

# **FLOOD INVESTIGATION REPORT**

Investigation Ref:	54
Location:	Barrs Way, Mountsorrel
Date of Flooding:	1 <sup>st</sup> October 2019

## STATUTORY CONTEXT

Section 19 of the Flood and Water Management Act 2010 (FWMA) states that, on becoming aware of a flood which meets certain predetermined criteria, the Lead Local Flood Authority (LLFA, the Council) must, to the extent it considers necessary or appropriate, undertake a flood investigation. This investigation should determine the relevant flood risk management authorities (RMAs) involved, their functions and whether the RMAs have exercised or propose to exercise those functions. The LLFA must publish the findings and notify the RMAs.

# LEICESTERSHIRE'S FLOOD INVESTIGATION CRITERIA

Mandatory				
Loss of life or serious injury				
Critical infrastructure flooded or nearly flooded from unknown or multiple sources				
Internal property flooding from unknown or multiple sources				
Discretionary				
A number of properties have been flooded or nearly flooded				
Other infrastructure flooded				
Repeated instances				
Investigation requested				
Risk to health (foul water)				
Environmental or ecologically important site affected				
Depth/area/velocity of flooding a cause for concern				

#### SUMMARY OF IMPACTS AND FINDINGS

#### Source(s) of flooding

Ordinary Watercourse	Main River	Surface Water	Groundwater	Public Sewer	Canal	Land Drainage	Highway Drainage
$\square$		$\square$				$\boxtimes$	$\square$

#### Impact (number)

Residential	Business	Other Buildings	Roads	Critical Infrastructure
3			2	

#### **RISK MANAGEMENT AUTHORITIES (RMAs)**

The following RMAs, and establishments, were identified as relevant to the flooding incident:

- Leicestershire County Council (LCC) LLFA
- Leicestershire County Council (LCC) Highways Authority
- Severn Trent Water Ltd (STW) Statutory undertaker for public wastewater and freshwater assets along Main Street



• Charnwood Borough Council (CBC) – Local Planning Authority and Land Drainage Authority who can carry out flood risk management works on minor watercourses.

#### FINDINGS OF INVESTIGATION

# 1.DETAILS OF FLOOD EVENT

On the 1st October 2019, three residential properties along Barrs Way in Mountsorrel were internally flooded. Prior to the event, catchments located within central England were subject to prolonged, and in some cases intense rainfall resulting in heavily saturated catchments. A heavy rainfall event<sup>1</sup> occurred the day before (approximately 18.6mm in 24 hours, with 15.6mm specifically falling over a 3-hour period) and on the morning of the event (a further 11.4mm, source: Wanlip rain gauge<sup>2</sup> – located approximately 3.5km south-east of Barrs Way). This rainfall event quickly overwhelmed the already saturated catchment, resulting in significant overland surface water flows from the agricultural field adjacent to the impacted residential properties.

The large quantity of water also quickly overwhelmed the ordinary watercourse network and local drainage systems. Restrictions to sections of the ordinary watercourse network and the highway drainage system, along with additional overland surface water flows from adjacent agricultural fields north of the highway, resulted in excessive flood water ending up on West Cross Lane. This water flowed through the highway verge towards the natural low spot (the agricultural field adjacent to the residential properties) and converged with the overland surface water run-off. The water then made its way towards Barrs Way where it internally flooded three residential properties and externally flooded a further three residential properties.

#### 2.LOCATION AND SETTING

Barrs Way is a private cul-de-sac located off West Cross Lane in Mountsorrel, in Charnwood Borough (Figure 1). The residential properties along Barrs Way were constructed in 2016 and are within the Primrose Hill Estate. The residential properties which were impacted during the flood event are located to the west of Barrs Way adjacent to the agricultural field (Figure 1). Across the adjacent agricultural field, the land falls in a north easterly direction towards Barrs Way and Ordinary Watercourses 1 and 2 (Figure 1), with slopes reaching a maximum of 1 in 15. The geology of the site is predominantly mudstone which indicates that the sub-catchment area has relatively low permeability.

