CITY OF WOLVERHAMPTON COUNCIL

Scrutiny Review of Flood Risk Preparation and Response

13 July 2018

Time	10.00 am	**Public Meeting?**	NO	**Type of meeting**	Scrutiny Reviews
Venue	Committee Room 3 - Civic Centre				

Membership

Chair Cllr Philip Bateman MBE (Lab)

Cllr Greg Brackenridge
Cllr Alan Butt
Cllr Keith Inston
Cllr Linda Leach
Cllr Asha Mattu

Information for the Public

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Some items are discussed in private because of their confidential or commercial nature. These reports are not available to the public.

Agenda

Part 1 – items open to the press and public

Item No. *Title*

1 **Welcome and Introduction - Cllr Phil Bateman Chair**

2 **Apologies**

EVIDENCE SESSION

3 **Jennifer Brake - Service Director Public Service Reform** (Pages 1 - 50)
[Jennifer Brake - Service Director Public Service Reform, and, Emma Smallman, Resilience Manager, to present evidence]

4 **Ian Fegan - Head of Corporate Communications** (Pages 51 - 52)
[Ian Fegan, Head of Corporate Communications, to present evidence]

5 **Background Document - Flood Strategy for Flood Risk Management 2017** (Pages 53 - 68)
[A extract from the main document for information]

6 **Draft findings and next steps**

1. Briefly outline your role and responsibilities for either flood risk management or emergency planning in Wolverhampton?

As the Senior Resilience Officer, I must ensure that the work of the Resilience Team meets the aims and objectives of the Resilience Board through our three-year work programme.

During this time, we must ensure that the Council understands its obligations in relation to the Civil Contingencies Act 2004, supporting the Council in response to and recovery from (major) incidents or Business Continuity incident. At the time of an incident the Resilience Team may be called on as subject matter experts to advise and represent the Council at multi-agency meetings during office hours.

It is crucial that we ensure all response and recovery plans, documents and arrangements are fit for purpose, meet the National and Local Risk Register and any additional legal or statutory requirements.

I am responsible for the development and maintenance of a comprehensive training and exercising programme for Council staff to ensure an efficient response, including the development and training of both Duty Managers and Duty Directors.

2. What action did your organisation take in preparation for the weather forecast of heavy rainfall on Sunday 27 May 2018?

All forecasts prior to the event shared by the Met Office were shared in accordance to all protocols. Friday the 25th, the team were working off-site at West Midlands Fire Service (WMFS) HQ, Vauxhall Road, Birmingham at an Intelligence and Innovation event.

As usual the forecasts were distributed, however due to connectivity issues between City of Wolverhampton Council assets (laptop and phone) and the WMFS network, the email did not send and remained in the outbox. This has since been rectified as part of the collaborative work of the two teams.

3. What are your views of the effectiveness of current flood risk management and emergency response co-ordination with other partner organisations before during and after the flooding event on Sunday 27 May 2018?

For flood planning, the Resilience Team consult with all relevant agencies as required, including but not limited to; The Environment Agency, internal services and the emergency services.

However, this will change due to the release of the new National Guidance and the potential change to flooding responsibilities.

4. What were the challenges to your service in helping to prevent surface water and sewer flooding in known high-risk areas in Wolverhampton?

This is not part of the Resilience Team work, this will be Environmental Services and Highways in conjunction with water companies.

5. What changes, if any, would like to see flood risk management or emergency response plans in the future?

Currently we are awaiting the release of the upcoming National Guidance regarding the future of flood planning. This will influence the changes that we must make, those that are recommended as good practice and those that must be discontinued as responsibilities shift to other organisations.

National Flooding Framework for England Guidance – Summary

First Published in 2014 - awaiting release of new guidance due Summer 2018.

Section One: Understanding flood emergency planning and response

Flooding is a frequent hazard to both life and property. National assessments of flood risk by the Environment Agency states that currently in England:

- One in six homes is at risk of flooding.
- 2.4 million properties are at risk of flooding from fluvial or costal sources.
- 3 million properties are at risk from pluvial flooding.
- Approximately 600,000 properties are at risk from all three types of flooding.

As well as rivers, sea and surface water, there are significant risks to some communities from groundwater flooding and water from failed or overflowing reservoirs. No area within England can expect to escape flooding in its entirety and its potential to cause; serious harm to human health, property damage, social and economic damage and disruption.

"It is difficult to forecast the exact timing of flooding or the precise nature of its impact. This is particularly true for surface water flooding and flash flooding in river catchments."

Department for Environment, Food and Rural Affairs (2014). The National Flood Emergency Framework for England. London: The National Archives, p.3.

The Framework is intended for use by all those involved in planning for and responding to flooding from:

- The sea;
- Rivers;
- Surface water;
- Groundwater;
- Reservoirs;
- Artificial waterways and canals.

Section Two: What emergency planners and responders need to know about national emergency management

Managing any emergency comprises of three main phases:

1. Preparation (pre-planning)
2. Response (mitigating an immediate risk)
3. Recovery (rebuilding, restoring and rehabilitating)

The response phase comprises of two separate but closely related and overlapping challenges. Crisis Management and Consequence Management. These must be designed to both control and minimise the immediate challenges arising from a flooding incident.

Crisis Management - attempts to prevent or avert an imminent incident, alongside any other preventative or protective measures to mitigate the effects, disruption and damage and to secure the scene of an incident. It will also include actions to be taken to address the immediate effects of an incident e.g. evacuating those at risk. It will last until the situation is brought under control.

Consequence Management - should be run in parallel to crisis management and works to prevent the incident from escalating. It includes managing the wider consequences of an incident e.g. providing shelter to displaced persons.

Incidents are routinely handled by local Category 1 responders without the need for National intervention, this includes incidents of localised flooding. The primary responsibility for planning for and responding to any incident remains with local organisations, acting individually or collectively through the LRF and Strategic Co-ordinating Group. The local multi-agency response to a flooding event will be co-ordinated by the SCG, the Chair of which will normally be the Local Authority Chief Executive or delegated individual with executive authority.

Central Government Involvement for a flooding event would be as follows:

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 person; 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.

A Response Co-ordinating Group (ResCG) is likely to be established when an incident affects more than LRF or has the potential to do so. It is a communication tool hosted by Ministry of Housing, Communities and Local Government (MHCLG) Resilience and Emergencies Division (RED). It ensures all organisations have consistent information, can joint risk assess and joint response plan.

The ResCG will not interfere with local C^2 arrangements and will be set up based on risks identified at the time.

Department for Environment Food and Rural Affairs (DEFRA) is accountable for reporting the overall impacts of flooding during the response phase, and MHCLG during the recovery phase.

Definition of Flooded Properties includes both homes and businesses:

Properties flooded are those where it is considered that water has entered the property:

- **Cellars/basements and below ground level floors are included;**
- **Garages are included if they are connected to the main building. Separate or adjacent garages are not included;**
- **Includes occupied caravans and park homes, but not tents;**

Properties affected by flooding 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 from trading as usual.

Section 3: What emergency planners and responders need to know about the legal framework

The Flood and Water Management Act 2010 provides for better, more comprehensive management of flood risk management for people, homes and businesses. It helps safeguard community groups from unaffordable rises in surface water drainage charges and protecting water supplies to consumers.

In terms of emergency planning and response at the local level, it places responsibility on the Lead Local Flood Authority, for surface runoff, groundwater and ordinary watercourse flooding.

Section 4: What emergency planners and responders can expect from central Government

National flooding incidents require agencies to work singularly and collectively. The strategic objectives of Central Government will be:

1. React with speed and decisiveness;
2. Respect local knowledge and decision-making wherever possible, without losing sight of the national strategy;
3. Prioritise access to scarce national resources;
4. Use data and information management systems to gain a national picture and support decision making without overburdening front-line responders;
5. Base policy decisions on the best available science and ensure that the processes for providing scientific advice are widely understood and trusted;
6. Draw on existing legislation to respond effectively to the event and consider the need for additional powers;
7. Apply risk assessment methodology and cost benefit analysis within an appropriate economic model to inform decision making;
8. Work with international partners to share information and request assistance if necessary; and
9. Explain policies, plans and practices by communication with interested parties, including the public) comprehensively, clearly and consistently in a transparent and open way that addresses national and local concerns while encouraging and listening to feedback.

Organisation	Preparedness	Response
DEFRA	• Building up the departments resilience to shocks and its capacity to lead the response; • Identifying and maintaining the capabilities that local responders and those at each level of crisis management can call upon; • Maintain press/public information contacts, so the Department is in a position to effectively co-ordinate the press/public information effort during a crisis; • Planning for and leading negotiations with the treasury for any additional funds; and • Keeping aware of the changing set of risks, threats and vulnerabilities which bear upon its fields of responsibilities.	• Acting as the focal point for communication between Central Government and SCG(s) on the ground; • Producing a brief, accurate situation report on the nature and scale of the emergency and a handling plan; • Drawing upon and applying the relevant capabilities applicable to the emergency in hand; • Taking whatever executive decisions and actions are needed from the centre to handle the emergency or to help the local responders deal with it; • Acting as the focal point for information flows; • Co-ordinating and disseminating information for the public and the media at the national level; • Accounting to Parliament and leading in the submission of evidence to any subsequent government appointed inquiry; and • Learning and sharing the lessons from the emergency.

Section 5: Tools for flood emergency planners and responders

Product	Delivered By	Flooding Type	Importance
Daily Flood Guidance Statements	Flood Forecasting Centre	All	High - trigger for preparation and action.
Public Flood Warning	Environment Agency	River, coastal and some groundwater	High - trigger for action.
National Severe Weather Warning Service	Met Office	All	High - keep watch and trigger for preparedness.
River and Sea Levels on the internet	Environment Agency	River and coastal	Medium - keep watch.
Targeted Flood Warning Service	Value added resellers with EA data	River and coastal	High - keep watch, trigger for preparedness and action.
Highways England Website	Highways England	All	Low - consequences of flooding.
Rail Disruptions	National Rail Enquiries	All	Low - consequences of flooding.

Surface water flooding happens as a direct result of intense or extreme rainfall. It differs from river flooding in that it can happen before water enters a river or watercourse, or where none exists. Advance warning is difficult as it can happen very quickly when the level of rainfall is more than the drains can handle. The effect of its impact depends on local landscapes and local conditions such as the state of culverts and receiving ground conditions.

Flooding from surface water happens when the local drainage system cannot cope with the rainfall. It is extremely difficult to predict precisely where surface water flooding will happen as it is dependent on:

- Ground levels;
- Rainfall; and
- Local drainage network.

Historically the split in responsibilities between Local Authorities and water companies has meant that there has not been a common approach to the management of drainage systems in urban areas. The Flood and Water Management Act made these roles much clearer.

Water companies and the LLFA's must work together in partnership to manage and map surface water flooding, whilst the Environment Agency has a strategic overview for all types of flooding.

A surface water flood map was published by the EA in 2013 and made available to all Local Authorities, LRFs and partners. This is the primary, national source of information on the risk of surface water flooding.

Section 6: The importance of multi-agency planning

Central Government has drawn up guidance for multi-agency flood planning, based on good practice from a range of existing plans, guidance and documents and lessons learnt from real events and exercises. Guidance has been produced specifically for multi-agency planning, but is a goof source of information, advice and guidance for individual or local flood plans.

Plans should focus on at least three groupings of people; the vulnerable, victims (survivors, family and friends) and responder personnel. The health sector, including social care organisations, will be an integral part of ensuring any planning take into account the needs of these people.

Vulnerable people may be less able to help themselves in an emergency than self-reliant people. Those who are vulnerable will vary depending on the nature of the emergency, but plans should consider:

- Those with mobility issues;
- Those with mental health difficulties;
- Those in receipt of social and/or medical care in their own homes; and
- Those with dependents.

Victims of any emergency include not only those directly affected but also those who, as family and friends, suffer bereavement or anxiety from not knowing what has happened.

All plans should consider the welfare of responders at all times.

Plans should aim to reduce, control or mitigate the effects of an emergency. The bulk of planning should consider how to minimise the effects of an emergency, starting with the impact of the event and looking at remedial actions that can be taken to reduce its effects. The plan must look at secondary impacts such as media attention and public response.

Recovery plans should also be developed to reduce the effects of the emergency and ensure long term recovery.

