

DEVELOPERS' PACK



Contents

2	Excavation and Reinstatement	13	Kiosk Location and Hazard Zones
4	Proximities to Buildings		Gas in Multiple Occupancy Buildings
	Proximities to other utilities		Gas Metering Installations
5	Ducting	14	External Insulation Cladding
6	Service Termination Types	15	Street Works and Notices
12	Kiosks	16	Gas Industry Registration Scheme (GIRS) Accreditation
			Engineering Difficulties

This document provides details of Wales & West Utilities' requirements for laying new mains and services on new domestic and non domestic sites.

Although primarily aimed at developers and builders, this document may also be used by other organisations involved with the installation of gas supplies.

Excavation and Reinstatement

Customers requesting a new gas supply or alteration of an existing supply can benefit from a price reduction by excavating and backfilling a trench on the land that they own that is capable of housing the gas service(s).

Wales & West Utilities has minimum requirements when installing mains and services in pre-excavated trenches.

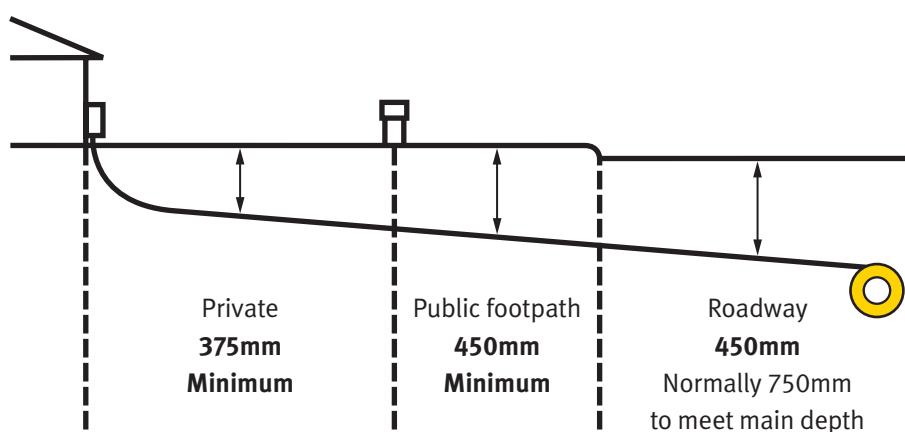
The minimum depth of cover required over a gas pipe depends on its classification, operating pressure and intended location.

Table 1 (*below*), details the minimum recommended depths of cover of any mains pipe installed (based on National Joint Utilities Group (NJUG) recommendations).

Recommended depths of cover for mains pipes (Table 1)			
Location of pipeline	Maximum operating pressure		
	≤ 2 bar (LP & MP)	> 2 ≤ 7 bar (IP)	> 7 ≤ 16 bar (HP)
Carriageways	0.75m	0.75m	1.1m
Paved footways	0.6m	0.6m	1.1m
Verges	0.75m	0.75m	1.1m
Open fields and agricultural land	1.1m	1.1m	1.1m

Gas service pipes usually require 375mm of cover on private land and 450mm of cover in the public highway.

Service configuration – Recommended depths of cover for service pipes (Figure 1)



Before carrying out any excavations, the route and depth of other underground plant such as electricity, water, phone lines, cable TV lines, drains and sewers must be established.

The Health & Safety Executive produces a document HS(G)47, entitled *Avoiding Danger from Underground Services*, which provides full guidance on the precautions to be taken.

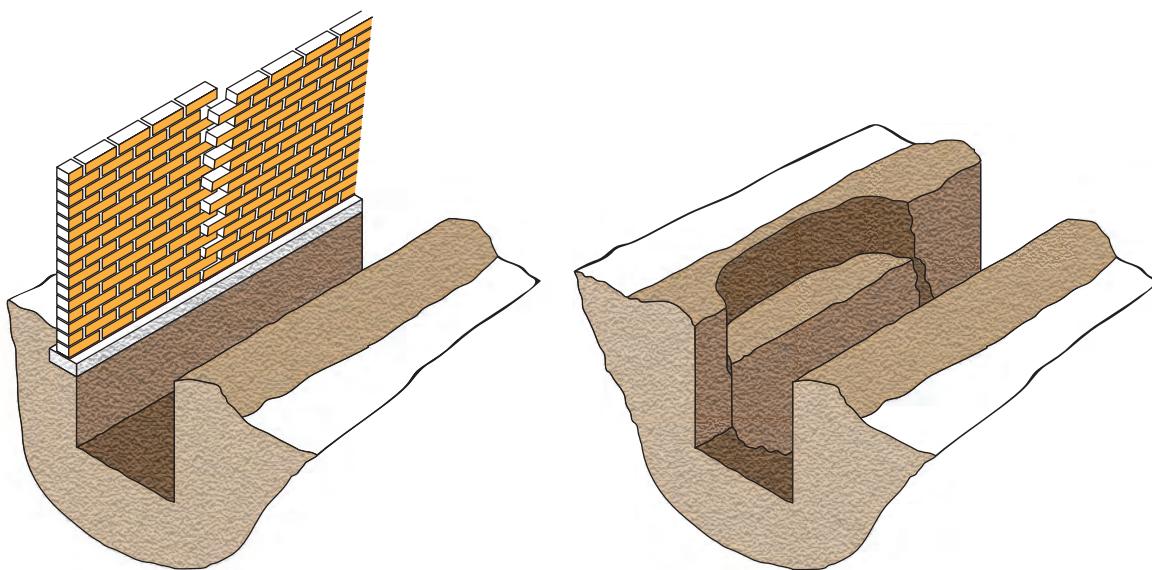
Consideration must also be given to the ground conditions, material and the proximity of any buildings and other load bearing structures. Trench support may be required to avoid collapse.

An on-site assessment will be carried out prior to entering any trench to ensure the safety of WWU's employees and others.

Safe access and egress requirements, for all operatives required to enter the trench, must be taken into account.

