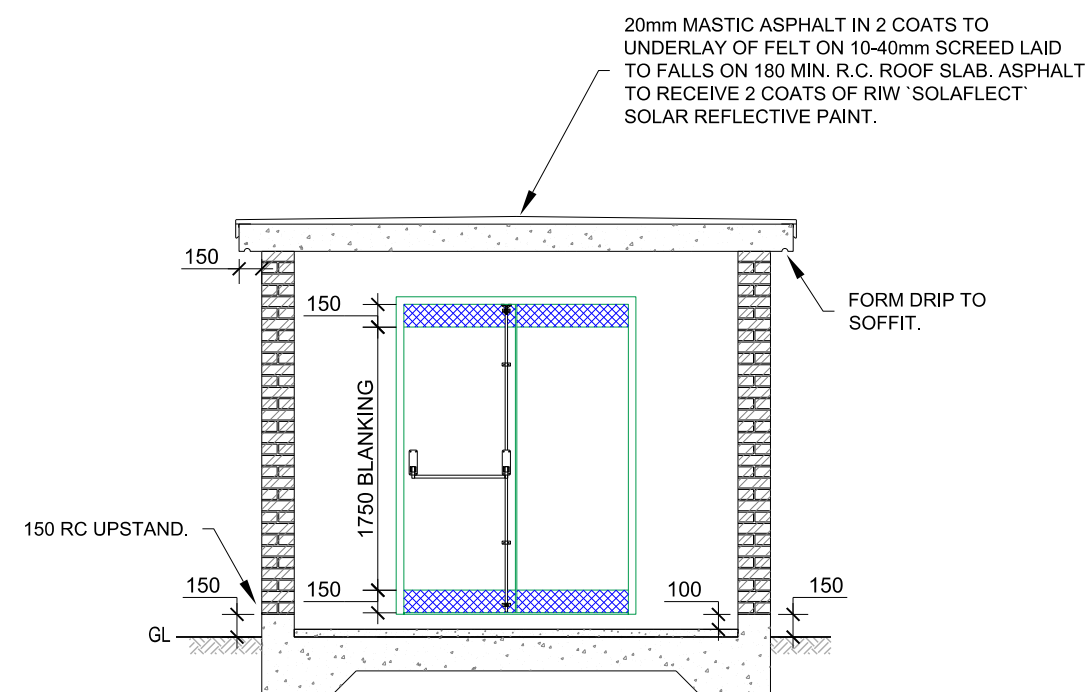
CUSTOMER SERVICE CABLE DUCTS TO REAR OF SUBSTATION WITH TRENCH AMENDMENT AS SHOWN

