



Sandwell Council Flood Plan

In the event of activation turn to page 48.

For flood maps see Annex A



Item Record Table

Title	Sandwell Council Flood Plan		
Freedom of Information and Data Protection	FOI Lead Agency-Sandwell Council		
Author	Katie Rheeston, Sandwell Metropolitan Borough Council.		
Document Owner	Chief Executive		
Document Maintenance	A full review of this plan will be conducted every 3 years in close consultation with key stakeholders. In addition, contact details will be confirmed on an annual basis.		
Consulted	SMBC Highways Team, Environment Agency		
Approved by	Senior Leadership Team	Date: 08/12/2021	
Validation Date	Live Incident <input type="checkbox"/> TT Exercise <input type="checkbox"/> Live Exercise <input type="checkbox"/> Other <input type="checkbox"/> Validated by on		
Publication Date	08/12/2021	Review Date:	08/12/2024
Superseded Documents	Sandwell Flood Plan 2012 - 2015		

Authorisation

The Resilience Team (RT) is responsible for publishing plans within a hierarchy of similar publications. Readers wishing to quote these plans as reference material in other work should confirm with the RT whether the individual publication and amendment state remains authoritative.

Distribution

Distribution of plans is managed by the RT. Requests for issue of this publication, or amendments to its distribution should be referred to the RT. All other Sandwell Council emergency plans can also be obtained from the RT.

Distribution Method (inc. URL)	Date Uploaded
<i>Resilience Direct / Council Website etc</i>	

Amendments

The plan will be reviewed periodically, including following a flood event or relevant exercise, and amendments issued when appropriate

Date of Change	Description of Change	Version
<i>13/12/2011</i>	<i>Initial Plan Created</i>	<i>1</i>
<i>09/08/2021</i>	<i>Full Review</i>	<i>2.0</i>

Comments on factual accuracy or proposals for amendment are welcomed by the RT at emergency_planning@sandwell.gov.uk.

To ensure the integrity of this document, holders are requested to inform the Resilience Team, in writing, of any amendments to the information relating to their organisation or authority. All amendments should be addressed to the Resilience Team at the above address.

Contents

▪ Item Record Table.....	2
▪ Authorisation	3
▪ Distribution	3
▪ Amendments.....	3
▪ List of Tables.....	6
▪ List of Figures:	7
▪ List of Diagrams	7
Section 1 Plan Information.....	8
1.1 Introduction	8
1.2 Scope.....	8
1.3 Out of Scope.....	9
1.4 Purpose of the Flood Response Plan.....	9
1.5 Aim and Objectives	9
1.6 Strategic priorities of this plan	10
1.7 Ownership.....	10
1.8 Training and Exercising.....	10
1.9 Audience	10
1.10 Related and Interdependent Plans	11
Section 2 Flood Intelligence	12
2.1 Environment Agency Flood Warning Systems	12
2.2 Summary of local flood warning systems	13
Section 3 Sandwell Flood Risk.....	21
3.1 Risk Assessment	21
3.2 Types of flooding.....	21
3.3 Sandwell Study Area.....	24
3.4 Historic Analysis.....	25
3.5 Sandwell Preliminary Flood Risk Assessment (PFRA).....	30
3.6 River flood risk overview	30
3.7 Flood Zones	30
3.8 Vulnerable key infrastructure.....	31
3.9 Vulnerable People.....	33
3.10 Health consequences to consider	35
Section 4 Roles and Responsibilities	36
4.1 Mutual Aid	40

4.2	Voluntary Sector	40
4.3	Spontaneous Volunteers	40
4.4	Other Operational Response issues	41
Section 5 Activation / Triggers		42
5.1	Monitoring Stage:	42
5.2	Notification of flooding in Sandwell.....	42
5.3	Plan Activation	43
5.4	Plan Escalation	43
Section 6 Fluvial Flood Warning and Response		45
6.1	Sandwell council flood triggers and activation procedures	45
Section 7 Flood Response Checklists		48
7.1	DEPO Response Checklist	48
7.2	Highways Response Checklist	53
7.3	Building Control Response Checklist	55
7.4	Communication Team Control Response Checklist	57
Section 8 Evacuation and Sheltering		59
8.1	Evacuation	59
8.2	Evacuation Routes	59
8.3	Evacuation Transport	60
8.4	Rest Centres / Rest Centre Locations	60
8.5	Security	61
8.6	Health and Safety	61
Section 9 Communications and Media		62
9.1	Public Information – Key Messages	62
9.2	Key public messages before and during flooding	63
9.3	Key public messages after flooding.....	65
9.4	How to recover after a flood? - Information to the public	66
Section 10 Recovery.....		68
10.1	Short term recovery.....	68
10.2	Long term recovery	68
10.3	Council Recovery Checklist.....	68
Section 11 Climate Change.....		70

Appendix A	Flood Emergency Roles and Responsibilities	71
Appendix B	Health and Safety	77
Appendix C	Situation Report (SITREP) template	78
Appendix D	National Flood Definitions	79
Appendix E	Abbreviations	81
Appendix F	Glossary.....	82

List of Tables

• Table 1 - List of plans which can support the Sandwell Flood Plan.....	11
• Table 2 - Environment agency flood warning definitions	12
• Table 3 - Flood Alert / Warning Systems	13
• Table 4 - Environment Agency flood zone definition	13
• Table 5 - Met Office Colour code system.....	17
• Table 6 - Flood Risk Rating	21
• Table 7 - Historic flooding within Sandwell.	25
• Table 8 - Areas affected by June 2016 flood event.....	27
• Table 9 - Areas affected by 2020 flood event.	29
• Table 10 - Number of properties at risk of river flooding within Sandwell.	30
• Table 11 - Flood alert areas.	31
• Table 12 - Flood warning areas in Sandwell.....	31
• Table 13 - A List of vulnerable people to consider during a flood incident.....	33
• Table 14 - Direct and indirect health flood risks.	35
• Table 15 - Flood water and other hazards to consider.....	35
• Table 16 - Summary of roles and responsibilities for flood risk management.....	36
• Table 17 - Roles and Responsibility of responding agencies / bodies during minor/ moderate / major flooding events and recovery.	37
• Table 18 - Sandwell council flood triggers and activation procedures.....	45
• Table 19 - DEPO flood response checklist (Flooding Expected).....	48
• Table 20 - DEPO flood response checklist (Flooding Occurring)	51
• Table 21 - DEPO flood response checklist (Flooding Subsides/ Standown)	52
• Table 22 - Highways flood response checklist (Flooding Expected)	53
• Table 23 - Highways flood response checklist (Flooding Occurring).....	53
• Table 24 - Highways flood response checklist (Flooding Subsides/ Stand-down).....	54
• Table 25 – Building Control flood response checklist (Flooding Expected)	55
• Table 26 – Building Control flood response checklist (Flooding Occurring)	55
• Table 27 – Building Control flood response checklist (Flooding Subsides/ Stand-down).....	56
• Table 28 – Communication Team - flood response checklist (Flooding Expected)	57
• Table 29 – Communication Team - flood response checklist (Flooding Occurring).....	58
• Table 30 – Communication Team - flood response checklist (Flooding Subsides /standown)	58
• Table 31 - Key message to the public during preparedness, and during flooding.	63
• Table 32 - Key message to the public immediately after flooding event and during the recovery stage.....	65

- Table 33 - Flood recovery advice as suggested by the Government. 66
- Table 34 – Council Response – Flood warning no longer in place / recovery checklist.. 68

List of Figures:

- Figure 1 - Sandwell surface water hotspots..... 23
- Figure 2 - Topography of Sandwell..... 25
- Figure 3 - Cluster areas affected by surface flooding..... 28

List of Diagrams

- Diagram 1 - Flood notification flow diagram..... 44

Section 1 Plan Information

1.1 Introduction

Under the Civil Contingencies Act, 2004, Sandwell Metropolitan Borough Council (SMBC) is a Category 1 Responder organisation and as such intends to fulfil all its responsibilities under the Act in terms of preparedness for and responding to emergencies. The responsibilities include the need to assess the risk of an emergency and to maintain plans to deal with an emergency if one occurs or is likely to occur.

1.2 Scope

This plan provides a framework used by the Authority, to respond to flooding events. This plan therefore is not an attempt to detail everything relating to the Authority's response in one document. Additional plans written by Sandwell Council's Resilience Unit as well as other agencies support this plan, along with internal procedures for activating resources and staff.

SMBC has identified that fluvial (river) and pluvial (surface water) flooding poses significant risks to the areas within Sandwell's boundary, and this plan shows how the Council will respond to any warnings of potential flooding within Sandwell.

Flooding events caused by the storms in June 2016 and May 2018 have highlighted the vulnerability of Sandwell to surface water flooding, as all 6 wards were affected. Thus, this plan has been reviewed to reflect the lessons learned from such events, and incorporates the recommendations set by Defra and the Environment Agency (EA) in the 'Multi-Agency Flood Plan Review'.

The plan details the Council's command arrangements for flooding incidents and the responsibilities of various Council services during an incident. This plan does not act to replace existing plans produced by other partner agencies. This plan provides information about the various Flood Warning Areas within Sandwell district that can be used by all responder agencies.

It must be emphasised that the Council, like other local authorities, is not an 'emergency service' and the response to incidents will depend on the time of the incident, availability of staff and equipment, the nature of the incident and the dangers it poses. Sandwell Council's response will complement that of other agencies, such as the West Midlands Fire Service, and the EA, who will also implement their own response plans to flooding incidents.

This plan provides details of available resources and contacts to enable additional resources to be made available. These could include rest centres to accommodate evacuated residents, transport, help lines etc.

This plan acknowledges and recognising the impacts of climate change and associated extreme climatic events, land use and development.

1.3 Out of Scope

The plan does not cover the following:

- Local Flood Risk Management,
- Response to flooding from sewers, coasts, private lakes, reservoir dam failures,
- Business continuity planning, and;
- Flooding from water mains.

1.4 Purpose of the Flood Response Plan

The purpose of this plan is to act as a comprehensive reference document for those in the local authority who are involved in responding to a flooding events in Sandwell. This plan details the Flood Warning Areas within the Sandwell boundary and the arrangements within SMBC.

The plan will activate in response to:

- River (Fluvial) Flooding
- Surface Water (Pluvial) Flooding
- Groundwater Flooding

1.5 Aim and Objectives

The aim of the plan is to outline the Council's actions for responding to flooding emergencies within the boundary of Sandwell, ensuring that resources can be mobilised when required. Partner agencies will have roles to play in the response and will therefore have their own plans in place. This plan supports the wider multi agency response to flooding.

To achieve this aim, the document has the following objectives:

- To identify and describe the roles and responsibilities of the service areas and responding staff during a flood,
- Outline the Council's response to threats from fluvial (river) and pluvial (surface water) flooding, and provide guidance moving into the recovery phase,
- To identify local critical infrastructure assets, highlighting risks and establishing emergency contacts,
- Ensure that identified key community services remain available during and after flooding incidents,
- To liaise and engage with the local communities and vulnerable people,
- To reduce the risk to people and property to the best of the Council's abilities.

1.6 Strategic priorities of this plan

The strategic priorities identified in this plan are as followed:

- To save life;
- Minimise the damage to property;
- Protect the environment;
- Provide information through warning and informing;
- Provide an effective response and support other responders;
- Lead in the recovery phase of a flood related incident.

1.7 Ownership

SMBC Resilience Team is responsible for the production and publication of the Sandwell Flood Plan. It is the resilience officer's responsibility to update this plan, and to maintain version control.

Any suggested amendments must be notified to the Resilience Team at Sandwell Council House, Oldbury, B69 3DE. The plan will be reviewed on at least an annual basis, or after activation, whichever is the sooner. A full formal review will be carried out every three years.

This plan is produced in line with the requirements of the Multi-Agency Flood Plan (MAFP) guidance for Local Resilience Forums and will be maintained by SMBC.

1.8 Training and Exercising

Roles and responsibilities are predetermined, and all staff will be advised accordingly. These staff will receive appropriate training to fulfil their respective duties. Staff members should be confident with the following:

- The activation process;
- Roles and responsibilities of themselves and others;
- Escalation process in accordance with the Major Incident Response Plan; and
- The need to understand that some individuals may require extra support to follow instructions and understand the information provided.

1.9 Audience

This document is intended for tactical level decision makers within SMBC. This plan will be published on the council's internet page and will be available to the public. Annex A is a supporting document and will not be public facing document.

1.10 Related and Interdependent Plans

The Council's general response to emergencies is found in the **Emergency Plan**, which should be read in conjunction with this document. **Extreme Weather Plan** has also been produced, which compliments the arrangements already highlighted in this document.

The plan is primarily designed for events where there is a threat to life or property. Minor events such as a burst water mains are the responsibility of the water company (South Staffordshire Water / Seven Trent) with support from the Council. Burst water mains are not covered in this plan. Burst water mains are handled through normal service response arrangements.

This plan should be read in conjunction with the relevant plans of the emergency services, the local authority, the Environment Agency and any other additional organisation or agency, particular attention is drawn to:

Table 1 - List of plans which can support the Sandwell Flood Plan

Name of Plan	Owned By:
Internal	
Sandwell's Emergency Plan	SMBC
Sandwell Extreme Weather Plan	SMBC
Sandwell's Media Crisis Plan	SMBC
Sandwell's Recovery Plan	SMBC
Sandwell's HAC Plan	SMBC
Sandwell's Rest Centre Plan	SMBC
Sandwell Reservoir Plan	SMBC
Preliminary Flood Risk Assessment	SMBC
Adult Social Care Severe Cold Weather Plan	SMBC
External	
Environment Agency Local Flood Warning Plan for the West Midlands	Environment Agency
The Black Country Authorities Level 1 Strategic Flood Risk Assessment	The Black Country

Section 2 Flood Intelligence

Flooding is a frequent hazard that has the potential to cause harm to property, human health, and the environment. Incidents can also cause wider impacts to the economy and society, highlighting the importance of warning and informing.

This section explains the systems that exist to provide flood alerts and flood warning messages to the public.

Furthermore, this section highlights the different types of flooding that occurs within the boundaries of Sandwell which will then link into the next section – risk assessments.

2.1 Environment Agency Flood Warning Systems

EA warnings are issued as direct messages to the public, businesses and professional partners via telephone, mobile, email, SMS text message and / or fax. SMS texts are sent direct to the DEPO phonenumber.

Table 2 - Environment agency flood warning definitions

Flood Alert	Flooding is possible. Be prepared
Flood Warning	Flooding expected. Immediate action required
Severe Flood Warning	Severe flooding. Danger to life.
Warning no longer in force	No further flooding currently expected in area.

Warnings issued by the Environment Agency will identify:

1. The Alert Warning type (Flood Alert/Flood Warning/Severe Flood Warning).
2. The Flood Warning Area.

Checklists of the actions to be taken by Council Officers on receipt of EA Flood Alert or Flood Warning messages are shown in Section 7

When the River Tame / Stour begins to reach certain levels within the borough the Environment Agency will issue appropriate Flood Warnings, as shown in table 16.

2.2 Summary of local flood warning systems

This section describes how the flood warning / alert systems are used to provide information to those areas at risk within Sandwell.

Environment Agency:

The EA are the lead organisation for providing alerts and warnings (table 4). These warn of the risk of flooding from rivers, the sea and groundwater. These are sent to homes and business within Flood Zones 2 and 3. The definitions for each Flood Zone in table 22.

The Flood Alert / Warning systems applies to all river catchments within the boundaries of Sandwell. The major river catchments within this area include:

- River Tame
- River Stour

Table 3 - Flood Alert / Warning Systems

Flood Alert System (FAS)	Flood alerts inform the public to be prepared, flooding is possible.
Flooding Warning System (FWS)	A flood warning means you need to act: flooding is expected.

Those that sign up to these services will be alerted by phone, email or text when flooding is expected. Flood warnings and alerts are not available in all areas. The service only applies to areas previously identified as a risk by the EA. The service does not consider surface water, sewer or groundwater flooding or the impacts of canal or reservoir failure. They also do not consider climate change.

Table 4 - Environment Agency flood zone definition

Flood Zones	Definition
Flood Zone 1	Low probability: less than a 0.1% chance of river and sea flooding in any given year
Flood Zone 2	Medium probability: between a 1% and 0.1% chance of river flooding in any given year or 0.5% and 0.1% chance of sea flooding in any given year
Flood Zone 3a	High probability: greater or equal to a 1% chance of river flooding in any given year or greater than a 0.5% chance of sea flooding in any given year. Excludes Flood Zone 3b.

To report flooding in your area, or to contact your local Environment Agency Duty Officer, call the Incident Communication Service on 0845 850 3518.

To check the latest information for your area:

- Visit the GOV.UK website to see the current flood warnings, view river and sea levels or check the 5-day flood risk forecast:

<https://flood-warning-information.service.gov.uk/target-area/033WAF33>

- Or call Floodline on 0345 988 1188 using quickdial code: 208021.
- Follow @EnvAgency and #floodaware on Twitter

A Floodline Flood Pack is also available with the following fact sheets in:

- Flooding - Who can help?
- The Flood Warning Service - Know your Codes
- Preparing for a flood
- Make a family flood plan
- What to do if a flood happens
- Cleaning up after a flood

Flood line can also provide translations of many of the above into a range of languages and can provide information in Braille, large print and cassette format.

Met Office:

As the UK's official weather service, the Met Office is responsible for issuing weather warnings. These warnings are designed to let government, people, businesses, and emergency responders know what weather is in store, and what the possible impacts of that weather may be.

The Met Office operates a 24hrs a day so warnings can be issued at any time across the whole year.

