Section 19 Flood and Water Management Act 2010

Framlingham Flood Investigation – Storm Babet 2023

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Table of Contents

Table of Figures

Table of Images

Executive Summary

Storm Babet was an extreme event which caused significant disruption to communities across Suffolk between 18th-21st October 2023. Framlingham was one of the most severely impacted locations. Over 100 residential and commercial properties were internally flooded and infrastructure and services were disrupted. Suffolk County Council, as Lead Local Flood Authority, have therefore undertaken a Section 19 Flood Investigation. The resulting report will:

- highlight the probable causes of flooding.
- identify options to reduce future flood risk and increase property resilience.
- make recommendations for actions by relevant responsible organisations, landowners and homeowners.

Framlingham is located in an area at significant risk for both fluvial (river) and pluvial (surface water) flooding and the nature of the surrounding topography and geology contributes to the susceptibility of the town to flooding. Steep rural catchments flow into the noticeably shallower urban centre and local geology and soils are characterised as having low permeability and high run off, making a high number of properties in the town vulnerable to intense rainfall events. Storm Babet delivered significant rainfall in the River Ore catchment, following an extended period of above average rainfall.

Impacts within the town were widespread and for the purposes of this report, the affected areas have been categorised into five distinct zones: North, East, South, West and Central Framlingham. The description of the flood events detailed in the report have been compiled using data submitted to Suffolk County Council, as well as information from Risk Management Authorities (e.g. Environment Agency, District Council) and the community.

A comprehensive summary for each zone is provided, outlining the context of the event and the impact. Key findings included that Framlingham was severely impacted by flooding due to the intensity of rainfall, overwhelming natural flow paths and the design capacity of the existing drainage infrastructure. The convergence of multiple surface water and fluvial flood flow paths saw a rapid increase in flood water and the resultant internal flooding of property, infrastructure, and services.

Short, medium and longer term recommendations have been published and each has a potential role to improve resilience and reduce the risk of flooding to Framlingham. For short term measures, key highlights include the implementation of community flood plans, maximising Property Flood Resilience (PFR) grants, removal of blockages within watercourses and drainage infrastructure, as well as improvements to flood warning systems and the sensitive management of land. For medium to longer term recommendations, there is emphasis of the investigation of potential improvements to drainage infrastructure and the creation of new natural flood management features, to reduce flood risk within the catchment.

Justification for Investigation

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 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).

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	

Understanding the Flood Context

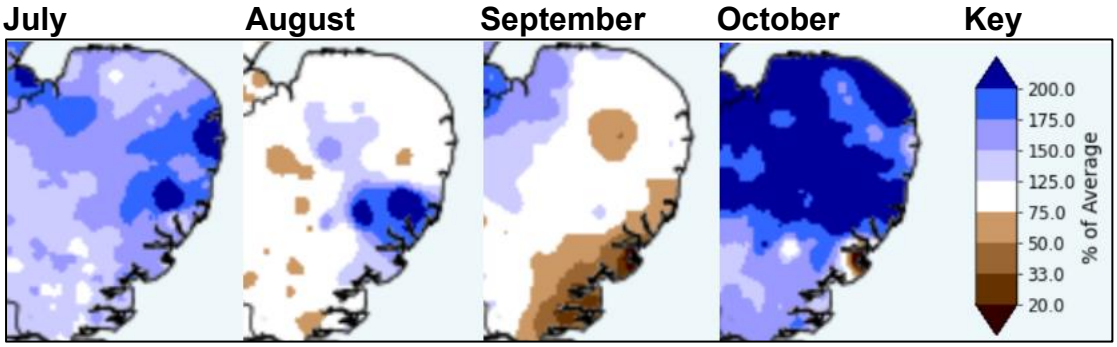
1. **What happened during Storm Babet?**

A succession of weather fronts between the 11th and 13th of October 2023 brought significant rainfall to the region. Readings indicate that between 30mm and 50mm of rain fell across Suffolk compared with an average of just less than 65mm across the whole month of October according to Met Office weather data (Met Office, 1991-2020). This significant rainfall in a short space of time resulted in saturated land and rivers reaching their capacity. Shortly after this, Storm Babet followed on the 18th to 21st of October 2023. The storm brought between 50 mm and 80 mm of rain to much of central and northern East Anglia, with some Suffolk weather stations recording the wettest October day on record.

The Environment Agency river level measuring stations indicated many flows close to or exceeding their highest on record, and the weather remained wetter than average for the rest of the month. October 2023 was the joint wettest on record in the east of England since 1871. During Storm Babet, Suffolk saw the heaviest rainfall across east Anglia causing significant flooding of roads and properties. The river systems rose rapidly across whole catchments due to the existing conditions, which was unusual as storms will often impact a small area and result in a steady progression of flood water downstream. A major incident was declared by the Suffolk Resilience Forum (SRF), in the afternoon of the 20th of October due to significant impacts on communities and disruption to the road and rail networks.

The following maps illustrate the average rainfall in East Anglia between July and October 2023 against the historical average monthly rainfall.

Figure 1 - Average rainfall in East Anglia between July and October 2023



The following report acknowledges that October 2023, and in particular Storm Babet, was an extreme event and will assess the likely causes and impacts. The report will recommend measures to reduce the risk of flooding within the location, in line with best practice, ranging from large to small scale interventions and be targeted at a range of stakeholders. It should be noted that Storm Babet was a significant event, with a low probability of regular recurrence. The recommendations will provide advice about reducing flood risk; however, they should not be relied upon as a guaranteed failsafe to mitigate against all future flooding.

2. Location of Flooding

Framlingham is a market town and civil parish in Suffolk, located in East Suffolk Council district. See Figure 2.

Figure 2 - Investigation Area Map

On the 20th of October 2023, Storm Babet resulted in significant rainfall across Suffolk on saturated ground due to above average rainfall in the preceding weeks. This caused internal flooding to properties; residential and commercial, across the county from various flooding sources. The following report is focused on Framlingham and will discuss the probable flooding sources, the observed flow paths through the community, and the receptors which have been affected.

Framlingham was one of the most significantly impacted communities during Storm Babet and over one hundred properties reported internal flooding. The town experienced major flooding on Friday 20th of October from fluvial (water from a designated main river), pluvial (surface water run-off) sources and both combined. For the purposes of this report, the term 'flood water' may be used to describe both fluvial and pluvial flooding. The majority of the flooding to properties included some fluvial element due to the River Ore and Cherry Brook watercourse exceeding their capacity and overtopping their banks.

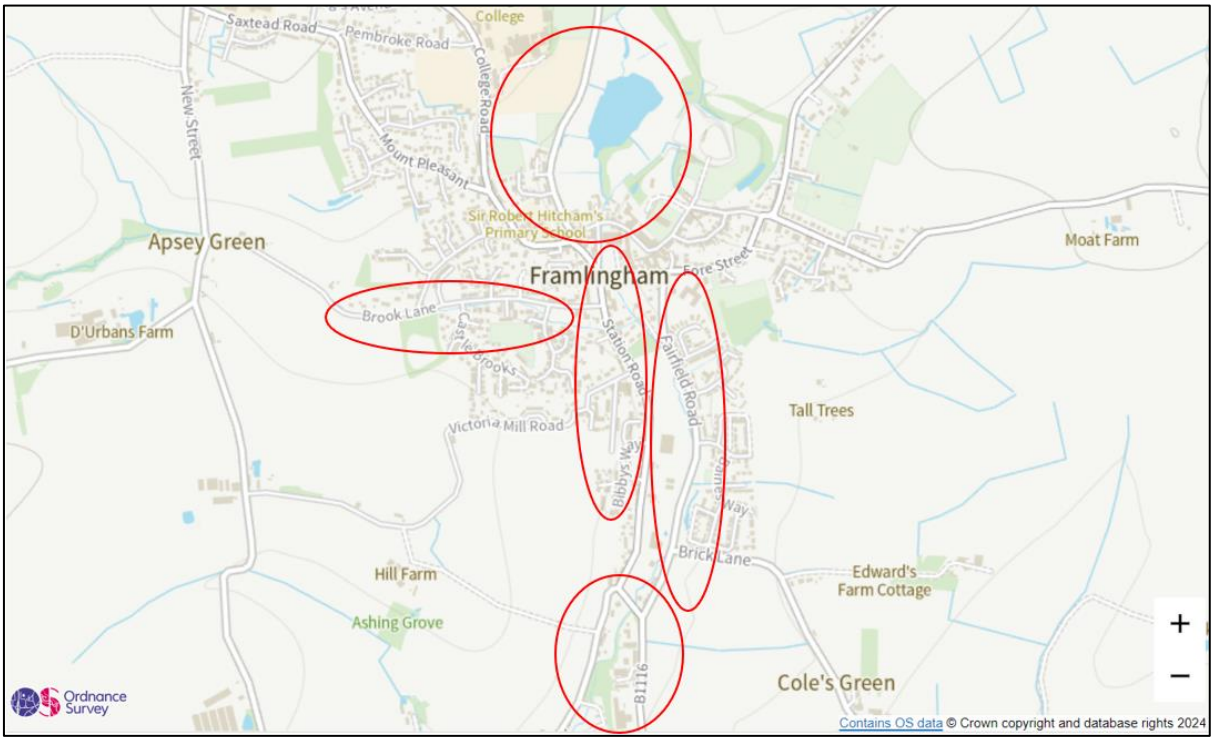
The water level rose rapidly, and the Flood Warning for Framlingham was issued automatically by the Flood Warning Service (Environment Agency) at 12:45pm. The

flood warning is in place to monitor rising water levels within the River Ore in order to notify residents of impending flooding. The river level gauge is located upstream of the Mere. The intensity of the rainfall and rapid rise in water levels meant little, if any, forewarning was provided in Framlingham.

