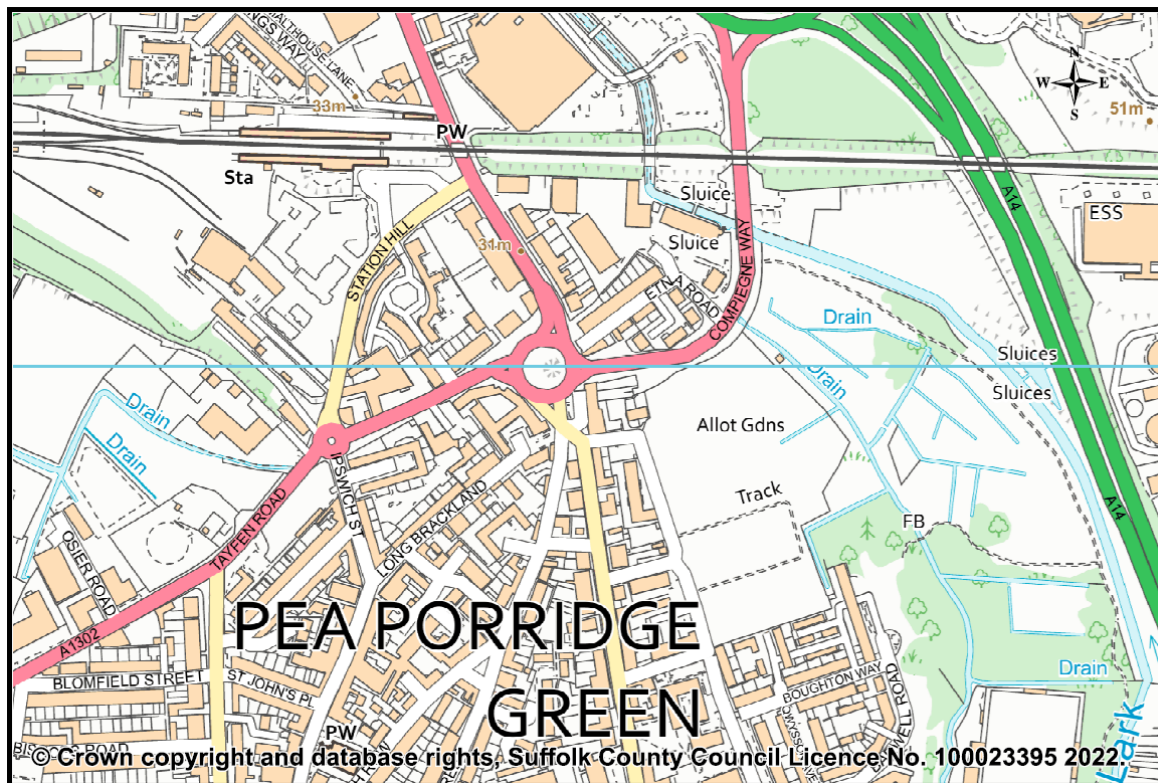


# Section 19 Flood and Water Management Act 2010

## Report Title: Northgate Street, Bury St Edmunds

### Report References:

CRNos. 371158, 372158, 287916, 286701 & 287916



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# Contents

Introduction .....	2
Location of flooding .....	3
Table 1.....	3
Figure 1 .....	4
Records of any historical flooding.....	4
Information regarding drainage in the area .....	5
Figure 2 .....	5
Image 1:.....	6
Effects of flood event (August 2022) .....	7
Predicted Flood Risk.....	7
Flooding Sources & Likely causes:.....	8
- Significant rainfall.....	8
- Overwhelmed gullies/unknown highway drainage .....	8
- Road layout and levels .....	8
- Absence of property level flood resilience .....	9
Photos of flooding and post event August 25 <sup>th</sup> & September 5 <sup>th</sup> 2022 .....	9
Risk Management Authorities, Non-Risk Management Authority and flood risk function(s) .....	13
LLFA Recommended Actions:.....	13
Reviews .....	14
Disclaimer.....	14

