

Site Readiness Guide

Commercial and Industrial Load above 100A



Scottish & Southern
Electricity Networks

Powering our
community

About this guide

The purpose of this guide is to help you understand what you require to have in place to allow us to complete your network connection as smoothly and quickly as possible.

Find this guide online at:

www.ssen.co.uk/Connections/Developers/

Useful contacts



www.ssen.co.uk/connections



0800 048 3516



connections@sse.com

In an emergency situation
call 105 immediately for help



Your SSEN Connections Project Manager

Name

Mobile

E-mail

Your to do list

Register your postal addresses

Please register your postal addresses (if a new build) with the Royal Mail or local authority. Once your addresses are registered we will issue your Meter Point Administration Number(s) (MPAN)

Contact your electricity supplier to install your meter(s)

Once we have issued your MPAN(s) you will be required to register them with your electricity supplier and arrange for the installation of the meter(s). You should allow 28 days in advance of your connection date to allow you supplier time to register your MPAN and arrange for their staff to attend and fit the meter(s). **Please note that SSEN will not provide or install your meters and cannot be involved in this step of the process.**

You can compare suppliers at www.ofgem.gov.uk/publications-and-updates/list-all-electricity-licensees-registered-or-service-addresses

For large meter connections you will also need to appoint a meter operator. For details of available meter operators please see: www.meteroperators.org.uk/members

Excavate cable trenches to the required width and depth

For details please see page 7

Excavate joint bay(s) to suit connection type

For details please see page 8

Install cable ducting as required and install draw cord

For details please see page 9

Fit meter backing board(s) and protective ducting

For details please see pages 10

Ensure that the premises are securely locked and weather tight

Construct substation foundation (if required)

For details see page 11-12

Clear work area of any obstructions or hazards including any scaffolding near the agreed work areas

Not ready in time?

If you think you are not going to be ready on the agreed date, please contact us as soon as possible. Ideally you should give us a minimum of 5 days' notice. If we arrive on site and you are not ready we will be unable to commence our works and may charge for the abortive visit.

Regional information

NORTH
(SHEPD)