For the purposes of this investigation the various areas affected by flooding have been separated into five distinct zones (see Figure 3). The zones are as follows:

1. North Framlingham: The Mere, Bridge Street, New Road, Badingham Road, College Road, Tanyard Court, The Almshouses, Dennington Road, Pepper Wash Lane, Saxtead Road, Clay Hills
2. West Framlingham: Brook Lane, De Vere Close, The Mills,
3. Central Framlingham: Riverside, Well Close Square, Albert Place, Albert Road, Fore Street & Station Road.
4. East Framlingham: Fairfield Road, Baines Way
5. South Framlingham: Woodbridge Road, Kettleburgh Road & Broadwater Road

Figure 3 - Investigation Area Map with Zones



3. Records of any historical flooding

A review of Suffolk County Council's highway reporting tool, local media reports, social media sources and Environment Agency records indicates that Framlingham has been impacted by flooding to varying extents in the past. In addition, an Alde, Ore and Fromus Hydrology and Hydraulics report commissioned by The Environment Agency and completed by Mott MacDonald (2020) found a mixture of anecdotal & photographic evidence. A summary of historical flooding events in Framlingham include:

- 1815 - Flooding around the mere, recurring early 20th century flooding on Albert Place and Fore Street
- 1999 - Fluvial flooding from the river Ore. The Mere overflowed into the present-day area of Tanyard's Court.
- 2009 - flooding of The Elms car park on New Road
- 2010 - Surface water flooding caused by heavy rainfall.
- 2012 – Surface water flooding on Station Road

Suffolk County Council records since 2012 indicate that there have been frequent examples of historical pluvial flood events in Framlingham. Along Fairfield Road there have been previous reports of blocked and overflowing drains and also flooded roads and pavements. Similar reports of flooded roads and pavements have been recorded historically along Kettleburgh Road, Brook Lane and Bridge Street with overflowing drains also reported. These locations were amongst the worst affected by flooding during Storm Babet and may represent some the area's most susceptible to flooding.

4. **Predicted Flood Risk**

Parts of Framlingham show significant flood risk from Pluvial and Fluvial sources.

Figure 4 - Predicted Pluvial Flood Risk

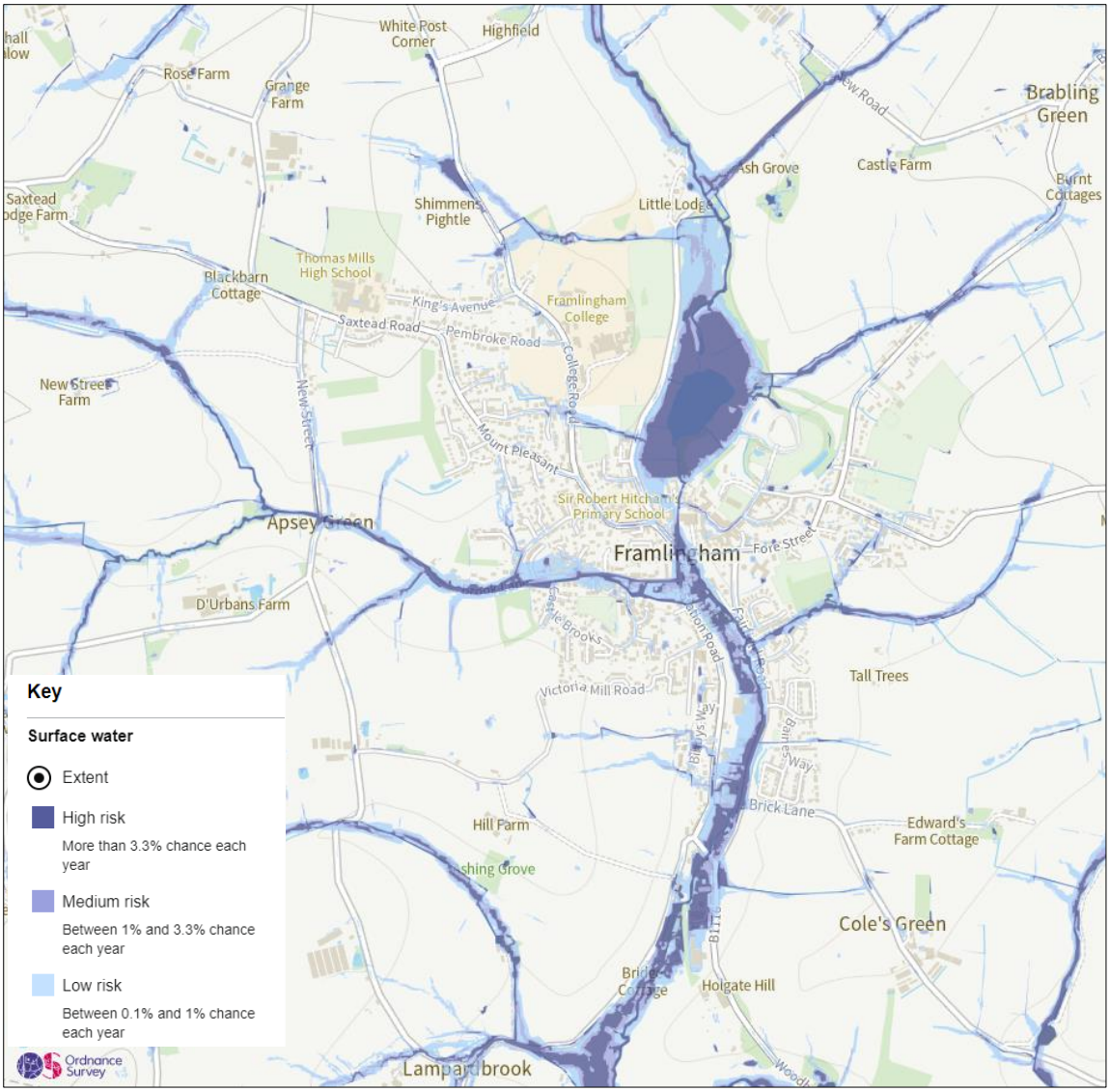


Figure 4 highlights the predicted Pluvial (surface water run-off from surrounding land and ditches) flood risk within Framlingham, with six main tributaries flowing into the town. There is significant risk of surface water flooding in Framlingham. Riverside, Albert Place, Brook Lane, Fairfield Road and Kettleburgh Road are all shown as at risk of flooding.