## 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*

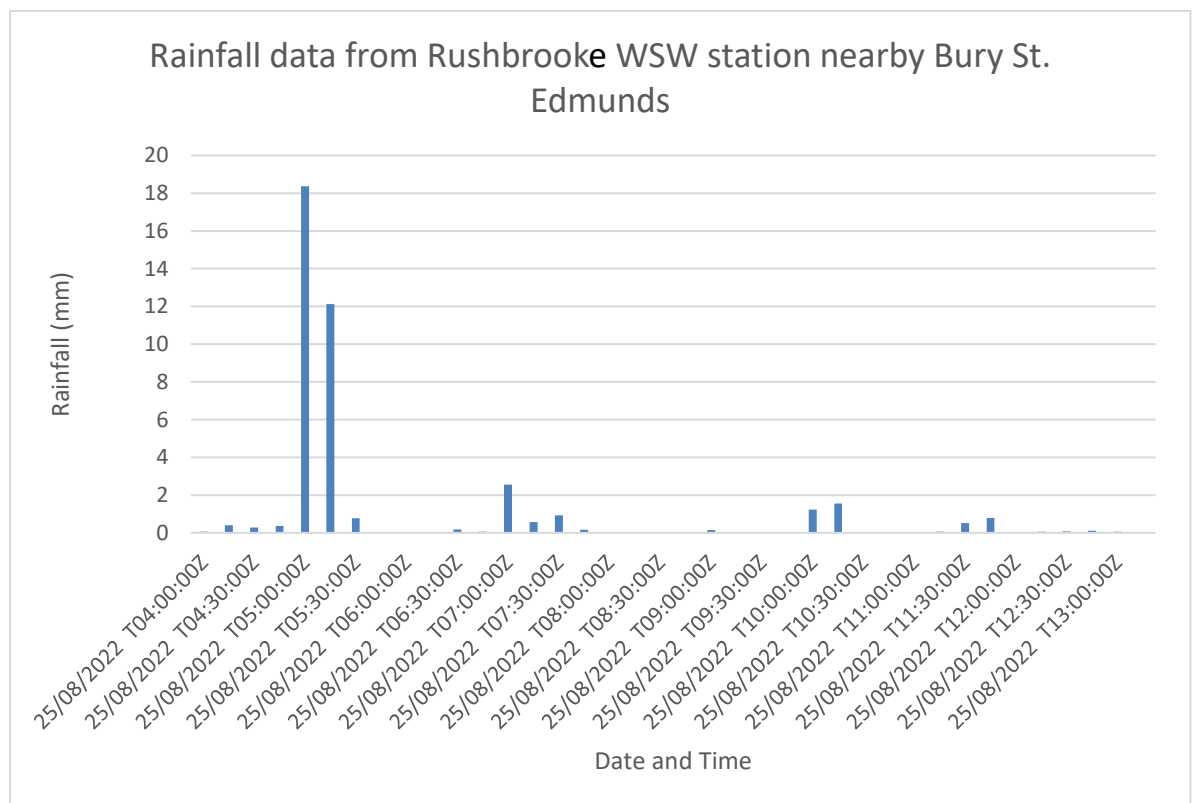
<b>Criteria for an investigation (as per Appendix D of the Suffolk Flood Risk Management Strategy):</b>	
There was a risk to life because of flooding?	
Internal flooding of one property (domestic or business) has been experienced on more than one occasion?	✓
Internal flooding of five properties has been 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	

## Location of flooding

An intense localised rainfall event occurred on 25<sup>th</sup> August 2022 in Bury St. Edmunds causing localised flooding to at least 4 properties at the northern most end of Northgate Street. Environment Agency (EA) rain gauges at Rushbrooke WSW (Approx. 5km from the location of flooding) recorded:

- 42mm within 9 hours from 04:00 to 13:00
- 18mm within 15 minutes at its peak
- 30mm within 30 minutes from 05:00 – 05:30

The average August rainfall for Bury St Edmunds is 54mm according to the weather and climate website which measures the data from a station in Cambridge (Approx. 40km from Bury). Table 1 gives a visual representation of the rainfall in the area at the time of the flood event.



