

Loss prevention standards

# UK Flood – Guidance and Mitigation

**Climate change is resulting in more frequent and intense flooding across the UK. This document is intended to provide guidance on flood mitigation measures to help prevent and reduce the impact of flood events.**



# UK Flood – Guidance and Mitigation



## Introduction

Flooding is the most common and widespread natural source of damage to properties in the UK. Homes and businesses are more likely to suffer damage by flooding than by fire.

Sadly, things are not likely to improve substantially. Climate change resulting in more rainfall and rising sea levels, and pressure to build more new homes and business premises on green field sites, often on flood plains, will only contribute to the problem of flooding. It is unlikely that the flood defence measures currently in place will be effective enough to counter the increased risks.



In recent years there have been severe flooding incidents in many parts of the UK, with the estimated costs being in the region of many billions of pounds, not all of which is covered by insurance.

The most common sources of flooding are:

- River flooding
- Surface water flooding
- Coastal flooding
- Sewer flooding
- Flooding from rising groundwater
- Reservoir flooding

The effects of a flood are devastating and distressing for a homeowner or business. For businesses, flooding cannot only cause serious damage to your property, contents, production and ability to trade, it may also impact on your employees' mental health. Deliveries may need to travel through flood affected areas and may not be able to reach you. Equally, if not more importantly, it will affect your ability to supply your customers. Not only can you suffer the trauma of seeing your business assets damaged or lost, but your business turnover may not recover to pre-loss levels for many months, if not years. Some businesses fail to recover at all.

Other than moving location, you cannot always stop a property at risk of flooding from being affected, but you can put into place measures that will minimise the damage and speed up the repair time. This document looks at what is available and provides guidance on how to reduce the effects of a flood on your home or business.

Remember, if you are a business, you could operate from several sites that are all at risk from flooding, and, unlike fire, flood can damage more than one building during the same flooding event if you have a spread of facilities across one area or site.

Have you considered the flood risk to your premises, taken the necessary precautions to avoid the property being flooded and prevent/limit damage if the property is flooded (resistance and resilience measures)? Have you also considered how you would recover from a flood if the worst should happen?

## Identified Risk of Flood

If a flood risk has been identified, a formal Flood Emergency Response Plan (see Appendix 2) should be produced (this may form part of your overall Business Continuity Plan), which will detail how the business will respond to the threat of flooding. The plan should be easy to access during a flood and easy to communicate to employees. Remember, you don't have to live anywhere near a river or sea to be at the risk of flooding.

### Steps to Consider:

- Pre-event – assessing your flood risk and what can be done, looking at resistance and resilient measures
- What you can do if the threat of flooding is imminent
- What you can do during a flood
- What to do after a flood
- What you can do to protect your business in the future

### Pre-event – Assessing Your Flood Risk and What Can be Done

If your premises are in an area prone to flooding then you are probably already aware. If you are unsure you should check with the relevant agency to help you assess your flood risk. Aviva may also be able to assist you, on request. Review the [Code of Practice for Property Flood Resilience](#) produced by CIRIA (Construction Industry Research and Information Association).

The [Environment Agency](#) in England, the [Scottish Environment Protection Agency](#) (SEPA) and [Natural Resources Wales](#) operate a 24-hour Floodline, on telephone number: 0345 988 1188, which give real time flood warnings and advice, including the risk of flooding in your area. [Click here](#) for guidance in Northern Ireland.

The three flood warnings issued by the above Agencies are as follows:

 <p><b>FLOOD ALERT</b></p>	 <p><b>FLOOD WARNING</b></p>	 <p><b>SEVERE FLOOD WARNING</b></p>
<p>Flooding is possible. Be prepared.</p>	<p>Flooding is expected. Immediate action required.</p>	<p>Severe flooding. Danger to life.</p>

Further useful links include:

- [River Levels](#)
- [GaugeMap](#)
- [Met Office UK Weather Warnings](#)
- England – Environment Agency: [Sign up for flood warnings](#) and [Flood warnings for England](#)
- Scotland – (SEPA): [Sign up to receive flooding messages](#) and [Live flooding information](#)
- Wales – Natural Resources Wales/Cyfoeth Naturiol Cymru: [Sign up to receive flood warnings](#) and [Flood Warnings](#)
- Northern Ireland: [nidirect Government Services](#)

It is worth checking for flood warnings regularly if you think you are about to be flooded. To find out more about how you can adapt your business to be more flood resilient, follow the [Code of Practice for Property Flood Resilience](#) produced by CIRIA. The process in the code covers the six steps of:

- Hazard Assessment
- Property Survey
- Options Development and Design
- Construction
- Commissioning and Handover
- Operation and Maintenance

As part of assessing the flood risk for your premises, you should also consider other factors such as:

- Does the site or surrounding area have a history of flooding?  
**Note:** the lack of previous flooding does not preclude the risk of future incidents
- The proximity of the site to all sources of water, including the sea, rivers, streams and other similar water channels and open bodies of water, e.g., lakes, reservoirs, canals, etc.
- The lie of the land on which the premises are located i.e., sloping or flat, in a natural hollow or dip? Does a road slope down towards the site? Are you at the bottom of a hill?
- Do you have vulnerable basement areas?
- Do you have valley gutters which can be vulnerable to overflowing?
- Are land/yard drains and gullies sufficient, and suitably maintained?
- Are nearby highway and public drainage systems blocked/adequately maintained?
- Avoid pouring fat down drains as this can reduce capacity or block them altogether

Before flood water presents a danger to and enters your premises, there are a number of measures you can take to mitigate the damage and reduce the drying out period, and these are outlined later in this Loss Prevention Standard. Serious consideration should be given to implementing appropriate measures to your site as soon as you can.

## **Actions if the Threat of Flood is Imminent**

### **At the Premises:**

- If possible, turn off gas, electricity and water supplies (water at the mains), ensuring a safe shut-down of critical plant and machinery. Are your employees trained how to do so? Ensure, where possible, that power to alarm/security systems is maintained during these times
- Unplug all electrical items and where possible store them up high, on a mezzanine or upper floor. With heavy electrical items such as fridges, raise them up (at least 1 metre above anticipated flood level)
- Power-down machinery and plant when safe and practicable to do so
- Close off flow valves on gas tanks, oil tanks, etc. that supply the premises through pipes and fittings
- Put plugs in all the sinks and weigh them down with something heavy
- Fit anti-backflow valves to all toilets and ground floor sanitary fixtures, as flood water can enter a property through drains and toilets
- Be aware of the scope of the external drainage system and avoid blockage by storage, etc.
- Make sure all important documents are moved to upper floors or away from the premises
- Move as much furniture as possible to upper floors. If items can't be carried, move them away from the wall as this will speed up drying times later
- Leave internal doors open or where possible remove them and store on an upper floor or mezzanine. The fitting of butt hinges will assist with door removal

- As a last resort, open doors and windows and smear the frame with silicone sealant, then shut and lock them to provide a watertight seal. Ensure that any gaps between the frame and door/window apertures are suitably sealed and watertight
- Deploy temporary flood barriers to doors, windows and airbricks if you have them

**Note:** For floods deeper than 1 metre, you should usually allow water to enter the property to prevent any structural damage which could be caused by a build-up of water pressure outside.

- If you do not have proprietary flood barriers, consider covering windows, doors and airbricks with plywood using sealant to protect joints and gaps, or using sandbags, soakbags or metal sheeting. The Environment Agency has a practical guide entitled: [Flooding: what to do before, during and after a flood](#)
- Make sure neighbouring businesses know there is a flood on the way

For external areas:

- Consider relocating any vulnerable stock to a safer location or to higher ground
- Move any vehicles or trailers to secure elevated ground to ensure they are not damaged, avoiding roads on routes that may flood
- Secure objects that could float and cause impact damage to the property
- Stop any deliveries due at the premises and if necessary, ensure your own deliveries are despatched before any floods are likely to impact your distribution

## Actions During a Flood

### Always Make Sure You and/or Your Employees Stay Safe During the Flood Itself:

- Ensure your employees have a safe location to which they can be evacuated – and in good time
- Don't try and walk or drive through flood water – 6 inches of fast flowing water can knock you off your feet and 2 feet of water will float your car. Manhole covers may have come off and there may be other hazards you can't see
- Don't walk on sea defences, riverbanks or cross bridges as they may collapse, or you could be swept off by a large wave
- Avoid contact with flood water as it may be contaminated with sewage
- Ensure petrol or diesel operated water pumps and/or generators are not used in confined spaces, to avoid a build-up of potentially dangerous fumes
- Cooperate with the Emergency Services if they tell you to evacuate during flooding

Implement procedures to ensure that only authorised individuals enter the premises until such time as they have been made safe, due to the possible hazards that may be present, e.g., structural damage, pollutants, etc.

Do not use electrical or gas supplies until checks have been undertaken by competent individuals confirming their safety.

Consider the use of thermographic cameras if electrical equipment has been damaged.

Do not enter any deep standing water, as this may be contaminated and/or contain hazards that are not easily seen.

