www.jbaconsulting.com

Huntingdonshire Level 2 Strategic Flood Risk Assessment Site Summary

Site CfS:380

Final Draft Report

Prepared for
Huntingdonshire District Council

Date
November 2025

Document Status

Issue date	6 November 2025
Issued to	Frances Schulz
BIM reference	JFI-JBA-XX-XX-RP-EN-0038
Revision	P03
Prepared by	Freya Nation BSc (Hons) Analyst
Reviewed by	Mike Williamson BSc MSc CGeog FRGS EADA Principal Analyst
Authorised by	Paul Eccleston BA CertWEM CEnv MCIWEM C.WEM Technical Director

Carbon Footprint

The format of this report is optimised for reading digitally in pdf format. Paper consumption produces substantial carbon emissions and other environmental impacts through the extraction, production and transportation of paper. Printing also generates emissions and impacts from the manufacture of printers and inks and from the energy used to power a printer. Please consider the environment before printing.

Accessibility

JBA aims to align with governmental guidelines on accessible documents and WGAG 2.2 AA standards, so that most people can read this document without having to employ special adaptation measures. This document is also optimised for use with assistive technology, such as screen reading software.

Contract

JBA Project Manager	Mike Williamson
Address	Phoenix House, Lakeside Drive, Centre Park, Warrington, WA1 1RX
JBA Project Code	2022s1322

This report describes work commissioned by Huntingdonshire District Council by an instruction via email dated 21 July 2025. The Client's representative for the contract was Frances Schulz of Huntingdonshire District Council. Freya Nation of JBA Consulting carried out this work.

Purpose and Disclaimer

Jeremy Benn Associates Limited ("JBA") has prepared this Report for the sole use of Huntingdonshire District Council in accordance with the Agreement under which our services were performed.

JBA has no liability for any use that is made of this Report except to Huntingdonshire District Council for the purposes for which it was originally commissioned and prepared.

No other warranty, expressed or implied, is made as to the professional advice included in this Report or any other services provided by JBA. This Report cannot be relied upon by any other party without the prior and express written agreement of JBA.

JBA disclaims any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to JBA's attention after the date of the Report.

The methodology adopted and the sources of information used by JBA in providing its services are outlined in this Report. The work described in this Report was undertaken between 21 July 2025 and 6 November 2025 and is based on the conditions encountered and the information available during the said period. The scope of this Report and the services are accordingly factually limited by these circumstances.

The conclusions and recommendations contained in this Report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested and that such information is accurate.

Acknowledgements

We would like to thank the Environment Agency, Cambridgeshire County Council for their assistance with this work.

Copyright

Contents

List of Figures

List of Tables

1 Background

This is a Level 2 Strategic Flood Risk Assessment (SFRA) site screening report for Local Plan Site CfS:380. The content of this report assumes the reader has already consulted the 'HDC Level 1 SFRA' (2024) and read the 'HDC Level 2 SFRA Main Report' (2025) and is therefore familiar with the terminology used in this report.

1.1 Site CfS:380

- Location: Land at Little Common Farm, Sawtry
- Existing site use: Agricultural
- Existing site use vulnerability: Less vulnerable
- Proposed site use: Commercial
- Proposed site use vulnerability: Less vulnerable
- Site area (ha): 14.6
- Watercourse: Middle Level Catchwater Drain (no detailed model)
- Environment Agency (EA) model: N/A
- Summary of requirements from Level 2 SFRA scoping stage:
    - Assessment of fluvial flood depths, velocities and hazards
    - Assessment of surface water flood extents, depths and hazard
    - Assessment of all other sources of flood risk

