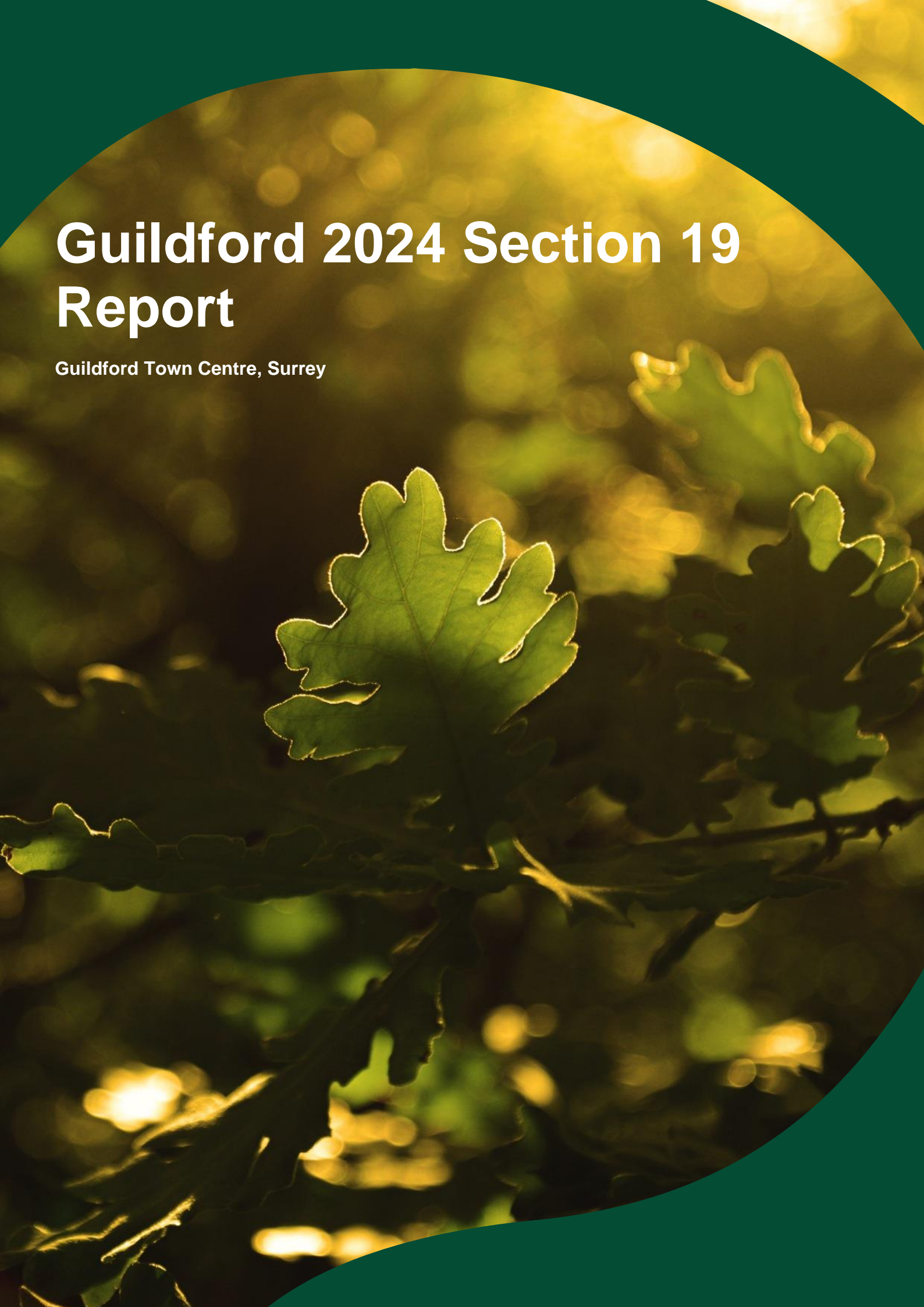


Guildford 2024 Section 19 Report

Guildford Town Centre, Surrey



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Introduction

Flooding occurred across Guildford Town Centre on August 1st 2024, September 8th 2024 and October 14th 2024.

This report will summarise the cause of property flooding, actions of risk management authorities involved, their responsibilities and recommendations moving forward

SCC defines internal property flooding as flooding within the liveable space of the property, external property flooding is defined by SCC as flooding outside of the liveable space, this includes driveways, gardens, and garages (attached or detached).

This document has been prepared specifically for the purpose of meeting the requirements of Section 19 of the Flood and Water Management Act 2010.

Under the Flood and Water Management Act 2010 the Lead Local Flood Authority (LLFA) must (to the extent that it considers it necessary or appropriate) undertake an investigation on becoming aware of a flood incident within its area.

This document is not an action plan or an agreement that the recommendations provided in this report will be completed by the relevant RMAs, unless there is a duty to do so. This report focuses solely on the flooding within Surrey. However, the findings of this report will be shared with Risk Management authorities including The Environment Agency, Guildford Borough Council and Thames Water in order to work collaboratively and as a part of the duties under Section 13 of the Flood and Water Management Act 2010.

Background

This report focuses on Guildford Town Centre, encompassing the Castle, Stoke, Onslow, St Nicholas and Westborough wards (see Fig. 1). Guildford is located on a

historic ford over the River Wey, a tributary of the River Thames. This ford occurs where the river cuts through the hard chalk ridge of the North Downs. The surrounding geography features steep hills, including The Mount to the west, Pewley Down to the east, and St. Martha's Hill, which form part of the prominent North Downs ridge rising approximately 150 meters in height (source: [Guildford Town Centre CAA](#)).

