

Addendum to the Flood Investigation Report for Cromer 2016-2017

Report Reference: FIR027A

Report prepared June 2022 by John Mellows

Contents

Executive Summary	3
Justification for Flood Investigation	3
North Norfolk District Council Area.....	5
Flooding and Flood Risk within the Cromer East catchment.....	5
Disclaimer.....	9
Appendix A - Key Definitions and Responsibilities	10
What is Flooding?.....	10
What is Internal and External Flooding?.....	10
What is Local Flood Risk?	10
What is a Catchment?	10
Roles and Responsibilities of Risk Management Authorities	11

Executive Summary

This report is an addition to the original Flood Investigation Report on the Flooding (FIR027) that occurred in Cromer in 2016-2017. The addition of this report is due to a property having been reported to Norfolk County Council after the publication of the original report.

Justification for Flood Investigation

The purpose of this report relates to Section 19 of the Flood and Water Management Act 2010. This legislation sets out that the County Council, in its role as Lead Local Flood Authority for Norfolk, should investigate the role and response of organisations to significant flooding incidents. Significant flooding is deemed to be those incidents that impact upon people, property, and infrastructure.

The Norfolk Local Flood Risk Management Strategy Policy UC2 (Flood Investigation) sets out the thresholds the Lead Local Flood Authority will apply to its formal flood investigation role. This states an investigation will be undertaken where it is determined that:

- 1) There is ambiguity surrounding the source or responsibility for a flood incident, and/or
- 2) There is cause to investigate the flood incident, due to either its impact, or consequence.

In judging the impact or consequence of a flood event Norfolk County Council uses the criteria set out below:

- a) Any risk to loss of life or serious injury.
- b) One or more residential or business property flooded internally.
- c) One or more critical services/installations and vulnerable person's properties flooded internally; and/or rendered inoperable or their functions severely compromised due to the access to the premises being impassable; and/or resulting in a loss of service impacting on the local community.
- d) Any section of a national category 3 road or above made impassable due to flooding and/or flooding to priority 1 and 2 gritting routes.
- e) Flooding adversely impacting a rail link by making it impassable.

In this instance it was deemed necessary to complete a formal investigation as multiple residential and business properties flooded internally.

This impact met the County Council's threshold for undertaking a formal flood investigation and the flood investigation report aims to:

- i) Provide a transparent and consistent review of recent flooding.
- ii) Identify those organisations and individuals who have responsibility to manage the causes of the flooding.
- iii) Identify what their response has been or will be to the flooding.
- iv) Make recommendations as to how the flood risk could be mitigated or reduced.
- v) Provide new evidence of the level of risk faced by communities in Norfolk that can be used in current funding bids in support of flood mitigation schemes.

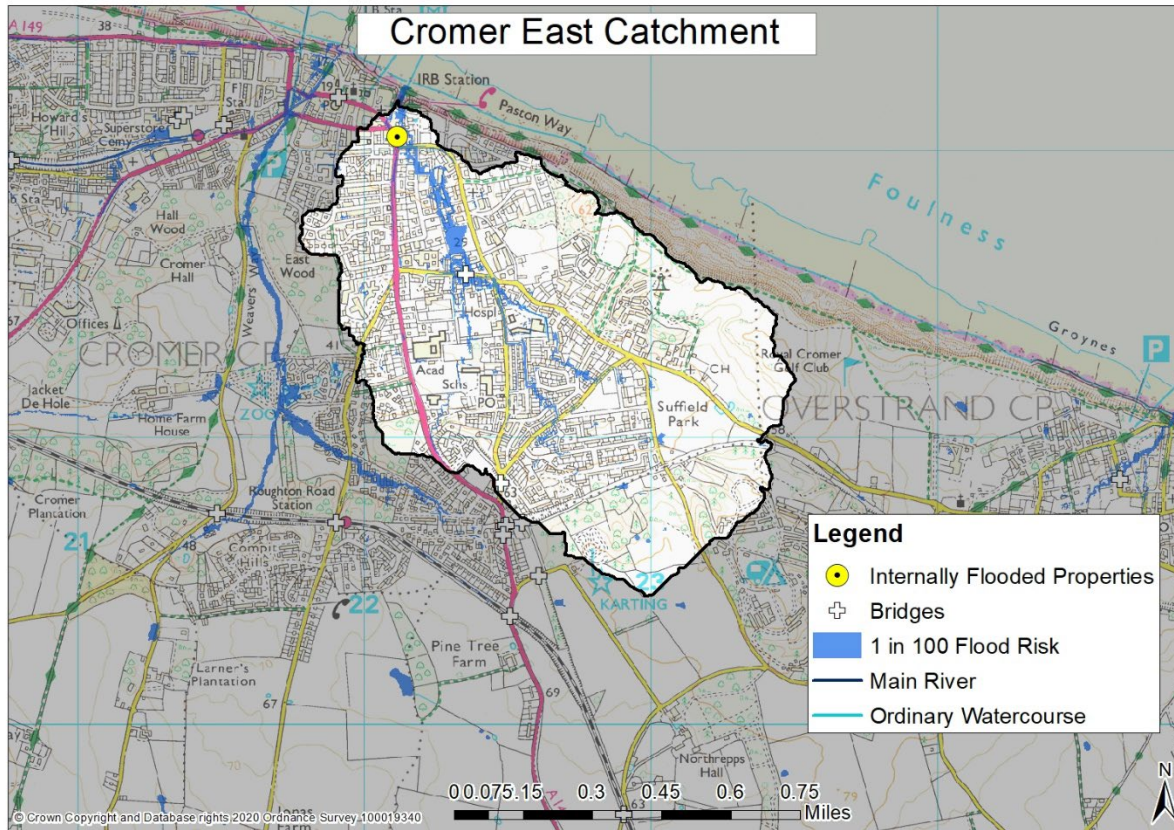
Mitigation measures include property level protection, reinstating lost drainage features, reviewing or increasing maintenance regimes and increasing the capacity of the drainage network.

