Flood Risk and Environmental Impact Assessment

The purpose of this Document is to ensure a suitable and sufficient risk assessment to enable the site to manage the risk presented by external factors presented by flooding.

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Local Owner:	Bryan Taylor	Review Date:	July 2026
Business Owner:	Kevin Mills	SLSS/ENV/COMAH/C4/23.004	

INTRODUCTION

Safran Landing Systems (UK) Limited (Safran) has compiled as part of the Site Risk Assessment and COMAH control process a review of the potential for Flooding to occur at the SLSS site detailed above.
This assessment is compiled using data accessed from Gloucestershire County Council and Environment Agency websites:

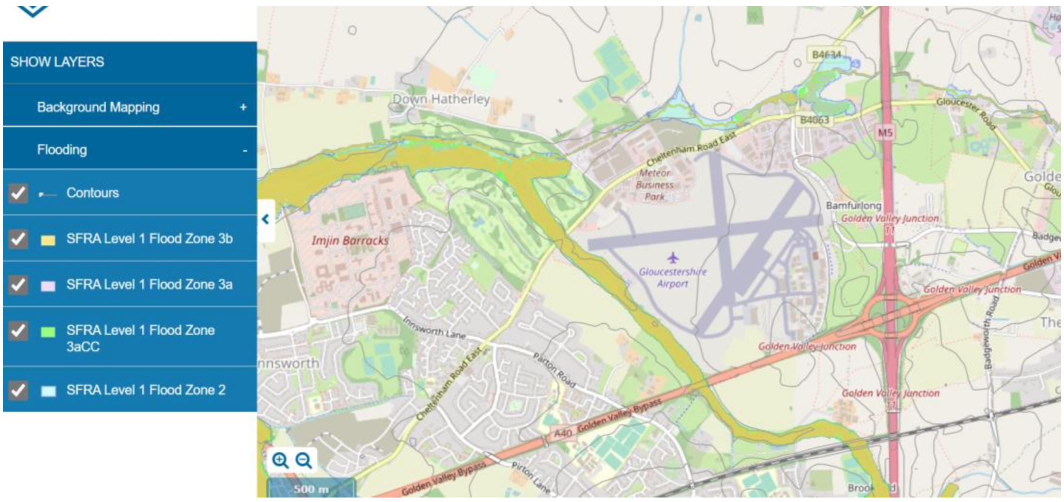
[GCC WebMaps (gloucestershire.gov.uk)]
[Would your business stay afloat? (publishing.service.gov.uk)]

This data has been used to evaluate the potential for flood risk across site that could impact the sites ability to manage chemistry and processes covered under COMAH legislation. This assessment should be read in conjunction with the site Business Continuity and Crisis Management Plan.

Safran Landing Systems Services (UK) Ltd (SLSS) is located:

Meteor Business Park
Cheltenham Road East
Gloucester
Gloucestershire
GL2 9QL

Map of Local area showing Site location



Map of Local area showing Flood risk areas adjacent to site

The Hatherley Brook flood area SFRA Level 1 Zone 3b creates an area of flood risk to the South of the site and due to the height difference from site presents only a flood risk to access routes and not the site itself. There is an area of potential flooding to the North West of the site SFRA Level 1 Flood Zone 2 but this again is at a lower height to site and doesn't represent a high risk of flooding.

This information from the GCC website highlights the low risk of direct river or watercourse flooding to site. Although there is always a risk the potential can be severely discounted. The potential for flooding isn't a high risk but the potential for flooding across the local area can present a risk to the access routes and to localised utilities such as water and Electricity. The risk to local infrastructure after the Gloucestershire floods of 2007 when a large amount on infrastructure protection measures were introduced to facilities such as the Myth water pumping station and the Westgate Electrical substations has reduced the risk of long-term disruption.

