

Section 19 Flood and Water Management Act 2010

Report Title: Barton Drive, Kedington

Report References:

CRNos 422190 & 287453



	Name	Date
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Checked by:	M Orlopp	12/12/2023
RMA Review:		03/06/2026
Approved by:	H Purkis	10/6/2023
Date Published		23/9/2026
Date Report Closed		

Introduction

Suffolk County Council, Lead Local Flood Authority (LLFA) has determined that in accordance with our criteria, it is considered necessary and appropriate to carry out an investigation into this flood event.

This is in accordance with Sections 19 (1) & (2) of the Flood and Water Management Act 2010, to publish the results and notify the relevant risk management authorities (RMAs).

Section 19 Local authorities: investigations

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

(a) which risk management authorities have relevant flood risk management functions, and

(b) whether each of those risk management authorities has exercised, or is proposing to exercise, those functions in response to the flood.

(2) Where an authority carries out an investigation under subsection (1) it must—

(a) publish the results of its investigation, and

(b) notify any relevant risk management authorities

Criteria for an investigation (as per Appendix D of the Suffolk Flood Risk Management Strategy):	
There was a risk to life because of flooding?	
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	
Where a major transport route was closed for more than 10 hours because of flooding	
Critical infrastructure was affected by flooding	
There is ambiguity surrounding the source or responsibility of a flood incident	

1. Location of flooding

Barton Drive, Kedington lies east of the river Stour. This location was impacted by surface water flooding initially in 2020, then again in September 2023, and again during the events of Storm Babet and Storm Ciaran on the 20/10/2023 and 31/10/2023 – 02/11/2023. Anecdotal evidence also states internal flooding was experienced in 2017.

In August 2020, the peak day for rainfall was the 25th of August, where the area experienced 5.4mm of rainfall. In September 2023, the peak rainfall day was the 29th of September 2023, where 6.8mm of rainfall was recorded in the area throughout the day. At this location during Storm Babet this was considerably higher because the area experienced 31.8mm of rainfall throughout the day. During the events of Storm Ciaran on the 2nd of November 2023, 21.8mm of rainfall were recorded in the area. This shows that Storm Babet and Storm Ciaran were indeed unprecedented rainfall events.

According to a local resident, during heavy rainfall, water ingress occurs to property A from the back garden of property B (shown on the plan below). There is a culvert which runs under the road and under the neighbours back garden, which assumedly is linked to a French drain adjacent to Barton Drive. The source of flooding is surface water accumulation in the car park on Barton Drive. The resident of the affected property has had a property survey undertaken, which has highlighted damp staining to the skirting boards, plaster lining and carpet of the affected property. No known damage has been caused to critical infrastructure in the area.

This investigation focuses on the flood events that occurred at a single location southeast of the Barton Drive car park. The location is shown in context on the map extract below, with affected property circled in black.