<sup>&</sup>lt;sup>1</sup> https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/library-and-archive/library/publications/factsheets/factsheet\_3-water-in-the-atmosphere.pdf

<sup>&</sup>lt;sup>2</sup> https://www.gaugemap.co.uk/#!Map/Summary/8123/3465/2019-09-30/2019-10-06





# 3.LOCAL FLOOD RISK 3.1 Ordinary Watercourses

Figure 1 illustrates the locations of key ordinary watercourses within close proximity to the flood impact area. As a result of this investigation, it has been identified that Ordinary Watercourse 2 has been filled in following the development of the Primrose Hill Estate; the impact of this is discussed further in this report. The focus area is approximately 1.3km away from the nearest Main River, Rothley Brook, and the area is categorised as Flood Zone 1 (low risk to fluvial flooding).

# 3.2 Local Drainage

West Cross Lane is a rural highway served by a 225mm diameter drainage system which was identified to be located within the highway verge following the flood event. Due to its rural location, there are limited highway gullies along West Cross Lane as the water naturally falls either side of the highway. The 225mm diameter drainage system conveys land drainage from Ordinary Watercourses 4 and 5 (Figure 1) and water from West Cross Lane. This drainage systems flows in an easterly direction before eventually outfalling into Ordinary Watercourse 1.



Ordinary Watercourse 3 flows in an easterly direction along agricultural land to the north of West Cross Lane before outfalling into a pond at approximately ordnance survey National Grid Reference (OSNGR) Easting: 457497; Northing: 313481. It is believed that this pond connects to a separate land drainage system within the highway verge, to the north of West Cross Lane, before connecting with the 150mm STW surface water system. This STW surface water system flows east before connecting with a 650mm surface water system which then flows south before outfalling into Ordinary Watercourse 1 adjacent to West Cross Lane at approximately OSNGR (Easting: 457644; Northing: 313566).

The surface water drainage system of the Primrose Hill Estate had not yet been adopted by a statutory undertaker for public wastewater (STW) at time of this report, and therefore remains the responsibility of the developer (Persimmon Homes). The surface water drainage on Barrs Ways connects to the drainage system on Baum Drive, flowing in an easterly direction before eventually outfalling into Ordinary Watercourse 1 on the far-eastern edge of the Primrose Hill Estate development.

## 4.SUMMARY OF EVIDENCE 4.1 Prior to Flood Event

Prior to the flood event, the Council was not aware of any previous internal flood reports in the vicinity and there is currently no flood warden for the flood impact area. During the investigation, it was identified that local residents had experienced external flooding issues in 2017/18, however the Council was not aware of these issues at the time.

The summer of 2019 saw significant rainfall, with the Met Office ranking it as the seventh wettest summer in the UK since 1910<sup>3</sup>. Successive rainfall events during September 2019 resulted in catchments across central England being subject to prolonged, and in some cases intense, rainfall. This subsequently resulted in heavily saturated catchments across central England. On the 1<sup>st</sup> October 2019, persistent heavy rainfall fell across much of Leicestershire onto the already saturated catchments.

# 4.2 Flood Event

During the flood event, surface water was anecdotally reported as following the topography of the land and flowing in an easterly direction over agricultural fields towards the residential properties on Barrs Way (Photos 1, 2 and 3).

