



# Water Network

## GTC Technical Guidelines

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GTC Technical Guidelines and Safety Information for  
House Builders and Developers



## GTC Technical Guidelines

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## **GTC Technical Guidelines**

# Section One

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## Introduction

These guidelines provide you with information on the installation of water mains, services, meters, and other parts of the water network. The guidelines also cover the safety aspects of GTC completing works onsite and specify your responsibilities in the delivery of the water network.

**Should you wish to contact us, the telephone number is 01359 240363.**

### Disclaimer

Although the greatest of care has been taken in the compilation and preparation of this document, GTC respectfully accepts no responsibility for any errors, omissions, or alterations or for any consequences arising from the use, or reliance upon the information in this document.

# Section Two

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## Communications

Our opening hours are from 08.00 to 17:00 every weekday. The below is a list of contact details for various parts of the customer journey.

### Water Emergency

To report a loss of supply or a burst or leaking water main, please call **02920 442716** (24 hours).

### Electricity Emergency

To report No Supply or Electrical Damage, please call **0800 0326990** (24 hours).

### Gas Emergency

If you can smell gas or believe a gas pipe has been damaged, please call **0800 111 999**.

### Sales

To discuss your utility infrastructure solution needs and obtain a quotation, please contact **01359 240154** or **sales@gtc-uk.co.uk**.

### Design

To discuss a utility design or request a variation, please contact **01359 300798** or **network\_variations@gtc-uk.co.uk**.

### Customer Services

At GTC, we are committed to providing you with excellent customer service and we encourage feedback so that we can ensure we are making our customers happy. If you have any comments or complaints about our service, please contact **01359 302640** or **customerservices@gtc-uk.co.uk**.

### Legals

To discuss legal transactions in relation to easements and transfers over our utilities, please contact **01359 243453** or **legals@gtc-uk.co.uk**.

### Site Installation

To book in work on your site, please contact **0345 6022498** or **gtcworks@gtc-uk.co.uk**.

### Meter Point Numbers

Meter Point Numbers Request or query MPRN numbers, please contact **01359 243311** or **mprn.requests@gtc-uk.co.uk**.

### Supplier Agreements

To check and change supplier/shipper contract agreements, please contact **01359 243311** or **psr@gtc-uk.co.uk**.

### Finance Queries

For any queries regarding invoices or billing, please contact **01359 308144** or **credit.control@gtc-uk.co.uk**.

# Section Three

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## Safety

### Safe Place of Work

GTC requires a safe place of work to be provided for all its staff and contractors. Initial enquiries shall be made seeking confirmation that the construction site is a safe place to work.

Upon arrival to site, staff and contractors shall report to the Site Manager/Representative to discuss intended works. Prior to undertaking this work, a site-specific risk assessment will be undertaken. If, following this assessment, the works cannot be undertaken in a safe manner, the Site Manager/Representative will be informed. Until a safe working environment is achieved, no activities shall be undertaken.

### Site Traffic Rules

All site traffic information should be made available to the team/operative when arriving on site, via a site induction or/and during the booking in on-site stage.

### Equipment and Materials

The Site Manager/Representative shall ensure their equipment and materials are operated and stored in such a manner that they do not become a hazard within the working area of the team/operative. Water pipe and fittings delivered to site shall be stored as detailed later in this document.

### Scaffold

Ensure all scaffold where the team/operatives are to work is removed prior to their arrival on site.

### Welfare Facilities

In most cases, welfare facilities are to be made available on site from the Principal Contractor.

# GTC Technical Guidelines

## Utility Protection

Ensure all excavation works onsite are progressed using safe digging techniques. Refer to HSG47 *Avoiding Danger from Underground Services*. GTC utility plans are available via [www.gtc-uk.co.uk/network-locations](http://www.gtc-uk.co.uk/network-locations).

## Competence

All staff and/or appointed Contractors working on behalf of GTC who attend site shall have the appropriate training, technical knowledge, and experience to discharge the intended works in a safe manner.

## Construction Design Management (CDM) Regulations

GTC will act as the 'Designer' and 'Contractor' for the construction and commissioning of water networks on new property developments.

The water mains, services and meters that will be installed on the development will remain the property of the Network Operator named in your quotation. GTC will be responsible for the operation and maintenance of the network on behalf of the Network Operator.

The construction team should leave a marked-up copy of what is live in the site agent's office during the construction phase so that other construction workers have access to live plant information.

