

# Fire main guidance



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## Purpose of this document

This guidance outlines Welsh Water's policy regarding private dedicated fire mains and sprinkler systems. It is intended to support compliance with the Water Supply (Water Fittings) Regulations 1999 ('the Regulations').

## What's included

The document provides:

- Key compliance requirements under the Regulations
- Installation guidance and schematic diagrams
- A checklist to support correct installation
- Frequently asked questions to assist with regulatory understanding

## Who should use this document

This document should be shared with all parties responsible for the design, installation, and management of private fire mains and sprinkler systems. It forms part of the supporting information required for your new connection application and notification process.

**To avoid delays to your new connection, it is essential that the following installation requirements are met.**

The following points outline your legal responsibilities under the Water Supply (Water Fittings) Regulations 1999. Please ensure this information is shared with your installer or contractor as part of your new connection application.

These are supported by guidance diagrams to assist with correct installation:

- You must install a single check valve assembly on your side of the boundary. This includes an isolation valve positioned upstream of the single check valve. This arrangement allows for safe isolation during maintenance or repair. Please refer to the guidance diagrams for further clarity.
- The single check valve assembly must be located as close as possible to the connection point. Where this is not feasible externally (e.g. where the connection is directly in the footpath), the assembly must be installed internally. Again, please refer to the diagrams provided.
- The single check valve assembly must be installed regardless of what other apparatus you are installing as part of the private fire main or sprinkler system (e.g. pump/booster set and/or storage tank)
- All underground and above-ground pipework and fittings must be identifiable as being the fire main or sprinkler system, such as using black/black and green pipework and/or using marker tape laid on the private fire main or sprinkler system. The entire private system must be labelled in accordance with 'British Standard 1710 – Specification for identification of pipelines and services'
- Any pipework that runs through concrete, foundations or any other solid structure must be ducted. No pipework can be directly sealed in with concrete.
- The requirements for the private fire main are the same regardless of the diameter of the pipework you are installing
- The above points are required regardless of what Welsh Water install as part of the new connection.

## Understanding the regulations

The Water Supply (Water Fittings) Regulations 1999 set out the national legal requirements for all private pipework and plumbing systems connected to a UK water company's supply. These Regulations are in place to protect public health and the integrity of the water supply by preventing waste, misuse, undue consumption, erroneous measurement, and contamination of the network.

### Why a single check valve assembly is required

To comply with the Regulations, a single check valve assembly must be installed on your private pipework. This is a legal requirement designed to prevent stagnant or potentially contaminated water from being drawn back into the public drinking water network.

The assembly must include:

- A single check valve to prevent backflow.
- An isolation valve installed immediately upstream of the check valve to allow for safe maintenance or replacement.

Please note: This requirement applies to your private installation regardless of any fittings or devices installed by Welsh Water on our side of the network.

## Extending your private fire main system?

If you plan to extend your private fire main network after receiving a connection from Welsh Water—for example, from Phase 1 to Phase 2 of a development—you are legally required to notify us in writing before any work begins.

You can submit your notification online via our Water Regulations portal: [dwrcymru.com/firemain](https://dwrcymru.com/firemain)

If you are unsure whether notification is required, please contact our Water Regulations team on **01792 841 572** for guidance.

### Do I need a pump or booster set?

Whether or not your private sprinkler system requires a pump, the installation of a single check valve assembly at the boundary remains a legal requirement and must be completed as outlined in this guidance.

If, after receiving your new connection, you determine that a pump or booster is necessary to ensure system performance, you must notify Welsh Water before installation.

Submit your notification here: [dwrcymru.com/firemain](https://dwrcymru.com/firemain)

## What do I do if my fire main or installation is in contaminated land?

If your private fire main or sprinkler system is to be installed in land that is contaminated—or has the potential to become contaminated due to the presence or storage of fuels, oils, or other hydrocarbons—you must ensure that all underground pipework and fittings are constructed from barrier pipe materials compliant with British Standard 8588. This is a legal requirement designed to prevent the ingress of contaminants into the potable water supply.

This requirement will be included in the conditions of consent issued as part of your new connection application.

## I'm storing fuels on site – do I still need barrier pipe?

### **Yes, you still need to use barrier pipe.**

If any contaminants (e.g. fuels, oils, or chemicals) are stored near the private fire main or sprinkler pipework, all underground pipework must be constructed from PE/AL/PE barrier pipe or an equivalent system approved for use in contaminated land. This is a mandatory requirement under the Water Supply (Water Fittings) Regulations 1999 and forms part of your legal consent conditions.

If you believe there is no contamination risk and intend to install standard (non-barrier) pipework, you must contact the Water Regulations team before any installation begins. Welsh Water will carry out a site-specific risk assessment to determine whether an exemption can be granted.