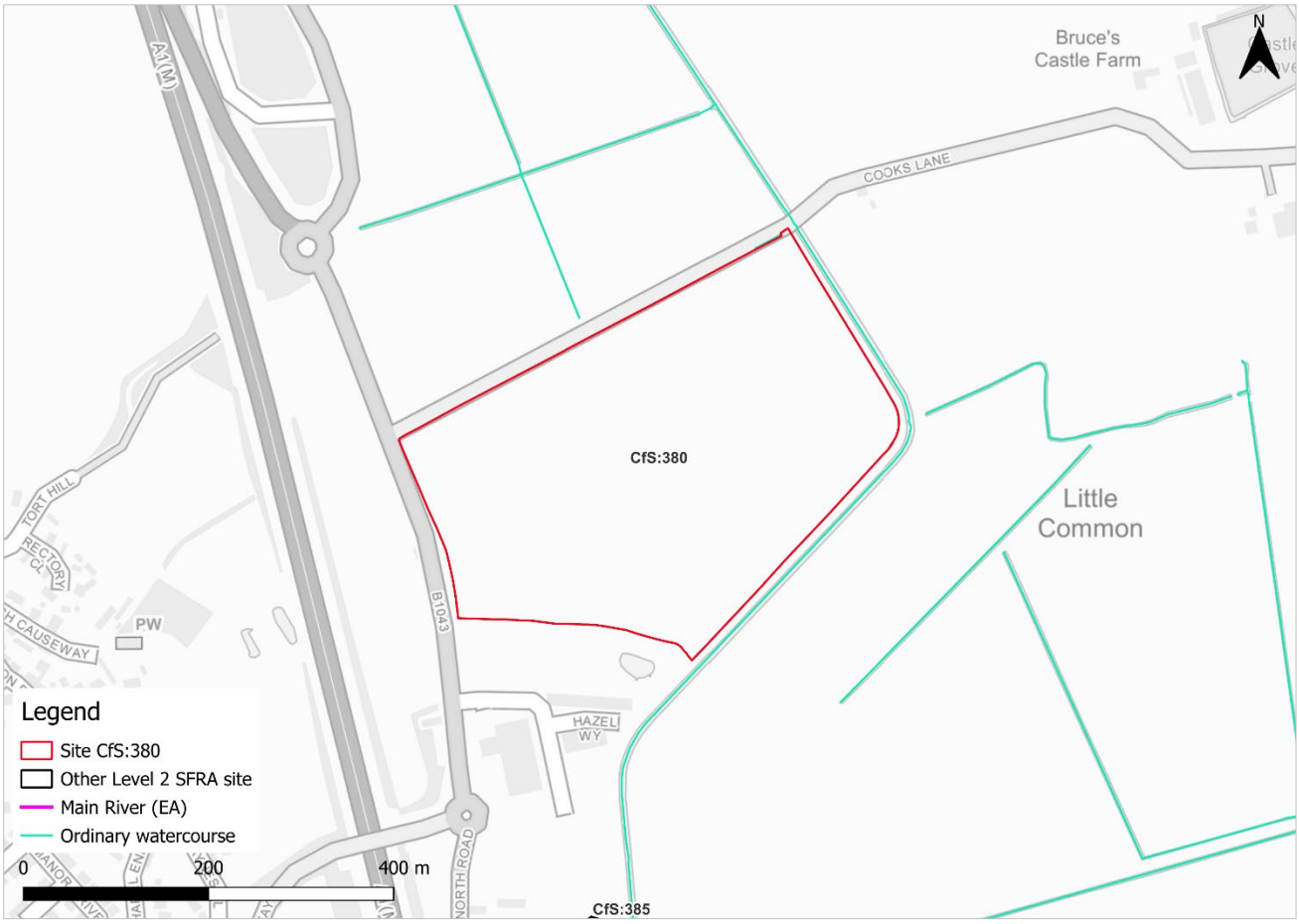


Figure 1-1: Existing site location boundary

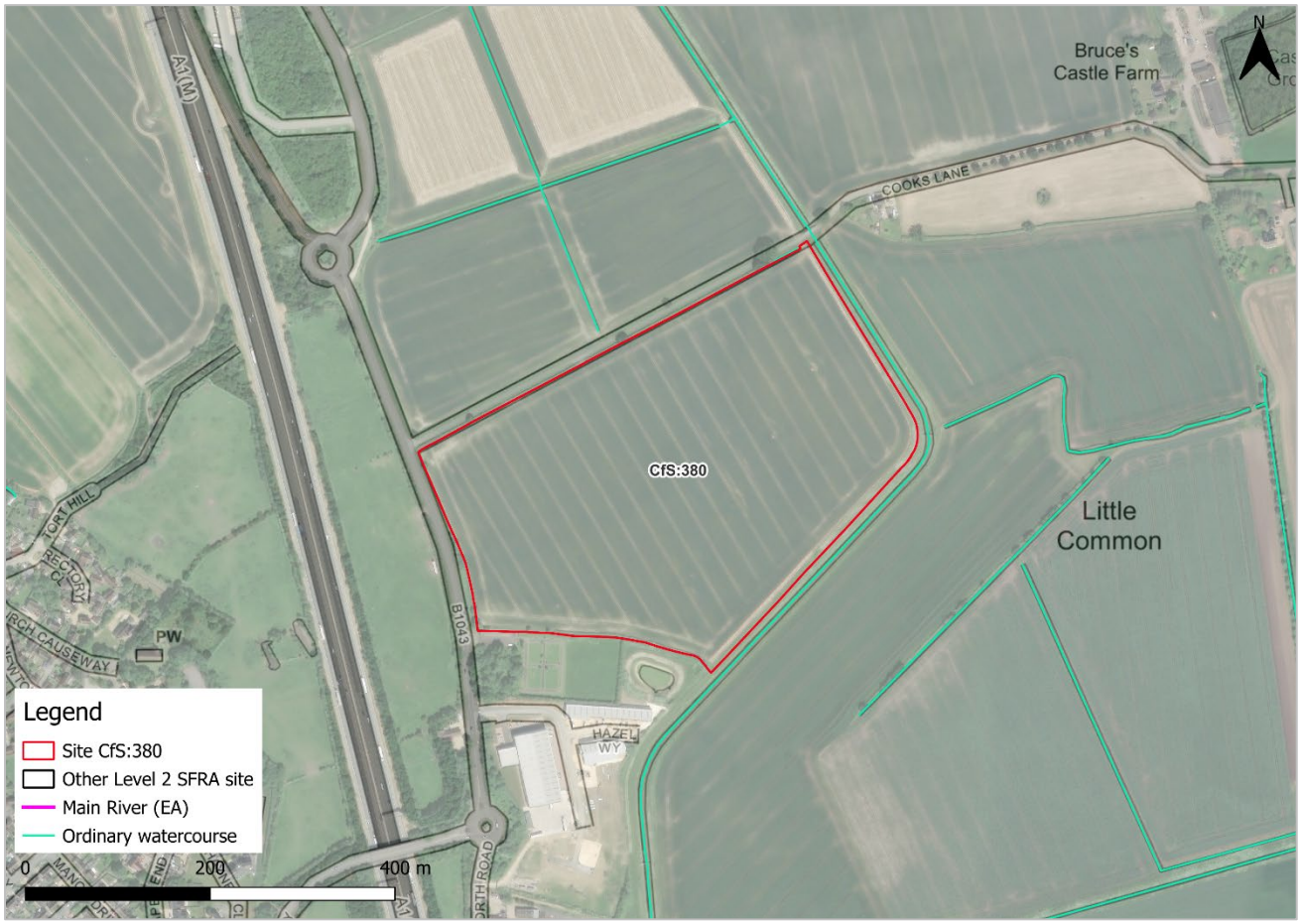


Figure 1-2: Aerial photography

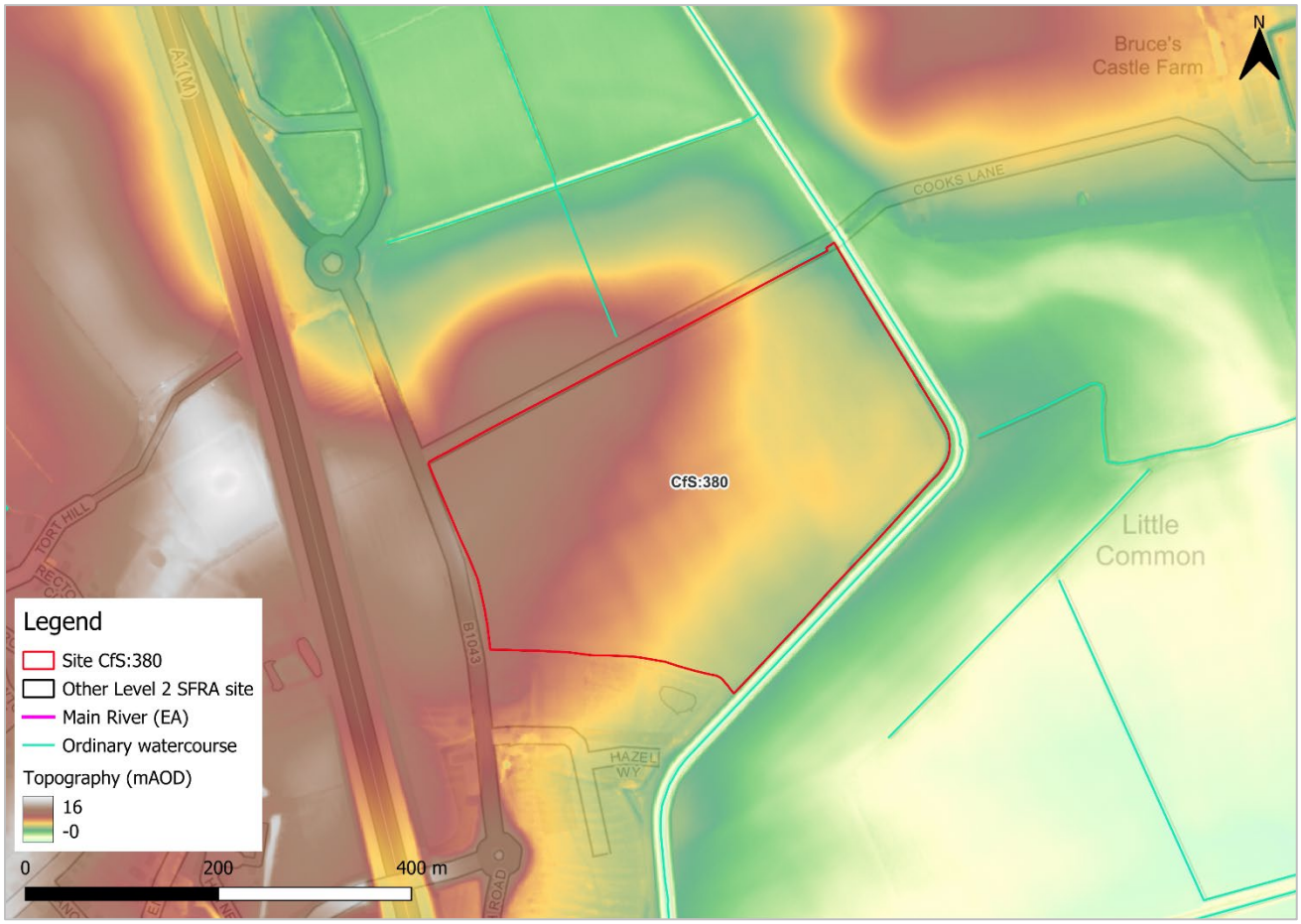


Figure 1-3: Topography

2 Flood risk from rivers

2.1 Existing risk

2.1.1 Flood Map for Planning and functional floodplain

Based on the EA's Flood Map for Planning (accessed July 2025) and Flood Zone 3b (functional floodplain), as updated in this Level 2 SFRA, the percentage areas of the site within each flood zone are stated in Table 2-1 and can be viewed on Figure 2-1. This version of the Flood Map for Planning does not consider flood defence infrastructure (Section 2.2) or the impacts of climate change (Section 2.3).