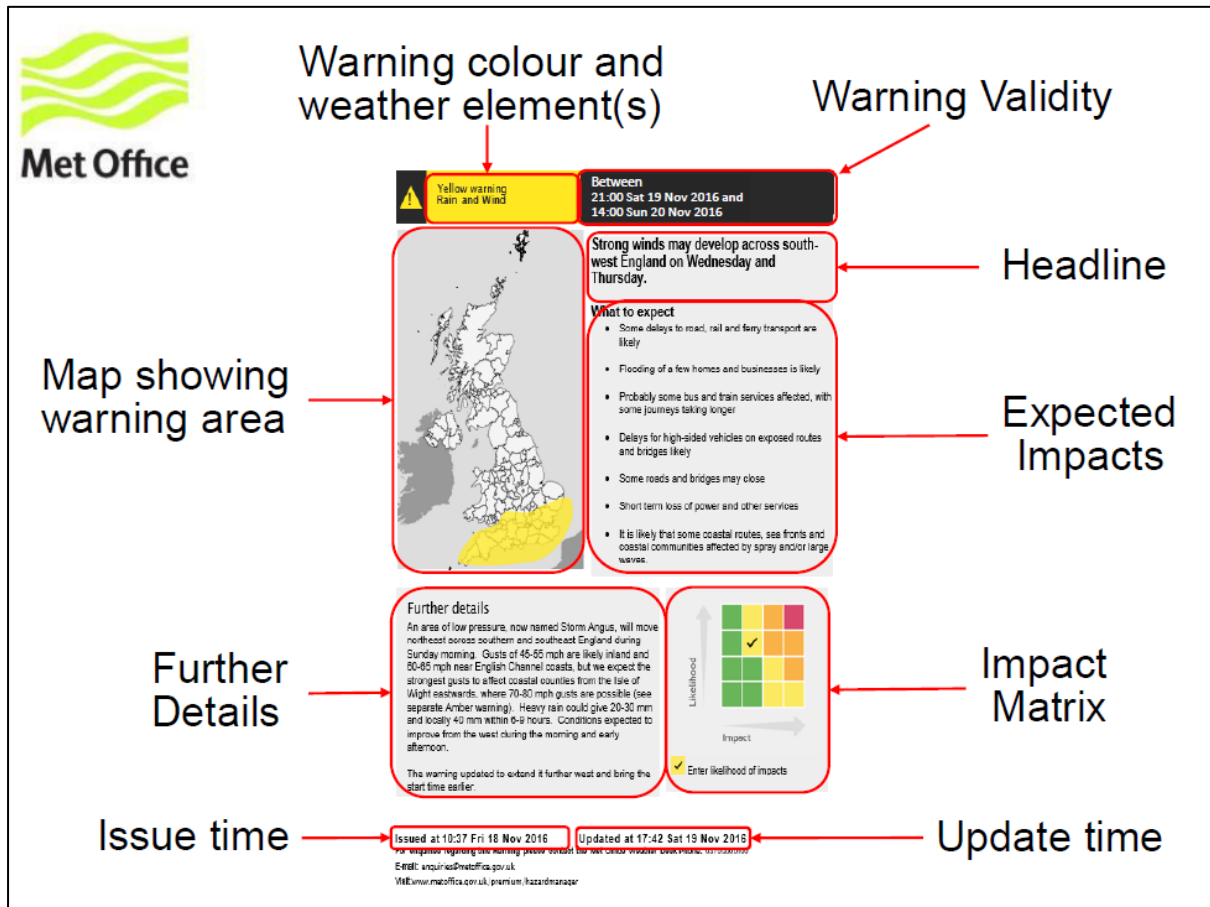
The Council has arrangements in place with the Met Office to receive these weather warnings on a 24hr basis. This service:

- Covers severe and extreme weather that could cause damage, destruction and risk to life and includes rain, thunderstorms, snow, wind, fog, ice and extreme heat.
- Provides informal emails which are sent out by the Met Office Public Weather Service Advisors to emergency planning colleagues to reassure and clarify standard warning messages.

Each warning will contain the following sections:


- **Headline** – a short weather headline, which states what weather type, is forecast
- **What to expect** – details on the types of impact forecast and an indication of how likely those impacts are
- **What should I do** – this section links to advice and guidance from our partners on how to stay safe in severe weather
- **Further details** – additional information on the forecast weather.

When applicable, warnings will include information on why a warning has been updated.



*The following slides are taken from the Met Office Emergency Responder Online Course.

Met Office Impact Matrix:



Impact Matrix


Likelihood and Impact are plotted onto a Weather Impact Matrix

Likelihood of impacts occurring

Likelihood	High				
	Medium				
	Low				
	Very low				
		Very low	Low	Medium	High
Impact					

Level of impacts Expected

Plotting the Likelihood against the Impact allocates the warning a colour. The location of the tick in the box is the important element NOT the colour!



Locate the tick!

It is very important that you look to see where the tick is on the matrix. Yellows are not all the same!

Likelihood	High		✓		
	Medium				
	Low				
	Very low				
		Very low	Low	Medium	High
Impact					

Low impacts – no major issues?

Likelihood	High				
	Medium				
	Low				
	Very low				✓
		Very low	Low	Medium	High
Impact					

High impacts – risk to life?

There are impact tables for All Severe Weather and each of the eight weather elements warned for.

	Very Low	Low	Medium	High
Impact and advice applying to ALL SEVERE WEATHER	On the whole, day to day activities not affected but some localised, small scale impacts occur A few transport routes affected.	Some short lived disruption to day to day routines in affected areas Incidents dealt with under 'business as usual' response by emergency services Some transport routes and travel services affected. Some journeys require longer travel times.	Injuries with danger to life Disruption to day to day routines and activities. Short-term strain on emergency responder organisations. Transport routes and travel services affected. Longer journey times expected. Some vehicles and passengers stranded. Disruption to some utilities and services. Damage to buildings and property.	Danger to life Prolonged disruption to day to day routines and activities Prolonged strain on emergency responders organisations. Transport routes and travel services affected for a prolonged period. Long travel delays. Vehicles and passengers stranded for long periods. Disruption to utilities and services for a prolonged period. Extensive damage to buildings and property.


What do the colours mean?

The Met Office issues weather warnings, through the National Severe Weather Warning Service, when severe weather has the potential to bring impacts to the UK. These warnings are given a colour (yellow, amber or red) depending on a combination of both the impact the weather may have and the likelihood of those impacts occurring.

Table 5 - Met Office Colour code system

Colour Code	Description of Met Office Colour code system
Yellow Warning	Yellow warnings can be issued for a range of weather situations. Many are issued when it is likely that the weather will cause some low level impacts, including some disruption to travel in a few places. Many people may be able to continue with their daily routine, but there will be some that will be directly impacted and so it is important to assess if you could be affected. Other yellow warnings are issued when the weather could bring much more severe impacts to the majority of people but the certainty of those impacts occurring is much lower. It is important to read the content of yellow warnings to determine which weather situation is being covered by the yellow warning.
Amber Warning	There is an increased likelihood of impacts from severe weather, which could potentially disrupt your plans. This means there is the possibility of travel delays, road and rail closures, power cuts and the potential risk to life and property. You should think about changing your plans and taking action to protect yourself and your property. You may want to consider the impact of the weather on your family

	and your community and whether there is anything you need to do ahead of the severe weather to minimise the impact.
Red Warning	Dangerous weather is expected and, if you haven't already done so, you should take action now to keep yourself and others safe from the impact of the severe weather. It is very likely that there will be a risk to life, with substantial disruption to travel, energy supplies and possibly widespread damage to property and infrastructure. You should avoid travelling, where possible, and follow the advice of the emergency services and local authorities.



Understanding Weather Warnings

Likelihood	High		✓		
	Medium		✓		
	Low				
	Very low				
		Very low	LOW	Medium	High
Impact					

Some short lived disruption to day to day routines

'Business as usual' response by emergency services

Some transport routes and travel services affected. Some journeys require longer travel times.

Likelihood	High			✓	
	Medium			✓	
	Low			✓	
	Very low			✓	
		Very low	Low	MEDIUM	High
Impact					

Injuries with danger to life and damage to buildings and property.

Disruption to day to day routines, activities and some utilities / services

Short-term strain on emergency responder organisations.

Transport routes and travel services affected. Longer journey times expected. Some vehicles and passengers stranded.

Likelihood	High				✓
	Medium				✓
	Low				✓
	Very low				✓
		Very low	Low	Medium	HIGH
Impact					

Danger to life and extensive damage to buildings and property.


Prolonged disruption to day to day routines, activities and utilities / services

Prolonged strain on emergency responders organisations.

Transport routes and travel services affected for a prolonged period. Long travel delays. Vehicles and passengers stranded for long periods.

- Warning where the tick on the matrix is in the Medium or High column are sent to registered users
- Forecasters are encouraging to issue warnings during normal working hours
- Warnings can be issued up to 7 days ahead
- Dual warnings can be issued with two weather elements (e.g. Wind and Rain or Snow and Ice)

Met Office – Trigger Plans:

 <h2 style="margin: 0;">Triggering Plans</h2> <p style="margin: 0;">Local emergency plans have a variety of triggers to decide on when a plan should be initiated.</p>		Actual or forecast impact	Response Considerations																																				
Response Level	Trigger																																						
No or Very Low Impacts	<ul style="list-style-type: none"> No NSWWS Warnings in force 	None / No Severe Weather	No specific response. Normal awareness of possible risk of severe weather events.																																				
Low Impacts	<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 8px; margin-right: 5px;">Likelihood</div> <table border="1" style="font-size: 8px; border-collapse: collapse;"> <tr><td>High</td><td style="background-color: #90ee90;"></td><td style="background-color: #90ee90;"></td><td style="background-color: #ffff00; text-align: center;">✓</td><td style="background-color: #ffa500;"></td><td style="background-color: #ff0000;"></td></tr> <tr><td>Medium</td><td style="background-color: #90ee90;"></td><td style="background-color: #90ee90;"></td><td style="background-color: #ffff00; text-align: center;">✓</td><td style="background-color: #ffa500;"></td><td style="background-color: #ff0000;"></td></tr> <tr><td>Low</td><td style="background-color: #90ee90;"></td><td style="background-color: #90ee90;"></td><td style="background-color: #ffff00;"></td><td style="background-color: #ffa500;"></td><td style="background-color: #ff0000;"></td></tr> <tr><td>Very Low</td><td style="background-color: #90ee90;"></td><td style="background-color: #90ee90;"></td><td style="background-color: #ffff00;"></td><td style="background-color: #ffa500;"></td><td style="background-color: #ff0000;"></td></tr> <tr><td colspan="6" style="text-align: center; font-weight: bold;">NSWWS</td></tr> <tr><td></td><td style="font-size: 6px;">Very Low</td><td style="font-size: 6px;">Low</td><td style="font-size: 6px;">Medium</td><td style="font-size: 6px;">High</td><td></td></tr> </table> <div style="margin-left: 10px;"> <ul style="list-style-type: none"> Low Impacts reported </div> </div>	High			✓			Medium			✓			Low						Very Low						NSWWS							Very Low	Low	Medium	High		Severe Weather is possible	<ul style="list-style-type: none"> Consider the need for holding an Adverse Weather teleconference. If impacts from the thunderstorm warning are mostly related to flooding and the FGS is coloured appropriately, the EA will consider calling and chairing a FAS teleconference. Some routine or preparatory responses may be underway. Heightened awareness of risk. Individual responders' severe weather plans and procedures may be activated. Informal multi-agency information exchanges may take place. Alert, Standby and Emergency Procedures may be initiated. Surrey County Council (SCC) Emergency Management and Resilience Team (EMRT) to liaise with the Met Office Advisor and to share information as appropriate. Highways England - may activate their severe weather desk to focus on the delivery of the winter service. These enable the Highways England service providers to effectively and proactively manage their response to the weather when there is a risk of disruption to the network.
High			✓																																				
Medium			✓																																				
Low																																							
Very Low																																							
NSWWS																																							
	Very Low	Low	Medium	High																																			
Medium Impacts	<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 8px; margin-right: 5px;">Likelihood</div> <table border="1" style="font-size: 8px; border-collapse: collapse;"> <tr><td>High</td><td style="background-color: #90ee90;"></td><td style="background-color: #ffff00;"></td><td style="background-color: #ffa500; text-align: center;">✓</td><td style="background-color: #ff0000;"></td></tr> <tr><td>Medium</td><td style="background-color: #90ee90;"></td><td style="background-color: #ffff00;"></td><td style="background-color: #ffa500; text-align: center;">✓</td><td style="background-color: #ff0000;"></td></tr> <tr><td>Low</td><td style="background-color: #90ee90;"></td><td style="background-color: #ffff00;"></td><td style="background-color: #ffa500;"></td><td style="background-color: #ff0000;"></td></tr> <tr><td>Very Low</td><td style="background-color: #90ee90;"></td><td style="background-color: #ffff00;"></td><td style="background-color: #ffa500;"></td><td style="background-color: #ff0000;"></td></tr> <tr><td colspan="5" style="text-align: center; font-weight: bold;">NSWWS</td></tr> <tr><td></td><td style="font-size: 6px;">Very Low</td><td style="font-size: 6px;">Low</td><td style="font-size: 6px;">Medium</td><td style="font-size: 6px;">High</td></tr> </table> <div style="margin-left: 10px;"> <ul style="list-style-type: none"> Medium Impacts reported </div> </div>	High			✓		Medium			✓		Low					Very Low					NSWWS						Very Low	Low	Medium	High	<p>Significant disruption to the community possible</p> <p>Significant risk to life possible</p>	<ul style="list-style-type: none"> SCC EMT to liaise with the Met Office Advisor and to share information as appropriate and consider teleconference. If impacts from the thunderstorm warning are mostly related to flooding and the FGS is coloured appropriately, the EA will call and chair a FAS teleconference. If the warning is for weather that could impact Surrey then SCC EMT initiates an Adverse Weather Teleconference. If the warning is for a neighbouring area then the LRF partners will maintain a watching brief. Individual responders' severe weather plans and procedures may be activated if relevant. Identify the requirement for a TCG. Identify the requirement for a SCG. Discuss and agree and media messages / updates. 						
High			✓																																				
Medium			✓																																				
Low																																							
Very Low																																							
NSWWS																																							
	Very Low	Low	Medium	High																																			

The Flood Forecasting Centre (FCC):

The Flood Forecasting Centre (FFC) is a partnership between the Environment Agency and the Met Office, combining our meteorology and hydrology expertise into a specialised hydrometeorology service. The centre forecasts for all natural forms of flooding - river, surface water, tidal/coastal and groundwater.

The Council is signed up to this service, and the DEPO receives a daily Flood Guidance Statement (FGS) which provides a five-day forecast indicating potential flood risks, at a county scale. Further updates are provided when there are medium and high risks. This provides information for Category 1 and 2 responders to help them with their emergency planning and resourcing decisions. It presents an overview of the flood risk for England and Wales across five days and identifies possible severe weather, which could cause flooding and significant disruption to normal life.

These flood risks are based on a likelihood and impact matrix (see appendix B) and are based on meteorological information and an understanding of the situation across river catchments and the coast. 'Best judgement' statements are as followed:

- An Extreme Rainfall Alert (ERA) Service: which forecasts rainfall that may lead to surface water flooding (an ERA will not necessarily trigger Amber on the FGS)

- Flood Advisory Service: the EA/MET Office are likely to initiate teleconferences with all partners when the Flood Guidance Statement is highlighted red amber to discuss potential/developing flood risk based on LRF boundaries.

Flood Warning Broadcasting

EA flood warnings will be broadcast by regular media bulletins on local radio and television. Where occupiers have signed up for the Environment Agency's service warnings will also be issued directly to people affected.

The methods used to communicate warnings in the Flood Warning Areas covered by this plan are:

- Social Media
- Flood Warning Direct
- BBC WM

Section 3 Sandwell Flood Risk

3.1 Risk Assessment

Risk is a product of the likelihood and impact of a given hazard or threat. The impact is dependent on the number of people and properties exposed to the hazard, and their respective vulnerability to harm. In Sandwell, the risks from flooding vary according to the source of the flooding, and the characteristics of the people and property in each area.

Details of risk, including critical national infrastructure, are contained in the Risk Registers at West Midlands Local Resilience Forum, and at local responder level.

National Risk Register

The National Risk Register (NRR) comprises of identified National Risks and the planning assumptions associated with them. Collectively, this information is used to inform proportionate risk and resource prioritisation, planning, response and recovery arrangements.

Community Risk Register

An assessment of the risk of flooding in West Midlands Conurbation can be found in the Community Risk Register 2015 (at Local Resilience Forum level) which is accessible via Resilience Direct.

The risk of flooding in the West Midlands is divided into 4 main categories under the Hazard category of Severe Weather, as shown in table 20.

Risk is assessed based on the likelihood and impact to give an overall Risk Rating. The risk assessment within the Community Risk Register gives a 'High' and 'Medium' Risk Rating outcomes.

Table 6 - Flood Risk Rating

Hazard Number	Hazard Title	Risk Rating
H21	Fluvial flooding affecting two or more regions	High
H22	Surface Water Flooding	High
HL18	Local/Urban flooding	High
HL19	Local fluvial flooding	Medium
HL20	Localised, extremely hazardous flash flooding	Medium

3.2 Types of flooding

Flooding is defined as the covering or submerging of normally dry land with large amounts of water. Sandwell has the following flood risks within its boundary:

- Fluvial flooding (river)
- Surface water flooding / Pluvial flooding (excess run-off)
- Groundwater flooding (high water table)
- Reservoir flooding / dam inundation
- Burst water mains (not covered in this plan)
- Sewerage flooding - Sewerage, rising mains and pumping station (not covered in this plan)

The command and control structure described in this plan will be used regardless of the type of flooding experienced.

Fluvial (river) Flooding

A watercourse is a flowing body of water including rivers, streams and brooks. During periods of heavy rainfall or snow melt, the capacity of the watercourse can be exceeded. This results in flooding to the land, infrastructure and homes.