<sup>&</sup>lt;sup>3</sup> www.metoffice.gov.uk/about-us/press-office/news/weather-and-climate/2019/summer-2019-statistics





Photo 1: illustrating the low point of the affected residential properties in comparison to the agricultural field (photo taken during a site visit following the October 2019 flood event). Black arrows on the photograph indicate the direction of surface water flow



Photos 2 and 3 (left and right respectively): the surface water flow route, with the black arrows indicating the direction of flow, through the agricultural field adjacent to the impacted residential properties (these photos were taken during a site visit following the October 2019 flood event)



It was anecdotally reported that the drainage system along the verge of West Cross Lane was overwhelmed by the volume of flood water during the flood event, resulting in excessive flood water on the highway. Additional flows were also reported to be entering onto West Cross Lane from Ordinary Watercourse 3 due to overland surface water flows from the adjacent agricultural field overwhelming its capacity.

The water on the West Cross Lane flowed south through low topographic points in the hedgerow between West Cross Lane and the residential properties on Barrs Way. This water converged with the overland surface water run-off from the adjacent agricultural field and flowed towards the west side of the end residential property on Barrs Way. The water moved around to the north side of the residential properties and resulted in flood water ingress through the front of three residential properties. There was also external flooding anecdotally reported at three additional residential properties further east along Barrs Way.

## 4.3 Post Flood Event

Following the flood event, the Council conducted a review of all available data and various site visits to gather further information. The Council also spoke directly with the affected residents to help understand where the flood water came from.

The Risk of Flooding from Surface Water Map (Figure 2) has been produced by the Environment Agency (EA) and is created using high level modelling which represents where water could flow and accumulate during certain rainfall events<sup>4</sup>. Anecdotal evidence indicates that overland surface water flowed in an easterly direction across the agricultural field adjacent to Barrs Way towards the affected residential properties; the output of this modelling supports this.



<sup>&</sup>lt;sup>4</sup> https://flood-warning-information.service.gov.uk/long-term-flood-risk/map



Figure 2 illustrates a low risk of surface water flooding (less than 300mm deep of flood water) to the affected residential properties. The flooding depths that affected the residential properties are anecdotally reported to have been higher than this. The modelling is high level (not designed to be accurate at the local level) and was completed in December 2013. Since the release of the model output, land heights have also changed around the housing development, and so the flow routes and depths predicted are also not entirely accurate. The modelling also does not consider property threshold levels, and therefore cannot accurately predict internal flooding.

At the time of the early development proposals for the Primrose Hill Estate, the EA was the statutory consultee for all flood matters and passed comment on the outline application. In March 2015, the Council passed comment on a reserved matters application (P/15/0013/2) asking to be consulted. This was during a period of cross-over between the two organisations and as this site was a large development, the Council was actively seeking where possible to be involved/pass comment. At this time, the Council also provided the surface water flooding mapping as part of their response raising the awareness of the surface water flow path through the site. On 6<sup>th</sup> April 2015, partway through the development lifecycle for this site, the Council were consulted specifically on two subsequent applications (P/15/1153/2 and P/16/1183/2) and refused them on grounds of lack of information in support of the sustainable drainage for the site. The site was however eventually discharged by the Local Planning Authority following advice provided by the EA regarding the drainage scheme. It is possible that had more information been submitted to the Council as requested through the planning application process, the overall risk to the site could have been better judged.

As part of the investigation it has been anecdotally reported that the volume of overland surface water across the agricultural field adjacent to the impacted residential properties along Barrs Way, was exacerbated due to the restriction of the 100mm diameter UPVC culvert. This 100mm diameter UPVC culvert acts as a throttle, taking the flows of two 150mm diameter culvert outfalls (Figure 1 and Photo 4). The extents of the culverted section of Ordinary Watercourse 5 are unknown at the time of writing this report. The 100mm diameter UPVC culvert and sandbag headwall was likely installed as part of an access route to the agricultural field. It is not known when the access was installed, and as the Council has no record of consent being granted for the works under the Land Drainage Act (1991), the works have been recorded as unconsented.