The site is predominantly located within Flood Zone 1 and is therefore at low risk of flooding from rivers and the sea. Parts of the eastern site boundaries are located within Flood Zones 3a and 2 due to the presence of the Middle Level Catchwater Drain which flows northwards along the northeastern and southeastern boundaries of the site. There is no detailed model available for the Middle Level Catchwater Drain, therefore the risk is likely based on the EA's New National Model. It is therefore not possible to assess fluvial flood depths or hazards.

Table 2-1: Existing flood risk based on percentage area of site at risk

Flood Zone 1 (% area)	Flood Zone 2 (% area)	Flood Zone 3a (% area)	Flood Zone 3b (% area)
98	1	1	0

Figure 2-1: Existing risk

2.2 Flood risk management

2.2.1 Flood defences

There are no flood defences in the vicinity of the site, according to the EA's Spatial Flood Defences dataset.

2.2.2 Working with Natural Processes

The EA's Working with Natural Processes (WwNP) dataset has been interrogated to identify opportunities for Natural Flood Management (NFM) to reduce flood risk to the site and surrounding areas. These areas are shown in Figure 2-2. Note, the WwNP mapping is broadscale and indicative, therefore further investigation will be required for any land shown to have potential for WwNP. There is potential for floodplain and riparian woodland planting within the site, the along Middle Level Catchwater Drain. Tree planting can help reduce runoff.