The urban environments respond differently to excess rainfall than that of a rural environment. In the urban environment, rainwater falls onto predominantly hard surfaces which results in increased volumes of rapid surface run-off. Therefore, water enters the watercourse soon after a rainfall event, increasing peak flows, which can exceed the capacity of the channel leading to flooding.

As previously mentioned in the borough of Sandwell there are two rivers which pose a risk: River Tame and River Stour. These rivers may flood as a result from overtopping and/or breaching of flood defences through:

- Heavy rainfall and/or melting snow causing unusually high-water levels in rivers and their tributaries
- Flash flooding
- Dam/reservoir failure causing exceptionally high-water levels
- Any combination of the above.

Fluvial flooding can vary considerably in magnitude and duration. River levels may increase a substantial time after rainfall and last for days or weeks.

Annex A provides detailed maps showing the location of the main river system within the Sandwell catchment area. A detailed overview of the vulnerabilities and risks are also presented within **Annex A**.

Surface Water Flooding

Also known as ‘**pluvial flooding**’, surface water flooding occurs when the ground and/or drainage systems have insufficient capacity to deal with the heavy rainfall. Typically, this type of flooding is very localised and happens quickly. Flooding from surface water is

difficult to predict as rainfall location and volume are difficult to forecast. In addition, local features can greatly affect the chance and severity of flooding.

In urban areas with hard surfaces sudden and intense rainfall cannot soak away as it does in rural areas where the land is not covered. It is most likely to occur during intense rainfall and in times when a Yellow or Amber weather warning has been issued for rain. While a yellow warning of rain is not sufficient in itself to activate the plan, it is an early warning that, subject to actual conditions, activation may be required.

Surface water flood events can occur without warning, and this can be problematic for first responders if locations are not accessible.

Sandwell is a predominately urban area that is susceptible to surface water flooding, and whilst this is less predictable than river flooding, there are local 'hotspot' areas that have been identified. These hotspots are shown in the figure below.

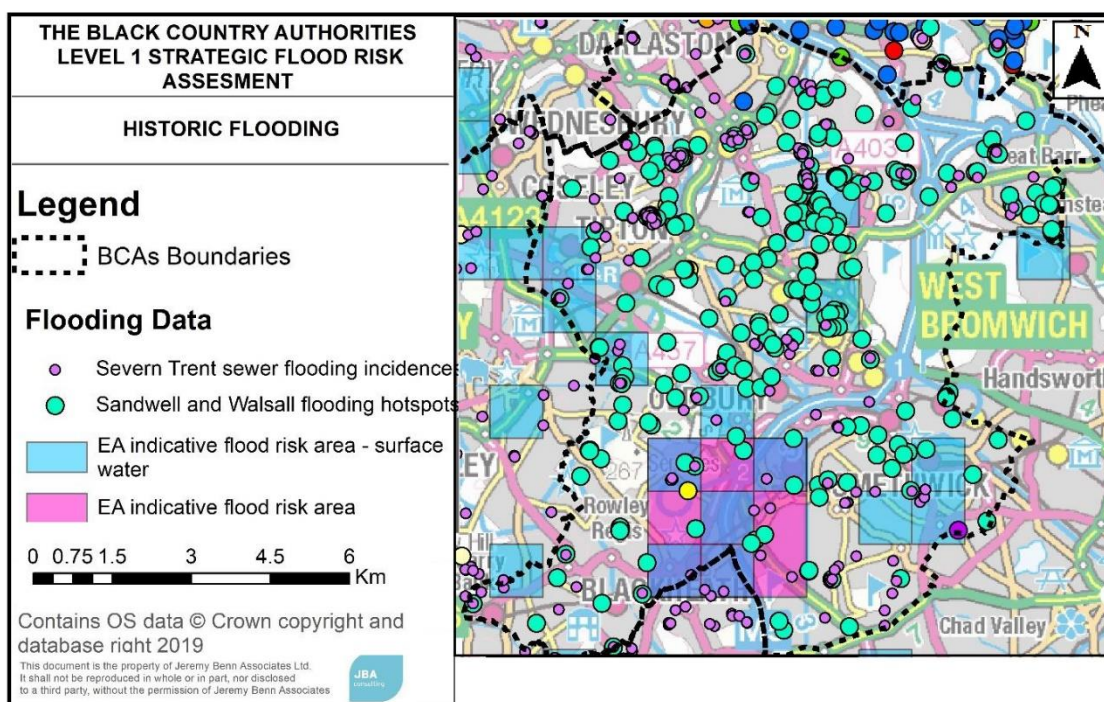


Figure 1 - Sandwell surface water hotspots.

Groundwater Flooding

Groundwater flooding occurs when the level of water underground (the 'water table') rises and water emerges above the natural surface. Groundwater flooding events occur after prolonged periods of heavy rain infiltrates into the ground, which lifts the water table above normal levels.

When properties suffer from groundwater flooding there is very little that can be done to prevent the water rising. It also takes longer as groundwater dissipates more slowly than surface water. In general groundwater flooding in Sandwell is relatively low risk, although high water tables have been experienced along the Sandwell/Walsall border.

Other Types of Flooding

As previously mentioned this plan does not cover reservoirs, flash flooding, burst water mains, or sewerage flooding. These are covered in separate plans, however can be used in conjunction with this plan.

3.3 Sandwell Study Area

The borough of Sandwell has an area of 86 km² which consists of 6 heavily urbanised towns: Oldbury, Rowley Regis, Smethwick, Tipton, Wednesbury and West Bromwich with a population of approximately 300,000.

The topography of the area is relatively flat as shown in figure 2, with a variation of approximately 200m from the highest point to the lowest point within the boundary. The most significant green space in the borough is Sandwell Valley Country Park, located in the north-eastern part of Sandwell.

Watercourses within the borough are predominantly culverted, with two significant exceptions to this; the River Tame which drains most of the borough, and the River Stour located in the south west. The borough is located in the upper reaches of these river systems, which eventually flow into the River Trent and River Severn respectively. There is an extensive canal network throughout the Sandwell area including culverts and feeder streams.

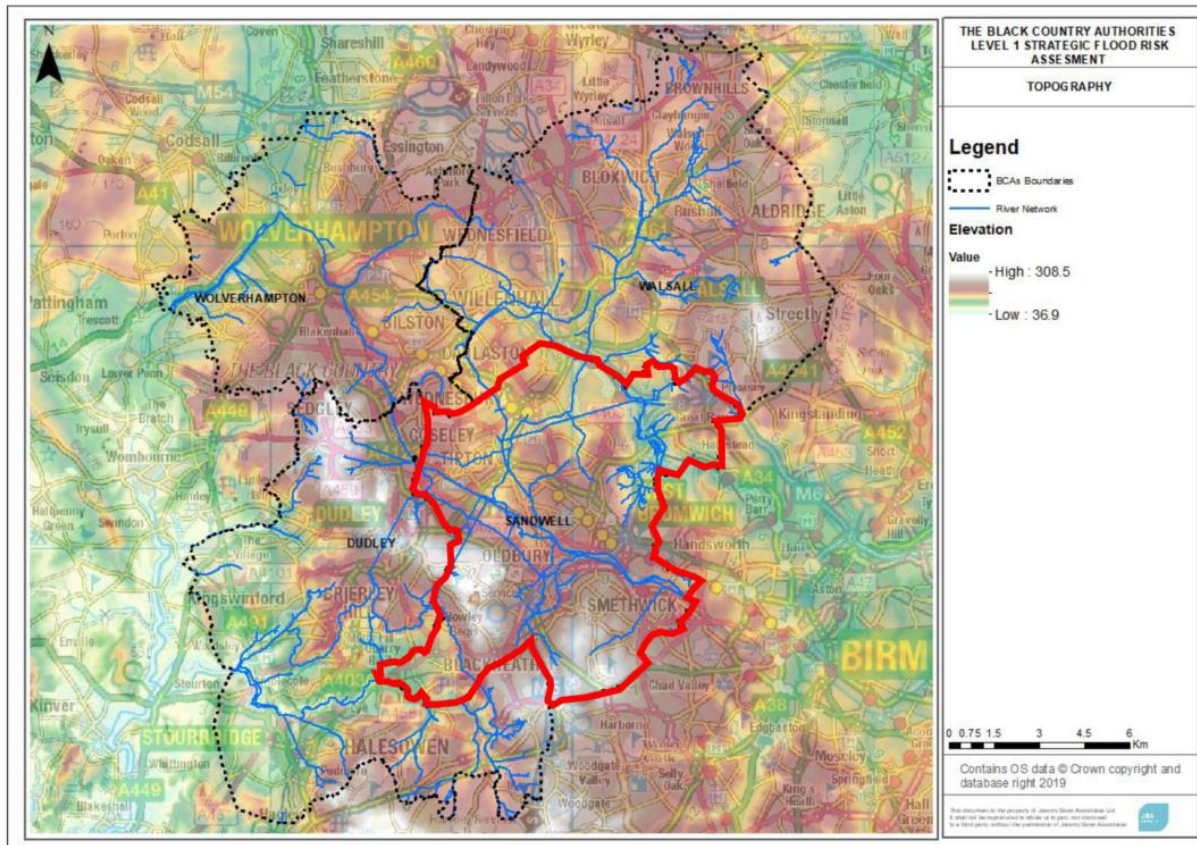


Figure 2 - Topography of the black country, Sandwell boundary is shown in red. Map produced by JBA counselling, and found in ‘The Black Country Authorities Level 1 Strategic Flood Risk Assessment’ document.

3.4 Historic Analysis

The main areas at risk from flooding are properties situated along the River Tame and River Stour and their tributaries. The below table provides a list of flooding events that have occurred within the Borough of Sandwell (not all flooding events have been recorded within this table)

Table 7 - Historic flooding within Sandwell. (These floods were recorded by Staffordshire County Council and Black Country Local Authority).

Area Affected	Cause of Flooding	Years of event
West Bromwich	A high intensity storm which resulted in excessive surface water runoff and sewer network capacity exceedance.	June 2016
Wednesbury	A high intensity storm which resulted in excessive surface water runoff and sewer network capacity exceedance.	June 2016
Rowley Regis	A high intensity storm which resulted in excessive surface water runoff and sewer network capacity exceedance.	June 2016
Smethwick	A high intensity storm which resulted in excessive surface water runoff and sewer network capacity exceedance.	June 2016

Oldbury	A high intensity storm which resulted in excessive surface water runoff and sewer network capacity exceedance.	June 2016
Tipton	A high intensity storm which resulted in excessive surface water runoff and sewer network capacity exceedance.	June 2016
Biddleston Grove, Brakendale Drive and Spruce Road, Yew Tree	Blockage of grid at upstream end of culverted watercourse	Unknown
Monksfield Avenue, Grove Vale	Overtopping of Red House Park pool/possible blockage of outfall grid	Unknown
Spouthouse Lane, Hamstead	Flooding from the Gorse Farm Woods as overland flow. A culvert blockage also occurred.	Unknown
Chatsworth Road, West Bromwich	Overland surface water flows from higher land and groundwater flows.	Unknown
Beaconsfield Street, West Bromwich	Blockage of grid	Unknown
Rosefield Road and Watery Lane, Smethwick	Flooding from surcharging manholes along culverted watercourse / surface water sewers	Unknown
Smethwick	Highway flooding and entering factory in Rabone Lane.	Unknown
Brook Road, Titford	Flooding from Brandhall Brook.	Unknown
Penn cricket Lane, Titford	Backing up of flows at culvert entrance.	Unknown

Flood Events of June 2016:

During June 2016, all 6 Wards of Sandwell were affected by surface water flooding. It was recorded that homes suffered incidents of internal property and external property flooding, and highways flooding also occurred.

On Wednesday 8th June 2016, Sandwell was affected by sporadic thunderstorms accompanied by intense rainfall, leading to flooding of a number of local areas and communities. Further storms on Tuesday 14th June 2016, gave rise to similar but less extensive flooding incidents. Storms which formed over Sandwell were locally intense and highly spatially variable.

During intense localised rain storms, the amount of rain falling can often vary significantly at a local level and so depending on how far a location is from the nearest rain gauge, this data should be treated with caution.

Following the flood events, 218 properties were reported with internal flooding (shown in table 8) with 136 reported near misses where external flooding occurred outside the property or along the highway. This is shown within the figure 3. The worst area affected was West Bromwich town area.

Table 8 - Areas affected by June 2016 flood event.

Towns	Wards	No. of Internal Flooding Incidents	No. of External Flooding Incidents	Approximate Return Period (from 8th – 10th June 2016)*
West Bromwich	Hateley Heath	71	17	66
	Charlemont with Grove Vale	18	7	46
	Great Barr with Yew Tree	2	3	46
	Newton	12	5	46
	West Bromwich Central	17	3	-
	Greets Green & Lyng	13	9	-
Wednesbury	Friar Park	6	13	46
	Wednesbury North	4	3	66
	Wednesbury South	10	13	66
Rowley Regis	Rowley	6	3	19
	Tivdale	3	10	19
	Blackheath	2	1	19
	Cradley Heath & Old Hill	5	2	19
Smethwick	St. Pauls	16	4	81
	Smethwick	1	5	81
	Soho & Victoria	2	2	81
	Abbey	1	-	19
Oldbury	Oldbury	5	11	-
	Langley	-	3	19
	Bristnall	-	4	19
	Old Warley	3	4	-
Tipton	Tipton Green	1	1	66
	Great Bridge	12	12	-
	Princes End	8	3	66

*Based on nearest point location using remotely sense data in the report, 'Environment Agency June 2016 Rainfall Assessment: West Midlands' on 23rd September 2016 in which they have estimated the event likelihood expressed as a return period.

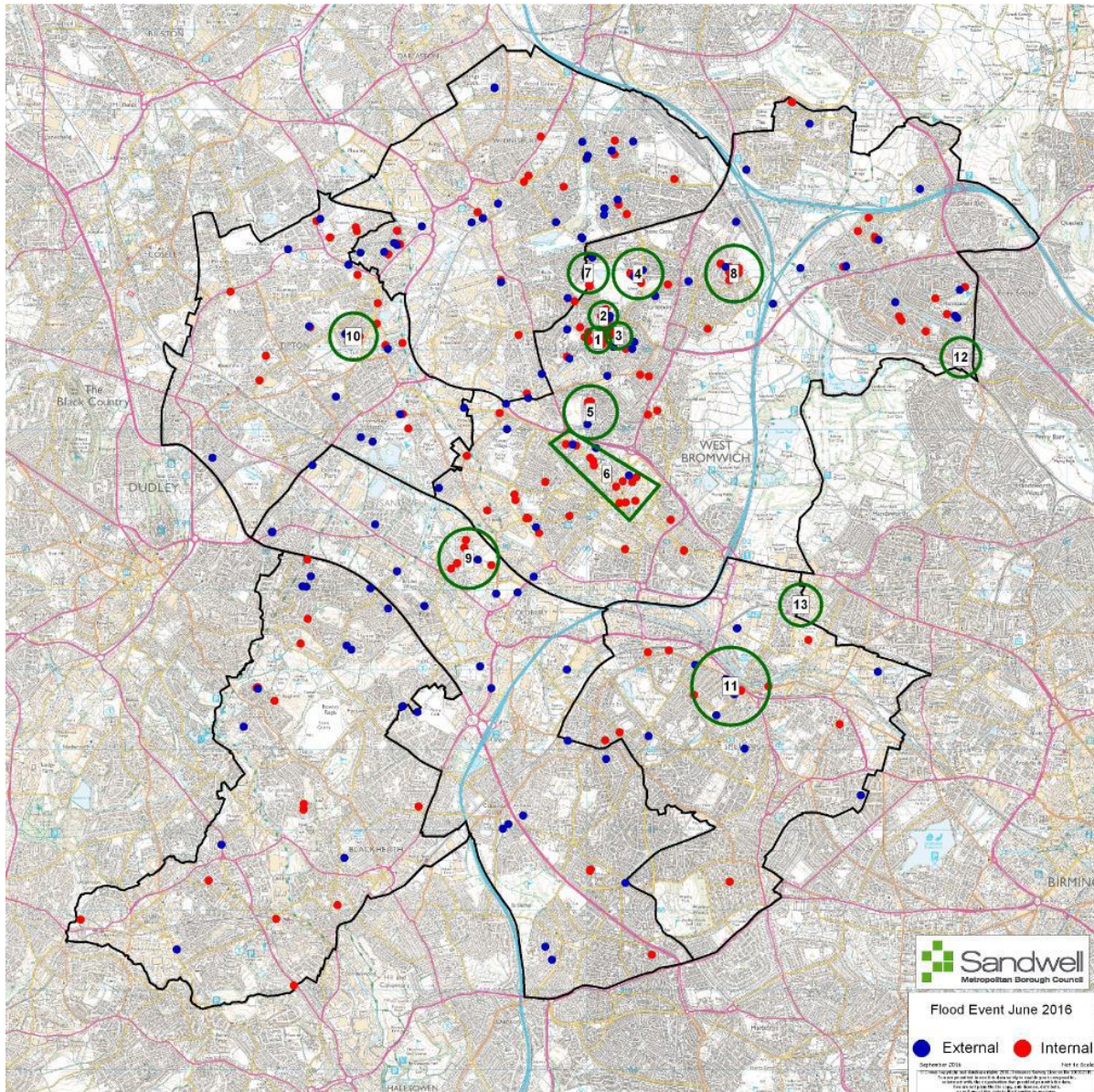


Figure 3 - Cluster areas affected by flooding. The blue locations indicate external highway flooding and the red locations indicate internal property flooding.