Section 7: Good Communications: planning how you will communication during an incident

A well-informed public is better able to respond to an emergency and to minimise the impact of the emergency on the community. Communication arrangements between responders will need to be planned for, as flooding can often lead to a failure in telecommunications systems. All agencies should assume that telecommunications will fail during a flooding event and a suitable provision for dealing with this should be sought.

Poor communications can be damaging. To damage done to public confidence by the release of inconsistent and contradictory messages can be hard to repair. Similarly, speculation about causes and future developments. In the event of a flooding incident, it is better to say if something is unknown than to guess, particularly if this is going to raise the hopes of those affected.

It is important that any planning considers how CWC will raise the public's awareness prior to an incident, about the risk of flooding and how they may have affected. Such plans will also need to include arrangements to communicate with certain groups of vulnerable people who are dependent on their telephone lines and they will be dealt with if the network fails.

Door-knocking and similar low technology methods will be the most resilient to disruption to telecommunication networks and power. Organisations giving direct instructions to the public, or building managers communication with tenants, allowing the public to receive messages from a known (and generally trusted) source.

However, for techniques such as door-knocking, large numbers of personnel will be required for it to be effective, which will be difficult to sustain for anything other than short periods of time. They will also need to have regard to health and safety implications to ensure any door knocking takes place well before any flooding is expected.

Section 8: Important aspects of flood preparedness

Items for consideration in any flood plan:

1. Vulnerable people - how will they be identified?
2. Sandbags - less effective than other methods to protect property from flood water, they are a useful and flexible method for boosting defences at short notice. All local authorities should communicate to residents their sandbag policy
3. Sewage and sewage systems - local authorities are responsible for co-ordinating welfare to their communities and ensuring all needs are met. It is suggested that an agreement is reached before an event as to who will clean up any sewerage spills as a result of flooding.

Section 9: The health consequences of flooding

Direct	Indirect
Drowning	Carbon monoxide poisoning from fuel driven equipment for drying or pumping out flood water.
Physical trauma from concealed or displace objects	Effects on mental health both acute and long-term
Water shortage and contamination due to loss of water treatment works	Illness associated with disruption and reduced access to healthcare services.
Chemical contamination of flood water	Disruption to livelihoods and income.
Heart attacks	
Electrocution	
Fire	
Infectious diseases from contaminated flood water	
Vector-borne diseases	
Rodent-borne diseases.	

During flooding, sewerage systems may be inundated with flood water.

Consequently flood water in the UK is likely to be contaminated by disease producing bacteria and viruses, but not high-risk enteric infectious diseases such as cholera and typhoid.

The relative risk to people from bacterial contamination of flood water is, therefore low, especially if public health advice is followed. Should raw sewage enter flood water, the diluting and dispersing of the potential sources of infection, further significantly reduces any risk.

Other risks associated with flooding include:

Flood Water and other Hazards	Individual Factors	Damage to Property and Infrastructure
Fast flowing water.	Driving through flood water.	Damage to homes.
Water of unknown depth.	Walking through flood water.	Damage to infrastructure.
Hidden hazards in flood water.	Walking on sea defences.	Population displacement.

Flood water contamination.	Walking on river defences.	Lack of access to health services.
Fallen power lines.	Driving over bridges when water levels are high.	Disrupted food and water supplies.
Fallen trees.	Exposure to electrical hazards.	Disrupted utilities.
Carbon monoxide poisoning.	Incomplete routine hygiene.	Delayed recovery.

Section 10: Flood Rescue

The decision to deploy specialist flood rescue teams, rest with the emergency services and it is their responsibility to assure themselves that any teams they deploy are competent to operate safely in a flooded environment. It is not the responsibility of the local authority.

In the context of flood planning, vulnerable people are defined as those who are unable to help themselves during an emergency.

Will all populations are at risk to the health effects associated with flooding, certain groups may be more vulnerable. Vulnerability to the health effects of flooding is due to complex interaction of factors:

- Severity and rapidity of the flooding;
- Health status and need for regular medical treatment;
- Access and availability of warning;
- Rapidity of response measures; and
- Being located in high-risk areas and high-risk built environments.

Potentially Vulnerable Individual/Group	Examples and Notes	Target via the following
Children	Where children are concerned, whilst at school, the school authorities have duty of care responsibilities. Certain schools will require more attention than others.	Schools through Local Authorities and through their Governing body or proprietor. Creches/playgroups/nurseries.
Older people	Certain sections of the elderly community, including those of ill health requiring regular medication and/or medical equipment.	Residential care homes. Help the Aged. Adult social care.

		Nursing homes.
Mobility impaired	Wheelchair users; leg injuries (e.g. crutches); bedridden/non-movers; slow movers; bariatric patients.	Residential care homes. Charities. NHS providers. Local Authorities.
Mental/Cognitive function impaired	Development disabilities; clinical psychiatric needs' learning disabilities.	Residential care homes. Charities. NHS providers. Local Authorities.
Sensory impaired	Blind or reduced sight; deaf; speech and other communication impaired.	Charities. Local Groups.
Temporarily or permanently ill	Potentially a large group encompassing not only those that need regular medical attention, but those with chronic illnesses that may be exacerbated or destabilised in the event of an evacuation, or because vital medication or equipment was left behind.	NHS providers. GP surgeries. Other health providers. Community health teams.
Individuals supported by health or Local Authorities		Adult social services. Children's social services. GP surgeries.
Individuals cared for by relatives		GP Surgeries. Carers Groups.
Homeless		Shelters. Soup Kitchens.
Pregnant women		GP Surgeries.
Minority language speakers		Community Groups.

		Job Centre Plus.
Tourists		Transport and travel companies. Hoteliers.
Travelling community		Local Authority traveller services. Police Liaison Officer.

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Incident Timeline

Friday 25th May	
10:55	Met Office Yellow warning for rain received via email.
15:30	Chelsea issued email forwarding Met Office warning, failed to send via outlook – stuck in outbox.
Saturday 26th May	
	No news
Sunday 27th May	
	Bantock House outbuilding fire, struck by lightning on roof of café. Fire Service attending and put out fire but now have a hole in the roof. Boiler panel and electrics also burnt out. BBP security put onsite Sunday and Monday due to alarms not working.
	Art Gallery, severe flooding Sunday evening mostly in Lichfield entrance. Water damage to some paintings on the stairs. Polythene has been used to protect the paintings.
	Makers Dozen Studios, severe flooding to several studios Sunday evening, ceiling has collapsed in one studio. Most artists have collected their work.
Monday 28th May	
09:08	Laura Phillips emailed Jen Brake, Sue Handy, Shaun Aldis regarding an update for Leaders meeting on Wednesday.
Tuesday 29th May	
09:00	Jen Brake approached Resilience Team to find out what happened the weekend, Resilience Team unaware of anything. This followed the email from Laura and information from Jack Strickland regarding not being able to get through to the emergency line on the weekend.
09:40	Chelsea contacted all on-duty officers to find out if any calls had gone through and been missed – none received over weekend.
09:40	Emma contacted Ian Rawlings (Wolverhampton Homes Duty Supervisor) to find out what the issues were. He states: he states they have limited information but confirmed that there was an issue and that Openreach was on site attempting to rectify the issue. Confirmed that many of the antenna masts received storm damage, likely from a lightning strike. This has affect CCTV, remote locks and some phone lines. Investigation under way as to which lines have been affected, unlikely to be 2999 lines, however this information will not be accessed by Wolverhampton Homes until after 1600 today (29/05/2018). Further updates will be emailed to the Resilience Team from Wolverhampton Homes as we have them.
11:15	Chelsea informed 'informally' by Adrian Leach that schools have been flooded.
11:52	Joe Perry requests information from Resilience to help with their statement requested by Express and Star. Chelsea said she will find out more.
12:38	Steve Woodward email to say that floods are result of flash flooding – capacity of drains was reached so surface water couldn't be drained away. All of the highway drainage which includes the gullies and channel drains are connected to a Severn Trent Water surface water sewer. Sewers are normally large enough to deal with normal or non-exceptional storm events. The storm event of weekend where a month's rain fall fell in one hour would far exceeded the design capacity of a sewer leading to sever flooding in some areas. Any further additional highway drainage installed above ground would still need to be connected into the Severn Trent surface water sewer and would in all likelihood be of little value if a storm of similar intensity occurred. Tim has details from me of trees down, and I'm sure Alan and Trevor. Much of the damage resulting in costs would be associated with private property etc as a result of water damage again Alan and Trevor may be able to assist.

12:44	Chelsea emailed directors and key service heads for any updates of their services being affected.
13:00	Meeting held with Jen Brake, Chelsea Sibley and Emma Smallman to discuss situation. Then turned into an informal briefing with Andy Moran, John Denley, Saty Sandhu, Paul O'Rourke, and Joe Perry. Actions to be taken: Andy Moran to find data from ICT on calls. Customer Services to identify any issues over the weekend with JonTek and to test the line at 16:00.
13:31	Bill Hague provides update: Heath Park has suffered extensive water damage throughout the school. The FM contractor for the PFI are currently trying to remove all the standing water and wet hoovering carpets but damage is pretty bad. While not their issue due to academy/PFI arrangements it is exams next week. As precaution education are contacting all secondary schools by phone to make sure they are thoroughly checking their sites. A blanket email is also being sent to all schools for them to check their sites and contact their relevant FM service provider if necessary.
13:33	Tim Pritchard provides update (coinciding with Marguerite Nugent) on damage to council premises.
13:56	Gail Rider informs that West Midlands Pensions – Mander Centre down with power issues but they have kicked in their resilience plan.
13:56	In respect of WH properties, we did have an increase in out of hours emergency repairs calls. Our emergency repairs team dealt with 57 calls on the 27th May (the worst day of the rain). This resulted in 5 follow on calls today – mainly to complete repairs/make good. Of these 57, they were mainly queries around overflowing guttering; some roof leaks. We had an extra emergency team working to make sure every tenant was visited. Through these repair calls, no pumping out/fire service attendance was required and no tenants were displaced. In terms of homelessness services, we had no approaches for emergency housing due to the weather/flooding. We are preparing the statistics now for the wider out of hours emergency services we provide on behalf of CWC and the details will be with you close of play.
14:07	Saty Sandhu has confirmed that all Jontek calls were ok over the weekend.
14:25	Andy Moran sends an excel spreadsheet showing what appears to be normal running of the 2999 system over the weekend.
14:53	Andy Moran sends an update showing that report states 2 out of 356 incoming calls were not answered.
15:31	Emma Smallman issued an email to state that we were looking into reports of issues but provided reassurance.
15:50	Ian Rawlings emailed to state 2999 number is running ok.
16:04	Steve Woodward update – 36 dead fish needed to be removed from West Park lake due to oxygen levels during storm. A number of trees down across the city – 1. Road traffic collision on the St John's stretch of the Ring Road – tree hot to be checked and also street lighting column; 2. Large tree limb came down and cleared, the tree will be checked by our arbor team - 14 Inchallagon Road; 3. Lester Street, rear of Peugeot garage on Bilston Road - cut enough off the tree to free up highway, work to clear / fell the rest of the tree required; 4. Tree outside 34 Hazel Road, Bradmore, fallen limb arbor to check; 5. Glendale Close fallen tree to be removed by arbor, not a hazard to highway users where it has fallen.

	Meals on Wheels van caught fire, fire service put it out. Fleet Service retrieved it.
16:05	Emma Smallman has issued an email for debrief feedback.

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Briefing Note

CITY OF WOLVERHAMPTON COUNCIL

Title: Severe weather and out of hours calls – Bank holiday weekend 25-28 May 2018

Prepared by: Jennifer Brake, Service Director, Public Service Reform Date: 30 May 2018

Intended audience: Internal ☒ Partner organisation ☐ Public ☐ Confidential ☒

Purpose

To outline the issues highlighted during the bout of severe rainfall over the bank holiday weekend.

Overview

The Met Office put Yellow and Amber Warnings in place at various times between 25-28th May for rain. Over the weekend the West Midlands experienced a months' worth of rain fall onto the West Midlands in under an hour, with over 10,000 recorded lightning strikes in the West Midlands alone. With this a number of impacts were felt across the City, including a number of flash floods and power outages. We are currently establishing the overall impact on council services and buildings.

Geographical map of incidents reported

The attached map displays data collected over the bank holiday weekend from the Highways Team, Education and Visitor Economy. All highways data was received via the out of hours Contact Centre and are essentially the incidents that affected the city; as can be seen the flood incidents were localised.

