Flood Investigation Report

Flooding at Watling Street, Hinckley –

27th December 2017

Final Report

October 2020

To discuss this report, please contact the Flood Risk Management Team by email flooding@leics.gov.uk or by phone 01163 050 001

Contents

EXECUTIVE SUMMARY

On the 27th December 2017, Watling Street, Hinckley was subjected to a flooding incident whereby two residential properties suffered internal flooding and five residential properties flooded externally as well as the forecourt of a petrol station. Leicestershire County Council (herein referred to as the Council) was informed of this flooding in January 2018.

Following the enactment of the Flood and Water Management Act (FWMA, 2010), the Council (as an upper tier authority) was designated as a Lead Local Flood Authority (LLFA). Section 19 of the FWMA states that on becoming aware of a flooding incident within their area, the LLFA should investigate the event to an extent considered necessary or appropriate. The Council has produced a LLFA policy which stipulates agreed criteria for undertaking Section 19 flood investigations in Leicestershire. The Council has deemed it necessary to carry out a formal investigation into the flooding incident at Watling Street, Hinckley as the flooding has triggered this locally agreed criteria.

The Council has conducted an extensive investigation in order to establish the nature, origin and extent of the repeated flooding incidents. Through this investigation, the Council has engaged with multiple stakeholders in order to establish viable actions in order to mitigate flood risk at Watling Street.

This report has been produced by the Council fulfilling duties under the FWMA as the LLFA for Leicestershire.

1. PURPOSE OF THIS REPORT

1.1. SECTION 19 INVESTIGATIONS – DUTY TO INVESTIGATE

Under Section 19 of the FWMA, the Council has duties to fulfil as a result of certain flooding events. The FWMA states that:

(1) On becoming aware of a flood in its area, a LLFA must, to the extent that it considers it necessary or appropriate, investigate:

a. *which RMAs have relevant flood risk management functions, and*

b. *whether each of those RMAs has exercised, or is proposing to exercise, those functions in response to a flood event.*

(2) Where an authority carries out an investigation under section 1 (above) it must:

- *publish the results of its investigation, and*
- *notify any relevant RMAs."*

This report has been produced by the Council fulfilling duties under the FWMA as the LLFA for Leicestershire.

1.2. LEICESTERSHIRE COUNTY COUNCIL'S LOCALLY AGREED CRITERIA FOR FORMAL FLOOD INVESTIGATIONS

The Council identified local thresholds for formally investigating flood incidents across Leicestershire within the Local Flood Risk Management Strategy published in August 2015. This policy advises when a formal flood investigation should be undertaken, including where one or more of the following occurs as a result of a flooding incident:

- 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

In the following circumstances, discretion may be used to investigate a flooding incident:

- A number of properties have been flooded or nearly flooded
- Other infrastructure flooded
- Repeated instances of flooding have occurred
- Investigation requested

- Risk to health (foul water)
- Environmental or ecologically important habitat has been affected
- The depth/area/velocity of flooding is a cause for concern

1.3. FLOOD INVESTIGATION CRITERIA

A formal investigation into the repeated flooding incidents at Watling Street, Hinckley was undertaken as the events triggered at least one of the locally agreed flooding characteristics or discretionary items as indicated below:

Mandatory Investigation	
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 Investigation	
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	☐

1.4. RISK MANAGEMENT AUTHORITIES (RMAs)

The following RMAs were identified as relevant to the flooding incident at Watling Street:

- Leicestershire County Council – LLFA
- Warwickshire County Council – LLFA
- Environment Agency
- Hinckley & Bosworth Borough Council
- Severn Trent Water Ltd (STW)
- Highways England (HE)

2. BACKGROUND

2.1. LOCATION

Hinckley is situated approximately 20km south-west of Leicester (Figure 1) and is located within the borough of Hinckley & Bosworth. The A5 (also known as Watling Street) runs along the South-Western edge of Hinckley (as annotated in red on Figure 1).