*Table 1: Rainfall data from Rushbrooke WSW station nearby Bury St. Edmunds on the day of the event*

Several parts of Bury St Edmunds were impacted by surface water flooding, with flooding reported to Suffolk County Council (SCC) in Northgate Street, Northgate Avenue and Risbygate. Flooding has been reported in the northern most plots of Northgate Street previously in August of 2020. This meets the criteria to undertake a Section 19 investigation.

This investigation focuses on the flood events that occurred at four properties in Northgate Street near the junction with Compiegne Way. The location is shown in context on the map extract below.

Northgate Street is in the centre of Bury St. Edmunds, just south of A14 junction 43. The flooding incident was localised to a small offshoot from Northgate Street at the northern most end, just before the roundabout with Compiegne Way and Tayfen Road.

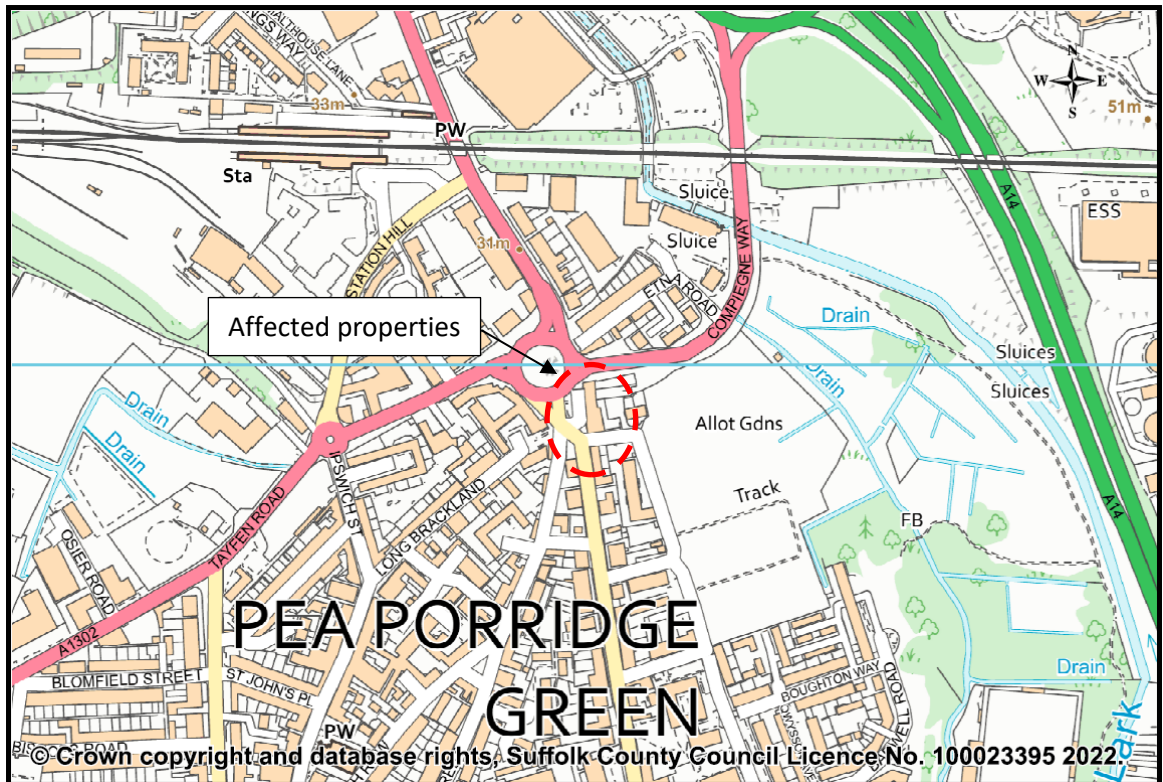


Figure 1 - Investigation Area Map

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## Records of any historical flooding

Whilst the east of England is typically one of the driest parts of the country, summer rainfall events can be very short and intense, leading to the drainage networks being overwhelmed and unable to cope with the volume of water.