The geology of Guildford Town Centre plays a significant role in its hydrology and flood risk. The area south of York Road predominantly consists of free-draining chalk, which helps mitigate surface water accumulation in this section. However, the northern areas are characterized by highly variable permeability, contributing to localized drainage challenges and increased flood risk. Despite this, flooding appears to be more prominent south of York road, due to the built up urban environment and steep topography. (see Fig. 2, 3).

Flood risk across Guildford Town Centre arises from both surface water and fluvial sources. Fig. 4 illustrates areas prone to surface water flooding, while Fig.5 highlights fluvial flood risk associated with the River Wey. The town's position at the confluence of geological and hydrological features, combined with its proximity to the river and steep surrounding topography, exacerbates flooding during heavy rainfall events or periods of elevated groundwater levels. Effective flood management strategies must account for these complex interactions between geology, topography, and hydrology.

Rainfall data:

According to the EA Monthly Flood Report for September, the Thames area, including Guildford (Fig. 6), has experienced exceptionally high rainfall over the past 12 months (As of September 2024). Notably, rainfall levels were above normal in June and August, with particularly high levels recorded in July. This sustained period of elevated rainfall contributed to the area's overall hydrological conditions, which have been significantly wetter than average, even during the typically drier summer months.

As illustrated in Fig.7, Guildford recorded exceptionally high rainfall between September 2023 and September 2024. Fig.8 further highlights exceptionally high groundwater levels for September 2024, exceeding typical values for the month. These levels remained consistently elevated throughout the summer, before widespread flooding occurred in early August. This trend underscores the prolonged and severe hydrological impact experienced across the Thames area over the past year.

Historic flooding:

Historic flood information shows that flooding/ reports of property flooding has been concentrated along the flood plain of the River Wey. Recent reports of property flooding on August 1st, September 8th and October 14th occurred predominately outside of the flood plain/ flood zones and along the surface water flow routes.

The flooding was not large scale, affecting only 15 properties and one commercial property, however the flooding revealed long term flooding that has been occurring at these locations, suggesting that flooding from surface water is more prominent than our data suggests.

Flooding Incidents:

Flooding incidents in the area have been linked to multiple factors, including:

1. **Location Along Water Flow Routes:** Some locations lie along major surface water flow routes, with high flood risks. Steep topography and high velocity of surface water bypassing gullies, resulting in water pooling in low-lying areas, overwhelming drainage systems.
2. **Blocked and Buried Soakaways:** Blocked or buried soakaways have been identified as key issues in several areas. Maintenance efforts have successfully resolved some instances, but ongoing monitoring is essential.
3. **Private Drainage Systems:** The discharge of private drainage systems directly onto highways exacerbates surface water flooding, particularly on steep slopes where water bypasses gullies.
4. **Watercourse Blockages:** Blockages caused by debris and fly-tipping in watercourses have been a major factor in repeated flooding for one location. Regular maintenance and enforcement to prevent obstructions are recommended.
5. **Increased Rainfall and Groundwater Levels:** Recent years have seen intensified rainfall frequency and elevated groundwater levels, leading to increased flood severity.
6. **Pavement and Building Design:** In some cases, slopes directing water towards buildings, combined with the local drainage at capacity, have led to water ingress.

RMA responsibilities

The Environment Agency:

- Have a strategic overview of all forms of flooding and the powers to carry out work to manage flood risk from Main Rivers.
- Strategic lead in responding to flood emergencies through the LRF.
- This includes powers to require landowners to carry out maintenance work.

Surrey County Council:

- Have the duty to investigate flood events under Section 19 of the Flood and Water Management Act 2010. Also, as the LLFA, have the responsibility to manage flood risk of surface water flooding.
- Have the duty to maintain the highway and ensure it is free from hazards under Section 41 of the Highways Act 1980.
- Under Section 25 of the Land and Drainage Act 1991 have powers of enforcement in relation to ordinary watercourses.
- Have the responsibility under the Land Drainage Act 1991 for the maintenance of watercourses passing through their land.

Guildford Borough Council:

- Powers to manage flood risk from an ordinary watercourse.
- Have the duty to ensure flood risk is managed effectively in relation to taking decisions on development/ planning in their area.

Thames Water:

- Have the responsibility to maintain their drainage assets and ensure they are in working condition under the Water Industry Act 1991.

Landowners:

- Are responsible for protecting their land and property from flood damage
- Maintain private drainage including rivers and watercourses passing through or adjacent to their land.

Actions and ongoing work by the Risk Management Authorities:

The Environment Agency (EA):

- EA are carrying out a project regarding fluvial flooding from the River Wey.

SCC Flood and Climate Resilience Team:

- SCC planning and consenting team are working with developers regarding highway suds that could help alleviate flooding to commercial properties and the highway where the highway street is being redesigned to have limited vehicle access, with opportunities to incorporate suds.

SCC Highways Team:

- Enforcement actions were taken by the local highways authority, resulting in the cleaning of gullies and the installation of speed bumps at the to mitigate future flooding.
- Highways have cleared the blockages on identified routes.
- Highways are carrying out work to uncover the soakaways to the south of the Town Centre.
- Highways are carrying out maintenance of gullies through cyclical cleaning cycle and on ad hoc basis.