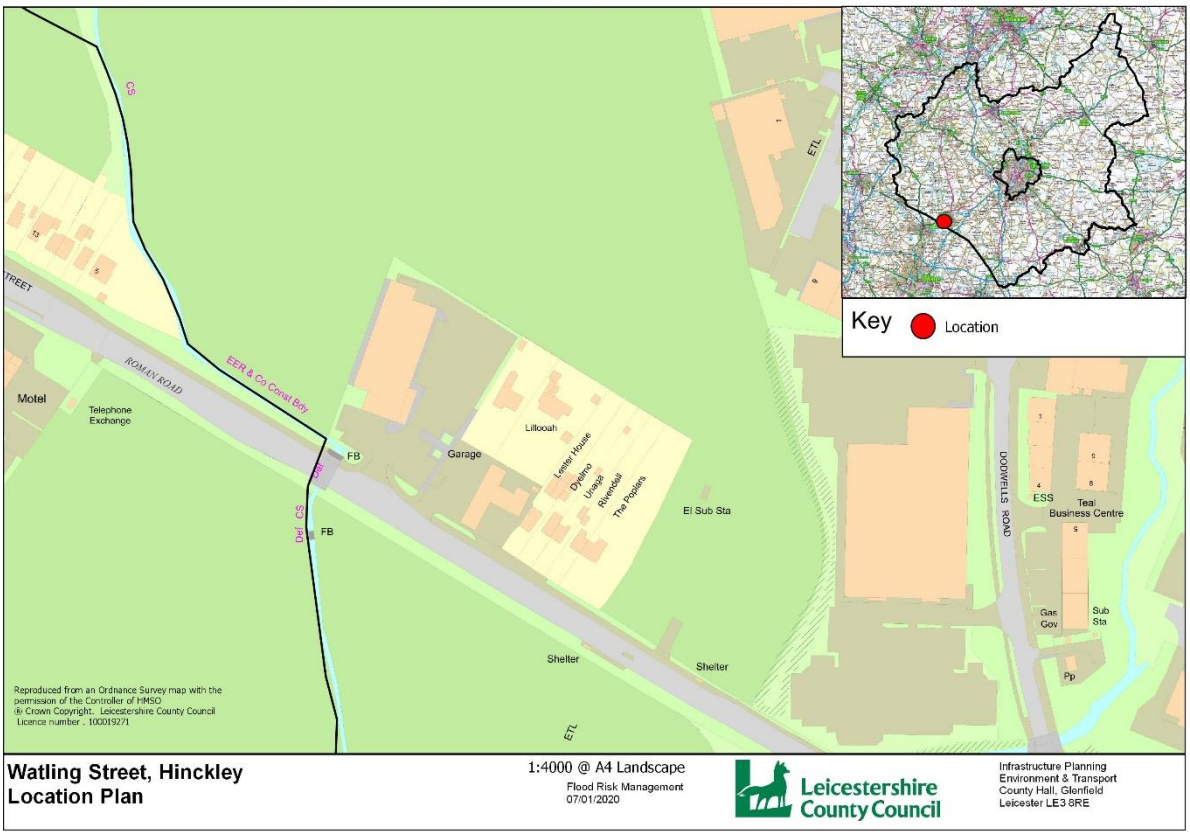


Figure 1: Location Plan of Watling Street

2.2. LOCAL DRAINAGE SYSTEM

The local area has a number of drainage features which have been identified and assessed in this report.

As shown in Figure 2, an unnamed ordinary watercourse (labelled ordinary watercourse 1) flows from land to the North of Watling Street in a southerly direction. At the location marked with a red circle (Figure 2), the ordinary watercourse converges with a 225mm diameter surface water culvert (labelled as a green dotted line on Figure 2) before entering a 1300mm brick arch culvert and passing beneath the Watling Street. The ordinary watercourse continues in a southerly direction before reaching a confluence with the Harrow Brook (labelled on Figure 2 as Harrow Brook (Main River)) immediately to the South-West of Hinckley. The unnamed

watercourse is understood to convey surface water generated from a substantial catchment (approximately 9.2 hectares) to the North-west of Hinckley, including fields located on the Western side of Hinckley.

