

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

**Report Title:**

St Thomas's Way, Great Whelnetham, Suffolk

**Report Reference(s):**

FW2020-0932	FW2020-0933
FW2020-0950	FW2020-0919

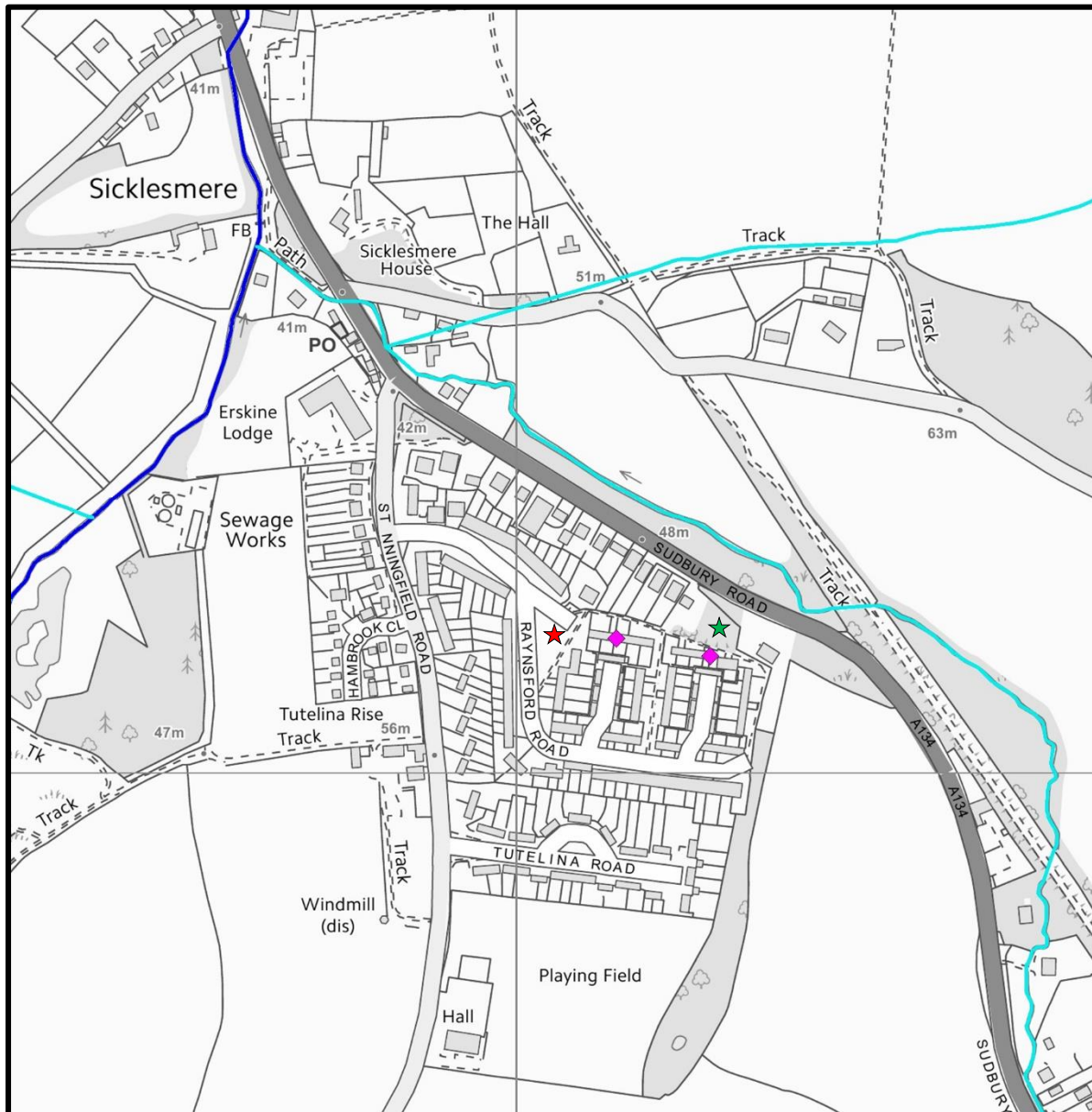
	Name	Date
<b>Lead Officer:</b>	Steven Halls	
<b>Created by:</b>	Steven Halls	20/07/2020
<b>Checked by:</b>	Simon Curl	28/07/2020
<b>RMA Review:</b>	Suffolk County Council (Highways)	27/08/2020
<b>Approved by:</b>	Simon Curl	25/09/2020
<b>Date Published</b>		25/09/2020