Figure 2 (*below*), shows the consequences of incorrectly positioned trenches and unsupported excavations.

Ground/Structure movement caused by excavations (Figure 2)



You are responsible for ensuring that the excavations are secure and clearly marked to prevent injury.

The trench for service pipes on private land should be 500mm deep to allow for 450mm of cover from the backfilled surface.

The trench should be 250mm-300mm wide to allow WWU sufficient room in which to work.

The bottom of the trench must be level and free from sharp granular materials which may damage the pipe.

In poor ground containing sharp stones a further 75mm of excavation will be required. This will then need to be filled with fine material such as sand or pea gravel.

Once the pipe has been installed, you must backfill the trench with fine material (containing no sharp stones, brick rubble etc) that covers 75mm above and around the pipe. WWU may request that you lay 'Gas Warning' tape at this level before completing the backfill.

The consolidation of the backfill, making good of the original surface and removal and/or disposal of surplus material is the responsibility of the customer.

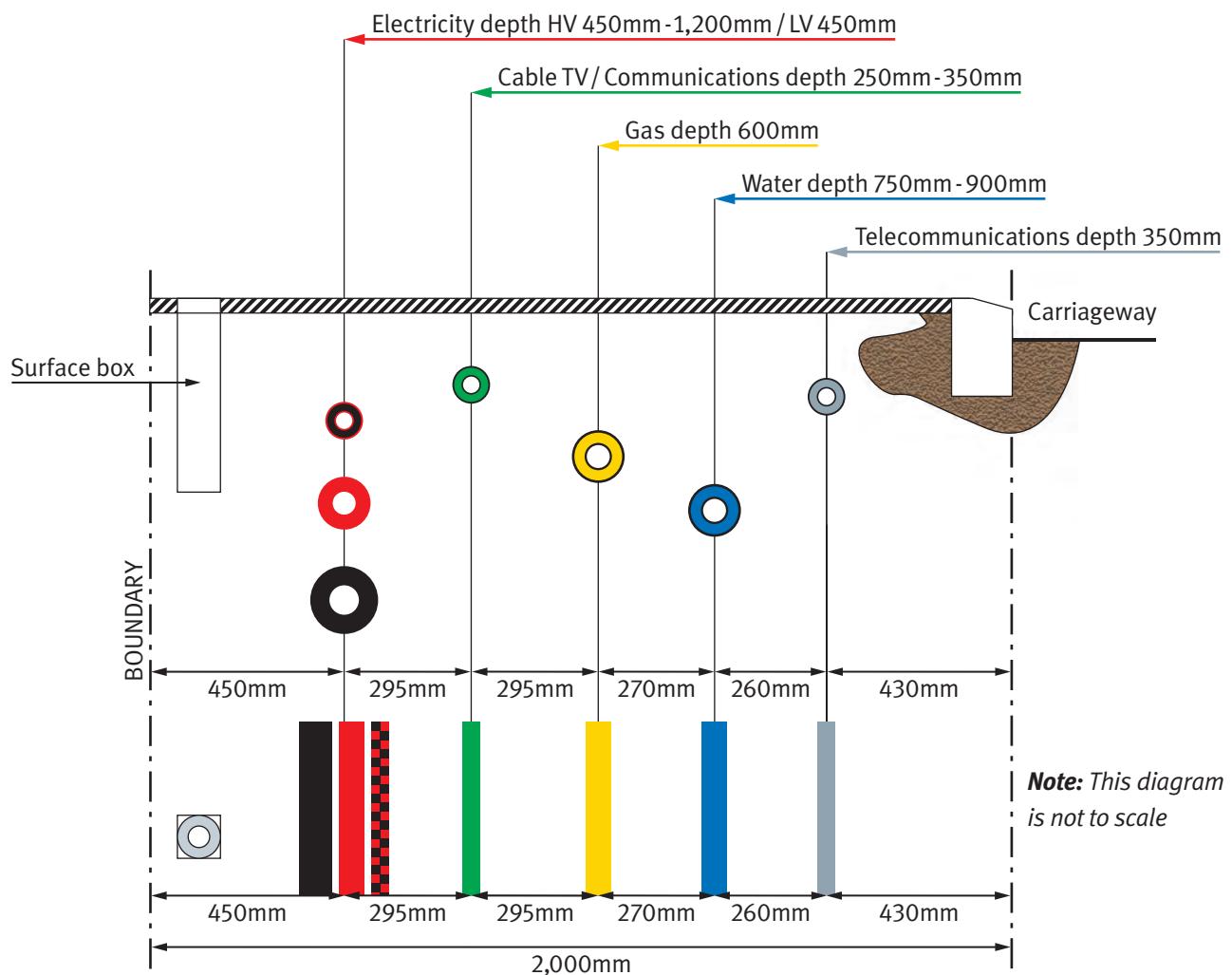
Proximities to Buildings

Should a gas main become damaged, Wales & West Utilities' minimum recommended proximities should be maintained where possible to minimise the risk of gas entering properties, see Table 2 (*below*).

Minimum recommended proximities (Table 2)			
	Low pressure	Medium pressure	Intermediate pressure
PE Pipe	1m	3m	10m
Steel Pipe	1m	1m	3m

Proximities to other utilities

Minimum distances between utilities must be maintained in line with NJUG requirements. The typical position of gas mains, in relation to other utilities, is detailed below.



Ducting

Wales & West Utilities prefers to lay gas mains and services in open trenches. However, it is accepted that in order for the developer to construct paths and roads, a pre-laid duct may be installed to allow the polyethylene pipe to be inserted at a later date. It is recommended that WWU is contacted at the design stage to evaluate if ducting is appropriate and to confirm the required size.

Note: *Wales & West Utilities does not supply ducting. The procurement and costs of the ducting is borne by the developer.*

Please refer to Table 3 (*below*) for the required ducting diameters to allow for the safe insertion of pipes up to 90mm.