Figure 5 - Predicted Fluvial Flood Risk

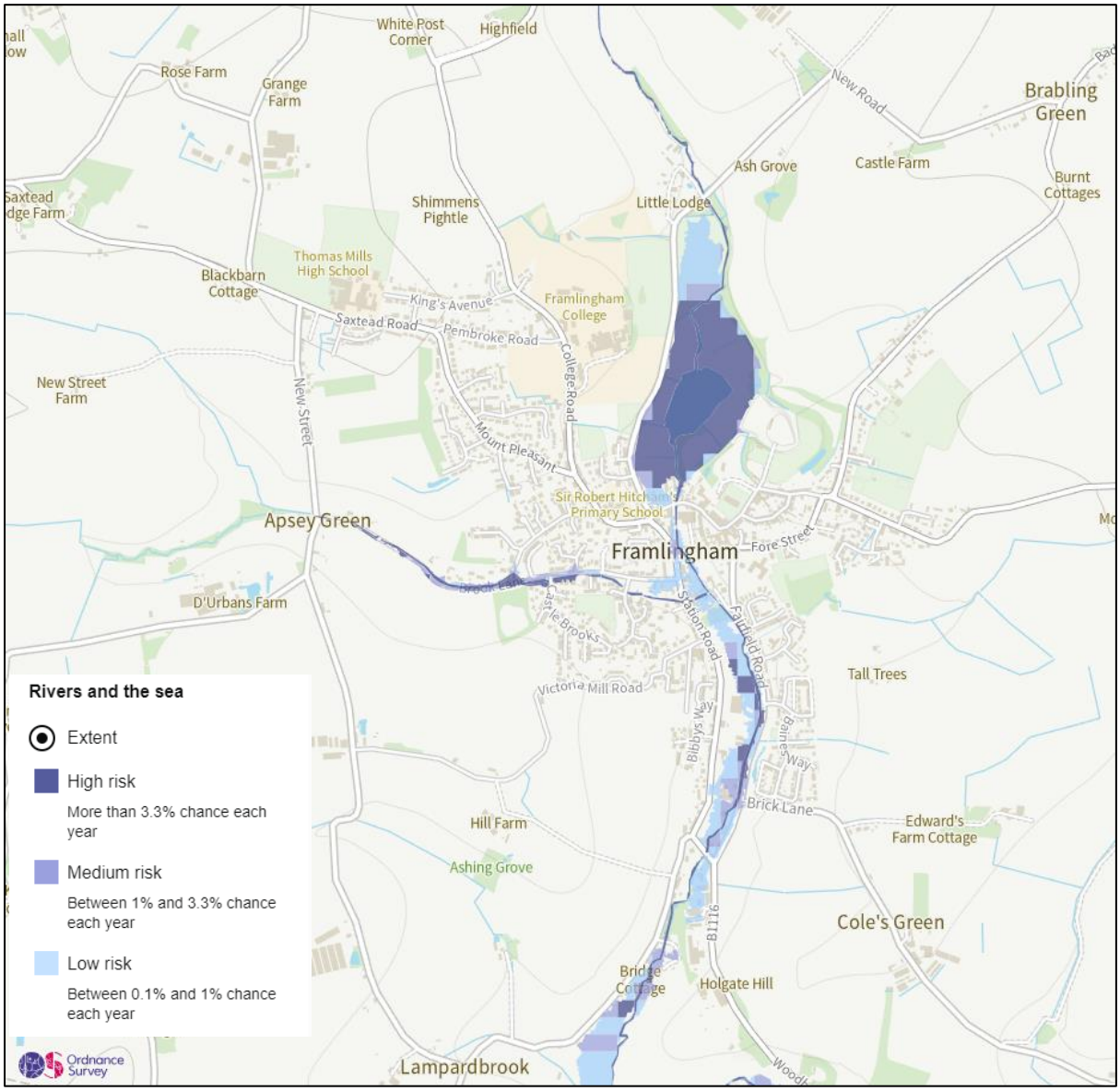


Figure 5 highlights the predicted Fluvial (from designated main river) flood risk within Framlingham. The main fluvial influences consist of two designated main rivers, the Cherry Brook watercourse, and the River Ore. The West end of Brook Lane and some areas of central Framlingham are shown as at risk for fluvial flooding.

5. Catchment characteristics

Framlingham is surrounded by rural, predominantly arable land with some grassland to the north. There are multiple overland pluvial flow paths flowing into Framlingham from the higher ground north, west and east of the town, before converging in the town where the gradient is noticeably shallower. The valley where Framlingham is situated therefore acts as a storage area during intense rainfall events, retaining excess flood water as it slowly discharges into the river and down the catchment. Overwhelmed infrastructure and watercourses may be observed during these events.

Figure 6 shows the topography surrounding Framlingham and the gradient changes across the town. Brook Lane, Albert Place, Station Road & Fairfield Road are among the lowest lying locations in Framlingham. These were identified as being some of the worst affected areas following Storm Babet.

Figure 6 - Framlingham and surrounding topography with approx. directions of the overland pluvial flow paths into Framlingham

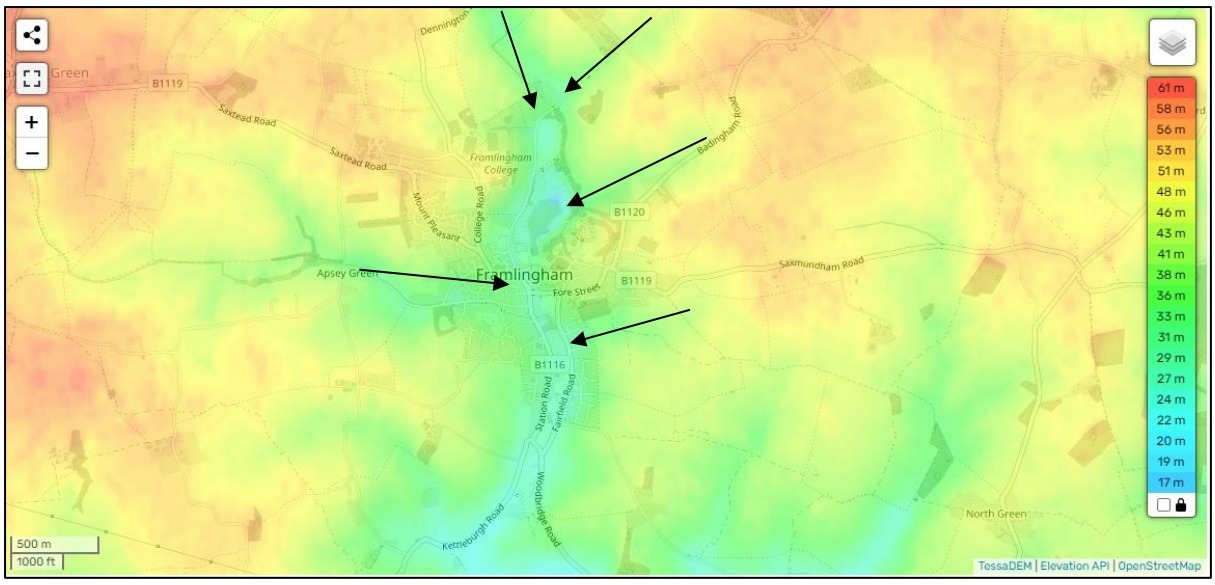
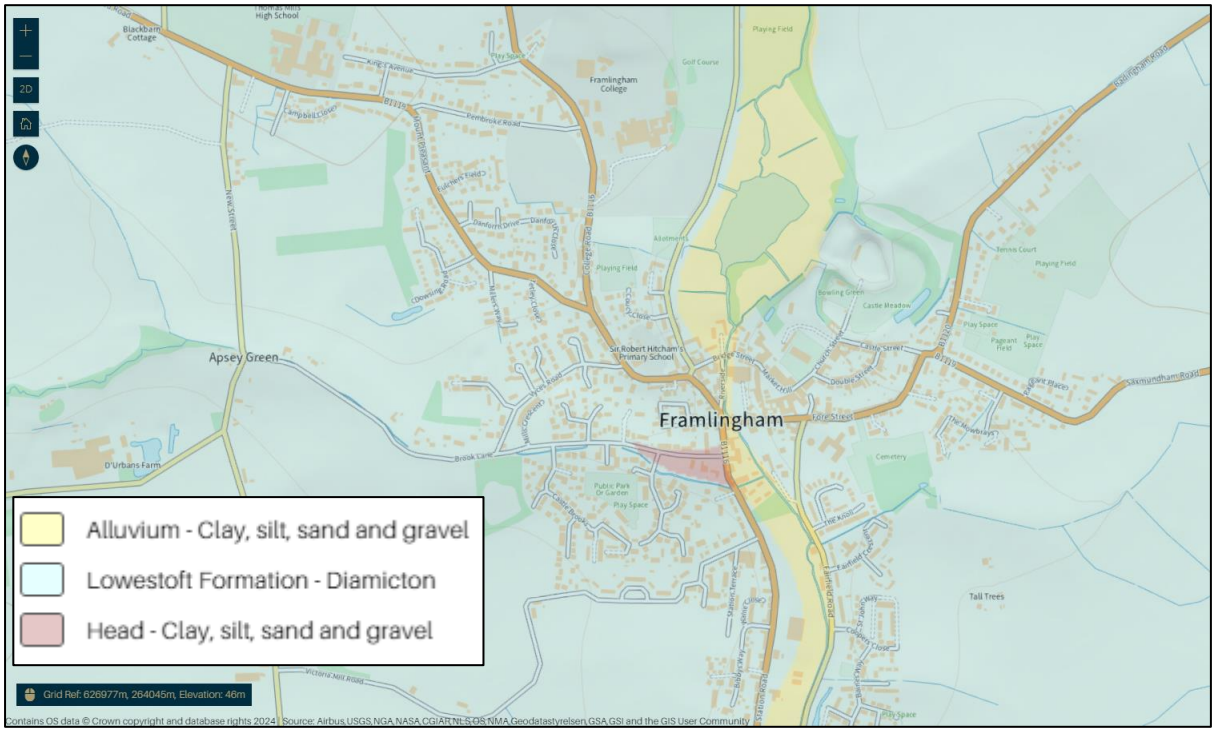


Figure 7 shows data from the British Geological Survey which supplies details of the bedrock geology and superficial geology of the area (British Geological Survey, 2024).

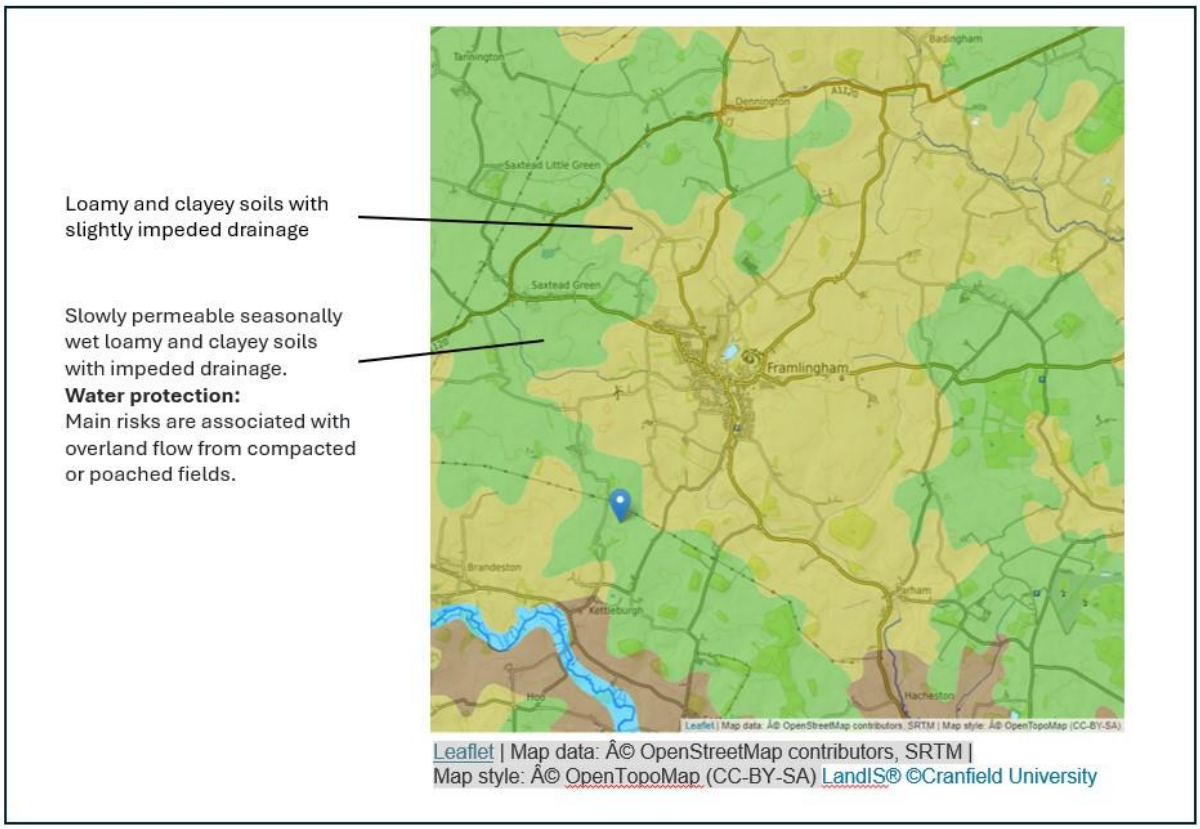
Figure 7 - Framlingham town centre and underlying geology