Cluster Areas identified:

- Cluster 1 - Cardigan Close / Wiltshire Way, Hateley Heath
- Cluster 2 - Kesteven Road / Lindsey Road, Hateley Heath
- Cluster 3 - Worcester Green / Radnor Green, Hateley Heath
- Cluster 4 - Canterbury Road, Hateley Heath
- Cluster 5 - Clive Street, Hateley Heath
- Cluster 6 - West Bromwich High Street / New Square / Carters Green, West Bromwich Central
- Cluster 7 - Rydding Lane / Allerton Lane, Hateley Heath
- Cluster 8 - Smithmoor Crescent / Whittington Close / Charlemont & Grove Vale, West Bromwich
- Cluster 9 - Union Road / Roway Lane, Oldbury
- Cluster 10 - Walker Street / Bridge Street, Great Bridge
- Cluster 11 - High Street, Smethwick
- Cluster 12 - Hamstead Road, Newton
- Cluster 13 - Middlemore Road, St Pauls

Table 9 - Areas affected by 2020 flood event.

Location	Event	Properties Reported Int/Ext Flooding	Did water enter the property?
Oxford Road, Mesty Croft	June 16th	1	Yes
Whittington Close	June 16th	1	Yes
Wyntor Lane West Brom	June 16th	1	Yes
Christopher Close, West Brom	June 16th	1	No
Bull Lane	June 16th	2	Yes
Crankhall Lane Wednesbury	June 16th	1	Yes
Warley Woods Flows	June 16th		No
Warren Close	June 16th	1	Yes
Burntree Rd, Coneygree Tipton DY4 8XP (Commercial)	August 12th	2	Yes – Commercial Properties
Pennicricket Lane	August 12th	1	Yes
Charlotte Close	August 12th	2	No
Walker Street	August 12th	5	Yes
Beauty Bank	August 12th	1	No
Packwood Road	August 12th	4	Yes
Castle Road	August 12th	1	No
Alexandra Road	August 12th	1	Yes
High Street Princess End - Tipton	August 12th	3	Yes + Strategic Highway Blocked + Commercial Properties
Belmont Road Tipton	August 12th	1	Yes
Haypits Close Sandwell	August 12th	1	Yes
Ramsey Close Sandwell	August 12th	1	Yes

3.5 Sandwell Preliminary Flood Risk Assessment (PFRA)

The Preliminary Flood Risk Assessment (PFRA) is completed in conjunction with the following black county local Authorities: Wolverhampton, Dudley Metropolitan Borough Council, and Walsall Metropolitan Borough Council. This assessment has identified several sites within the Sandwell boundary that are at risk of flooding.

3.6 River flood risk overview

Below is a list of the properties at risk within each flood warning area (maps available within [Annex A](#))

Table 10 - Number of properties at risk of river flooding within Sandwell.

Area	Number of Properties
River Tame at Horseley Heath and Great Bridge	567
River Tame at Golds Hill	21
River Tame at Holloway Bank	100
River Tame at Wednesbury	189
River Tame at Bescot	3
River Tame at Rayhall Waterworks	242
River Tame at Sandwell Valley	2
Total Properties at risk:	1124

Method:

The Environment Agency has identified flood risk areas within Sandwell (floodplain and surface water mapping).

Where it is technically possible the Environment Agency offers a Flood Warning Service to areas at risk from river flooding.

3.7 Flood Zones

There are currently 2 Flood Alert Areas (FAA) and 7 Flood Warning Areas (FWAs) covering Sandwell. A list of the Flood Alert and Flood Warning Areas is available in table 27 and 28.

Table 11 - Flood alert areas.

Flood Alert Code	Flood Alert Name	Watercourse/s	Coverage
033WAF330	River Stour	River Stour,	
33WAF303	Upper Tame	River Tame, Ford Brook	Low-lying land and roads between Horseley Heath and Castle Vale on the River Tame

Table 12 - Flood warning areas in Sandwell

Code	Flood Warning Area Name	Public QD Code
033FWF3TAME001	River Tame at Horseley Heath and Great Bridge	05212111
033FWF3TAME002	River Tame at Golds Hill	05212112
033FWF3TAME003	River Tame at Holloway Bank	05212113
033FWF3TAME004	River Tame at Wednesbury	05212114
033FWF3TAME005	River Tame at Bescot	05212115
033FWF3TAME006	River Tame at Ray Hall Water works	05212121
033FWF3TAME007	River Tame at Sandwell Valley	05212122
033FWF3TAME008	River Tame at Hamstead	05212131
033FWF3TAME009	River Tame at Perry Barr	05212132
033FWF3TAME0010	River Tame at Witton and Salford Park	05212141
033FWF3TAME0011	River Tame at Gravelly Hill	05212142
033FWF3TAME0012	River Tame at Castle Vale	05212143

3.8 Vulnerable key infrastructure

If any identified key infrastructure is at risk of flooding, the Resilience Team or DEPO should be notified immediately, to escalate Incident Management Team or the Local Resilience Forum (LRF) as appropriate.

Potential sites for consideration include, but not limited to:

- Sandwell and West Birmingham NHS Trust sites
- Sites storing hazardous materials;
- Police / fire stations;
- Telephone Exchanges;
- Utilities
- Ambulance holding areas;
- Care homes;
- Strategic road / rail links;
- Tram lines;
- Specific SMBC critical infrastructure

If a site is identified as being at risk, the following points will need to be considered and actions to be taken will need to be discussed with all relevant partners:

1. What is the effect if the site floods?
2. Can anything be done to mitigate this effect?
3. Are resources available to support?
4. Is an evacuation required, where will we evacuate to?
5. How will we staff any humanitarian assistance?
6. Do we need to provide transportation, if so how will we do this?
7. What transportation routes will we use?
8. What media messages will we need to put out?
9. What are the potential health implications of the flood waters?
10. What will be the recovery effort look like?

If a tactical response requires a Strategic decision regarding prioritisation, then the Resilience Team (or DEPO out of hours) will inform the Duty Director, or in his absence the Chief Executive. Should a multi-agency response be required, the Tactical Co-ordinating Group (TCG) will request that a Strategic Co-ordinating Group is Activated.

In the event that Strategic direction is required, the following information will need to be passed on using the Situation Report (SitRep) template in '**Appendix C**'.

The following questions will need to be considered, to assist Strategic in making the prioritisation decisions:

1. What is the effect if not protecting the site?
2. Which organisation(s) is/are affected?
3. What are the options for prioritisation?
4. What will the effects of the strategies be?
5. Can other organisations, including voluntary organisations, assist?
6. Is mutual aid required?

See **Annex A** for a list of vulnerable facilities and vulnerable key infrastructure that are at risk of river flooding.

3.9 Vulnerable People

Due to the nature of the changing environment during a flooding event, the status of any person's vulnerability can change e.g. those in locations that are not accessible due to flooding may not be vulnerable initially, but over time their needs e.g. for food/ medication etc may make them vulnerable.

The Council will be particularly concerned to protect the vulnerable and will work with other agencies and organisations to achieve this. The EA's Floodline Warnings Direct contains the addresses of properties in flood risk areas. Additional information about vulnerable people within those areas may be available from various responder agencies. Sandwell Councils Adult Social Care Services will have a data base of vulnerable persons.

Whilst this should not be seen as definitive guidance, the following individuals / community should be considered in the response to a flooding emergency as they may require specific additional support.

There are several organisations within the borough of Sandwell, and the West Midlands Conurbation that retain information on those that are potentially vulnerable:

Sandwell Council	24 hours Community Alarms, Adult Social Care, Housing, Children Services. Safeguarding
Health	GP's, Pharmacists, Sandwell Hospital
Utility Companies	South Staffs Water, Western Power Distribution, Cadent Gas, individual utility suppliers

If responders request this information to protect the health and wellbeing of individuals, then this should be authorised first.

Table 13 - A List of vulnerable people to consider during a flood incident.

Potentially Vulnerable Individual /Groups	Examples and Notes	Target via the following
Children	Whilst children are at school, it is the school who have duty of care responsibilities (children under the age of 5 are extremely vulnerable)	<ul style="list-style-type: none"> - Schools through Local Authorities and through their Governing body or proprietor - Creches/playgroups/nurseries
Older people	Some elderly people require regular medication and/or medical equipment, especially those who are ill.	<ul style="list-style-type: none"> - Nursing homes - Adult social care - Residential care home
Mental/ Cognitive	Development disabilities; clinical psychiatric needs' learning disabilities.	<ul style="list-style-type: none"> - Residential care homes - Charities

function impaired		<ul style="list-style-type: none"> - NHS providers - Local Authorities
Mobility impaired	Wheelchair users; leg injuries (e.g. crutches); bedridden/non-movers; slow movers; bariatric patients.	<ul style="list-style-type: none"> - Residential care homes - Charities - NHS providers - Local Authorities
Temporarily or permanently ill	There are people with chronic illness that need to be considered. They may be exacerbated or destabilised in the event of evacuation. There is a possibility of vital medication / equipment is left behind in an evacuation.	<ul style="list-style-type: none"> - NHS providers - GP surgeries - Other health providers - Community health teams.
Sensory impaired	Blind or reduced sight; deaf; speech and other communication impaired.	<ul style="list-style-type: none"> - Charities - Local Groups
Individuals supported by health or Local Authorities	those that require additional support, particularly during an evacuation and/or when recovering from flooding.	<ul style="list-style-type: none"> - Adult social services - Children's social services - GP surgeries
Individuals cared for by relatives	May require additional support, particularly during an evacuation and/or when recovering from flooding.	<ul style="list-style-type: none"> - GP Surgeries - Carers Groups
Pregnant women	May require additional support, particularly during an evacuation and/or when recovering from flooding.	<ul style="list-style-type: none"> - GP Surgeries
Homeless	A small group within Sandwell, early engagement with these individuals during severe weather is key.	<ul style="list-style-type: none"> - Shelters - Soup Kitchens
Minority language speakers	May require additional support, particularly during an evacuation and/or when recovering from flooding.	<ul style="list-style-type: none"> - Community Groups - Job Centre Plus
Tourists and Commuters	May require additional support, particularly if they are unable to leave the area. Additional support with shelter, basic toiletries and access to food may be required.	<ul style="list-style-type: none"> - Transport and travel companies - Hoteliers

*The location of vulnerable communities, including; schools, sheltered accommodation, nursing homes etc. has been identified in **Annex A**.*

3.10 Health consequences to consider

The impacts of flooding on health are extensive and significant, ranging from death from drowning and injuries from accident, to infectious diseases and mental health problems as shown in table 14. Accidents happen in fast flowing floodwater, walking or even driving through floodwater is risky. The other main health hazard in floods come from the stress and strain of the event and clean-up, which can cause long term mental health impacts.

Another thing to consider is that during flooding, sewage systems may become inundated by floodwater. As a result, the flood water could be contaminated by disease producing bacteria and viruses. However, looking at statistics infection problems arising from floods in the UK are rare. Should raw sewerage enter flood water, the diluting and dispersing of potential sources of infection, further significantly reduces any risk

Table 14 - Direct and indirect health flood risks.

Direct	Indirect
Drowning	Effects on mental health
Physical trauma from concealed or displaced objects	Carbon monoxide poisoning from equipment used for drying properties
Water shortage and contamination due to loss of water treatment works	Illness associated with disruption and reduced access to healthcare
Chemical contamination of flood water	Disruption to livelihoods and income
Heart attacks	
Electrocution	
Infectious disease from contaminated flood water	
Vector and rodent borne diseases	

Table 15 - Flood water and other hazards to consider

Flood water and other hazards	Individual factors	Damage to property and infrastructure
Fast flowing water. Water of unknown depth. Hidden hazards in flood water (debris, etc) Flood water contamination. Fallen power lines. Fallen trees. Exposure to electrical hazards.	Driving through flood water. Walking through flood water. Walking on defences Driving over bridges when water levels are high. Driving through fjords when water levels are high. Fallen trees. Exposure to electrical hazards.	Damage to homes. Damage to infrastructure Population displacement Lack of access to health services. Disrupted food and water supplies. Fallen trees. Exposure to electrical hazards.

Section 4 Roles and Responsibilities

Every flood incident is different and is the consequence of a unique set of events. With this in mind, it is imperative to note that this plan offers generic guidance only, and does not replace common sense and professional assessment.

Dealing successfully with a flood incident requires input and coordination from a number of internal council services, and external partner agencies. For such cooperation and collaboration to happen in practice, all responders are required to have a common understanding of each other's roles and responsibilities. All responders are also expected to follow the Joint Emergency Services Interoperability Programme (JESIP).

The following section covers the roles and responsibilities of those Officer involved specifically with flooding emergencies. Only Officers that are allocated specific roles or have specific skills and expertise in relation to a flooding emergency are covered in the following section.

The following table provides information on the Roles and Responsibilities for Flood Risk Management in Sandwell. Table 17 is intended to provide a summary only of respective roles in Flood Risk Management.

Land and property owners have a responsibility to keep watercourses flowing where they either own land or property next to a watercourse as Riparian Owners and in taking action to protect their own properties. This is not a legal responsibility for Risk Management Authorities, unless they are the landowner.

Table 16 - Summary of roles and responsibilities for flood risk management

Organisation	Operational role
Environment Agency (Midlands Region)	Main Rivers e.g. Severn, Trent Reservoirs (regulation role) Flood warning and forecasting
Lead Local Flood Authority (Sandwell Metropolitan Borough Council)	Surface Water Ground Water Ordinary Watercourses
Water Companies (Severn Trent Water)	Public Sewers
Highways Authority (Sandwell Metropolitan Borough Council)	Highway Drainage
Highways, Operations and Emergency Callout Team and the Resilience Unit (Sandwell Metropolitan Borough Council)	Emergency Planning Co-ordinate with Sandwell Emergency Services and Emergency Responders

Table 17 - Roles and Responsibility of responding agencies / bodies during minor/ moderate / major flooding events and recovery.

ROLES AND RESPONSIBILITIES						
Organisation	Risk	Pre - Planning	Emergency Response			Recovery
			Minor Flood (Medium Consequence)	Major Flood (High Consequence)	Notes	
Sandwell Council	Fluvial Flooding / Surface water flooding	<p>Local authority are classified as Category 1 responders under the Civil Contingencies Act 2004 and are therefore have a statutory duty to assess, plan and advise.</p> <ul style="list-style-type: none"> - Up to date vulnerable persons and sites shared database arrangements - Pre-determined rest receptions and media centres - Pre-determined key transport routes. - Pre-arranged communication strategy- what should the public do / where should they go - Pre-arranged help line and trained - Update information of website - Review council properties at risk - Incorporate risks into Business Continuity planning process 	<ul style="list-style-type: none"> - Activation of Emergency Centre and Strategic Group and advise leader. - Representation at Silver Control and Strategic Co-ordinating group as necessary - Cooperation with EA and emergency services to coordinate the response. - Liaison with utilities and transport companies especially water companies to ensure provision of clean drinking water to residents - Advice on clearance of blocked water courses and mitigation measures. - Provision and staffing of rest centres and associated services. 	<p>In major flooding situations, local authorities must provide an immediate response in order to advise and assist affected people, businesses and protect the environment. The precise nature of the response will depend on the magnitude of the incident, available resources and local arrangements.</p> <ul style="list-style-type: none"> - Information helpline for the public - In conjunction with other responders provide information to the public - Activation of council business continuity plans as appropriate - Continue to liaison with transport and utility companies. - Ensure there is clean drinking water for the residents. - Provision and staffing of rest centres and associated services. 	<p>It is important to mention that during a major incident, staff may be diverted to other duties outside duties, to help the councils response during the incident.</p>	<p>Sandwell Council will have a lead responsibility in any post incident recovery operations.</p> <p>It is important that key data is maintained, and relevant information that can help assist debrief recovery and any inquiries is recorded.</p>
Environment Agency	Fluvial Flooding Surface water flooding	<p>The Environment Agency has responsibilities for environmental protection in England and Wales and as such plays an important role in planning for a and responding</p> <ul style="list-style-type: none"> - Prepare an maintain Sandwell flood warning and alerts - Advise on development proposals, updating flood risk maps and support the West Midlands Local Resilience Forum. - Maintain flood management structures - Maintain watercourse capacity 	<ul style="list-style-type: none"> - Issue warnings / sending flood alerts - Monitor catchment - Support Local Authority and emergency services - Provide information that can support the TCG and SCG. 	[Same as minor flooding]		<p>The EA will help support the local authority and community where resources allow, and repair any defences that may have been damaged.</p> <p>The EA will ensure that key information is maintained and recorded that may assist with debrief or any inquiries.</p>
Met office	Surface water	<p>The Met Office is responsible for issuing severe weather warnings to the emergency response community and the broadcast media so that they can take appropriate action and alert the public. They also supply</p>	<ul style="list-style-type: none"> - Monitor Catchment - Supply information to the environment agency - Supply information to the local authority 	<ul style="list-style-type: none"> - Monitor Catchment - Supply information to the environment agency <p>Supply information to the local authority</p>		

		information to the Environment Agency about likely catchment conditions to assist the EA in assessing the threat of flooding.				
West Midlands Fire Service	Fluvial Flooding / Surface water flooding	<ul style="list-style-type: none"> - Standard operational response to a special service - Maintain business continuity plans - Mutual aid agreements between bordering conurbations. - West Midlands Fire Service holds copies of EA flood maps. - Participate in regular flood exercises with other agencies. - Arrangements for pre-mobilising resources in place. 	<p>Fire services are responsible for saving life in conjunction with the other emergency services and have expertise and access to rescue equipment that may assist in a variety of flooding incidents. They also have pumping equipment although in some circumstances may charge for pumping out operations. Depending on the size of the flooding, depends on the amount of equipment needed. This plan does not act to replace their responding procedures.</p> <ul style="list-style-type: none"> - Liaise with other agencies and priorities response and resources. - Provide assistance with pumping water. - Provide representative to TCG and SCG - Deploy water rescue teams to areas affected. 	<ul style="list-style-type: none"> - Follow major incident response procedures - Assist with evacuation in the event of wide scale flooding. - Attend SCG and TCG's and provide liaison officers to other control rooms as appropriate. - Deploy water rescue teams to areas affected. - Provide assistance with pumping water. - Life saving through search and rescue - Fire fighting and fire prevention - Salvage, damage control, and environmental protection - Provision of specialist equipment 		<p>Assist with other agencies to minimise impact on community.</p> <p>Ensure that key data is maintained and relevant data entered into SWIMS to assist debrief, recovery and any subsequent inquiry</p>
West Midlands Police	Fluvial Flooding / Surface water flooding	<p>Statutory responsibility under the Civil Contingencies Act 2004 to: prepare and maintain emergency plans; maintain business continuity plans; engage with Severe Weather Groups particularly around risk assessments, panning, public warning an informing; training and awareness; the testing and exercising of emergency plans.</p> <ul style="list-style-type: none"> - Identify with Cat 1 / 2 responder's areas of critical infrastructure risks. - Engagement with the West Midlands Local Resilience Forum on the communication strategy to warn and inform the public 	<ul style="list-style-type: none"> - Prevent loss of life, or further loss of life in conjunction with the other emergency services and any other relevant organisations. - Coordinate the overall response, ensuring health and safety of all personal deployed to the incident. - Secure and protect the scene. - Strive to minimise the impact on the whole community, working with all agencies to return normality as soon as possible. - Ensure an appropriate response to the media that remains factual and relevant, while provide reassurance to the public. 	<p>The Police are responsible for co-ordinating the responding agencies at any multi-agency land based incident major flooding event, as well as helping to save lives and protect property. The police will usually appoint a local supervisor as the Flood Liaison Officer for anticipated flooding events.</p> <p>[Response is same a minor flood / however scale of response is increased]</p> <ul style="list-style-type: none"> - To save life in conjunction with other emergency services - To ensure access and egress for all emergency services - To secure, protect and preserve the scene. - To control sightseers and traffic using cordons - To collate and disseminate casualty information - Prevent crime 	<p>Establishment of the Strategic Coordinating Group, and function for providing command and control through different levels of response.</p>	<p>As part of the SCG recovery is built into the response phase. The appropriate handover to the responsible local authority will be supported as appropriate.</p> <p>The police will ensure that key information is maintained and recorded that may assist with debrief or any inquiries.</p>