## Labelling barrier pipe

All underground pipework, including barrier pipe, must be labelled in accordance with British Standard 1710. This labelling is required along the entire system and should clearly indicate what the pipework is being used for.

## Private fire main installation check list

1	Single check valve assembly installed in accessible chamber as close as possible to connection point?	<input type="checkbox"/>
2	Entire underground system made identifiable as required under BS1710 by either marker tape or appropriate pipework	<input type="checkbox"/>
3	Compliant BS8588 barrier pipework and fittings have been installed in contaminated land (where required)	<input type="checkbox"/>
4	Private fire main laid at a depth of 750mm below finished ground level	<input type="checkbox"/>
5	Private pipework laid on and buried with suitable burial material	<input type="checkbox"/>
6	Private pipework has been laid to connection point designated by Developer Services	<input type="checkbox"/>
7	Private pipework is laid in a duct where it runs through any concrete or foundations (where required; see diagrams)	<input type="checkbox"/>
8	Private pipework has isolation valve as it rises internally (where required; see diagrams)	<input type="checkbox"/>
9	Private pipework has single check valve after isolation valve internally (where required; see diagrams)	<input type="checkbox"/>

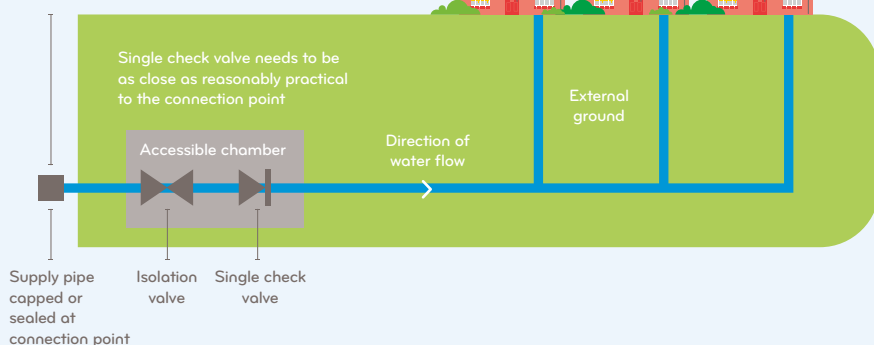
### Non-compliance warning

**Failure to meet the installation requirements outlined in this guidance—where applicable—will result in delays to your connection. In addition, enforcement action may be taken against the installer and/or developer in accordance with the Water Supply (Water Fittings) Regulations 1999.**

## Guidance diagrams

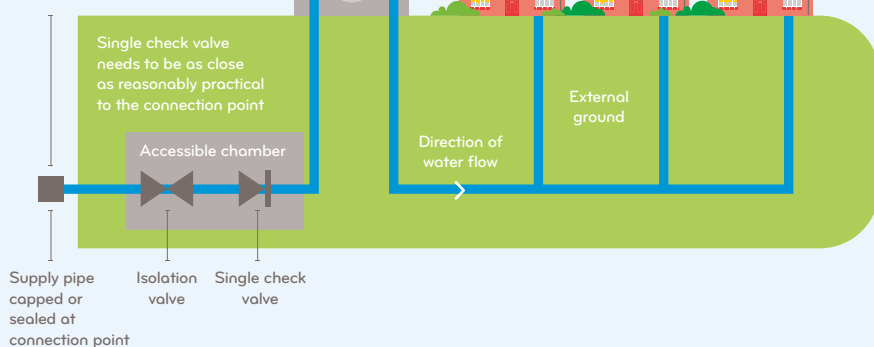
### Private fire main with no storage or pump set

Pipework laid minimum of 750mm below finished ground level



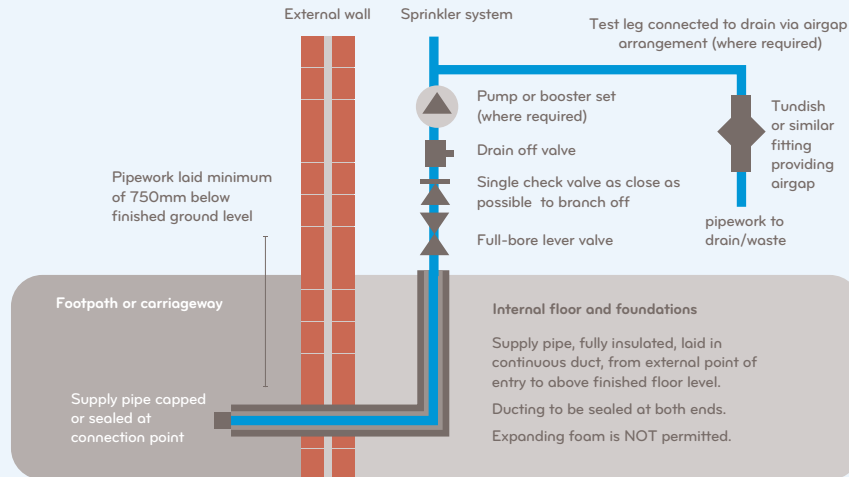
### Private fire main with pump set and no storage