Framlingham itself sits mostly on Lowestoft Formation 'Diamicton' which is described by the British Geological Survey as a diverse mixture of clay, sand, gravel, and boulders varying widely in size and shape. This is sometimes known as boulder clay. This generally has a low permeability meaning water will tend to flow off it before it can be infiltrated, which reflects reports from the event.

With reference to soils in the wider catchment, immediately around Framlingham, they are described as loamy and clayey soils with slightly reduced infiltration (see Figure 8). At the higher levels surrounding the town, the soil is described as slowly permeable, seasonally wet, loamy and clayey soils with reduced infiltration (LandIS, Cranfield University, 2024). Lower rates of infiltration to ground means that more surface water will stay on the surface and not be absorbed, potentially contributing to flood water.

Figure 8 - Framlingham and surrounding soils



Flooding Source(s), Pathway(s) & Receptor(s)

The low-lying nature of Framlingham, with its several flow paths and low permeability of surrounding soils make it susceptible to flooding events in extreme rainfall. Storm Babet was an extreme event which came at a time when Suffolk had experienced a significant amount of rainfall in the preceding week.

Storm Babet delivered significant rainfall in the River Ore catchment between 18th and 21st October. At Benhall Green rainfall gauge near Saxmundham (approx. 8 miles east of Framlingham), there was 44mm of rain recorded in a 12-hour period. At Earl Soham rainfall gauge (the nearest station to Framlingham, approx. 3 miles west of the town) 68mm was recorded in 21 hrs. More than half of this rainfall (35mm) was received in 3 hours from 8:30 am to 11:30 am. River levels in the River Ore upstream of the Mere reached their highest on record, since the gauge was installed in the year 2000.

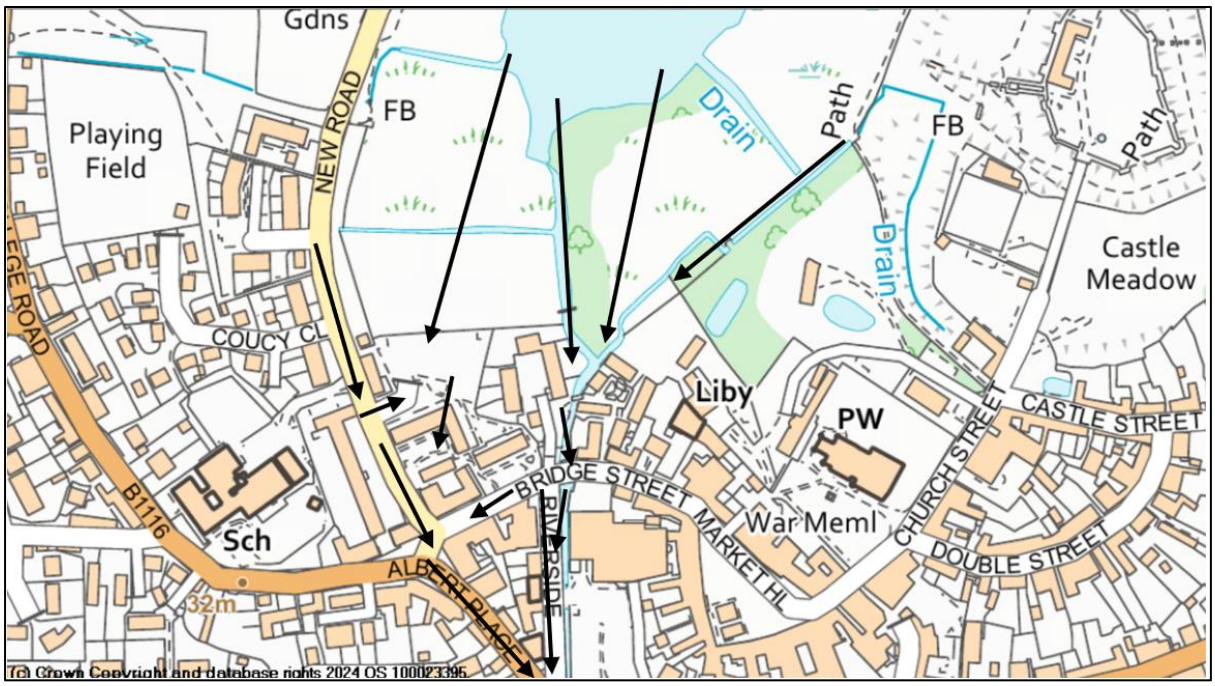
The description of the flood events described below has been prepared using reports submitted to Suffolk County Council via the online Highways Reporting Tool and information gathered by the Environment Agency. Some on-site images and measurements were recorded by Environment Agency Community Information Officers (CIO's) in the aftermath of Storm Babet.

1. North Framlingham

The primary source of flooding in the north of Framlingham was fluvial flooding, from the overtopping of the River Ore and the Mere through which the Ore flows. There are five overland flow paths that feed into the Mere from the Upper Catchment above Framlingham. Residents reported that the water flows in both the River Ore and Mere rapidly expanded on the morning of Friday 20th. After overtopping the banks, overland fluvial flows quickly moved towards The Elms car park where depths reached approximately 150cm (Image 1). The depths in the car park increased and the area of flooding was enhanced by pluvial flows coming from New Road.

Flood water continued through the car park to flood the Elms residential area from the rear, inundating the entire area. This was increased by the surface water run-off flowing eastwards off New Road towards the residential area and the car park from the west and northwards from Bridge Street. Residential housing was flooded internally to a depth of approximately 80cm. All ground floor premises are thought to have been flooded (approx. 10). Residential, commercial properties and the road on Bridge Street were also flooded as the river overtopped between the road bridge and the Mere. Reports from residents suggest that there were blockages, most likely woody debris from the Mere, under the bridges over the Ore in this area which may have contributed to overtopping of the river channel. The combined fluvial and pluvial flood water flowed South and West towards Riverside and Well Close Square respectively but was limited in the direction of Market Hill by the natural raising incline to the East (Image 2).

Figure 9 - Approximate flood water flow routes in North Framlingham



Tanyard Court experienced external flooding. Despite no properties being reported to have flooded internally, flood water was approximately 1cm from the rear threshold of some. This may be due to the fact that these properties are relative new builds and have higher thresholds. No properties on New Road are reported to have flooded internally, however some narrowly avoided flooding as the road acted as a conduit for flood water running into Well Close Square and Bridge Street.

There were several isolated reports of localised flooding in the upper catchment above Framlingham. Properties on Peppers Wash, Dennington Road, Clay Hill and College Road reported local issues with surface water flooding and overwhelmed highway drainage. These locations are predicted to be at medium to high risk from surface water flooding on the national mapping. On Saxtead Road there was flooding reported due to combined surface water/pluvial runoff from the roads and fields. This is underrepresented on the national flood risk mapping and needs further investigation. Badingham Road suffered repeated flooding during Storm Babet and subsequent events over the winter. It is situated on the major over land flow path coming from the east, feeding into Framlingham Mere, and is therefore considered to be a high risk from surface water/pluvial flooding.

In summary:

- High rainfall resulted in excess floodwaters flowing into the Mere from the upper catchment north of Framlingham.
- The Mere and River Ore exceeded capacity overtopping on to the roads.
- Pluvial flows from multiple pathways added to the floodwater.
- Drainage assets on the highway were overwhelmed beyond their design capacity.

- Several locations north of Framlingham were impacted by pluvial flooding and overwhelmed highway drainage.