Recommendations

Highway Soakaways and Asset Maintenance

- Regular maintenance and inspection of highway soakaways and drainage assets along identified flow routes to ensure optimal functionality.

Flood Alleviation through Sustainable Drainage Systems (SuDS)

- Given that flooding appears to be primarily influenced by topography and rainfall severity/frequency, explore SuDS solutions for critical locations.

Glossary

Fluvial Flooding: Flooding occurs when water levels in rivers rise and overtop their banks.

Ground Water Flooding: When the level of water within the rock or soil underground known as the water table rises.

LRF: Local Resilience Forum

PFR: Property Flood Resilience

RMA: Risk Management Authority

SCC: Surrey County Council

SuDS: Sustainable Drainage Systems

Surface Water Flooding: Type of flooding that happens when heavy rain falls on hard surfaces, also known as flash flooding.

Annex A: Maps

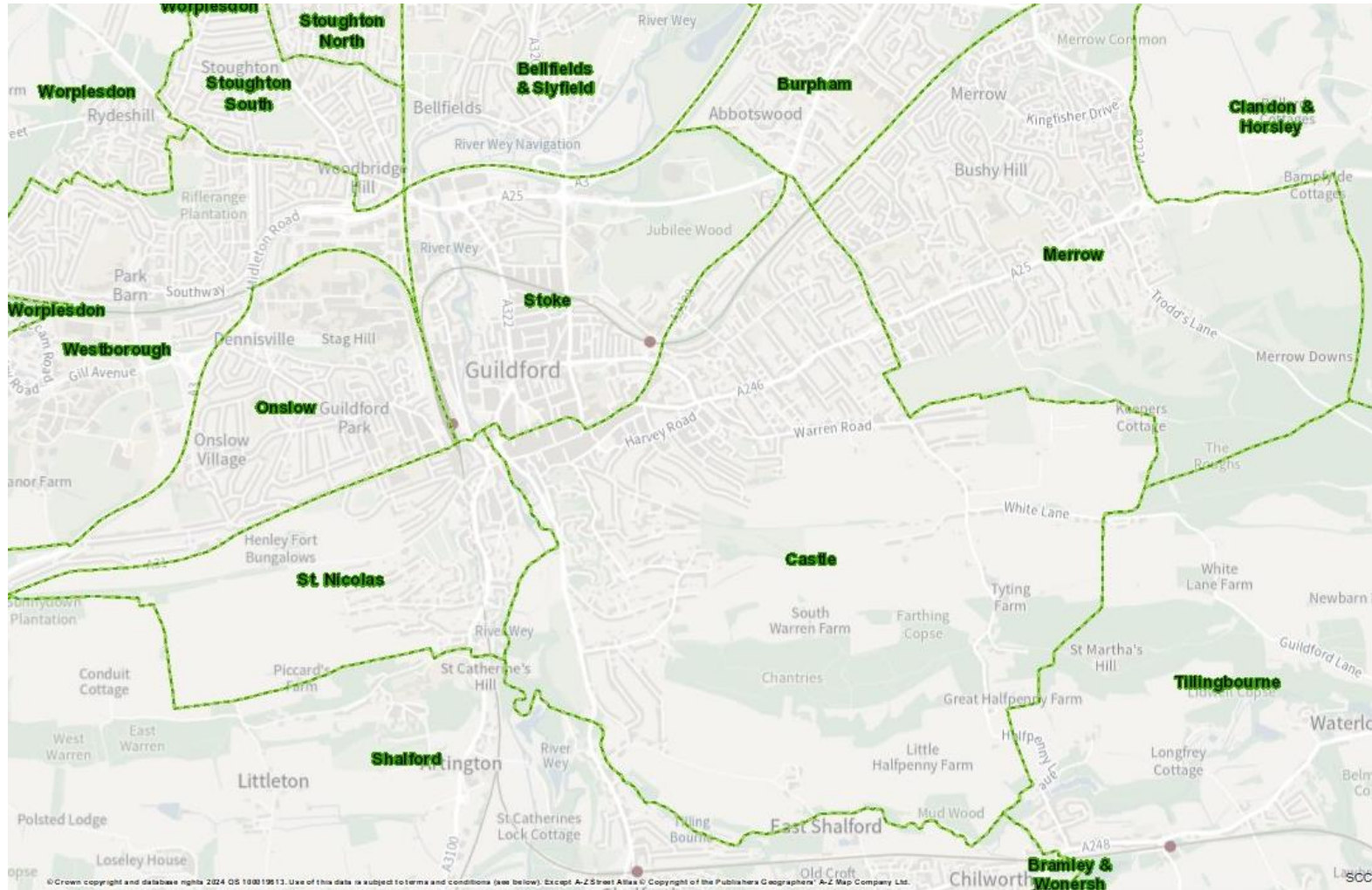


Figure 1: Guildford Wards

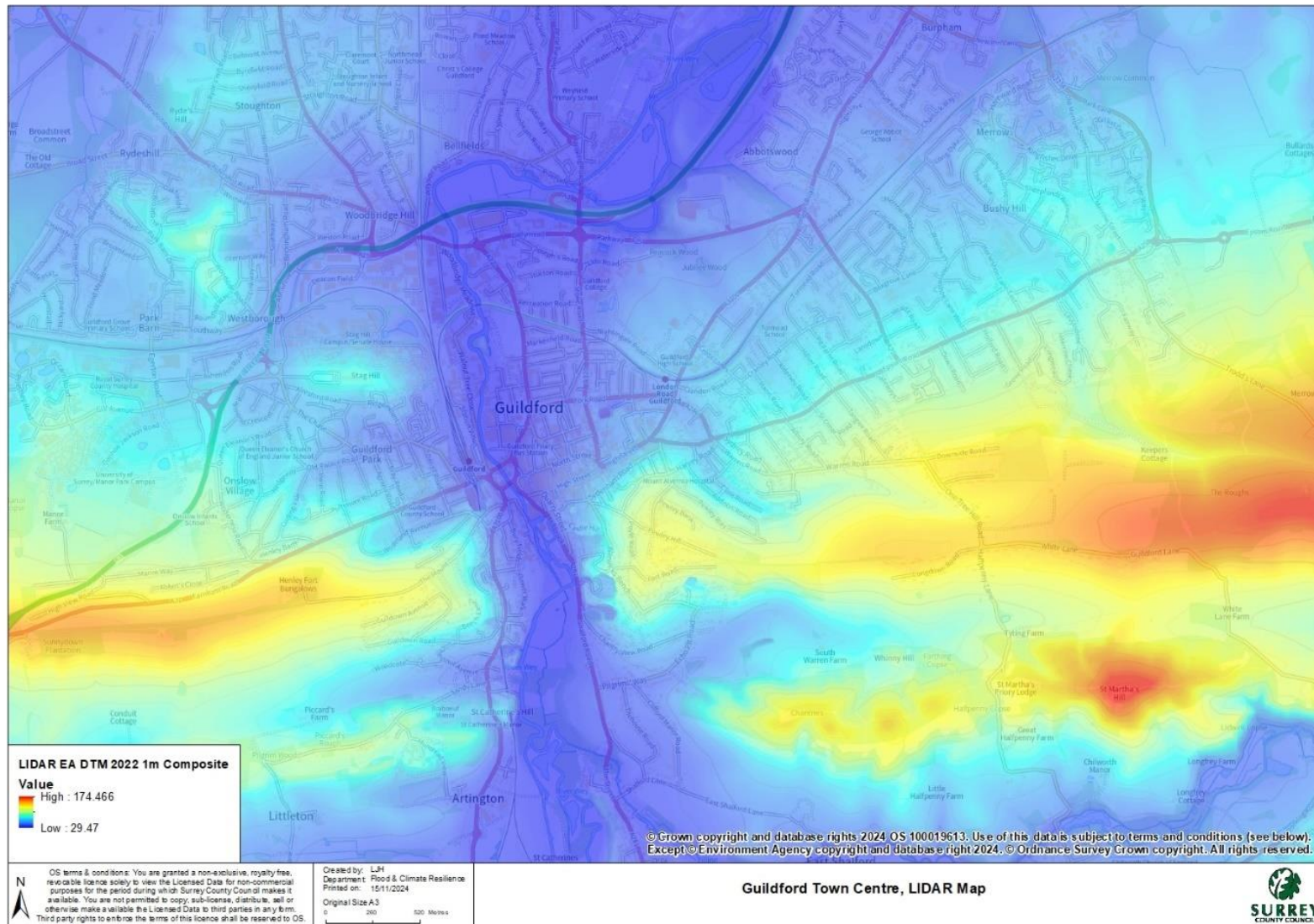


Figure 2: LIDAR Map

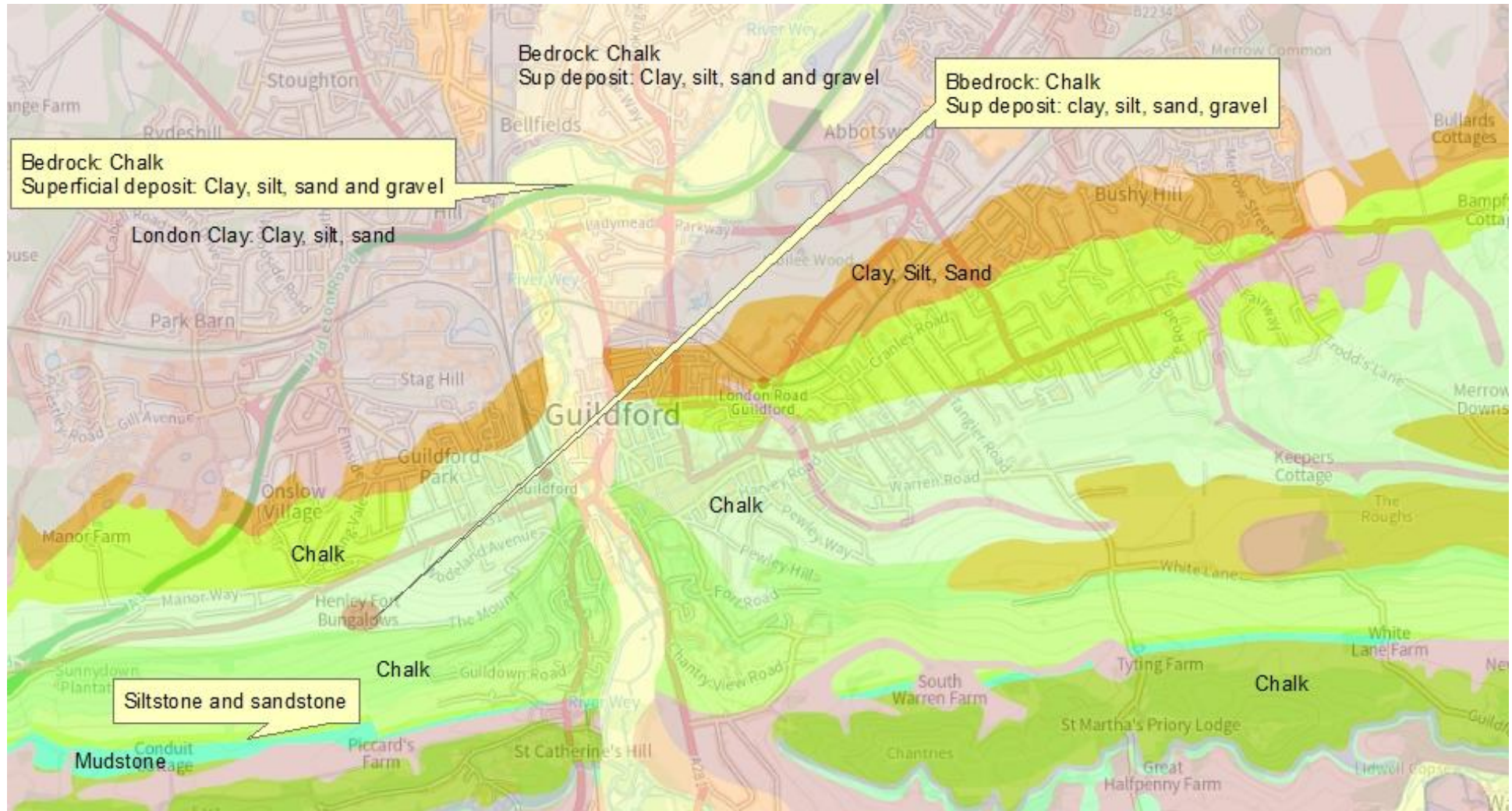


Figure 3: Geology Map