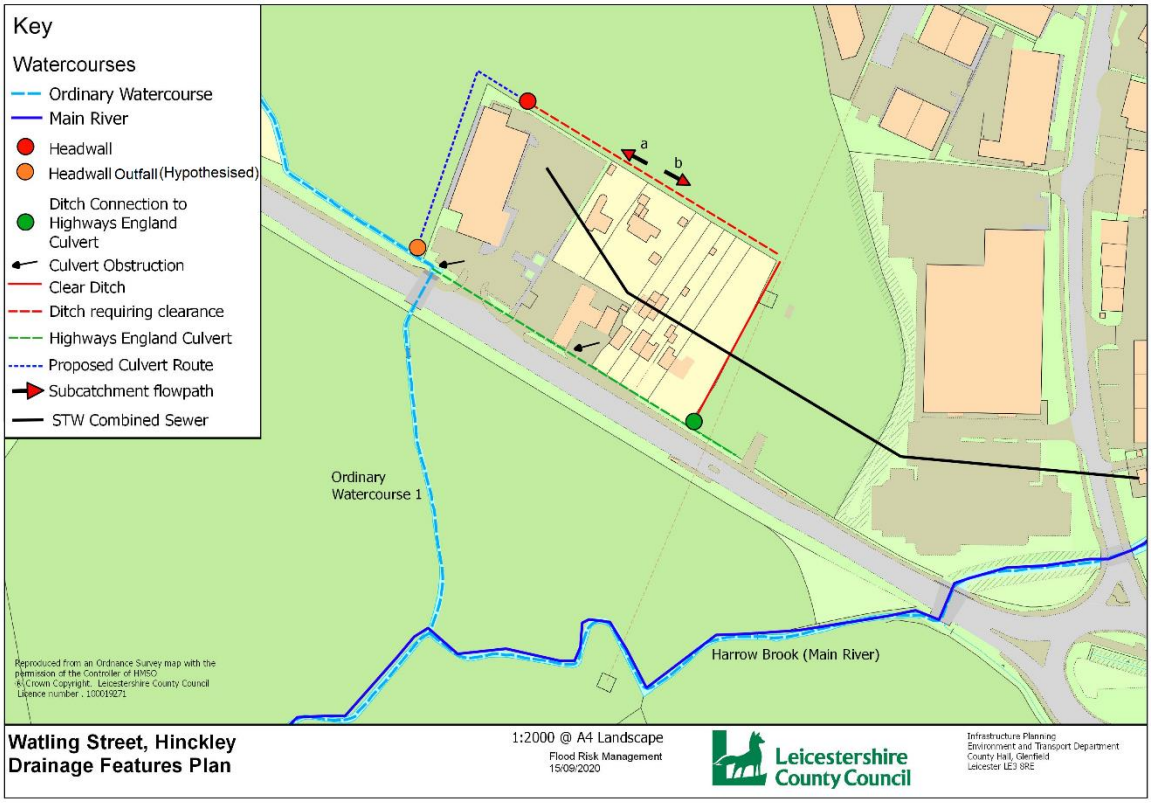


Figure 2: Watercourse features

A localised ridge runs through the middle of the fields behind the properties, this causes surface water to run off into two separate micro catchments. Water draining to the east (annotated as ‘b’ on Figure 2) makes its way towards a drainage ditch forming the boundary between the properties on Watling Street and the field behind (shown as a solid red line on Figure 2). The drainage ditch serves to convey surface water around the backs of the property towards formal drainage located within Watling Street. The condition and capacity of the ditch varies along its length with some sections approximately 1m deep and 1.5m wide. Other sections such have silted up or been filled in and are only observable as slight linear depressions in the ground.

Water draining to the west (annotated as ‘a’ on Figure 2) makes its way into either a headwall located immediately to the North of the Aldi supermarket or bypasses this and drains across the fields towards the unnamed ordinary watercourse. The headwall appears older and anecdotal evidence suggested that this predates the Aldi store and was unaffected by the construction of the store. The condition and exact route could not be confirmed following site investigations however it is believed that it eventually discharges into ordinary watercourse 1 adjacent to Watling Street (annotated as a blue hashed line and orange dot on Figure 2).

The HE drainage infrastructure which serves Watling Street and adjacent footways are separated into two distinct systems. Each of these systems drain one side of the carriageway, with the northern side (closest to the affected properties) also serving the additional drainage within the pedestrian footway. The gullies in the carriageway and the pedestrian footway both drain into a 225mm diameter surface water culvert which is located underneath the footway. This drain conveys flows north westwards and outfalls into the unnamed ordinary watercourse adjacent to the supermarket (labelled as a green dotted line on Figure 2). This connection forms a 'T' junction with the ordinary watercourse which then jointly flow southwards under the carriageway.

There is also a STW combined sewer system which runs from the superstore (located at ordnance survey National Grid Reference (OSNGR) (Easting: 439653; Northing: 293327) in a roughly south easterly direction. This combined sewer system picks up the foul and surface water drainage from the superstore and residential properties, before connecting into the mains sewer that runs underneath the A47. This combined system does not take any flows from the petrol station or Watling Street. The pumping station which serves this network is located on Dodwells Road at OSNGR (Easting: 439965; Northing: 293197). This is a major pumping station which also serves the network for the surrounding area of Dodwells Industrial Estate.