LLFA recommended action(s):

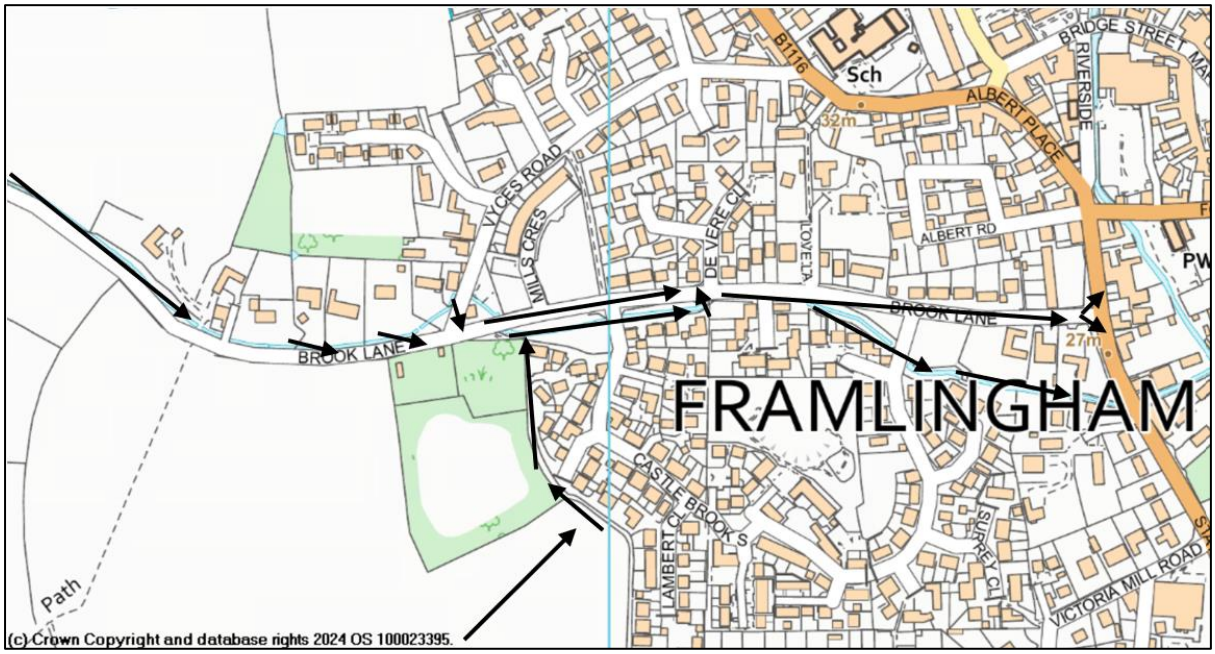
- Investigate potential NFM projects and funding opportunities which aim to attenuate water and 'slow the flow' in upper catchment north of Framlingham.
- Framlingham College and Suffolk Wildlife Trust to review their maintenance/management of the Mere.
- Investigate potential new/additional highway drainage assets on New Road.
- Improve drainage system on The Elms carpark
- Remove any observed blockages within main river and ordinary watercourses where flood risk is increased.
- Ensure the completion of highway drainage asset maintenance and investigate if capacity and condition are sufficient.
- Investigate any capital interventions that can improve the flood resilience of the town.

2. West Framlingham

The primary source of flooding in the west of Framlingham was fluvial, with flood water overtopping the banks of the Cherry Brook watercourse. This was contributed to by surface water run-off from higher ground and the additional backing up of flood water from the culvert under The Mills. Brook Lane is aligned along the major flow path from the west coming into central Framlingham (Figure 5).

The Cherry Brook watercourse breached its banks early on 20th October and caused flooding of the adjacent Brook Lane (Image 3). The overtopping of the watercourse effectively creating a second flow path along the road, following the natural gradient towards Station Road (Image 9). This substantial amount of flood water is likely to have been greater than the design capacity of the highway gullies. This correlates closely with the predicted flood risk maps, with fluvial risk being categorised as Medium to High and the pluvial flood risk categorised as high along the length of Brook Lane.

Figure 10 - Approximate flood water flow routes in West Framlingham



Simultaneously, surface water run-off was rapidly flowing towards Brook Lane from the fields to the south, adding to the floodwater. This was described as 'a waterfall' by residents. The full extent to which this added to the flooding is less well understood as this overland flow path is not well represented on the national mapping. However, it can be acknowledged that it added to the already full main river and the flooding of Brook Lane. This caused internal flooding of several residential properties, in addition to the flooding of several gardens along Brook Lane.

The main river runs into a culvert under The Mills, opposite the entrance to De Vere Close. This restricts the capacity of the main river channel, and several reports indicated the fluvial flood water was backing up at this location. As the channel overflowed, this was another contributor to the flood water on the road, in the gardens and inside properties close by. This is consistent with the predicted fluvial flood risk which is defined as High in this location.

In summary:

- High rainfall resulted in excessive amounts of water flowing into Cherry Brook watercourse from fields to the west of Framlingham.
- Cherry Brook watercourse exceeded capacity and overtopped onto Brook Lane.
- Pluvial flows from multiple pathways added to the floodwater.
- The floodwater flowing along Brook Lane could not get back into the main river channel.
- The culverted section of the main river reduced capacity, backed up, overtopped and added to the floodwater on Brook Lane.
- Drainage assets on the highway were overwhelmed.

LLFA recommended action(s):

- Investigate potential NFM projects and funding opportunities which aim to attenuate water and ‘slow the flow’ in the catchments West of Framlingham.
- Remove any observed blockages within main river and ordinary watercourses where flood risk is increased.
- Ensure the completion of highway drainage asset maintenance and investigate if capacity and condition are sufficient.
- Investigate options to connect surface water flowing on Brook Lane back into the river.
- Investigate options to improve the capacity of the culvert below The Mills on Brook Lane.

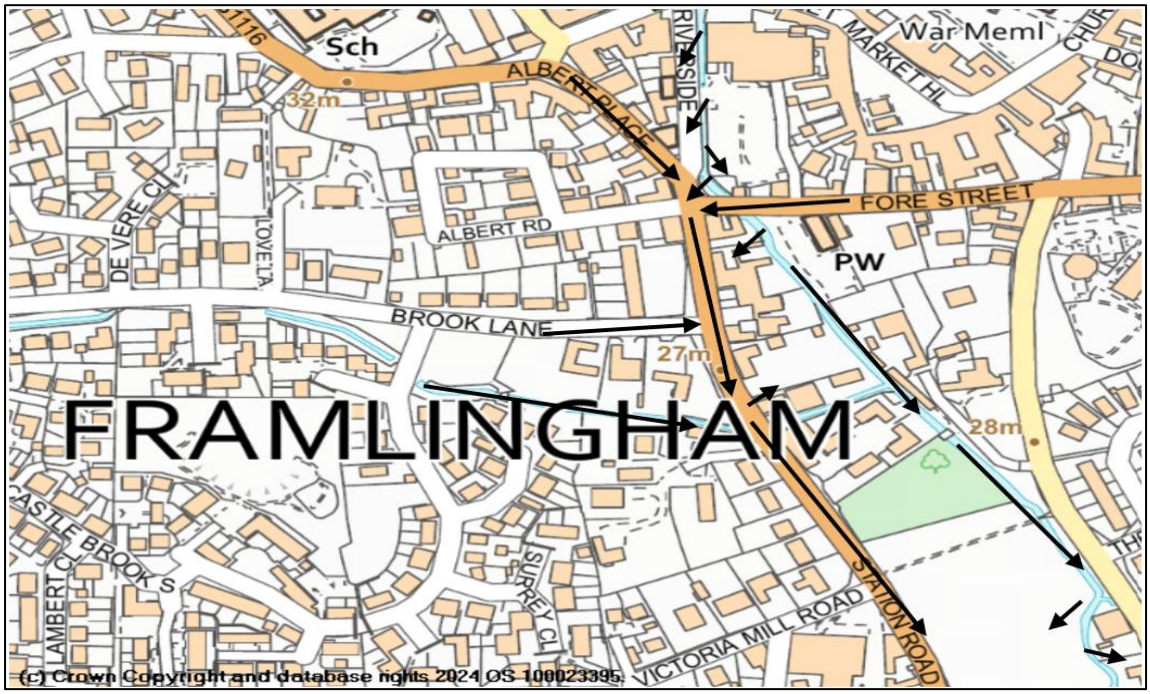
3. Central Framlingham

The primary source of flooding in central Framlingham was a combination of fluvial and pluvial flooding, with flood water from the river and roads merging. The banks of the River Ore overtopped and combined with surface water flows from the north (Bridge Street, Well Close Square), the east (Fore Street) and west (Brook Lane).

The River Ore burst its western bank initially at the junction of Albert Place and Fore Street and then south of the Bridge Street and Riverside junction (Image 4). This flood water flowed along Riverside, with the road acting as a secondary river channel, carrying floodwater downstream, inundating Albert place (Image 5). Residential and commercial properties on Riverside were flooded internally to approximately 33cm. The flood waters were added to by surface water from Bridge Street and New Road, flowing into Well Close Square and toward Albert Place. Central Framlingham and Albert Place in particular, being amongst the lowest points in Framlingham, acted as the central basin into which a combination of pluvial and fluvial floodwater accumulated. The roadside drainage assets were completely overwhelmed. Outfalls for highway drainage were quickly submerged as they fell below the peak river level, were unable to discharge fully into the river and caused water to back up.
This effect was replicated across Framlingham on Brook Lane, Station Road & Fairfield Road where floodwater on the roads was unable to discharge into the river due to the exceedingly high river water levels.