Notify Aviva and your insurance intermediary of the flood to obtain their guidance and advice, and plan salvage operations:

- **Commercial Claims** - please contact your broker. Some small companies may use this [link](#)
- **[Household Claims](#)**

## LOSS PREVENTION STANDARDS

## What to do Immediately After a Flood

Commence salvage operations only when it has been deemed safe to do so, and do not dispose of damaged items until discussing the matter with Aviva's Claims Team. Take photographs and/or videos of the damage to contents and property where possible, as this may assist with any subsequent insurance claim. Covers and barriers should be removed once the flood water has receded to allow air to circulate and any trapped water to escape. Check on the safety of any hazardous items such as flammable liquids, gases, etc.

Review the current state of fire protection and security measures.

Also review what worked during the flood and what you could do differently.

Update your Flood Plan and procedures.

## Protecting Your Business in the Future

Once the shock of being flooded has subsided along with the water, it is time to clear up the mess and get the premises back in order. Although not widely known about, there are a whole range of measures that can be taken to reduce the impact of any future floods.

Flood defence falls into two categories: – **flood resistance and flood resilience.**

**Flood resistance** is measures that prevent or reduce the amount of water that gets inside the property by ensuring walls, opening, floors, service intakes, drains, etc. have suitable protection designed to keep flood water out of the building. To be effective the whole building perimeter must be resistant to the type of flood event to which the property is exposed.

**Flood resilience** are measures that can be made to the fabric and services of the building to make it more robust, quicker, and easier to clean, dry out, repair and reinstate in the event of flood water entering a property.

Making flood resilient alterations to your premises will likely cost more than just restoring it to its previous state, but it is money worth spending. If installed, following any future floods, these measures will speed up the drying out time, allowing you to get back into your property quicker. It will also reduce the cost and inconvenience associated with future flood damage repairs.

You can install these measures at any time, but if you are to consider implementing them as part of the insurance claim following a flood, you should discuss the options with your insurer and loss adjuster at the earliest opportunity. Insurance policies generally cover standard (like-for-like) repairs. Any extra cost of resilient repairs or resistance measures would be an investment to protect your home or business for the future.

Using resilient repairs and flood resistant products will significantly reduce the time that you are out of your property if another flood occurs. They could make your home or business easier to insure and may help secure more favourable terms from your insurers than would otherwise be the case.

**Footnote:** If the expected height of flood waters is likely to be in excess of 600mm, a flood resistance approach may not be appropriate due to the pressure of water exerted on the external structure.

Useful publications include: [Code of Practice for Property Flood Resilience](#) produced by CIRIA and BS 851188: [The British Standard for Flood Resistance Products](#).

## Reducing Damage and Disruption

All properties that have been flooded could benefit from some degree of flood resilient repair. Some resilience techniques may not cost substantially more than standard repairs (like-for-like), and these may be an appropriate way to repair a range of flooded properties. For example, fitting plug sockets, domestic-type boilers and service meters higher on walls, well above previous flood levels, should cost little more than restoring them where they were before.

If your home or business continues to be exposed to a significant risk of flooding, it would be worth repairing your property after a flood with a comprehensive set of flood resilient measures.

Aviva only recommend products certified as tested to PAS 1188 or having the British Standards Institution (BSI) Kitemark for Flood Protection.

It is your responsibility to ensure that the products are appropriate for your property, correctly fitted, maintained and employees/key personnel are suitably trained in how to use them.

The National Flood Forum publishes the [Blue Pages](#), a directory of products and services designed to help protect against flooding.

Guidance on potential costs of such resilience techniques is provided within Appendix 3 of this document, and within the [National Flood Forum Property Protection Advisor](#) for domestic/small business premises and the [Scottish Flood Forum](#).