The flood investigation report cannot:

- Resolve the flooding issues or provide designed solutions.
- Force authorities to undertake any of the recommended actions.

North Norfolk District Council Area

Flooding and Flood Risk within the Cromer East catchment



Map of Cromer East Catchment

Historic flooding

Ongoing flooding to the basement of one property on New Parade has been reported.

Flood Incidents

One incident of internal flooding has been assessed as part of this investigation. This incident is detailed in the table below.

Date of Incident	Incident as reported	What was the response to the flood incident
08/08/2017	On the 08/08/2017 - one property was internally flooded on New Parade, Cromer. This incident was reported by a resident via personal communication on the 21 December 2017, (FWF/17/1/5857)	Norfolk County Council as Lead Local Flood Authority (LLFA) visited affected residents to offer advice and to gather information after the incident. Norfolk County Council (LLFA) assessed validity and impact of the flood report after the incident.

Causes of Flooding and Recommendations

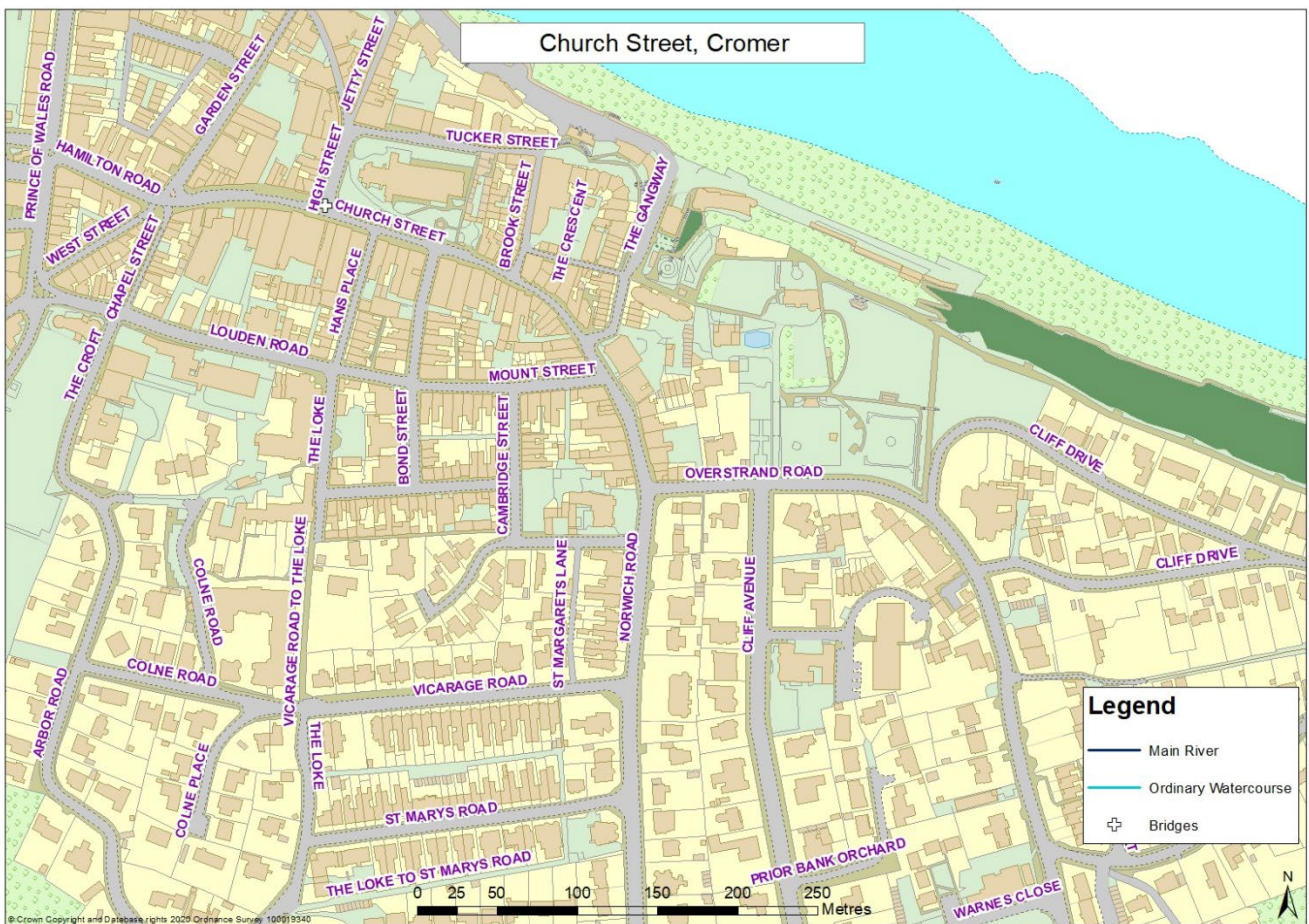
The findings of the investigation are detailed on the following pages. The first table details the causes that led to flooding within the catchment as well as when and where they were experienced. It also sets out which Risk Management Authorities have responsibility to help manage the causes of the flooding. The second table sets out recommendations to mitigate the causes and impacts of the flooding experienced within this catchment.