The flood water continued to flow south from Albert Place where the road and river diverge. At this point, the road became the primary channel for flood water flows, further building up through lateral pluvial inflows from Fore Street (coming downhill), Albert Road and multiple gardens. This merged with flood water flowing from the west along Brook Lane, flooding properties adjacent to Station Road between Albert Place and the junction with Brook Lane. Evidence suggests that the primary direction of flooding was from the front, i.e., from the road.

Figure 11 - Approximate flood water flow routes in Central Framlingham



The Ore also broke its Western bank downstream of the B1119 road bridge, flooding gardens to the rear of properties on Station Road. These properties were impacted by the flood water flowing down the road at the front of the houses and the flood flows from the Ore to the rear.
The Environment Agency measured an external wrack mark (a line of debris left following a flood) of 102cm, and an internal wrack mark of 57cm on Station Road. At one commercial property, internal flooding of 63cm was recorded, while the level on the back fence of the garden was 85cm high.

In summary:

- Central Framlingham, particularly Albert Place & Station Road, acted as a basin into which the flood water flowed.
- The River Ore exceeded capacity and overtopped along Riverside and south of Fore Street.
- Pluvial flows from the north, west and east added to the extensive floodwater.
- Drainage assets on the highways were overwhelmed.

LLFA recommended action(s):

- Investigate potential NFM projects and funding opportunities which aim to attenuate water and ‘slow the flow’ in the catchments surrounding Framlingham.
- Remove any observed blockages within main river and ordinary watercourses where flood risk is increased.

- Ensure the completion of highway drainage asset maintenance and investigate if capacity and condition are sufficient.
- Investigate any capital interventions that can improve the flood resilience of the town.

4. East Framlingham

The flooding in the Fairfield Road area was caused by a combination of fluvial flooding from the River Ore overtopping its banks and pluvial flooding, with water flowing off fields from the east. Flood water originating from the fields to the east rapidly flowed down the watercourse between 'The Knoll' and 'Fairfield Crescent' where it would ordinarily pass under Fairfield Road via a culvert and discharge into the Ore. The capacity of this culvert was exceeded due to the sheer abundance of rainfall and surface run off flowing through the watercourse. As the flow backed up and overtopped the channel bank, flood water flowed along Fairfield Road in a southerly direction. The road was described by residents as becoming 'a river' within minutes (Image 6).
Surface water also flowed down a combination of roads to the east of Fairfield Road, including The Knoll, Fairfield Crescent, Coopers Close and Brick Lane, all of which brought additional flood water. The extensive flood water accumulating on Fairfield Road flooded commercial and residential buildings along from the front. This sequence of events closely matches the flow paths and extents shown in the predicted surface water flood mapping.

Figure 12 - Approximate flood water flow routes in East Framlingham

Additionally, the Ore exceeded its Eastern bank and fluvial water flowed towards properties along Fairfield Road from the rear. Consequently, as the drainage assets on the highway were overwhelmed, the flood water on the road could not discharge into the river, creating a large expanse of water around the properties. The Ore also overtopped its Western bank, flooding the public open space and commercial buildings to the west of the river.

The open watercourse adjacent to Tett Terrace filled to the top of bank but did not exceed its capacity. The drainage system in place at this location is designed to flow into the Ore via a culvert under Fairfield Road, but the capacity of the culvert was rapidly exceeded. The water from the channel spilled out onto Fairfield Road mirroring what was happening at the culvert in the channel between The Knoll and Fairfield Crescent to the north. This may have been compounded by a tree growing at the inflow / inlet. Fairfield Road experienced flooding again on 8th February 2024. On that occasion the floodwater was restricted to the road surface before making its way back into the main river channel.

Flood water continued to flow along Fairfield Road and further impact residential properties from the front. The velocity of the water damaged fencing at the front of one property. Again, this was in addition to fluvial flooding to the rear from the Ore which had overtopped its Eastern bank, leading to combined source flooding.

A cluster of residential properties on Fairfield Road near to the junction with Woodbridge Road, experienced flooding from three directions: flood water from the north along Fairfield Road, flood water run-off from the east over the opposite field, and flood water flows to the rear from the river. The initial source of flooding for properties was water flowing off the fields to the east which was described as ‘like a tidal wave’. There is no ditch at the bottom of this field where it merges to the footpath. The force of the water knocked over the brick wall in front of one property (Image 7).

Water from the river also flooded properties from the rear, although there was a time lag between the onset of surface water to the front and water levels in the river channel rising. Several reports suggest that once the river level surpassed capacity, fluvial floodwater rapidly filled the rear gardens. The properties were caught in the middle, surrounded by flood water from both sides (Image 8). The Environment Agency measured depths of up to 110cm of internal flooding in one of the residential properties.

In summary:

- High rainfall resulted initially in large amounts of pluvial flows coming from fields to the east.
- The culverts beneath Fairfield Road rapidly exceeded capacity and overflowed.
- Surface water flowed down the four roads that join Fairfield Road adding to the floodwater.
- The River Ore reached capacity and overtopped both banks.
- Drainage assets on the highway were overwhelmed.

LLFA recommended action(s):

- Investigate potential NFM projects and funding opportunities which aim to attenuate water and ‘slow the flow’ in the catchment East of Framlingham.
- Remove observed blockages within the man river channel along Fairfield Road.
- Create a ditch/improved drainage assets at the bottom of the field east of Fairfield Road
- Ensure the completion of highway drainage asset maintenance and investigate if capacity and condition are sufficient.
- Investigate options to improve the capacity of the culverts below Fairfield Road connecting the watercourses with the main river
- Investigate any capital interventions that can improve the flood resilience of the town.

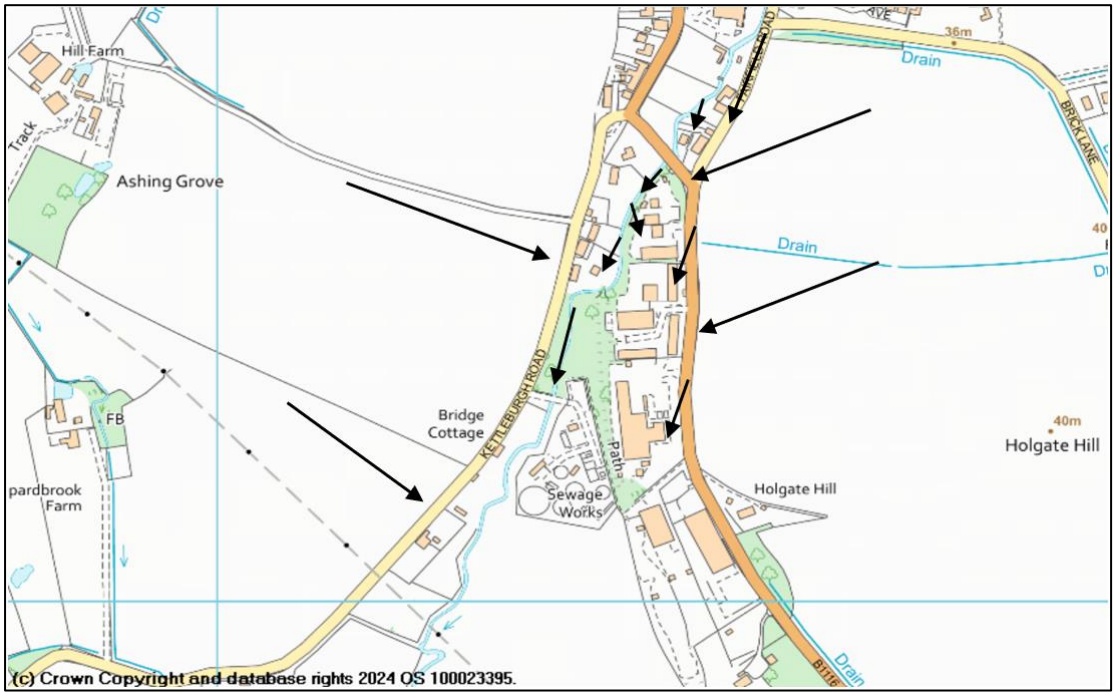
5. South Framlingham

The predominant source of flooding suffered in south Framlingham was pluvial flooding from adjacent fields, combining with flood water already on the roads. There was also fluvial flooding from the River Ore which impacted properties externally from the rear as the river levels rose.

Multiple commercial properties on the north end of Woodbridge Road suffered pluvial flooding from the front, as flood water flowed south-west from Fairfield Road and merged with substantial surface water runoff from the fields to the east. The observed flow paths and flood extents closely match the national predicted surface water flood risk mapping. The River Ore was at full capacity and overtopped in places to the rear. Blockages and in channel debris may also have slowed the conveyance of the flood water in the river channel at this location.

Several residential properties also flooded on Kettleburgh Road. Pluvial flows coming across the fields from the west, overwhelmed the drainage ditches and spilled onto the road impacting properties from the front. There have also been reports of water backing up from assets associated with the sewage works on Kettleburgh Road. Water was emerging from manhole covers on the road and caused internal flooding from a backed-up toilet in one property.

Figure 13 - Approximate flood water flow routes in Central Framlingham



In summary:

- High rainfall resulted in large amounts of pluvial flows coming from fields to the East and West.
- Flood water flowed along Woodbridge Road and Kettleburgh Road impacting properties from the front.
- Drainage assets on the highway were overwhelmed.