## Recommended Positioning of Utility Apparatus

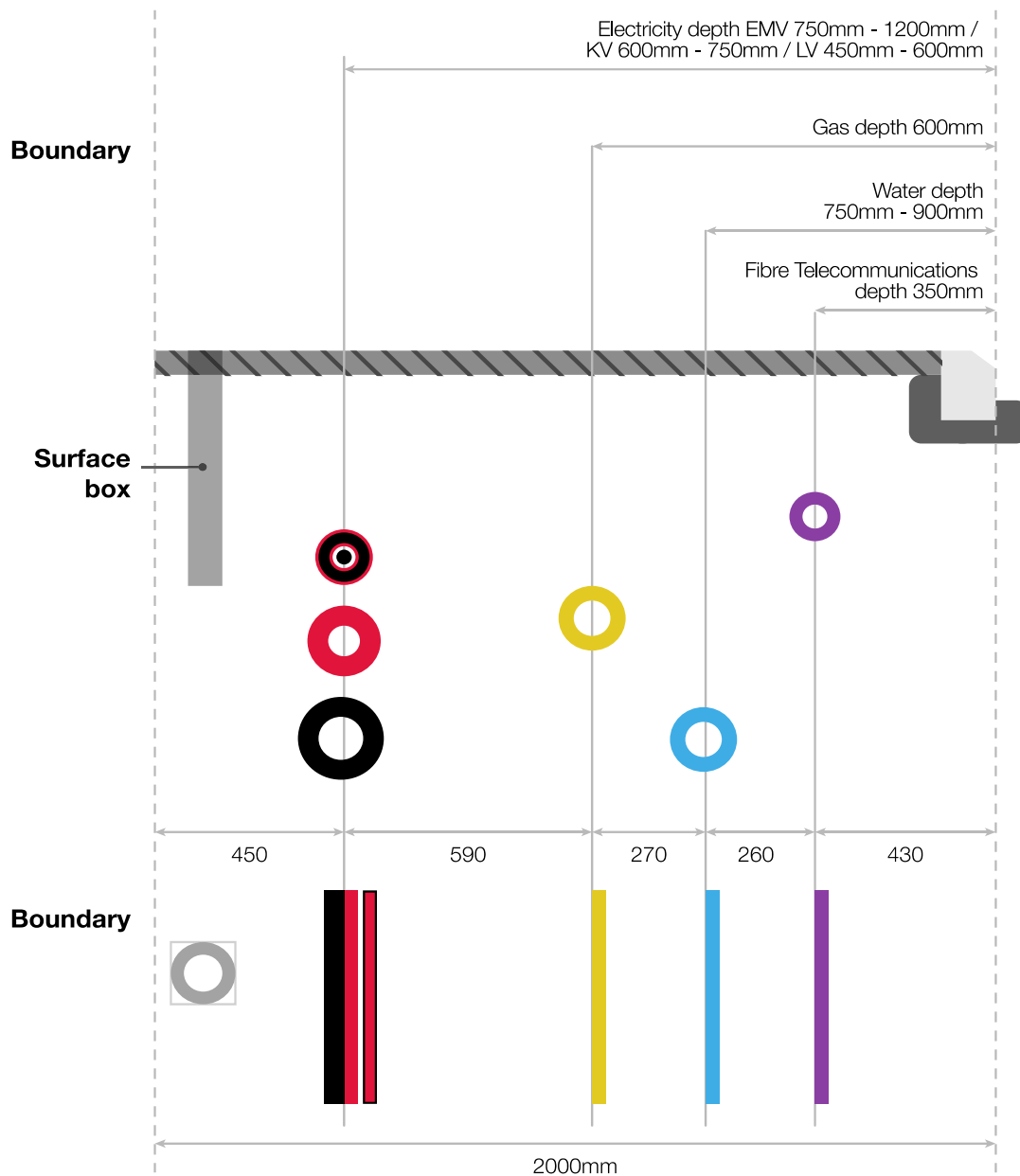
Water mains and services should be laid at the depths specified in these guidelines.

The typical position of the water main and other utilities apparatus in a footway and road/verge is shown in the diagrams below (dimensions in mm). Minimum depths of cover are also in Figure 1.



# GTC Technical Guidelines

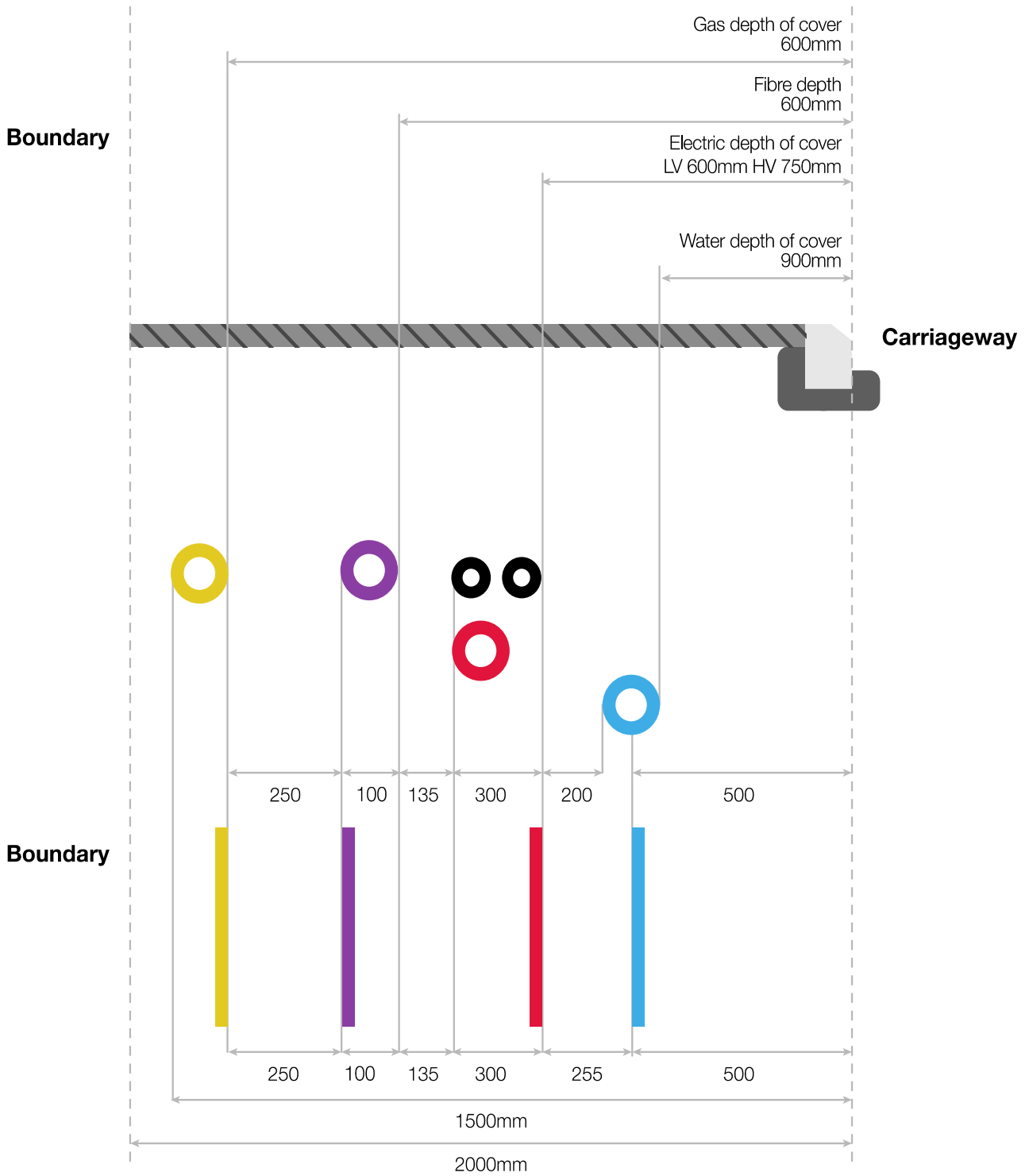
This diagram is NOT to scale and indicates the typical depth of cover required.



**Figure 1 – NJUG positioning of utility apparatus in a 2 metre footway**

Note that where the footpath is less than 2 metres wide there is a principle that the gas pipe must not have other utilities within 250mm of it in all directions.