Regular Reviews of local information sources and monitoring of Floor risk using GCC resources and EA advice – would your business stay afloat document

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LOCALISED FLOOD RISK AS A RESULT OF WATERCOURSES

Risk Rating Before	Actions	Risk Rating After
Low	Monitor local Flood Warning Systems	Low
Low	Review regularly to changes in risk	Low

RATING – LOW

SECONDARY FLOODING

The risk of secondary flooding should also be considered when assessing flood risk, this is flooding as a result of other actions such as the Emergency fire service using water to fight a fire on site and flooding the local area with potentially hazardous chemicals

The scenario of secondary flooding isn't impacted by the sites distance from watercourses so represents a much higher risk and is identified in the sites Asset Protection Survey carried out every 2 years

Global Asset Protection Services

Recommendation # 2012-03

Confidential

Safran SA **Safran Landing Systems** **Gloucester** 3 Cheltenham Road East Meteor Business Park Gloucester MRO, ENG GL2 9QL UK	**Survey date** **Surveyed by** **GAPS location ID** **Latitude/Longitude**	June 26, 2019 Kennedy, Darren 401534/408453 51.89750 / -2.17389

2012-03

PRE-EMERGENCY PLANNING - ENVIRONMENTAL: Investigate methods to contain water from fire-fighting activities. Size requirements for a combination of sprinklers and hoses for a period of one hour.

COMMENTS: Consideration should be given to the containment of contaminated fire-fighting water during and after a fire related incident. Size containment to capture a sprinkler supplies, estimated to be 1,295 LPM and hose streams of 950 LPM for a period of one hour (total water capture requirements are 180 cubic metres).

The capture of fire-fighting water can result in additional post incident interruption in the event contaminating local water courses, both in the subterranean water table and local water courses. There is a stream that runs through the site property which has previously impacted on the site buildings during extreme periods of heavy rain and it is possible that the gradient which protects the majority of the site from flooding would exacerbate the fire fighting water run off issues.

The above volumes are based on general occupancy protection for the majority of the site.

All drains from site can be captured with assistance from the second pen stock valve for surface water drains although the quantity stated above could be captured with the current underground capacity. Installation of a third valve could be modelled. As this is a common recommendation within the group it may be addressed collectively within the UK Safran sites.

As a priority SLSS has identified the risk and completed closure actions to address the risk with the aim of protecting both the Business and local community

<u>Protective Risk reduction actions:</u>

After a detailed review and analysis of the available options it was identified that for the SLSS Gloucester site to mitigate the firewater runoff flooding risk the following actions were required to be carried out:

Actions	Responsibility	Status
<u>Site wide clean of all drains on site and video survey</u> I. Creation of drawings identifying fall of pipework and accurate layout. II. Creation of flooding plan using software and survey III. Identification of drain issues and cleaning of blocked drainage	*http://darcydrainage.co.uk/*	*complete*

Actions	**Responsibility**	**Status**
Installation of 2 additional drain valve automatically linked into fire alarm system, i. Automated fire alarm activation ii. Manual activation at panel in event of spill iii. Gsm Activation of panel by facilities team	*Darcy drain-tector*	*complete*
Installation of CIPP liners in site drain to ensure ability to hold water without leakage underground i. Drainage survey ii. Installation of Cure in Place Plastic liners to drain lines.	*Darcy drain-tector*	*complete*
Provision of 75m length of 'water gate ' flood barrier system, this provides iv. Rapid deployment in area of incident v. Minimal storage area for barrier – site building s occupy almost 50% of site with storage logistics an issue vi. Ability to train spill staff using actual equipment at various locations around site vii. Water capture of surface water up to 35cm deep viii. Emergency fire water to be held in controlled area, prior to removal ix. EA approved	*https://www.floodprotectionsolutions.co.uk/products/water-gate/*	*complete*

The site management believe that the completion of the actions above will provide a suitable method of capturing emergency firewater and have the adaptability to provide additional spill and flood protection, while also overcoming the challenging logistics of the site.