LLFA recommended action(s):

- Investigate potential NFM projects and funding opportunities which aim to attenuate water and ‘slow the flow’ in the fields to the East and West.
- Remove observed blockages within ordinary watercourses and main river.
- Investigate options to improve drainage / water storage at the bottom of the field east of Woodbridge Road.
- Ensure the completion of highway drainage asset maintenance and investigate if capacity and condition are sufficient.
- Investigate any capital interventions that can improve the flood resilience of the town.

Images of Flooding

Image 1 - Flooding of The Elms car park and The Mere

Im*age 2 -*

Flooding on Bridge Street looking towards Riverside

Image 3 - Flooding on Brook Lane

Image 4 - River overtopping at Riverside / Albert Place corner, early on the morning of 20th Oct

Image 5 - Extensive flooding on Albert Place

Image 6 - Flooding along Fairfield Road

Image 7 - Damage to garden wall on Fairfield Road

Image 8 - Flooding on Fairfield Road looking towards Woodbridge Road

Image 9 - Flooding on Brook Lane and Station Road

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

The following section acknowledges both RMA's and Non-RMA's relevant to Framlingham and provide an overview of their flood risk functions. The table has been compiled from information collated as part of the investigation. It is not exhaustive and it should be acknowledged additional organisations and group may be active within the community.

Risk Management Authority	**Relevant Flood Risk Function(s)**
Suffolk County Council	Lead local Flood Authority, Highways Authority & Asset Owner
Environment Agency	The Environment Agency is the lead organisation for providing flood risk management under its permissive powers and warning of flooding from main river
Anglian Water	Asset Owner
East Suffolk District Council	Local Planning Authority & Asset Owner
Non-Risk Management Authority	**Relevant Flood Risk Function(s)**
Private Landowners	Riparian Responsibilities and management of water from land or watercourses
Private Homeowners	Riparian Responsibilities and improving flood resilience to property
Town Council	Manage flood risk at a community level, prepare and produce flood action plans and maintain watercourses where present on land they own
Suffolk Wildlife Trust	Management and maintenance of the Mere on behalf of Framlingham College

Action(s) completed prior to first publication:

The following section acknowledges actions that RMA's and Non-RMAs have implemented or are currently in progress since Storm Babet and prior to publishing of this report.

Action	Responsible Party	Progress
Targeted reactive jetting of gullies and drains in the worst affected locations in the months since Storm Babet	Suffolk County Council (SCC) Highways Authority	Complete
Further investigation of asset condition and capacity in targeted areas of Framlingham most at risk from flooding	SCC Highways Authority	Ongoing
An overhaul of the inspection and cleansing routine has been completed to ensure all gullies across Suffolk are included and higher priority is given to areas where flooding is known to be an issue with annually, or biennial inspections and cleanses planned based on risk.	SCC Highways Authority	Complete
Suffolk Wildlife Trust (SWT) have confirmed plans are in place to work on the relocation of accessible debris. Some woody debris requires mechanical removal, this work	SWT on behalf of Framlingham College	Ongoing

will only be possible later in the summer.		
Blockage removal & in-channel maintenance	Environment Agency (EA)	The EA have conducted several visits after the storm. The routine maintenance (cut and clear) was carried out in November 2023. The EA attended different incidents reported to them on: 05/12/2023, 25/12/2023, 03/01/2024 & 07/02/2024. In addition to responding to incidents they also conducted "river runs", removing smaller unreported blockages. The EA met with a resident in February 2024 to discuss concerns along Fairfield Road which resulted in several blockages being removed.
Formed Framlingham Flood Recovery and Resilience Group	Formed by Framlingham Town Council (FTC), comprising members from the Town Council, community groups, affected residents and external agencies	Held 8 meetings since Storm Babet
Investigate reasons for flooding- Flooding Report from Amazi Flood Consultants commissioned	FTC	Completed. Recovery and resilience group are looking at the recommendations
Updated Public	FTC	Held two public meetings on the flooding and subsequent action, flooding pages now included on our Town website, commissioned flood report shared with residents
Need an improved response from FTC in an emergency	FTC	Created an Initial Responses Emergency Plan and working on a more comprehensive general Emergency Plan

		Will be setting up a mock-up community emergency to practise the plan in action. Setting up a grab kit and emergency cascade contact information with details for key organisations and individuals in the town
Met with East Suffolk Emergency Planning Officer	FTC	Will be assigning Rest Centres in the town, offering Emergency Rest Training to all on the R& R group and key volunteers within the Town

LLFA Recommended Action(s):

The following section provides a range of flood mitigation measures that could be implemented to reduce the risk of flooding in Framlingham. They have been derived from evidence collected during the investigation and included having been considered relevant and realistic to implement. The implementation of actions falls to the relevant responsible party. Progress on the action will be monitored by Suffolk County Council and updates published, but it should be acknowledged that the Council does not have powers to enforce the implementation of recommended actions.

Action	**Responsible Party**	**Timescale for response**	**Latest Progress Update for Actions (November 2025)**
Short Term Actions (e.g. standard maintenance activity and initial investigation of options that can be undertaken with limited need for forward planning)			
Establish a Community Emergency Plan that includes plans to manage future flood events – Liaison with Suffolk Joint Emergency Planning Unit.	Framlingham Town Council	6-12 months	**Complete** Community Emergency Planning Group has been created and subsequently a Community Emergency Plan. The plan has been tested, volunteers have carried out Rest Centre training with about 10 members of their community/CEPG.

Maximise the take up of the £5k PFR Grant currently available to residents before the April 2025 deadline	SCC LLFA (Lead Local Flood Authority) / Residents	Latest April 2025	**Complete** DEFRA PFR Grant has now closed for new applications. Installation of PFR measures on approved applications has been extended to December 2025. Further information on PFR measures can be found within SCC published 'Flood Smart Living' handbook.
Flood Warning improvements. Environment Agency to create a new spatial extent for the flood alert and flood warning areas in Framlingham to incorporate properties that flooded in Storm Babet.	Environment Agency	6 months	**Complete** Updated spatial extents for Flood Warning and Flood Alert areas went live in the Flood Warning System in Autumn 2024. Public drop in event was held in Framlingham (29th November 2024), providing opportunity to discuss changes which result in an increased number of properties able to benefit from EA flood messages. Follow up letter sent to affected properties in December 2024, providing additional information and instructions on how to sign up to the service.
Environment Agency to review the timeliness of issuing flood warnings and implement any changes.	Environment Agency	6 months	**Complete** A review and investigation has been undertaken. Lessons learnt have been noted and findings shared with national colleagues. No improvements are possible on the current lead in times for the flood warning. Further improvement to the flood warning lead in time may be possible in the future, depending on outcomes of the investigation works on alternative ways to improve the service (action below).

Framlingham College and SWT to review their maintenance/management of the Mere to ensure the river exit is kept clear of waste & debris *See Appendix A for guidance on locations for watercourse maintenance and associated NFM measures.*	Framlingham College and SWT	6-12 months	**Complete** Suffolk Wildlife Trust have confirmed withdrawal of management of the mere from September 2025. The Mere and watercourses are to be maintained by the registered landowner in accordance with riparian responsibilities. SCCs 'Flood Smart Living' guide provides advice and guidance on riparian responsibilities and the maintenance of watercourses.
Remove observed blockages within the channel along Fairfield Road *See Appendix A for guidance on locations for watercourse maintenance and associated NFM measures.*	EA and Riparian landowners	6 months	**Complete** Following engagement with the riparian landowners and EA, the works to remove them have been completed, including a large tree.
Remove observed blockages within ordinary watercourses and main river *See Appendix A for guidance on locations for watercourse maintenance and associated NFM measures.*	EA (where increase to flood risk is observed) / Riparian landowners	As and when required	**Complete** Routine annual maintenance completed. Additional blockage clearance of fallen tree completed downstream of Framlingham alongside Kettleburgh Road. The EA have completed the annual vegetation management work with hand tools through the town at the start of October,2024 from Bridge Street to beyond the sewage treatment plant in the south, plus along Brook Lane up to Apsey Green.

Ensure the completion of highway drainage asset cyclic maintenance along the four worst affected roads (Albert Place, Station Road, Brook Lane, Fairfield Road). Investigate highways drainage generally to ensure capacity and condition are sufficient.	SCC Highways Authority	6-12 months	**Ongoing** **Fairfield Road:** The cyclical works are conducted biennially. Several gullies and connecting pipework were found to be obstructed or displaced, with issues such as root ingress and structural damage preventing proper operation. In total, five gullies and three sections of pipework have been marked for remedial works. Works have been designed and are awaiting construction. **Albert Place:** The cyclical works are conducted biennially. A collapsed gully connection was identified after jetting and has been marked for a rebuild; all other assets are operational. Remedial works have been designed and are awaiting construction. **Station Road:** The cyclical works are conducted annually. Several structural defects were identified with the network, including displaced and collapsed pipework, broken sections exposing brickwork, and a gully with multiple fractures and displacement. A design has been completed to address these issues, and the scheme is now awaiting construction. **Brook Lane:** The cyclical works are conducted annually. Inspection at Cherry Tree Farm ditch found a displaced offlet pipe and root intrusion. The channel into the ditch is collapsed, causing water to discharge into the verge and resulting in localised flooding.