The Education and Visitor Economy data have been gained from Service Heads. This includes the flooding of Heath Town School, the flooding of the Civic Halls, Art Gallery and Makers Dozen Studios, as well as the fire at Bantock House from a suspected lightning strike. It should be noted that this is only the data reported to the Resilience Team.

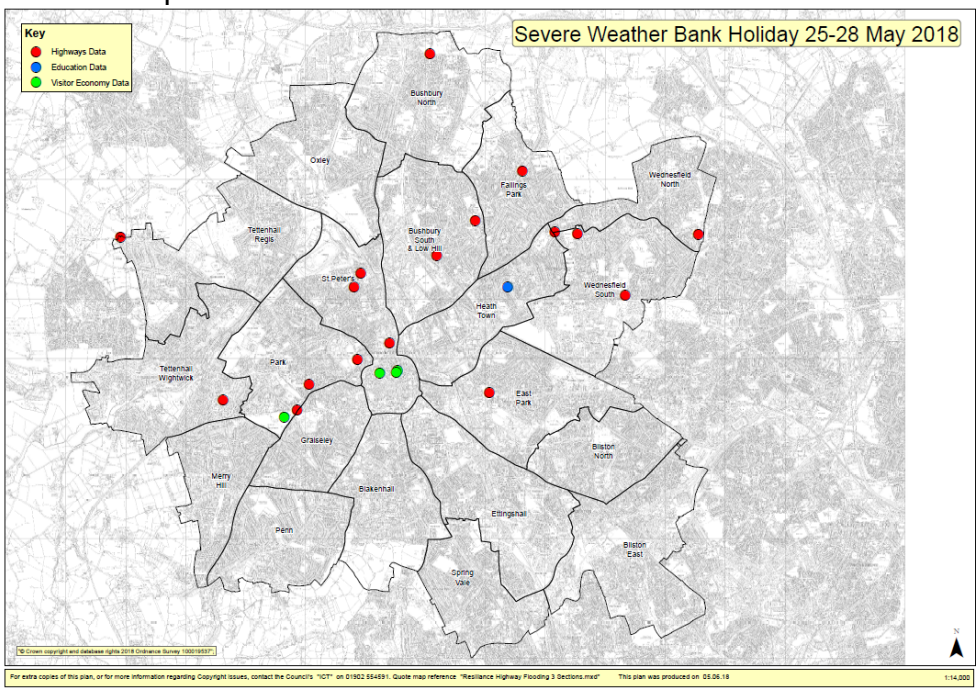


Table of postcodes West Midlands Fire Service were called out to over the weekend when the severe rain hit. These could not be plotted fairly on the map due to the limited information (due to data protection) on post-codes, it would pin point a whole area rather than specific location.

Date	Postcode	Number of Calls	Number of Attended Calls	Incident Type
27/05/2018	WV3	2	0	Flooding
27/05/2018	WV6	1	1	Special Service Call
27/05/2018	WV10	1	0	Water Rescue Incident
27/05/2018	WV10	7	1	Flooding
27/05/2018	WV10	1	1	Flooding affecting electrics
27/05/2018	WV11	7	1	Flooding
28/05/2018	WV1	3	0	Flooding
28/05/2018	WV3	3	0	Flooding
28/05/2018	WV6	1	0	Flooding
28/05/2018	WV10	3	0	Flooding
28/05/2018	WV10	1	0	Special Service Call
28/05/2018	WV11	5	0	Flooding
28/05/2018	WV12	2	0	Flooding
28/05/2018	WV14	1	0	Flooding

On-call procedure – bank holiday

A Duty Director and Duty Manager were on-call at all times over the Bank Holiday – personal numbers were used at times (pre-planned) in order to accommodate the volunteer system that is used on Bank Holidays. The full list of numbers to be used were distributed to officers on-call as well as the 24 Hour Contact Centre. The usual co-ordinated response structure should have still been adopted as necessary:

Public/Responding Organisation > 24 Hour Contact Centre > Duty Manager > Duty Director > Managing Director > Council Leader

The Duty Director and Duty Managers reported that they received no calls over the weekend to their personal numbers although it was later discovered that a Councillor had called the Duty phoned but received no answer.

In response to the issues surrounding the bank holiday on-call procedure, a review is taking place in the Resilience Team to mitigate against the issue reoccurring. The next bank holiday is 27th August; if permanent measures are in place then they will be utilised but as a minimum, the duty phone will be diverted to personal phones to avoid a similar situation.

24 hour contact centre

There were reports that some staff, councillors and members of the public could not get through to the 24-hour contact centre provided by Wolverhampton Homes.

It has been determined that the 2999 out of hours line was operating and taking calls as usual, but a significant volume of calls were received as follows:

Saturday – 193 calls
Sunday – 957 calls
Monday – 440 calls

This is a total of 1590 compared to an average weekend (Sat-Sun) call volume of 270.

There were 2 call operators on shift over the weekend. Analysis of call volume has identified that during the peak on 27th May between 17:00 and 20:00; between these hours an average of 17 calls were answered every hour.

Further investigation has established the issues that were preventing some callers reaching an operator. These callers received an automated message explaining their call could not be answered at this time. This was due to a capacity issue, with the maximum number of calls that could be queued set at 32. Normally for out of hours calls this threshold is not hit.

ICT have made changes to the system ensuring calls are now held in a queue when there is a surge in demand; such as that experienced on Sunday. Domain Architects are looking to add a queuing message to the setup where possible.

ICT performed a high-volume test to ensure the out of hours line can now handle a high volume of calls and the changes were successful.

Other mitigations

- 3 extra phone lines were also installed Tuesday (29th) night. 2 additional operators who do not normally take the emergency calls were on duty to take calls (although they are not specifically trained to handle emergency calls), plus an on-call supervisor - so 4 in total plus supervisor.

- All 17 rest centre volunteers were alerted to the upcoming forecast and the possibility of being requested overnight.

- Councillor phone numbers were added to the Apprise logging system for the Duty Director and Duty Manager to contact in the event of a significant incident in their ward.

- A new webpage went live with information for residents about what to do if they have surface water flooding in their street. Residents would immediately see this link from the home page if required - www.wolverhampton.gov.uk/severeweather.

- Highways had doubled the number of gully tankers on stand-by, and cleaned debris from culverts.

- Emails were sent to councillors throughout the week to keep them updated.

- Social media updates were put out throughout the week to inform the public.

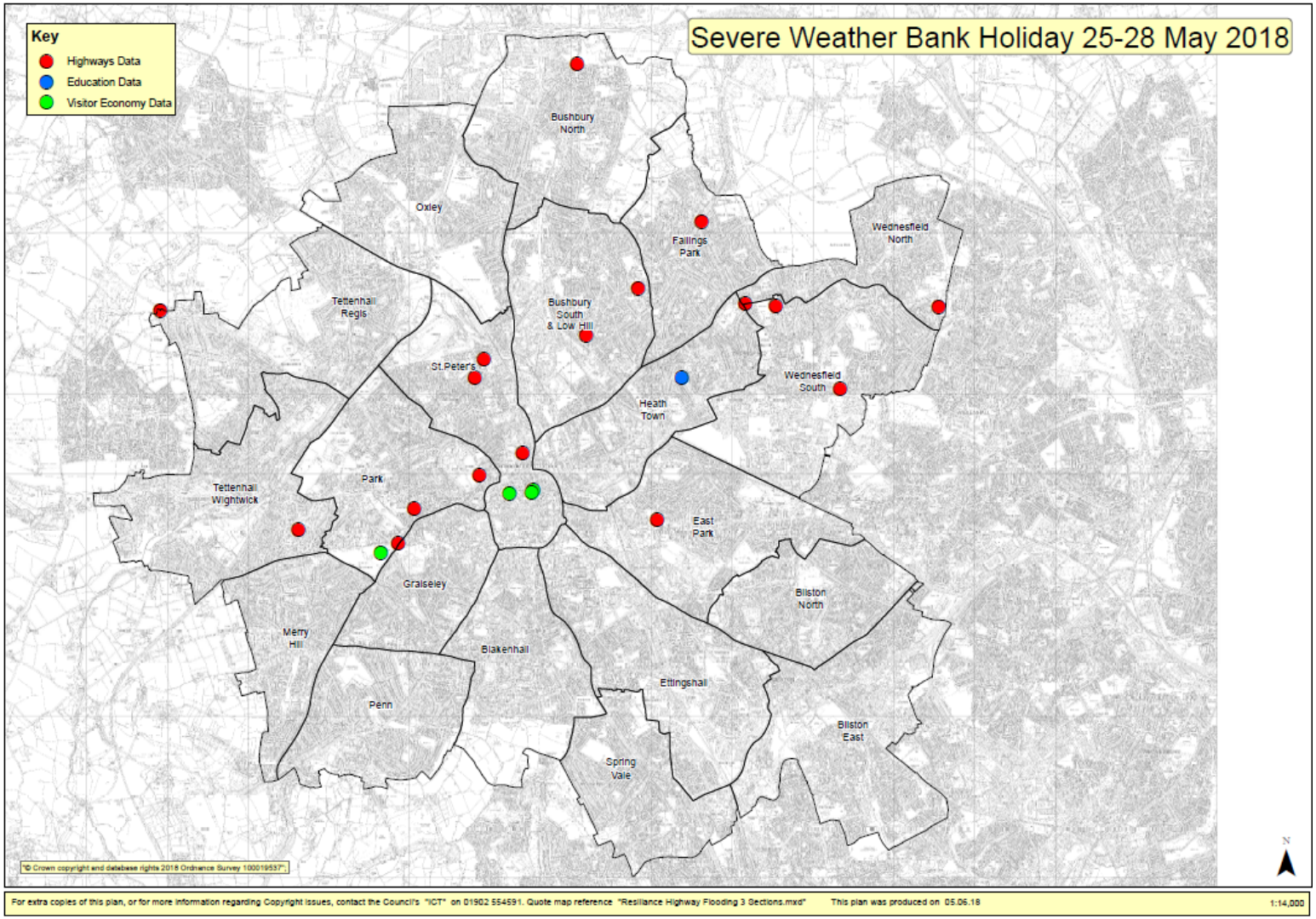
Next steps

A debrief questionnaire has been disseminated amongst colleagues for their comments, in particular to review the 24-hour contact centre but also to highlight good practice identified from various other aspects of the flood response. A structured debrief will be held to enable lessons to be identified and actioned.

A review into the on-call process is now ongoing.

Briefing Note

CITY OF WOLVERHAMPTON COUNCIL



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Flood map for planning

Your reference	Location (easting/northing)	Created
Wolverhampton	**391448/299244**	**20 Jun 2018 4:37**

Your selected location is in flood zone 3, an area with a high probability of flooding.

