

Lead Local Flood Authority
Section 19 (Flood and Water Management Act
2010)
Flood Investigation Report

Report Title:

Hervey Road, Bury St Edmunds, Suffolk

Report Reference(s):

FW2020-1153	

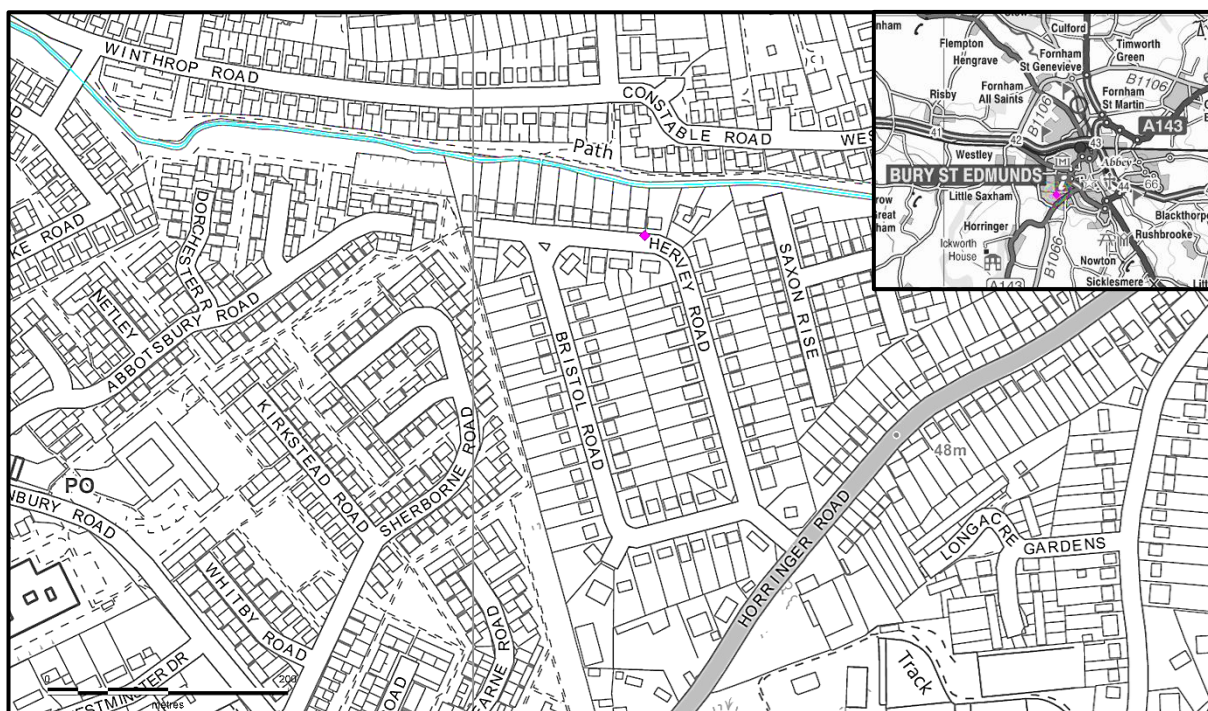
	Name	Date
Lead Officer:	Steven Halls	
Created by:	Steven Halls	27/09/2020
Checked by:	Simon Curl	23/11/2020
RMA Review:	Suffolk County Council (Highways)	
Approved by:	Matt Hullis	
Date Published		

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- 1.0** Suffolk County Council as a Lead Local Flood Authority (LLFA) has determined that in accordance with criteria, it considered it necessary or appropriate to carry out an investigation into this flood event in accordance with Section 19 (1) of the Flood and Water Management Act 2010, and in accordance with Section 19 (2) of the Flood and Water Management Act 2010, to publish the results and notify the relevant risk management authorities (RMAs).
- 2.0 Reference/s:**
- 2.1 Location:** Hervey Rd, Bury St Edmunds, Suffolk
- 2.2 Flood Event Date:** 17th June 2020 and 16th August
- 2.3 Reported to SCC Date:** 19th June and 17th August 2020
- 2.4 Investigation Commencement Date:** 19th August 2020
- 2.5 Criteria for investigation:**

Criteria for an investigation (as per Appendix D of the Suffolk Flood Risk Management Strategy):	✓/X
There was a risk to life as a result of flooding?	x
Internal flooding of one property (domestic or business) has been experienced on more than one occasion?	✓
Internal flooding of five properties has been experienced during one single flood incident	x
Where a major transport route was closed for more than 10 hours as a result of flooding	x
Critical infrastructure was affected by flooding	x
There is ambiguity surrounding the source or responsibility of a flood incident	x

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2.6 OS Grid Reference: TL 84143 63419

2.7 Extent of flooding: A total of 3 properties flooded internally on repeated occasions with extensive flooding to outbuildings and adjacent highway. Total affected area 0.016Ha (1600m²)

2.8 Effect of flooding: Properties internally flooded up to a depth of 300mm. Stormwater only, no recorded observation of foul effluent. Floodwater with very high velocities passing overland by private properties.

