



## Flood resilience: improving the flood resistance of your home or business

### Advice sheet 8: Flood-resilient sewers and drains

This sheet provides guidance on reducing flooding from sewers and drains, for example by using non-return valves, plugs, bungs and fixing drain covers. See Advice sheet 7 for sealing gaps around sewers and drains.

#### What to look for

Flooding can cause blockages in drains and sewers and cause water to back up into your house. Any part of the drainage from your home can become a source of water ingress. You need to find all the possible locations where water could back up. These include:

- toilets, baths and basins
- washing machine and dishwasher outlets
- drain gulleys

You also need to look outside your house to locate manhole covers that might lift up due to backflow during flooding.

#### What you can do

The following table details measures that can be taken to prevent water backing up in your property.

Drainage system	Measures
Manhole	<ul style="list-style-type: none"><li>• Place a bung in manhole</li><li>• Weigh down cover with sand bags, brick, or blocks.</li></ul>
Sink	<ul style="list-style-type: none"><li>• Place a resilient board over the plug and then ballast the board.</li><li>• Place a sandbag over the plug.</li></ul>
Shower	<ul style="list-style-type: none"><li>• Place a resilient board over the plug and then ballast the board.</li><li>• Place a sandbag over the plug.</li></ul>
Bath	<ul style="list-style-type: none"><li>• Place a resilient board over the plug and then ballast the board.</li><li>• Place a sandbag over the plug.</li></ul>
Toilet	<ul style="list-style-type: none"><li>• Use of an anti-siphon toilet</li><li>• Inflatable textile bladders, which are available in different sizes for different drains. Come with integral pump (like a bike pump) and can be used directly in toilet bowls.</li><li>• Some fixed lids are available on the market.</li></ul>
Washing machine	<ul style="list-style-type: none"><li>• Install anti-backflow valves on the drain outlet pipes.</li></ul>
Dishwasher	<ul style="list-style-type: none"><li>• Install anti-backflow valves on the drain outlet pipes.</li></ul>
Private sewer	<ul style="list-style-type: none"><li>• Installation of non-return valves or 'anti-flooding devices' at the</li></ul>

	inspection chamber (should only be installed in sewer of property upstream of the public sewerage system).
Drainage systems	<ul style="list-style-type: none"> <li>• Installation of one-way gate valves or stop valves (most manufacturers of iron and plastic drainage systems now supply one-way valves for drainage systems).</li> <li>• Drain stops, which expand into a drain with a butterfly screw. These can be hired and are easily disinfected afterwards.</li> <li>• Inflatable textile bladders, which are available in different sizes for different drains. Come with integral pump (like a bike pump) and can be used in drain runs. Some systems are available with CO<sub>2</sub> inflator.</li> </ul>

### **Important notes**

The following restrictions and considerations apply when installing measures to prevent backflow into a property:

- You should note that if the valve closes, your property will be disconnected from the sewer. When the valve is closed you should not use your lavatory, bath, sinks and washing machine etc., as, if used, waste will back up and flood into the house.
- Sealant should never be put down waste outlets to prevent backflow as this may block the drain and waste pipes and will be difficult to remove.
- One-way valves should only be used on the house drainage system. They should never be used on any sewer, as this could block flows from other properties.
- When fitting pipe closers and valves the manufacturers guidelines should always be followed.

### **Further advice on the installation of measures to prevent backflow into a property:**

The Environment Agency's Floodline can advise on products available. Visit [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk) or contact the Floodline on 0845 988 1188.

The Flood Protection Association can also advise on flood products. Visit [www.floodprotectionassociation.org](http://www.floodprotectionassociation.org) or contact on 01773 881067.

Your sewerage undertaker or water company may also be able to provide advice on fitting valves. See [www.ofwat.gov.uk](http://www.ofwat.gov.uk)