				- To identify the dead on behalf of HM Coroner		
West Midlands Ambulance Service				<ul style="list-style-type: none"> - To Save life in conjunction with other emergency services. - To provide treatment to those at the scene. - To provide a focal point for NHS resources at the scene. - To establish triage points and systems to determine the evacuation needs of those in need. 		
Highways England	Surface water flooding		<p>Highways England has a sole responsibility and powers for managing highway surface water runoff from the trunk road network.</p> <ul style="list-style-type: none"> - Assist with closing roads / lanes which are affected by flooding - Assist with diverting motorway traffic 	[Response is same a minor flood / however scale of response is increased]		
Utility Companies		Secure their services and equipment to ensure continuity of supply.	Repair services disrupted by floods	<p>Provide alternative means of supply during a disruption if life/health risks are identified.</p> <p>Advise on restoration times.</p> <p>Provide a list of vulnerable customers registered on their data base.</p>		
British Red Cross			<p>Providing emotional/psychosocial support.</p> <p>Assist with the rest centre registration process as necessary.</p> <p>Providing basic first aid, maintain a register of all treatment given, confirm those receiving treatment have been registered. Alert the rest centre manager to any health screening requirements.</p> <p>4X4 vehicle support.</p>	<p>Fire and Emergency Support team – provide practical and emotional support to people affected by fires or floods.</p> <p>Therapeutic care service – relaxing massage techniques to help ease stress for evacuees and responders.</p> <p>Medical loan – provide medical equipment on a short-term loan as required.</p>	When considering any voluntary agency, it is recommended that they are put on standby early pending assessment of the situation. This gives them time to make the necessary arrangements and identify volunteers.	

*Refer to 'Appendix A' for more in-depth description of the roles and responsibilities for the different agencies

4.1 Mutual Aid

Mutual aid should not be relied upon. Key equipment and personnel will be in high demand and it is probable that other areas within the West Midlands Conurbation will be involved in their own emergency response.

- West Midlands Police and West Midlands Fire Service have national mutual aid arrangements, co-ordinated through their respective organisations.
- Sandwell Council will provide support to the other six Local Authorities of the West Midlands, in particular, the other three members of the Association of Black Country Authorities; through activation of a Memorandum of Understanding. These arrangements are reciprocal.
- Sandwell Council may be asked to support neighbouring organisations via the West Midlands Conurbation Local Resilience Forum (WMC LRF) and preparations should be made for this.
- Should the strategic decision be taken to assist, care should be taken not to diminish Sandwell's own response capabilities if the incident is to escalate. All requests for assistance should be considered and help provided wherever possible.

4.2 Voluntary Sector

Emergency Preparedness, the Civil Contingencies Act Guidance, refers to the generic support that the Voluntary Sector can provide. The nature, range and scale of services offered by the Voluntary Sector may alter depending upon the context of the emergency situation but would be provided in both emergency response and recovery related activities.

They will be activated under normal existing activation protocols mentioned within the Sandwell Council Emergency Plan and will be directed by the relevant activating organisation but work to their own organisational structure.

*See relevant sections of **Appendix 'A'** for Voluntary organisation roles and responsibilities.*

4.3 Spontaneous Volunteers

SMBC considers the circumstances under which they are willing to utilise spontaneous volunteers and accept their support in a incident. As part of this procedure SMBC should:

- Develop a co-ordinated approach with a single point of contact,

- Inform people how they can volunteer and how they will register; (as part of the Covid-19 response SMBC had a hotline for volunteers to offer their services)
- Develop a briefing for all volunteers;
- Expect all volunteers to be competent in their offer of assistance;
- Run the registration process to select suitable volunteers for each task;
- Establish whether any tasks require specialist training, skills or experience and whether volunteers will need to be verified;
- Develop a method to receive feedback from volunteers to highlight on-going risks and debrief at the end of each shift;
- Ensure that volunteers have any required PPE (e.g. face masks / hand sanitiser) ; and
- Consider volunteers who can leverage local knowledge and resources.

4.4 Other Operational Response issues

Sandbags

Local Authorities have no statutory obligation to provide materials for flood protection. Sandwell Metropolitan Borough Council retains a stock of sand bags but these are intended for temporary repairs to flood defences within their ownership.

Sand bags may also be made available to the emergency services during some incidents but **will NOT be available for the public to protect their property.**

Records and Surveys

Officers engaged on flood response will keep logs and records of all events and decisions. Surveys should be carried out to determine the extent of flooding and the rate of build-up and dispersal to enable improvements to be made for future flood events. Records of previous surveys, kept in the **Resilience Team Bunker Office**, should be examined during an incident to help assess potential effects.

Pumping and Drying Out Properties

Pumping out of premises is the responsibility of the owner. The Fire & Rescue Service can be contacted for assistance in emergencies and may dispatch a flexible response officer to assess the situation and whether they can assist.

Section 5 Activation / Triggers

A full or partial activation should be considered by the Resilience and Highways Team, or on the request of a partner agency, and escalated to the Leadership Team / Duty Director, when;

- An Environment Agency Flood Alert or Warning is issued
- An Environment Agency Severe Flood Warning is issued;
- Flood Forecasting Centre issues a Flood Guidance Statement
- A Warning is issued by the Met Office
- A multi-agency response to a major flood incident(s) is required

Response activity should be scalable to the situation; not all parts of the plan and its actions will be necessary or required.

If a Severe Flood Warning / Red Flood Guidance Statement is issued:

- Immediate consideration should be given to the activation of the **Incident Room**, and the formation of a **Sandwell Council Incident Management Team**
- Consider implementation of Council's Emergency Plan

If Flooding is expected, occurring or subsiding go to [Section 7](#).

5.1 Monitoring Stage:

Flood alerts / warnings are issued by the Environment Agency. During the monitoring stage a 3-day forecast of weather is provided by the Met Office, and the situation is monitored.

5.2 Notification of flooding in Sandwell

There are four main ways that the Council can be alerted to flooding or potential flooding.

- Visual observations from the Public
Any notification from the public will be handled during office hours by the Highways Team. Out of Hours call will be handled by Emergency Highways Issues line.
- Notification from Partner Agencies
Partner agencies (Police, Fire, etc) wishing to activate the Council Flood Plan will contact the Duty Emergency Planning Officer or Community Alarms.
- Environment Agency / Met Office
Both the Environment Agency and Met Office would advise if flooding is possible / expected. If flooding is expected, a Flood Advisory Service Teleconference could be set up to discuss the potential incident.

See Diagram 1 for notification / activation flow diagram.

5.3 Plan Activation

The notification of flooding or potential flooding is provided to the relevant local authorities by either Environment Agency, Met Office, notification from other partner agencies, or reported by visual observations from the public.

This information is collected by either of the following:

- Highways Officer
- Drainage Officer
- Duty Emergency Planning Officer
- Press Office
- Community Alarms

If evidence points toward flooding possibly occurring or has occurred, the flood plan may be activated. The decision to activate the flood plan will be the responsibility of the Duty / Incident Director, following consultation between the Resilience, drainage, and highways teams.

Appropriate flood warnings are transmitted to the following organisations that may have an operational response:

- Sandwell Council;
- Police;
- Fire and Rescue Service;
- Network Rail;
- Severn Trent Water;
- South Staffs Water;
- Central Networks;
- BT;
- Cadent;
- Ambulance Service NHS Trust;

5.4 Plan Escalation

In the event of a major disruption / prolonged periods of flooding the DEPO will contact the Duty Director. It is up to the Duty Director / Chief Executive to declare a major incident. For more information regarding plan escalation to a major incident please read **Sandwell's Emergency Plan**.

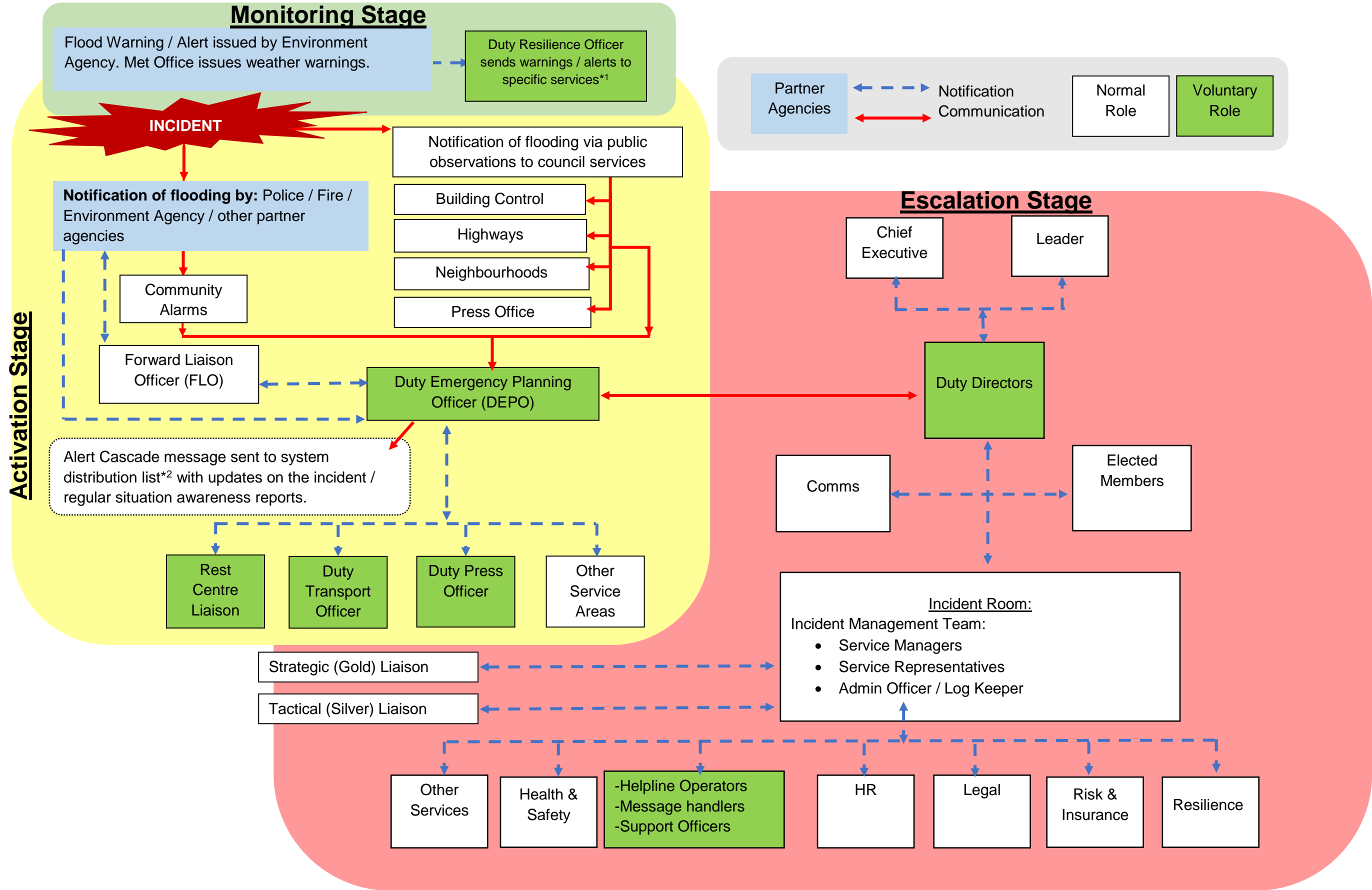





Diagram 1 - Flood notification flow diagram, from initial notification to flood plan activation

Section 6 Fluvial Flood Warning and Response

6.1 Sandwell council flood triggers and activation procedures

Table 18 - Sandwell council flood triggers and activation procedures. FGS stands for Flood Guidance Statement

	Three-day flood risk forecast	FLOOD ALERT	FLOOD WARNING	SEVERE FLOOD WARNING	Warning no longer in force
Symbol:	<i>Not applicable</i>	 FLOOD ALERT	 FLOOD WARNING	 SEVERE FLOOD WARNING	<i>Not applicable</i>
What it means	Be aware. Think Ahead. Keep an eye on the weather.	Flooding is possible. Be prepared.	Flooding is expected. Immediate action is required.	Severe flooding. Danger to life.	No further flooding is currently expected.
What to do:	<ul style="list-style-type: none"> •Be aware, monitor local weather stations for updates 	<ul style="list-style-type: none"> •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. 	<ul style="list-style-type: none"> •Move family, pets and valuables to a safe place. •Turn off gas, electricity and water supplies if safe to do so. •Put flood protection equipment in place. 	<ul style="list-style-type: none"> •Stay in a safe place with a means of escape. •Be ready should you need to evacuate from your home. •Co-operate with the emergency services. •Call 999 if you are in immediate danger. 	<ul style="list-style-type: none"> •Be careful. Flood water may still be around for several days. •If you've been flooded, ring your insurance company as soon as possible
When it's used	Daily forecasts of flood risk on www.environment-agency.gov.uk . These are updated more frequently for higher flood risk situations.	Two hours - two days in advance of flooding	Half an hour - one day in advance of flooding.	When flooding poses a significant risk to life or disruption to communities.	When a flood warning or severe flood warning is no longer in force.
Local Response Level	Level 0	Level 1	Level 2	Level 3	Level 4
Flood Risk	Low Flood Risk	Moderate Flood Risk	Substantial Flood Risk	Severe Flood Risk	Recovery
Triggers	<ol style="list-style-type: none"> 1. Information updated daily on the Environment Agency Website. 2. The information includes the current and forecast situation and how likely to affect over the next three days. 	<ol style="list-style-type: none"> 1. Forecasts that indicate that flooding from rivers may be possible. 2. Forecasts indicate intense rainfall for rivers that respond very rapidly. 	<ol style="list-style-type: none"> 1. Heavy rainfall forecast to cause flash flooding of rivers. 2. Forecast flooding from rivers. 	<ol style="list-style-type: none"> 1. Actual flooding where conditions pose a significant risk to life and/or widespread disruption. 2. On-site observations from flooded locations. 3. A breach in defences or failure of a barrier. 4. Discussions with partners. 	<ol style="list-style-type: none"> 1. Risk of flooding has passed. 2. River levels have reduced. 3. No further flooding expected. 4. Professional judgement.

