Flash flooding – how to protect your premises

Statistics show that 1 in 6 properties in England and Wales will be directly affected by flooding in the future. The annual cost of flood damage in the UK is estimated to be in excess of £1bn.

What causes a flood?

Flooding can be one of two types:

- Fluvial, which is from overflowing natural watercourses, such as rivers or streams.
- Pluvial, from surface water run-off after rain. This is more commonly known as flash flooding, and is the focus of this guidance.

There are ways you can identify and manage the risk of this flash flooding, or surface water run-off (SWRO), which is estimated to affect 2.8 million properties. Over the next 25 years there are likely to be more properties affected by pluvial than from more traditional fluvial flooding.

Why is there an increase in flash flooding?

- Climate change is clearly a factor, with increasingly prolonged periods of wet weather.
- Our development of land, creating more hard-standing surfaces and developments on flood plains, all of which mean a reduced land drainage capacity and a build-up of surface water which then can't drain away quickly enough.

Why might my premises be at risk? It's miles from a watercourse and has never flooded before.

Flash flooding occurs when heavy rainfall overwhelms the drainage system. It can happen miles away from established watercourses and can occur where there's no history of previous flooding problems. It means flash flooding can be hard to predict, happens quickly and tends to be generally short-lived.

It could happen because existing drains haven't been upgraded or maintained to cope with new building development, and so can't deal with the increased volumes of water run-off from hard-standing areas.

How can I find out if my premises are at risk?

First, you should complete a flood assessment of your site to determine the risk of flash flooding, and at the same time work out the risk of fluvial flooding, leading to the development of an overall Flood Plan.

The Environment Agency (for England and Wales) and the Scottish Environment Protection Agency (SEPA) have developed a lot of helpful guidance to support the completion of flood assessments and Flood Plans, including templates for capturing the relevant risk information.

For further information visit **www.gov.uk/government/publications/flood-plan-guidance-for-communities-and-groups**.

Are there different levels of risk?

Both fluvial and pluvial flood risks can be assessed by postcode using the Environment Agency website, which also has a national flash flooding map (published in 2013) which identifies four levels of risk:

High: A one in thirty chance of flash flooding each year.

Medium: A one in a hundred chance of flash flooding each year.

Low: A one in a thousand chance of flash flooding each year.

Very Low: Less than a one in a thousand chance of flash flooding each year.

The map can be accessed at **www.gov.uk/check-flood-risk** or you can phone the Floodline service for this information on **0345 988 1188.**

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Are there any advance flood warnings?

Whilst the Environment Agency cannot post flash flood alerts, it is worth registering to receive fluvial flooding alerts.

The Agency also provides a free 24 hour 'Floodline Warnings Direct' service, available via phone, text and email.

What can I do to manage the risk?

You should have a Flood Plan in place where a risk of flash flooding is identified, to mitigate the potential financial and disruption effects of an incident at your premises.

Such a plan will also support compliance with relevant statutory requirements, such as the Occupiers Liability Act 1984.

The Flood Plan showing how you will respond to a flood event should be developed by a team of suitable people within your organisation, led by a nominated person with overall responsibility for communication and coordination of the plan.

What should the Flood Plan include?

The plan should include:

- details of key contacts in the event of a flood,
- a site plan showing the location of service cut off points (gas, electricity etc.) so these can be easily isolated; and
- vulnerable property and high risk areas where action is required.

If there is an imminent risk of flood, the key priority should be the safe evacuation of people, so evacuation procedures should be clearly detailed, including where safe muster and shelter points can be found.

Which contacts should be included?

Key contacts to be recorded in the Flood Plan should include:

- the emergency services,
- Ansvar Insurance (Contact our claims team in the event of a flood on **0345 606 0431** or email **ansvar.claims@ansvar.co.uk** 24 hours a day, 7 days a week),
- electricians,
- Gas Safe registered contractors,
- security providers, and
- plumbers.

Where should we keep the Flood Plan?

A copy of the Flood Plan should be kept off site and the relevant staff or volunteers should be trained in the procedures to be followed, so as to mitigate flood damage to property through a range of appropriate flood resistance (keeping water out) and flood resilience (dealing with water coming inside) measures.

How can I stop flood water entering my premises?

