



# Whole site and zone backflow protection and what it means, explained by **anglianwater**

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## 1. Introduction

There are many commercial/industrial processes where the whole plumbing system can still pose a high risk of backflow to Anglian Water's supply even though the plumbing system is installed to the required regulatory standards. This could be because of the type of business that is being carried out there, or the way in which the water system is being managed etc.

## 2. Whole site backflow protection

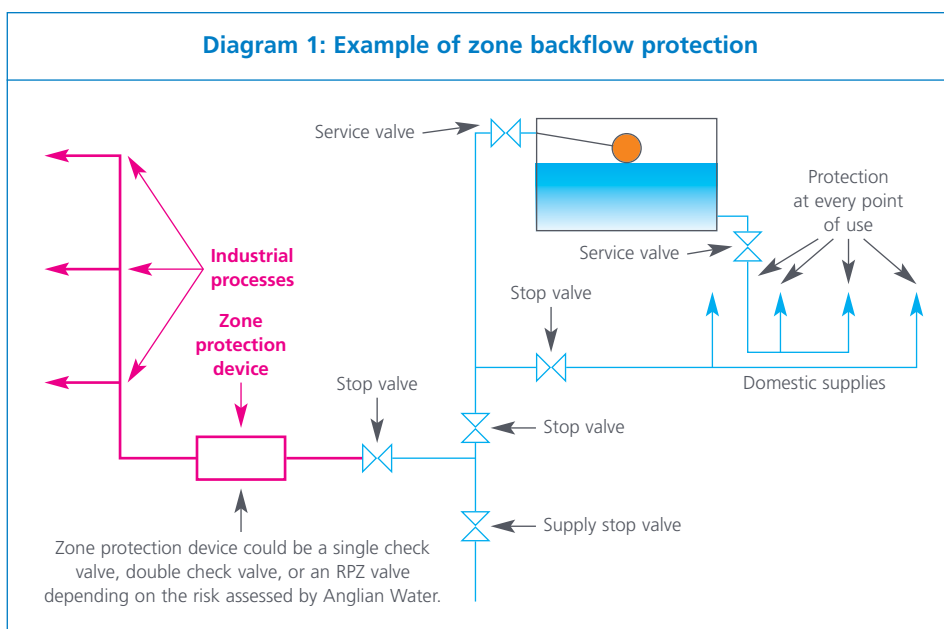
When this situation arises, Anglian Water will insist that 'whole site backflow protection' is installed. The term 'whole site backflow protection' means that Anglian Water's water supply is fully protected at all times from the risk of any possibility of backflow or back siphonage which may occur from a commercial/industrial plumbing system by the installation of a suitable backflow device at the point of entry to the site.

It is very important that Anglian Water are fully aware of what fluid category risk your new commercial/industrial plumbing system could be to our supply. Anglian Water need to be made aware of this at the application/notification for a water supply stage, where we will assess your application for a supply and advise on what fluid category of backflow protection device must be installed to comply with the Water Supply (Water Fittings) Regulations 1999. This device must be installed before the system is commissioned.

## 3. Zone backflow protection

Zone backflow protection simply means protecting a water supply pipe that is supplying one or more separately occupied premises/buildings (see diagram 1).

Zone backflow protection may be required in other than domestic premises where particular industrial, chemical or medical processes are undertaken. If this was the case, the high risk part of the system would require a zone backflow device installing on the supply to give full backflow protection to the other part of the system sharing the same water supply.





#### 4. Ownership of the whole site or zone backflow protection device

The backflow protection device is owned by the customer who is responsible for its maintenance and servicing.

#### 5. The five fluid categories

**Fluid category 1** – Wholesome water supplied by a water undertaker:

- Drinking water.

**Fluid category 2** – Water in fluid category 1 whose aesthetic quality is impaired owing to:

- A change in temperature.
- The presence of substances or organisms causing a change in taste, odour or appearance.

**Fluid category 3** – Fluid which represents a slight health hazard, for example:

- Ethylene glycol.
- Copper sulphate solution, or similar chemical additives.

**Fluid category 4** – Fluid which represents a significant health hazard, for example:

- Chemical, carcinogenic substances or pesticides (including insecticides and herbicides).