<p>Impact on the ground</p>	<p>Maps will show one of four levels of risk: GREEN – no risk of flooding YELLOW - low risk AMBER – medium risk RED – high risk</p>	<ul style="list-style-type: none"> • Flooding of fields, recreation land and car parks. • Flooding of minor roads. • Flooding of farmland. • Spray or wave overtopping on the 	<ul style="list-style-type: none"> • Flooding of homes and businesses. • Flooding of rail infrastructure. • Flooding of roads with major impacts. • Extension flood plain inundation. • Flooding of major tourist and/or recreational attractions. 	<ul style="list-style-type: none"> • Deep and fast flowing water. • Debris in the water causing danger. • Potential or observed collapse of structures. • Communities isolated; • Critical infrastructure affected • Large number of evacuees • Military support 	<p>No new impacts expected, however, there may still be:</p> <ul style="list-style-type: none"> • Standing flood water • Flooded properties • Damaged infrastructure
<p>Advice to the public and media</p>	<ol style="list-style-type: none"> 1. Check the forecast on the Environment Agency Website. 2. Remain aware of the impending weather conditions for the City. 	<ol style="list-style-type: none"> 1. Be prepared to act on your flood plan. 2. Prepare a flood kit of essential items. 3. Avoid walking, cycling or driving through flood water. 4. Consider moving equipment away from areas likely to flood. 5. Call Floodline (0845 922 1188) for up to date information 6. Monitor local water levels on the Environment Agency website. 	<ol style="list-style-type: none"> 1. Protect yourself and your family, helping families where safe. 2. Move family, pets and valuables to a safe place. 3. Turn off gas, electricity and water supplies, if safe to do so. 4. Put flood protection equipment in place. 5. If caught in a flash flood, get to higher ground. 6. Call floodline (0845 988 1188) for up to date information 	<ol style="list-style-type: none"> 1. Stay safe with a means of escape. 2. Be ready should you need to evacuate from your home. 3. Co-operate with the emergency services. 4. Call 999 if you are in immediate danger. 5. Call floodline on 0845 988 1188 for up to date information. 	<ol style="list-style-type: none"> 1. Be careful. Flood water may still be around for several days and could be contaminated. 2. Ring your insurance company as soon as possible.
<p>Advice to other partners</p>	<ol style="list-style-type: none"> 1. The three-day forecast is the public facing version of the Flood Guidance Statement that Category 1 and 2 Responders receive. 2. Advice for organisations varies depending on the level of flood risk and is provided on the Flood Guidance Statement. 	<ol style="list-style-type: none"> 1. Check flood response plans to see how SMBC needs to respond. 2. Dial into Flood Advisory Service teleconferences if they have been set up. 3. Report any flooding in the area to the local Environment Agency office. 4. Duty Officers are on standby 	<ol style="list-style-type: none"> 1. Check flood response plans for actions required. 2. Speak to the local Environment Agency Duty Officer for the latest forecast information. 3. Report any flooding in the area to the local Environment Agency office. 	<ol style="list-style-type: none"> 1. Check flood response plans for actions required at this stage. 2. Advise the public to put their safety first and to be ready to evacuate should the authorities decide its needed. 3. Develop clear messages for local communities and the public. 4. 	<ol style="list-style-type: none"> 1. Recovery phase will have started. 2. Call Floodline on 0845 988 1188 for further advice.
<p>Council Response</p>	<ol style="list-style-type: none"> 1. No specific response, business as usual, with normal awareness of the possible flood risk. 	<ol style="list-style-type: none"> 1. Heightened awareness of flood risk 2. Resilience officer on standby for possible flooding 3. Individual responders of flood plans and procedures may be activated 4. Some routine or preparatory responses may be underway, for example diversion of minor roads, duty officers put on standby, resources mobilised. 5. Distribute flood alerts to highways team. 	<p>As for Level 1 , plus:</p> <ol style="list-style-type: none"> 1. Flood Plan activated 2. Put rest centres on standby 3. Evacuation of vulnerable people if required 4. Speak to local environment Agency Duty officer for latest flood information 5. Attend Teleconference if set up 6. Report any flooding to the local environment agency 7. Check staff availability room for operations room 8. Distribute flood warning to highways team. 9. Distribute the flood warning to duty director / press office / regulatory service manager 	<p>As for Level 2, plus:</p> <ol style="list-style-type: none"> 1. Deploy resources as necessary 2. Rest centres are open and operational for those that require it. 3. Out of hours call highways duty officer / duty director to ensure they are aware of severe flood warning risk. 	<ol style="list-style-type: none"> 1. Sandwell Council to facilitate rehabilitation and restoration of the community to a “new normality” 2. Recovery team will attend the site to assess the damage and the needs of the community. 3. Possible formation of an recovery coordination group.

Teleconference	<u>No Applicable</u>	Consider engagement by telephone or teleconference.	Consider engagement by telephone or teleconference.	Consider engagement by telephone or teleconference.	<u>Not Applicable</u>
Evacuation	<u>No Applicable</u>	Unlikely to occur	Unlikely to occur	Evacuation possible	Temporary accommodation for those unable to return home.
Council Communications Team	Early media response to FGS Yellow warning	Additional Reporting	Additional more accurate reporting likely	Additional more accurate reporting, highlighting areas needed to be avoided. Possible media attention if areas have been flooded.	Reporting how to recovery from a flood. What council services are out there to assist.

Section 7 Flood Response Checklists

**Checklists intended as a guide only; not all actions will be required or be necessary.*

7.1 DEPO Response Checklist

The Response Action Checklist is an aide memoire to be used by the DEPO only, in conjunction with any advice received from the Incident Management Team, the Environment Agency and the Emergency Services during disruption or an emergency.

Note: The information is generic and is not for a specific flood type, as all incidents are different. Not all of the below actions may need to be followed in every instance. There may be extra tasks require which are not discussed in the table below.

If flooding has been reported (notification stage) the following actions should be carried out by the DEPO.

Table 19 - DEPO flood response checklist (Flooding Expected – Warn, Inform, Standby - Initial Actions)

Action	Comments	Complete?
Flooding Expected – Warn, Inform, Standby - Initial Actions		
Start and maintain an Incident Log Sheet. (record all calls received / made)		
Create a METHANE message <ul style="list-style-type: none"> • M – has a major incident been declared? • E – exact location of the flooding (grid reference / post code/ street name) • T – type of incident (surface water / river flooding / burst watermain) • H – hazards on scene (traffic / pedestrians / electricity mains etc) • A – access to the scene (what roads are closed due to flooding) • N – number of casualties (types on injuries) / number of people needing evacuation & rest centres • E – what emergency services are on scene / what services do you require? 		
EA Flood Alert / Flood Forecasting Centre YELLOW warning? Consider risk impacts & information from telecon/ teams meeting and / or information received.		
Distribute as per Resilience Team SOP 14 & 15		
EA Flood Warning / Flood Forecasting Centre AMBER warning? Consider risk impacts & information from telecon / teams meeting and / or information received.		

Distribute as per Resilience Team SOP 14 & 15		
EA Severe Flood Warning / Flood Forecasting Centre RED warning.		
Distribute as per Resilience Team SOP 14 & 15		
Check. Is an Environment Agency (EA) Flood Advisory Service (FAS) tele-con scheduled? Dial-in if running / or raise question		
Contact EA Area Based Controller / Flood Warning Duty Officer. Things to consider asking if not covered in meetings: <ul style="list-style-type: none"> - Any times or predictions for peak? - - Any predicted river level peak; overtopping likely? - - Any time for experiencing flooding? - - Duration of rain event and impacts? - Any indication of slow build event or flash event?		
Check. Any available information from West Midlands Local Resilience Forum (WMLRF) partners		
Consider any likely or immediate escalation need / measures e.g. set up of Incident Management Team, Incident Room activation.		
Liase with Duty Director – provide them with the M/ETHANE message		
Inform Press Office / Highways of the disruption		
Monitor situation; determine need to call out a FLO / DEPO to the scene		
Liase with emergency services gathering further information, and send METHANE update regularly (every hour)		
Monitor Met Office Hazard Manager		
Monitor email / SMS for issued EA Flood Alerts, Warnings & Severe Warnings.		
Monitor Flood Forecasting Centre website		
Where informed notify EA of any localised flooding problems including surface water issues.		
As appropriate, identify SPoC for Highways		
As appropriate, identify SPoC for Comms Team		

As appropriate, identify SPoC for Environmental Protection		
As appropriate, identify SPoC for Building Control		
As appropriate, identify SPoC for Adult Social Care		
Check with Adult Social Care & Health – any vulnerable individuals and establishments in the areas most at risk?		
Check with Children’s & Families – any vulnerable individuals and establishments in the areas most at risk?		
Identify appropriate rest centres for use in the event of an evacuation		
Request CCTV monitoring for known hotspots / specific locations		
What resources do we have; prioritise / allocate accordingly		
Attend / send a representative to the EA incident room if appropriate		
Ensure/check/encourage all services to maintain an incident log		
Rest Centre Plan - place RCLO staff on standby		
Emergency Transport Plan - Passenger transport - people movement		
<u>Evacuation required?</u>		
Do residents need evacuation? If yes, call Rest Centre Liaison Officer, and request a rest centre is opened.		
Do evacuees require transport? if yes call emergency transport team / taxi companies (time dependant)		
Emergency Transport Plan - Passenger transport - people movement		

Table 20 - DEPO flood response checklist (Flooding Occurring – Response including potential FULL activation or escalation measures)

Action	Comments	Complete?
Flooding Occurring – Response including potential FULL activation or escalation measures		
Are actions in Flooding Expected Standby Activity completed? If not go to these and initiate / consider. If actions at Flooding Expected are complete, start here.		
Revisit ongoing actions under 'Flooding Expected'; anything outstanding or requiring attention ... continue to progress.		
Maintain incident log; (use either Resilience Direct incident log or if unable One Note / internal template)		
Check / confirm responding services are maintaining their incident log		
Request council services provide situation report (2-hour period)		
Continue to provide situation reports to Incident Management Team		
Continue to receive and disseminate appropriate information from the EA and the Met Office		
Maintain liaison with Environment Agency		
Maintain / consider any liaison with partner agencies		
Consider / activate any specific SMBC plans & procedures,		
If evacuation is required, make arrangements to provide transport, temporary accommodation and emergency feeding for evacuees		
Continue to participate in EA tele-conferences / teams meetings where required		
Has anything changed from a multi-agency perspective; TCG / SCG etc.		
Continue to liaise with departmental representatives at tactical (Silver) and operational (Bronze) level to ensure the needs of vulnerable individuals and establishments affected by the incident are met where ever possible		
Continue to monitor Met Office Hazard Manager		
Continue to monitor the situation and any escalation to determine the need for activation of additional plans		
What resources do we have; prioritise / allocate accordingly		
Place Transport Services on standby to assist in an evacuation if required		
Consider the use of the volunteer sector		
Consider and assess the need for Specialist vehicles		

Pumping resource? Not SMBC resource - ask partners / multi-agency group		
Other Plans – consider any activation <ul style="list-style-type: none"> - Emergency Response Plan - Evacuation Plan - Emergency Transport Plan - Humanitarian Assistance Centre - Rest Centre Plan 		
Incident stood down? Circulate debrief form		

Table 21 - DEPO flood response checklist (Flooding Subsides - Recovery / Stand-down)

Action	Comments	Complete?
Flooding Occurring – Flooding Subsides - Recovery / Stand-down		
During office hours – receive and disseminate flood warning downgrades / all clears / Met Office warnings to key council contacts, including land-owning departments		
If the Emergency Plan has been activated, liaise with Incident Director to stand-down the council's resources as appropriate and return its operations - as far as it is possible to normal business		
Arrange debrief with all key council departments and staff		
Assist in Recovery in co-ordination with strategic lead, following the hand-over from Police		
Develop action plan for lessons learnt		
Participate in Recovery Coordinating Group and projects where requested e.g. a residents meeting for an area affected		
Collate information regarding properties or areas worst affected by the flooding; liaise with flood risk management colleagues to identify appropriate use of flood recovery resources		
Maintain contact with the EA for river levels and forecasts		
Maintain liaison with EA Flood Incident Duty Rooms (when open)		
Referencing flood event form, collate / disseminate flooded properties info		
Liaise with Transport Services and key council contacts on delivery of flood recovery resources		
Consider stand-down of staff, vehicles and resources		
Maintain incident log; use Res Direct incident log or if unable One Note / internal template. Close log when appropriate.		

7.2 Highways Response Checklist

Table 22 - Highways flood response checklist (Flooding Expected – Warn, Inform, Standby - Initial Actions)

Action	Comments	Complete?
Flooding Expected – Warn, Inform, Standby - Initial Actions		
Start and maintain an Incident Log Sheet.		
On request, collate service situation report for inclusion in Council report (use template)		
Maintain and provide a service situation report as requested		
Where applicable, identify appropriate levels of staff and resources and place them on standby, especially if the incident is likely to occur out of hours		
Ensure all depots are aware of potential weather event and impacts		
Plan / arrange for sufficient resources if out of hours working is likely		
As required, rep to attend Sandwell Incident Management Team		
Monitor forecast information, warnings and updates		
What resources do we have; prioritise / allocate accordingly		
Consider Normal depot / out of hours resources		

Table 23 - Highways flood response checklist (Flooding Occurring – Response including potential full activation or escalation measures)

Action	Comments	Complete?
Flooding Occurring – Response including potential FULL activation or escalation measures		
Maintain service log of action / decision making.		
On request, collate service situation report for inclusion in Council report (use template).		
Maintain and provide a service situation report as requested		
Additional operatives / contractors on standby		
As required, rep to attend Sandwell Incident Management Team		
Liaise with UTC / Network Management regarding traffic conditions and areas requiring installation		

Determine appropriate sites for sandbag delivery – this is not a requirement		
Receive and record incoming reports, requests and actions taken		
Monitor sandbag stock levels		
What resources do we have; prioritise / allocate accordingly		
Keep in contact with SMBC DEPO		
Out of hour's standby teams' inc. Traffic Management contractor if situation dictates.		

Table 24 - Highways flood response checklist (Flooding Subsides - Recovery / Stand-down)

Action	Comments	Complete?
Flooding Subsides - Recovery / Stand-down		
Maintain service log of action / decision making.		
On request, collate service situation report for inclusion in Council report (use template).		
Maintain and provide a service situation report as requested		
Participate in Recovery Coordinating Groups and projects where requested e.g. a residents meeting for an area affected		
Liaise with UTC / Network Management re traffic / road conditions		
Liaison with Localities re assistance for clear-ups, specifically vehicles and plant		
Respond to changing conditions and remove any traffic management as and when required		
What resources do we have; prioritise / allocate accordingly		
Out of hour's standby teams' inc. Traffic Management contractor if situation dictates.		

7.3 Building Control Response Checklist

Table 25 – Building Control flood response checklist (Flooding Expected – Warn, Inform, Standby - Initial Actions)

Action	Comments	Complete?
Flooding Expected – Warn, Inform, Standby - Initial Actions		
Start and maintain an Incident Log Sheet.		
On request, collate service situation report for inclusion in Council report;		
Where applicable, identify appropriate levels of staff and resources and place them on standby, especially if the incident is likely to occur out of hours		
Consider possible need for services e.g. structural propping, demolition, boarding up		
X1 Building Surveyor available 24/7; to respond to dangerous structures within 2 hours - out of hours contact Birmingham Building Control		
As required, rep to attend Sandwell Incident Management Team		
As appropriate, contact DEPO		
As appropriate, contact Highways		
Visit site of reported dangerous structure to assess		
What resources do we have; prioritise / allocate accordingly		

Table 26 – Building Control flood response checklist (Flooding Occurring – Response including potential full activation or escalation measures)

Action	Comments	Complete?
Flooding Occurring – Response including potential FULL activation or escalation measures		
Maintain service log of action / decision making.		
On request, collate service situation report for inclusion in Council report		
Maintain & provide a service situation report as requested		
Consider possible need for services e.g. structural propping, demolition, boarding up		

X1 Building Surveyor available 24/7; to respond to dangerous structures within 2 hours - out of hours contact Birmingham Building Control		
As required, rep to attend Sandwell Incident Management Team		
As appropriate, contact DEPO		
As appropriate, contact Highways		
Visit site of reported dangerous structure to assess		
What resources do we have; prioritise / allocate accordingly		
Office hours: all available surveyors could be deployed		

Table 27 – Building Control flood response checklist (Flooding Subsides - Recovery / Stand-down)

Action	Comments	Complete?
Flooding Subsides - Recovery / Stand-down		
Maintain service log of action / decision making.		
On request, collate service situation report for inclusion in Council report;		
Maintain & provide a service situation report as requested		
Consider possible need for services e.g. structural propping, demolition, boarding up		
X1 Building Surveyor available 24/7; to respond to dangerous structures within 2 hours - out of hours contact Birmingham Building Control		
Participate in Recovery Coordinating Group and projects where requested e.g. a residents meeting for an area affected		
As appropriate, contact DEPO		
As appropriate, contact Highways		
Visit site of reported dangerous structure to assess		
Examine safety of buildings affected		
Provide remedial work to buildings / structures affected		
What resources do we have; prioritise / allocate accordingly		
Office hours: all available surveyors could be deployed		

7.4 Communication Team Control Response Checklist

Table 28 – Communication Team - flood response checklist (Flooding Expected – Warn, Inform, Standby - Initial Actions)

Action	Comments	Complete?
Flooding Expected – Warn, Inform, Standby - Initial Actions		
Where applicable, identify appropriate levels of communications staff and resources and place them on standby, especially if the incident is likely to occur out of hours		
Use council social media channels to inform members of the public		
Prepare and issue media comments		
Retweet lead agency messages, e.g. Environment Agency or Met Office		
Normal out of hours arrangements apply		
As required, rep to attend Sandwell Incident Management Team		
With digital access team to ensure consistent messaging across digital platforms		
Where applicable, with partner organisation communications teams		
Where applicable / able, establish / maintain liaison with local media outlets;		
Out of hours - communications officer on duty to monitor media enquiries/volume of requests and request additional support from emergency communications manager if required.		
What resources do we have; prioritise / allocate accordingly		
Consider activation of the Communication Plan		

Table 29 – Communication Team - flood response checklist (Flooding Occurring – Response including potential full activation or escalation measures)

Action	Comments	Complete?
Flooding Occurring – Response including potential FULL activation or escalation measures		
Continue to use social media channels to inform and engage with the public including sharing lead agency messages		
Continue to provide updated media comments as appropriate		
Normal out of hours arrangements apply		
As required, rep to attend Sandwell Incident Management Team		
Continue to liaise with digital access team to ensure consistent messaging across digital platforms		
Continue to liaise with partner organisations on media messages		
Where applicable / able, establish / maintain liaison with local media outlets		
Out of hours – communications officer on duty to monitor media enquiries/social media activity/volume of requests and ask for additional support from emergency communications manager if required.		
What resources do we have; prioritise / allocate accordingly		

Table 30 – Communication Team - flood response checklist (Flooding Subsides - Recovery / Stand-down)

Action	Comments	Complete?
Flooding Subsides - Recovery / Stand-down		
Use social media channels to inform members of the public about recovery arrangements		
Prepare and issue media messages		
Participate in Recovery Groups and projects where requested e.g. a residents meeting for an area affected		
Where applicable / able, establish / maintain liaison with local media outlets;		
What resources do we have; prioritise / allocate accordingly		
Stand down any additional communications resource assigned over and above normal out of hour		

Section 8 Evacuation and Sheltering

8.1 Evacuation

During severe flooding incidents evacuation of areas may be required. The **Sandwell Borough Evacuation Plan** details generic arrangements and consideration during an incident to enable both a safe and co-ordinated evacuation.