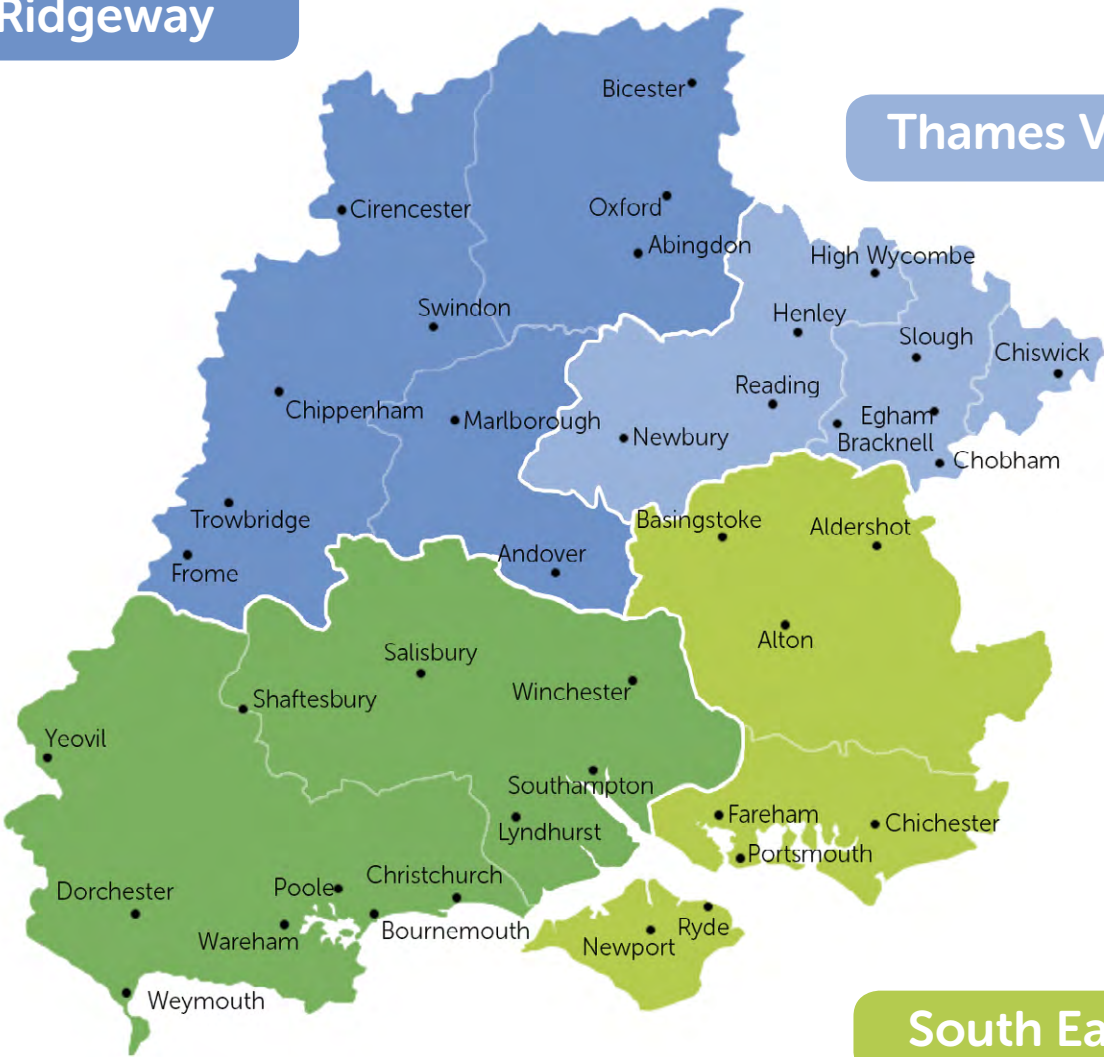


SOUTH



Ridgeway

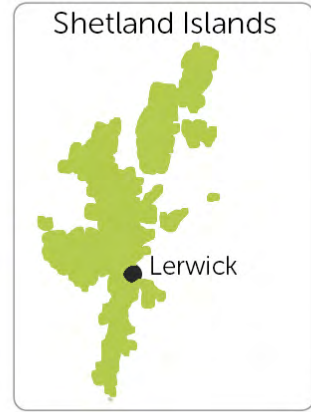
Thames Valley



Wessex

South East

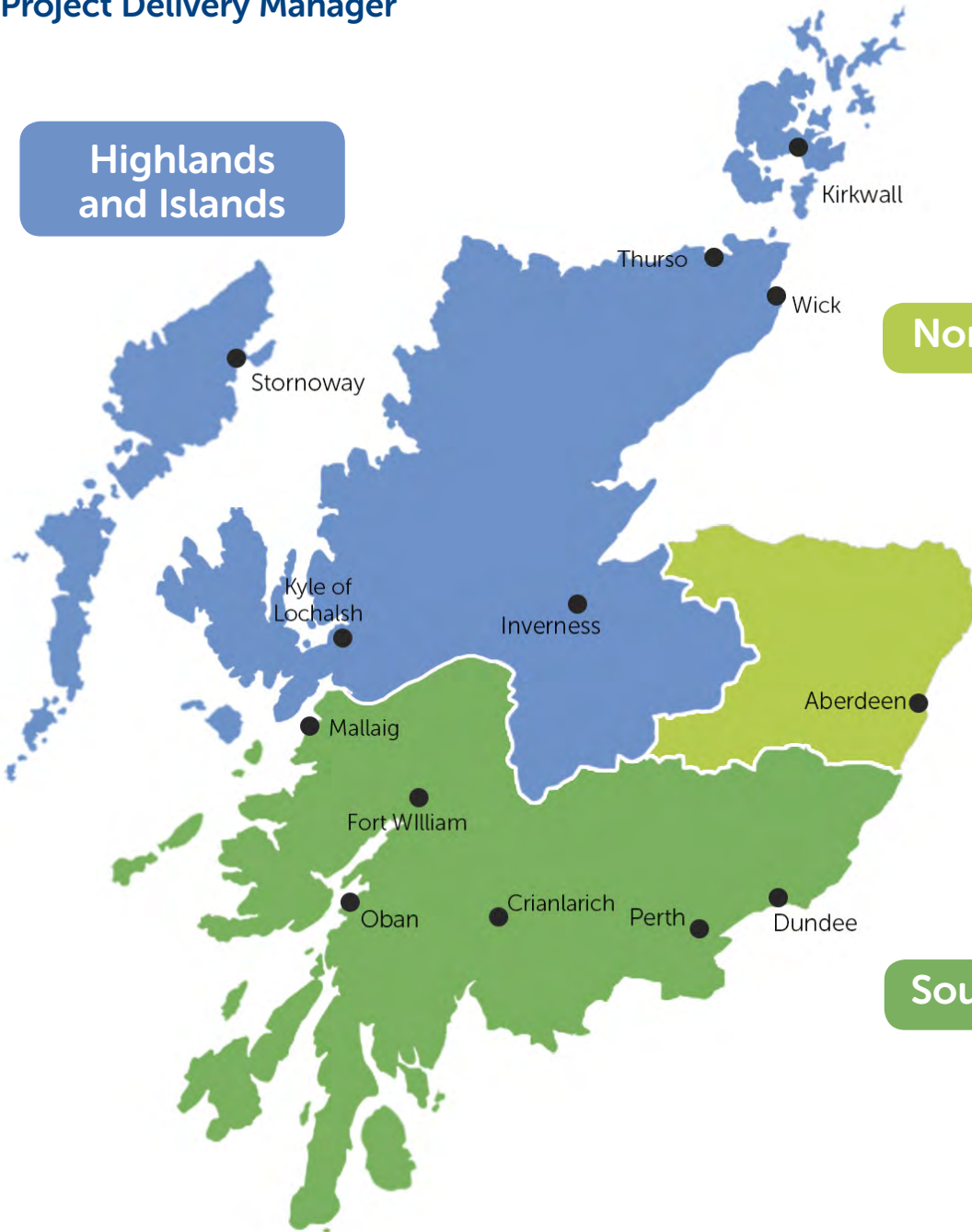
NORTH



Please contact your dedicated Connections Project Delivery Manager

Highlands and Islands

North Caledonia



South Caledonia

Safe Working Practices

Working together to make your connections safe

If you damage any of our underground cables you must report it to the Emergency Service Centre immediately by calling 105.

We want you to stay safe - especially when you are working near overhead lines and cables. Contact your Connections Project Manager before you start work to make sure everything is secure and in accordance with health and safety regulations.

Overhead lines

Particular care must be taken when operating or handling mechanical plant, cranes, scaffolding or ladders in the vicinity of our overhead lines. You should always seek guidance before any work takes place on site from your appointed Connections Project Manager, who will ensure that all your works are carried out safely and in accordance with Health and Safety Guidance Instruction GS6 – Avoidance of Danger from Overhead Electric Power Lines.
www.hse.gov.uk/pubns/gs6.htm

Underground cables

Prior to getting connected, you need to establish where the existing cables on site are located in order to avoid damaging these when digging. To obtain the latest copies of our cable records please send a plan of the area in question together with your contact details to the address below, requesting details of any Scottish and Southern Electricity Networks (SSEN) plant and cables in the area.

Scottish and Southern Electricity Networks
Mapping Services
PO Box 6206
Basingstoke
RG24 8BW



01256 337 294



mapping.services@sse.com

New Roads and Street Works Act

All excavation works required in the public highway will be carried out by SSEN or our designated contractors. The New Roads and Street Works Act 1991 require us to notify Local Authorities and other utility companies before we begin work to install our equipment. This is to ensure works are carried out to nationally agreed standards.

Please note we will only raise notifications after you have accepted our quotation and we have agreed with you a scheduled date to deliver the works.

The following are the minimum period of notice we are required to give:

- 3 days for minor works (works with a planned duration of 3 days or less)
- 10 days for standard works (works with a planned duration of between 4 and 10 days)
- 3 months for major works (works requiring a temporary traffic order and with a planned duration of 11 days or more)

Cable trenches, routes and depths

If you damage any of our underground cables you must report it to the Emergency Service Centre immediately by calling 105.