There is anecdotal evidence of properties within the investigation area flooding several times in the past, potentially over multiple decades. The only reports Suffolk County Council have on record of surface water flooding at this location date from August 2020.

On 16<sup>th</sup> August 2020 a customer report suggested a gully in the area had been blocked, which resulted in internal flooding to at least 4 properties. According

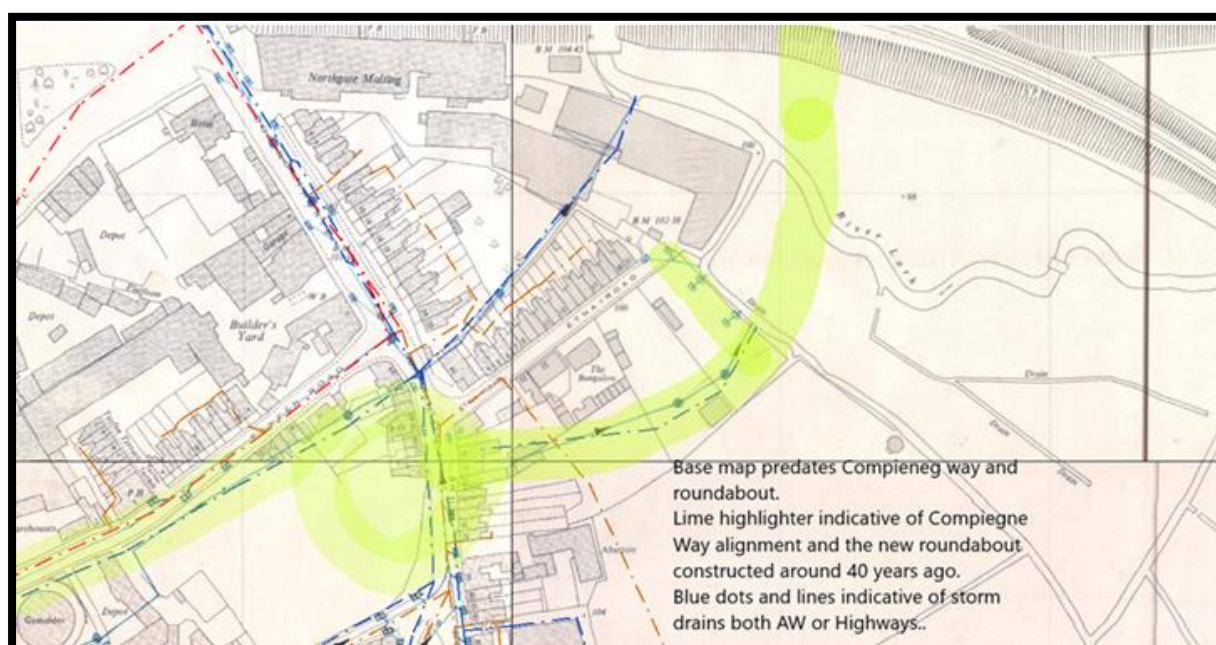


to the report, Anglian Water confirmed there is a blockage of the drains in the area, although what drains were blocked is not clear. Following a visit by Suffolk Highways, the gully (ref: 60144812) was cleared on 18<sup>th</sup> September 2020. No investigation was carried out at the time as this was not reported as internal property flooding. However, subsequent investigations following the most recent rainfall event have identified that this rainfall event does meet the statutory criteria for a section 19 investigation, when considered alongside the most recent event.

## Information regarding drainage in the area

Following the event of August 2022, the highways drainage team visited site to clear and investigate some of the gullies in the area. According to the report there is a possible blockage in the network, and it has been advised that a CCTV inspection of the pipe is needed to ascertain the issue affecting the pipe.