Gas Pipe/Ducting Diameters (<i>Table 3</i>)	
Gas Pipe Diameter	Minimum Ducting Diameter
<=32mm	60mm
63mm	150mm
90mm	200mm

Gas ducting must conform to BS:4962 *Specification for Plastic Pipes and Fittings for Use as Sub Soil Field Drains*.

To summarise, ducting must be yellow in colour and perforated to allow for any potential gas ingress to disperse and must not track to nearby properties.

Wales & West Utilities will not insert pipes into any other ducting.

For ease of insertion, the internal diameter of the ducting should be sufficient to allow the pipe to be inserted without damage (*see table 3*).

For diameters above 90mm advice should always be sought from WWU prior to installation.

Ducting should always be laid at the appropriate depth to the final surface category and level of the site (*see table 1*).

Gas marker tape must be laid a minimum of 75mm above the ducting, to avoid interference damage.

Ducting must be used solely for the insertion of gas pipe and laid in straight lines perpendicular to the mains pipe.

Ducting must terminate at a minimum of 1m from the service entry point to allow for the assembly and installation of entry fittings.

Similarly, ducting should terminate at a position which allows insertion of the pipe and assembly of the mains connection fittings.

Pits must be left open at intervals of not longer than 20m, with additional pits on all bends. A nylon drawstring must also be inserted in the ducting.

Care must be taken to ensure that the ducting is not kinked, obstructed or crushed when backfilled.

It is recommended that imported fine fill is used up to 100mm above the ducting.

If the ducting is found to be blocked or unsuitable for use, WWU may leave site and abortive visit costs may be charged.

Service Termination Types

As a general rule, the preferred termination point for any service is either on the front of the property or at the boundary of the site.

There are several different types of service terminations that can be used: Built-in meter boxes, free standing kiosks, above ground entries, below ground entries and cellar entries.

The Built-in meter box, or Cavity box, is designed for insertion on the external leaf of conventionally built homes or timber dwellings with similar external wall and cavity dimensions.

The Built-in box is similar, in appearance, to that provided by other utilities. It requires no lintel and is suitable for most new build properties.

The base of the box should be between 500mm and 1,000mm above finished ground level and the Damp Proof Course (DPC).

Build the box into the outer wall in the specified position.

The sides must be fully bedded into the mortar to hold it into the wall with the outer frame flush with the outer brickwork.

Nails or screws must not be used to secure the box.

It is recommended that a 0.1mm thick polythene sheet, at least 700mm wide, be fitted as a DPC above and behind the meter box (refer to label supplied with box).

The outlet pipe work may leave the box either via the knock out, on the top right rear of the box, or the lower right hand front outlet.

If the rear exit is used the add-on spigot must be used to bridge the cavity.

This spigot will pass through walls up to 268mm thick and can be trimmed to the required length during installation.

No other holes should be made in the box for gas pipe work or cross bonding cables.

The box may be painted if required to match surrounding surfaces.

Built-in Meter Boxes

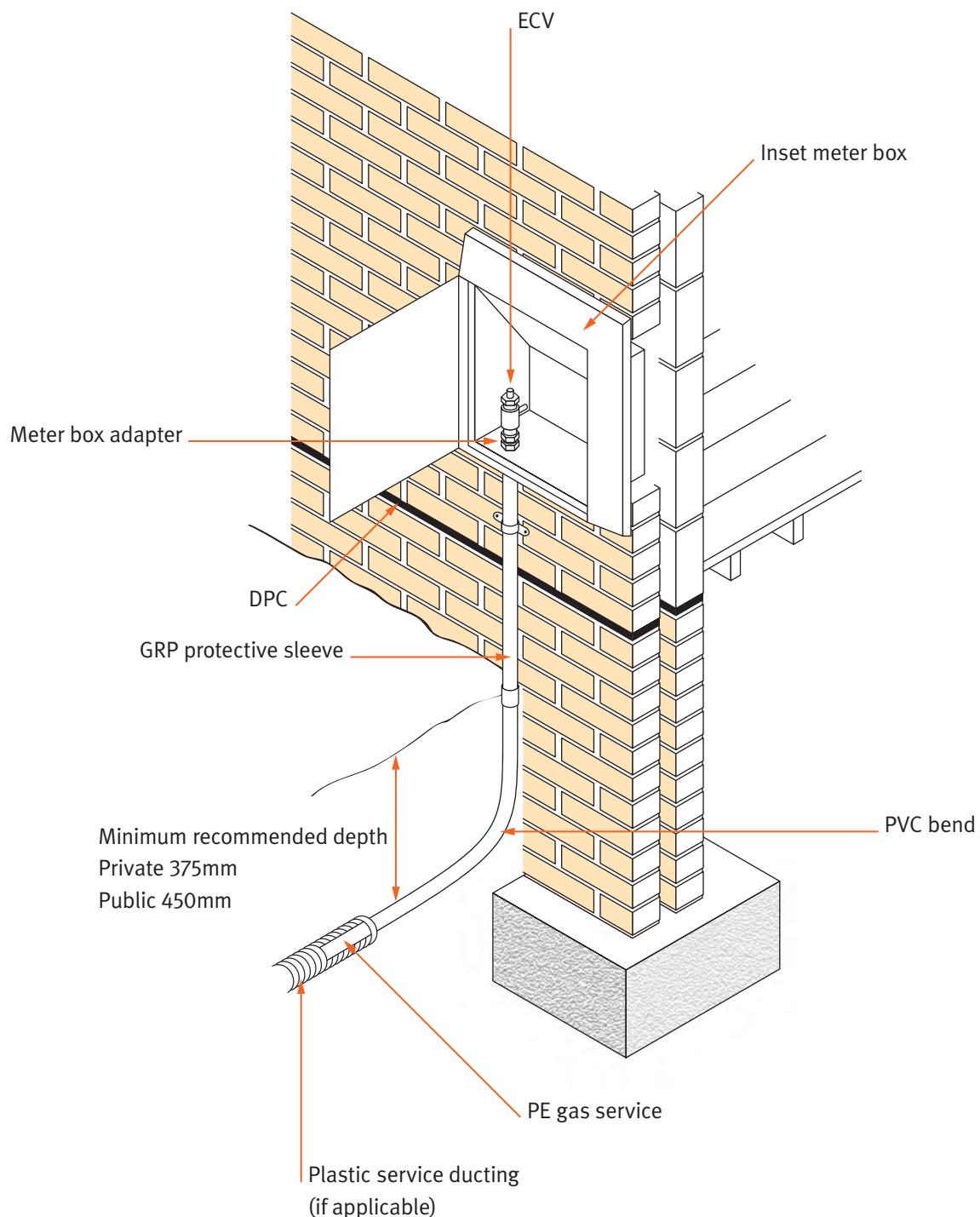
It is important to follow the box manufacturer's installation instructions.