**Fluid category 5** – Fluid representing a serious health hazard.

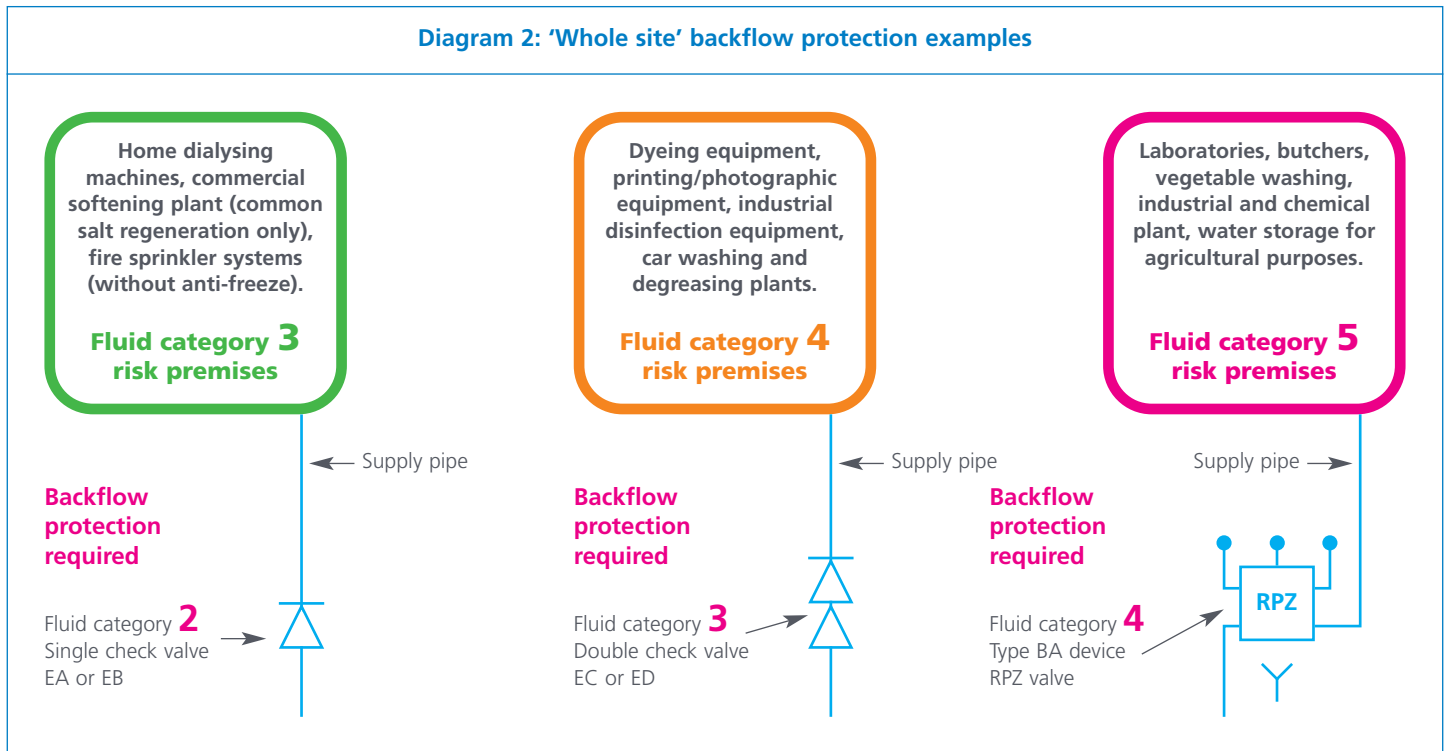
#### 6. What backflow protection device will need to be installed?

If the supply for your business/process is assessed by Anglian Water as a fluid category 5 risk the backflow device at the point of entry to the site or zone to be protected can decrease by one fluid category down to a category 4 backflow protector. The same would happen if the supply was assessed as a fluid category 4 risk, the backflow device at the point of entry could again decrease by one fluid category to a category 3 backflow protector and so on.