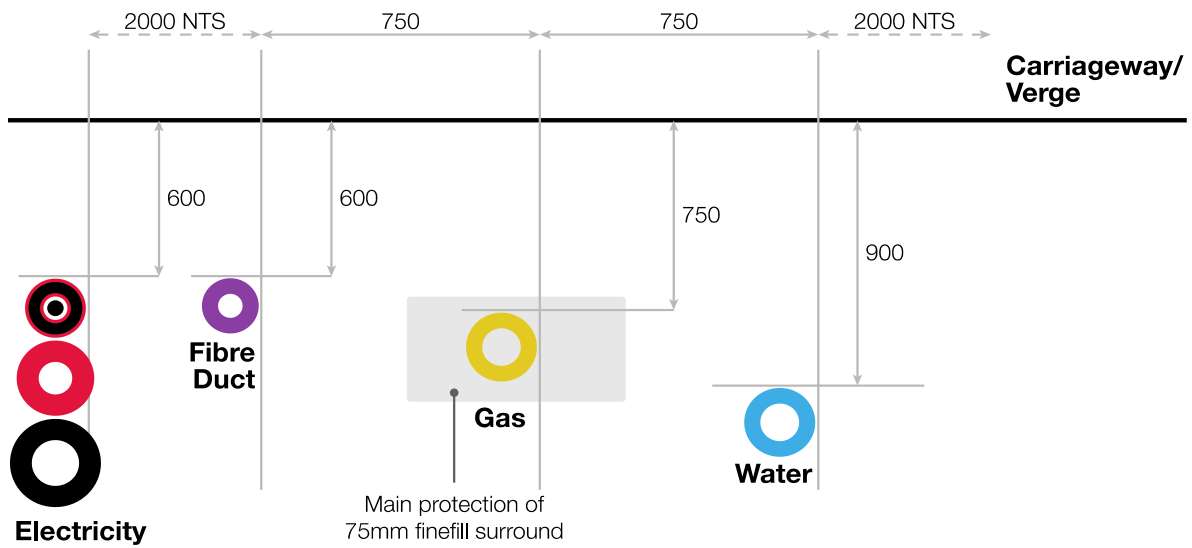
# GTC Technical Guidelines



**Figure 2 – GTC positioning of multi-utility apparatus in a two metre footway (Gas, Electricity, Fibre and Water)**

# GTC Technical Guidelines

This diagram is NOT to scale and indicates the typical depth of cover required.



**Figure 3 – Typical road section to show relative positions of utility apparatus**

It is imperative that the water mains are not damaged following installation, and it is the responsibility of the Developer to ensure that ALL contractors working on site are informed of the location of the water mains. The mains and services drawing should always be on site and updated to clearly show the installation progress.

Please note that other Water Companies may have water mains near the site. They should be contacted by the Developer at an early stage to establish the location of any non-GTC mains that may be affected.

Damage to live water mains and services must be reported immediately to the **Emergency Number 02920 442716** who will arrange for the Emergency Service Provider to attend site and undertake any repairs.

Any damage to un-commissioned pipes, no matter how slight, must be reported immediately to GTC.

For further information refer to HSE publication HSG47 *Avoiding Danger from Underground Services* which gives detailed guidance on avoiding damage to utility mains and services, including information on detecting underground services and safe digging practices. Free information is available from the **HSE Infoline on 0845 345 0055** or the **HSE website [www.hse.gov.uk](http://www.hse.gov.uk)**.

# Section Four

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## Definitions

<b>Supply Pipe</b>	The length of service pipe between the property and the footway/property boundary.
<b>Communication Pipe</b>	The length of service pipe between the main and the property boundary/back of the footway.
<b>Water Main</b>	Underground pipe network for distributing water throughout the property development.
<b>Boundary Box</b>	The chamber installed at the boundary of the property used to house a meter and stop valve.
<b>Multiport Boundary Box</b>	A boundary box containing 2 or more meters and stop valves.
<b>HSE</b>	Health & Safety Executive.

# Section Five

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## Developer Responsibilities

The Developer is responsible for ensuring that the on-site requirements detailed below are met:

### General Requirements

- Take delivery of materials and store appropriately as described later in this document.
- Ensure kerb braces have been installed prior to installation of any mains. IN EXCEPTIONAL CIRCUMSTANCES ONLY where this is not practical or reasonable and with the express written permission of the Construction Director, GTC may accept a site-specific indemnity letter signed by the Developer accepting a “line and level” approach. In such circumstances the Developer will indemnify GTC against all costs relating to future relocation of pipes or ducts and/or repairs to damaged pipes and ducts.
- Carry out all necessary excavation and backfilling work for the installation of water mains, services, and associated equipment.
- Ensure all trenches are excavated in accordance with the approved design and are wide and deep enough to facilitate the correct separation, alignment and depth of the water mains and services.
- Maintain an obstacle free route.
- Ensure no work is carried out beneath scaffolding.
- Ducting will be supplied by the Developer and can only be used for perpendicular road crossings and service pipes.
- Lay ducting for services and mains in accordance with the design drawing.
- Lay the supply pipe between the property and the meter box.
- Lay ‘water pipe’ marker tape, supplied by GTC, 250mm above mains or ducting for mains before backfilling the trench.
- Lay ‘water pipe’ marker tape, supplied by GTC, 75mm above water service or ducting for services before backfilling the trench.
- Where connections are to be made to an existing water main, the GTC Project Manager shall advise the Developer/Groundworker of the type of connection to be undertaken and the dimensions of the excavation necessary to facilitate the connection.

# GTC Technical Guidelines

## Materials Delivery & Storage

In preparation of GTC completing work on-site, there is a requirement to responsibly store pipe and fittings on site. The following guidelines identify best practice; however further guidance and advice can be provided by the GTC Project Manager.

- Pipe, meter boxes and associated equipment may be delivered directly to site.
- Any loss or damage occurring after delivery may be chargeable to the Developer if these guidelines are not adhered to.