# Photo 4: 100mm diameter UPVC culvert inlet at the junction of West Cross Lane and Gipsy Lane (not visible as submerged beneath the sandbag headwall)

This 100mm diameter UPVC culvert connects with the 225mm diameter drainage system shortly downstream (Figure 1). At the time of the flooding incident, it is understood both these systems were heavily silted, with root ingress also found during investigations following the October 2019 flood event within the 225mm diameter drainage system. These restrictions would have likely contributed to the volume of flood water pooling on, and travelling down, West Cross Lane.

The 225mm diameter drainage system flows in an easterly direction along the highway verge before outfalling into Ordinary Watercourse 1 (Figure 1). During the investigation into the drainage system, an obstruction in a section opposite the Carrisbrooke Drive was discovered, which would have occurred during the creation of the access road for the Primrose Hill Estate. This would have likely reduced the capacity of the drainage system to convey flood water during the event. The outfall of this system was also anecdotally reported as being heavily vegetated at the time of the flooding. Although this would not have caused the flooding it may have restricted the ability of the outfall to discharge, which likely increased the volume of flood water on West Cross Lane. Ordinary Watercourse 1 flows through the land of various riparian landowners, including the developer (Persimmon Homes). The Council is working with riparian landowners, including Persimmon Homes, to ensure unrestricted flow within Ordinary Watercourse 1.

The impacted residential properties are located on land with a lower topography than West Cross Lane. Therefore, water on the highway flowed towards the impacted residential properties through a gap in the hedgerow (and dip in topography adjacent to the tree identified in Photo 5).





# Photo 5: West Cross Lane (facing west) with the arrow indicating a slope from the highway towards the hedge. There is a gap in the hedge around the tree and bare eroded soil.

The volume of overland surface water flow towards the residential properties from the adjacent agricultural field was anecdotally reported as being exacerbated by obstructions within Ordinary Watercourse 4. The sheer volume of rainfall, along with the restrictions in Ordinary Watercourse 4, resulted in flood water exceeding the capacity of the ordinary watercourse and adding to the surface water flows heading east across the agricultural land (Figure 1). This volume of surface water was exacerbated by the volume of flood water exceeding the design capacity of the 100mm diameter UPVC and 225m diameter culvert system, creating additional overland surface water flows (Photo 2).

During this investigation it was identified that Ordinary Watercourse 2 existed prior to the Primrose Hill Estate (Photos 6 and 7). Ordinary Watercourse 2 was acknowledged in the site-specific Flood Risk Assessment produced by the developer, which stated that the Ordinary Watercourse 2 was dry during the time of a site inspection for the assessment. Following site visits after the flood event, it has been established that Ordinary Watercourse 2 has been infilled, however some parts of the existing hedge line remains as part of the new development. Under Section 23 of the Land Drainage Act (1991), these works would have required consent from the Lead Consent Body (the Council). The Council has not consented these works, and so they have been recorded as unconsented. The Council is working with the developer (Persimmon Homes) to resolve this matter.

Prior to the development of the site, Ordinary Watercourse 2 would have likely provided a key route for flood water to get away during a flood event. There is currently no route for this flood water, other than through the residential properties on Barrs Way. The infilling of Ordinary Watercourse 2 and the development of Primrose Hill Estate therefore interferes with the initial flow path of surface water (Figure 1) explaining why the flood water was described to pool to depths greater than the predicted depths of less than 300mm (Figure 2).



Topographic data available to the Council also indicates that the impacted residential properties are located on relatively flat ground, with residential properties further east along Barrs Way increasing in gradient. The relatively flat land levels would have therefore further exacerbated the volume of flood water which pooled in front of the impacted residential properties.