2.3. HISTORICAL FLOOD INFORMATION

The Council holds several records of flooding in the vicinity of Watling Street, Hinckley prior to the initial reports of flooding triggering this investigation.

- 2013-INC-020 – Coventry Road, Hinckley (August 2013)

  Surface water flooding to the rear and front of properties as a result of highway run-off and overland flows (no internal property flooding occurred).

- 2012-INC-027 – Coventry Road, Hinckley (2012)

  Surface water flooding at a localised low point. Believed to be the result of maintenance issues within the local drainage system.

Both incidents are located on the other side of the Harrow Brook. It is considered unlikely (based on the investigation conducted) that these incidents are related to the flooding event on the 27th December 2017.

There have been several reported instances previously of the STW pumping station being overwhelmed in high intensity conditions. STW have instigated several investigations and undertaken several remedial works between 2015 and 2017 including back up storage and non-return valves. STW also added this pumping station to their future major improvement's projects list. The Council was not aware of these concerns prior to the flooding incidents in December 2017.

Other nearby flooding issues have occurred further to the west of the incident described in this report. In February 2014 instances of garden flooding were reported to both WCC and the Council. Following discussions between the authorities, WCC picked up the investigation. WCC met the residents and the landowner but the flooding didn't meet their threshold to take further action.

3. THE FLOODING INCIDENT

The majority of the information supporting the description of the flooding incident is anecdotal evidence provided by residents who have met with various representatives of the Council.

3.1 INFORMATION PRIOR TO THE EVENT

In the days prior to the flood incident (from 17th December 2017 onwards), catchments located within central England had been subject to prolonged and sometimes intense rainfall, indicating that the ground was already highly saturated. Heavy rain was predicted overnight from 18:00pm on the 26th December to the early hours of the morning on the 27th. This followed on from particularly heavy rain on the 25th December, where 11mm of rain fell between 7pm and 11pm. A severe weather warning had been issued by the Environment Agency for Leicestershire during that period and the published flood guidance statement was 'yellow':

> ***Flood Warning issued on 26 Dec 2017 09:23***
>
> *River Anker*
>
> *Heavy rain has fallen within the River Anker catchment last night (Monday 25 December 2017). This has resulted in river levels rising in this area, on an already saturated catchment, and may possibly continue to rise through this morning. If levels continue to rise this may lead to properties and low-lying areas flooding later today. Flood waters may be deep and fast flowing in all these areas. Residents are strongly urged to take action now. Remain safe and be aware of your local surroundings. We will be closely monitoring the situation throughout the day and*

As a 'yellow' flood guidance statement was issued, LLR Prepared (the emergency response unit for the Council) were on standby but it was impossible to know where and at what time these flooding impacts would occur. There are no flood warden schemes in the area and so no emergency action plans existed; therefore, no emergency actions/preparation such as checking the status of local watercourses, gullies, culverts etc. and warning the public was known to have been conducted.

3.2 DESCRIPTION OF THE EVENT

Resident and witness accounts on the day of the incident indicate that surface water flowed from both the fields behind the properties (adjacent to Dodwells Bridge Industrial Estate) and from the highway (Watling Street). The water flowed across the fields, passed through the gardens of several properties, flooding one internally, some of the water then made its way down the private driveways serving the affected properties onto the garage forecourt. The rest made its way into the rear garden of a property on Watling Street, settling at a low point understood to be in the vicinity of where a STW combined sewer manhole is located. The residents also reported that

manholes to the STW combined sewer lifted, and sewerage also backed up through downstairs toilets, adding foul contamination to the flooding affecting properties and back gardens.