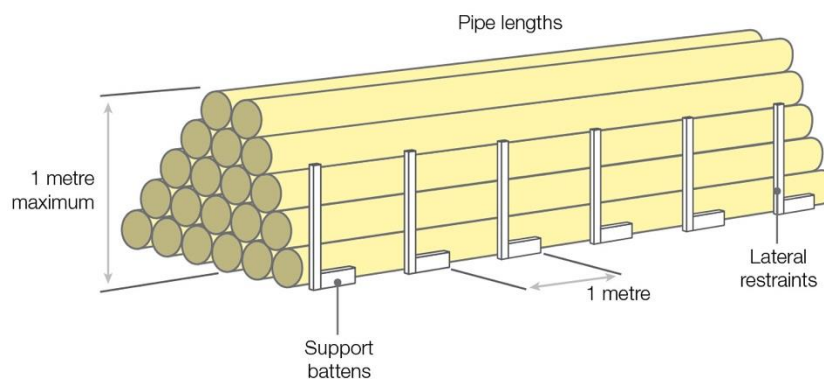
## Storage

The onsite storage facilities shall be a secure compound. Careful consideration should be given to the following aspects:

- Security of all materials and equipment from theft, vandalism, accidental damage, or contamination. Precautions should be taken to prevent debris and water from entering pipe and fittings (pipe end caps on coils, intended to prevent ingress of contamination, should be kept in place during storage).
- Safety of the site workers, public, especially children and visually impaired persons.
- The movement of traffic and construction equipment.
- All pipe store locations should be on a suitably firm hard standing, level ground, free from ground water, mud, and other damaging material with adequate access for construction vehicles and/or lifting equipment.
- Pipe and fittings are not to be stored on the ground, suitable pallets or wooden battens should be the interface between the ground and material.
- Care should be taken to prevent damage to, and distortion of, pipe ends and fittings.

## Individual Pipe Lengths

Pipe lengths stored individually should be stacked on clear level ground in a pyramid not more than one metre high, with the bottom layer fully restrained by wedges. The bottom layer of pipes should be laid on timber battens at one-metre centres.

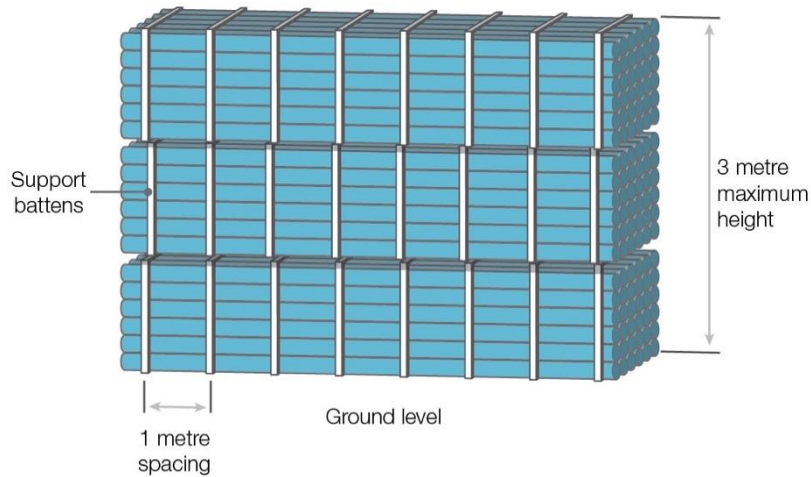


**Figure 4 – Storage of loose pipes**

# GTC Technical Guidelines

## Bundled Pipe Lengths

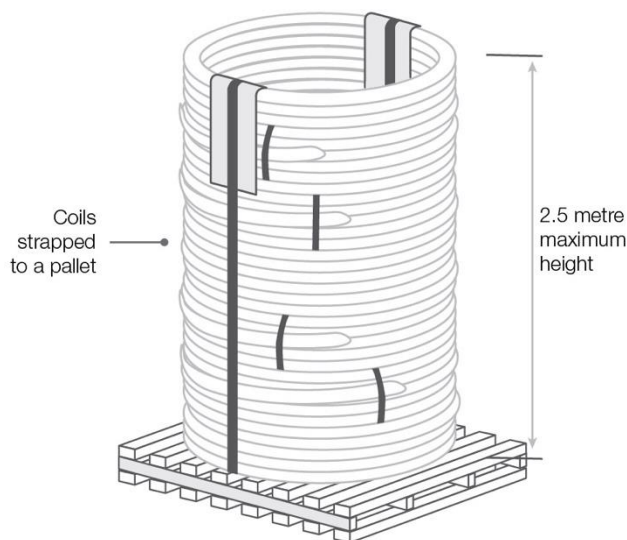
Bundled packs of pipe should be stored on clear, level ground, with the battens supported from the outside by timbers or concrete blocks. For safety, bundled packs should not be stacked more than three metres high.



**Figure 5 – Storage of bundles**

## Small Wrapped Coils (diameter $\leq 32\text{mm}$ )

Coils of pipe of diameter up to 32 mm are normally restrained using an outer covering of “shrink wrap” or equivalent material to enable the pipe to be drawn from the centre of the coil. Only enough pipe for immediate use should be cut from the coil and on no account should the outer wrapping be removed until the coil is almost fully unwound. The dust cap must be replaced on every occasion a cutting is taken from a coil. The coils should be placed on a hard standing.



**Figure 6 – Coils strapped to pallet**

## GTC Technical Guidelines

Individual coils should be stored on pallets or on firm level ground which has suitable protection for the bottom coil. The stack height shall not exceed 2.5 m. Battens or other similar provision should be provided between coils to facilitate lifting. Coils delivered by suppliers already palletised may have been secured by shrink wrap or retaining straps; such coils should remain secured to their respective pallets during storage with the stack only being broken at the time of issue.

The height of stacked individual coils not secured to a pallet shall be such that the stack is stable, and the uppermost coil can be safely handled. Individual coils of pipe of diameter not exceeding 32 mm should be hand stacked flat.

### Large Coils (diameter $\geq 63$ mm)

Coiled pipe should be stored flat, especially during periods of warm weather, and on firm level ground which has suitable protection for the bottom coil. Where space is limited, and coils are to be stacked, the height of stacked coils should be such that the stack is stable, and the uppermost coil can be safely handled. Under no circumstances should the stack exceed 2 metres in height. Wooden battens placed below the bottom coil and used as spacers between each layer will facilitate easy access for slinging. When the need for transportation is required, it should only be carried out by trained operatives. Batches of coils delivered on pallets must remain secured to the pallet and only be broken at the time of use. Vertical storage of PE coils shall only be with the agreement of the GTC Project Manager in suitable racks.

**WARNING: Under no circumstances shall a person not competently trained cut the bands on coiled PE pipe. Should they do so, the uncontrolled release of the stored energy may be fatal.**

The maximum height of coils stored horizontally shall be 2 metres.