Neither WWU nor your meter installer, will install a service termination or meter in a built-in box that has not been installed correctly.

Built-in Meter Box (Figure 3)

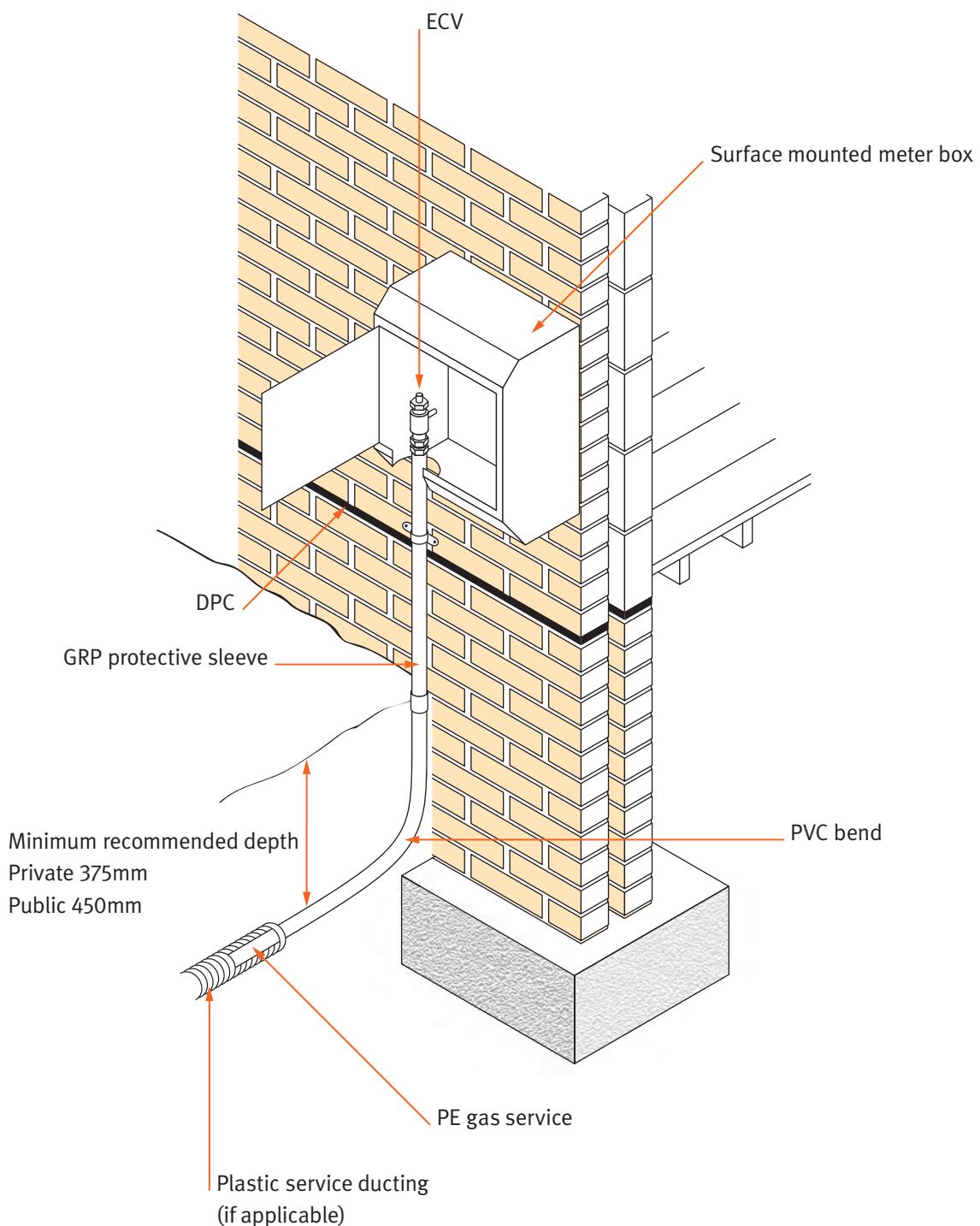
Box Dimensions – H 600mm, W 410mm, D 60mm

Aperture Dimensions – H 532mm, W 366mm, 160mm to inner wall face



Bolt-on Meter Box (Figure 4)