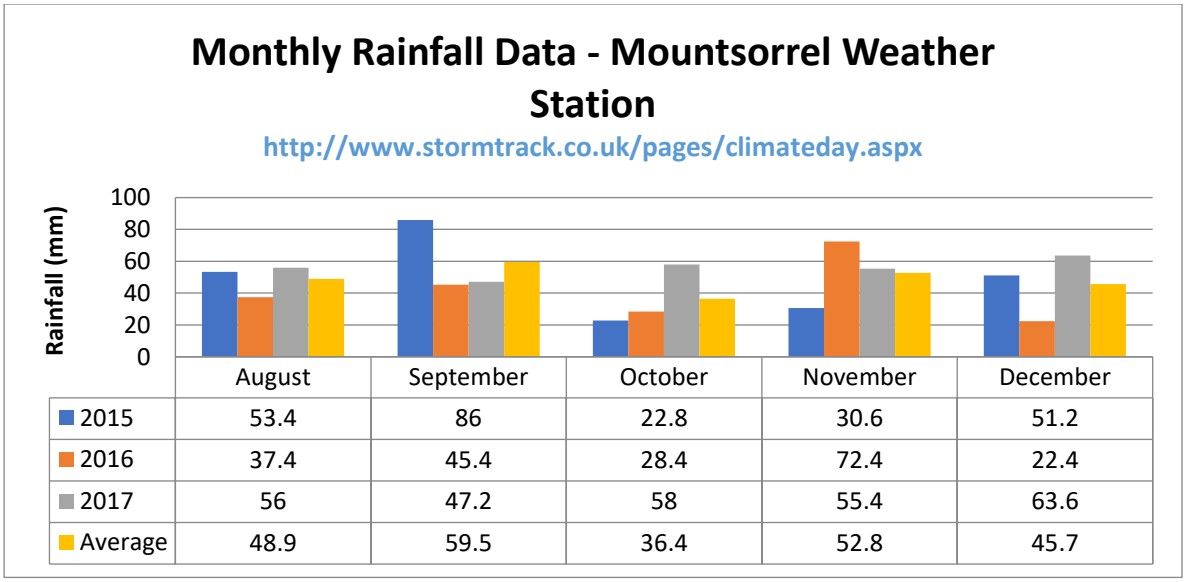
Residents and witnesses reported seeing the water flowing from the highway, bypass the gullies on the carriageway and overtopping the footway, flooding the frontages of the properties and businesses on Watling Street. The standing water on the garage forecourt was sufficient to lift the lids on the petrol storage units beneath the forecourt, further polluting the flood water which then made its way to the front of the properties on Watling Street (Figure 3).

Figure 3: Watling Street Petrol Station following forecourt flooding which lifted several fuel tank caps

3.3 AFTER THE EVENT

Following on from the event, the Council engaged with all RMAs and analysed available flood mapping and any other data to help understand what happened on 27th December 2017.

Above average rainfall was experienced in the East Midlands in the Autumn/Winter of 2017. In December 2017, approx. 63.4 mm rainfall was recorded at a nearby weather station in Mountsorrel. Figure 4 depicts the rainfall at the Mountsorrel weather station from August to December (Autumn/Winter) for the years 2015 – 2017. Rainfall during December 2017 was higher than the rainfall recorded in the same month for the previous two years and significantly higher than 2016. This increase in rainfall throughout December would have contributed to the saturation of the ground, thus reducing the ground's ability to absorb water during the flood event of 27 December 2017.



	August	September	October	November	December
2015	53.4	86	22.8	30.6	51.2
2016	37.4	45.4	28.4	72.4	22.4
2017	56	47.2	58	55.4	63.6
Average	48.9	59.5	36.4	52.8	45.7

Figure 4: Annual rainfall data – August to December 2015-2017

After the event, HE investigated the anecdotal reports of the silted gullies by inspecting their adopted infrastructure within the carriageway. It was identified that the gullies were silted (Figure 5) and that the integrity of the 225mm diameter surface water culvert had been compromised by tree root ingress and a third-party intrusion (metal pile/fence post).

Figure 5: The pavement gully outside the affected properties (taken after the event illustrating siltation)

During the wider investigations into the functioning of their infrastructure, HE also identified that the outfall from the 225mm diameter surface water culvert was depressed by approximately 50% into the watercourse bed. This prevents the culvert from discharging at full capacity and causes the outfall to become easily submerged when the water level of the watercourse is increased (see Figure 6). This issue is further compounded by the angle at which the outfall is placed. As shown on Figure 2,

the outfall is arranged at a ‘T’ junction which creates a confluence where any flows from the 225mm diameter surface water culvert will be competing with the flow already in ordinary watercourse 1. These two issues result in the culvert being unable to discharge at its designed maximum rate.

Figure 6: The highway system outfall the day following the flood event. The outfall is still submerged and poorly positioned to discharge effectively

Following an inspection by STW of their infrastructure after the event, it was found that there were several collapses within the public combined sewer system and that their pumping station was overwhelmed by surface water (hydraulic overload). A review of the size of the event and the capacity of the STW pumping station has identified that the volume of water overwhelmed the STW system and thus further forcing water back down the pipe towards the properties on Watling Street (the system low point).