Photo 6: West Cross Lane (facing south) prior to the Primrose Hill Estate development. The change in vegetation within the field indicates the ditch line of Ordinary Watercourse 2 (Photo from 2009, taken from Google Maps)



Photo 7: West Cross Lane (facing south) prior to the Primrose Hill Estate development. The change in vegetation within the field indicates the ditch line of Ordinary Watercourse 2 (Photo from 2009, taken from Google Maps)



After the flood event in October 2019, a number of actions were completed in an attempt to help the affected residents including:

- Persimmon Homes constructed an informal bund which extended around the affected residential properties. Unfortunately, the bund did not receive the required planning permission from CBC prior to construction. It is recognised that the bund does provide some benefit to the affected residential properties, however it is anecdotally reported to be eroding and shrinking. It has also been reported as an eye sore by the local community.
- Persimmon Homes have installed an additional drain at the far eastern edge of the informal bund. It is not known exactly what this drain connects into, but it is believed to be connected to the development sites unadopted surface water drainage system.
- Persimmon Homes constructed a filter drain around the extent of the worst affected residential property as an additional line of defence to intercept any flood water. It is not known exactly what this filter drain connects into, but it is believed that it may also be connected to the development sites unadopted surface water drainage system.
- The landowner of Ordinary Watercourse 4 has conducted maintenance works on their section of Ordinary Watercourse 4.
- The Council investigated the condition of the 225mm diameter culvert system along the highway verge. The investigation resulted in the system being relined as well as larger catch pit gullies being installed in an attempt to capture more water that lands on West Cross Lane into the 225mm diameter culvert system.
- The Council has also raised the height level of land adjacent to West Cross Lane along the lowest points in the hedgerow to prevent flood water flowing into the agricultural field towards the residential properties.



The result of the combination of factors described below resulted in the ingress of storm flood water to three residential properties on Barrs Way and the external flooding of other residential properties and various sections of highway on 1<sup>st</sup> October 2019:

- The area had experienced higher than average rainfall in the proceeding months meaning the sub-catchment was already saturated.
- The relatively low permeability of the sub-catchment combined with the intense rainfall event, overwhelmed the already saturated ground and resulted in relatively low infiltration levels of the surface water. This resulted in the whole local drainage system becoming overwhelmed.
- Overland surface water flowed across the agricultural field adjacent to Barrs Way in an easterly direction towards the impacted residential properties which are located at a low topographic point.

There are many factors that may have exacerbated the impacts of the flood event. Whilst these factors may have made a difference to the volume and peak flood levels, at the time of writing this report, there is no firm evidence that suggests these factors would have prevented any of the internal flooding experienced by this event. These factors include:

- Ordinary Watercourse 4 became overwhelmed by the sheer volume of rainwater which was exacerbated by restrictions caused by lack of maintenance, subsequently reducing the watercourse's capacity and increasing the volume of surface water on the agricultural field. However, given the amount of water which fell during the flood event, the maintenance impact is considered negligible.
- The 100mm UPVC culvert was described to be partially impeded and requiring some maintenance. This culvert acted as a throttle and the sheer volume of water overwhelmed the upstream catch pit, subsequently adding to the volume of surface water on the agricultural field adjacent to Ordinary Watercourse 4. Given the amount of water which fell during the flood event, and the wider drainage issues, the maintenance impact is considered negligible.
- The 225mm diameter drainage system located in the highway verge was identified to require
  maintenance and in places had experienced root ingress, thus reducing the capacity of the
  drainage system to convey water. This would have likely resulted in excess surface water
  along the highway which subsequently flowed south towards the impacted residential
  properties through topographic low points in the hedgerow. The sheer volume of water which
  fell during the event would have likely overwhelmed the capacity of this drainage system even
  if it had been working at maximum capacity. This drainage system would also not have been
  designed to take surface water runoff from the adjacent agricultural field.
- Overland surface water from the agricultural field to the north of the highway further added to the volume of flood water on the highway, which subsequently flowed through low topographic points in the adjacent hedgerow towards the impacted residential properties.
- There are anecdotal reports of excessive vegetation within Ordinary Watercourse 1, which the 225mm diameter drainage system discharges into. This may have reduced the discharge capacity of the drainage system, however given the sheer volume of water that fell during the event, the impact of this is considered negligible as Ordinary Watercourse 1 would likely have been experiencing very high flows.
- The obstruction through the 225mm drainage system, opposite Carisbrook Drive, would have reduced the capacity of the system and resulted in excess flood water on the highway. However, given the amount of water which fell during the flood event, the impact is considered negligible.