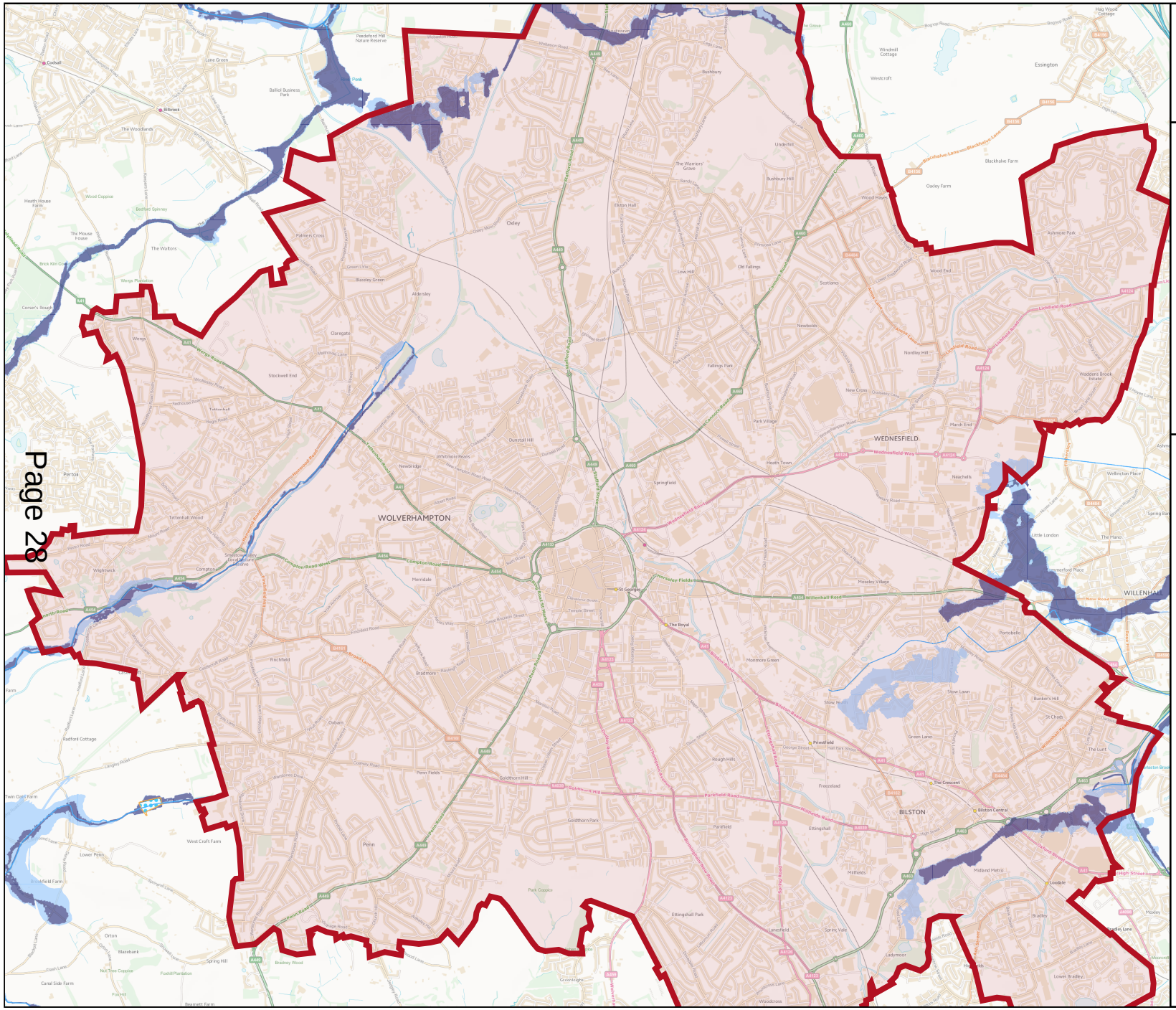
This means:

- you must complete a flood risk assessment for development in this area
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (see www.gov.uk/guidance/flood-risk-assessment-standing-advice)

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.



Environment Agency

Flood map for planning

Your reference
Wolverhampton

Location (easting/northing)
391448/299244

Scale
1:50000

Created
20 Jun 2018 4:37

- Selected area
- Flood zone 3
- Flood zone 3: areas benefitting from flood defences
- Flood zone 2
- Flood zone 1
- Flood defence
- Main river
- Flood storage area

0 500 1000 1500m

Page 2 of 2

Wolverhampton Resilience

Local Flood Plan Project Briefing

PREPARING FOR EMERGENCIES

Distribution List

Name	Job Title	Organisation

Version Control

Version	Amendment	Date
001	New document	

Governance

This document has been developed by the Wolverhampton Resilience Team and is subject to a review in line with the project milestones.

Reviews or updates to this document should be prompted by:

1. Changes to planning assumptions
2. Lessons identified.
3. Project milestones achieved.
4. Alterations as directed by the Resilience Board.

N.B. This list is not exhaustive.

Equality and Diversity

Wolverhampton Resilience Team is committed to promoting an environment that values equality and diversity. All individuals required to complete any preparatory, response or recovery on behalf of Wolverhampton Resilience; must ensure they treat anyone involved equally and fairly, ensuring they are not discriminated against on the grounds of the Equality Act 2010.

Storage of the Document

The electronic version of this document is located here:

- SharePoint
- Resilience Direct

Contents

1.0 Introduction

1.1 Project Title

City of Wolverhampton Council Local Flood and Surface Water Management Plan.

1.2 Start Date

The official commencement date for this project is 18th June 2018.

1.3 Responsible Board

Resilience Board

1.4 Portfolio Holder

Councillor Hazel Malcolm.

1.5 Strategic Links

- National multi-agency flood plan.
- The Black Country Local Strategy for Flood Risk Management.
- Key Infrastructure identification and location.

1.6 Project Sponsor

Resilience Board

1.7 Project Team

Emma Smallman – Senior Resilience Officer

2.0 Project Background

2.1 Background

[Explain the context of the project and why it is needed. If this project is intended to be part of a wider programme, indicate how it will support the programme's objectives].

The City of Wolverhampton Council (CWC) Multi-Agency Flood Plan, requires extensive review following the release of the review of National Guidelines, Commissioned by the Secretary of State for the Department of the Environment, Food and Rural Affairs (DEFRA).

The review found that approximately 5.5 million properties are currently at risk from several types of flooding, including surface water, and this number will increase because of climate change and an increase of individuals living in flood risk areas.

This review examined the effectiveness and consistency of current flood plans. The Local Resilience Forum has the responsibility to produce a Strategic level plan for the West Midlands, whilst it is the responsibility of CWC to produce a Tactical Level Local Flood Plan, that incorporates elements of surface water flooding.

The review makes it clear that cross-boundary working is central to flood resilience work. Findings from the review concluded that we simply cannot answer the question;

Do Local Resilience Forums(LRFs) in England have robust plans in place to respond to flooding incidents in their respective areas?

Each flood event is unique and there is no way to predict how each LRF will react to floods of different intensity, scale, suddenness and longevity. It does however, make this assessment.

Small to Medium Flood (tens to hundreds of properties)	Assurance Given	Overall most LRFs can respond effectively, although, a rapid onset incident such as sudden surface water flooding, has the potential to overwhelm local resources. Areas that are not used to flooding or have never experience flooding previously, may be particularly vulnerable. Recovery for individual properties after a flooding event is likely to take months.

Large Flood Incident (thousands of properties and consecutive events)	Assurance Given	Provided that outside assistance is given and flooding forecasts are received in advance of the event to enable precautionary measures to be taken. Single LRFs are unlikely to manage alone and will rely on mutual aid from other LRFs and potential national assistance. A rapid onset flood will overwhelm local capabilities with recovery posing substantial challenges and lasting years.
Very Large and Protracted Flood Incident (tens of thousands of properties and consecutive, widespread events)	No Assurance Given	Regardless of notice period and regional and national resources made available, LRFs would not be able to respond effectively to a widespread flooding incident. Recovery will pose serious long-term challenges, lasting many years.

In all cases, current planning does not fully consider flooding recovery. Often, recovery is protracted and complex, requiring dedicated resources and poses a separate challenge. It must be considered at notification of an incident, with all agencies working jointly with the flooded community, local businesses and the third sector.

Flooding is a truly multi-agency response; therefore, pre-planning is crucial if all the required organisations are going to work together effectively. Often, flooding comes with advanced warnings, resulting in time to prepare, however a well thought out plan is the basis of an effective response.

Many of the effects of flooding are predictable; and, providing the risks are clearly understood, responders can be clear of the likely impacts, acting decisively to protect the community.

This review has advised that any future plans regarding flooding, focus on three components.

1. **Physical** – resources possessed.
2. **Conceptual** – understanding the resources and how to get the best out of them.
3. **Moral** –ethos, culture, leadership and personal resilience of staff and City of Wolverhampton residents.

In essence, any flood plan review should now consider:

- **Risk** – types of flooding likely within the area, with appropriate risk assessments, including mapping and information of the impact of historical flooding and the effect of any defence work (being) undertaken.
- **Responders** – the roles and responsibilities of all likely responders to a flooding event, including voluntary organisations; how they are to work together and any mutual aid arrangements.
- **Impact** – detail flood risk zones and areas that are susceptible to flooding, with numbers of people, especially vulnerable individuals, at risk.
- **Infrastructure** – a map of key infrastructure at risk of flooding, including COMAH[1] sites, electrical substations etc.
- **Response** – potential response mechanisms that may be activated with planned activation thresholds and triggers. Any linked responses/plans such as humanitarian welfare plans or communications plans must be included. How will resources be mobilised? What assistance will be offered to those impacted by the flooding.
- **Warning and Informing** – methods that will be used to warn and inform communities.
- **Mutual Aid** – what assistance can be offered from other organisations? Are there any local, regional or national assets available? How are these activated?
- **Media** – ensure speed, compassion and resilience. How will social media be both used and monitored throughout the event.
- **Recovery** - how will this be handled? What considerations need to be made by the Recovery Co-ordinating Group.
- **Training and Exercising** - a well written local plan is dependent on training and exercising

2.2 Project Aim

The project will ensure the succinct development of a full local flood plan that accounts for all aspects of flooding and its recovery.

2.3 Project Objectives

1. The identification of a specific flood events for the City of Wolverhampton Council and their likely locations.
2. The development of specific response tools for flash/surface water flooding.
3. The development of materials for distribution amongst the residents of the City of Wolverhampton.
4. The development of specific communications material in the event of a flooding event within the boundaries of the City of Wolverhampton.

[1] Control of Major Accident Hazards

5. The development of a specific Recovery strategy in the event of a flooding incident affecting the City of Wolverhampton.

2.4 Project Scope and Exclusions

This project will reflect the Black Country Flood Risk Management Strategy but will not include a review of the document.

It will consider all aspects of a local response to a flood event within the boundaries of the City of Wolverhampton.

2.5 Project Deliverables

The project will deliver a well thought out flood plan that will be activated by the City of Wolverhampton Council in the event of a flooding incident. Products will include materials that can be handed out to the residents of the City of Wolverhampton to assist in the development of community resilience, as well as a comprehensive risk profile for all wards.

Other products that will need to be delivered include, but are not limited to:

1. Dedicated communications messages to warn and inform the public in the event of:
    - Flood warnings received
    - What to do in the event of a flood
    - Holding statements during a flood
    - Response and Recovery statements.
2. Specific action cards designed for use 'in anger'.
3. Summary of Command and Control (C^2) during a local flooding event.
4. Detailed sections, regarding planning for, response to and recovery from a flooding event within the City of Wolverhampton.

2.6 Project Constraints

The project must operate under the DEFRA flood response standards (under development, due for release Summer 2018) and be completed within 12 months of the official commencement date.

2.7 Project Interdependencies

This project will link directly with the following plans[2]:

1. Recovery Plan
2. Service Level Business Continuity Plans
3. Major Incident Response Plan (if necessary)
4. Other service, flooding specific plans.

[2] All plans listed are owned by City of Wolverhampton Council.

2.8 Project Assumption

The following assumptions have been made to meet all identified project constraints.

1. That staff will have adequate capacity to be able to deliver this plan within the 12-month time constraint.
2. That the Resilience Board do not re-direct staff attention to other projects.
3. That DEFRA will release national planning assumptions, standards and guidance by Summer 2018.
4. If the above is not released, the review will go ahead and any recommended changes will be considered at the next available opportunity a Resilience Team member will review the plan.

2.9 Project Stakeholders

- Residents of the City of Wolverhampton
- Elected Members
- Resilience Board
- Duty Directors
- Duty Managers
- All City of Wolverhampton Council Services

3.0 Expectations

It is expected that at the end of this project a user-friendly plan will be developed, that will become synonymous with the Resilience Team of City of Wolverhampton Council.

To ensure that the plan meets this fundamental requirement, a working group will be established. It will be the responsibility of this working group to ensure all of the relevant individuals and services are represented and that this plan, 'dovetails' with the pre-identified plans above. At all times it is crucial that this plan does not repeat any previous work already completed by other services within the authority.

It is expected that this working group remain internal, however support from external agencies, such as the emergency services may be required on an ad-hoc basis. These representatives will need to be given significant notice to complete any tasks, such as attending meetings or consulting on documents.

The plan will consider all legislative requirements, mandatory for the authority to complete in the event of a flooding incident, as well as mapping out the risk profile for the entirety of the City of Wolverhampton.

The plan will be broken into two halves, the first will be all legislative and background information. Detailed information regarding roles and responsibilities of all agencies that may respond to a flooding incident and the response tools and mechanism available to the City of Wolverhampton Council. It will detail a Recovery strategy and nominate appropriate job titles to form a specialist Recovery Group.

This is designed to be read in slow times, not at the point of an incident. Should an incident occur that meets the triggers for the plan, then the second half, a toolkit, will give quick reference action cards for consideration or action.

Once complete, the plan will need to be trained. All staff who are required to have a response or recovery role within the authority, will need to receive training on the plan, and the opportunity to consult on the document.