During a site walk over, conducted by the Council on 9th March 2018 it was identified that a section of the drainage ditch (highlighted red on Figure 2) located behind the affected residential properties, had not been maintained and had consequentially become silted and been filled with garden debris such as grass cuttings and soil (Figure 7).

Figure 7: The ditch to the rear of properties on Watling Street. A small depression was still present however capacity has been severely reduced.

As the flooding at this location crosses the boundary of both Leicestershire and Warwickshire, the Council also liaised with the Warwickshire County Council (WCC, also a LLFA), who have jurisdiction over the outfall of ordinary watercourse 1 (on the opposite side of the A5). While there were no reports of properties being flooded within the Warwickshire boundary during the event. WCC worked alongside HE and STW to gain consent to allow the cleaning of outfalls on the Warwickshire side of Watling Street.

The site walkover conducted by the Council after the event also identified that the location of the affected properties appeared to be at a localised low point between the confluence of two watercourses and the adjacent Highway. Water therefore found the natural low point and entered commercial and residential properties when the drainage system failed to intercept the flows. This is illustrated by the EA 'Long Term Flood Risk' map. The map shows modelled surface water flow paths which broadly followed those that were anecdotally reported on the 27th December 2017. In particular, they show surface water accumulating at the natural low point.

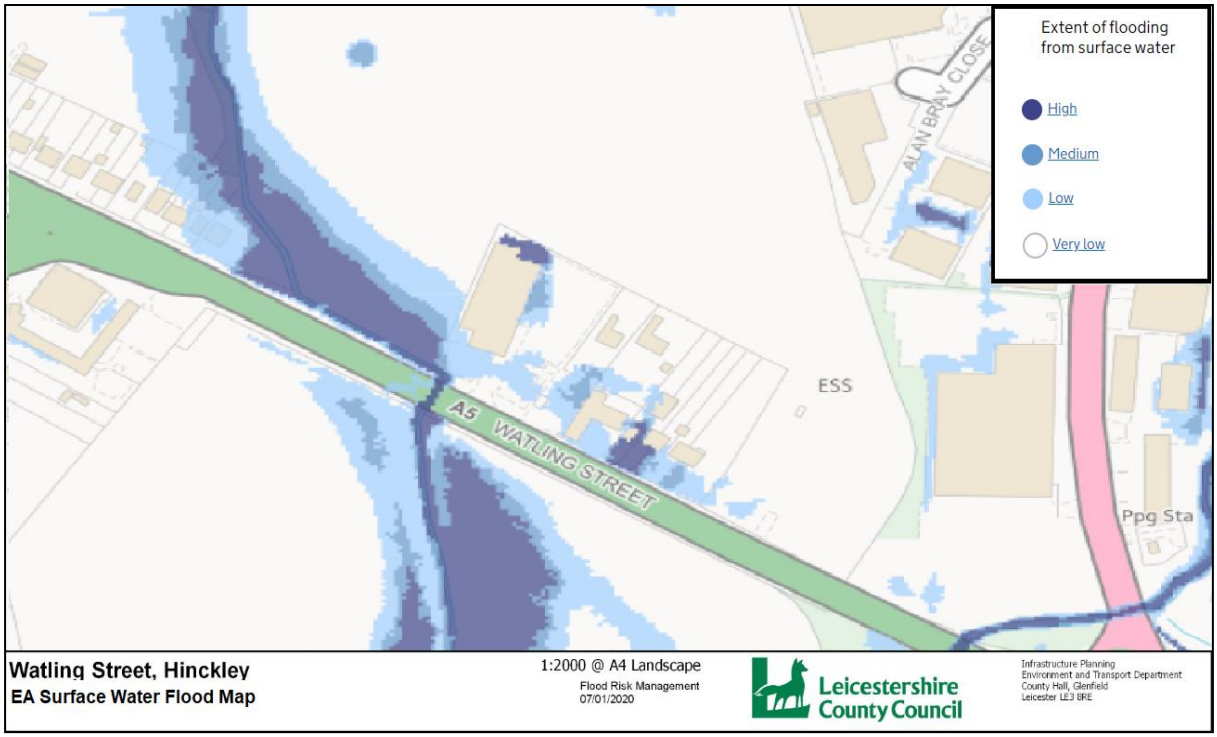


Figure 8: Environment Agency surface water flood risk map.

As part of the wider investigations, the EA reported that a modelling study had previously been conducted on the Harrow Brook and that the condition of the Harrow Brook was acceptable and was unlikely to have contributed to any flooding which occurred.