			Remedial works have been designed and are pending construction.
Investigate the potential feasibility (economic, technical & environmental) of a range of capital interventions to manage flood risk in the town.	EA and SCC LLFA with landowners	12 months	**Ongoing** The Environment Agency has engaged consultants to start an assessment of a range of interventions.
Medium Term Actions (e.g. longer planning timescales and potential need to source funding but potential for greater impact)			
Investigate potential NFM projects and funding opportunities which aim to attenuate water and 'slow the flow' in the upper catchments e.g. reservoirs, storage ponds, wetland areas, leaky dams. *See Appendix A for guidance on locations for watercourse maintenance and associated NFM measures.*	EA, SCC LLFA and Landowners. Identified areas for possible schemes are on the overland surface water flow paths (3 North of the town, 1 in West and 2 East of the town, see fig.4).	12-24 months	**Ongoing** North Framlingham – initial meetings held with a landowner representative to discuss potential NFM opportunities. Further discussions ongoing between TC and Farm Cluster Groups. Environment Agency Staff met with representatives from Alde & Ore Farmer Cluster to discuss NFM funding opportunities in Aug 2024. LLFA and EA continue to support landowners to develop schemes when requested.
Investigate potential new/additional highway drainage assets on New Road	SCC Highways Authority	12-24 months	**Ongoing** No further update as of November 2025.

Improve drainage system on The Elms carpark	East Suffolk District Council	12-24 months	**Ongoing** No further update as of November 2025.
Investigate options to connect surface water flowing on Brook Lane and Fairfield Road back into the river	SCC Highways Authority	12-24 months	**Ongoing** No further update as of November 2025.
Investigate the options for improved drainage assets / water storage at the bottom of the field east of Fairfield Road and Woodbridge Road	SCC LLFA with landowners	12-24 months	**Ongoing** No further update as of November 2025.
Investigate the flood risk implications of varying amounts of silt in the Main River channel	Environment Agency	2025	**Ongoing** The EA continue to work with consultants to update hydraulic modelling The existing hydraulic model has been modified to reflect the channel topography and “roughness” values (siltation and vegetation) in order to reflect the flooding experienced in the town during Storm Babet. Draft outlines were shared with the Parish Council in September. The consultants are now running the model to vary the siltation and channel roughness conditions, using information from site visits. This will inform of the effectiveness, or not, of additional vegetation management or desilting through Debenham
Flood Warning. Environment Agency to investigate alternative, and innovative means of improving the real time data and information to inform the flood warning service	Environment Agency	12-18 months	**Complete** The EA have recently received the final reports that have investigated how flood warning and informing capabilities can be improved for specific communities at risk in the upper-mid

			catchments of the River Deben, River Ore and River Gipping; the communities being Debenham, Wickham Market, Needham Market and Framlingham. The EA are currently reviewing the recommendations from these reports and will shortly be engaging with partners and the local communities as part of our ongoing work to improve flood warning and informing capabilities across Suffolk.
Improved understanding of fluvial and pluvial flood risk within the town through updates to hydraulic modelling to inform potential capital works.	SCC LLFA and EA	2027	**Ongoing** The Environment Agency is about to enter into contact to deliver the new River Ore fluvial modelling. In early 2026 a new topographic survey for the channel will be undertaken throughout the catchment, with a focus on improving information in relation to structures such as bridges and urban areas.
Investigate potential and seek funding for projects which aim to attenuate water in the upper catchments e.g. reservoirs, storage ponds, wetland areas.	SCC LLFA	24 months+	**Ongoing** Linked to ongoing discussions with landowners and farm cluster group.
Long Term actions (significantly longer timescale and budget required with potentially greater positive impact)			
Deliver any capital interventions that are economically, technically and environmentally feasible and acceptable to improve the flood resilience of the town.	EA, SCC LLFA, Landowners, Town Council	TBC	**Ongoing** No further update as of November 2025. A number of interventions are being discussed and the EA modelling will potentially provide the opportunity to explore more.

Investigate options to enlarge the capacity of the culvert below The Mills on Brook Lane	SCC Highways Authority	TBC	**Ongoing** No further update as of November 2025.
Investigate options to enlarge the capacity of the culverts below Fairfield Road connecting the watercourses with the main river	SCC Highways Authority	TBC	**Ongoing** No further update as of November 2025.
Improvements to highway drainage network to manage surface water flows if investigation works suggest it is viable.	SCC Highways Authority	TBC	**Ongoing** No further update as of November 2025.

Approval

This report will be reviewed and updated every 6 months until actions are marked as complete.

Reviewer	Date of Review
Ellie Beecroft	19/02/2025
Ellie Coleby	26/01/2026

Note: Framlingham Town Council have commissioned an independent consultant to undertake a Flood Investigation Report. This was completed by Amazi Consulting in April 2024 and can be viewed on the Town Councils website. This is independent of SCCs work but should be read in conjunction with this S19 Report to mitigate flood risk within the community.

More detailed historical information has also been compiled by Framlingham Town Council and is available to view on the Town Council website.

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. Should there be additional information available to develop the report, please email to floodinvestigations@suffolk.gov.uk

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.

Suffolk 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 Suffolk 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 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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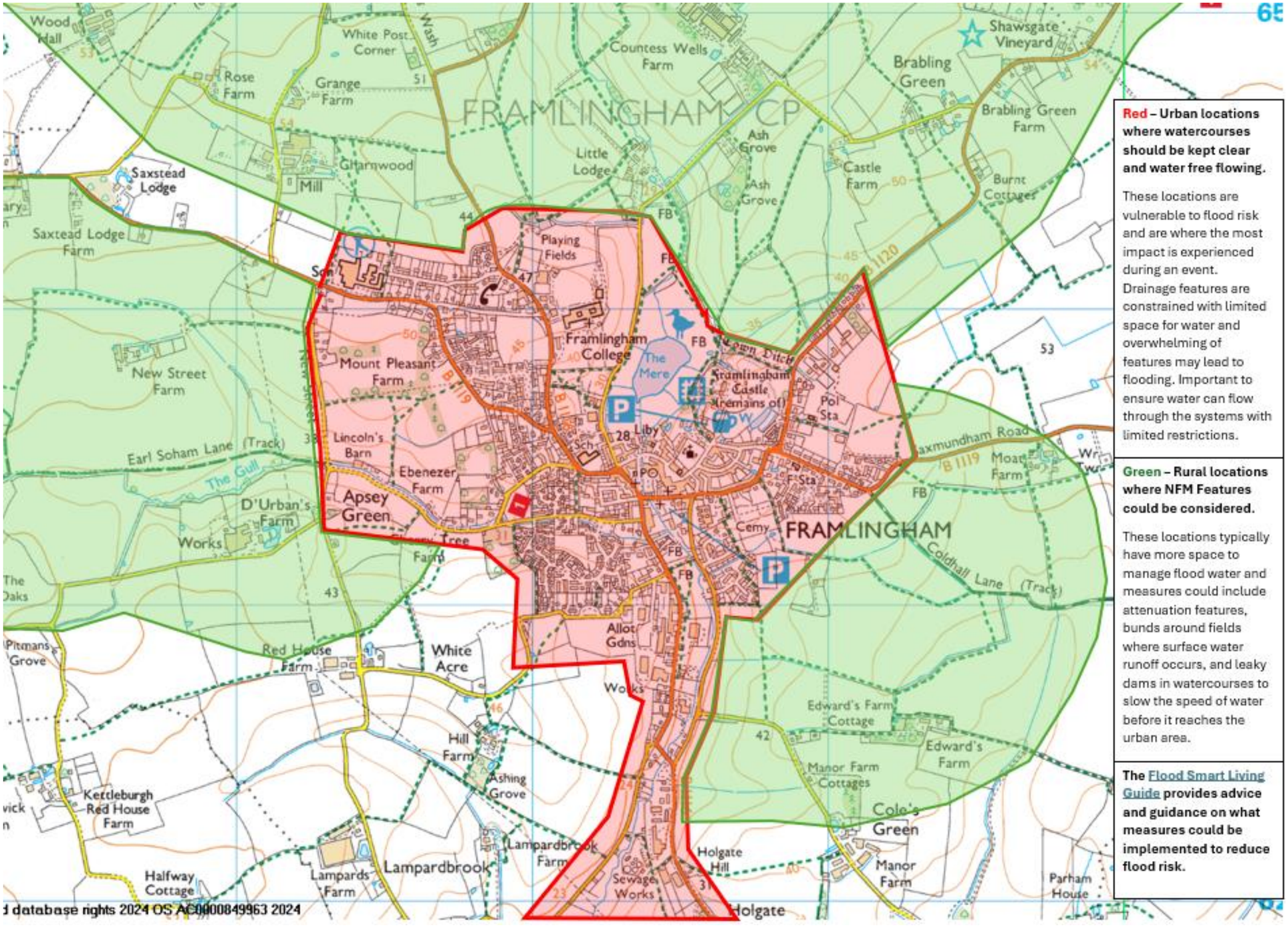
Appendix A – Indicative locations for NFM and watercourse maintenance



Red – Urban locations where watercourses should be kept clear and water free flowing.

These locations are vulnerable to flood risk and are where the most impact is experienced during an event. Drainage features are constrained with limited space for water and overwhelming of features may lead to flooding. Important to ensure water can flow through the systems with limited restrictions.

Green – Rural locations where NFM Features could be considered.

These locations typically have more space to manage flood water and measures could include attenuation features, bunds around fields where surface water runoff occurs, and leaky dams in watercourses to slow the speed of water before it reaches the urban area.

The Flood Smart Living Guide provides advice and guidance on what measures could be implemented to reduce flood risk.