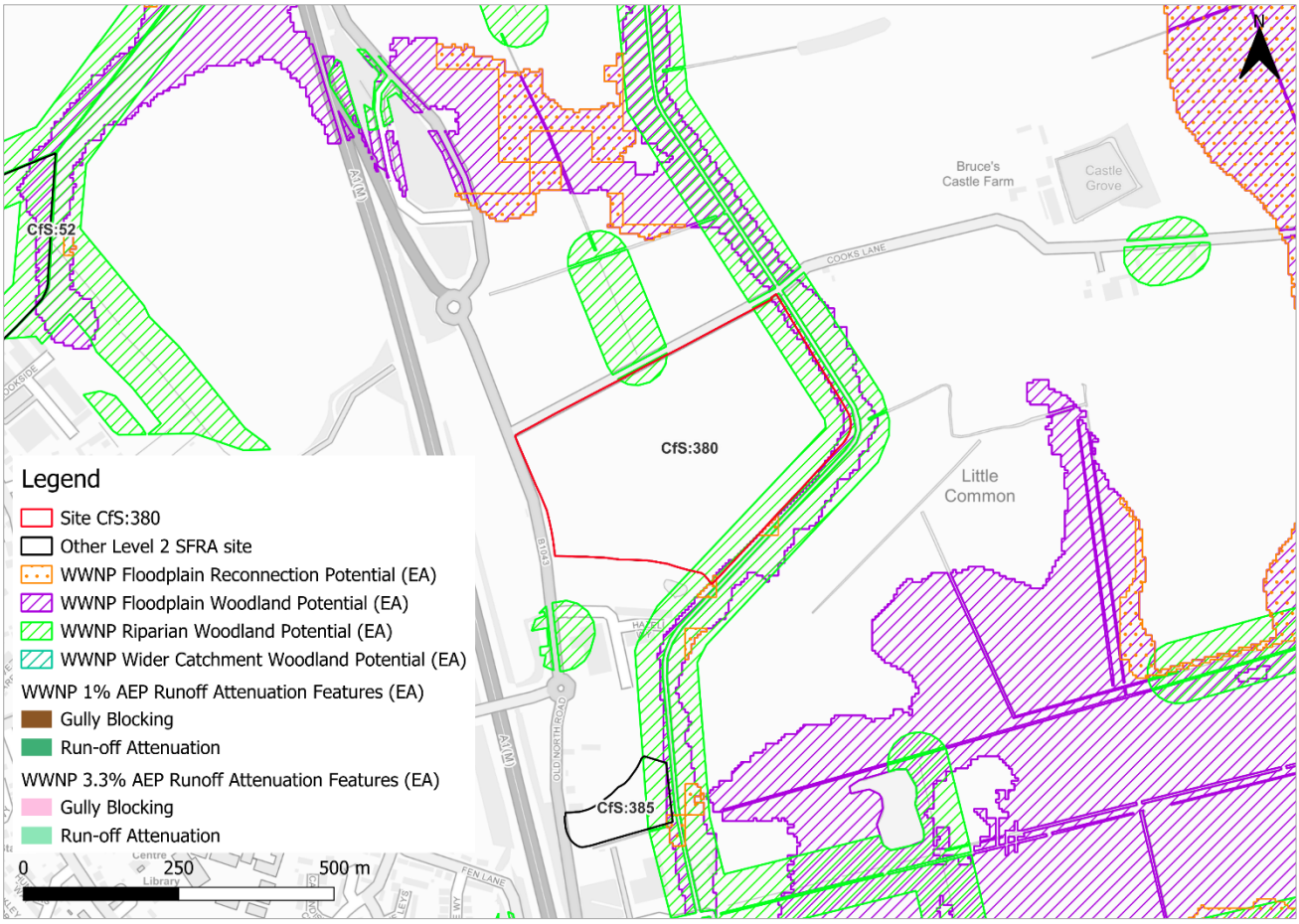


Figure 2-2: Natural Flood Management (NFM) potential mapping

2.3 Impacts from climate change

2.3.1 Fluvial

The EA's SFRA guidance states that SFRAs should assess the central allowance for less, more, highly vulnerable, and water compatible development. The higher central allowance should be assessed for essential infrastructure. However, as there is no existing detailed model of the Middle Level Catchwater Drain, modelling of climate change has not been possible.