SECONDARY FLOOD RISK

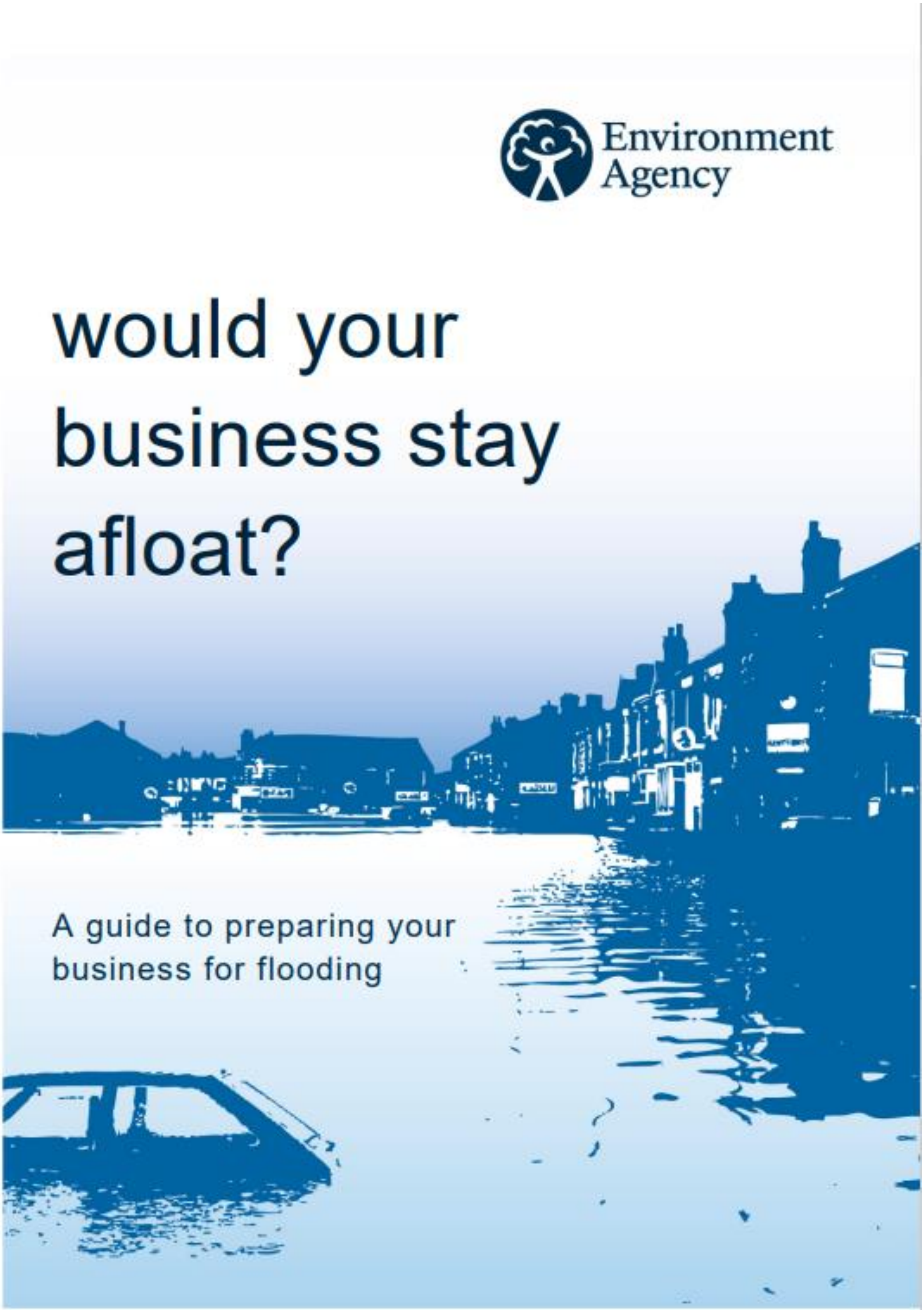
Risk Rating Before	Actions	Risk Rating After
Medium	Site wide clean of all drains on site and video survey	Medium
Medium	Installation of CIPP liners in site drain to ensure ability to hold water without leakage underground	Low
Medium	Installation of 2 additional drain valve automatically linked into fire alarm system,	Low
Medium	Provision of 75m length of 'water gate ' flood barrier system, this provides	Low
Low	Regular Maintenance	Low
Low	Regular Review	Low

RATING – LOW

Contractors engaged in the provision of the actions and equipment are:

Barrier system used - WL Watergate barrier

Drain-tector Drain shut down devices and drain service - Darcy



Environment Agency

would your business stay afloat?

A guide to preparing your business for flooding

Flooding is the most common and widespread natural disaster in the UK. Since 1998 there has been at least one serious flood every year. Businesses like yours are more likely to be flooded than destroyed by fire. As our climate changes we can expect to see more extreme weather – and more floods.

We aim to reduce the likelihood of flooding by managing land, rivers, coastal systems and flood defences. While we do everything we can to reduce the chance of flooding, it is a natural process and can never be completely eliminated.

By taking action to prepare in advance for flooding, most businesses can save between 20 and 90 per cent on the cost of lost stock and movable equipment, as well as some of the trouble and stress that goes with such an event.