### Fittings

Electrofusion fittings should be stored under cover in dry conditions, preferably on racking in a lockable container. They should be kept in their boxes/packages until they are ready for use. Fabricated fittings may be stored outdoors if they are protected against damage and prolonged direct sunlight.









# GTC Technical Guidelines

## Ground Workers

Ensure ground workers have enough knowledge about safe working practices on site and that work is carried out safely. Any ground workers installing water service pipes, communication pipes and/or ducts must do so with the permission of GTC.

- Ground workers must be aware of the large amount of stored energy in coils of pipe. Coils of pipe should be carefully restrained and unwound following the guidance in section **Materials Delivery & Storage**.
- Where connections are to be made to an existing water main, the GTC Project Manager shall advise the developer/ground worker of the type of connection to be undertaken and the dimensions of the excavation necessary to facilitate the connection.

**Table 1 – Minimum excavation requirements to support connections**

Minimum excavation requirements to support connections. Excavation base to be 150mm below pipe				
Connection type	Applicable mains diameters	Excavation size required for the live main to be exposed (mm)	Additional bell hole in middle in direction of offtake (mm)	Excavation shape
End on connection	≤180mm mains diameter	2070 x 680	n/a	
	250/315mm diameter	3285 x 815	n/a	
Insert tee	≤180mm mains diameter	7220 x 680	1000 x 680	
	250/315mm diameter	10560 x 815	1000 x 815	
Branched offtake	≤180mm mains diameter	1500 x 680	1000 x 680	
	250/315mm diameter	1500 x 815	1000 x 815	

# Section Six

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## Installing Water Mains

### General Requirements

A pre-start site meeting will be arranged at the start of your development. At any stage of construction, you can contact a GTC Project Manager for advice and guidance.

It is essential that the Developer agrees a programme of construction which will enable GTC to co-ordinate mains laying activities.

Timescales are particularly important when off-site mains must be laid and connected to another upstream network as approval is required from the Local Highways Authority to work in the public highway.

The Developer is responsible for all excavations, duct laying and backfill work on site, unless otherwise requested.

On request, GTC will arrange for the on-site mains to be laid in trenches and/or ducts provided by the Developer.

If there are any alterations to the agreed site layout, which may affect the route of the water main, then GTC must be advised immediately.

### Bulk meter installations

The area required for the installation of the bulk meters varies on the size of the development and the upstream incumbents requirements and should be discussed with a GTC Project Manager as soon as possible. The meter arrangement will normally require a minimum space of 2m width by 6m length, along the length of the pipe.

### Mains Excavation

The minimum depth of cover for mains and ducts should be 900mm in footways and roadways/verges from the finished ground level.

The trench should be approximately the pipe diameter plus 300mm wide and minimum cover plus the pipe diameter deep. The bottom of the trench should be trimmed to enable the main to be bedded evenly and consistently throughout the trench, at the correct cover. Sharp stones should be excluded from the base of the trench. Where the base of the trench is unsuitable e.g. rocks and stones, the trench should be excavated a further 75mm and a bed of suitable fine material laid and compacted.

No other utility should be installed over, below, or within 150mm to the side of the water main and 250mm to any gas main.

# GTC Technical Guidelines

## Mains Ducting

The laying of mains across roads can be in an open trench excavated by the Developer, however, blue rigid plastic ducting can be used as defined in NJUG publication Volume 2 *NJUG Guidelines on the Positioning of Underground Utilities Apparatus for New Development Sites*, but for perpendicular road crossings only. The Developer is responsible for the supply and installations of ducting. A suitable standard for plastic ducting is BS 4962. Corrugated ducting must not be used for road crossings.

**Table 2 – The diameter of duct required for each size of main**

Diameter of main	Internal diameter of duct
63mm	100mm
90mm	150mm
110mm & 125mm	200mm
160mm & 180mm	300mm
225mm & 250mm	400mm
315mm	400mm

*Please note:* Only 1 pipe may be laid in any duct.

## Backfill Materials

The Developer or their representative (i.e. Groundworker) must be in attendance when mains are being laid to ensure that the mains are surrounded with material complying with WIS 4-08-02 *Specification for Bedding and Side Fill Materials for Buried Pipelines* to a depth of 150mm above the main as soon as possible to avoid damage. Mains will not be tested and commissioned until this partial backfilling is complete.

Backfill and sub-base materials must be free from any organic, perishable, or hazardous material.

All backfill materials should be in accordance with the details provided in the Civil Engineering Specification for the Water industry, the Department of Transport Specification for Highways Works and the Manual Contract for Highways Works.

All backfill material must be clean and free from any type of contaminant so that there is no potential for contamination of the water supply network.

A 'water pipe' marker tape, supplied by GTC, must be incorporated within the backfill for all mains and road crossing ducts and be positioned 250mm above the main.

Please ensure the site is ready for when any water network activity is scheduled. All excavations should be complete, scaffold removed where necessary and the area safe and secure.

The Developer has a key responsibility to correctly prepare the construction site for the agreed date. Construction work cannot go ahead if the site is not correctly prepared, and we reserve the right to leave site and re-programme the works if it is not.

# Section Seven

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## Fire Hydrants

### General Requirements

Unauthorised use of a fire hydrant is an offence under section 174 of the Water Industry Act 1991. In order to avoid the risk of legal proceedings please contact IWNL to get authorisation to use a fire hydrant and to hire a metered standpipe.

Fire hydrants should not be used for temporary building water supplies.

### Fire Hydrants on New Water Mains

When designing new water mains IWNL will liaise with the Fire Authorities regarding the provision of fire hydrants and will install new fire hydrants where requested by the Fire Authority.

Please remember that fire hydrants are life saving devices; it is therefore important that once the new water main is commissioned you ensure that:

- Site access is made available to fire service personnel so that the new fire hydrants can be inspected and adopted by the Fire Authority.
- Fire hydrants shall be kept free and not covered or made inaccessible in the event of a fire during the construction of your development.
- When constructing footpaths and other final surfaces, you ensure that the correct fire hydrant cover is installed, the fire hydrant marker post is in position, and the fire hydrant cover is to the finished surface level and not buried.
- Fire hydrant chambers are free of debris and surfacing materials and the cover can be removed.
- Fire hydrant chambers are aligned so that a standpipe can be easily fitted by the Fire Authority

# Section Eight

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## Water Services

### General Requirements

The Developer is required to undertake all excavation works on-site to enable the service pipes or ducting to be laid, allowing the connection to the main and the connection at the boundary meter chamber.