4. SUMMARY OF IMPACTS AND FINDINGS

Ordinary Watercourse	Main River	Surface Water	Groundwater	Public Sewer	Canal	Land Drainage	Highway Drainage
☐	☐	☑	☐	☑	☐	☑	☑

Summary of flood sources

Residential	Business	Other Buildings	Roads	Critical Infrastructure
7 (2 internal and 5 external)	1	0	1 (A5 Watling Street)	0

Receptors impacted (number)

The result of the combination of factors described below was the ingress of storm flood water to two residential properties on Watling Street and the external flooding of five residential properties and a petrol station forecourt on 27th December 2017:

- Higher than average rainfall overwhelmed the already saturated ground. The water could not infiltrate into the ground and overwhelmed the local drainage network.
- The location of the affected properties at a localised low point between the confluence of two watercourses and at a level lower than the adjacent Highway. Water therefore found the natural low point and entered internally.

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 these factors would have prevented any of the internal flooding experienced by this event. These factors include:

- The way in which the HE drainage system outfall is position means that it does not allow it to discharge at full capacity during peak events (very heavy rainfall). The outfall is severely depressed causing it to be easily submerged when the watercourse level is high. This is further compounded by positioning of the headwall which means any flows from it are competing with those already in the watercourse.
- HE drainage within Watling Street (gullies and the 225mm diameter surface water culvert) was restricted due to siltation, root ingress and 3rd party intrusions

which had caused a partial collapse. This culvert was therefore unable to convey the maximum amount of flow.

- The STW combined sewer system was shown to have several collapses and the pumping station suffered a hydraulic overload due to the sheer volume of water therefore forcing water back towards the properties on Watling Street (the system low point).
- Lack of maintenance and, in some cases infilling of the local drainage ditches and at points within ordinary watercourse 1 meant that the capacity of the drainage network was reduced, altering the route taken by some of the flood water.

5. RESPONSIBILITIES

5.1. INDIVIDUAL HOMEOWNERS

Local residents and tenants who are aware that they are at risk of flooding should take action to ensure that they and their properties are protected.

Community resilience is important in providing information and support to each other if flooding is anticipated. 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 on pipes.

5.2. LLFA (LEICESTERSHIRE COUNTY COUNCIL AND WARWICKSHIRE COUNTY COUNCIL)

The Council has a range of statutory duties under the FWMA (2010) as the LLFA and has the responsibility to coordinate the management of local flood risk across Leicestershire.

As stated previously, the Council as the LLFA has a duty to investigate flood incidents under Section 19 of the FWMA. Publication of this report is the conclusion of that process.

The LLFA also has a responsibility to maintain a register of drainage assets which are considered to provide a significant role in the mitigation of flood risk (as detailed within Section 21 of the FWMA). The register must contain a record detailing each structure or feature including ownership and state of repair. As the LLFA the Council look for support and information from other agencies that are designated as RMAs to ensure any assets which a significant effect on flood risk could potentially have are recorded on the asset register.

As the LLFA the Council has permissive enforcement powers related to ordinary watercourses within private ownership. The duty to maintain the ordinary watercourse on private land however rests with the relevant riparian landowner.

5.3 HIGHWAY AUTHORITY (HIGHWAYS ENGLAND)

As Highways England have the role of highway authority for motorways and major (trunk) roads, they have a duty to maintain the Highway under Section 41 of the Highways Act (1980). Section 100 states that LCC also has the responsibility and power to prevent water running onto the highway from adjoining land. Refer to the Useful Links section of the report for further information on the Highways Act (1980).

5.4 ENVIRONMENT AGENCY

The Environment Agency has a strategic overview responsibility under the FWMA as well as permissive powers to carry out maintenance work on Main Rivers under Section 165 of the Water Resources Act (WRA). Main Rivers include all watercourses indicated on the statutory Main River maps held by the Environment Agency and the Department of Environment, Food and Rural Affairs. This includes any structure or appliance for controlling or regulating the flow of water into, in or out of the channel. Harrow Brook is a Main River and therefore the Environment Agency has responsibility for investigating flood risk from overtopping.

The Environment Agency has permissive powers to carry out works of maintenance and improvement on these rivers. These powers can be used to undertake works to reduce flood risk where landowners fail to undertake their responsibilities under the WRA.

The Environment Agency can undertake enforcement action where third-party asset owners fail to maintain their property/land in appropriate condition. They may consider undertaking maintenance or repair of third-party assets in order to safeguard the public interest and where other options are not appropriate.