A second site visit on the 27<sup>th</sup> September 2022 highlighted the full route the water takes through to its outlet in the River Lark, following the Anglian Water piped network where the surface water flows are discharged into the river behind a nearby hotel. Figure 2 shows the route of proposed pipework planned by Anglian Water during the construction of Compiegne Way.



*Figure 2: A Map showing the proposed construction of Compiegne Way with the blue dots representing storm drains, both Anglian water and Highways assets.*

On inspection of the outlet behind the hotel on the 27<sup>th</sup> September 2022, there was a reasonable build-up of debris on the screen to the outlet which may



have reduced the flow of water into the river. It is unknown when the last inspection of this screen, owned by Anglian Water, was undertaken but an inspection history has been requested. See Image 1 below.



*Image 1: Partially blocked outlet pipe from Anglian Water Assets into the river Lark.*

There is local concern regarding a recently installed dropped kerb to facilitate a cycle path, which leads off Northgate Street, into the area which flooded. It is reported that water was running over the dropped kerb during the event,

whereas previously the kerb line had been higher and directed water to a downstream gully, away from the affected properties. Post-flooding inspection of the gully on the corner of the roundabout, (gully ref: 60144812), this appeared to be blocked up and not working correctly.

## **Effects of flood event (August 2022)**

It is known that at least 4 properties (1 commercial and 3 residential) in the investigation area flooded internally, with flood water accumulating in the lowest points of the road reaching a height of approximately 80mm. Damage to flooded properties extended to ground level items and in some cases the flooring itself. A local business owner has had to stop trading while the floor of the shop is repaired.

Eyewitnesses reported that flood water receded within a couple of hours of the rainfall event, indicating it is likely that the drainage system was unable to cope with the volumes of surface water and/or there was/is a partial blockage/damage to the surface water system.

## **Predicted Flood Risk**

The Environment Agency 'Long Term Flood Risk' (<https://check-long-term-flood-risk.service.gov.uk/map>) maps identify that neither tidal (sea) or fluvial (river) flooding represent a significant risk in this location. Pluvial (surface water) flooding however is recorded to represent a high risk at this location (>3.33% annual chance of flooding). Additionally, there is a risk of these properties being affected by reservoir flooding, although we know that not to be a cause of this event.

Figure 3 illustrates the pluvial flood risk alongside previously reported flooding incidents in the area.