SETTING OUT DIMENSIONS

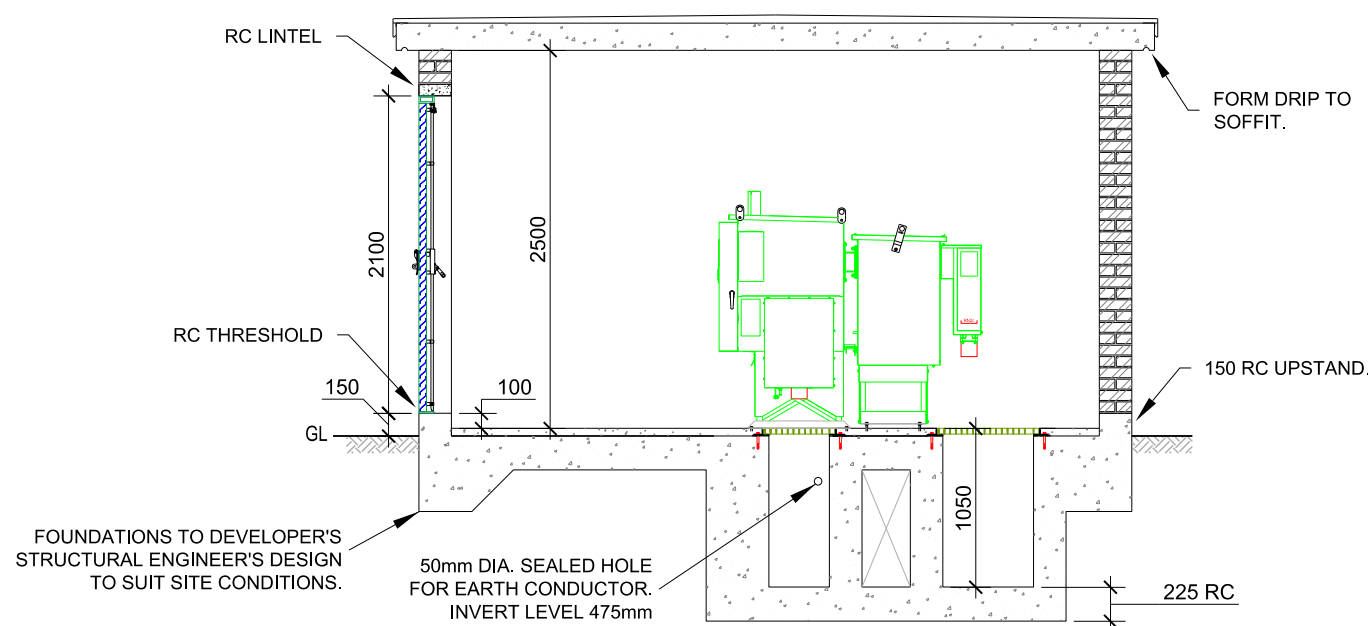
ALTERNATIVE TOP ENTRY SERVICE CABLE

ADJACENT INTAKE ROOM OPTIONS

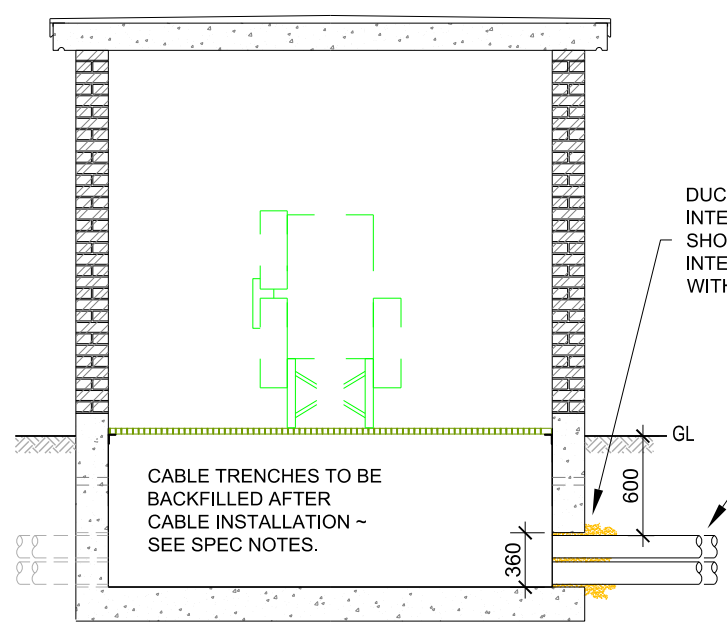
ALTERNATIVE LAYOUT



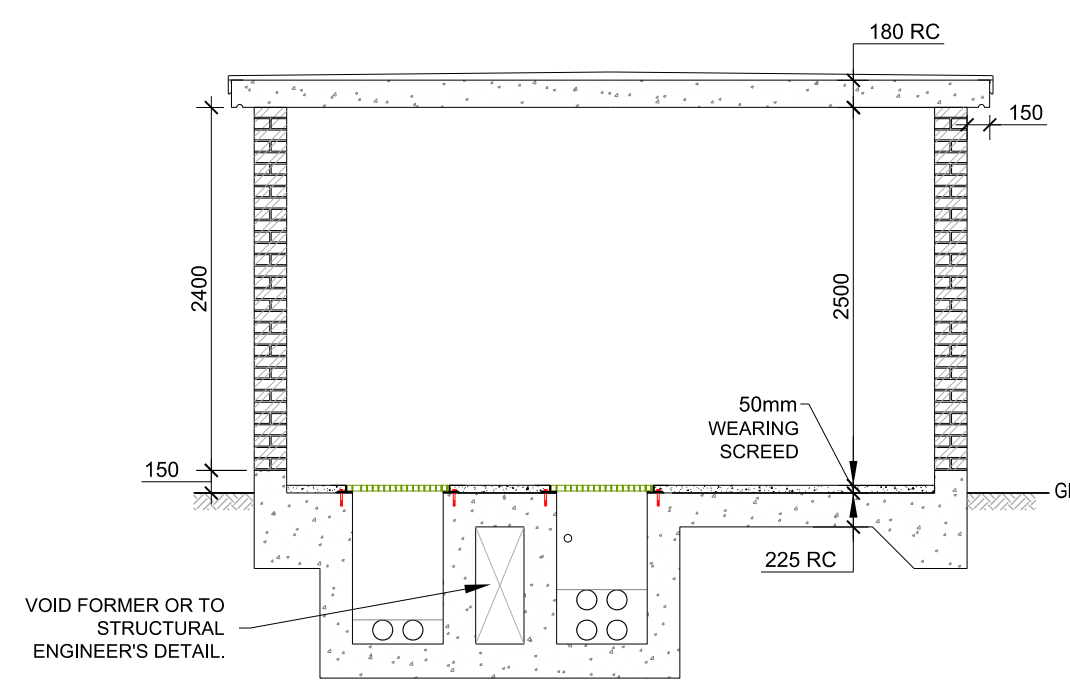
SECTION A~A



SECTION B~B



SECTION C~C



SECTION D~D

PROPOSED SUBSTATION LOCATION TO BE ADVISED BY DEVELOPER AND AGREED WITH UK POWER NETWORKS PRIOR TO CONSTRUCTION

LOCATION PLAN

GENERAL NOTES

- DO NOT SCALE FROM THIS DRAWING. NO VARIATION TO THE STATED DIMENSIONS OR MATERIALS SPECIFIED WILL BE PERMITTED WITHOUT PRIOR WRITTEN CONSENT FROM UK POWER NETWORKS.
- ALL DIMENSIONS ARE IN MILLIMETRES.
- THE RUNNING OF SPRINKLER SYSTEM, HEATING, GAS, TELECOMS, WATER AND OTHER SERVICES THROUGH OR UNDER THE SUBSTATION AREA IS NOT PERMITTED.
- WORKMANSHIP AND MATERIALS TO CONFORM TO THE LATEST EDITION OF THE RELEVANT CODES OF PRACTICE OR BRITISH STANDARD AND EUROCODES.