Figure 4: Surface water flood risk map

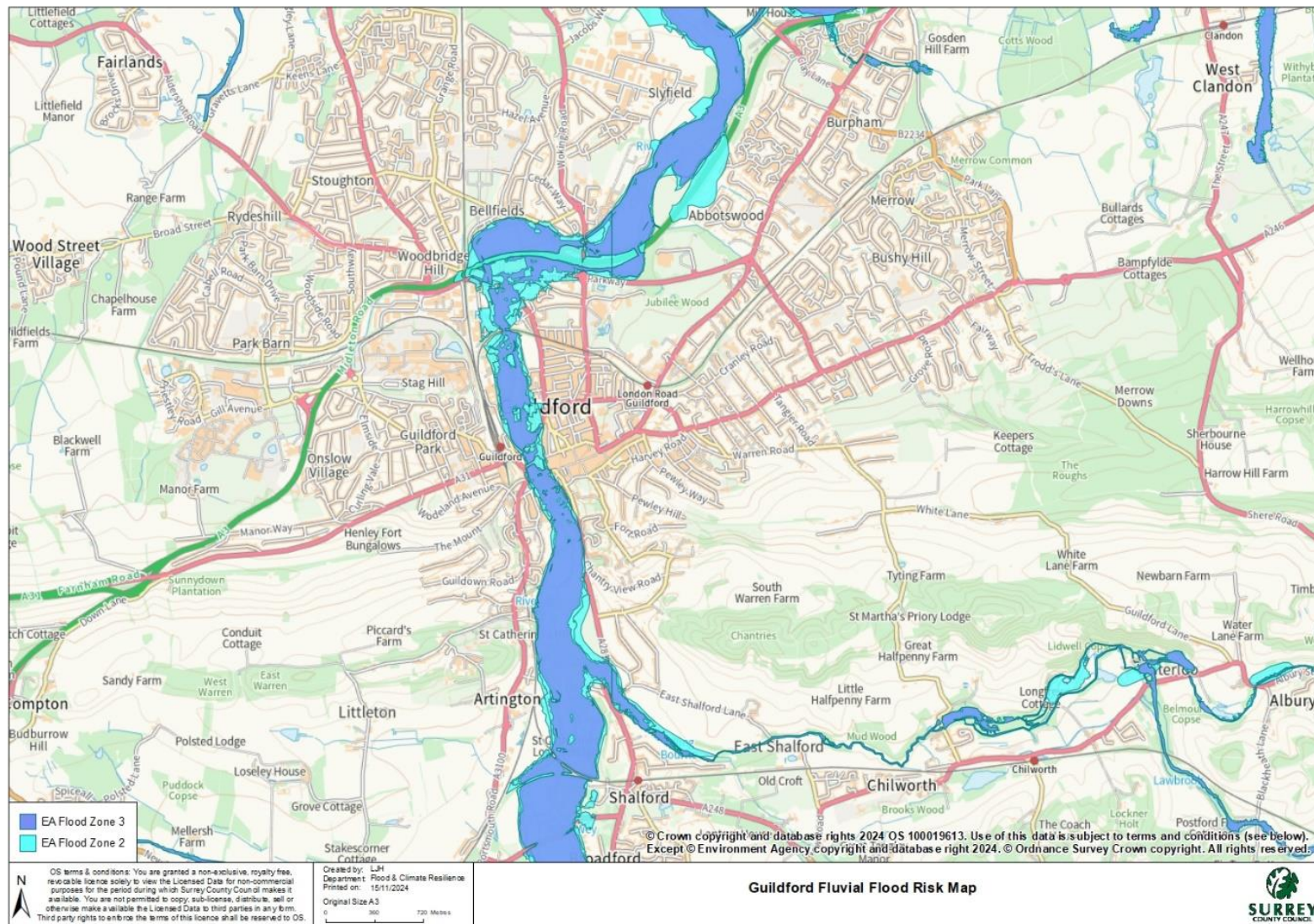


Figure 5: Fluvial flood risk map

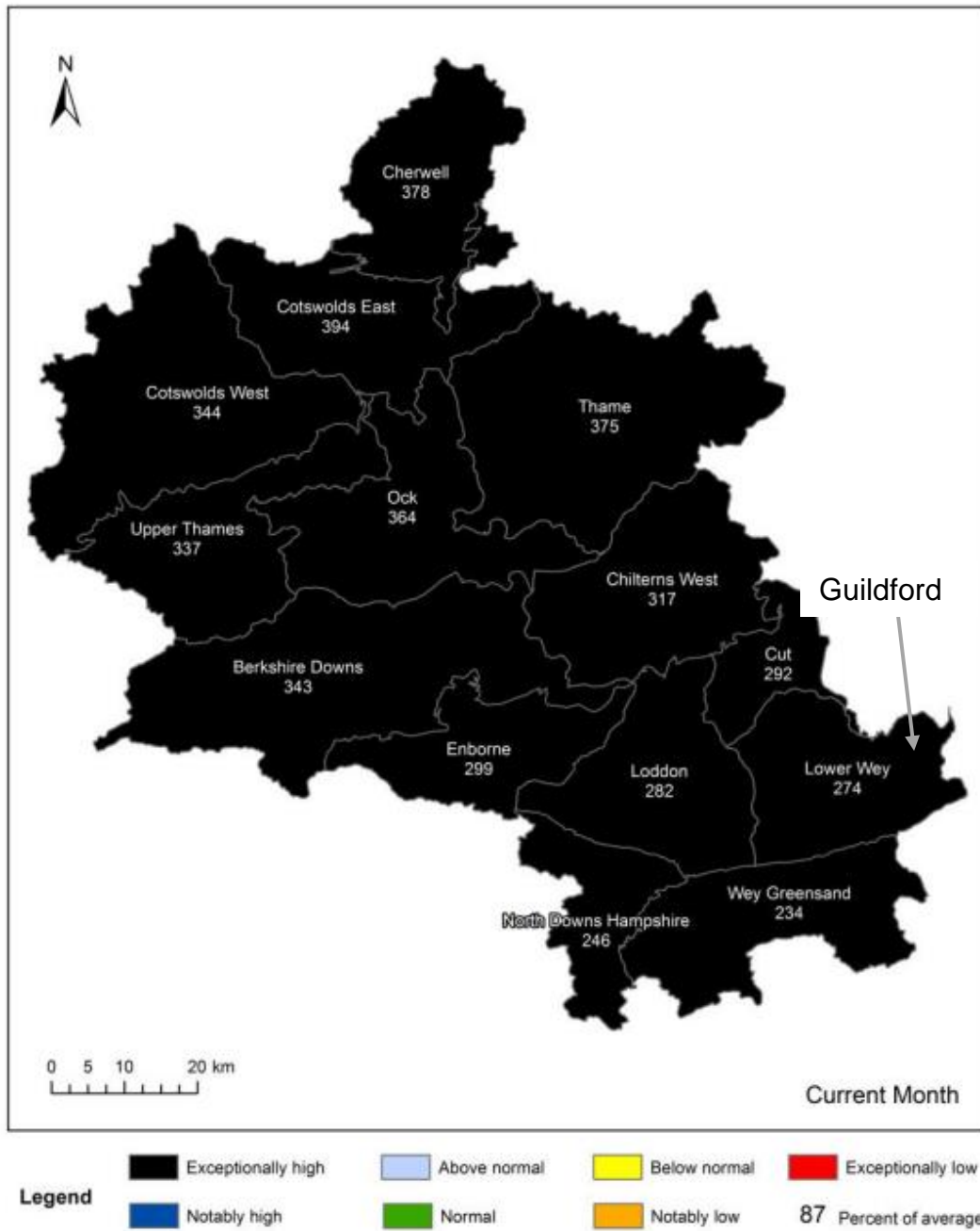


Figure 6: Total Rainfall Levels for September, Showing approximate location of Guildford on the Map for the Thames Area (Source <https://www.gov.uk/government/publications/water-situation-local-area-reports>).