This is a simple guide to some of the easy actions that you can take to make sure that your business is as well prepared as possible.

It tells you about how to find out if your business is at risk, our flood warning service and what our flood warning codes mean. It also has a simple template to use to design a flood plan for your company.

For more information about flooding, visit our website at **www.gov.uk/flood** or call Floodline on **0345 988 1188**.

Make sure that your business is prepared for flooding.

How do I find out if my business is at risk from flooding?

There are two quick and easy ways for you to find out if you're at risk.

call us on
0345 988 1188

Our Floodline service is open 24 hours, calls are charged at local rate. By taking your postcode, our operators will check and see if your business is in a flood risk area.

Look at our website
www.gov.uk/flood

You need to be aware of flooding and keep an eye on the water levels and weather situation at all times. You can do this by checking the flood forecasts and the river and sea levels on our website.

Our online flood map uses the latest technology and data gathered over many years to give the most accurate view of flooding in your area.

By entering your postcode you can find out if your business is at risk. Areas at risk from flooding are shown in dark blue and areas at risk from extreme flooding in light blue.

My business is at risk from flooding. What should I do now?

Start preparing now. If the weather conditions are right, flooding can happen at any time.

Remember, floods can happen at any time and any day – make sure you provide a number that can be contacted at all times – even out of working hours.

Sign up for flood warnings.

The first thing you should do is find out if you can receive flood warnings. In areas of high flood risk, we offer a service called Floodline Warnings Direct. This is a free, 24 hour service that sends automated flood warnings by telephone, SMS text, email, fax or pager.

To find out if you can receive this service, call Floodline on 0345 988 1188.

If your business isn't in an area covered by our warnings you can still check the latest flood warnings in force on our website.

When the situation is serious, flood warnings will also be broadcast on local television and radio news.

What practical steps can I take to protect my business?

Now that you've checked your risk and found out about flood warnings, it's time to start thinking about preparing a flood plan specifically for your business.

Taking simple steps can go a long way to protecting your business from flooding. Preparing a flood plan could:

- Significantly reduce financial losses, damage to property and business interruption;
- Help compliance with regulatory requirements (for example, Occupier's Liability Act 1984);
- Reduce exposure to civil or criminal liability;
- Enhance your company's image and credibility with employees, customers, suppliers and the community;
- Help fulfil your moral responsibility to protect employees, the community and the environment;
- Help you to obtain insurance cover.

What is a flood plan?

Just as many businesses have health and safety policies and contingency plans for an emergency, they should also have flood plans.

A flood plan is a written document that outlines how your business will respond to a flood.

This might include a list of steps you will take in case of a flood and the order you will take them in. It could also include the purchase of flood products and insurance.

A written plan can make information **easy** to access during a flood, **easy** to communicate to staff, and **easy** to remember.

Small businesses should make sure there is a plan of action in case of flooding. As the business owner, this may be your responsibility.

If your business is **medium sized**, flood preparation might be the responsibility of a team of people from different areas of the business.

If your business decides to have a flood planning team, this could be led by the business owner or Managing Director.

The leader of the flood planning team will need to let staff know about the plan once it is finished.

All members of the team should also keep a copy of important flood contacts at home for easy access.

Key areas to consider in your flood plan are:

- human resources;
- maintenance/facilities;
- finance and purchasing.

Once you have completed your plan don't forget about it. Look at it regularly and make sure it is up to date and in the event of a flood **use it**.

business flood plan

A written flood plan is recommended for businesses.

It should include:

- A list of important contacts, including Floodline, building services, suppliers and evacuation contacts for staff;
- A description or map showing locations of key property, protective materials and service shut-off points;
- Basic strategies for protecting property, preventing business disruption and assisting recovery;
- Checklists of procedures that can be quickly accessed by staff during a flood.

If a flood is imminent, your main priority is to make sure that your staff are safe. However there may be other actions that you can take to prepare your building and it's contents to minimise damage and post-flood repair and restoration costs.

Business flood plan

Flood plan for ______________________ dated ______________

Registered address ______________________

____

Postcode ______________________

Staff contact list

Name	Address	Telephone/mobile	Emergency contact	Emergency telephone and address

Note staff who may require assistance in the event of a flood.