Climate change data for the Middle Level Catchwater Drain is unavailable from the EA's Flood Map for Planning plus climate change (2070-2125) dataset, as shown in Figure 2-3. Therefore, in the absence of modelled climate change information, Flood Zone 2 of the Flood Map for Planning (based on the 0.1% AEP undefended event) can be used as a precautionary proxy for Flood Zone 3 plus climate change. Based on this approach, fluvial risk is modelled to increase at the northern corner of the site, as shown in Figure 2-1.

The impacts of climate change must be modelled using the EA's latest allowances for peak river flows to inform whether the site can be safe for its lifetime. Any FRA should produce a detailed model of the Middle Level Catchwater Drain and include for the most up to date climate change allowances (Table 2-2).

Table 2-2: Modelled climate change allowances for peak river flows for the Old Bedford and Middle Level management catchment

Return period (AEP event)	Central allowance 2080s (% increase)	Higher central allowance 2080s (% increase)
3.3% (functional floodplain)	6%	15%
1%	6%	15%
0.1%	6%	15%

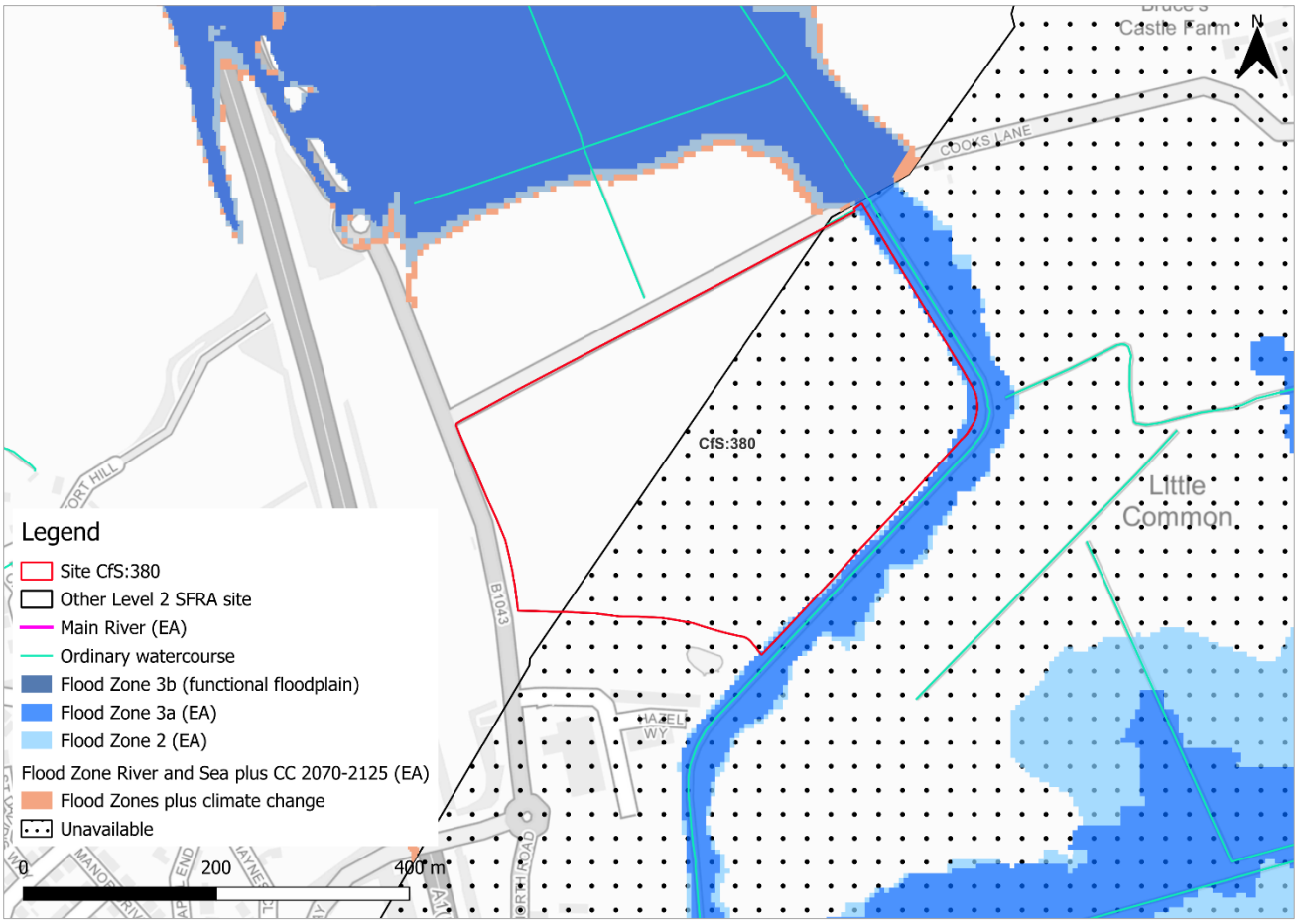


Figure 2-3: Flood Map for Planning - Climate Change 2070-2125 outputs

2.3.2 Tidal

The EA's Flood Map for Planning shows the site is not at risk from tidal climate change.

2.4 Historic flood incidents

The EA's Historic Flood Map (HFM) and Recorded Flood Outlines (RFO) datasets have been considered. There are no recorded historic flood events within the vicinity of the site.

2.5 Emergency planning

2.5.1 Flood warning

The EA operates a Flood Warning Service for properties located within a Flood Warning Area (FWA) for when a flood event is expected to occur. As shown in Figure 2-4, this site is located within an FWA, namely the Middle Level Commissioner area at Pondersbridge, Turves and Upwell FWA.

Flood alerts may be issued before a flood warning for properties located within a Flood Alert Area (FAA) to provide advance notice of the possibility of flooding. A flood alert may be issued when there is less confidence that flooding will occur in an FWA. As shown in Figure 2-4, this site is located within a FAA, namely the Middle Level of the Fens in Cambridgeshire and Norfolk FAA.