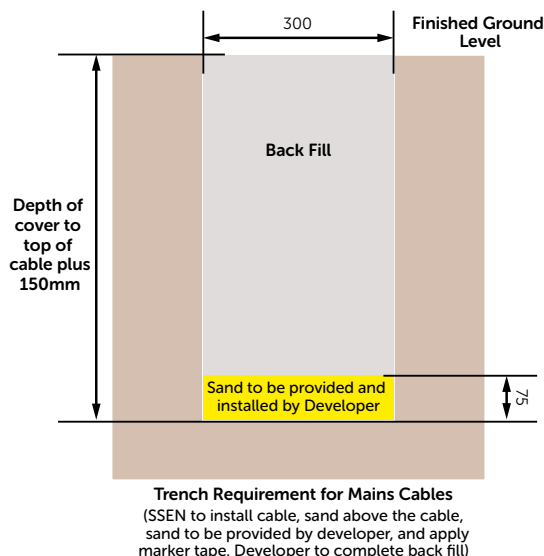
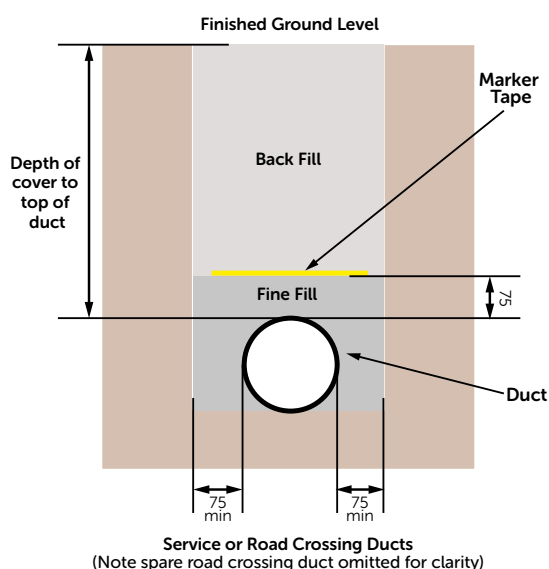
All trenching works must be carried out in accordance with our technical guidance Installation of Electricity Service, Intake and Distributor Cables up to and Including 33kV available from the SSEN website. www.ssen.co.uk/CompetitionInConnections/G81Documents/

It is also recommended that you review the 'Practical guide to Streetworks' before undertaking any excavations. assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/4382/practicalguidetostreetworks.pdf

The drawing included with your connection offer shows where you are required to dig and fill cable trenches and joint bays.

The following trench section shows the position of duct in the ground. It is important that the top of any apparatus is at these depths as a minimum, this includes the top of the duct.

In addition to the cable or duct there is a requirement for 75mm finefill material on all sides. Cable mark tape must be installed 75mm above the top of the apparatus, this needs to be branded with the SSEN logo. This is available from our approved suppliers.



Depth of cover for cable and cable ducts

Location / Voltage	LV Service	LV Main	11kV	33kV
Unmade & cultivated ground	450mm	450mm	600mm	800mm
Footpaths	450mm	450mm	600mm	800mm
Roadways	600mm	600mm	750mm	900mm
Agricultural land	1000mm	1000mm	1000mm	1000mm

Where there are changes in surface type (e.g. footpath to carriageway) the excavations should always be the greater of the depths required. Ducted road crossings must be laid at a depth of not less than shown in the table and not more than 200mm deeper than shown in the table.

The crossings shall extend at least 150mm beyond the kerb line on either side of the road and the ends shall be blanked off to prevent ingress of spoil.

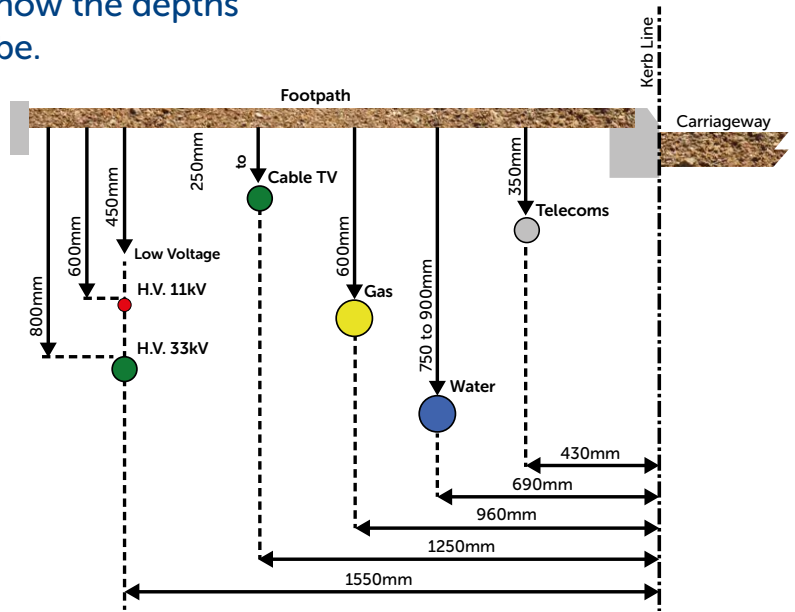
Please ensure that ducts provided for our use are spaced at least 1000mm clear of inspection pits and other ducts

Cable trenches, routes and depths continued

Multi Utility Arrangements

The trenching details mentioned above show the depths to the top of the cable, duct or service tube.