Once comfortably trained, all staff will be expected to take part in a desktop exercise, designed to exploit any weaknesses within the plan. At no point are staff being 'tested'. It is crucial that any weaknesses in the planning are found before the plan is activated in anger.

A formal debrief from the desktop will be run to identify any areas of good practice, weaknesses and gaps; and suggestions as to how these can be filled. Finally, the plan will be subjected to a live exercise, again designed to identify any areas of good practice, weaknesses and gaps; and suggestions as to how these can be filled.

4.0 Acceptance Criteria

Current[3] acceptance criteria of the project include:

Target date: 18th June 2019.

Major functions: To enable the City of Wolverhampton Council minimises the impact of a flooding event on the residents of the area and ensure that they are fully equipped to respond to an incident at any time.

Appearance: The document will be the first produced within the new Resilience Team and will be the first that incorporates the new style of documents.

Personnel level required to use: This document will be targeted at Operation, Tactical and Strategic levels of staff.

Availability: All resources outlined within the response and recovery sections of this plan will need to be available 24/7 and 365 days a year.

Reliability: All organisations and internal services, will need to ensure that they are able to deliver their agreed responsibilities as outlined within the final plan.

Security: There will be two versions of this document, OFFICIAL, will be open to the public, elected members, all staff within the Council. OFFICIAL – SENSITIVE, is a restricted version of the document, only open to the working group and any incident response team (at the time of an incident) due to the information that it will contain.

Ease of use: The document will need to be used in the event of a flooding incident. It is crucial that the document is laid out chronologically, in the order of issues most likely to occur during an incident, and is designed for the end user, not the ease of the Resilience Team when reviewing, amending or updating the document.

[3] As the project progresses it be necessary to amend these criteria.

5.0 Estimated Financial Costs

Currently not applicable. Any costs accrued will be added at each milestone review.

	Financial Year				
Estimated Expenditure Items	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**
Estimated Total Costs:					

Estimated Financial Costs

Proposed expenditure items to consider may include:

Product

- Technology/other hardware purchases
- Cyclical replacement (e.g. depreciation costs into Year 5)
- Software purchase
- Licences & licence renewal

People

- Employees (e.g. Project Manager/Project Team, contracts, expenses)
- Training & skills transfer
- Ongoing employee costs for running the new state (post-project stage)

Other

- Professional fees (e.g. external assurance & consultancy)
- Project team facilities
- Ongoing office facilities & equipment costs
- Maintenance & support
- Marketing & Comms (e.g. events, collateral, web development)
- Contingency at 20% (Low risk projects with no IT or construction element may use 15%)

6.0 Risks and Uncertainties

Key:

[1] Likelihood: 1 = Rare and 5 = Almost Certain

[2] Impact on time, cost and quality of project deliverables: 1 = Insignificant and 5 = Catastrophic

Risk & Description	Likelihood (1-5) [1]	Impact (1-5) [2]	Initial Mitigating Actions
Delay of national guidance.	4	2	Review of current local flood plan to be completed. Incorporation of any national changes, once guidance is complete.
Completion delay due to shifting priorities of the Resilience Team.	3	3	Project timeline has been extended to mitigate any potential deadline 'slips'.
Flooding incident before the completion of the plan.	1	5	Previous plan will remain in place until validated and approved by the Resilience Board.
Other services or agencies not co-operating with the production of the plan.	2	5	Flood working group to be developed.
Plan not approved by the Resilience Board	1	5	Resilience Board will be updated on all stages of the plan.

7.0 Project Milestones

Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1. Full review of current plan and National Guidance. 2. Identification of National Planning Assumptions. 3. Identification of current planning gaps.		1. Completion of planning for and responding to a flood event section. 2. Completion of associated toolkit documents.		1. Draft complete and formatted in preparation for consultation. 2. Draft plan out for consultation amongst key colleagues.		1. Completion of desktop scenario. 2. Incorporation of lessons identified from desktop scenario.			
1. Development of new City of Wolverhampton Local Flood Plan template. 2. Identification of members of Flood Working Group. 3. Development of Terms of Reference.		1. Completion of recovery from a flood section. 2. Completion of associated toolkit documents.		1. Incorporation of potential plan amendments from consultation. 2. Plan validation planning.		1. Submission for approval by Resilience Board and Strategic Executive Board (SEB).			

Flood Advice

A guide to Flood Advice and Safety

Walsall Council

Building Resilience in Walsall

Emergency Kit

- Important documents e.g. insurance, passport
- Telephone numbers for your insurance company, local council, utility companies, family and friends
- Local radio frequencies
- Torch (wind up preferable)
- Batteries (not rechargeable)
- Portable radio (wind up preferable)
- Mobile phone (and charger)
- First aid kit with essential prescription medication / repeat prescription form

Water Advice:

- Follow the advice of water companies regarding the safety of water supplies
- If in doubt, boil water for drinking, washing food and cooking
- Use bottled water for infant feeds

After the floods:

- Clean taps and run water thoroughly before use
- Have power and gas supplies checked by professionals before turning them back on
- Throw away contaminated and perished food
- Contact your insurance company, they will arrange for a loss adjuster and other specialists to visit your home to assess the damage. They will manage the clean-up of certain damaged areas.

Flood Advice

While the risk of floods may not always be high on the agenda in Walsall, it is important we know how to react to all severe weather conditions.

There are simple steps we can all take to ensure we are prepared to cope before, during and after a flood.

Measures to have in place at all times:

- Make sure you have the correct insurance cover
- Find out how to isolate gas, water and electricity supplies
- Keep a list of useful numbers you may need
- Make an emergency kit and keep it easily accessible
- Think about the needs of babies, children, the elderly and infirm and help them by ensuring they know what to do in an emergency

If floods are forecast for your area:

- Listen out for severe weather warnings of flash floods on radio and TV, or phone Floodline on 0845 988 1188 for river floods
- Move valuables, sentimental items and important documents to safety
- Look after pets and move vehicles to high ground
- Keep a supply of sandbags
- Alert vulnerable neighbours

If floods are imminent:

- Switch off gas, water and electricity at the mains
- Ensure sandbags and other flood defences are in place and cover air bricks
- Put plugs in sinks, baths and low level shower trays and weigh them down to prevent backflow
- Store electrical items and furniture as high as possible (preferably on an upper floor)
- Do what you can in daylight
- Evacuate basements

If you are in an area susceptible to floods you may wish to include:

- Bottled water (check use-by date)
- Non-perishable food items (including energy or cereal bars)
- Blankets and warm clothes
- Wash kit and essential toiletries (including toilet paper and wet wipes)
- Children's essentials (milk, baby food, sterilised bottles and spoons, nappies, wipes, nappy bags, clothing, comforter, teddy or favourite toy)
- Camera to record damage for insurance purposes
- Emergency cash
- Additional items for flood kit: wellington boots, waterproof clothing, rubber gloves

Other clean-up considerations following a flood:

- You may need pumps to remove water as the fire service will only do this during an emergency. Beware of fumes from petrol or diesel generators or gas heaters as they can kill
- Wear protective clothing and wash well after, as you may be contaminated by sewerage and other contaminates which may have been present
- Shovel out mud
- Hose out affected areas and then clean with disinfectant and soapy water before rinsing
- Take furniture and contents outside to prevent mildew and mould
- Use fans and dehumidifiers or the central heating to dry out the building. Drying out can take weeks or even months. If done too quickly it could cause structural damage to the property
- Keep windows and doors open for ventilation and remove any air brick covers
- Don't let children play in flood water as it may be contaminated
- Don't let children or pets onto contaminated land. Remove any sewerage by bagging it then hosing the area down. Allow grass to grow, and once cut, sunlight and soil will destroy harmful bacteria within a week

Financial help:

- If you are unable to live in your property you may qualify for council tax relief
- Talk to the Citizens Advice Bureau for free confidential and independent advice
- Flood relief funds may be available to provide assistance
- Your insurance company will confirm your level of cover and inform you what you are entitled to claim

Beware of cold callers:

Beware of doorstep callers and bogus contractors offering help. They may be looking to benefit from your misfortune and could overcharge or attempt to steal from you.

- Use door chains
- Check a caller's identification and phone the company to check they are genuine if you have any doubts
- Tradesmen who can start the next day can often be the ones you need to be most wary of
- Ask to be put in touch with past clients to check their work
- Beware of someone with only a mobile phone number and no business address

Waste disposal:

Some flood waste can be disposed of by the normal refuse collection. However, other waste may need specialist disposal which will need to be loaded into skips. The council can advise if you need a license to put a skip on a public highway.

Flood defences:

Consider if your property needs some form of flood defence system. These are expensive but if you are prone to regular flooding it may be worth the investment.

Contact Details

Floodline
Tel: 0845 988 1188

Walsall Council
Website: www.walsall.gov.uk
Tel: 01922 650000

Highways Agency
Tel: 08457 50 40 30

Environment Agency
Website: www.environment-agency.gov.uk
Tel: 08708 506 506

National Flood Forum
Website: www.floodforum.org.uk
Tel: 01299 403055

Association of British Insurers
Website: www.abi.org.uk/floodinfo
Tel: 0207 600 3333

Citizens Advice
Website: www.citizensadvice.org.uk

Emergency Planning Unit
Walsall Council
Room 39a
Council House
Lichfield Street
Walsall
West Midlands
WS1 1TP

Tel: 01922 652026
Fax: 01922 616213

Email: emergencyplanningunit@walsall.gov.uk
Website: www.walsall.gov.uk/emergencyplanning

37687 JC 08/08

Scrutiny questions response: Ian Fegan, Head of Communications

1. Briefly outline your role and responsibilities for either flood risk management or emergency planning in Wolverhampton?

As the head of communications, I'm responsible for the communications team which supports and advises directors and cabinet members before, during and after major incidents and civil emergencies. This helps the council to meet its statutory responsibilities to warn and inform as set out under the Civil Contingencies Act (2004).

We work closely with the resilience team who provide the council with an 'early warning' system based on their expertise and relationships with local, regional and national partners. We also support this by regularly monitoring social media and media monitoring.

We also worked closely with emergency planning colleagues to develop the city council's emergency communications plan. Three years ago we implemented and have maintained an on-call communications officer rota for out-of-hours emergency support to duty directors/managers.

In the event of an incident/emergency, we work closely with partners to ensure a consistent and coordinated response.

2. What action did your organisation take in preparation for the weather forecast of heavy rainfall on Sunday 27 May 2018?

In terms of the communication team function, we were aware from local and national media reports of the risk of heavy rain and the potential for localised flooding in some areas. However, we were not made aware of any specific risk within the city.

This may have been due to the nature of this particular incident of surface water flooding as they are very often difficult to predict and to identify precise locations in advance. In circumstances where this intelligence exists, or where command and control mechanisms work during an incident, the communications team can play an important role in warning, informing and reassuring.

Indeed, members of the team have worked on such events/incidents during and outside of office hours to support this:

- September 2017, St Joseph's Court Tower Block flooding
- December 2017, Fri 8 – Fri 15. Severe wintery weather. During the first weekend, the on-call officers social media posts reached 345,000 and 60,000 residents engaged with our posts (liked, shared, commented, clicked through)
- March 2018, Severe wintery weather.
- June / July 2018, Heatwave

3. What are your views of the effectiveness of current flood risk management and emergency response co-ordination with other partner organisations before during and after the flooding event on Sunday 27 May 2018?

There could perhaps have been better information sharing and better partnership command and control. However, the nature of this specific incident of surface water flooding might have made that more challenging.

4. What were the challenges to your service in helping to prevent surface water and sewer flooding in known high-risk areas in Wolverhampton?

This role is specifically carried out by colleagues from our city environment team. Our role would have been to warn and inform before, during or after such flooding incidents.