2.9 History: Past flooding events have occurred dating back to 2016, but not reported as internal flooding.

2.10 Flooding Source: Capacity of surface water drainage systems exceeded due to intense storm events on the 17th June and 16th August 2020. Exceedance volumes accumulated at the bottom of the slope before breaching private drives and cascading through residential properties and onto the River Linnet.

2.11 Causes:

Local rain gauges (Rushbrooke) recorded an intense rainfall event of 21mm over a 60 min duration. This storm has a return period of once every 10 years (10% AEP in any given year).

(*return periods based on data collected from Environment Agency rain gauges and FEH13 Depth Duration Frequency curves).

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- Hervey Rd consists of a constant incline which falls from Horringer Road northwards at approx. a 1:20 gradient. At the foot of this slope, there is an extensive shallow depression in the road bounded by private drives before the natural slope then continues northwards towards the River Linnet through private properties. Any direct rainfall across Hervey Rd and surrounding areas will generate runoff with high velocities towards this depression. Once the ponding is high enough to breach the back of the highway, the floodwater conveys towards the river via private properties as it follows the natural path to the river. Its very likely that the fastest moving floodwater does not pond and cascades directly from the road through private properties and gardens.
- A short length of public sewer (surface water) exists in the Hervey Rd which discharges direct to the River Linnet, video footage shows this system flooding out in the August event via a manhole lid located at Grid Ref TL 83988 63425 (ID 9453). Evidence shows that the outfall for the public sewer was running freely during the event, although not at full bore indicating the system may have had some spare capacity.

A separate highway drainage system drains the upper catchment of the road, this connects into the public sewer downslope. The highway drainage consists of traditional gully sets and laterals linked to a central conveyance line which links into the surface water sewer. Thus, it is likely runoff was not being captured effectively by the gullies. This is very likely given the steepness of the road, intensity of the rain and position of gullies.

However, even if this system was in a serviceable manner and conveying at optimum capacity, the intensity and velocity of flow across the site may have overwhelmed this system as witnessed or skipped over the gully grates.

2.12 Additional Information:

- The site is identified as a surface water flood risk zone on national mapping.
- No property level resilience measures have been employed.

3.0 Risk Management Authority with Relevant Flood Risk Function

- Suffolk County Council: Public highway maintenance, land & asset owner
- Suffolk County Council: Lead Local Flood Authority
- Anglian Water: Asset owner

4.0 Recommendations:

- Homeowner(s) to add additional flood resilience measures to their properties i.e. property level resilience (PLR). Suffolk County Council may be able to

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support the funding and implementation of this. Any installation must not deflect floodwater onto adjacent properties and all homeowners would have to collectively install these so as not to increase risk of flood to an individual who is without it.

- Secondly, if topography allows and if carefully installed; a minor site layout (using landscaping techniques) alongside new PLR measures could be used to direct runoff towards the River Linnet more safely and avoid property thresholds. Manipulate the natural flow paths away from the property boundaries into designated safe exceedance routes using rills or similar linear channel drains.
- Intercepting and capturing runoff upslope is critical, therefore all highway drainage assets in Hervey Rd and Bristol Rd must be thoroughly investigated and brought into a serviceable manner in the short term. Surveys must also check conditioning of the public sewer as well.
- Other long-term mitigation options: -
 - Upsize capacity of public sewer and highway drainage system to modern standards – a SuDS retrofit scheme would be ideal to not increase flood risk in river Linnet
 - Add larger or double gully lids to capture overland runoff and provide larger sump pits. Position against kerb line and sink slightly.

4.1 Recommended Actions:

Action	Responsible Authority	Timescale for response	Latest Update for Actions	Progress
Investigate road drainage in effected area, prioritise improvements to the system accordingly.	SCC Highways and Anglian Water	6 Months	Investigations carried out identified significant root ingress causing blockages and some small section of collapse. Works to root cut the system, patch repair collapse and install GRP lining through the carrier drains to structurally reinforce and reduce risk of future root ingress. Completed summer 2022	

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Advise landowner of potential Property Level Resilience measures and funding opportunities. Support the implementation of suitable measures including landscaping best practices	SCC Floods	3 months	
Investigate the potential for a new retrofit SUDS scheme and highway drainage systems upgrade.	SCC Highways and AW	6-12 months	Highways drainage improvements completed Summer 2022. Suffolk Highways drains discharge through the Anglian Water Storm sewer. This outfall is a limiting factor for capacity. Anglian Water were engaged in discussion about undertaking further works to improve the capacity.