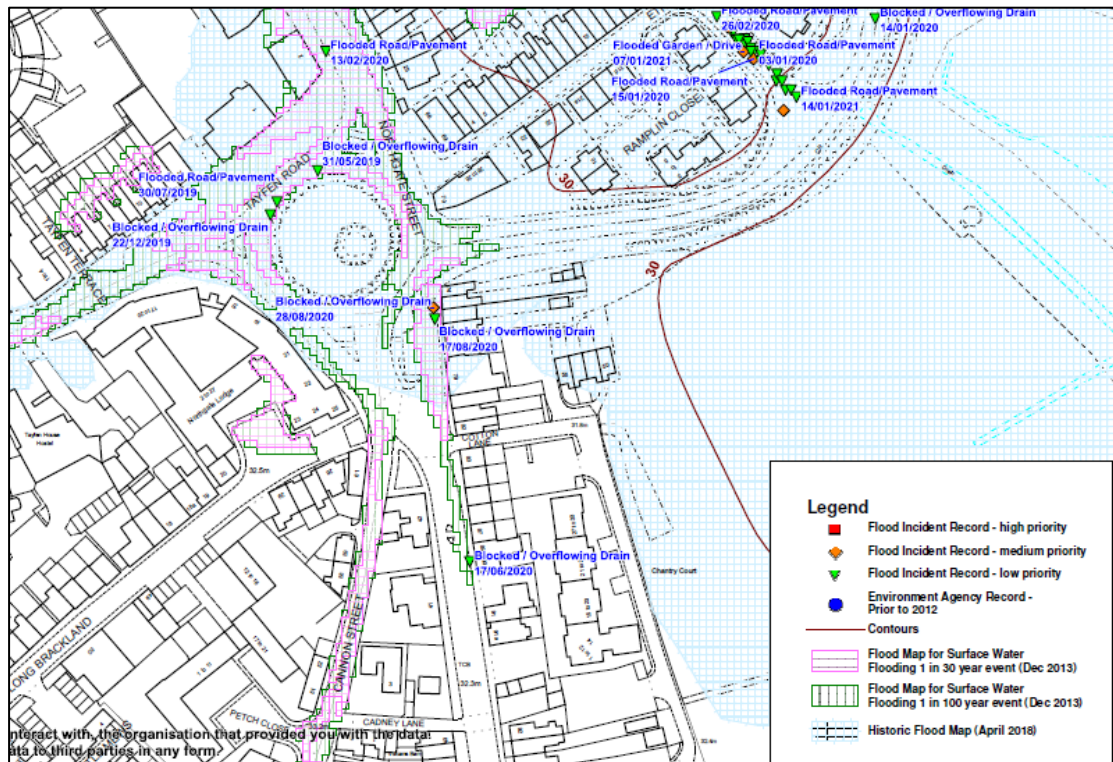


Figure 3: An extract of the map showing the pluvial flood risk, focused in on the target area, the full map can be found at the end of this document.

## Flooding Sources & Likely causes:

- **Significant rainfall:** one cause of the flooding was the intense nature of the rainfall. Over 18mm fell in 15 minutes which overwhelmed the drainage systems which resulted in large volumes of surface water accumulating in the highway.
- **Overwhelmed gullies/unknown highway drainage:** the intensity of the rainfall is likely to have been greater than the capacity of the highway drainage system which captures runoff from the road and footway. Further information is required regarding the highway drainage network. Additionally, there are no records of where the highway system discharges to, or how surface water captured by these features is managed (e.g., directed to river or to soakaways). Photos taken soon after the rain show a vortex effect working above one of the gullies which demonstrates the water is moving away very quickly and almost all the standing water on the highway was gone within 5 minutes of the event.
- **Road layout and levels:** the camber of the road in the area is angled towards the highways gullies which are at the lowest point, however this is also very close to the doorways of adjacent properties meaning if the gullies

become overwhelmed the water tends to run towards the properties from the road.

- **Absence of property level flood resilience:** it must be noted that resilience measures may have prevented ingress of water up to a depth of 600mm.

## Photos of flooding and post event August 25<sup>th</sup> & September 5<sup>th</sup> 2022



*August 25th shortly after the rainfall event*



*August 25th shortly after the rainfall event, showing the vortex in the drain gully.*





*August 25th – shortly after the rainfall event showing the water clearing from site.*



*August 25th – shortly after the rainfall event.*



*September 5th – Site visit by the floods and water management team*



*September 5th – Site visit by the floods and water management team*

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

<b>Risk Management Authority</b>	<b>Relevant Flood Risk Function(s)</b>
Suffolk County Council SCC	Lead Local Flood Authority, Highways Authority & Asset Owner
Anglian Water AWS	Asset Owner
<b>Non-Risk Management Authority</b>	<b>Relevant Flood Risk Function(s)</b>
Property Owners/Occupants	N/A

## LLFA Recommended Actions:

<b>Action</b>	<b>Risk Management Authority</b>	<b>Timescale for response</b>	<b>Latest Progress Update for Actions</b>
CCTV survey to investigate possible blockage/damage to pipe from gully 60121480	Highways Drainage	6 Months	
Clean and jet gully 60144812 to prevent water ingress from the new cycle path dropped kerb.  Monitor location after rainfall post clearance to determine any potential future works.	Highways Drainage	6 Months	
Clean trash screen into River Lark	AWS	6 Months	
Explore options to install property level flood resilience to properties. LLFA to support if needed.	Homeowner/landlords	N/A	



## Reviews

This report will be reviewed and updated every 3 months until actions are marked as complete