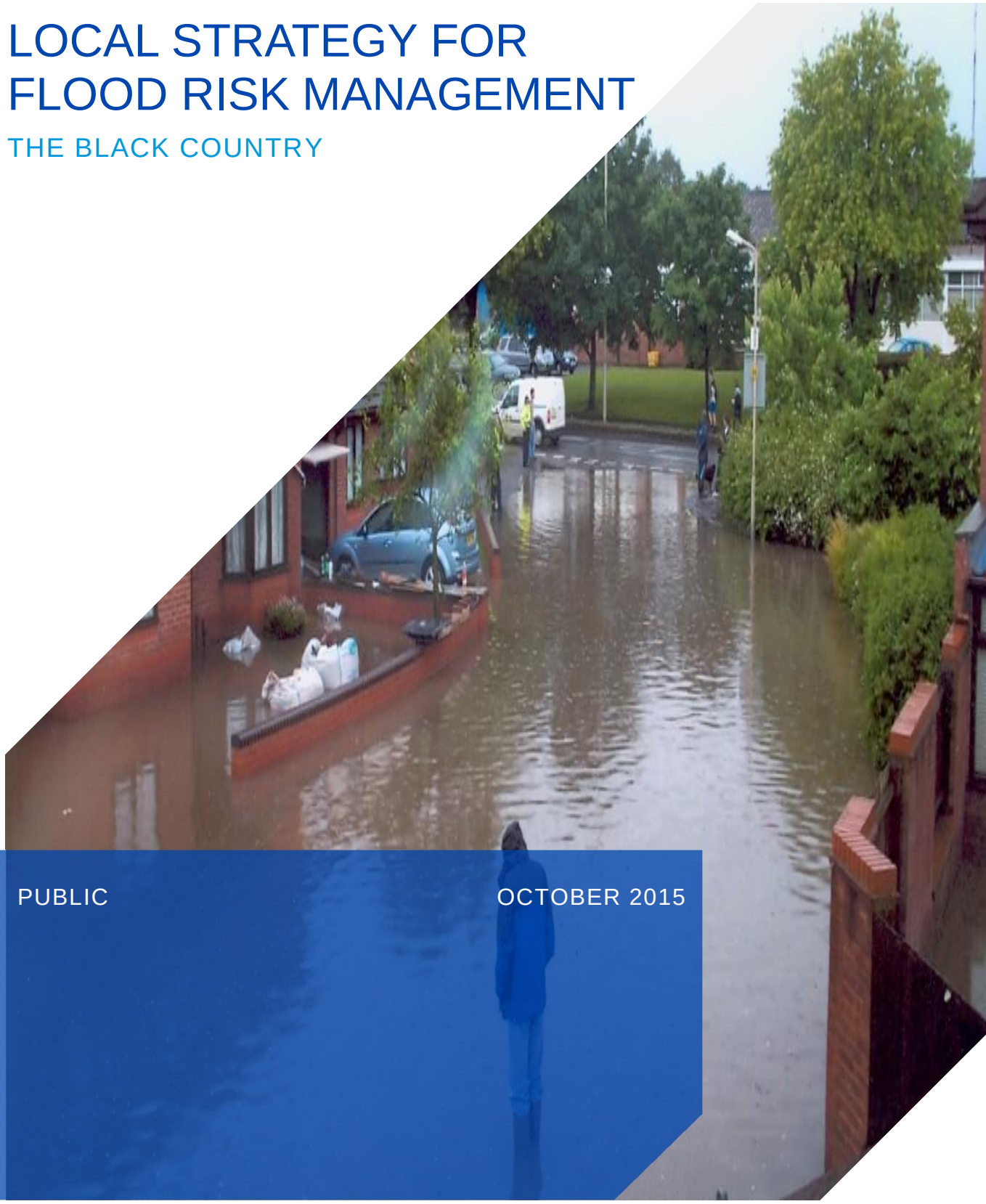
5. What changes, if any, would like to see flood risk management or emergency response plans in the future?

Considering the specific issues I'm aware of, I would recommend the following:

1. More robust system in the duty team of contacting the duty director or duty manager
2. Review duty team capacity to coordinate internal resources given demand faced over that weekend (is there an opportunity to consider closer working with partners this)
3. Plans need to be tested more regularly with both desk-top and live training
4. Building on 4 – this needs to be done in a multi-agency environment to build relationships, understanding and awareness of respective roles

LOCAL STRATEGY FOR FLOOD RISK MANAGEMENT

THE BLACK COUNTRY



PUBLIC

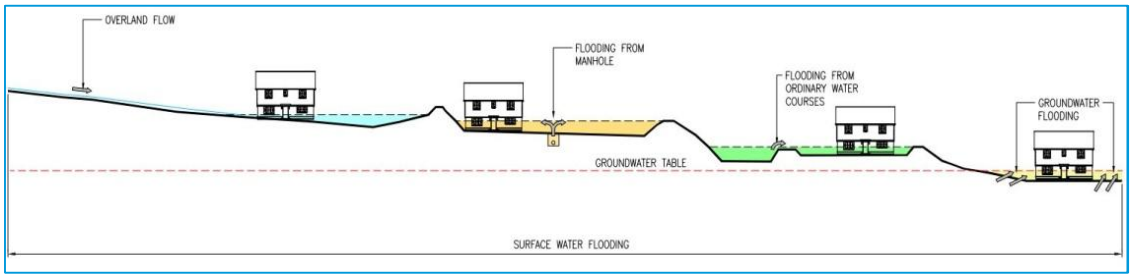
OCTOBER 2015

WSP | PARSONS BRINCKERHOFF

TERMINOLOGY

KEY DEFINITIONS

TERM	MEANING
Surface water flooding	In this context, surface water flooding describes flooding from sewers, drains and runoff from land, small water courses and ditches that occurs as a result of heavy rainfall.
Groundwater flooding	Caused by raised groundwater levels, typically following prolonged rain. High groundwater levels may result in increased overland flow flooding.
Overland Flow / Surface Water Run-off / Pluvial Flooding	Water flowing over the ground surface that has not reached a natural or artificial drainage channel.
Fluvial flooding	Fluvial flooding occurs when rivers overflow and burst their banks, due to high or intense rainfall which flows into them.
Main river	Main rivers are usually larger streams and rivers which have been designated as such by Defra and the Environment Agency. The Environment Agency has powers to undertake works on any stretch of main river and is responsible for flood risk management activities.
Ordinary watercourse	Ordinary watercourse is a statutory designation which includes every river, stream, ditch, drain, cut, dyke, sluice, sewer (other than a public sewer) and passage through which water flows and which does not form part of a Main River.



GLOSSARY

TERM	MEANING
Area Action Plans (AAP)	A type of Development Plan Document focussed on a specific location or area subject to conservation or significant change (e.g. major regeneration).
The Black Country	A term loosely describing the area between Birmingham and Wolverhampton. In planning and local authority terms it includes Dudley Metropolitan Borough Council, Sandwell Metropolitan Borough Council, Walsall Council and Wolverhampton City Council.
Catchment Flood Management Plan (CFMP)	A strategic planning tool through which the Environment Agency works with other key decision-makers within a river catchment to identify and agree policies for sustainable flood risk management.
Chance of flooding	The chance of flooding is used to describe the frequency of a flood event occurring in any given year, e.g. there is a 1 in 100 chance of flooding in this location in any given year. This can also be described as an annual probability, e.g. a 1% annual probability of flooding in any given year. The guidance uses the chance of flooding with the annual probability of a flood incident occurring in brackets. The use of return periods should be avoided.
Communities and Local Government (CLG)	Communities and Local Government is the Government department which sets policy on local government, housing, urban regeneration, planning and fire and rescue. They have responsibility for all race equality and community cohesion related issues in England and for building regulations, fire safety and some housing issues in England and Wales. The rest of their work applies only to England. Provides funding to and agrees expenditure plans for Local Authorities.
Core Strategy	A Development Plan Document setting out the spatial vision and strategic objectives of the planning framework for an area, having regard to the Community Strategy.
Community Infrastructure Levy (CIL)	A locally agreed sum levied upon developers to be used as funding for strategic infrastructure needed to support the development. This can include flood risk management infrastructure.
Critical infrastructure	Infrastructure which is considered vital or indispensable to society, the economy, public health or the environment, and where the failure or destruction would have large impact. This would include emergency services such as hospitals, communications, electricity sub-stations, water treatment works, transport infrastructure and reservoirs.
Department for Environment, Food and Rural Affairs (Defra)	Department that brings together the interests of farmers and the countryside; the environment and the rural economy; the food we eat, the air we breathe and the water we drink.
DG5 Register	A Water and Sewerage Company (WaSC) held register of properties which have experienced sewer flooding (either internal or external flooding) due to hydraulic overload, or properties which are 'at risk' of sewer flooding more frequently than once in 20 years.
Environment Agency (EA)	Established by the Environment Act 1995, and is a Non-Departmental Public Body of Defra. The Environment Agency is the leading public body for protecting and improving the environment in England and Wales today and for future generations. The organisation is responsible for wide-ranging matters, including the management of all forms of flood risk, water resources, water quality, waste regulation, pollution control, inland fisheries, recreation, conservation and navigation of inland waterways. It will also have a new strategic overview for all forms of inland flooding.
Environment Agency Flood Zones	Flood zones on the maps produced by Environment Agency providing an indication of the probability of flooding (from rivers and the coast) within all areas of England and Wales.
Exceedance flows	Excess flow that appears on the surface once the capacity of the underground drainage system is exceeded
FCERM policy	Sets out the principles that should guide decision making on the sustainable management of flood and coastal erosion risk in England

Flood Defence Grant in Aid (FDGIA)	Central government funding to Flood Risk Management Authorities in order to manage flood and coastal erosion risk in England
Flood Risk Assessment (FRA)	An assessment of the flood risk to and from a proposed new development to demonstrate how flood risk from all sources of flooding to the development itself and flood risk to others will be managed now and taking climate change into account (see PPS25 paragraph E8 to E10 and paragraphs 3.98 to 3.94 of the PPS25 Practice Guide).
Flood Risk Management Plan	A plan for the management of a significant flood risk. The plan must include details of: a) objectives set by the person preparing the plan for the purpose of managing the flood risk, and b) the proposed measures for achieving those objectives (including measures required by any provision of an Act of subordinate legislation).
Flood Risk Regulations 2009	Legislation that transposed the Floods Directive in England and Wales.
Flood (Risk Management) Strategy	An Environment Agency output which provides a detailed assessment of flood risks (from rivers and the sea) at a location or for a whole catchment and the preferred management measures.
Flood Map for Surface Water (FMfSW)	The Flood Map for Surface Water shows areas where surface water would be expected to flow or pond, as a result of two different chances of rainfall event. The areas at risk of flooding are displayed in two bands showing a) surface water flooding and b) areas of deeper surface water flooding. The map better represents the mechanisms that cause surface water flooding than the current 2009 Areas Susceptible to Surface Water Flooding map as it takes account of more localised datasets and maps two storm likelihoods (1 in 30 and 1 in 200 year events). This map has now been superseded by the Risk of Flooding form Surface Water map.
Floods and Water Management Act (2010)	The Flood and Water Management Act (FWMA) came into effect on Monday 12th April 2010. The Act takes forward a number of recommendations from the Pitt Review into the 2007 floods and places new responsibilities on the Environment Agency, local authorities and property developers (among others) to manage the risk of flooding.
Floods Directive	The EU Floods Directive came into force in November 2007 and is designed to help Member States prevent and limit the impact of floods on people, property and the environment. It was transposed into English law in December 2009 by the Flood Risk Regulations.
Grant in Aid	Grant in Aid funding is provided by Defra to the Environment Agency to invest in flood risk management schemes. Funding from the Environment Agency which can be provided to local authorities to invest in flood risk schemes is called Capital Grant. Capital Grant is approved through the Project Appraisal Review (PAR) process.
Greenfield runoff rate	The rate of runoff which would occur from a site that was undeveloped and undisturbed.
Highways England	The national body responsible for managing, maintaining and improving England's motorways and trunk roads.
Hotspot	A hotspots is an area perceived and identified locally as being at greatest risk of surface water flooding
LiDAR	Light Detection and Ranging - high accuracy, high resolution elevation data derived from airborne sources.
Local Development Framework (LDF)	A non-statutory term used to describe a folder of documents which includes all the local planning authority's Local Development Documents (LDDs). The local development framework will also comprise the statement of community involvement, the local development scheme and the annual monitoring report.
Local Planning Authority (LPA)	The local planning authority (LPA) is empowered by law to exercise planning functions. Often the local borough or district council. National parks and the Broads authority are also considered to be local planning authorities. County councils are the authority for waste and minerals matters.
Local Resilience Forums (LRF)	LRFs are multi-agency forums, bringing together all organisations that have a duty to co-operate under the Civil Contingencies Act, and those involved in responding to emergencies. They prepare emergency plans in a co-