- LOCATION OF THE SITE SHALL BE OVERLAID ON THE ORDNANCE SURVEY MAP AND ADDED ONTO THE PROJECT SPECIFIC DRAWING.

PLANNING, LOCATION AND POSITION

- POSITION AND ORIENTATION OF THE SUBSTATION SHALL BE AGREED WITH UK POWER NETWORKS PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORKS ON SITE.
- SUBSTATIONS SHALL BE LOCATED ADJACENT TO A PUBLIC HIGHWAY OR REACHED BY A PRIVATE DEDICATED ACCESS WAY WITH FULL CONTROL AND ASSOCIATED LEGAL RIGHTS.
- THE DEVELOPER IS RESPONSIBLE FOR OBTAINING ALL PLANNING CONSENTS AND BUILDING REGULATION APPROVALS.
- UNIMPEDED ACCESS FOR UK POWER NETWORKS PERSONNEL IS REQUIRED AT ALL TIMES. 365 DAYS OF THE YEAR (24/7). ANY DOORS OR GATES ON THE ACCESS ROUTE SHALL BE LOCKED WITH THE STANDARD UK POWER NETWORKS LOCKING SUITE.
- ACCESS VIA 24 HOUR SECURITY IS UNACCEPTABLE.
- PROPOSED SOFT LANDSCAPING ADJACENT TO THE SUBSTATION (E.G. PLANTING SCHEMES) SHALL ALLOW FOR FUTURE PLANT GROWTH WITHOUT COMPROMISING ACCESS OR VENTILATION THROUGH DOORS AND LOUVRES.