The actions completed following the flood event of 1<sup>st</sup> October 2019 have provided some benefit for the affected residents, but there also remains a large range of issues that need to be resolved:

- The informal bund constructed by Persimmon Homes which extends around the affected residential properties does not have planning permission. There is no plan in place for who would adopt and maintain the structure and it has not been constructed to an engineered specification. The bund is eroding and shrinking and is an eye sore. It is agreed by all RMAs that the bund should stay in place until a long-term solution is identified as it does provide some benefit. The bund has been witnessed to prevent residential properties from internally flooding during Winter 2020/21, however the flood water is being directed onto the highway (Photos 7, 8, 9 and 10).
- The filter drain installed around the extent of the worst affected residential property is believed to be connected to the development sites unadopted surface water drainage. STW would not adopt the development sites drainage with this connection due to the existing systems not being designed to take unquantified volumes of land drainage.

The 100mm diameter UPVC pipe has been installed without consent from the Council and acts as a throttle. A review of this drainage system has concluded that upsizing this section for the access would bring negligible benefit to the downstream community. Since the flooding of 1<sup>st</sup> October 2019, the area has been affected by another very wet winter and this location has not contributed towards any flooding. If there were to be any benefit for upsizing this pipe, the whole network extent up to its discharge point into Ordinary Watercourse 1 would need to be upsized. This is considered to be cost-disproportionate to the negligible benefits brought.





Photo 7: the bund from a south westerly direction and the filter drain is visible in the centre of the photo.





Photo 8: the bund from a westerly direction in front of the impacted residential properties.



Photos 9 and 10 (left to right respectively); the earth bund constructed between Barrs Way and West Cross Lane with the aim of diverting overland surface water flows from the adjacent agricultural field. These photos were taken of the bund following the event in January 2021.



#### **RECOMMENDATIONS / ACTIONS**

Leicestershire County Council as the Lead Local Flood Authority and Highways Authority has agreed/ undertaken the following:

- To coordinate the formal flooding investigation and the actions of all RMAs, and feedback to the community.
- To engage with all riparian landowners to raise awareness of riparian responsibilities.
- To engage with all affected residents and provide support and guidance as appropriate.
- To work with all RMAs and the local community to better understand the flooding mechanisms and identify ways to help mitigate future flooding including reviewing the appropriateness of the bund, the 100mm diameter UPVC culvert and the French drain. As part of this work, the Council will also consider the appropriateness of further investigatory work to better understand the drainage associated with Ordinary Watercourses 1 and 3.
- To log and progress a contravention of Section 23 of the Land Drainage Act (1991) for the infilling of Ordinary Watercourse 2 and the installation of the 100mm diameter UPVC pipe.
- To liaise with STW and Persimmon Homes regarding the filter drain and its connection to the development's unadopted surface water drainage system.
- To investigate ways to help prevent overland surface water flows from the adjacent agricultural field to the north of West Cross Lane, along Ordinary Watercourse 3, flowing onto West Cross Lane.
- To investigate the appropriateness of a bid for national funding to help protect the community from future flooding.
- Completed high-pressure jetting, root cutting and re-lining of the 225mm diameter drainage system located within the highway verge of West Cross Lane.
- Installed a new inspection manhole and additional road gullies along West Cross Lane to help capture highway surface water into the 225mm diameter culvert system along the highway verge. Please note this system in not designed to take excessive surface water flows onto the highway from adjacent agricultural fields.
- Raised the ground level of the verge on parts of West Cross Lane to help prevent the flow of highway surface water towards Barrs Way.
- Completed various jetting works to the two gullies located at the junction of West Cross Lane and Carrisbrooke Drive. It has been established that the lateral connection of these gullies has been severed and the Council is engaging with Persimmon Homes to rectify this issue.