The quotation is based on connecting no less than three individual properties at each visit. If less than three are ready to be connected, then any additional costs incurred may be recharged.

Water supply pipes must be laid by an 'approved' installer who is:

- A person who has been approved by the water undertaker for the area where a water fitting is installed or used, or
- A person who has been certified as an approved contractor by an organisation specified in writing by the regulator.

**A Water Regulations Compliance Certificate must be provided for every new property. Blank forms will be provided by GTC, an example is shown at the end of this document.**

Water supply and communication pipes must be laid in a straight line along the route shown on the design drawings, any deviations must be agreed with GTC, prior to laying the service pipes.

The route should be perpendicular to the property and take the shortest route possible to the water main.

A water service must not run parallel to the water main.

It is the Developer's responsibility to lay the supply pipes from the property to the highway boundary of the property.

The installed supply pipe and fittings must comply with Water Supply (Water Fittings) Regulations 1999.

Supply pipes must be 750mm (+/-50mm) deep.

Supply pipes must be ducted where they enter the building.

An internal stop tap must be installed as a minimum before any service connections can be made.

The end of the supply pipe to be connected to the main must be sealed with a suitable end cap.

## GTC Technical Guidelines

Supply pipes are to be bedded and covered in sand prior to the trenches being backfilled.

If the water main is on the other side of the road, the drawing will highlight the requirement for ducting the service pipes. A duct should be installed across the road with the ends of the ducted pipe exposed in readiness for the connection to be made. The ducting must be BLUE, at least 50mm in diameter and laid at a depth of 750mm.

Ensure no other service pipes (gas/electric) are placed in the same duct as a water service (1 pipe per duct).

All supply pipes must be clearly marked or labelled with the plot they serve. Failure to label the service pipes may lead to delays or service connections being aborted.

All supply pipes are only to be laid within the confines of the property boundary and not be laid over 3<sup>rd</sup> party land and must not run down the public footpath or highway.

A minimum of 1m of supply pipe should be left at the highway boundary to allow for connection.

The area of the service connection is free from obstacles such as skips, scaffold and building materials.

Adequate excavation area is to be provided in order to facilitate the connections 1x1m and 100mm below the main.

The developer is responsible for ensuring that all groundworkers installing supply pipes are shown and fully understand the GTC Service Installation Video. The video is accessed using a QR code (below) which will be issued to the Site Manager/Agent by the GTC Project Manager at the pre-start meeting. An up-to-date register of those individuals installing supply pipes must be recorded in the Service Pipe and Duct Laying Register (as per appendices) and kept by the Site Manager/Agent.



Use QR Code to access the *Groundworkers Guide to Service Pipe and Duct Installation* video.

## Types of Boundary Boxes

IWNL's preference is for inline meters and boundary boxes to be installed. However, we recognise that there is currently no inline box suitable for use in contaminated land. Where land is found to be contaminated, concentric boundary boxes and meters should be installed.

In exceptional circumstances, IWNL shall permit the use of concentric meters and boundary boxes in land which is not contaminated.



## **GTC Technical Guidelines**

### **Position of Boundary Boxes**

IWNL's preference is for boundary boxes to be positioned in the pavement outside of the property boundary.

However, IWNL shall permit boundary boxes to be positioned inside the property boundary, on the edge of the adopted highway when requested by the developer or local authority.

It is the Developer's responsibility to provide all lines and levels to allow the boundary box to be fitted correctly within 150mm of the property boundary.

Boundary meter boxes **MUST NOT** be positioned in driveways or drop kerb pavement crossings where vehicles are likely to drive over them.

Where there is a service strip the boundary box can be positioned in an unmade area on private property.

### **Multiport Boundary Boxes**

If any of the service connections on site are to be made using 4 or 6 way manifolds the service connections for all of the properties served by each manifold must be requested at the same time and they must all be ready to be connected in one visit.

The same site preparation requirements as for single boundary boxes apply.

### **Multi Occupancy & Non-Domestic Premises**

The building Developer is required to provide full building design schematics for approval. GTC will design the supply to the building and size meter(s). It will also provide a quotation to the building Developer for any additional works or metering requirements. Once the full building design schematic is approved by GTC and quote accepted, GTC will supply the meter(s) needed.

Premises that consist of a number of separate occupancy units, which may be domestic, commercial, or industrial, can be metered using a common billing arrangement or individually with meters being provided for each occupancy unit. There may also be separate meters to record water consumption for communal facilities such as communal hot water or laundry facilities. Meters should always be clearly identified using a tag with permanent lettering, so that customers may easily identify which meter serves their property. Identification should be either the plot number or service address.

Where meters are located in a secure area, customers should be provided with access for both meter reading and to enable the water to their premises to be individually controlled. The meters can be installed on a manifold within the communal area or outside the building.

Domestic meters must not be located in any area such as a plant room or similar that could present access difficulties or other safety related issues.

Commercial meters must not be located in any area that could present access difficulties or other safety related issues.

Supplies that require an individual bill from IWNL will need to be metered. The meter will be owned by IWNL and have separation of supply from all other premises within the building.



# GTC Technical Guidelines

Landlord supplies will need to be separated from any other supplies. The landlord supply is classified as a commercial premises and so billed off of one meter. The domestic supply pipe should also be metered, the meter will be owned by IWNL, but it will be a check meter instead of a billing meter.

As the diagram below is an example of internal metering set up for a multi occupancy building. All meters shown on the diagram will be owned by IWNL.