5.5 WATER COMPANY (SEVERN TRENT WATER)

Water and sewerage companies are responsible for managing flood risk related to surface water, foul water and combined sewer systems. Public sewers are designed to protect properties from flood risk in normal wet weather conditions. In extreme weather conditions however, there is a risk of these public sewers being overwhelmed, resulting in sewer flooding.

Following the ‘Private Sewer Transfer’ on 1st July 2011, water companies are now responsible for all pipes systems on private land that serve more than one curtilage and are connected to a public sewer. Under Section 94 of the Water Industry Act (1991) statutory sewerage undertakers have a duty to provide sewers for drainage of buildings and associated paved areas within property boundaries.

Water companies are responsible for all public sewers and lateral drains. Public sewers are a conduit (typically a pipe) assigned to a water and sewerage company that drains two or more properties; conveying foul, surface water or combined sewerage to a positive outfall. Connection of other drainage sources to public sewers is discretionary following an application to connect.

6. AGREED ACTIONS

6.1. LEICESTERSHIRE COUNTY COUNCIL

The Council has agreed / undertaken the following actions:

- To continue to coordinate the actions of the RMAs and feedback to the community.
- To work with residents and RMAs to ensure that riparian land owners are fully aware of their maintenance responsibilities for ordinary watercourses. The Council has issued Guidance Notes to assist with this as well as attended site visits with homeowners. This includes issuing a direct letter to the local superstore.
- The Council would work with residents to support the creation of a Flood Warden Scheme in the neighbourhood should one be requested

6.2. SEVERN TRENT WATER

STW has agreed the following actions:

- To undertake a thorough inspection of the public combined sewer system to identify any defects, blockages or intrusions.
- To follow up on investigation works with remedial action to allow the public combined sewer system to run at full capacity.
- To undertake a property assessment in order to identify possible solutions to prevent repeated incidents (non-return valves etc). should it be considered appropriate.

6.3. HIGHWAYS ENGLAND

HE has agreed the following actions:

- To undertake a detailed drainage inspection of their assets in order to identify any blockages or other intrusions that could have directly impacted on the ability of the system to drain at normal capacity and to review the system capacity, to identify any sections of the design which require upgrading or replacing.
- To take action to rectify any identified blockages within the pavement drainage system as identified in future surveys, as discussed in the RMA meeting on 15th August 2018.
- To create a work plan to identify what upgrades (if any) are to be planned in as remedial action in the coming months.
- To create a further action plan for works that can be incorporated into the planned A5 Watling Street widening project.

6.4. WARWICKSHIRE COUNTY COUNCIL

WCC has agreed the following actions:

- To continue to liaise with the Council in relation to the planned A5 widening scheme at this location to ensure a joined-up approach for reviewing flood risk.

6.5. LANDOWNERS

Landowners have agreed/completed the following actions

- The landowner of the agricultural field has completed required maintenance to the ditch, which has restored connectivity of sub-catchment b.
- Local residents have agreed to refrain from depositing garden waste into the field ditch and have expressed interest in joining the Flood Warden Scheme.
- Aldi superstores have agreed to inspect their site drainage and undertake any required maintenance.

7. SOURCES OF INFORMATION

A number of documents, reports, records or sources of information have contributed to this report. These are shown in this report or can be available upon request. Examples include:

- Site meetings and correspondence with residents
- Photographs taken on site by the Council and 3rd Parties.

8. STATUS OF REPORT AND 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"[1]. 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 at Section 1.4 of the body of this report. The flood risk management functions which the Risk Management Authorities are proposing are described at Section 6 of 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. 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

[1] *As defined by Section 6(13) of FWMA*

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.

Glossary

Acronyms / Term	Definition
AEP	Annual Exceedance Probability
AW	Anglian Water
EA	Environment Agency
FWMA	Flood and Water Management Act 2010
IDB	Internal Drainage Board
LCC	Leicestershire County Council
LDA	Land Drainage Act 1991
LiDAR	Light Detection and Ranging
LLFA	Lead Local Flood Authority
Main River	Those watercourses for which the Environment Agency is the relevant RMA
Ordinary watercourse	Any watercourse that is not a Main River, and the LLFA, District / Borough Council or IDB is not the relevant RMA
RMA's	Risk Management Authorities
STW	Severn Trent Water
The Council	Leicestershire County Council
uFMfSW	updated Flood Map for Surface water
WRA	Water Resources Act 1991