Following flooding to people, property, and infrastructure the following recommendations are made in three areas:

1. Risk Management Authorities should
 - communicate with affected residents where their assets have given rise to the flooding of properties.
 - review the appropriateness of their response to flooding.
 - determine the integrity and/or capacity of their assets where they have contributed to the flooding of properties to understand the systems role in accommodating normal rainfall events as well as mitigating flooding.
2. Property owners of affected properties should seek their own legal advice.
3. Norfolk County Council should
 - incorporate all relevant information of actual flooding into the review of the Norfolk Preliminary Flood Risk Assessment ("PFRA").
 - review and monitor the delivery of recommendations within this and other relevant flood investigation reports.

Location and date of flooding	Causes of flooding	Recommendation	Who has responsibilities to manage the cause(s) of the flood?
New Parade, Cromer, 08/08/2017	The surface water drainage system was obstructed by debris or silt. This reduced the efficiency of the upstream drainage system contributing to flooding at the affected properties.	Anglian Water will review the capacity & level of maintenance required to sustain the design efficiency of their drainage systems that serve the flooding location in line with the risk identified. Anglian Water should assess whether the capacity of the current system is able to provide protection that aligns with British standards. This may require a survey of the system being undertaken. The relevant organisation should instigate a regular regime of maintenance to ensure the system is free from obstruction.	Anglian Water
New Parade, Cromer, 08/08/2017	Rainfall was directed into the surface water system causing it to surcharge elsewhere. This surcharging contributed to the flooding at the affected property	Anglian Water should work with partner organisations to identify the potential for managing the amount or rate of surface water entering their drainage system in flood events.	Anglian Water
New Parade, Cromer, 08/08/2017	Surface run-off from significant rainfall made its way onto highway and flowed along the road network and into the car park at the rear of the property, then to accesses of the affected property.	Norfolk County Council will consider opportunities to route flood water on the highway away from affected properties to alternative points of discharge, or other solutions as practicable.	Norfolk County Council (Highways)

Location and date of flooding	Causes of flooding	Recommendation	Who has responsibilities to manage the cause(s) of the flood?
New Parade, Cromer, 08/08/2017	The flood water entered via below ground structures (i.e. basements and cellars) and was reported to a depth of approximately 450 mm.	Property owners to consider installing Property Level Protection measures.	Property owners



Detailed map of Church Street, Cromer

Disclaimer

Although every effort has been taken to ensure the accuracy of the information contained within the pages of the report, it cannot be guaranteed that the contents will always be current, accurate or complete.

This report has been prepared as part of Norfolk County Council's responsibilities under 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 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 any recommendations in this Report are based on assumptions made by Norfolk 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.

Norfolk County Council expressly disclaims responsibility for any error in, or omission from, this report arising from or in connection with any of the assumptions being incorrect.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the time of preparation and Norfolk County Council expressly disclaims responsibility for any error in, or omission from this report arising from or in connection with those opinions, conclusions, and any recommendations.

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 the County Council highlighting flooding to properties at a street level.

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Appendix A - Key Definitions and Responsibilities

What is Flooding?