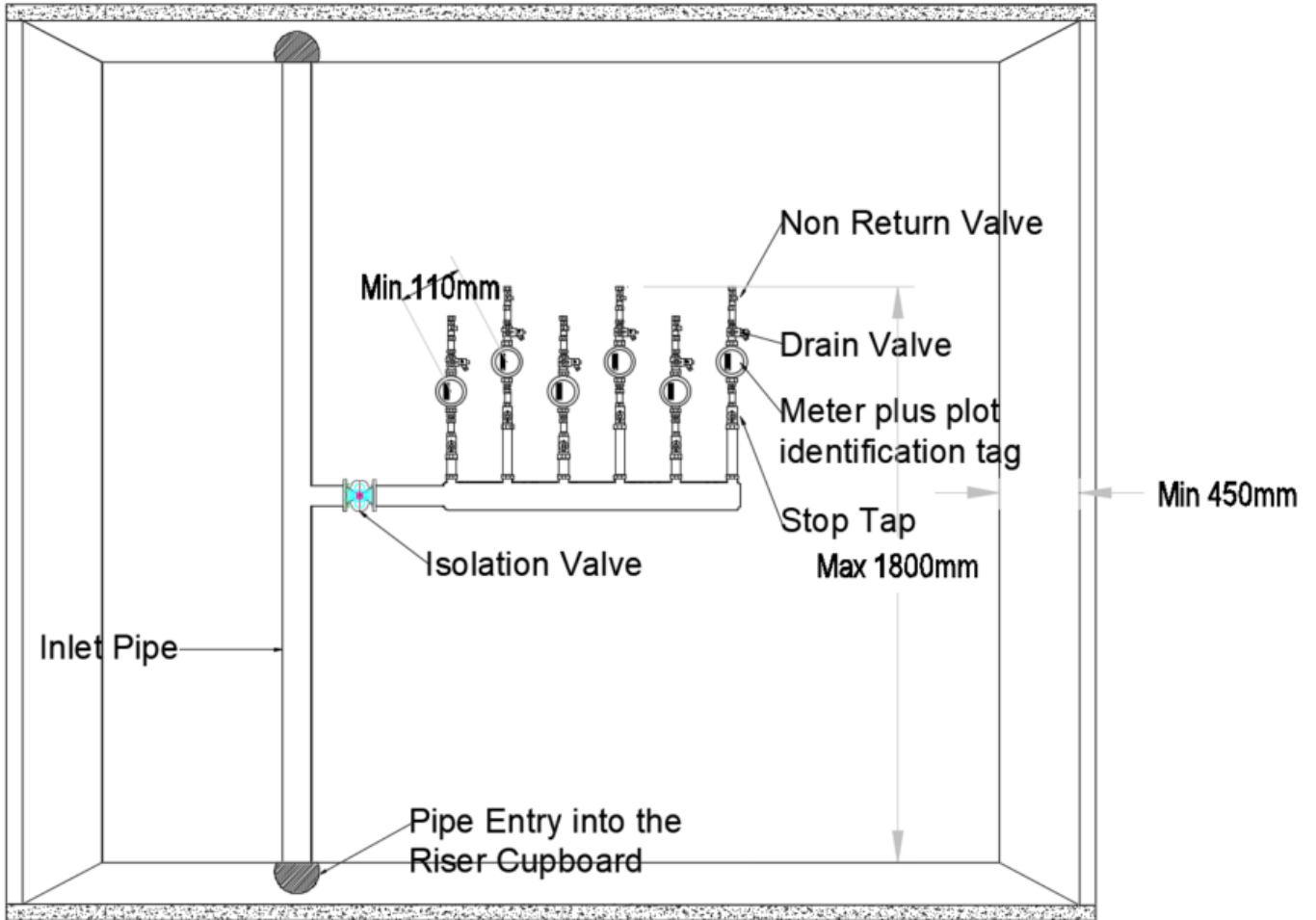


Figure 8 – Internal metering set up for a multi occupancy building.

## GTC Technical Guidelines



**Figure 9 – Internal metering set up for a multi occupancy building prior to IWNL meter being fitted**

### **Temporary Building Supplies and Standpipes**

Temporary building supplies can be made to either a temporary standpipe or to temporary site welfare facilities. All standpipes and welfare facilities must comply with the Water Supply (Water Fittings) Regulations 1999.

Only IWNL issued standpipes are to be used on site. A hire agreement is required for their use.

# GTC Technical Guidelines

## Water Regulations and Approved Plumbers/Contractors

All external service pipes and internal plumbing must comply with the Water Supply (Water Fittings) Regulations 1999. The plumbers used must be an Approved Contractor. This is defined in the Regulations as:

1. A person who has been approved by the water undertaker for the area where a water fitting is installed or used, or
2. A person who has been certified as an approved contractor by an organisation specified in writing by the regulator.

There are currently 7 Approved Contractors Schemes operating in the UK.

There are 4 schemes approved by the Water Undertaker for the area which they supply:

1. Water Industry Approved Plumbers' Scheme - WIAPS (administered by WRAS on behalf of 16 water undertakers).
2. A Plus (Anglian Water).
3. TAPS (Thames Water).
4. WaterMark Scheme (Severn Trent Water).

There are 3 schemes that are certified by the Regulator:

1. Association of Plumbing and Heating Contractors (APHC).
2. Chartered Institute of Plumbing and Heating Engineers (CIPHE).
3. Scottish and Northern Ireland Plumbing Employer's Federation (SNIPEF).

All schemes have the same entry requirements:

1. A recognised qualification in plumbing.
2. A recognised qualification in Water Fittings Regulations or Scottish Water Bylaws.
3. An appropriate level of public liability insurance and employers' liability cover.

Each Approved Contractor Scheme operates in different geographical areas. To join a scheme a plumber or plumbing business must reside or be located in the geographical area covered by that scheme.

Approved Contractors will issue the Developer with a Water Regulations Compliance Certificate for every new property. A check on a small number of properties to ensure compliance will be carried out by GTC.

Non-Approved Contractors will not be able to issue Compliance Certificates for their work and every property will need to be inspected to ensure compliance. Additional costs are payable for this service. No property is able to be connected to the network without a Compliance Certificate being issued first.

## **GTC Technical Guidelines**

### **Occupation of New Properties**

The Developer will be charged for any standing charges and water consumption until IWNL is informed of the new occupant's details.

When notifying IWNL of a new occupant the following information will be required:

1. Plot number.
2. Occupier's name.
3. Full postal address of property.
4. Date of occupancy.
5. Meter serial number and reading.

# Section Nine

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## Testing & Chlorinating

### Generic Process – Water Mains

As a guide it will generally take 5 working days to pressure test and sterilise a main before it can be commissioned. A water main must be commissioned within 10 working days of a sample being collected and only following receipt of successful water quality results.

### Chlorination of Services

All service pipes greater than 63mm diameter require chlorinating and testing.

Service pipes greater than 50mm diameter require chlorinating, testing is only required if they are over 100 metre in length or contamination is suspected.