FOUNDATION AND REINFORCED CONCRETE

- AS STATED ON DRAWING OR TO SUIT THE SITE CONDITION.
- SUFFICIENT COVER TO THE REINFORCEMENT TO ACHIEVE A 4 HOUR FIRE RATING (50mm MINIMUM).
- FOR PRELIMINARY DESIGN, ASSUME 50kN/m² INCREASE IN GROUND PRESSURE AT FORMATION LEVEL.
- STRUCTURAL CONCRETE TO BE POURED ON 50mm GEN1 MIX CONCRETE BUILDING ON 1200 GAUGE GEOMEMBRANE, ON SAND BLINDING, ON WELL COMPACTED DTP1 TYPE MATERIAL.
- REINFORCING BARS TO BE ELECTRICALLY CONTINUOUS.

FLOOR SLAB

- TO THE STRUCTURAL ENGINEER'S SPECIFICATIONS TO SUSTAIN LOADS SHOWN. THE ENTIRE ACCESS ROUTE IS TO BE CAPABLE OF SUSTAINING THE EQUIPMENT LOAD.
- STANDARD FLOOR SLAB THICKNESS OF 225mm MINIMUM REINFORCED CONCRETE WITH A SUITABLE WEARING SCREED WITH A MINIMUM COMPRESSIVE STRENGTH OF 40N/mm² AFTER 28 DAYS. CONCRETE WORKS FINISHED WITH STEEL FLOAT TO WITHIN +/-2mm OVER 2000mm².
- REINFORCEMENT TO DEVELOPER'S STRUCTURAL ENGINEER REQUIREMENTS.

ROOF

- 180mm MINIMUM NORMAL DENSITY REINFORCED CONCRETE OR GREATER TO SUIT THE SPAN WITH SUFFICIENT CONCRETE COVER TO REINFORCEMENT TO ACHIEVE 4 HOUR FIRE RATING.
- PITCH ROOF DESIGNS WILL REQUIRE THE STANDARD CONCRETE ROOF SLAB BELOW BUT THE REQUIREMENT FOR MASTIC ASPHALT CAN BE REDUCED TO TWO COATS OF WATERPROOFING TREATMENT OR BUILT-UP PROPRIETARY ROOFING (E.G. RW 'SYNTHAPRUF' OR SIMILAR).
- ROOFING COMPONENTS SHALL BE LOW MAINTENANCE I.E. UPVC FASCIA BOARDS INSTEAD OF TIMBER. ROOF VOID SHALL BE ADEQUATELY VENTED.
- HOLLOW BEAMS, PRECAST PLANKS OR LIGHTWEIGHT CONCRETE ON METAL DECKING ARE NOT BE PERMITTED.
- REINFORCEMENT TO DEVELOPER'S STRUCTURAL ENGINEER REQUIREMENTS.

WALLS

- OPTION 1: 215mm FULLY BONDED BRICKWORK. FROGGED FLETTONS CONSTRUCTED IN ENGLISH BOND WITH NEAT STRUCK JOINTS. WALLS TO BE FAIR FACED ON THE INSIDE.
- OPTION 2: TWO SKINS OF BRICKWORK LAID WITH E.M.L. HORIZONTAL BED JOINT REINFORCEMENT EVERY 3' COURSE WITH NO CAVITY. INNER SKIN TO BE OF COMMON FLETTONS. EXTERNAL SKIN TO HARMONISE WITH ADJACENT BRICKWORK.
- OPTION 3: 180mm MIN. RC CONCRETE WITH SUFFICIENT CONCRETE COVER TO REINFORCEMENT TO ACHIEVE A 4 HOUR FIRE RATING.
- ENGINEERING BRICK OR BLOCK ARE NOT PERMITTED.
- PROVIDING THAT NON-COMBUSTIBLE MATERIAL IS USED, BRICKWORK WALLS MAY BE RENDERED OR CLAD EXTERNALLY IF SPECIFICALLY REQUIRED BY THE PLANNING CONDITIONS.