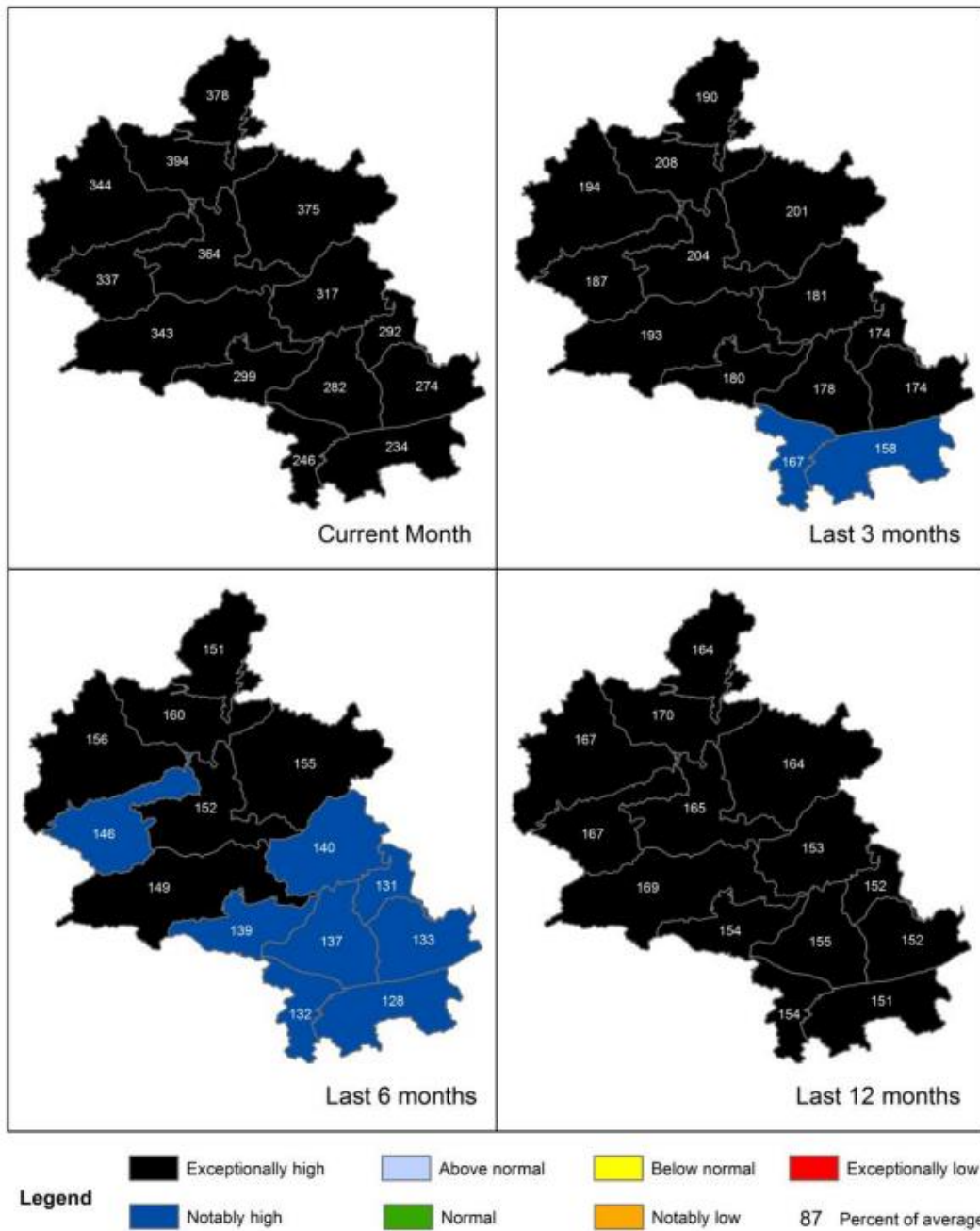


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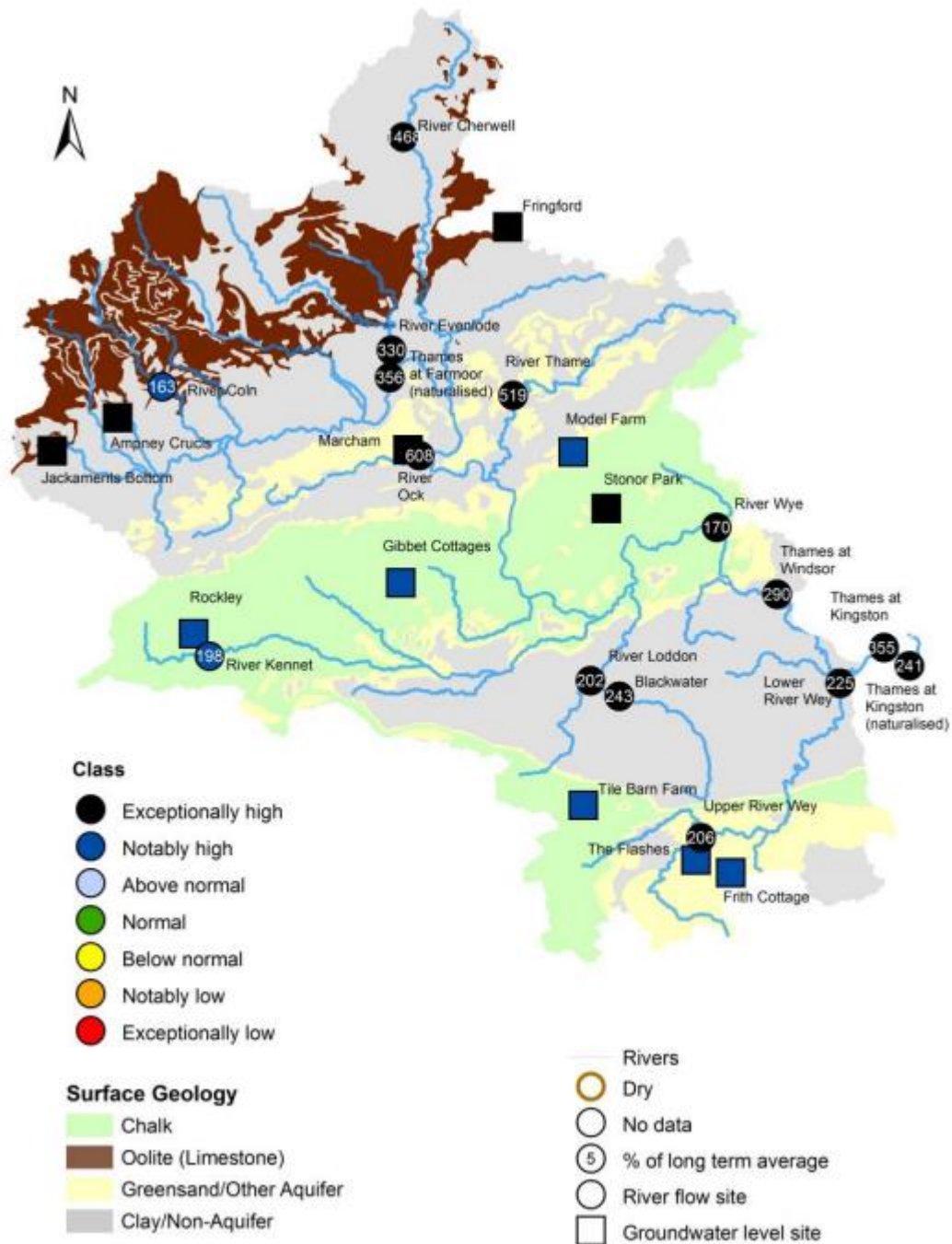