Flood resistance measures to prevent flood water entering the property might include:

- **Flood barriers** – flood boards that can be installed across doorways and windows ahead of the arrival of flood water. These usually slide into a frame pre-attached to the building structure to provide a watertight seal.
- **Sandbags** – used in conjunction with plastic sheeting to create a flood barrier.
- **Airbrick covers** – one of the first points of entry of floodwater into a property is via airbrick vents. A plastic cover can be clipped to framework surrounding airbricks to prevent the entry of water.
- **Non-return valves** – to drainage systems to prevent backflow of foul water into the property.

What can I do if the water does get in?

In extreme flood situations, flood resistance measures may not be enough – and in fact sometimes it might be necessary to breach them to save the structural integrity of a building.

In advance of water getting inside, you should move valuable or at risk property above ground floor level where possible, or at least try to raise items on blocks or plinths above anticipated flood water levels.

What future building measures should I consider?

When designing new buildings where there is a risk of flash flooding, or completing repairs after a flood, you should consider the following measures to mitigate loss:

- fit horizontal plasterboard or lime based plaster instead of gypsum,
- introduce drainage systems within cavity walls,
- use tile flooring instead of carpets,
- use built in units manufactured using stainless steel, plastic or solid wood rather than chipboard, or free standing units and appliances that can be moved,
- locate appliances on plinths raised off the floor,
- raise the height of damp proof coursing to walls,
- raise electrical sockets and fuse boxes at least 1.5 metres above floor level and run cabling to these from ceiling rather than floor level,
- raise the height of door sills,
- introduction of sump pumps in lower ground areas such as basements. Sump pumps should be triggered using a float switch,
- locate critical infrastructure/plant away from flood prone areas.

Where can we source anti-flood products?

There is a range of both flood resistance and resilience products in "The Blue Pages" directory available on the National Flood Forum website **www.nationalfloodforum.org.uk**.

What ongoing safety maintenance should I undertake?

In addition to the points above, Flood Plans designed to combat flash flooding should also include:

- Regular inspection of site drains. Manhole covers should be regularly lifted to check drains are clear. We recommend this is done every three months and especially at the end of the autumn season. The drainage system should be cleared if there is any indication of problems.
- Regular inspection of culverts, gullies and other drainage channels, again on a quarterly basis, which should be cleared of any blockages. Cut back any overgrown vegetation which could trap debris and increase the risk of flooding.
- Where drainage systems extend into neighbouring sites, work with the local community to ensure they are kept clear 'up' and 'down' stream of your site. Formally notify owners of neighbouring property of any blockages on their land so these can be cleared.
- Establish with the Highways Department of your local council when drains to surrounding roads were last cleared. If this hasn't been done recently, ask that they complete an inspection.
- Where buildings are at risk of 'run-off' from surrounding public roads, liaise with the local authority to ensure roadside drains are subject to planned inspection and maintenance.
- Inspect guttering to your property at least once a year, to ensure water can quickly escape into drains. Blocked or damaged pipework will lead to water penetration.
- Existing rainwater goods may not be able to handle heavy rainfall. Consider ways of increasing their capacity such as the provision of additional, or wider, guttering.
- Suitable continuity arrangements should be in place to support the swift recovery of your organisation. This may be sourcing alternative premises and also discussing with any third party hirers whether they have a back-up plan in the event that the premises are unable to be used.

Flood defence products purchased for use as part of your Flood Plan must be regularly inspected and checked to ensure they remain fit for purpose and available when required.

Should I take further professional advice?

We strongly recommend you take professional advice from your architect, a suitably qualified consulting engineer and/or chartered surveyor before undertaking any structural changes to your buildings. Again, "The Blue Pages" directory on the National Flood Forum website provides a useful list of consultants.

Resources

The Environment Agency
www.gov.uk/government/organisations/environment-agency

Scottish Environment Protection Agency **www.sepa.org.uk**

Helpful guidance to support the completion of flood assessments and Flood Plans, including templates for capturing the relevant risk information and useful lists of consultants.

National Flood Forum **www.nationalfloodforum.org.uk/**

The Blue Pages **www.bluepages.org.uk/**

Check your flood risk **www.gov.uk/check-flood-risk**

Risk advice line

(provided by Ecclesiastical professionals or external specialists)

Phone: **0345 600 7531**
Email: **risk.advice@ecclesiastical.com**

Risk specialists are on hand to advise you on a range of topics, including:

- property protection, security, business continuity planning
- health and safety, food safety, environmental management
- construction safety, fire safety, occupational health, water safety or asbestos.

Available Monday to Friday 9am – 5pm (excluding public and bank holidays).

For further information speak to your insurance advisor or call us on **0345 60 20 999**

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