### Consider:

- Producing a Flood Emergency Response Plan (this may form part of the Business Continuity Plan), which will detail how the business will respond to the threat of flooding. The plan should be easy to access during a flood, easy to communicate to employees and easy to remember. It should also detail the procedures to be adopted if access to the premises is denied due to flooding of the surrounding area and roads. It should be regularly reviewed and tested with training provided to relevant individuals regarding its activation. Copies of the plan should be retained in areas of the site where there is little likelihood of flooding, or alternatively offsite with key personnel  
**See Appendix 1, 2 and 3**
- Making up a flood kit – including key documents such as your Flood Emergency Response Plan, Aviva’s emergency helpline number, details of the insurance policy and other useful numbers such as the local council and Emergency Services (all in laminated form), torch with spare batteries, wind-up radio, mobile phone, rubber gloves, wellington boots, waterproof clothing, a first aid kit and blankets. Also consider including a premises plan (with any necessary descriptions) showing key features such as the location of service (oil, gas, electricity) shut-off points, key stock and equipment, protective materials
- Producing checklists of the procedures necessary during a flood
- Having concrete floors at ground level
- Consider using flood resistant finishing flooring materials such as ceramic tiles, vinyl sheet flooring, cement-rich floor screed or 3mm epoxy resin waterproof floor treatment added to concrete floor screed. Removable carpet tiles would be suitable for offices
- Having bare concrete walls within the premises as these can be cleaned, dried and sanitised quickly following a flood. Alternatively, replace gypsum plaster with water-resistant material, such as lime or cement render, or laying gypsum board wall linings horizontally to allow them to be sacrificially removed
- Using waterproof sealant on external walls and water-resistant paint on internal walls
- Replacing mineral insulation within walls with closed cell insulation
- Installing kerbs or ramps at possible door entry points
- Re-routing ventilation ductwork and shafts above possible flood levels as such equipment tends to be lightweight, hence can’t withstand flood water forces and pressures

- Sealing gaps in external walls around electrical and telephone entry points, piping, construction floor and wall joints and cracks caused by settling, impact, etc., with water-resistant materials such as silicone
- Re-pointing external walls to a level 600mm above anticipated flood level using water-resistant mortar. Brick/stonework treated with a proprietary water based repellent to prevent water penetration and seepage at times when flood waters remain against the property for any length of time
- Replacing chipboard kitchen and sanitary units with plastic, stainless steel or solid wood. If not, make preparations to raise cupboards and appliances up on stilts so that water can flow beneath them. An increasing range of flood resilient kitchen appliances are also available to purchase
- Fitting water-resistant door and window frames. Varnished hardwood, metal and glass doors are most appropriate
- Installing non-return valves in drainage pipes and on waste-water systems to prevent sewage backing-up into the premises. Similar protection to external drains should be provided if you decide to install perimeter flood protection to yards, etc.
- Using airbricks with removable covers or using a demountable product for existing air bricks – put them on during the flood but remember to remove afterwards to help the drying out process. Alternatively, you can replace airbricks with automatic closing ones
- Re-siting electrical equipment to a level 600mm above anticipated flood level. This should include items such as meters, distribution boards, transformers, motors, generators, battery chargers, batteries lighting, uninterrupted power supply (UPS), sockets, cable joints and terminations. If you cannot do this, consider using equipment with an ingress protection rating of IPX8
- Installation of watertight covers over cable trenches to prevent them being inundated with silt and debris
- Ensuring other utilities such as water supply tanks & pumps, gas meters and valves, telephone switchgear, IT servers are located above anticipated flood levels. Heating systems, air conditioning and ventilation systems, chillers and boilers should be similarly located
- Locating sprinkler pumps, dry-pipe system air supplies, fire suppression system operating equipment and associated electrical equipment outside flood-prone areas of the premises or above the anticipated flood level.

If it is not possible to relocate vital services such as those mentioned above, you may consider specific flood resilience and protection measures for those areas of the premises in which they are located