Name	Office location

Key locations

Service cut-off	Description of location
Electricity	
Gas	
Water	

Answer the following if applicable

	Description of location	How to protect from a flood (for example, move, cover, tie down)
First Aid Kit		
Oil based products (gasoline, oil, cooking oil etc.)		
Chemicals (including cleaning products)		

Protective actions

Identify stock, equipment and possessions that may need special protective measures, and describe the actions you will take to prevent damage in the event of a flood. We have suggested items and ways to protect them, but make sure you follow through on your plans.

think about:

- Computers;
- Tables / heavy furniture;
- Vehicles;
- Paper files;
- Electrical items;
- Chairs / stools;
- Databases;
- Soft furnishings;
- Computer files;
- Staff files.

ways to protect items

- Make a copy of important documentation and store in safe location;
- Raise items above ground level;
- Buy flood protection products;
- Buy new flood-resistant items;
- Move items to a safer location if possible – to an upper level of the building or off site.

Valuable item	Protective action	New location (if applicable)	Done
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐

Suggested basic building materials to help protect your property

If materials are not needed, leave the relevant section blank

Materials	Used for	Items to protect / where to use	Storage location	Done
Sand and sand bags (unfilled), shovel	Creating flood barriers (used with plastic sheeting)			☐
Tools – hammer, nails, saw	Boarding up doors, windows and openings, creating shelves			☐
Wood – plywood, blocks of wood	Boarding up doors, windows and openings, creating shelves			☐
Sturdy plastic sheeting	Sandbag barriers, pulling up around furniture and appliances			☐
Strong plastic bags	Putting around legs of tables and chairs			☐
Pallets	Raising stored stock above flood level			☐
Emergency power generator	Maintaining function of air conditioning units (can help dry out a building), running fridges and freezers, medical equipment if appropriate			☐

Identify people who can help you before, during and after a flood, and what they can do.

We have suggested ways they might be able to help, but you'll need to discuss this with them.

Name	Address	Telephone day	Telephone evening	Mobile

Ways people can help

- assistance with installing flood products;
- assistance with transporting stock/materials to new location if possible;
- provision of emergency storage;
- provision of emergency supplies or medical support if required.

discussion guide

This discussion guide sums up the key areas of flood planning. Some of this information can be found in this pack to help get you started.

Research

- Look at your existing business policies, and think about whether they are appropriate in the event of a flood.

Staff

- Make a list of **employees' contact details in the event of an evacuation**. This might include mobile telephone numbers, or numbers for their home or the home of a friend or relative;
- Think about staff who **may need special assistance** in the event of a flood (for example, elderly, deaf, blind etc.)

Security procedures

- **Locking windows, doors** and **setting the alarm**. You might need more than one person to help do this;
- Insurance policies – **Are you insured for flood damage**, business interruption and lost revenue?
- Employee manuals – You might **add flood safety to staff information packs**, or adapt job descriptions to include flood warden duties;
- Hazardous materials plan – You must ensure that **chemicals, oils** and other **substances in your possession are kept safe** and do not contaminate flood water;
- Health and safety assessment – Plan to **check the functioning of flood products and flood warning systems regularly**, just as you do for fire safety equipment.

Check codes and regulations that might apply to your business in the event of a flood. The following could provide guidance on the right actions to take:

- Occupational health and safety regulations;
- Environmental regulations.

Important contacts

Make a list of important telephone numbers, including contacts for gas, electricity, water and telephone providers.

Key locations

- **Know the location** of cut-off points for gas, electricity and water. Ideally, these should be marked on a map that is stored with your flood plan;
- Know the location of chemicals, oils or other materials that could be dangerous or contaminate flood water. These should be stored safe from floods and other damage.

Protective actions

- Note key stock, equipment and possessions that may need special protection from flood water;
- Consider things you may need during or after a flood (for example, sandbags, plastic sheeting, loudspeaker);
- See if it's **possible to move key operations**, such as shipping or customer services, to another building.

Suppliers and external links

- Identify products and services you won't need in the event of a flood, or which suppliers may not be able to provide. **Make back-up plans** or arrangements for short-notice cancellation of deliveries;
- Consider contracting in advance with companies whose help you may need after a flood.

business checklist

Are you prepared for flooding?

If you answer no to any of the questions overleaf, there may be more you can do to protect your business.

The individual sections will give you valuable information on effective actions you can take to prepare for a flood.

If you can answer yes, please ☒, otherwise leave blank for no.