In extreme cases of flooding residents may be require rescuing from their property (i.e. boat). Therefore, close liaison is essential between those coordinating the evacuation and those coordinating the water recues.

No organisation has the power to force people to evacuate their homes during any type of incident other than threat from terrorism.

Consideration:

- During flooding some residents may prefer to move upstairs, rather than leaving their home. These residents should be recorded, as they may need addition assistance.
- During the response, any figures provided relate to the number of properties evacuated and not the total number of people.
- Resident may self-evacuate to friends and families during an incident – this should be recorded.

8.2 Evacuation Routes

It is hard to pre-determine which routes would be affected by flooding, and which routes would be safe evacuation routes. However, it is important to know the capacity of key routes within the borough and be aware of any choke points within the road network. Effective traffic management can aid responders. This information can be discussed with highways team.

- The DEPO will keep in contact with the highways department about flooded routes, this information should be provided to the pubic via the Comms team to avoid the areas affected
- Any information from highways will be provided to the TCG and SCG (if one has been called)
- In the event of major flooding Highways England representative will have a representative on the TCG / SCG who will also provide information about the affected routes
- The Duty press officer will monitor all social media platforms and local radio stations should information be provided by the general pubic (this information will be passed to the DEPO)

- Safe routes will be relayed as necessary to responding agencies, residents and local businesses, by all communication channels.

It is important to remember the response by the Emergency Services to non-flood related 999 calls in such communities isolated by flooding could also be very difficult.

8.3 Evacuation Transport

During an evacuation, some residents may require transport to the designated rest centre. Please refer to **Sandwell Council Emergency Transport Plan** for more information.

In some cases, access by 'normal' vehicles may not be possible, so Sandwell Council may need to liaise with multi-agency partners e.g. Fire & Rescue Service, to request appropriate support e.g. boats. West Midlands Ambulance Service will not transport any evacuees unless there is a medical need to convey them to hospital.

Encouraging the public to use public transport where it is safe to do so, in particular rail links, could relieve the pressure on the road network and allow the transportation of large numbers of evacuees.

8.4 Rest Centres / Rest Centre Locations

In a major flooding emergency, it may be necessary to open Rest Centres to provide temporary accommodation for evacuated residents / or motorists / or rail passengers who may be stranded due to flooding.

A list of rest centres has been identified across the borough, for which specific plans have been developed. The designated rest centre locations are identified in the **SMBC Rest Centre Plan**. Sandwell Council have a Rest Centre Liaison Officer 24-hour rota for all types of incidents. All staff have been trained by local authority.

A decision will be taken by the DEPO as to which Rest Centre site(s) should be activated in coordination with the Rest Centre Liaison Officer.

It is recognised that during a sudden onset emergency the public may be evacuated to any site deemed necessary by the Emergency Services i.e. school or pub. In such cases, Local Authorities would as far as possible provide support to evacuees at the site.

Whilst Rest Centres are ideal for initial temporary accommodation for those affected by flooding, they are not always suitable for overnight accommodation. Wherever possible, and without putting them at greater risk, it is preferable for evacuees to stay with relatives and friends, or their insurance company may arrange for them to stay in a hotel/ B&B.

If evacuees do not have any alternative and a Rest Centre is not suitable for them, Sandwell MBC may arrange alternative overnight accommodation.

8.5 Security

If numerous business or residential properties have been evacuated in a particular area and are predicted to be empty for some time, it may be necessary to consider the security of these properties and make arrangements for security provision.

8.6 Health and Safety

Refer to 'Appendix B' for health and safety Risk Assessments during a flooding incident.

Section 9 Communications and Media

The Council's Duty Press Officer will provide media statements and press releases in conjunction with their counterparts in other responding agencies. They will also monitor and record media sources for information and ensure this is fed to the DEPO for onward communication and dissemination. The overall aim is to provide media and communications support to the Council to allow it to meet its obligations as a Category 1 Responder agency in using the media to keep the general public informed.

During a major incident, warning and informing the public is led by the Media Cell, if established, or the lead informer. A well-informed public is better able to respond to an emergency and to minimise the impact of the emergency on the community

Each organisation will be responsible for keeping their own websites, social media accounts and media statements up to date and consistent with the key messages and information agreed via TCG/SCG and the lead informer.

EA flood information is provided using the following government website links:

- 1) <https://www.gov.uk/check-flood-risk> - Provides the public with information on their current property flood risk based on current information collected by the EA.
- 2) <https://flood-warning-information.service.gov.uk/warnings> - Link provides public with EA live flood warning and river level information

'Floodline' provides those who are signed up to flood alerts with 24hours flood notifications.

9.1 Public Information – Key Messages

During the preparedness stages of flooding, it is important that the public are aware of the flood risks, and the potential impacts flooding could cause.

During the response to a flood incident, the following information / key messages should be provided to the public:

- Basic details about the incident / warnings in place / and weather forecasts
- Implications for health and welfare
- Advice, guidance and reassurance
- Latest information on response and recovery efforts
- Information about the practical implications of the emergency (e.g. effect on traffic, power supplies, telephones, water supplies)
- Information on how the public can help themselves protect their homes and family, including the purchasing flood protection equipment and sandbags
- Information on support facilities that have been established e.g. helplines, information points in communities
- Information on any disruption to organisations' services
- Information on use / availability flood protection equipment in general

9.1.1 Communication Methods:

This information should be communicated to the public via a variety of mediums during a flood emergency, including:

- Organisation websites
- Social media networks e.g. Twitter, Facebook, Instagram
- Local media – both print and broadcast
- Flood alerts (those who have signed up)
- Organisations’ electronic newsletters/ circulations that are public facing
- Appropriate organisations’ making contact with any vulnerable service users in affected areas
- Door knocking – usually used for residents in immediate danger where evacuation may be necessary. Police will lead on this but other organisations / flood warden / community representatives may be asked to support
- Public information points in affected communities
- Leaflets / publications

9.2 Key public messages before and during flooding

Table 31 - Key message to the public during preparedness, forecast, and during flooding.

Preparedness	<ol style="list-style-type: none"> 1. Your Local Authority or the EA can tell you about the dangers of flooding where you live. Do this BEOFRE a flood happens. This is known as flood preparedness. 2. If available for your area, sign up to free flood warning messages from the Environment Agency to receive phone, text or email messages if flooding is expected. 3. Know what the levels of flood warning mean. <ul style="list-style-type: none"> • Flood Alert: Flooding is possible. Be prepared. • Flood Warning: Flooding is expected: Immediate action required. • Severe Flood Warning: Severe flooding. Danger to life. 4. Make a personal flood plan for what you will do if there is a flood. 5. Prepare your home in case there is a flood (emergency grab bag) 6. Buy flood insurance to protect your home and belongings. 7. Ensure you know how to turn off utilities.
Forecast	<ol style="list-style-type: none"> 1. Listen to local radio / check the EA's website for updates and news. 2. Pack a flood kit in case you leave home. Remember: <ul style="list-style-type: none"> • Phone numbers, insurance documents, bank cards and money.

	<ul style="list-style-type: none"> ● Medicines, medical devices, hearing aid batteries, glasses and contact lenses. ● Clothing, toiletries and personal items. ● If applicable, nappies, baby clothing, baby food or formula and special toys. <p><i>This can all be done in a ready-made Emergency Grab Bag and used for emergencies that involve you leaving your home</i></p> <p>3. Move items to a higher place (higher than water level). Be careful not to hurt yourself when preparing your home</p>
During	<p>Accidents happen in fast flowing water</p> <ol style="list-style-type: none"> 1. Avoid walking or driving in or near flood water. Driving in flood water significantly increases the risk of drowning. Do not let children play in floodwater. 2. Stay safe, listen to the advice of the emergency services and evacuate when told to do so. 3. DO NOT touch sources of electricity if you are standing in water. 4. Remember flooding is stressful. It is normal to feel anxious or upset. Take care of yourself and your family and check on elderly and vulnerable friends and neighbours. 5. Move your family, pets and flood kit to a high place with a means of escape. 6. Avoid contact with flood water and wash your hands regularly. 7. Swallowing flood water or mud can cause diarrhoea, fever or abdominal pain. Mention the flood if you see your GP within 10 days of the event for any abdominal complaints.

9.3 Key public messages after flooding.

Table 32 - Key message to the public immediately after flooding event and during the recovery stage.

<p>Immediately After Event</p>	<ol style="list-style-type: none"> 1. Take care if you must go into flood water. There could be hidden dangers such as sharp objects, raised manhole covers and pollution. 2. Ensure food ventilation if using portable indoor heating appliances to dry out indoor spaces. Do not use fuel driven equipment, such as generators, indoors, the exhaust gases contain carbon monoxide, which can kill. 3. Do not turn on gas or electrics if they may be wet. Only turn them on after they have been checked by a qualified technician. 4. Feeling tired, anxious and having difficulty sleeping is normal after you have been flooded. Contact friends and family for support as it can take a long time to return to normal. 5. If you notice a change in water quality (colour, taste or smell) contact your water provider. 6. Food safety advice after flooding, including how to make baby food without mains water is available from the Food Standards Agency. 7. Do not eat food that has touched flood water. If your fridge has not been working for more than four hours, it is advisable to throw away the food inside. 8. Wash your hands regularly and clean work surfaces before and after preparing food. If water is not available, then use hand sanitising gel and wet wipes. 9. Make sure your family take their medicines and attend scheduled medical appointments. Phone NHS 111 if you have any non-urgent health concerns. 10. Stay with friends or family, or ask the local authority to help you find alternative accommodation if your home has been damaged by flood water. Only return to your home once essential repairs and cleaning has been completed.
<p>Recovery</p>	<ol style="list-style-type: none"> 1. Call your insurance company as soon as possible and follow their advice. 2. Take photographs before you start cleaning and ask your insurer before discarding items that cannot be cleaned e.g. carpets. 3. Wear rubber boots and gloves to clean up and be sure to wash hands afterwards. 4. Clean all hard surfaces with hot water and detergent. Hard surfaces contaminated by sewage need to be cleaned and disinfected. 5. Wash soft items on a 60 degree cycle with detergent. 6. Place rubbish in hard bins or in rubbish bags away from your home. 7. Dispose of dead rodents and pests in a plastic bag, wearing rubber gloves.

	<p>8. Wash clothes used for cleaning on a separate cycle from your other clothes.</p> <p>9. Heating, dehumidifiers and good ventilation can help dry out your home. You may notice mould growing on damp walls, this will stop growing as your home dries out, but if it persists you will need to contact a specialist cleaner.</p>
--	--

9.4 How to recover after a flood? - Information to the public

The government have the following recommendations to following a flooding incident to help aid recovery:

Table 33 - Flood recovery advice as suggested by the Government.

Considerations	
Contact your insurance company	<ul style="list-style-type: none"> If you've been flooded, contact your insurance company and follow their advice. If you haven't got insurance, the National Flood Forum can offer help and support on 01299 403055.
Find your local flood action group or flood warden	<ul style="list-style-type: none"> If there's been a serious flood, your local authority may have chosen a place like the town hall as a 'flood hub' from which to organise recovery efforts. You may also have a nearby flood warden or flood action group. Contact the National Flood Forum for help in finding local support.
Check if you can return home	<ul style="list-style-type: none"> If you've had to leave your home, check with the emergency services that it's safe before you return. Your home or business may also need a safety inspection by the utility companies before you can turn the water, gas and electricity back on.
Cleaning and repairing your home	<ul style="list-style-type: none"> Take advice from specialists before starting repairs to your property. Most of the repair work after flooding will need to be undertaken by professionals appointed by your insurers Flood water may contain harmful substances like sewage, chemicals and animal waste which could make you unwell. If you come into contact with flood water, wash your hands thoroughly. When cleaning your home after a flood always wear gloves, a face mask and sturdy footwear. Find out how to clean up your home safely after a flood. Before you start cleaning, take photographs to document damage and record the flood water height. Ask your insurer before discarding items that cannot be cleaned, like mattresses and carpets.

	<ul style="list-style-type: none"> • If you use heaters or dehumidifiers to dry out your property, make sure there's good ventilation. Never use petrol or diesel-powered generators indoors – their exhaust gases are potentially lethal.
Protect your property from future floods	<ul style="list-style-type: none"> • To reduce flood damage you could take measure such as laying tiles instead of carpets, moving electrical sockets higher up the walls and fitting non-return valves. • Suppliers of flood products and services can be found on the Blue pages. • Read the National Flood Forum's advice on how to protect your property from flooding in the future.
Stay healthy	<ul style="list-style-type: none"> • You can find general advice about staying healthy after a flood at Public Health England. • If you notice a change in the colour, taste or smell of your tap water, stop using it and phone your water company. • You can get support from your local health protection team to prevent and reduce the effect of diseases. • Don't eat food that's touched flood water. If your electricity is off, don't eat fresh food from a fridge after 4 hours or from a freezer after 24 hours. • The Food Standards Agency offers detailed food safety advice for flood victims
Get help	<ul style="list-style-type: none"> • The Environment Agency has specially trained Flood Support Officers across the country who provide information and advice during and after floods. Call Floodline (24-hour service) on 0345 988 1188 or type-talk (for the hard of hearing) on 0345 602 6340 to find out if they're active in your area.
Get emotional support	<ul style="list-style-type: none"> • Having a flooded home is very stressful. If you need emotional support, contact family and friends, your doctor or an organisation like the Red Cross or the Samaritans. • Public Health England offers a guide to mental wellbeing after a flood.

Section 10 Recovery

As flood waters begin to recede the damage left behind can be devastating for families and businesses. This next phase of this incident is to focus on relief efforts, to help return things to normal. This phase is known as the Recovery Phase. SMBC is the lead organisation during the recovery phase. This stage can last months, even years to help support the community to return to the new normal.

Recovery can be broken into two additional phases: short-term recovery and long-term recovery.

10.1 Short term recovery

Short-term recovery usually lasts less than six months and focuses on addressing the immediate needs following the emergency period. Short-term recovery includes activities such as restoration of critical functions and vital resources, damage assessment, debris removal, power restoration, and providing temporary housing.

10.2 Long term recovery

The transition to long-term recovery is typically characterized by the completion of emergency programs and the return to daily life. This phase can last for months up to several years. The long-term recovery period focuses on restoring economic activity and rebuilding the community. The most important element of this phase is the everyday work completed to reduce the long-term risk to people and property.

10.3 Council Recovery Checklist

Table 34 – Council Response – Flood warning no longer in place / recovery checklist

Action	Comments	Complete?
<u>Flood Warning no longer in place</u> Upon receipt of Warning no longer in force:		
Stand down those officers placed on standby who are not involved in recovery or cleansing operations when deemed appropriate		
Maintain operational log of events/decisions – recording time of stand down and reasoning		
Incident stood down? Circulate debrief form to involved services		
<u>Recovery (post flooding actions)</u>		
Once flood waters have subsided and it is safe for Council staff to enter the area the following tasks form an essential part of the post incident recovery process.		

<i>(The survey of flooded areas provides an essential element of the Councils response to flooding, as it indicates the severity of the incident, and the type of response / recovery required)</i>		
<u>Environmental Services:</u>		
Will lead on clean-up operations, working in conjunction with the Council and Police		
<u>Neighbourhoods:</u>		
<ul style="list-style-type: none"> • Adult Social Care team will deploy staff to the flooded areas to determine the number of households affected and the levels of help needed • Forward Liaison Officers will be deployed to scene to also record the number of properties affected • Maintain operational log of events/decisions • Provide immediate response to any homes where there is concern for the welfare of the occupants 		
<u>Regeneration Team:</u>		
<ul style="list-style-type: none"> • Regeneration team members will be deployed to the flooded areas to determine the number of business affected and the level of help required • Record the level of damage / any assistance required • Maintain operational log of events/decisions 		
<u>Highways Team:</u>		
<ul style="list-style-type: none"> • Once floodwater has subsided open roads that were previously closed • Record any damage to roads that require fixtures • Maintain operational log of events / decisions 		
<u>Resilience Team:</u>		
<ul style="list-style-type: none"> • Resilience team will lead the recovery group • Provide business continuity to businesses affected (including schools) • Provide regular updates to directors • Review flood plan, providing lessons learned from flooding incident • Archive incident logs 		

Section 11 Climate Change

Climate change is means as a significant change in the measures of climate, such as temperature, rainfall, or wind, lasting for an extended period – decades or longer. The Earth's climate has changed many times during the planet's history, with events ranging from ice ages to long periods of warmth. What's different about this period of the earth's history is that human activities are significantly contributing to natural climate change through our emissions of greenhouse gases. This interference is resulting in increased air and ocean temperatures, drought, melting ice and snow, rising sea levels, increased rainfall, flooding and other influences.

Around 5.5 million (1 in 6) properties are currently at risk of flooding from either surface water, rivers, reservoirs or sea. It is evident that the underlying hazard will only increase over the commencing decade as a result of climate change and in increasing population in housing developments built in flood risk areas.

Governments across the world have recognised the urgency of tackling climate change and have agreed to work together to tackle this issue. In 2019, the UK government became one of the first developed countries to commit to reducing our own emissions of greenhouse gases to carbon neutral by 2050.

In recognition of the urgency to tackle climate change, Sandwell Council declared a Climate Emergency in 2020. Following the production of our Climate Change Strategy, we have committed as a council to be carbon neutral by 2030 and borough-wide to be carbon neutral by 2041. The strategy includes Sandwell Councils strategy for the council, homes, businesses, transport, waste and recycling, adaptation and resilience, and natural capital.

Sandwell's newly formed Adaptation and Resilience Working Group has been created, with the first meeting occurring on October 4th 2021. The purpose of the group will be to implement the Adaptation and Resilience actions as listed in the council's strategy. Going forward climate change will be incorporated within future reviews of this plan.