The bottom of the trench must be free of sharp stones or other materials that might damage the cable and a layer of 75mm of sand shall be placed below the cable prior to laying. The trench edge nearest the kerb edge must be positioned where practicable (see right) to ensure separation from other utility plant.

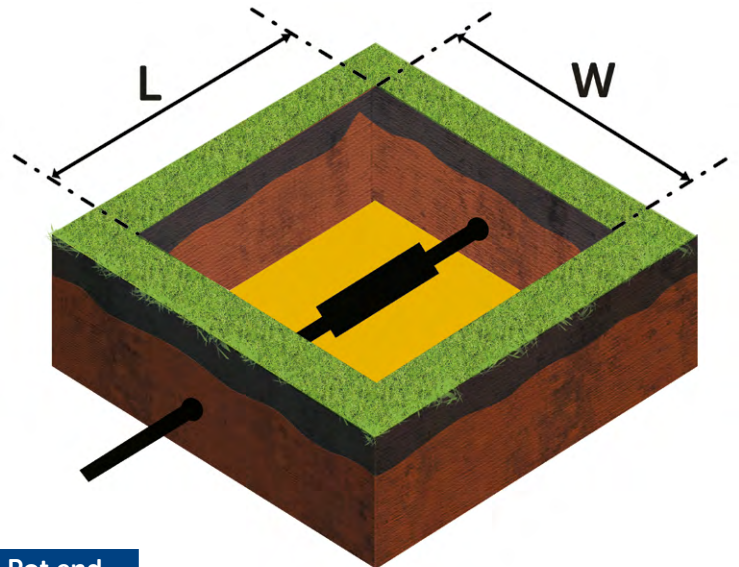


The cable depths referred to above apply to single cables and ducts. Where electricity cables and/or ducts are installed above each other in the same trench please refer to our online technical guidance (TG-NET-CAB-001, Installation of Electricity Service, Intake and Distributor Cables up to and Including 33kV, available on our [G81 library](#)) for trench section details and separation distances.

Joint Bays

In addition to cable trenches, joint bays will need to be excavated alongside the existing mains cable to connect your power cable to our network.

You must hand dig trial holes to establish the actual positions of existing cables before using a mechanical excavator. The required sizes of joint bays will depend on the type of joint required and are detailed to the right and below:



The length of the joint bay should be measured from the point where the new cable is parallel to and touching the existing cable for a breach joint. All cable joints should be in the centre of the joint bays.

Voltage	Service Joint L x W	Straight Joint L x W	Breach Joint L x W	Pot end L x W
LV	1.5m x 1.2m	1.5m x 1.2m	2.5m x 1.2m	0.9m x 0.9m
HV	N/A	2.5m x 1.2m	3.5m x 1.3m	1.2m x 0.9m

Ducting cables on site

For more detailed information on the ducting of cables please see our technical guidance document Installation of Electricity Service, Intake and Distributor Cables up to and Including 33kV available on our website.

www.ssen.co.uk/CompetitionInConnections/G81Documents/

Ducting of service cables

The drawing provided with our connection offer shows where you are required to install ducting.

Minimum internal diameters of ducting are given in the table below:

Cable type	Minimum Internal Diameter
Single phase service cable	32mm
Three phase service cable	50mm-100mm
Main low voltage cable	150mm

For single phase service cables, you are required to install a 32 mm internal diameter black electrical duct, from the joint position at the mains cable to the meter box.

For three phase service cables, a 50mm internal diameter black duct can be used although it is recommended a 100mm duct is used for lengths over 20m.

Ducts should be laid straight where possible with a minimum number of bends, and shall be marked with SSEN-branded tape.

Please refer to your design with regards to installing your ducts. Where bends are required please discuss with your CPM.

It is important that you provide a draw wire or rope in the ducting to allow us to pull the cable through. You will be responsible for clearing the ducting if it gets blocked or damaged. Following cable installation, the ducts shall be sealed by the developer.

Trench backfilling and reinstatement

SSEN will cover all laid mains cables before leaving site. The sand for this activity must be provided by the customer and placed at regular intervals along the trench. You will be responsible for backfilling and completing the reinstatement of trenches and joint bays as indicated in your design.