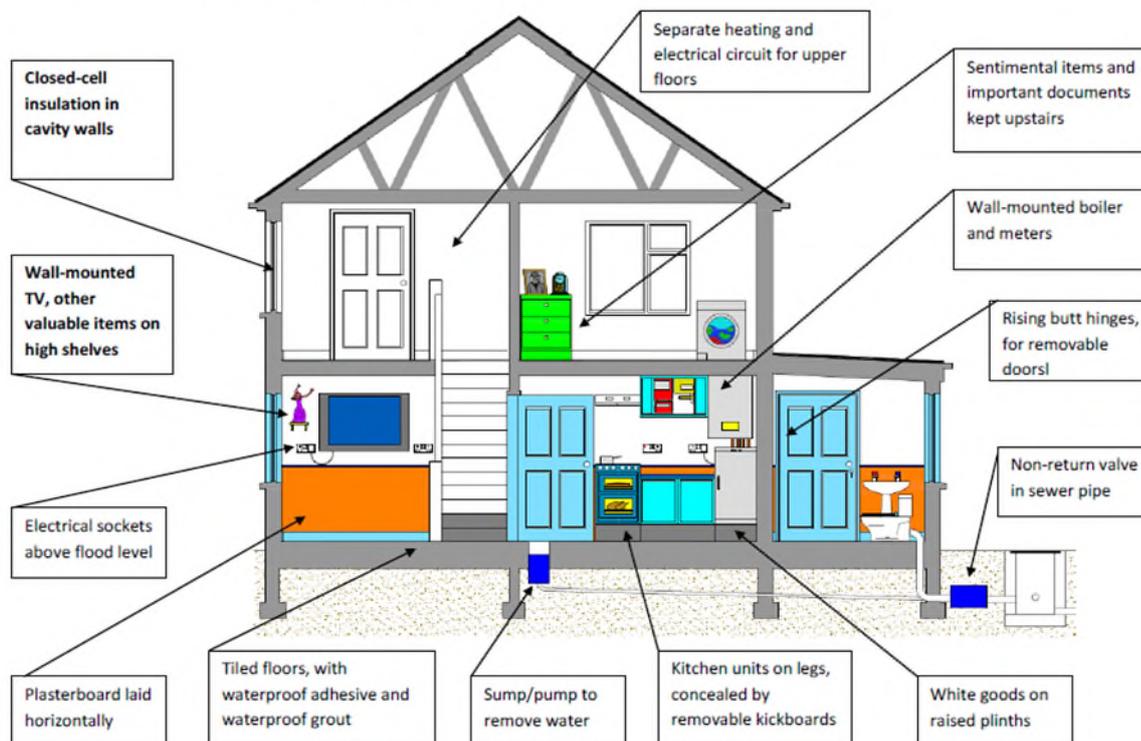
- Installation of automatic sump pumps to lowest areas of the premises, e.g., basements, machine wells, pits, etc.
- Installing process machinery and equipment on pads, platforms or pedestals above anticipated flood levels. Alternatively, you could relocate them to a mezzanine or upper floor, or build permanent flood barriers around them
- Avoiding locating product or equipment that can leak solvent, oil, fuel or other potential pollutants in areas likely to flood, as this may slow clean-up of the premises or lead to enforcement action by the appropriate authorities. Specific guidance for sites regulated under the [Environmental Permitting \(England and Wales\) Regulations 2016](#) and the [Control of Major Accident Hazards Regulations 2015 \(COMAH\)](#) is available from the Environment Agency, SEPA, the Rivers Agency (Northern Ireland) and the Health and Safety Executive (HSE)
- Installation of flood detection equipment that will either automatically alarm to a permanently attended location, or shut off non-essential electrical devices before flood damage occurs
- Suitably anchoring structures that may float or experience lateral movement in a flood situation. Whether these are located internally or externally, these could become flood borne debris that could cause damage to surrounding structures and equipment. The contents of such structures and equipment could also be potential pollutants. Examples include storage tanks, silos and storage bins. Ensure that anchoring points and foundations are capable of resisting the most severe buoyancy loads, e.g., assume tanks etc. are empty at the time, hence most buoyant

- If moving, or building new premises, consider choosing a location where the entire site and all access routes are outside a 1 in 200-year flood zone, or areas relying on man-made flood protections such as levees and flood walls. If unavoidable, you should ensure that the property build conforms to BS 85500:2015: [Flood Resistant and Resilient Construction – Guide to Improving the Flood Performance of Buildings](#)

Before you start making changes, get advice from a specialist flood surveyor, building surveyor or architect. Contact the [Royal Institution of Chartered Surveyors \(RICS\)](#), [Royal Institute of British Architects](#) or the [British Hydrological Society](#) for a surveyor in your area. They can carry out a comprehensive flood assessment and make recommendations for the most appropriate flood defences and resilience measures for your particular property.

Whilst the diagram below is based on measures that can be undertaken for a house, where relevant, similar strategies can be adopted for commercial properties.

## The Flood-Repairable House



*Adapted from original image courtesy of the Eastern Solent Coastal Partnership ([www.escp.org.uk](http://www.escp.org.uk))*

## Checklist

A generic Flood – Risk Review and Actions Checklist is presented in Appendix 1 which can be tailored to your own organisation.

## Specialist Partner Solutions

Aviva Risk Management Solutions can offer access to a wide range of risk management products and services at preferential rates via our network of Specialist Partners, including:

- [Adler & Allan](#) – Flood Risk Planning and Post-Flood Recovery
- [Apex](#) – Flood Resilience Solutions
- [SLR Consulting](#) – Flood Risk Specialists

For more information please visit:

[Aviva Risk Management Solutions – Specialist Partners](#)

## Sources and Useful Links

- [National Flood Forum](#) – A National Charity Supporting Flood Risk Communities
- [MDA Flood Resilience Consultants](#) – A Specialist Independent Community Flood Consultancy
- [Property Care Association](#) – A Trade Association Representing Specialists Across the UK Who Resolve Problems Affecting Buildings
- [CIRIA](#) – Code of Practice for Property Flood Resilience

## Additional Information

Relevant Loss Prevention Standards include:

- Flood Guidance and Mitigation (Global)

Further Guidance:

- Commercial Flooding

To find out more, please visit [Aviva Risk Management Solutions](#) or speak to one of our advisors.