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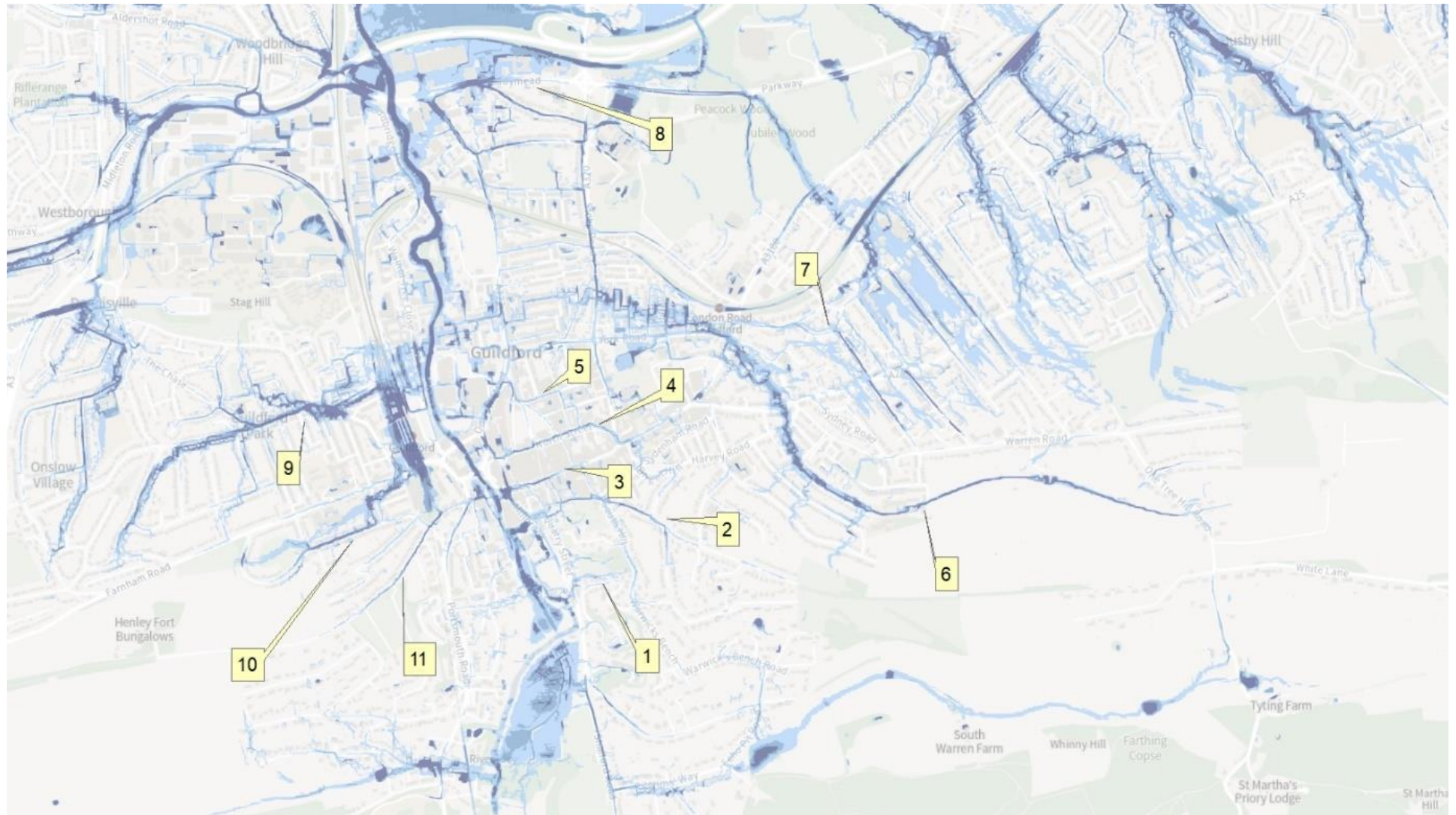


Figure 9: Identified surface water flow routes

List of Annexes: Section 19 Investigation reports.

The individual investigation reports produced have been provided with a reference number as shown below, the reference number has been provided and sent to the residents and relevant RMA's.

Annex A: Location 1 (Ref 171343)

Annex B: Location 2 (Ref 168751)

Annex C: Location 3 (Ref 171335)

Annex D: Location 4 (Ref 163249)