Charnwood Borough Council as the Local Planning Authority/Land Drainage Authority has agreed/ undertaken the following:

- To work with all RMAs to understand the flooding mechanisms and identify ways to help mitigate future flooding.
- To work with all RMAs to alleviate the concerns relating to the informal bund.

Severn Trent Water has undertaken/agreed the following actions:

• To work with all RMAs to understand the flooding mechanisms and identify ways to help mitigate future flooding.



Persimmon Homes (the Property Developer) has undertaken/agreed the following actions:

- To work with all RMAs and the local community to better understand the flooding mechanisms and identify ways to help mitigate future flooding including reviewing the appropriateness of the bund, the 100mm diameter UPVC culvert and the French drain.
- To engage with the Council regarding contravention of Section 23 of the Land Drainage Act (1991) for the infilling of Ordinary Watercourse 2.
- To remove the obstruction to the lateral drain which connects the two gullies at the junction of West Cross Lane and Carrisbrooke Drive. Follow up CCTV survey to be conducted through the system until its outfall into Ordinary Watercourse 1.
- To clear the most upstream section of Ordinary Watercourse 1 of its excessive vegetation to the extent which is to be agreed with the Council.

Riparian Landowners have agreed/undertaken the following

• The landowner of Ordinary Watercourse 4 has completed maintenance to the open section of watercourse.

Local residents and tenants who are aware that they are at risk of flooding can take action to ensure that their properties are protected. Actions taken can include; signing up to Flood Warning Direct (if available), nominating a community flood warden, producing a community flood plan, implementing property level protection and moving valuable items to higher ground. More permanent measures are also possible such as; installing floodgates, raising electrical sockets, and fitting non-return valves.

#### DISCLAIMER

This report has been prepared pursuant to the Council's statutory responsibility, under the FWMA, to investigate flood incidents in its area. The statutory duty to investigate is not absolute or exhaustive. Under Section 19 of FWMA, the Council's statutory responsibility is limited to conducting investigations only to the extent the Council deems it necessary.

Where the Council deems it necessary to conduct an investigation, it is required to address two questions under 19(1) of the FWMA. Firstly, the Council is required to identify relevant "Risk Management Authorities"5. Secondly the Council is required to investigate whether the Risk Management Authorities have exercised, or are proposing to exercise, flood risk management functions set out under Section 4 of FWMA.

The relevant flood risk management authorities identified by the Council are defined in this report. The flood risk management functions which the Risk Management Authorities are proposing are also described in the body of this report.

Beyond discharging the specific statutory responsibilities under Section 19(1) of FWMA, the intended purpose of this report is solely as a resource to assist Risk Management Authorities and stakeholders to better understand the relevant flooding incident and to mitigate risks going forward.

Although the Council has commented upon contextual issues related to the flood event, it is not the purpose of this report to determine any private rights arising from the flood event.

<sup>&</sup>lt;sup>5</sup> As defined by Section 6(13) of FWMA



Nor is the purpose of this report to reach conclusions as to whether any Risk Management Authority or other stakeholder (e.g. private land owners, public bodies or government agencies) has breached any duty of care (whether statutory or common law) that they may have held.

The Council has, in good faith, sought to locate and collate relevant primary and secondary evidence to prepare this report. However, the Council accepts no responsibility for assumptions or statements made on the basis of evidence which incomplete, inaccurate or both. As such, this report should not be considered as a definitive assessment of all factors that may have triggered or contributed to the flood event.

The Council expressly disclaims responsibility for any error, omission or negligent misstatement in this report to the fullest extent permissible in law. Further the Council does not accept any liability for the use of this report or its contents by any third party. Where any party wishes to assert any rights or cause of action related to the flooding event they are requested to rely on their own investigations.