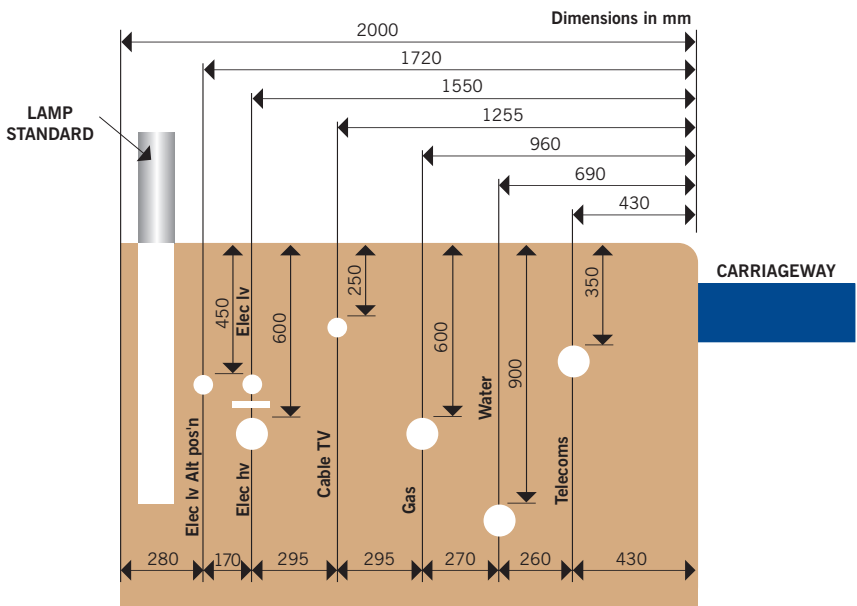


## 1. recommended arrangement of services

NJUG (National Joint Utility Group) recommended arrangement of services in a 2 metre wide footway.



## 2. your new water main

The water main is generally laid in the footway and carries water in bulk from the local Reservoir or Tower to the service pipe for each premise.

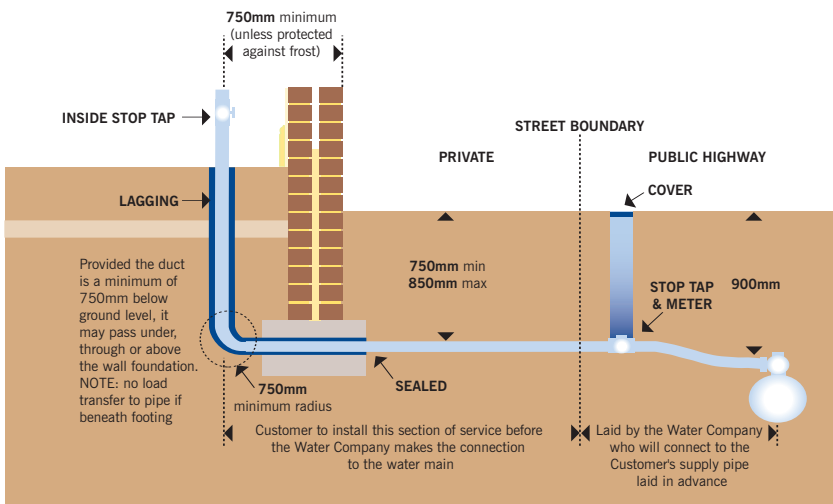
### Useful information:

- Material of water main - HPPE (High Performance Polyethylene), blue in colour.  
or DI (Ductile Iron), black in colour wrapped in blue polythene.  
or MOPVC (Molecular Oriented Poly Vinyl Chloride), blue in colour.
- Standard sizes include - HPPE - 125mm outside diameter (100mm bore).  
- HPPE - 180mm outside diameter (150mm bore).  
- DI - 100mm, 150mm, 200mm, 250mm & 300mm.
- Pressure rating - DI - 16bar (160 metres head), HPPE/MOPVC - 12bar (120 metres head)
- Depth of cover - 900mm from top of pipe to finished ground level.
- Fittings - These are laid in conjunction with the pipe.  
- Sluice valves are installed to isolate sections of main and are generally laid at pipe junctions and the site entrance; these remain the property of the Water Company.

- We install Fire Hydrants for the Fire Brigade as requested following discussions with them at the design stage. The Fire Hydrant remains the property of the Fire Brigade.
- Washouts are installed at the end of pipe runs to allow the water to be periodically flushed from the main. Occasionally they are installed along the pipe length. Washouts remain the property of the Water Company.
- Chambers
  - All fittings are situated in pre-cast concrete or plastic chambers and are covered by a heavy-duty iron frame and cover.
- Dry Road Crossings
  - Dry road crossings are not currently done.
- Ducts
  - Generally water mains are not laid in ducts.
- Contaminated ground
  - In the event that the ground in which our pipes are to be laid is contaminated we will lay an appropriate material, which may be different to that specified above. We may also consider the removal of the contaminated ground and import of clean soil to surround our pipes. The cost and nature of any additional work will be discussed with you at the design stage together with any alternative solutions that may help minimize your costs. You must provide us with appropriate and comprehensive soil analysis reports so that we can determine the best method of safeguarding our pipes and the water that will ultimately flow through them. We are supplying a food product and the safety of our customers must not be compromised.
- Laying the main
  - We will not start laying the main until we have:
    - Been paid for the work
    - Received all the documents we need
    - Served notices to owners of land crossed by the main and agreed rights of access
    - Allowed statutory notices to expire
  - On site phasing – Water mains will be laid to agreed phases defined in the offer letter. Additional visits we make to the site will increase construction costs. These extra costs will be charged for.