Dimensions – H 497mm, W 442mm, D 230mm



Semi-concealed Meter Boxes

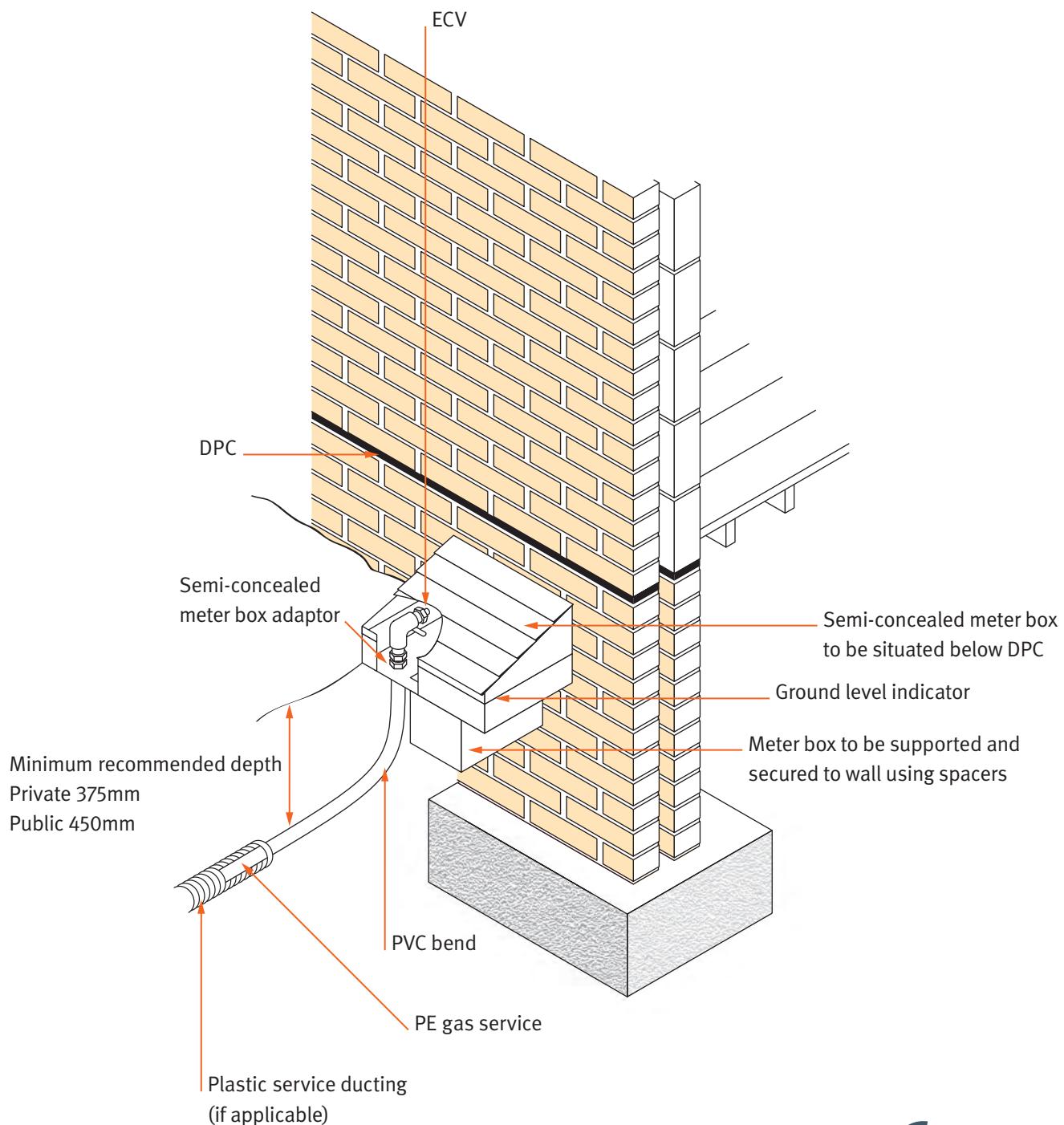
Semi-concealed boxes should **not** be installed in areas that are liable to flooding, vehicle damage or a trip hazard.

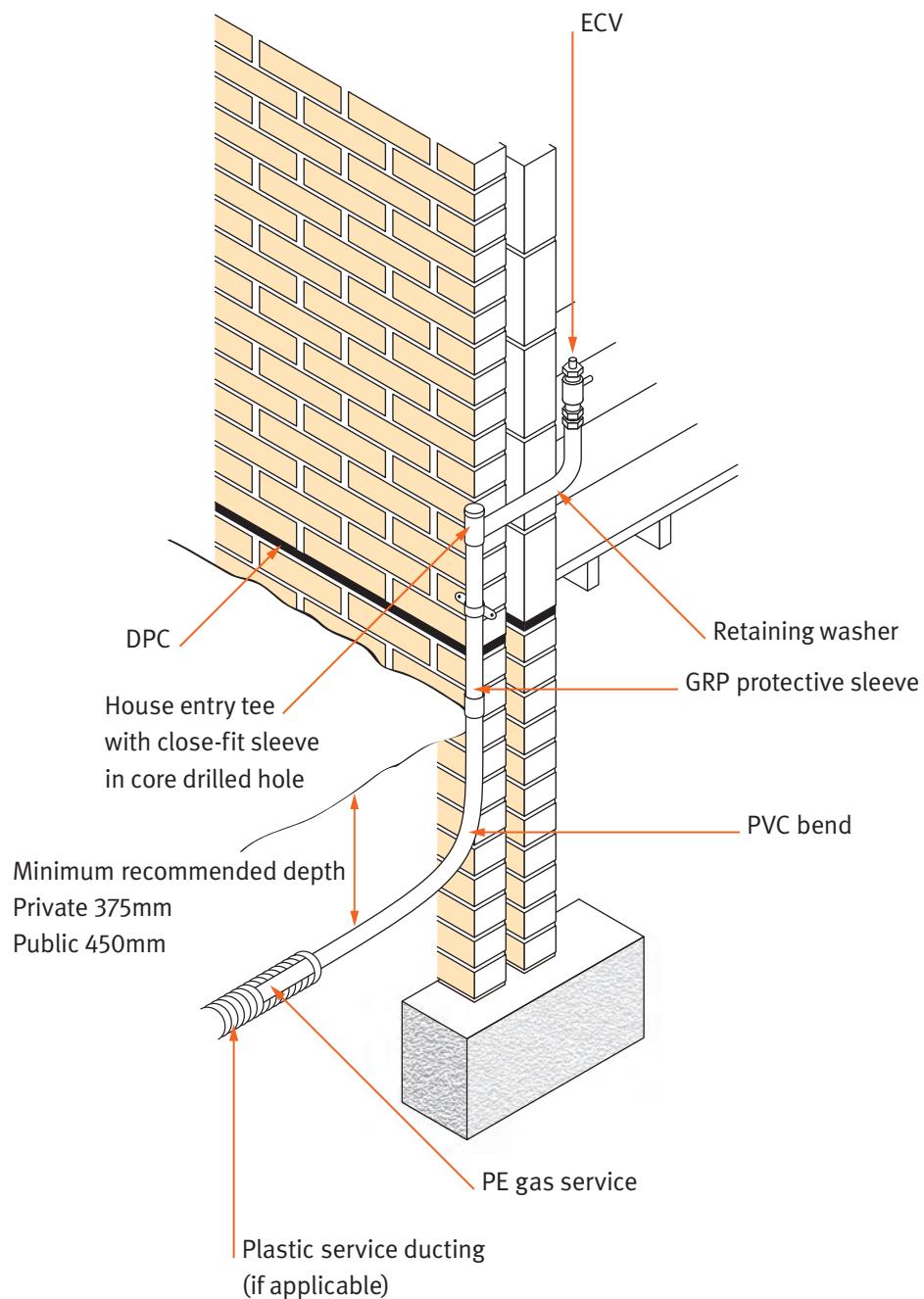
It is recommended that sufficient drainage material is provided around the box in order to prevent water ingress.