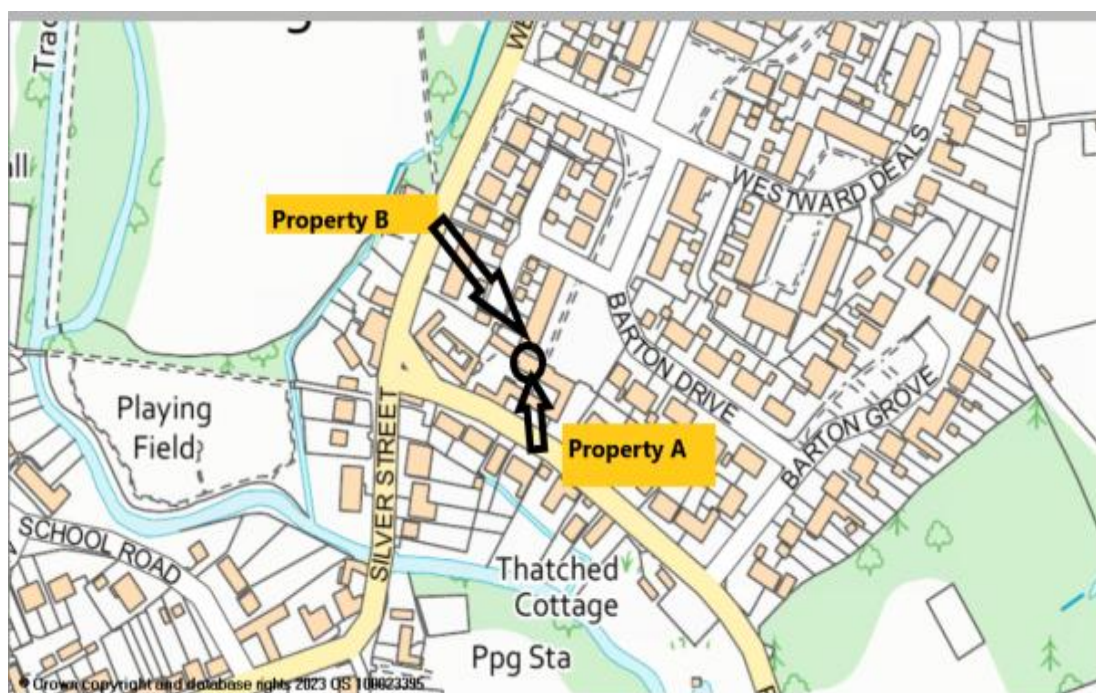


Figure 1 - Investigation Area Map

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2. Records of any historical flooding

Whilst the east of England is typically one of the driest parts of the country, events such as Storm Babet have severely impacted numerous communities across Suffolk and have led to drainage networks being overwhelmed and unable to cope with the volume of water.

Anecdotal evidence indicates that floodwater has entered property A through the rear on numerous occasions, including during the events of storm Babet and storm Ciaran. The resident states that a manhole in their neighbour's garden (property B) surcharges surface water, and in some rainfall events the manhole cover has blown off. The property suffering from internal flooding is situated much lower than its neighbour, which means that during intense rainfall surface water is directed towards the natural low point.

Shown in Figure 2 below is a map extract of the recorded historical pluvial flood events as held by SCC. Please note that as not all the above events were formally reported to SCC, they do not all appear on the following extract.

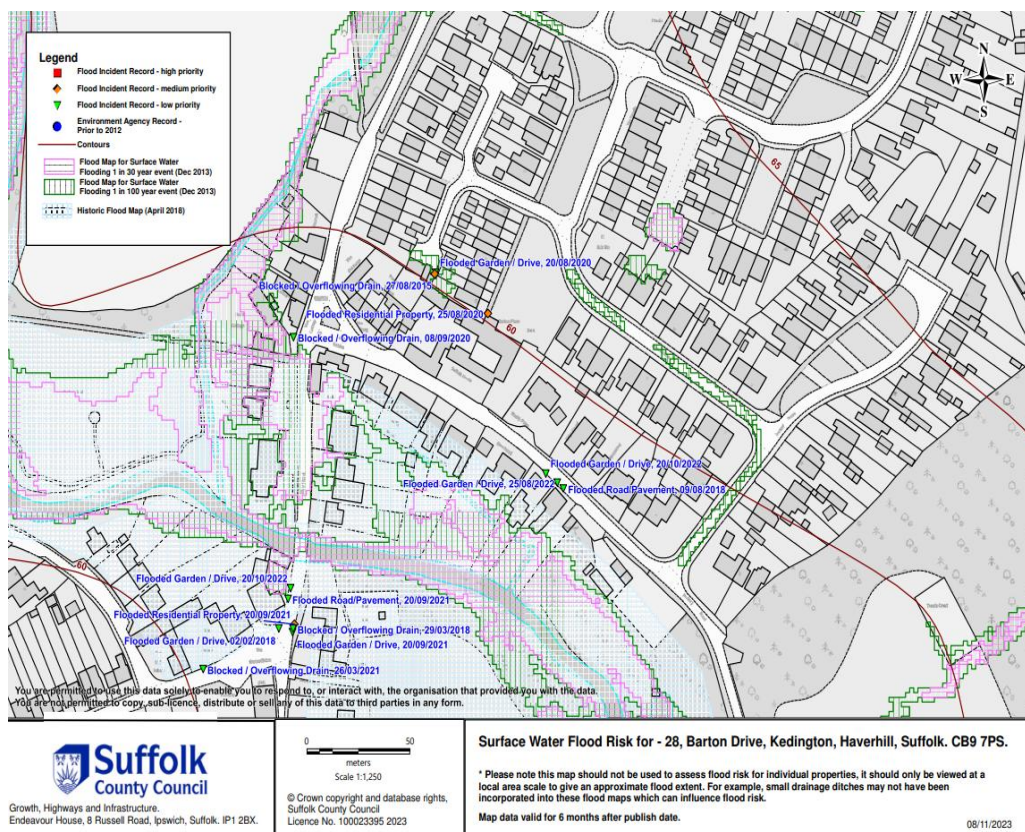


Figure 2 – Historical pluvial flood risk map

3. Effects of flood events (August 2020 and October 2023)

In August 2020, the lowest amount of rainfall was experienced out of all internal flooding incidents. This suggests that although rainfall is a factor that contributed to flooding in 2020, the primary cause was an unascertained blockage to the system.