**Email us at [riskadvice@aviva.com](mailto:riskadvice@aviva.com) or call 0345 366 6666.\***

\*Calls may be recorded and/or monitored for our joint protection.

# Appendix 1: Risk Review and Actions Checklist



Location	
Date	
Completed by (name and signature)	

	Assessing the Risk of Flood	Y/N	Comments
1.	Is the property situated in a known flood plain?		
2.	Does the site have a history of flooding?		
3.	Is the site close to any rivers, streams, water drainage ditch, similar water channels and open bodies of water such as lakes or reservoirs?		
4.	Is the property located in a low-lying area, at the bottom of a dip or below the level of the road?		
5.	Are any basements, cellars or similar used by you which may be affected by flooding?		

	Actions to be Taken if You Have Identified a Flood Risk	Y/N	Comments
6.	Have you developed a Flood Emergency Response Plan or extended existing Emergency Plans, including Business Continuity Plans, and are they regularly tested?		
7.	Has the health and safety of employees/visitors been considered in the event of a flood?		
8.	Are building walls sealed or liquid tight to at least 1 metre higher than expected inundation levels?		

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	<b>Actions to be Taken if You Have Identified a Flood Risk Contd.</b>	<b>Y/N</b>	<b>Comments</b>
9.	Where pipes, cable runs, etc. penetrate external walls, are they adequately sealed?		
10.	Are critical/vulnerable equipment and stock stored off the floor or relocated to other parts of the premises, or to an upper floor, or otherwise protected against water damage?		
11.	Is stock in the open stored on purpose built, elevated metal racking secured to the ground and/or has consideration been given to the use of permanent water-resistant concrete plinths for yard storage?		
12.	Are fuel or other storage tanks suitably anchored to limit the potential for damage or pollution under flood conditions?		
13.	Where critical plant is located in basements and cannot be relocated, is the area around it protected from the potential of flooding?		
14.	Have electrical and telecommunications points such as sockets, telephone connections, cabinets and servers been raised to a higher point, e.g., at least 1 metre above expected flood levels?		
15.	Has consideration been given to replacing susceptible linings, furniture, fixtures and fittings with more water-resistant alternatives?		
16.	Are contracts and agreements in place with appropriate salvage, recovery and restoration organisations?		
17.	Has a flood kit been assembled? For example, does it contain: <ul style="list-style-type: none"> <li>• Aviva’s emergency helpline telephone number?</li> <li>• Details of the insurance policy?</li> <li>• Other useful numbers such as customers, suppliers, the local council and Emergency Services?</li> </ul>		

	<b>Actions to be Taken if You Have Identified a Flood Risk Contd.</b>	<b>Y/N</b>	<b>Comments</b>
18.	Do you subscribe to flood alert warnings such as the Environment Agency flood alert scheme (for properties in England & Wales)?		
19.	<p>Have local property flood protection devices such as demountable barriers, air brick covers (for brick buildings), sandbags and non-return valves for drains and waste pipes been purchased/installed ready for use?</p> <p>If so, are nominated employees familiar with these devices and how to use them, and are suitable maintenance arrangements in place for such equipment?</p>		
20.	Are regular checks of the building structure undertaken to look for any defects, cracks and gaps through which water could enter the premises?		
21.	Is it ensured that any defects/openings which are discovered are promptly sealed up?		
22.	Are drainage systems such as guttering, down pipes and drains regularly inspected and maintained at least once a year?		
23.	If you become aware that local street drainage systems cannot cope in times of rainfall, do you ensure that this is reported to the controlling authority as it may be that it has become silted up and requires cleaning?		
24.	Are your premises visited during times when the site is closed such as holidays, to make certain that any problems are identified at the earliest opportunity?		
25.	Are procedures in place to be alert to the risk of flooding caused not only by rivers, but also surface water building up and overwhelming drains following heavy periods of rainfall, leading to localised flooding?		