If service pipes are less than 50mm diameter, then chlorination and testing is not required unless contamination is suspected.

# Section Ten

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## **Water Mains and Services in Contaminated Ground**

If the site has been deemed as contaminated, then materials are as follows:

- Water Mains: HPPE Barrier Pipe (63mm and above).
- Service Pipe: MDPE Barrier Pipe (25mm and 32mm).
- Boundary boxes are supplied by GTC and are sealed units.

# Section Eleven

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## **Post Connection Damage**

Any damage caused to boundary meter boxes, pipes, chambers, fittings, and marker posts after they have been connected, within a 2 year defects and liabilities period, will be repaired or replaced by the SLP and the full cost will be recharged to the Developer.

Please ensure when final surfacing is carried out the boundary meter boxes are adjusted to the correct level and not buried, and that the lids can be removed with ease.

# Section Twelve

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## Wastewater Network Services

### Network Design and Construction

Legislation covering the adoption of sewers, including pumping stations and other ancillaries, is contained within the Water Industry Act 1991. Section 104 covers the adoption of private sewers to be constructed at a future date subject to an agreement with the sewerage undertaker Independent Water Networks Limited (IWNL). Sewerage assets, offered for adoption, should be designed and constructed in accordance with the standards that are included in the latest Sewerage Sector Guidance.

The wastewater networks (foul and surface) are to be designed in accordance with Sewerage Sector Guidance Appendix C - *Design and Construction Guidelines* (DCG) published by Water UK.. Once adopted, the sewers are vested in the ownership of IWNL.

The foul and surface water networks will be adopted by Independent Water Networks Limited in developments where wastewater has been included. Where this arrangement has been agreed the Developer's Designer should submit their designs to IWNL for technical approval. Once the design has been reviewed and approved the Developer is free to commence construction.

### Technical Approval

IWNL will acknowledge the application within 5 working days of receipt and will confirm whether the application is complete or and will undertake a Technical Review of the information supplied and provide a response within 10 working days of receipt advising you whether your proposals are acceptable or not.

IWNL will provide a comment sheet asking for further information, or any issues or amendments we require with the design.

The technical approval is carried out to assess the suitability of the design and should be directed to IWNL Project Officers. The documents required are:

1. Location Plan
2. S104 layout plans.
3. Detailed Drainage Plans including Drainage area plans
4. Longsections.
5. Manhole schedules.



## **GTC Technical Guidelines**

6. Clash check evidence
7. Hydraulic design calculations .
8. Construction details
9. Overland flood routes
10. Pumping station Design Package
11. Surface water discharge consent
12. Downstream discharge consents

Once the applicant's proposals are acceptable, they will be sent a Technical Approval Certificate and invited to enter a Section 104 agreement.

## **Wastewater Inspections**

Inspections of the constructed wastewater networks are carried out by IWNL Inspectors. The inspections are carried out with no associated fee. The Inspectors require:

1. A pre-start meeting should be arranged 2 weeks before any drainage pipework is laid. At least two weeks' notice to allow them to schedule in the inspection.
2. Inspections should consist of at least a half day duration of work.
3. Air test inspections require the manometer to be above ground. The Inspectors are not permitted to enter any confined space chambers. Adequate numbers of stoppers should be present on site to reduce waiting time between inspections.
4. Visual inspections to be made of manhole chambers.
5. Bedding materials and pipe materials should be as per the design.

## **Adoption of Wastewater Networks**

The adoption of the wastewater networks (foul and surface water) will be carried out together and are covered in a single adoption agreement that covers the whole development site.

The adoption of networks has the following approach:

1. Separate section 104 agreements are required for individual development parcels.
2. The adoption of the networks is governed by the foul network.
3. The guidance set out in the Water UK Sewerage Sector Guidance (SSG) describes the approach to the process.
4. No adoption can take place without reference to a public sewer or a sewer in its maintenance period.
5. The staged adoption of the network within the development is encouraged.
6. Pumping stations and rising mains are adopted together.

# Section Thirteen

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## Appendices

### GTC Project Manager

<b>Name:</b>	
<b>Mobile number:</b>	
<b>Email address:</b>	

The Delivery Project Manager is responsible for the delivery of this water network, supervision of construction and commissioning of your new main.

### GTC UC Scheduling Team

Our opening hours are from 8.00am every weekday. In order to book in work on your development, please contact our construction team on:

**Tel: 0345 602 2498**

**Email: [gtcworks@gtc-uk.co.uk](mailto:gtcworks@gtc-uk.co.uk)**

The scheduling team are responsible for scheduling all works for the site in accordance with our levels of service.

## GTC Technical Guidelines

### Work Call off and Levels of Service

When requesting meter boxes or work please contact our Scheduling Team as detailed in section one.

Please ensure that the site is ready for the work you request as if it is not then additional costs and delays are likely to be incurred.

Every effort will be made to meet the Developers requirements, but we would ask that you take the following into consideration when requesting work to be done:

**Table 3 – Number of working days notice required**

<b>Activity</b>	<b>Working Days Notice</b>
<b>To deliver boundary boxes</b>	5
<b>To lay mains on site</b>	15
<b>Connections</b>	10
<b>Works – Traffic restrictions – Road classed as traffic sensitive</b>	Up to 30 *
<b>Works – Road closure required</b>	Up to 90*

\*Please contact our Scheduling Team for site specific information

# GTC Technical Guidelines

## Water Supply Installation

### Certificate of Self Certification

I declare as required under Regulation 6 of the Water Supply (Water Fittings) Regulations 1999 that my completed work is as follows:

Location of premises where work will be carried out:					
Completion date:					
Fluid category <i>(please circle)</i>	1	2	3	4	5
Use of building to which the notice refers <i>(please circle)</i>	Domestic Dwelling	Commercial	Industrial	Agricultural	
If the answer to the question above is Industrial, please provide SIC code:					
Builder/Developer:					
Description of completed work:					
Name of approved contractor/installer:					
Approved contractor scheme and number:					
Company name and address:					
Telephone number(s):					
Email address:					

### Conforms to the Water Supply (Water Fittings) Regulations 1999

Signed by approved contractor only:	
Print name:	
Date:	

Please email the completed form to: [gtcworks@gtc-uk.co.uk](mailto:gtcworks@gtc-uk.co.uk)

Retain one copy for your files.

(Certificate can only be signed by the approved plumbing contractor)





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## Head Office

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