DOORS

- ONLY UK POWER NETWORKS APPROVED DOORS SHALL BE FITTED.
- SEE NOTES ON DRAWING FOR DOOR SPECIFICATION.
- SINGLE RC INTELS TO BE USED AT THE STRUCTURAL OPENING FOR ALL UK POWER NETWORKS LOUVRED DOORS.
- SINGLE 4 HOUR FIRE RATED INTELS TO BE USED AT THE STRUCTURAL OPENING FOR 4 HOUR FIRE RATED DOORS.

DUCTS

- 125mm INTERNAL DIAMETER TWIN WALLED HIGH DENSITY POLYETHYLENE DUCTING TO ESI 12-24 OR BS EN 61386 LAID FLAT AND LEVEL.
- NUMBER AND ENTRY POSITIONS SHALL BE VERIFIED BY UK POWER NETWORKS.

WATER PROOFING

- WHOLE OF THE SUBSTATION MUST BE IMPERVIOUS TO THE INGRESS OF WATER.

FINISHES

- FLOOR TO RECEIVE TWO COATS OF GREY CONCRETE FLOOR PAINT.
- WALLS AND CEILINGS TO RECEIVE TWO COATS OF WHITE EMULSION.
- APPROVED DOORS AND VENTS TO RECEIVE POWER COATED FINISH. STANDARD COLOUR GREEN 14-C-39 OR DEVELOPER TO SPECIFY THE COLOUR TO HARMONISE WITH THE ADJACENT PREMISES AND ADVISE THE MANUFACTURER.
- 4 HOUR FIRE RATED DOORS ARRIVE TO SITE PRIMED ONLY AND ARE TO RECEIVE 1 UNDERCOAT AND 2 FULL GLOSS COATS TO A GOOD FINISH.

INFILL TO AREA AROUND CABLES

- AFTER CABLE INSTALLATION, SEAL ALL CABLE DUCTS. FILL TRENCHES WITH SAND WITH 100mm ABOVE TOP DUCT AND TO A MINIMUM OF 500mm BELOW THE TOP OF GRATINGS.

GRP GRATINGS AND SUPPORTS

- 38mm DEEP MOULDED GRP GRATINGS, OPEN TYPE WITH GRITTED SURFACE, GREEN.
- GRATINGS SHALL BE SEATED LEVEL WITH NO NOTICEABLE ROCKING OR SLIDING AND SHALL BE LEFT IN POSITION.
- CUT OFF OPENINGS FOR CABLE PENETRATIONS ENSURING THE GRATINGS CAN BE REMOVED WITH CABLES IN-SITU WHILE STILL REMAINING STABLE.
- STEELWORK FOR GRP GRATING SUPPORTS SHALL BE GALVANISED.

REFERENCES

SHEET 2	EARTHING LAYOUT
SHEET 3	SMALL POWER AND LIGHTING
EAS 07-0000	APPROVED EQUIPMENT LIST - CIVIL
EAS 02-0000	APPROVED EQUIPMENT LIST - CABLES & DUCTS
EDS 07-1119	SUBSTATION ELECTRICAL SERVICES
EDS 07-3101	PRE-DESIGN REQUIREMENTS FOR SECONDARY SUBSTATIONS
EDS 07-3102	SECONDARY SUBSTATION CIVIL DESIGN STANDARD

A	26-10-18	Original	UA	RDH
Version	Date	Description	Checked	Ukpn
			Approved	Drn.
			Approved	Designed
TITLE FREESTANDING BRICK-BUILT SUBSTATION FOR A SINGLE METERING RING MAIN UNIT - EARTH RING CIVIL LAYOUT				
SCALE	NTS	@A1	APPROVED	Version
DRAWING NO.	EDS 07-3102.11	Sheet 1 of 3	A	
SITE	SECONDARY SITES			