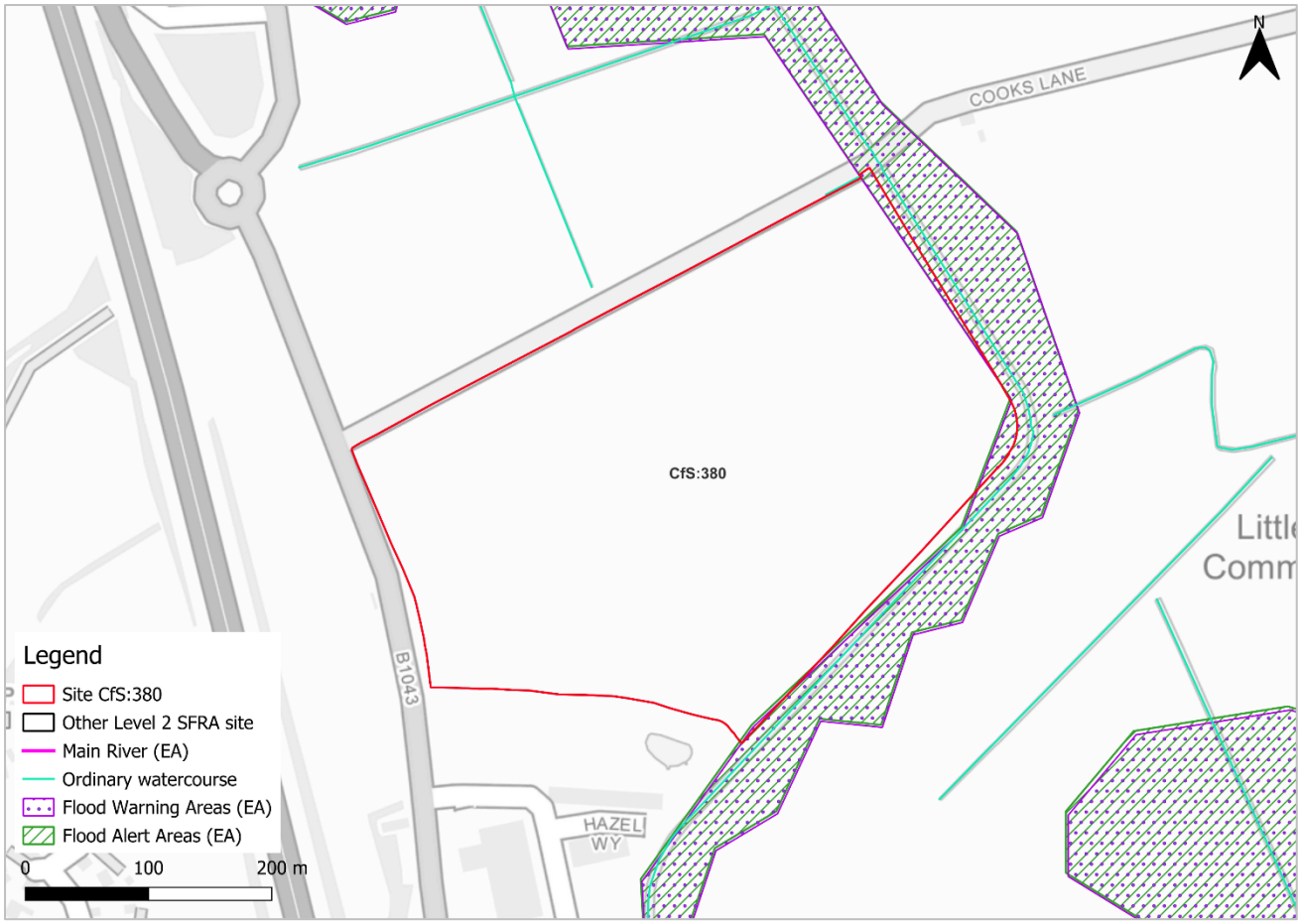


Figure 2-4: EA Flood Warning Areas and Flood Alert Areas

2.5.2 Access and escape routes

Based on available information, safe access and escape routes from the northern and western sides of the site could likely be achieved during a flood event via Cooks Lane to the north or via the B1043 to the west, as shown by the orange circles in Figure 2-5. Flood warnings and alerts should remain in place to ensure site users can be safe and evacuate the site during the 0.1% AEP fluvial event plus climate change.

Figure 2-5: Potential access and escape route

2.6 Observations, mitigation options, site suitability, sequential approach to development management - fluvial

- Observations:
  - The majority of the site is within Flood Zone 1 and therefore at low risk of flooding from rivers and the sea.
  - There is no detailed model available for the Middle Level Catchwater Drain. The flood zones are likely based on the EA's New National Model.
  - Climate change flood zones for the Middle Level Catchwater Drain are unavailable from the EA's FMfP.
- Defences:
  - There are no defences protecting the site, according to the EA's Spatial Flood Defences dataset.
- Mitigation:
  - The site-specific FRA should develop a model of the Middle Level Catchwater Drain to fully understand the onsite fluvial risk both now and in the future.
  - The risk area and the watercourse should be included in site design as a blue green corridor, offering multifunctional benefits including ecological, social and amenity value to the site.

- Were development of this site to proceed, given the proximity of this site to neighbouring site CfS:385, it would be prudent to formulate a strategy to develop these sites in tandem and for consultation between each landowner to take place to ensure a joined-up approach for sustainable development is in place.