	<b>Actions to be Taken if a Flood is Forecast</b>	<b>Y/N</b>	<b>Comments</b>
26.	Has the Flood Emergency Response Plan been activated and communicated?		
27.	If possible, have gas, electricity and water supplies been turned-off (water at the mains), ensuring a safe shut-down of critical plant and machinery?  Are your employees trained how to do so?  Is power to alarm/security systems maintained during these times?		
28.	Have all electrical items been unplugged and where possible stored up high or on upper storeys?  With regards to heavy electrical items, has the possibility of raising them above anticipated flood water levels been considered?		
29.	Have flow valves been closed-off on gas and oil tanks which supply the premises through pipes and fittings?		
30.	Has furniture, machinery and stock been moved to upper storeys?		
31.	Have any temporary flood protection measures/barriers been deployed?		
32.	Have vehicles and trailers been moved to higher and secure ground?		
33.	Has vulnerable stock sited in open yards been relocated or placed on securely anchored racking, well above anticipated flood levels?		
34.	Have any hazardous substances been protected from flood, e.g., moved, covered and contained?		

	<b>Actions to be Taken During a Flood</b>	<b>Y/N</b>	<b>Comments</b>
35.	Have you cooperated with the Emergency Services including if they inform you to evacuate the premises during a flood?		
36.	Are you prepared to act quickly to get all employees and visitors to safety?		
37.	Has guidance been provided to all individuals advising them not to try and walk or drive through flood waters – 6 inches of fast flowing water can knock you off your feet and 2 feet of water can move a car?		
38.	Has information been provided to all individuals on risks to be aware of such as manhole covers having come off along with other hazards that cannot be seen under flood water?		
39.	Have employees been advised not to walk on riverbanks or cross bridges as they may collapse?		
40.	Have employees been advised to avoid contact with flood water as it may be contaminated with sewage (they should be aware of waterborne diseases such as Weil's disease where there are areas of standing flood water)?		
41.	Have you contacted Aviva and your insurance intermediary to advise them what has happened?  Aviva will be able to provide best guidance and instigate any specialist services which may be required. Ensure that Aviva have your contact information should you have to vacate the premises.		
42.	Are the premises secured when vacated?		

	<b>Immediate Post-Flood Actions</b>	<b>Y/N</b>	<b>Comments</b>
43.	Have you ensured that only authorised individuals re-enter the site until such time as it has been deemed safe to do so?		
44.	Have all covers and barriers been removed once the flood water has receded to allow air to circulate and water to escape?		
45.	Have you discussed salvage operations with Aviva?		
46.	Have photos and videos of damage to buildings, contents or stock been taken as this may assist with damage assessment and settlement of a claim?		
47.	Have you ensured that electrical or gas supplies in flooded buildings have not been used until appropriate checks have been completed by qualified individuals before turning them back on?		
48.	Have checks been undertaken on the safety of any hazardous items?		
49.	Have the fire protection and security systems been assessed including plans to reinstate them as quickly as possible?		
50.	Have flood protection devices been cleaned to avoid possible contamination?		
51.	If making an insurance claim, have you avoided disposing of any items until Aviva have confirmed that it is acceptable to do so?		
52.	Have you discussed with Aviva the best way to dry out the premises?		

	<b>Reducing Damage and Disruption from Flood in the Future</b>	<b>Y/N</b>	<b>Comments</b>
53.	Have flood resilience or resistance measures been considered for all site buildings?		
54.	Have you reviewed the Flood Emergency Response Plan following the flood and updated/amended accordingly along with other emergency plans such as Business Continuity?  Has any new learning including training where required, been implemented?		
55.	Additional comments:		

# Appendix 2: Flood Emergency Response Plan



<b>Details of Organisation and Address:</b>	
<b>Name of Individual(s) Responsible for Flood Emergency Response Plan (FERP):</b>	
<b>Date of FERP:</b>	<b>FERP Review Date:</b>
<b>FERP Scope/Objectives:</b> <i>e.g., why the plan has been established and the aims and objectives of the plan</i>	<b>Flood Threat:</b> <i>i.e., detailing the flood exposure, from river flooding, surface water flooding, coastal flooding, other flooding</i>
<b>Details of the FERP team members/deputies and their roles and responsibilities when the plan is implemented:</b>	
<b>Essential Contacts</b>	
<b>Company/Service</b>	<b>Contact Details</b>
Flood Alert Organisation	
Aviva Claims Helpline	<b>Commercial Claims</b> - please contact your broker. Some small companies may use this <a href="#">link</a> <b>Household Claims</b>
Insurance Intermediary	
Utilities: <ul style="list-style-type: none"> <li>• Electric</li> <li>• Gas</li> <li>• Oil</li> <li>• Water</li> </ul>	
Telecommunications	
Salvage Organisation	
Recovery Organisation	
Restoration Organisation	
Key Suppliers	