### 3. your new water service

The water service pipe is laid from the water main to the premise. An individual service pipe serves each premise. It is laid in two sections; one by us; the other by you. Our section is laid from the water main in the street to the boundary of the premise (often referred to as the communication pipe). You must lay your section of service pipe (often referred to as a private supply pipe) from the premise boundary across the front garden, under the footings to the first stop valve (please note: this must be laid first and we will connect our communication pipe to it).



### Useful information:

- Material of service pipe - Medium Density Polyethylene Pipe to BS 6572, blue in colour.  
or Copper tube to BS 2871:part 1 Table Y with a blue polyethylene coating (generally used in contaminated ground).  
or An approved barrier system for use in contaminated ground (generally blue in colour with a black line)
- Standard sizes include - Medium Density Polyethylene Pipe - 25mm diameter is the minimum standard  
- Other diameters include 32mm, 50mm and 63mm  
- Copper includes 22mm and 54mm
- Pressure rating - 12 bar (120 metres head)
- Depth of cover - Minimum cover is 750mm from top of pipe to finished ground level up to a maximum of one metre.
- Ducts - If a new road is to be constructed, you should supply and install service ducts of no less than 100mm diameter before the communication pipe is laid. The communication pipe can be threaded through the duct and will avoid the need to excavate a trench across the new road. Each communication pipe requires a separate duct, which must be laid at a depth of 750mm from the top of duct to the finished surface level, and should project 300mm beyond the kerb lines.
- Contaminated ground - The same considerations apply as per new water mains.
- Laying the new service - We will not start laying the service until:
  - We have been paid for the work. (quotations are valid for six months)
  - You have installed your supply pipe.
  - You have complied with the Water Supply (Water Fittings) Regulations 1999.
- Multiple service manifolds - In certain circumstances we may provide a multiple connection to a group of premises. This involves making a single connection to the water main, laying a new communication pipe to the inlet of a fitting called a manifold. The manifold can have up to six outlets and is situated in a concrete or plastic chamber. The Developer will lay the supply pipes from the premises (e.g. a block of flats), in a single trench to meet with the outlets of the manifold. It is essential that each supply pipe in the common trench is permanently identified at it's end (close to where it meets the manifold) with the correct premise number so that we know which manifold outlet is connected to which premise. This is vital because we install a meter on each manifold outlet, which is used for billing the customer.

## 4. internal plumbing

There are two main types of internal plumbing systems installed in residential premises. These are conventional storage and mains fed systems.

### *conventional system*

This employs a cold water storage cistern usually in the loft. Water from the water main in the street passes through our Communication Pipe into the property's Supply Pipe and enters the cistern through a float operated valve, which shuts off the water supply when the cistern is full. Pipes from the cistern serve toilets and cold water taps of baths and wash basins together with the cold inlet feed to the hot water cylinder tank. Only the cold water tap at the kitchen sink is fed directly off the property's supply pipe so that drinking water comes straight from the water mains pipe network.

Another smaller cistern is found in the loft. This feeds the expansion tank for the central heating. It also has a float operated valve and is fed from the property's supply pipe via a connection in the loft. Pipes from the cistern go to the boiler, which in turn heats the water in the hot water cylinder tank via an internal coil.

Washing machines and dishwashers can be fed either from the mains or storage.

This type of system is not reliant on high pressures and flows. A reservoir of water is available to flush toilets and run taps should the main in the street be turned off.

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### *mains-fed system*

This type of system does not have a cold water storage cistern. In the event of an interruption to the mains water supply, the premises will have no reserve of water for domestic use. All cold water fittings and toilets are fed from the property's supply pipe in addition to the hot water, which comes from either an instantaneous heater, sometimes referred to as a combination boiler, or an unvented hot water system incorporating a hot water storage vessel or thermal store.

The system has to rely on high water pressures and greater flows to work correctly. Therefore water mains within the development site will generally be larger than a site that builds properties with storage cisterns.

If you choose to install an unvented hot water system or combination boiler and mains fed cold water supply, the service pipe must be thoroughly flushed through before the system is put into use. There are useful recommendations regarding this in the British Standard Code of Practice CP6700 1997.

### *water pressure*

The reference standard is to supply water to the street boundary (generally the point where the communication pipe joins the supply pipe) at a pressure of 1 bar (10 metres head) with a flow of 9 litres per minute at all times (except during periods of peak demand). Whilst the normal working pressure in the area may be greater than the reference standard, it is possible that in future the pressure may fluctuate or reduce to this level.

Pressure in the water main fluctuates throughout the day depending on demand. The pressure is usually at it's lowest in the early morning before our customers leave for work and in the early evening when they get home. Reduced pressure is accentuated in the summer when the demand for water generally is higher. If we provide you with pressure readings taken on the existing water network adjacent to the site, the information must be considered in context and allowance made for time of day and year.

## 5. working in the highway – the new roads and street works act

When we propose to excavate in the public highway, we have to comply with statutory regulations. We must give advanced notice to the Highways Authority, generally 28 days and 7 days in advance. But under certain circumstances, the period of advanced notice can be as long as three months.

Whilst we make every effort to accommodate your programme, we advise you to supply your detailed requirements to us as early as possible, so that we can begin the detailed design and planning at an early stage.

## 6. water main easement

If the water main is not to be laid in the public highway, we will ask the landowner to grant us an easement over the land where the main will be located. This ensures that in the future the main will be freely accessible by us for repair and maintenance purposes. We will let you know whether an easement will be needed (and provide all the information you need to guide you through the process) when we send you our design and offer letter.

*call the expert*

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