Reviewer	Date of Review

## 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.

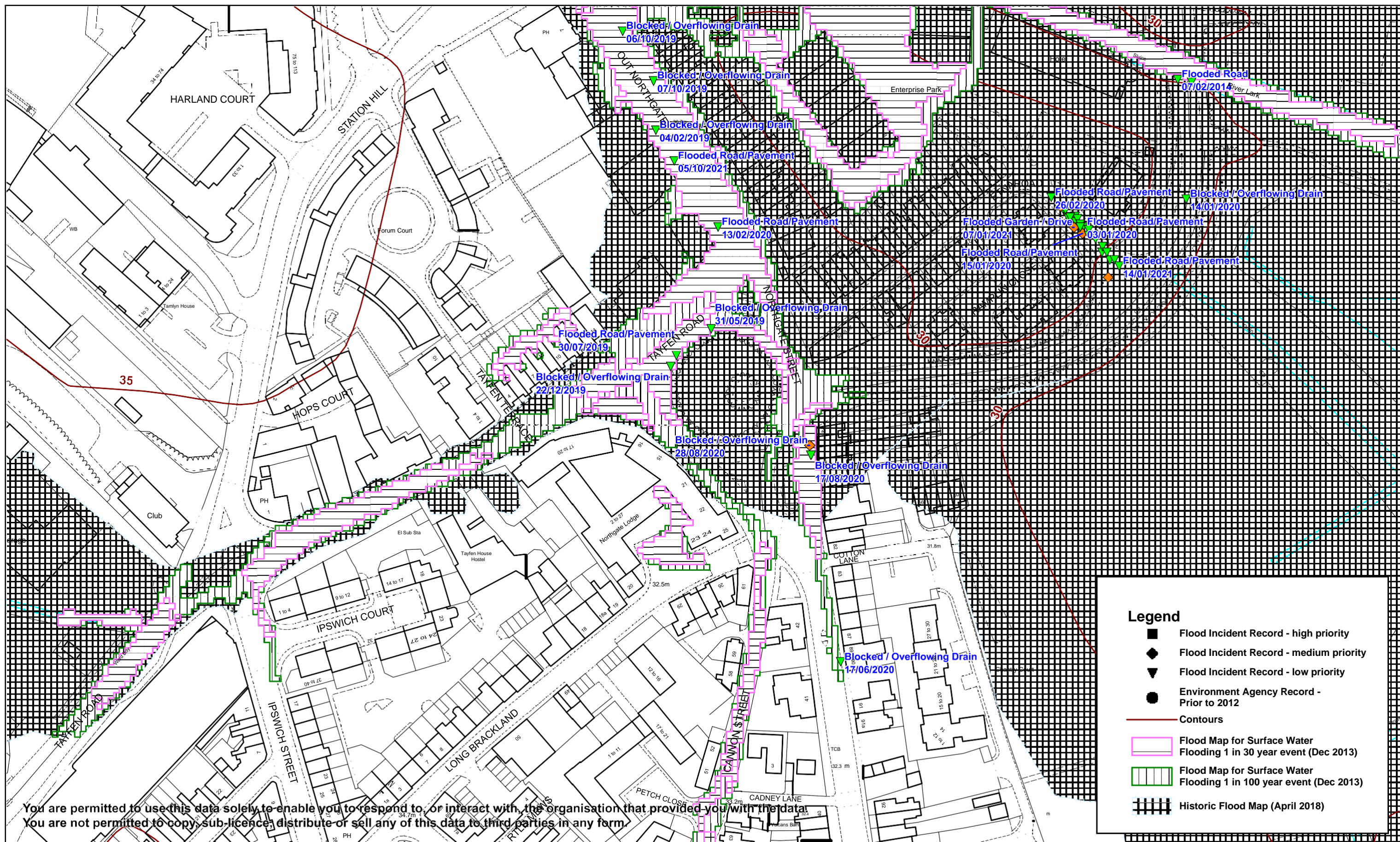
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The implications for producing Flood Investigation Reports and any consequences of blight have been considered. The process of gaining insurance for a property and/or purchasing/selling a property and any flooding issues identified are considered a 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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