# Flood Investigation Report

- 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:** St Thomas's Way, Great Whelmetham, Bury St Edmunds, Suffolk
- 2.2 Flood Event Date:** 17<sup>th</sup> June 2020
- 2.3 Reported to SCC Date:** 17<sup>th</sup> June 2020
- 2.4 Investigation Commencement Date:** 18<sup>th</sup> June 2020
- 2.5 Criteria for investigation:**

<b>Criteria for an investigation (as per Appendix D of the Suffolk Flood Risk Management Strategy):</b>	<b>✓/X</b>
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	✓
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 88086 60078

**2.7 Extent of flooding:** A total of 9 properties flooded internally with another 2 with external flooding. Main private forecourt and garages flooded. Total affected area 0.18Ha (1800m<sup>2</sup>)

**2.8 Effect of flooding:** Properties internally flooded up to a depth of 400mm. Stormwater only, no recorded observation of foul affluent.

**2.9 History:** Past flooding events have occurred every year dating back to 2015, but not reported as internal flooding.

**2.10 Flooding Source:** Capacity of surface water drainage systems exceeded due to intense storm event on the 17<sup>th</sup> June 2020. Exceedance volumes accumulated at the bottom of the slope where property blocks have been built.

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## 2.11 Causes:

Local rain gauges (Rushbrooke) recorded an intense rainfall event of 16mm over a 15 min duration. This storm has a return period of once every 12 years (8.3% AEP in any given year).

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

- St Thomas's Way consists of a constant incline which falls from Raynesford Road northwards at approx. a 1:20 gradient. At the foot of this slope, there are two solid blocks of residential properties (60m wide) which are perpendicular to the main slope and thus are essentially a dam. Any direct rainfall onto the site or excess overland runoff from the highway will flow at high velocities towards these property blocks where it is then obstructed and ponds until it spills over the door threshold.
- No permeability in the housing blocks results in there being no safe exceedance routes for overland runoff through the site. Poor building layouts.
- A highway drainage system exists in St Thomas's Way, this system consists of traditional gully sets and laterals linked to the central conveyance pipe, this is then passed through several elephant chambers (oil separators) and then onto a large soakaway. This system during onsite surveys was found to be completely blocked and poorly maintained.
- However, even if this system was in a serviceable manner, the intensity and velocity of flow across the site may have overwhelmed this system anyway or skipped over the gully grates – some lids were on back to front.

## 2.12 Additional Information:

- St Thomas's Way is currently not adopted as public highway
- The site is not 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

## 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.

- Alternatively, if topography allows and if carefully installed; a minor site layout change alongside new floodgates could be used to direct runoff towards a lowered portion of Public Open Space on the west side of the residential blocks (*see red star on map*) and to an existing pit on the north side of the blocks (*see green star on map*) where runoff can be discharged into the ground. However, seepage prevention and sealants would be required on the gates.
- Any material changes to the residential blocks are unlikely, therefore introduction of safe escape routes for water will be difficult to achieve through the buildings. Therefore, intercepting and capturing runoff upslope is critical, therefore highway drainage system must be thoroughly investigated and brought into a serviceable manner in the short term. Surveys to also check conditioning of this system are essential.
- Other long-term mitigation options: -
  - Upsize capacity of highway drainage system within St Thomas's Way
  - Add larger gully lids more evenly over the estate and provide larger sump pits. Double lids should be installed towards bottom of the slope. Footways currently without drains should be given them.
  - Review the need for the historic oil separator chambers or replace to modern standards
  - The site is too steep for porous paving solutions.
  - Review the serviceability of the soakaways and upgrade if necessary

## 4.1 Recommended Actions:

Action	Responsible Authority	Timescale for response	Latest Progress Update for Actions
Investigate road drainage in effected area, prioritise improvements to the system accordingly and decide long term maintenance responsibilities.	Currently as highway is not adopted, the private landowner is responsible. Parish Council or a residents group alternatively.	3 Months	SCC have completed CCTV survey and cleansed existing system as of July 2020. Discussions regarding adoption still ongoing.

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Advise landowner of potential Property Level Resilience measures and funding opportunities. Support the implementation of suitable measures.	SCC Floods	3 months	
Investigate the potential for a new retrofit SUDS scheme and highway drainage systems upgrade. See above	SCC and landowner	6-12 months	