Appendix A Flood Emergency Roles and Responsibilities

The response to a major flooding incident involves a number of organisations working together at a local level, namely the Police, Fire Service, Local Authority, Environment Agency and other bodies such as British Waterways, the public utility companies, the communications media, voluntary organisations and the public.

Local Authority:

The principal concerns of local authorities in responding to a major flood emergency are to provide care and support for the people affected in their area. Generally, they do so by working closely with the emergency services and other agencies involved in the combined response. The precise nature and extent of the response will depend upon available resources and local arrangements.

The Council's involvement may be required in responding to a flooding emergency. The Council, as land drainage authorities, are primarily responsible for assisting with flooding to property and the highway.

This response is summarised below:

- Coordination of the local authority response and liaison with other organisations including provision if required of a representative to support Police arrangements for coordination
- Emergency care including feeding, accommodation and welfare for those who have been evacuated from their homes or those affected by flooding but remaining in their homes, this may include psychosocial support
- Emergency transport for personnel, equipment, materials such as sandbags and, if necessary, evacuation
- Information services for liaison with the media on the local authority response and for informing the public and relatives of evacuees and so on
- Clean up and waste disposal
- Repairs to public assets/infrastructure – schools buildings, roads and so on
- Assistance with personal and business insurance issues
- Assistance to displaced businesses
- Flood alleviation - for flood prevention, clearance of blocked culverts, for dealing with flooded roads and diversions and for other assistance to the public, and issuing of sandbags on request
- Emergency environmental health advice for action relating to environmental problems caused by flooding
- Joint agency co-ordination of non life threatening floods and of the recovery phase following a flooding incident
- Coordination of the voluntary response.

Sandwell Council Staff – Flood response job description	
Forward Liaison Officer	Forward Liaison officer (s) will be deployed by the Duty Resilience Officer if appropriate. For localised or small scale flooding this role may be fulfilled by the Duty Resilience Officer. The roles and responsibilities are described in more detail in the councils Emergency Plan.
Tactical Liaison Officer	In the event of larger scale flooding where the Crisis Management Team have been activated, the Tactical Liaison Officer may be requested to represent the Council at a multi-agency tactical meeting.
Drainage Officer	The response of the Drainage team will be coordinated by the Drainage Officer. The Drainage response to flooding will be targeted with due consideration of the resources available. Where flooding is widespread across the district the Drainage Officer will make a dynamic assessment as to where best place resources to alleviate flooding to property.
Traffic and Highways Officer	Incident Liaison officer (s) will be deployed by the duty Resilience Officer if appropriate. For localised or small scale flooding this role may be fulfilled by the duty Resilience Officer. The roles and responsibilities are described in more detail in the councils Emergency Plan.

Police:

At a major flooding event, the primary areas of police responsibility may include:

- To save life in conjunction with the other emergency services
- To coordinate and communicate between the emergency services, local authority and other supporting organisations both at the scene of the incident and elsewhere
- To secure, protect and preserve the scene, and to control sightseers and traffic through the use of cordons
- To ensure access and egress for all emergency services
- To investigate the incident, obtaining and securing evidence in conjunction with other investigative bodies where applicable
- To collate and disseminate casualty information
- To identify the dead on behalf of HM Coroner
- To prevent crime

Fire & Rescue Service:

The Fire & Rescue Service role in a major flooding event may include:

- Lifesaving through search and rescue
- Firefighting and fire prevention
- Rendering humanitarian services
- Provide and/or obtain specialist advice and assistance where hazardous materials are involved

- Salvage, damage control and environmental protection
- The provision of specialist equipment for example pumps, rescue equipment and lighting
- Safety management within the inner cordon (rescue zone)

West Midlands Ambulance Service NHS Trust:

The primary areas of Ambulance Service responsibility at a flooding incident include:

- To save life in conjunction with the other emergency services
- To provide treatment, stabilisation and care of those injured at the scene
- To provide sufficient ambulances, medical staff, equipment and resources
- To establish effective triage points and systems and determine the priority evacuation needs of those injured
- To provide a focal point at the incident for NHS resources at the scene, with direct communications links to hospitals, control facilities and any other agency as required
- To alert all appropriate hospitals/NHS departments of 'Major Incident standby' or 'declared' incidents and ensure provision of accurate information
- To nominate and alert receiving hospitals
- To provide transport, if required, to the incident scene for the Medical Incident Officer (MIO), Mobile Medical/Surgical Teams and their equipment
- To arrange the most appropriate means of transporting casualties to receiving hospitals
- To maintain appropriate documentation of the movement of casualties
- To maintain the Health and Safety of all NHS personnel at the scene
- To maintain emergency cover throughout the West Midlands
- Ambulance Trust area and return to a state of normality at the earliest time

Utility Companies:

- Secure their services and equipment to ensure continuity of supply where possible
- Repair/restoration of services disrupted by flood events
- Provide alternative means of supply where the situation permits during service disruption if life and health risks are identified
- Advise local authorities and the communications media when disrupted services will be reinstated

Utility Company	Role and Responsibility
<ul style="list-style-type: none"> • British Waterways • Seven Trent Water • South Staffordshire Water 	<ul style="list-style-type: none"> • protecting its own structures, some of which are flood defences • its own navigation system and along with other bodies helps to warn the public using the navigation system • provide specialist equipment, materials and other resources as appropriate by local agreement. • provide specialist equipment, materials and other resources as appropriate by local agreement.

Met Office:

As the UK's official weather service, the Met Office is responsible for issuing weather warnings, which warn of impacts caused by severe weather. These warnings are designed to let people, businesses, emergency responders and governments know what weather is in store.

The following information is taken from the MetOffice official website:

<https://www.metoffice.gov.uk/weather/guides/warnings>

Environment Agency:

The Environment Agency has a responsibility in Flood Management which includes the forecasting and warning of possible flood events for specific watercourses, but also the operation and maintenance of the Environment Agency's own flood risk management assets.

The Environment Agency issues flood warnings for several communities in Sandwell at risk of flooding from the River Tame / Stour based on actual or forecast river levels to residents and multi-agency partners who have opted to receive warnings. These warnings can be received by phone, SMS, text, pager and email. Information is also published on the Environment Agency's website, Flood line telephone service and local TV and radio where appropriate.

The Environment Agency provides all Category 1 and 2 responding organisations with full details of the current flood warning service in the Local Flood Warning Plan for the West Midlands. This document includes detailed information and maps of flood warning areas, and these maps and information are utilised by the Resilience Team to gain a better understanding of expected flooding by looking at vulnerable properties and liaising with partner agencies about vulnerable addresses within those areas.

Communications with the Media and the Public:

The Environment Agency uses a system of codes when issuing warning messages. These provide a clear description of the potential impact. To ensure that the actions taken are appropriate to the level of threat, a system of local response levels has been introduced.

When flooding is predicted to affect the residents of Sandwell, the Environment Agency and Met Office will take the lead in providing warning and informing to the public. At the time the flooding starts to occur this information will be supplemented by information from partner agencies for example:

- Road closures and diversions
- Service disruption and alterations.

Generic information placed in the public domain will need to be decided by a multi-agency strategic group, these include:

- Information on travel
- Listening to local radio for updates on road and rail conditions
- Advising people to follow diversionary routes
- Deciding to close roads, car parks and so on
- Advising people to follow advice from the emergency services
- Advising people not to walk, swim or drive through floodwater, there may be hidden hazards which could pose a significant threat to life.

A large amount of flood risk information is displayed on the Environment Agency's website. This includes public advice on what to do before, during and after a flood event, a 3 day flood risk forecast and live information, such the flood warnings in force and current river levels:

<http://www.environment-agency.gov.uk/homeandleisure/floods/default.aspx>

The complete overview of media arrangements for Sandwell is contained in the Sandwell Media Crisis Plan.

The passage of information to the public will follow existing plans and relies heavily upon the use of local radio and agency websites. Householder and businesses that are under threat will have been advised by radio and via the Environment Agency leaflet 'Preparing for a flood' to ensure they have access to a battery powered radio.

Advice on health implications can be obtained on the Health Protection Website www.hpa.org.uk.

The Role of the Voluntary Agencies:

When considering utilising the voluntary sector, it is recommended that they are put on standby early pending local authority's assessment of the situation. This gives them time to make the necessary arrangements and identify volunteers to be ready just in case, so that they can offer their best service. They can easily be stood down if the decision is made that they're not required, or readily activated/deployed if they are needed. Voluntary agencies are not contacted, and resources should not be relied on.

Red Cross:

- When considering utilising the voluntary sector, recommend putting on standby earlier pending local authority's assessment of the situation
- Providing emotional/Psychosocial Support (emotional)
- First Aid - including equip and establish a First Aid Room. Help signpost to First Aid Room. Maintain a register of all treatment given. Confirm that all those receiving treatment have been registered with the admin team responsible for registration. Alert

Rest Centre Manager to any requirements for health screening (Doctors, Pharmacist etc for persons with special needs).

- Ambulance Support/Transfer
- 4x4 vehicle support
- Therapeutic Care service - relaxing massage techniques to help ease stress for evacuees, responders/personnel.
- Medical loan (e.g.) wheelchairs and commodes, as available
- Support Line – assist with setting up, and/or providing volunteer support line operatives
- Refugee Services / Interpreting Service - possible help with communication and translations
- Liaise with Rest Centre Manager and Building Manager.
- Undertake welfare support as directed by Community Services.
- Provide a representative to attend management briefings
-

St John Ambulance

- Provision of First Aid facilities.
- Liaise with Rest Centre Manager and Building Manager.
- Equip and establish a first aid room.
- Sign post First Aid Room.
- Maintain a register of all treatment given. Confirm that all those receiving treatment have been registered with the admin team responsible for registration.
- Alert Rest Centre Manager to any requirements for health screening (Doctors, Pharmacist etc for persons with special needs).
- Undertake welfare support as directed by Community Services.
- Provide a representative to attend management briefings.

Salvation Army

- Assistance with the operation of Rest Centres
 - Assistance in the distribution of food and clothing
- Assistance in tracing missing persons

Appendix B Health and Safety

RISK ASSESSMENT SUMMARY SHEET			
Activity:	Flooding & Water Related Incidents		Issue Date:
Location:	Sandwell, West Midlands		Review Date:
Task:	Hazard & Accidents	Risk	Control Measures:
Driving Vehicles in flood conditions	Driving through floodwater & exhaustion -Unsafe acts. Prolonged incidents, long hours without rest and disturbed sleep. Hidden hazards, changes in level, lifted manhole covers, obstructions, leaving road surface	HIGH	<ul style="list-style-type: none"> • Avoid driving through floodwater for non-life-threatening incidents • Four-hour maximum working period • Drive slowly with caution • Supervisor to monitor individual signs of exhaustion • Provide reliefs at earlier intervals if necessary • Request addition resource for staff rotation • Request rest and refreshment facilities for prolonged incidents
Working alongside water	Falls into water or onto ground Poor lighting, slippery conditions - Drowning or neck injuries	MEDIUM	<ul style="list-style-type: none"> • Provide adequate lighting, and define safe access routes • Appoint Safety Officer, brief personnel on hazard and prohibit lone working • Establish correct cordons; inner cordon within 3m of the water's edge • Wear Buoyancy aid at all times
	Members of the public Violent behaviour, interference and pressure to act	MEDIUM	<ul style="list-style-type: none"> • Request attendance of police for control of the public • Escort public from scenes of operations
	Overhead Power Lines Electrification	MEDIUM	<ul style="list-style-type: none"> • Dynamic risk assessment – identify any overhead power lines • Do not go near any exposed wiring, report to emergency services

Appendix C Situation Report (SITREP) template

Incident		Report No.	001
Date		Time	
DEPO			0121 569 4123
Duty/Lead Director			0121 569 4133
Live Map Link			
Major Incident			
Exact Location			
Type of Incident			
Hazards			
Access			
Number casualties			
Emergency services			
Situation			
Response			
Forward Look			

Appendix D National Flood Definitions

National Definitions

Flooding can impinge on properties in a variety of ways. The definitions below may help to distinguish between these effects:

Flooded' properties are those in which floodwater has entered the main interior of the home/business. This includes:

- Flooding of basements or sub-floors;
- Garages are included if in the fabric of the building. Garages adjacent or separate from the main building are not included;
- Includes occupied caravans and park homes, but not tents.

Affected' properties are those where water has entered gardens or surrounding areas which restricts access, or where flooding has disrupted essential services to the property such as sewerage. For businesses, this includes those where the flood waters are directly preventing them trading as usual.

Impacted' properties are those where floodwater has caused no actual damage to the interior or exterior but has had other consequences for the owner (e.g. difficulty in access/egress due to the highway being flooded).

The main sources of flooding within Sandwell Councils boundary include:

- **Pluvial** – Surface water flooding caused by extreme rainfall which is not absorbed by the ground, and exceeds the capacity of the drainage systems.
- **Fluvial** – Flooding from rivers and other watercourses
- **Groundwater** – rising of water within the groundwater table
- **Burst water main** (this is not covered within this plan).

Levels of Emergency

In the event of an emergency the following terminology will be used to describe the level of emergency.

Level of Emergency	Description	Level of Engagement
Catastrophic	Floods affecting a significant proportion of England; thousands of displaced persons; serious damage to critical infrastructure.	COBR and/or Civil Contingencies Committee. Prime Minister or Nominated Secretary of State will lead the response requiring Central Government or the invocation of Emergency Powers.
Serious	Flood in several counties; hundreds of displaced persons; actual, or risk of, critical infrastructure disruptions.	Response co-ordinated by COBR by the Lead Government Department. May require a deployment of wider Government resources, with the CCS providing overall co-ordination and support on consequence management and recovery issues/
Significant	Floods in more than county, some displace persons and potential risk to critical infrastructure.	Lead Government Department Minister runs the crisis response from their own emergency facilities as appropriate. CCS advises as and when necessary.
Local	Local flooding, small scale evacuation; no risk to critical infrastructure.	No significant Central Government involvement. Normally led by the SCG Chair for larger emergencies.

Appendix E Abbreviations

CRR	Community Risk Register
DEFRA	Department for Environment, Food and Rural Affairs
DEPO	Duty Emergency Planning Officer
EA	Environment Agency
ECC	Emergency Control Centre
ERA	Extreme Rainfall Alert
FAS	Flood Advisory Service
FFC	The Flood Forecasting Centre
FGS	The Flood Guidance Statement
FMfSW	Flood Map for Surface Water
HAC	Humanitarian Assistance Centre
JESIP	Joint Emergency Service Interoperability Principles
LA	Local Authority
LRF	Local Resilience Forum
MAFP	Multi-Agency Flood Plan
NSWWS	National Severe Weather Warnings
PCT	Primary Care Trust
SFRP	Sandwell Flood Response Plan
SOP	Standard of Protection
TCG	Tactical Coordinating Group

Appendix F Glossary

Catchment	
Civil contingencies Act	This Act delivers a single framework for civil protection in the UK. As part of the Act, Local Resilience Forums must put into place emergency plans for a range of circumstances including flooding.
Climate Change	Long term variations in global temperature and weather patterns caused by natural and human actions. Climate change affect also sea and river levels and rainfall intensity.
Critical Infrastructure	Assets that are essential for the functioning of a society or economy
Emergency Control Centre	Generic term for a centre for controlling and co-ordinating the response of an organisation to an incident or an emergency.
Environmental damage	Damage caused by the event that adversely affects the environment, including physical (trees fallen down) and chemical (pollution and contamination from floodwater).
Flood map Planning	A map produced by the Environment Agency providing an indication of the likelihood of flooding within all areas of England and wales, assuming there are no flood defences.
Flood Risk Area	An area determined as having a significant risk of flooding in accordance with guidance published by Defra and WAG.
Flood Risk Regulations	Transposition of the EU Floods Directive into UK law. The EU Floods Directive is a piece of European Community (EC) legislation to specifically address flood risk by prescribing a common framework for its measurement and management.
Forward Liaison Officer (FLO)	Attends the incident to become the eyes and ears of the Council on site and acts as liaison officer between the emergency services, utilities, and the Council's employees and/or service providers.
Fluvial Flooding	Flooding resulting from water levels exceeding the bank level of a main river.
Lead Time	The period of time predicted between the initiation of the warning and the incident occurring.
Pitt Review	Comprehensive independent review of the 2007 summer floods by Sir Michael Pitt, which provided recommendations to improve flood risk management in England.
Resilience Measures	Measures designed to reduce the impact of water that enters property and businesses, such as raising electrical sockets/appliances above flood levels.
Responding Agency	All organizations with a direct role and/or responsibility to the response of a flood event
Real threat to property	Any risk imposed on the property due to the flood event, including direct flooding of the property, affected utilities, and limitation of access.
Rest Centre (RC)	Building, which could include overnight facilities, designated by the local authority for the temporary accommodation of evacuees.

Rest Centre Liaison Officer (RCLO)	Council officers who facilitate access to rest centres during an incident and act as a liaison officer between the DEPO, British Red Cross (BRC) and facilities management.
Risk	In flood risk management, risk is defined as a product of the probability or likelihood of a flood occurring, and the consequence of the flood.
Sewer flooding	Flooding caused by a blockage or overflowing in a sewer or urban drainage system.
Spontaneous evacuation	The unplanned evacuation of residents and/or visitors from a location. Often resulting from an impulse decision fuelled by panic.
Standard of Protection	Defences are provided to reduce the risk of flooding from a river and within the flood and defence field standards are usually described in terms of a flood event return period. For example, a flood embankment could be described as providing a 1 in 100-year standard of protection.
Surface water	Rainwater (including snow and other precipitation) which is on the surface of the ground (whether or not it is moving), and has not entered a watercourse, drainage system or public sewer.
Vulnerable people	Those individuals who are less able to help themselves, and require assistance from responding agencies, in the event of a flood.