	ordinated manner.
Main River	Main Rivers are watercourses marked as such on a main river map. Generally main rivers are larger streams or rivers, but can be smaller watercourses. Main Rivers are determined by Defra in England, and the Environment Agency has legal responsibility for them.
National Planning Policy Framework (NPPF)	The National Planning Policy Framework was published in March 2012. It sets out the government's strategy for planning, aiming to make the planning system less complex and more accessible, to protect the environment and to promote sustainable growth. Further information as to how this should be applied is detailed in Planning Practise Guidance.
Net Present Value (NPV)	The discounted value of a range of costs and benefits. NPV is used to describe the difference between the present value of costs and benefits in future years.
Ordinary watercourse	An ordinary watercourse is any other river, stream, ditch, cut, sluice, dyke or non-public sewer which is not a Main River. The local authority or Internal Drainage Board have powers for such watercourses.
Partner	Defined as someone with responsibility for decisions or actions. They share joint responsibility for these decisions/actions.
Pitt Review	An independent review of the 2007 summer floods by Sir Michael Pitt, which provided recommendations to improve flood risk management in England.
Pluvial flooding	'Pluvial' flooding (or surface runoff flooding) is caused by rainfall and is that flooding which occurs due to water ponding on or flowing over the surface before it reaches a drain or watercourse.
Rate Support Grant	Funding mechanism from CLG to Local Authorities, which provides funding for all Local Authority responsibilities.
Resistance measures	Resistance measures are designed to keep flood water out of properties and businesses, and could include flood guards for example.
Regional Flood and Coastal Committee (RFCC)	The Regional Flood and Coastal Committee (RFCC) is a committee established by the Environment Agency under the Flood and Water Management Act 2010 that brings together members appointed by Lead Local Flood Authorities (LLFAs) and independent members with relevant experience for three purposes:
Riparian owners	A riparian owner is someone who owns land or property adjacent to a watercourse. A riparian owner has a duty to maintain the watercourse and allow flow to pass through freely.
Risk	In flood risk management risk is defined as the probability of a flood occurring x consequence of the flood.
River Basin Management Plans (RBMP)	A management plan for all river basins required by the Water Framework Directive. These documents will establish a strategic plan for the long-term management of the River Basin District, set out objectives for waterbodies and, in broad terms, what measures are planned to meet these objectives, and act as the main reporting mechanism to the European Commission.
Sequential Test	A planning principle that seeks to identify, allocate or develop certain types or locations of land before others. The test is designed to guide development away from areas at high risk from flooding.
Severn Trent Water	One of the ten water authorities in England formed under the Water Act 1973, to supply fresh water and treat sewage for around 8 million people living in the Midlands region of England and also certain regions of Wales.
Sewerage Management Plan (SMP)	A Sewerage Management Plan is the output from the SRM process.
Strategic Flood Risk Assessment (SFRA)	A SFRA provides information on areas at risk from all sources of flooding. The SFRA should form the basis for flood risk management decisions, and provides the basis from which to apply the Sequential Test and Exception Test (as defined in PPS25) in the development allocation and development control process (see paragraph E5 to E7 of PPS25 and paragraphs 3.39 to 3.79 of the PPS25 Practice Guide).
Supplementary Planning Document (SPD)	A Supplementary Planning Document is a Local Development Document that may cover a range of issues, thematic or site specific, and provides further detail of policies and proposals in a 'parent' Development Plan Document.

Surface water flooding	In this context, surface water flooding describes flooding from sewers, drains, groundwater, and runoff from land, small water courses and ditches that occurs as a result of heavy rainfall.
Sustainable Drainage Systems (SuDS)`	Sustainable drainage systems: a sequence of management practices and control measures designed to mimic natural drainage processes by allowing rainfall to infiltrate and by attenuating and conveying surface water runoff slowly compared to conventional drainage. SuDS can operate at different levels; ideally in a hierarchy of source control, local control and regional control, and can be used in both rural and urban areas.
The Black Country	The administrative areas of Dudley, Sandwell, Walsall and Wolverhampton.
The Black Country authorities	Dudley Metropolitan Borough Council (MBC), Sandwell, Metropolitan Borough Council (MBC), Walsall Council and Wolverhampton City Council.
Risk of Flooding form Surface Water map	The Risk of Flooding form Surface Water map was published publically on the Environment Agency's website in December 2013. It improves upon the Flood Map for Surface Water (2010), and the Areas Susceptible to Surface Water Flooding maps (2009) through incorporating improvements in modelling techniques, understanding and data; combining appropriate local mapping from LLFAs with national mapping to provide an improved and consistent picture of surface water flood risk; and providing velocity and depth information for a range of flood probabilities.
Water and sewerage company (WaSC)	Set up under the Water Industry Act 1991. Ten regional water and sewerage operators provide sewerage services in England and Wales. They are South West Water, Wessex Water, Southern Water, Thames Water, Anglian Water, Severn Trent Water, Yorkshire Water, United Utilities, Northumbrian Water and Welsh Water.
Water Framework Directive (WFD)	A European Community Directive (2000/60/EC) of the European Parliament and Council designed to integrate the way water bodies are managed across Europe. It requires all inland and coastal waters to reach "good status" by 2015 through a catchment-based system of River Basin Management Plans, incorporating a programme of measures to improve the status of all natural water bodies.

5.2 PRESENT DAY FLOOD RISK

5.2.1 As LLFAs, the Black Country authorities are responsible for managing flood risk associated with 'local' sources – namely surface water, groundwater and ordinary watercourses.

5.2.2 The flood risk associated with Main Rivers is managed by the Environment Agency and the best source of information for this is on their website, which can be found at http:\\www.environment-agency.gov.uk. There are limited Flood Alert/Warning Areas within the Borough but individuals within these or Flood Alert Areas are recommended to sign up to the free Floodline Warnings Direct offered by the Environment Agency.

5.2.3 Flood risk associated with the sewer network is the responsibility of the water and sewage company, Severn Trent Water. This is formally defined as a duty to provide, maintain and operate systems of public sewers and works for the purpose of effectually draining their area of responsibility. This is formally specified in Section 94 of the Water Industry Act 1991 (WIA 1991).

5.2.4 The following sections set out information with regards to local flood risk in the Balck Country.

SURFACE WATER FLOOD RISK

5.2.5 The Black Country is a highly urbanised area and as such surface water flooding is an issue across the area covered by this Strategy.

5.2.6 The Preliminary Flood Risk Assessments published in 2011 set out the locally agreed surface water information. The locally agreed surface water information for each of the four authorities is set out below:

- Dudley MBC selected the Environment Agency's Flood Maps for Surface Water, 1 in 200 annual probability event flood risk areas;
- Sandwell MBC was selected the Environment Agency's Flood Maps for Surface Water, 1 in 200 annual probability event flood risk areas;
- Walsall Council does not have locally agreed surface water information. As such the PFRA stated that assessment of flood risk would primarily rely on a technical review of Environment Agency's Flood Maps for Surface Water
- Wolverhampton City Council selected Environment Agency's Flood Map for Surface Water

5.2.7 Following the publication of the PFRAs more detailed mapping of surface water flood risk was produced by the Environment Agency which superseded the Flood Map for Surface Water, the Risk of Flooding from Surface Water map.

5.2.8 Sandwell MBC has produced a Surface Water Management Plan which undertook detailed assessments of surface water flood risk at key locations across the borough. Detailed hydraulic models of key hotspot locations were produced for, Thimblemill Brook and Upper St Mary's Road, Tipton Brook, Yew Tree estate, Elm Terrace and Tower Road Brook.

5.2.9 In all areas apart from those covered by the Sandwell SWMP, all LLFA's have adopted the Environment Agency's Risk of Flooding from Surface Water mapping and the best source of information on local flood risk. This is the third generation national surface water flood risk map produced by the Environment Agency in 2013. It assesses flooding scenarios as a result of rainfall with the following chance of occurring in any given year;

1 in 30, 1 in 100 and 1 in 1000. For each scenario the extent, maximum depth and maximum velocity of surface water flooding is available.

GROUNDWATER FLOOD RISK

5.2.10 In general groundwater flood risk in the Black Country is relatively low, although high water tables have been experienced along the Sandwell/Walsall border (Jacobs, 2009) and parts of the Wolverhampton and Sandwell boroughs may be susceptible to groundwater recharge following the discontinuing of industrial abstractions (Scott Wilson, 2009).

5.2.11 The Wolverhampton PFRA noted that localised groundwater flooding has occurred across eastern Wolverhampton where it has mostly affected gardens and allotments. The general areas of reported groundwater flooding include Newbolds, Scotlands, Wood Hayes, Merry Hill, Bradmore and Blakenhall.

FLOOD RISK FROM ORDINARY WATERCOURSES

5.2.12 The Environment Agency's Risk of Flooding from Rivers and the Sea is the best source of information for fluvial flooding. As mentioned above most of the flood risk areas shown online are associated with Main Rivers, but a number of ordinary watercourses have been mapped to show areas at risk.

5.2.13 Given the frequent updates of the online mapping the Local Strategy does not replicate this information as it can easily be found on the Environment Agency's website – http://www.environment-agency.gov.uk.

5.2.14 In the Black Country flood events from ordinary watercourses historically have often been associated with poor maintenance of culverts and/or trash screens leading to blockages and subsequent flooding. This has led to the formation of pre-flood action plans to ensure critical assets are assessed / cleared prior to a predicted significant storm.

5.3 CHANGES TO FLOOD RISK IN THE FUTURE FROM CLIMATE CHANGE

5.3.1 It is now well recognised that global climate change is occurring but the difference to regional or local climates is less well understood. In particular, the effect on local flood risk is not well understood, with very approximate figures for increases in rainfall, river flows, wind speed and wave heights provided as guidance in the Technical Guidance to the NPPF (Department for Communities and Local Government, 2012). This is shown in Table 3.

Table 3 – National precautionary sensitivity ranges as taken from Table 5 in the Technical Guidance to the NPPF.

Parameter	1990 to 2025	2025 to 2055	2055 to 2085	2085 to 2115
Peak rainfall intensity	+5%	+10%	+20%	+30%
Peak river flow	+10%	+20%		

5.3.2 The UK Government's most recent Climate Change Risk Assessment, or CCRA (Defra, 2012) gave a national picture of expected risks and opportunities arising from the changing climate. A summary of impacts to the West Midlands was also released to give a local assessment (West Midlands Climate Adaptation Partnership, 2012), and some of the relevant key findings include:

- Projected increases in precipitation are likely to increase the frequency and severity of river flooding events in the region with over 21,000 residential and commercial properties at significant risk. There are also 1,700 sensitive infrastructure sites in flood risk zones including one hospital, over 300 power and gas stations, 43 care homes and 35 emergency response centres.
- Existing urban drainage systems will be put under pressure as projected increases in winter precipitation, compounded by population growth and development within the region, may lead to surface water flooding.
- Flooding is likely to cause extensive disruption to the regions transport network, power supplies and telecommunications as occurred during extensive flooding in the region during 2007. Such disruption could potentially have national consequences.
- Flooding is one of the major risks to agricultural land. In 2007, over 10,923 hectares of agricultural and farm land in the West Midlands (Severn and Avon affected) was flooded causing £15.5 million in damage and costing on average £96,596 per farm. This was an exceptional event, but climate change predictions suggest that extreme events such as this are likely to occur more frequently.
- Increased incidences of flooding are likely to be associated with psychological stress for victims as a result of property damage and disruption, and may be associated with fatalities.

5.3.3 The quantification of climate change on 'local' flood risk is difficult and currently little work which is publically available has been done on modelling the impacts to surface water, groundwater and ordinary watercourse flooding. As this Strategy evolves and is reviewed it is hoped future work will add to the understanding of how climate change is likely to impact the Black Country in a quantifiable way, which will then be communicated through future updates to this document.

5.3.4 The increase in peak rainfall and river flows associated with climate change in the Black Country are expected to increase flood risk. Without continued investment in flood risk management and surface water drainage networks this will lead to more people and properties being at risk.

5.3.5 Climate change will be incorporated in the assessment of flood risk for all capital schemes in the Black Country using the allowances set out by the Environment Agency's guidance; Adapting to Climate Change: Advice for Flood and Coastal Erosion Risk Management Authorities.

5.3.6 It is a requirement of the NPPF that the design of drainage systems for new development takes account of the impacts of climate change over the anticipated lifetime of the development. For this purpose the allowances set out in Table 3 should be applied.