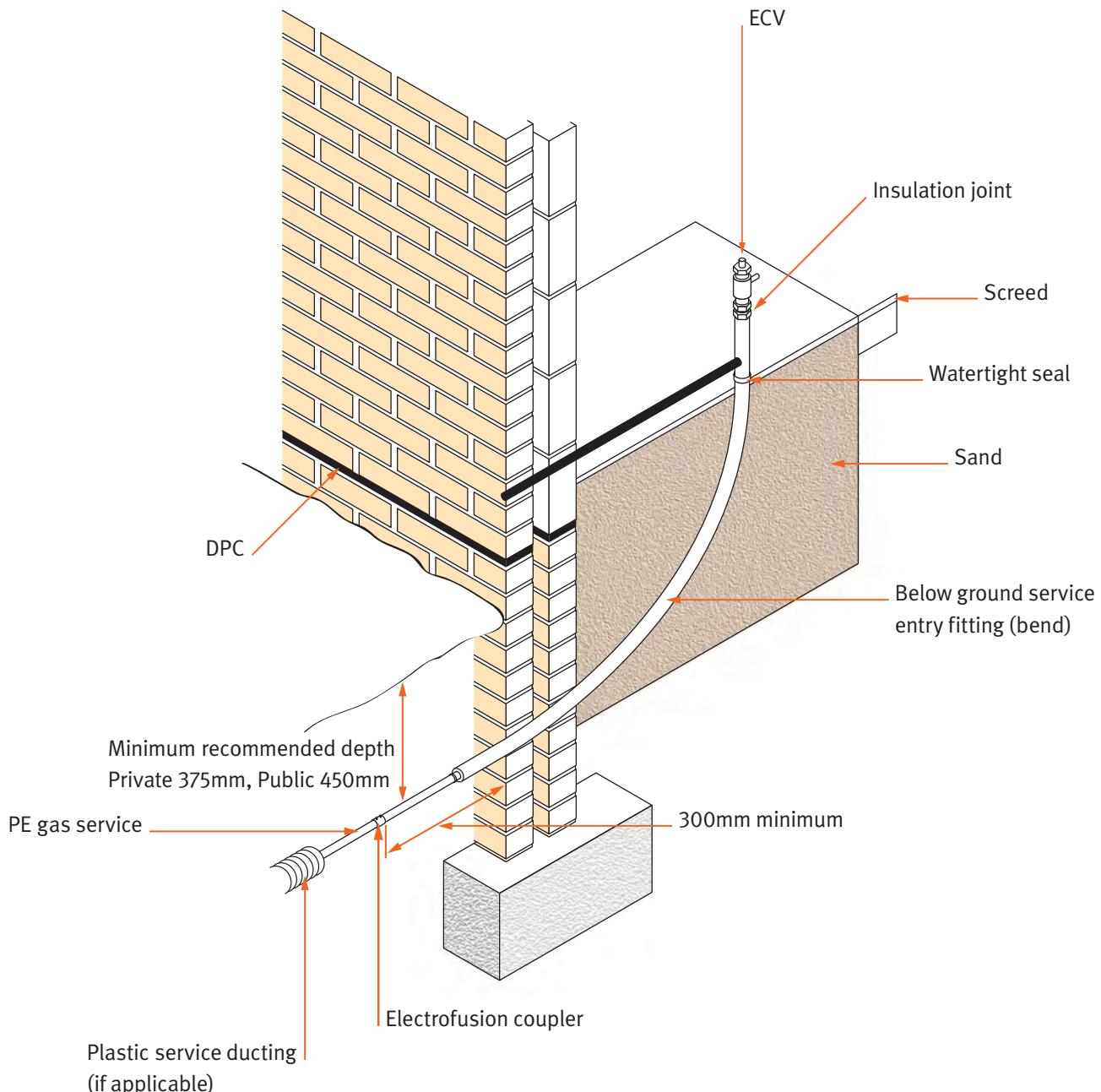
The drainage holes in the bottom of the box should be kept clear.

Semi-concealed Meter Box (Figure 5)

Dimensions – H 150mm, W 478mm, D 230mm



Above Ground Entry (Figure 6)

Below Ground Entry – Solid Floor (Figure 7)

Wales & West Utilities will not carry out any excavation within the property, if installing a below ground entry. It is the customer's responsibility to ensure that all works in the property are carried out to the correct standard.

Please contact WWU, for advice prior to conducting any works.