The amount of sand to be provided is 4 tonne per 100m of trench based on width of 300mm and depth of sand of 75mm and assuming damp sand.

All reinstatement in footways or highways must comply with New Roads and Street Works Act 1991, 'Specification for the Reinstatement of Openings in Highways' and NJUG National Joint Utilities Group.

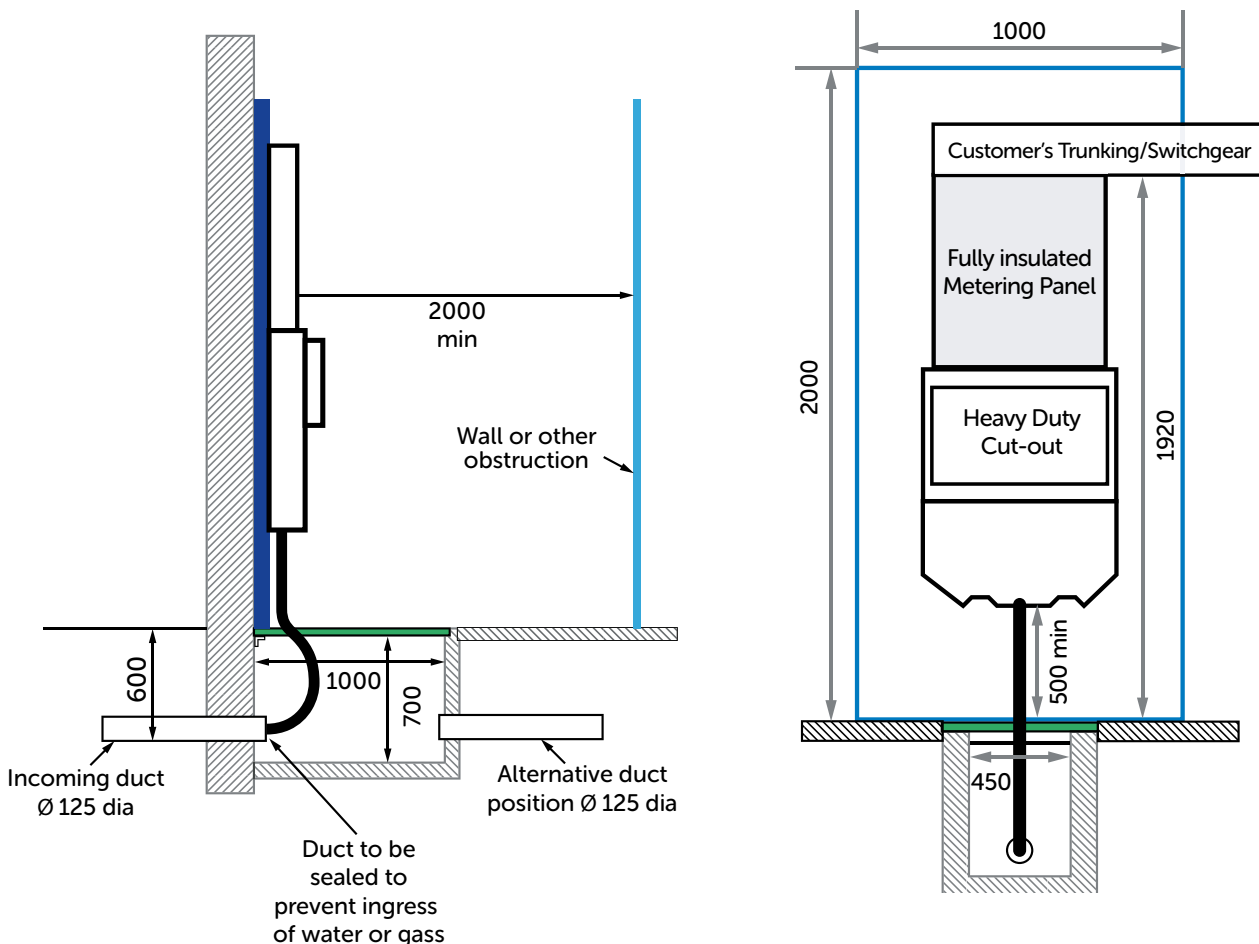
Please also refer to the Specification for Reinstatement of the Openings in Highways (SROH) (England) or Specification for Reinstatement of the Openings in Roads (SROR) (Scotland) for further guidance.