5.4 CHANGES TO FLOOD RISK IN THE FUTURE FROM URBAN CREEP

5.4.1 Not all development is subject to planning procedures or the development control process, and therefore its impact on flooding is less likely to be controlled. Urban creep such as property extensions is an example of this.

5.4.2 Urban Creep increases the amount of hard surfaces in towns, reducing the ability of water to filter into the ground and increasing the volume of water that has to run off into drains. In addition, it increases the peak flows within the surface water drainage system. This can increase the risk of surface water flooding in urban areas as drainage systems are unable to cope with the increased demand.

5.4.3 Retrofitting Sustainable Drainage Systems (SuDS) into existing urban environments is a potential approach to combatting this increase in local flood risk. These measures can manage the rate of surface water runoff from the urban environment, reducing the risk of flooding.

6 OBJECTIVES

6.1.1 To support the strategic vision for the management of local flood risk in the Black Country, the following six objectives have been developed to support the delivery of the Strategy. They have been developed to be consistent with the objectives of the national FCERM strategy and to drive local flood risk management in the Black Country. They are set out in Table 4 and discussed in detail in the following sections.

Table 4 – Black Country LFRMS Objectives

Objective	
O1	Understanding and communicating flood risk in the Black Country.
O2	Managing the likelihood and impacts of flooding.
O3	Helping the Black Country's citizens to manage their own risk.
O4	Ensuring appropriate development in the Black Country.
O5	Improving flood prediction, warning and post flood recovery.
O6	Work in partnership with others to deliver the local strategy.

6.2 OBJECTIVE 1 – UNDERSTANDING AND COMMUNICATING FLOOD RISK IN THE BLACK COUNTRY

6.2.1 Understanding the causes and mechanisms of local flood risk is essential to enable efficient and effective management of the risk. Recent flooding in the Black Country has highlighted that often the causes are not simple and can be from multiple sources. Therefore understanding flood risk solely from high level strategic work (such as the surface water flood maps) may not accurately portray a site's true risk from flooding.

6.2.2 Gaining a better understanding of risk in the study area will be an ongoing process but it is acknowledged that some issues – such as groundwater flood risk – are not well understood.

6.2.3 With flood risks expected to increase due to climate change, greater understanding will enable the local authorities within The Black Country to better mitigate against potential future problems and advise strategic planners for allocated development.

6.2.4 The Action Plan (Appendix A) demonstrates how this objective has and will be achieved for the Black Country.

6.3 OBJECTIVE 2 – MANAGING THE LIKELIHOOD AND IMPACTS OF FLOODING

6.3.1 Flooding is a natural process and stopping it altogether is impossible. However, it is possible to reduce the frequency of flooding and to lessen its impacts on The Black Country's population.

6.3.2 Understanding, identifying and quantifying flood risk is the first step to manage and reduce the likelihood and impacts of flooding. Where possible management schemes and funding opportunities will be explored to actively improve the flood risk. These will

be prioritised to ensure that the most beneficial measures are implemented first. This is especially important where budgetary constraints mean that not all viable measures can be implemented.

6.3.3 Where local flood risk issues are identified, all available funding sources will be explored to progress potential solutions. In developing measures to tackle local flood risk, it is important to involve all relevant partners, both risk management authorities and others, including members of the public.

6.3.4 Another important aspect of local flood risk management is actions that are taken when flooding is happening. Ensuring an efficient response from the relevant authorities and providing information to the public can significantly reduce the impact of flooding and reduce the recovery period.

6.3.5 The Action Plan (Appendix A) demonstrates how this objective has and will be achieved for the Black Country.

6.4 OBJECTIVE 3 – HELPING THE BLACK COUNTRY'S CITIZENS TO MANAGE THEIR OWN RISK

6.4.1 It is recognised that local flood risk management is most successful when the community are included in decision making and feel ownership of the issues and solutions.

6.4.2 Increased community engagement also helps to mitigate the impacts of flooding as people at risk are more aware and are more likely to plan for any issues that arise. The Black Country authorities are committed to improving the public's awareness of flooding and consulting them on local flood risk management issues.

6.4.3 It is also very important to ensure that the public is aware of and can comment on flood risk management schemes that are proposed for the Black Country.

6.4.4 The Action Plan (Appendix A) demonstrates how this objective has and will be achieved for the Black Country.

6.5 OBJECTIVE 4 – ENSURING APPROPRIATE DEVELOPMENT IN THE BLACK COUNTRY

6.5.1 The FWMA10 increases the ability of the local councils as LLFA's and LPA's to positively affect development to make it more sustainable and reduce risks of flooding both on and off site.

6.5.2 Each of the Black Country authorities are committed to working with developers to produce places to live where flood risk is minimal and there is a positive impact on the wider area.

6.5.3 One of the key ways of doing this is through planning policy, with ENV5 of the Black Country Core Strategy (see Appendix C) being the most important local document, and additional reference provided through the NPPF and SFRA.

6.5.4 Following consultation on the implementation of Schedule 3 of the Flood and Water Management Act 2010 regarding the provision for ensuring SuDS in new development, amendments have been made to the planning system. Non statutory technical standards for sustainable drainage systems were published by Defra in March 2015

alongside changes to the statutory consultees for major planning applications with regards to surface water drainage.

6.5.5 The changes to statutory consultees were implemented on 15th April 2015. The Town and Country Planning (Development Management Procedure)(England) Order 2015 – Schedule 4 - Consultations before the grant of permission has made LLFAs statutory consultees for major development planning applications with surface water drainage. Assessment of surface water drainage provision for all other types of development (not considered to be major development) is the responsibility of local planning authorities.

6.5.6 The Action Plan (Appendix A) demonstrates how this objective has and will be achieved for the Black Country.

6.6 OBJECTIVE 5 – IMPROVING FLOOD PREDICTION, WARNING AND POST FLOOD RECOVERY

6.6.1 The impacts of flooding can also be minimised through improved prediction and warning. The two most important aspects of this are to better understand flood mechanisms and 'trigger' levels; and improving communication with local communities to convey flood warnings. If those at risk are forewarned they can take appropriate actions to minimise the danger to themselves and their properties.

6.6.2 After flooding occurs the speedy recovery of businesses and individuals is important for the health and wellbeing of those affected and the economic output in the Black Country. Returning people to their homes also has the effect of minimising the Council's long term expenditure on disaster management allowing funds to be directed to reducing risk.

6.6.3 The Action Plan (Appendix A) demonstrates how this objective has and will be achieved for the Black Country.

6.7 OBJECTIVE 6 – WORK IN PARTNERSHIP WITH OTHERS TO DELIVER THE LOCAL STRATEGY

6.7.1 Working in partnership both internally and externally with the stakeholders and partners identified in Section 4 will be critical to managing flood risk appropriately.

6.7.2 To ensure that his occurs effectively the Black Country Authorities have developed partnership working arrangement involving the local authority key officers and representatives from other risk management organisations, principally the Environment Agency and Severn Trent Water. These arrangements enable sharing of information and knowledge between organisations to ensure the efficient use of resources for flood risk management. In addition opportunities for flood risk management schemes that deliver outcomes that are beneficial to multiple organisations can be identified.

6.7.3 The Action Plan (Appendix A) demonstrates how this objective has and will be achieved for the Black Country.

6.8 MEASURES

6.8.1 To enable the objectives of this strategy to be delivered, this section sets out a range of measures that will be undertaken by the Black Country authorities. These include a

range of short and long term measures that will be undertaken by the LLFAs in combination with their partners. These are set out below for each objective and further detail of how these measures will be delivered is given in the LFRMS Action Plan (Appendix A).

Objective 1: Understanding and communicating flood risk in the Black Country

Measure 1A: Develop a Flood Risk Management Plan for the West Midlands Cluster

Measure 1B: Investigate locally significant incidents of flooding identifying sources and remedial actions with partners

Measure 1C: Review and update the Preliminary Flood Risk Assessments for the Black Country

Measure 1D: Develop and continue to maintain a register of flood risk management assets

Measure 1E: Engage with local communities to gain information of flood risk issues

Measure 1F: Share knowledge and information on local flood risk with the residents of the Black Country

Measure 1G: Ensure latest information is used in assessing local flood risk

Objective 2: Managing the likelihood and impacts of flooding

Measure 2A: Work with partners to reduce the impacts of flooding by targeting and prioritising maintenance at high risk locations and assets, enabling an efficient response to, and recovery from, flooding incidents.

Measure 2B: Develop flood risk management schemes led by the Black Country authorities, seeking to make best use of available funding

Measure 2C: Work with partners to develop flood risk management schemes led by third parties, riparian landowners and stakeholders

Measure 2D: Work to ensure ongoing management of existing flood risk and drainage assets

Measure 2E: Work to ensure compliance of all Local Authority owned assets with the Reservoirs Act

Objective 3: Helping the Black Country's citizens to manage their own risk

Measure 3A: Continue to work with community flood groups and other local stakeholders

Measure 3B: Work with residents to communicate the risks of flooding

Measure 3C: Work with residents and landowners to educate them with regards to their responsibilities for watercourse management

Measure 3D: Encourage local involvement in the development of flood risk management schemes

Measure 3E: Encourage residents to share information on flooding incidents

Measure 3F: Share knowledge and information with communities and residents

Objective 4: Ensuring appropriate development in the Black Country

Measure 4A: Develop a planning process to create clear advice and direction to developers on flood risk, drainage and SuDS.

Measure 4B: Undertake consenting activities for ordinary watercourses

Measure 4C: Promote the use of Sustainable Drainage Systems in new development

Measure 4D: Ensure compliance with Black Country Core Strategy (ENV5 Flood Risk) principals and objectives

Objective 5: Improving flood prediction, warning and post flood recovery

Measure 5A: Work with partners to minimise the recovery time for residents and businesses from flooding events

Measure 5B: Establish a co-ordinated approach to the provision of temporary flood risk management measures.

Measure 5C: Work with partners to improve communications and advice given during flooding events.

Measure 5D: Work with partners to understand trigger levels for local flooding events and develop local flood warning systems

Objective 6: Work in partnership with others to deliver the local strategy

Measure 6A: Engage in regional networks for sharing of knowledge and best practice

Measure 6B: Improve the mechanisms of sharing of data and information between partners

Measure 6C: Engage with neighbouring LLFAs to facilitate a catchment based approach

Measure 6D: Continue to engage with flood action groups and other community groups in the delivery of local flood risk management

7 FUNDING OPPORTUNITIES

7.1.1 This Strategy has set out a range of measures to help achieve its objectives. These include LLFA processes and systems, partnership working with others, working with communities to improve their resilience to flooding and promotion of capital local flood risk management schemes. Delivery of these measures depends on sufficient funding being available, either from ongoing revenue funding or project based support for capital schemes.

7.1.2 The funding available for any measure will be linked to the outcomes it will provide. Measures that deliver benefits beyond flood risk management, such as enhanced ecosystems, public amenity, economic growth or cultural heritage, are likely to attract funding from alternative sources beyond those typically used to support flood risk management. Funding is therefore based on the economic viability of schemes; not all potential flood alleviation schemes will be viable and not all will achieve funding.

7.1.3 The following sections describe the available sources of funding that could be used to support the measures outlined in this Strategy. The Black Country authorities and their partners have already achieved funding for flood alleviation schemes in the Black Country from various sources, including Local Levy, Grant in Aid and contributions from both developers and landowners.

7.2 NATIONAL FUNDING

FLOOD AND COASTAL EROSION RISK MANAGEMENT GRANT IN AID FUNDING

7.2.1 Defra has the national policy responsibility for Flood and Coastal Erosion Risk Management (FCERM) and provides funding through Grant in Aid (GiA) to the Environment Agency, who then administers grants for capital projects; Local Authorities are one partner able to request such grants.

7.2.2 A contribution to flood risk management schemes from the Flood Defence Grant in Aid (FDGiA) funding will be provided whenever there is a positive ratio of benefit to cost. However, a positive ratio does not necessitate full funding and the formula determines the amount of Central Government funds based on the calculated ratio.

7.2.3 Funding levels for each scheme are linked to the number of households protected, the damages prevented, environmental benefits, amenity improvements, agricultural productivity and economic benefits. The payment rates for household protection will vary depending on the index of multiple depravation; with more deprived households receiving higher payment rates. This ensures that schemes identified within poorer areas are more likely to receive full funding from Central Government.