Know if you're at risk

- ☐ Do you know if you're at risk of flooding?
- ☐ Are flood warnings available in your area?
- ☐ Do you know how you can receive flood warnings?

Preparing a flood plan

- ☐ Do you know how your business will respond to a flood?
- ☐ Do you have a list of useful numbers including Floodline, local authority and insurance company?
- ☐ Do you know how to shut off your gas/electric/water supplies?
- ☐ Are your stock, fittings and valuable equipment stored above flood level?
- ☐ Have you developed flood contingency plans with suppliers and/or clients?
- ☐ Can you call someone to help you in the event of a flood?

Staff training and evacuation

- ☐ Are you aware of correct flood safety procedures for you and your staff?
- ☐ Have you trained your staff on flood safety procedures?
- ☐ Can your staff work quickly and efficiently to protect your business in the event of a flood?

Protecting your property

- ☐ Have you installed flood protection products?
- ☐ Do you have a stockpile of useful materials including plywood, plastic sheeting, sandbags (unfilled), sand, nails, hammer, shovel, blocks of wood and a saw?
- ☐ Have you installed non return valves in your toilets and drains?
- ☐ Do you and your staff have high ground where you can park your cars?
- ☐ Are your electrical sockets above flood level?
- ☐ Do you have computer equipment in the basement?

Flood insurance

- ☐ Do you have sufficient insurance cover in the event of a flood situation?
- ☐ Do you know what information your insurer will require to support a claim?

Evacuation

- ☐ Do you have an easy way to let your staff know about an evacuation?
- ☐ Do you know which roads will stay open in your area during a flood?
- ☐ Have you identified where staff can shelter in the event of a flood?
- ☐ Could you control staff panic during a flood?

understand your flood warning codes

Our warning service has three types of warnings - Flood Alert, Flood Warning and Severe Flood Warning - that will help you prepare for flooding and take necessary actions.

ONLINE FLOOD RISK FORECAST

What it means

Be aware.
Keep an eye on the weather situation.

When it's used

Forecasts of flooding on the Environment Agency website are updated a least once a day.

What to do

- Check weather conditions.
- Check for updated flood forecasts on our website.

FLOOD ALERT

What it means

Flooding is possible.
Be prepared.

When it's used

Two hours to two days in advance of flooding.

What to do

- Be prepared to act on your flood plan.
- Prepare a flood kit of essential items.
- Monitor local water levels and the flood forecast on our website.

FLOOD WARNING

What it means

Flooding is expected.
Immediate action required.

When it's used

Half an hour to one day in advance of flooding.

What to do

- Move staff, stock and valuables to a safe place.
- Turn off gas, electricity and water supplies if safe to do so.
- Put flood protection equipment in place.

SEVERE FLOOD WARNING

What it means

Severe flooding.
Danger to life.

When it's used

When flooding poses a significant risk to life.

What to do

- Stay in a safe place with means of escape.
- Be ready should you need to evacuate.
- Co-operate with the emergency services.
- Call 999 if you are in immediate danger.

WARNING NO LONGER IN FORCE

What it means

No further flooding is currently expected in you area.

When it's used

When river or sea conditions begin to return to normal.

What to do

- Be careful. Flood water may still be around for several days.
- If you've been flooded, ring your insurance company as soon as possible.

useful contacts

Fill in the contact details you may need if your business floods. Keep it in a safe place, where you can hold of it quickly.

	Company name	Telephone number/s
Environment Agency Floodline		0345 988 1188
Electricity supplier and meter number		
Gas supplier and meter number		
Water supplier and meter number		
Telephone provider		
Local authority emergency services		
Insurance company 24-hour number and policy number		
Insurance agent		
Local radio station for news alerts and weather updates		
Companies that may be able to help you after a flood		
Electrician		
Plumber		
Builder		
Equipment repair/suppliers		
Security services		
Water pumping services		
Emergency power suppliers		

Would you like to find out more about us, or about your environment?

Then call us on
08708 506 506* (Mon-Fri 8-6)

email
enquiries@environment-agency.gov.uk

or visit our website
www.gov.uk/environment-agency

incident hotline 0800 80 70 60 (24hrs)
floodline 0345 988 1188 (24hrs)

*** Weekday Daytime calls cost 8p plus up to 6p/min from BT Weekend Unlimited. Mobile and other providers' charges may vary.**

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