Pipework laid minimum of 750mm below finished ground level

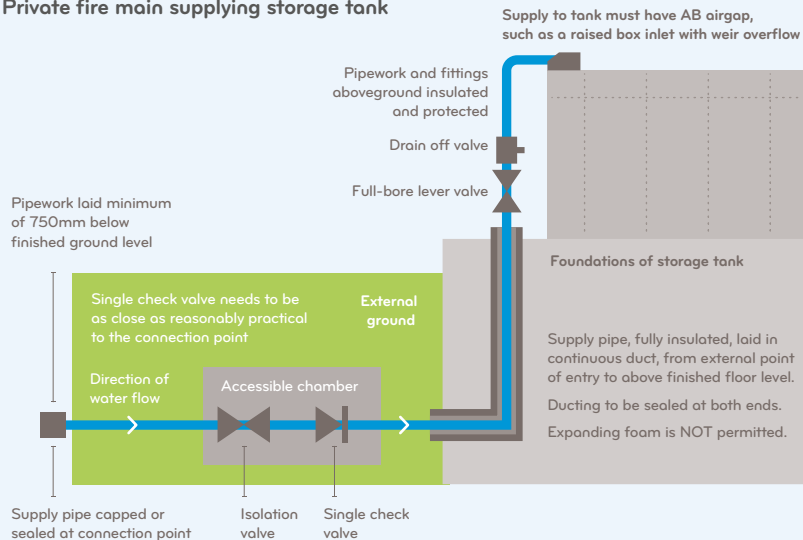


## Guidance diagrams

### Private fire main with no room for external check valve assembly

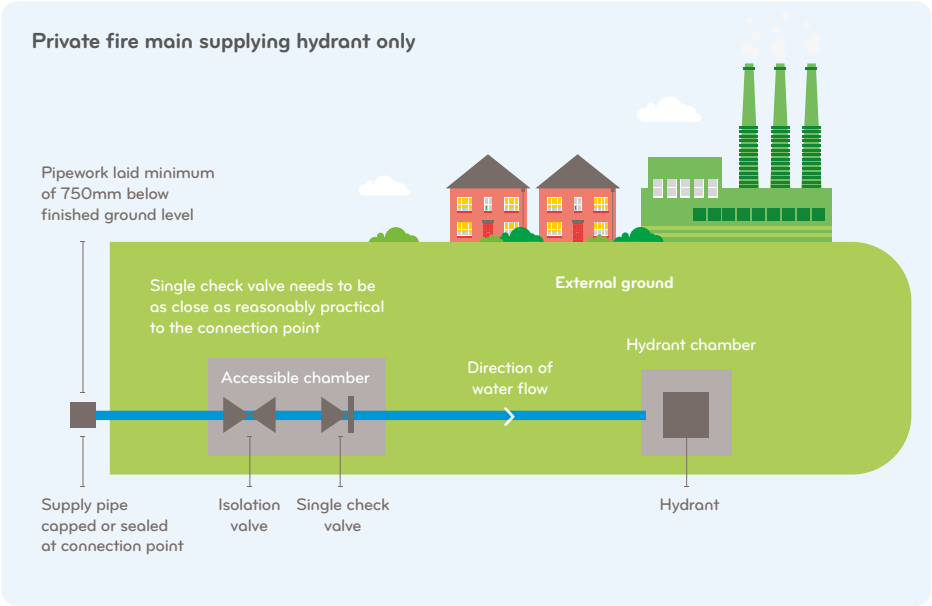


### Private fire main supplying storage tank





Guidance diagrams



## Questions and further guidance

### How to apply

Questions on the application process can be directed to our team by calling **0800 9172 652**.

You can also email [developer.services@dwrcymru.com](mailto:developer.services@dwrcymru.com) for any non-immediate queries.

### Domestic fire sprinklers

We also have some useful guidance on domestic fire sprinklers which can be found on our website by visiting [dwrcymru.com/domesticsprinklers](http://dwrcymru.com/domesticsprinklers) or by searching 'Welsh Water domestic fire sprinklers'.

### Water regulations

Questions relating to the water regulations or installation set-up requirements should be directed to [waterregulations@dwrcymru.com](mailto:waterregulations@dwrcymru.com) or by calling **01792 841 572**.