Employee Contact List				
Name	Address	Telephone/Mobile	Emergency Contact	Emergency Telephone & Address
Key Locations				
Service Cut-off	Description of Locations			
Electricity and/or Solar Panels				
Gas				
Water				
Oil				
Telecommunications				

Protective Actions
<p>Identify stock, equipment and possessions that may require special protective measures and describe the actions you will take to prevent damage in the event of a flood.</p> <p>Include employees/departments who would be responsible for key actions.</p> <p>When will these actions be taken, e.g.:</p> <ul style="list-style-type: none"> <li>• In the event of a Flood Alert, we will ....</li> <li>• In the event of a Flood Warning, we will ....</li> </ul> <p>Examples of items and ways to protect them are suggested below:</p> <p>Consider:</p> <ul style="list-style-type: none"> <li>• Computers/databases/computer files</li> <li>• Tables/desks/chairs/stools/heavy furniture</li> <li>• Vehicles</li> <li>• Paper files</li> <li>• Electrical items</li> <li>• Personnel files</li> <li>• Hazardous substances/chemicals/oils/potential pollutants</li> </ul>

Potential protective measures include:

- Ensuring important documentation is stored in a safe location
- Raising items above ground level
- Purchasing flood protection products
- Replacing with flood resistant items
- Relocating to safer location off site or within the premises, e.g., on upper floor

Item to be Protected	Protective Measure

# Appendix 3: Resilience Measures and Indicative Costs for Homes, Offices and Other Domestic Type Premises



Courtesy of Department for Communities & Local Government and DEFRA January 2016

Property level-measures	Description of Measure	Indicative Cost Range in £s
Airbrick cover	Watertight cover for airbricks	20-40
Self-closing airbrick	Watertight cover for airbricks	50-90
Sewerage bung	Inflatable device to insert in U bend of toilet to prevent sewage backflow	30-50
Toilet pan seal	Seal to prevent sewage backflow	60-80
Non-return valves 12mm overflow pipe	Valve prevents backflow via overflow pipe	70-110
Non-return valves 110mm soil waste pipe	Prevents backflow via soil waste pipe	550-650
Non-return valves 40mm utility waste pipe	Valve prevents backflow via waste pipe	80-120
Silicone gel around openings for cables, etc.	Prevents flooding via openings for cables to access properties	80-120
Water-resistant repair mortar	Water-resistant mortar used to repair walls and improve future resistance	80-120
Re-pointing external walls with water-resistant mortar	Improve water-resistance through using water-resistant mortar to re-point walls	150-250
Waterproof external walls	Membrane fitted to make external walls water-resistant	200-400
Replace sand-cement screeds on solid concrete slabs (with dense screed)	Dense water-resistant screed to replace sand-cement screed	670-740
Replace mineral insulation within walls with closed cell insulation	Replacement of wall insulation with water-resistant insulation	720-800
Replace gypsum plaster with water-resistant material, such as lime	Replace existing plaster to water-resistant material in property	4280-4740
Sump pump	A pump used to remove water that has accumulated in a water collecting sump basin	400-600

## LOSS PREVENTION STANDARDS

<b>Property level-measures</b>	<b>Description of Measure</b>	<b>Indicative Cost Range in £s</b>
Demountable door guards	Guard fitted to doors to resist flooding	500-900
Automatic door guards	Door guards that automatically close to prevent flooding	1000-2000
Permanent flood doors	Permanent door (rather than demountable) which is flood resistant	1800 <b>Note: costs will vary</b>
Demountable window guards	Guard fitted to window to resist flooding	500-900
Replace ovens with raised, built-under type	Raising oven off floor above flood level	700-780
Replace chipboard kitchen/bathroom units with plastic units	Fit plastic kitchen and/or bathroom units to minimise water damage	5000-5520
Move electrics well above likely flood level	Re-wiring of electrics (such as socket points) above flood level	760-840
Mount boilers on wall	Raise boiler above flood level	1080-1200
Move service meters above likely flood level	Raise service meters above flood level	1620-1800
Replace chipboard flooring with treated timber floorboards	Replace floor (including joists) to make water-resistant	920-1020
Replace floor including joists with treated timber to make it water resilient	Replace floor including joists with treated timber to make it water resilient	3490-3850
Install chemical damp-proof course below joist level	Install damp proof course to resist groundwater flooding	6250-6910
Replace timber floor with solid concrete	Replace wooden flooring with concrete	8210-9070
Garage/driveway barrier	Driveway gate or garage barrier to resist flooding	2000-3000

## **Please Note**

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## LOSS PREVENTION STANDARDS