Section 1 of the Flood and Water Management Act 2010 states that: 'Flood' includes any case where land not normally covered by water becomes covered by water. In addition, this section adds the caveat:

"But 'flood' does not include –

- (a) a flood from any part of the sewerage system, unless wholly or partly caused by an increase in the volume of rainwater (including snow and other precipitation) entering or otherwise affecting the system, or*
- (b) a flood caused by a burst water main (within the meaning given by Section 219 of the Water Industry Act 1991)."*

What is Internal and External Flooding?

For the purposes of this report, properties that have internally flooded are those where it is considered that water has entered the fabric of the building, where:

- a) Basements and below ground level floors are included.
- b) Garages are included if in the fabric of the building. Garages adjacent or separate from the main building are not included.
- c) Occupied caravans are included but not tents.

External flooding included those properties where water has entered gardens or surrounding areas which restricts access, affects the highway or where flooding has disrupted essential services to the property such as sewerage. For businesses this includes those where the flood waters are directly preventing them trading as usual.

What is Local Flood Risk?

Local Flood Risk is defined by the Flood and Water Management Act 2010 as being flood risk from surface runoff, groundwater, and ordinary watercourses where:

- a) 'Surface runoff' means rainwater (including snow and other precipitation) which is on the surface of the ground (whether or not it is moving) and, has not entered a watercourse, drainage system or public sewer.
- b) 'Groundwater' means all water which is below the surface of the ground and in direct contact with the ground or subsoil.
- c) 'Ordinary Watercourse' means a watercourse that does not form part of a main river and includes a reference to a lake, pond or other area of water which flows into an ordinary watercourse.

What is a Catchment?

To aid the investigation process and, for ease of presentation, the incidents of flooding have been grouped within this document based on hydrological catchments. The purpose of viewing flooding incidents based on catchments reflects the reality

that flooding does not respect the administrative boundaries of water management organisations. Hydrological catchments catch water and discharge it at locations known as outlets. Individual hydrological catchment boundaries are usually formed by ridges of surrounding higher ground, which separate the lower lying areas at a line known as a watershed.

Roles and Responsibilities of Risk Management Authorities

Below is a short summary of those groups and Risk Management Authorities (RMAs) that have a role in managing flooding within Norfolk. The listing of responsibilities includes those duties or powers that directly relate to managing the flood incidents or consequence. All RMAs have a duty to cooperate with other RMAs.

1. Norfolk County Council (as Lead Local Flood Authority)

- a) Duty to investigate significant flooding from any source.
- b) Duty to maintain a register of structures or features which affect flood risk from all sources.
- c) Power to undertake works to manage flood risk from surface run-off and groundwater.
- d) Powers to regulate activities on ordinary watercourses outside of Internal Drainage Board areas.
- e) Duties as a Category 1 Responder for Emergency Planning and the Fire & Rescue Service.

2. District, City and Borough Councils

- a) Powers to undertake works on ordinary watercourses outside of IDB areas.
- b) The Local Planning Authority for their District area and determine the appropriateness of developments and their exposure and effect on flood risk.
- c) Duties as a Category 1 Responder for Emergency Planning.

3. Internal Drainage Boards (IDBs)

- a) A duty to act in a manner consistent with the national and local strategies and guidance when exercising FCERM functions.
- b) Duty to act in a manner consistent with Local Flood Risk Management Strategies when exercising other functions that may affect flood risk.
- c) Powers to regulate activities on ordinary watercourses within IDB areas.
- d) Exercise a general power of supervision over all matters relating to the drainage of land within their district.
- e) Powers to undertake works on ordinary watercourses within IDB areas.

4. Highway Authorities (Norfolk County Council / Highways England)

- a) Powers to undertake works to manage water on the highway and to move water off the highway.
- b) Enforcement powers to unauthorised alterations, obstructions, and interferences with highway drainage.
- c) Have responsibilities for culverts vested in the highway. Currently Norfolk County Council discharges its responsibilities associated with bridges and culverts

(whether as owner or highway authority) through the inspection of condition (undertaken by the Bridges team) and through maintenance activity (delivered on a as needs basis by the relevant Highways area team).

5. Water Companies

- a) Undertake cost beneficial capital schemes to alleviate or eliminate flooding where the flood event is associated with a failure of their assets.
- b) Duty to provide, improve, maintain, and operate systems of public sewers and works for the purpose of effectually draining an area.
- c) Are responsible for flooding from their foul, combined and surface water sewers, and from burst water mains.
- d) Maintain 'At Risk Registers' for Ofwat that record properties that have flooded from public foul, combined and surface water sewers and that are at risk of flooding again.
- e) Water companies respond to reports from the public of flooding associated with their assets and determine an appropriate response in line with their standards or customer service.
- f) Duties as a Category 2 Responder for Emergency Planning.

6. Riparian Owners

- a) Duty of care towards neighbours upstream and downstream, avoiding any action likely to cause flooding.
- b) Entitled to protect their properties from flooding.
- c) May be required to maintain the condition of their watercourse to ensure that the proper flow of water is unimpeded.