Kiosks

For larger metering installations and pressure reduction installations, a free-standing kiosk is usually required.

These installations require a solid and stable concrete base appropriate to the ground conditions, for the metering installation and weatherproof kiosk to sit on.

The customer/developer can elect to construct this base to minimise costs.

A range of kiosks and finishes are available from suppliers.

It is also possible to construct bespoke housing; however it is recommended that WWU is contacted for advice prior to construction.

The kiosk must be sited in the correct location, away from any potential hazards, and correctly secured to the base.

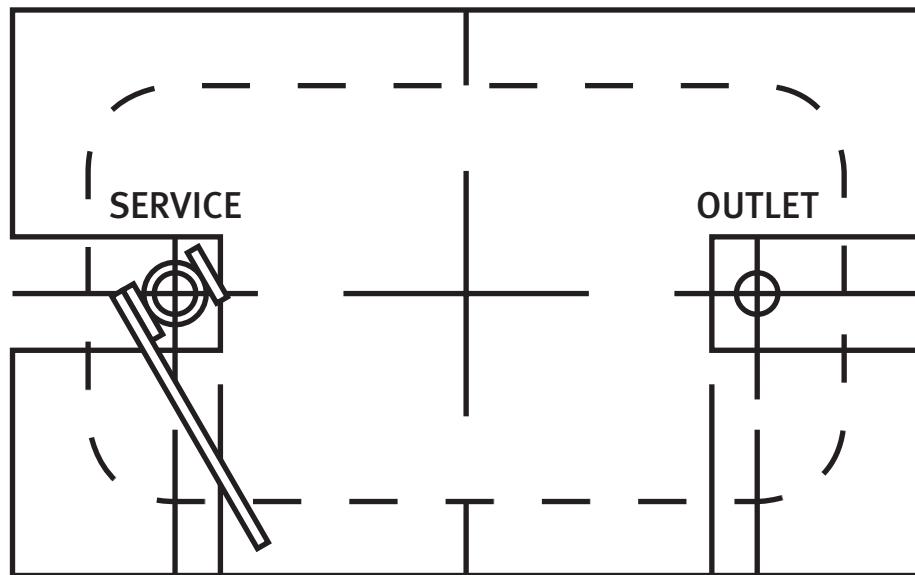
The base must be constructed to the correct standard (reference should be made to BS:8004 & BS:8500-1, BS:8500-2, BS:8110-1 and BS:8110-2).

The base should have cut outs in position, appropriate to the metering installation, to accommodate the inlet and outlet.

Once construction of the inlet and outlet has been completed, the cut-outs should be filled in to provide support for inlet and outlet pipe work.

The diagram below shows a typical example of a straightforward base.

Typical Kiosk Base (Figure 8)



Kiosk Location and Hazard Zones

The kiosk and base, associated with any metering installation must be located away from or protected from any hazard that could damage the installation. This could be protection from collision, explosive risks, etc.

For higher pressure installations, such as Medium Pressure/Intermediate Pressure, the installations have hazard zones associated with them. All electrical equipment and building openings must be outside the hazard zone.

For domestic installations the hazard zone is small. A distance of 1m from electrical equipment and building openings should be maintained. For larger non domestic installations, an IGE/SR/25 – Hazardous Area Classification for Natural Gas Installations and DSEAR (Dangerous Substances and Explosive Atmosphere Regulations) assessment must be conducted as the hazard zone, particularly around the relief vents, is larger.

Gas in Multiple Occupancy Buildings

The preference for flats, or multiple occupancy buildings, is for the meter boxes to be situated on the external wall of the building or inside semi-concealed boxes in the ground.

However, where the meters cannot be located externally, a meter compartment or enclosure can be used.

The enclosure can be located remotely from the building or incorporated into the fabric of the building. It should be noted that, should the meters be located internally, reference should be made to IGE/G/5 – Gas in Flats and Other Multiple-dwelling Buildings.

In summary, no meters should be installed near any common sole means of escape or in any building prone to progressive collapse.

If it is proposed to install meters internally, in any multiple occupancy building, it is recommended that WWU is contacted beforehand to discuss the requirements.

Gas Metering Installations

Consideration of the meter location should take place early in the project life.

All meters should be located in well ventilated areas with easy access in order for them to be read, maintained and the gas supply to be isolated when required.

Meters must not be positioned where they may be exposed to extreme temperatures, excessive humidity, vibration, corrosive atmospheres, accidental damage or any source of ignition.

The location of the meter must be agreed with WWU at the initial design stage.

Wales & West Utilities' responsibility for maintenance of the metering installation ends at the outlet of the emergency control valve and does not form part of our network.

It is the customer's responsibility to contact a supplier of their choice to arrange for the installation of the meter.

External Insulation Cladding

To improve insulation, properties with solid walls or where it is not possible to inject insulating materials into the cavity, may have insulating cladding attached to the exterior wall of the property.

It is important to note that there are various types of cladding that can be installed.

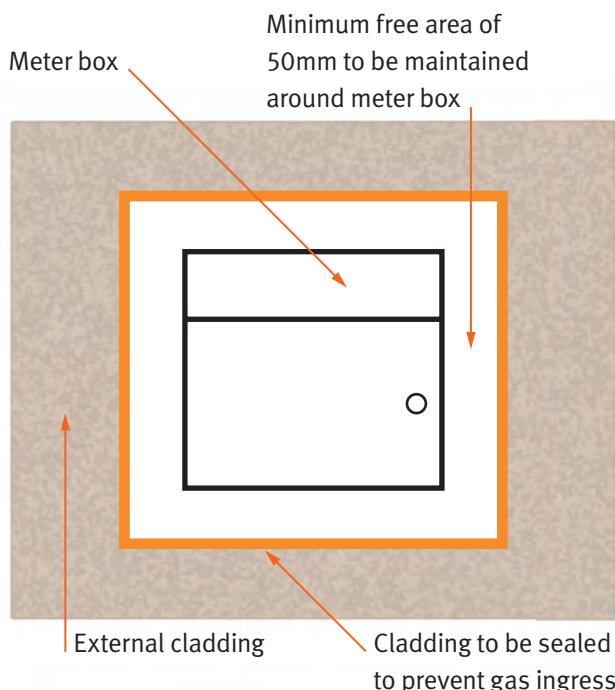
Generally, external cladding is installed using a rock wool type material with a reinforcing mesh and screed over the top.