Storm Babet and storm Ciaran caused almost a month of rainfall to fall within only a few days. These storms have had a devastating impact upon Suffolk and have worsened existing flooding issues across the county. Minor flooding to the neighbours garden has been experienced on numerous occasions, and the resident mentioned the highway gullies pond and are quite vegetated.

4. Predicted Flood Risk

The national government indicative “flood risk for planning” map identifies that the fluvial (river) to the west of the Barton Drive is a medium to high risk (which means

that this area has a risk of flooding between 1% and 3.3% each year). Both groundwater and tidal flooding are unlikely in this area. Pluvial (surface water) flooding however is recorded to represent a high flood risk to the West of Barton Drive (which means that each year this location has a 3.3% risk of flooding).

Extracts of the pluvial flood mapping are shown below and overleaf for reference. These demonstrate the direction and speed of flow during the worst-case scenario. Dark blue denotes flows faster than 0.25m/s with light blue denoting flow speeds less than 0.25m/s. The small black arrows denote direction of flow. See figure 3.



Figure 3 – Pluvial flood risk map with water velocity.

5. Flooding Sources & Likely causes:

- **Significant rainfall:** one cause of the flooding was the intense nature of the rainfall. Between 75mm and 100mm of rainfall has fallen during storm Babet. This overwhelmed the drainage systems which resulted in large volumes of surface water accumulating in the highway.

- **Blockage to the drainage system:** there is a suspected blockage to the drainage system adjacent to the manhole in the rear garden of property B, shown on the map. This blockage will be isolated and cleared during any CCTV investigation.
- **Overwhelmed gullies/unknown highway drainage:** the intensity of the rainfall is likely to have been greater than the capacity of the highway gullies which capture runoff from the road and pavements. Further information is required regarding the highway drainage network, as whilst the gullies may have been recently checked and cleansed, there are no records of where these gullies discharge to, how the highway drainage system is connected to the drainage system at the rear garden of the neighbour's property, or how surface water is captured by these features and managed (e.g., directed to main river).

6. Photos of flooding







7. Risk Management Authorities, Non-Risk Management Authority, and flood risk function(s)

Risk Management Authority	Relevant Flood Risk Function(s)
Suffolk County Council (SCC)	Lead Local Flood Authority, Highways Authority & Asset Owner
Non Risk Management Authority	Relevant Flood Risk Function(s)
Property Owners/Occupants	N/A

8. LLFA Recommended Actions:

Action	Responsible Party	Timescale for response	Latest Progress Update for Actions
Review requirement for Flood Re & Property Flood Level Resilience measures with support from SCC LLFA & National Flood Forum.	Residents	March 2024	Complete Home National Flood Forum Flood Re - A flood re-insurance scheme
Conduct a CCTV investigation to ascertain the assets in the drainage system, with jetting and cleansing to known assets in the area.	SCC Highways Authority	March 2024	Highways drainage jetted, cleansed and surveyed January 2024. Some jetting into the accessible part of third-party land identified issues downstream.
Investigate to see if additional gullies should be installed on Barton Drive to improve the system capacity or whether the system could be re-directed towards maintainable highway for ease of access.	SCC Highways Authority	June 2024	If the system downstream was fully operational the number of gullies should be sufficient to cope. The slope of the land falls towards the dead end of the cul-de-sac so there is no option to replace the existing third-party section within maintainable highway.
Increase jetting frequency for gullies on Barton Drive.	SCC Highway authority	June 2024	Pending

9. Reviews

This report will be reviewed and updated until actions are marked as complete

Reviewer	Date of Review
Jason Skilton	22 nd September 2026

10. Disclaimer

This report has been prepared and published as part of Suffolk County Council's responsibilities under Section 19 of the Flood and Water Management Act 2010. It is intended to provide context and information to support the delivery of the local flood risk management strategy and should not be used for any other purpose.

The findings of the report are based on a subjective assessment of the information available by those undertaking the investigation and therefore while all reasonable efforts have been made to gather and verify such information may not include all relevant information. As such it should not be considered as a definitive assessment of all factors that may have triggered or contributed to the flood event.

The opinions, conclusions and recommendations in this Report are based on assumptions made by Suffolk County Council when preparing this report, including, but not limited to those key assumptions noted in the Report, including reliance on information provided by third parties.

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The implications for producing Flood Investigation Reports and any consequences of blight have been considered. The process of gaining insurance for a property and/or purchasing/selling a property and any flooding issues identified are considered a separate and legally binding process placed upon property owners and this is independent of and does not relate to Suffolk County Council highlighting flooding to

properties at a street level. Property owners and prospective purchasers or occupiers of property are advised to seek and rely on their own surveys and reports regarding any specific risk to any identified area of land.

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