Meter Positions—200 A to 600 A terminations

Meters should be situated on the inside face of an external wall as close as possible to the incoming mains service and must not be installed in passageways that are designed as fire escapes, or where they could be enclosed, such as behind locked gates or in bin stores.

Service terminations must not be installed in cellars, toilets, bathrooms, kitchens, bed-rooms, under stairs with headroom of less than 2m, over doorways, on partition, stud dry-lined walls or any other position not complying with BS 7671.

The position and size requirements are shown on the drawings below. SSEN will supply the fully insulated metering panel and heavy duty cut-out. You will need to install a back-boards. It is recommended that 18 mm thick plywood is used. Further information is can be obtained form our document TG-NET-CAB-003, Low Voltage 100A Termination Arrangements 200 A to 600 A.



Meter Terminations above 600 A

Due to the specialist nature of the requirements for supplies above 600 A Developers must only use our document TG-NET-CAB-013, Low Voltage Termination Arrangements Using 3 Core Bunched Wavecon Cables.

Substation foundation arrangements

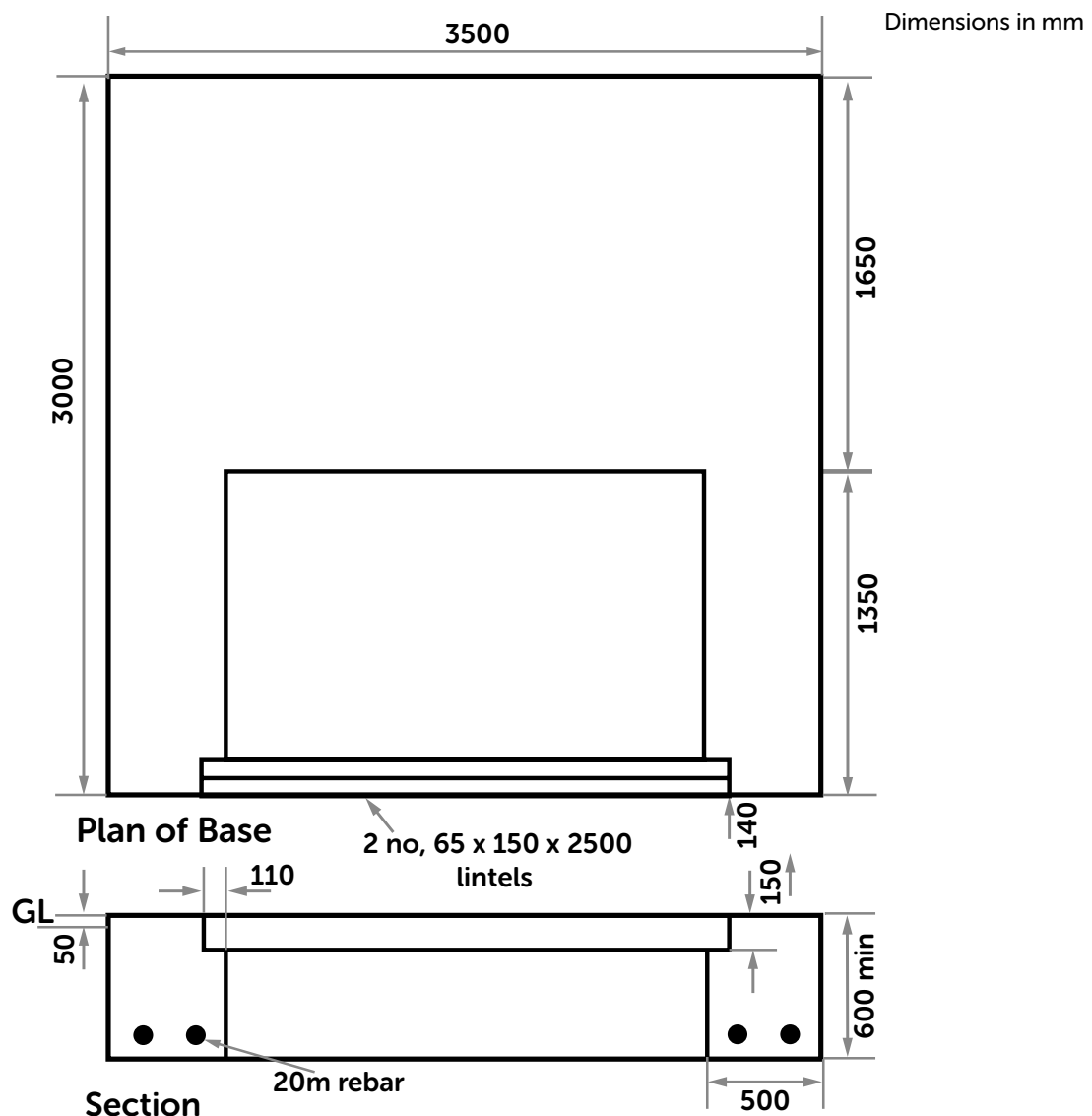
For detailed information on the foundation arrangements for our secondary distribution plant please refer to our technical guidance:

- Foundation Arrangements for Secondary Distribution Plant Installed in Fenced Enclosures and Pad Mount Transformers
- Foundation Arrangements for Secondary Distribution Plant Installed in GRP Enclosures

www.ssen.co.uk/CompetitionInConnections/

Before carrying out any substation foundation works please contact your allocated Connections Project Manager so that we can advise which foundation type is required.

Foundation Arrangements for 3112mm x 2800mm glass reinforced plastic (GRP, Envico TR18 or Equivalent)



Construction and installation instructions

- The base shall be installed to the setting out dimensions and to the top datum level of the foundation supplied by the Developer. The datum shall be 50mm above the finished ground level. A minimum of three pegs shall be installed by the Developer to ensure the base is located correctly.
- The concrete base shall be to a minimum depth of 600mm, this may need to be increased to suit the site conditions.
- The concrete shall be of compressive class C25/30 to BS 8500.
- The concrete shall be poured in a continuous manner until the shuttering is filled. Brickwork or blockwork installed within the shuttering, forming part of the final base is not permitted without the permission of SSEN.
- Foundations shall be reinforced by two, 20m (19.5mm diameter) mild steel reinforcing bars to BS 4449, minimum cover of concrete 50mm.
- A face shutter may be used around the perimeter of the base but the area in front of the transformer base must have a full depth shutter.
- Form rebate in each side of foundation for the concrete lintel.
- The surface should be float finished with finished tolerances, length way, width way and across the diagonals of 5mm.
- Install two precast, reinforced concrete lintels, 65mm x 150mm x 2200mm (2500mm for the larger GRP), across front of enclosure. This will be carried out after the electrical works are complete (note, pre-stressed concrete lintels must not be used due to the camber).
- The area in front of the transformer base shall be filled and then covered with 100mm of dust-free stone chippings or coarse gravel, of maximum size 20mm. This will be carried out after the electrical works are complete.
- The GRP Enclosure shall be installed and levelled in accordance with the manufacturer's instructions. Silicone sealant shall be applied to fill gaps between the GRP and concrete base.
- SSEN may require bases not complying with the above specification and construction to be broken out and replaced.

Glossary

Term	Definition
BS 4449	Specification for rebar and steel reinforcement used in concrete structures https://www.concretecentre.com/Concrete-Design/Design-Codes/BS-4449.aspx
Camber	A rounded edge formed into the corner of a structure
Datum	Single point of reference from which all measurements and locations are set
ENATS 12-14	Technical Specification for Plastic Ducts for Buried Electrical Cables, an official ENA document
Float finish	A fine and hard sand concrete which presents a smooth, level surface
GRP	Glass Reinforced Plastic – also known as fibreglass
Hockey stick	A piece of plastic pipe in the shape of a hockey stick which is used to protect the cable between the ground and the meter cabinet
IET Wiring Regulations BS7671	Wiring regulations for domestic and commercial electrical installations https://electrical.theiet.org/resources/digital/
Inspection pits	Open areas of trench where the depth of the contained duct can be measured and the use of sand and marker tape can be witnessed
Joint bays	The hole in which the joint to a cable will be made
Kerb lines	The demarcation line which designates the end of the roadway and the start of the pavement
Lintel	Used to support GRP enclosure whilst allowing cables to pass beneath
MPAN	Meter Point Administration Number, your unique 21-digit reference number for your supply point
Pad mount transformer	A ground-mounted, self-enclosed transformer available in 50, 100 and 200kVA load sizes
Shuttering	Used for pouring concrete when setting plant and equipment bases
Single Phase service	Typically a small domestic or commercial supply, less than or equal to 23 kVA
Three Phase service	Typically a large domestic or commercial supply, greater than 69kVA

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CALL 105**



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