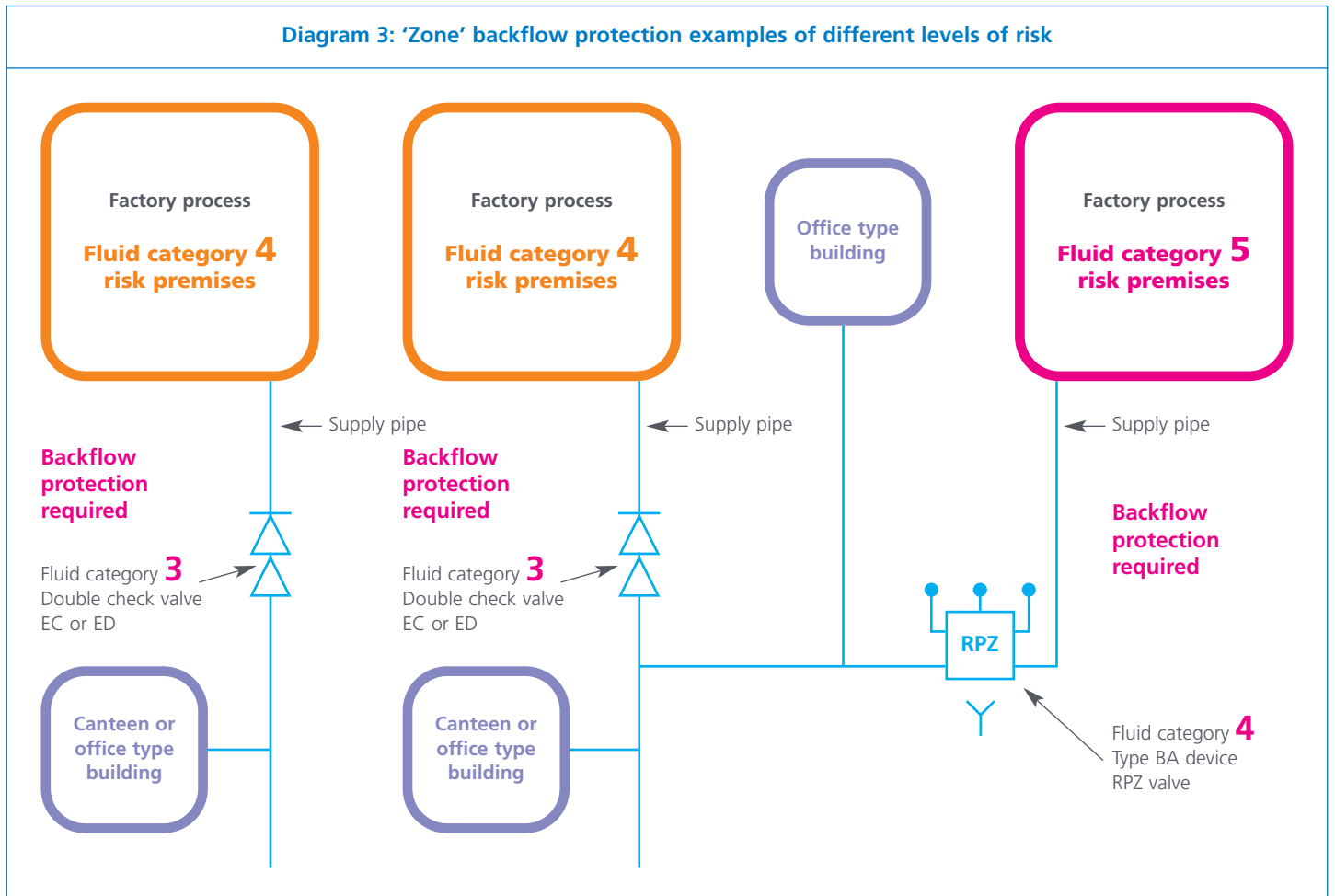
Examples of mechanical backflow devices that could be used for whole site or zone backflow protection:

|                             |   |                             |
|-----------------------------|---|-----------------------------|
| Single check valve EA or EB | = | Fluid category 2 protection |
| Double check valve EC or ED | = | Fluid category 3 protection |
| Type BA device (RPZ valve)  | = | Fluid category 4 protection |

## 7. Whole site backflow protection diagram



## 8. Zone backflow protection diagram



## 9. What you must do to satisfy the Water Supply (Water Fittings) Regulations 1999

When proposing to install a plumbing system for a commercial/industrial process purposes, Anglian Water will require the following four items from you to satisfy Regulation 5.

1. A completed application form for a water supply (Mains and connections application form).
2. A drawing of the mains water pipework layout for the site.
3. A brief description of the commercial/ industrial process so that we can assess the possible risk of backflow to our water network.
4. A schedule of the water fittings that you intend to install.

Listed below are just a few examples of the plumbing systems that could require either whole site or zone backflow protection:

|                                   |
|-----------------------------------|
| Abattoirs                         |
| Agricultural purposes             |
| Butchery                          |
| Car washing                       |
| Colleges                          |
| Degreasing plants                 |
| Dyeing equipment                  |
| Farms                             |
| Garages                           |
| Hospitals                         |
| Industrial and chemical plant     |
| Industrial disinfection equipment |
| Laboratories                      |
| Printing/photographic equipment   |
| Stables                           |
| Vegetable washing                 |

**IMPORTANT:** If Anglian Water are not made fully aware of the type of commercial plumbing system at the design/application stage, we cannot correctly assess any possible risk of backflow that the site may pose to our water network in the future.

In any case of Anglian Water not being made fully aware, and a backflow incident occurs from an unprotected commercial system, it will be the customer that will be held responsible for any contamination caused to our water network.

## 10. How to contact us

If you require any further information please do not hesitate to contact the Water Regulations team by:

- Phone on 0845 60 66 087
- Fax on 01223 201261
- Email [aplus@anglianwater.co.uk](mailto:aplus@anglianwater.co.uk)
- Write to Anglian Water Services Limited, PO Box 495, Huntingdon, Cambridgeshire PE29 6YY