There are some instances where a polystyrene material is used. Using polystyrene material can cause installation issues, especially in terms of fixing bolts on meter boxes and drilling above ground entries.

It is important that you advise WWU when external cladding is in situ, so that arrangements can be made for site specific survey prior to construction.

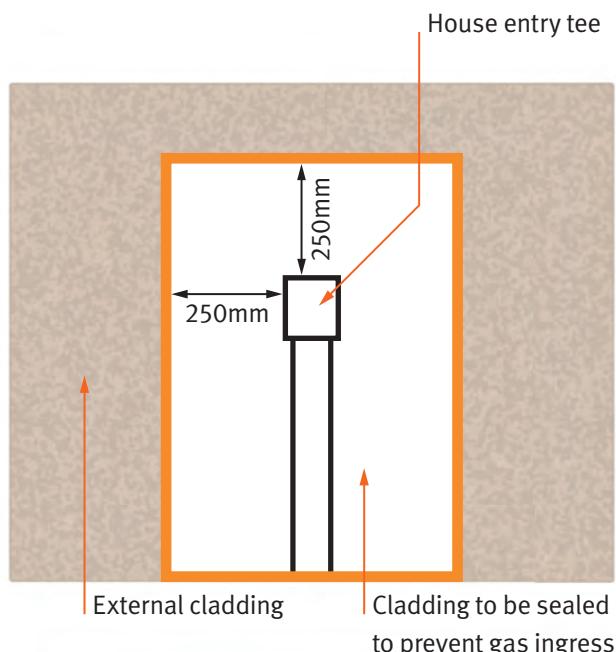
Meter Box with Surrounding Cladding (Figure 9)

When the cladding is attached to the wall, a minimum free area needs to be maintained around the meter box to maintain access for maintenance and repair.



House Entry Tee with Surrounding Cladding (Figure 10)

250mm of free space needs to be maintained above the entry tee to allow operation of the valve and insertion of the required tools. The free area also allows for any required maintenance to be conducted.



In both instances the cladding should be sealed to prevent the possibility of gas ingress into any voids that may be present.

Where the intention is to enclose risers, or house entry tees, any covers that are used should be vented top and bottom and easy to remove for any required maintenance.

Street Works and Notices

Wales & West Utilities cannot prevent a holder of a street works licence from working in the highway. However, it is not advisable for a developer to excavate in the public highway when WWU is carrying out the connection.

This raises a number of issues including liability for over running street works, re-instatement and potential damage to WWU apparatus.

The developer has the clear option to either:

- Request WWU to do the connection
- Employ an Utility Infrastructure Provider (UIP) to do the work and connect to WWU's pipeline using the Final Connection Agreement.

Where the developer requests WWU to carry out the connection work, WWU will take responsibility for all the work, including excavation.

It is important to note that the developer can excavate on their own land and that this advice note does not affect that option.

There are a number of lead times, which any Highways Authority can apply, depending on the scope of works and type of road.

The table below details the lead times required by a Highways Authority.

Street Works Notice Period (<i>Table 4</i>)							
	Notice Lead-in Time (How long before you can start on site)	Validity Period (Number of days notice is valid for starting on site)		Response Periods (Time Period within which to respond for Directions)			
	S54	S55/S57	S54	S55/S57	S54	S55/S57	S74
Major (>10 days)	3 months	10 days	15 days	5 days	1 month	5 days	5 days
Standard (4-10 days)	N/A	10 days	N/A	5 days	N/A	5 days	5 days
Minor (<4 days)	N/A	3 days	N/A	2 days	N/A	2 days	2 days
Immediate	N/A	2 hours after	N/A	N/A	N/A	Anytime during work	2 days

Gas Industry Registration Scheme (GIRS) Accreditation

Some companies and organisations hold accreditation that allows them to connect to and construct mains and service infrastructures in a WWU licensed area.

Companies that are accredited to work on WWU's network can be found on this website:
<http://www.lloydsregister.co.uk/girs.html>

It is important to note that WWU will not use or commission any pipes that are laid by any organisation that do not hold the appropriate level of GIRS accreditation.

Engineering Difficulties

Any engineering difficulties must be identified along the proposed route.

Engineering difficulties include, but are not restricted to, river crossings, railway lines, contaminated land, retaining walls and steep gradients etc.

Please advise WWU of any difficulties that may be encountered onsite as this may affect the route selected and any external bodies who may need to be consulted.

Please note: If Wales & West Utilities is not advised of any difficulties that will affect the quoted works, additional costs incurred may be passed on.

Useful Contacts

24 hour National Gas Emergency Service

Telephone Number: 0800 111 999

For a list of registered Utility Infrastructure Providers

www.girs.co.uk

The Society of British Gas Installers can provide information on alternative installers

www.sbsgi.org/uip

A list of alternative Gas Transporters can be found on the OFGEM Website

www.ofgem.gov.uk

Contact Us

Wales & West Utilities Plant Protection

Telephone Number: 029 2027 8912 Fax Number: 0845 072 0852

Email: plantprotectionenquiries@wwutilities.co.uk

General Enquiries

Telephone Number: 0870 165 0597



Wales & West House
Spooner Close
Celtic Springs
Coedkernew
Newport NP10 8FZ

T. 029 2027 8500
www.wwutilities.co.uk

COPYRIGHT © WALES & WEST UTILITIES LIMITED
Registered in England and Wales: No. 5046791