- If works are proposed on or near a river or flood defence, a separate permission may be required. The type of permission needed and whether it must be sought from the Environment Agency, Lead Local Flood Authority or Internal Drainage Board will depend on the activity and location proposed. The developer should check if they need permission to do work on a river or flood defence.

- Access and escape:
  - Safe access and escape routes must be available at times of flood and appear to be available from the north and west of the site, via Cooks Lane and the B1045. A FWA and FAA are in place at the east of the site. These should provide advanced warning for site users to evacuate ahead of a flood event in the short term.
  - EA flood warnings and alerts should continue to be in place to ensure early evacuation of site users before an extreme flood event occurs.

3 Flood risk from surface water

3.1 Existing risk

The NaFRA2 Risk of Flooding from Surface Water (RoFSW) mapping received a significant update and was published January 2025, including for surface water flood extents and depths. However, at the time of writing, the EA has confirmed that the depth information available is not structured in a way that is suitable for planning purposes. Therefore, this Level 2 SFRA considers the third generation RoFSW depth and hazard mapping in addition to the NaFRA2 extents, as agreed with the EA. Surface water depth and hazard should be modelled at the site-specific FRA stage.

3.1.1 Risk of Flooding from Surface Water - NaFRA2 extents

Based on the EA's national scale RoFSW map, as updated in January 2025, 98% of the site is at very low risk of flooding from surface water. However, there are some small areas of surface water ponding in the topographic low spots within the site during the medium and low risk events, as shown in Figure 3-1.

Table 3-1: Existing surface water flood risk based on percentage area at risk using the NaFRA2 RoFSW map

Very low risk (% area)	Low risk (% area)	Medium risk (% area)	High risk (% area)
98	1	1	0

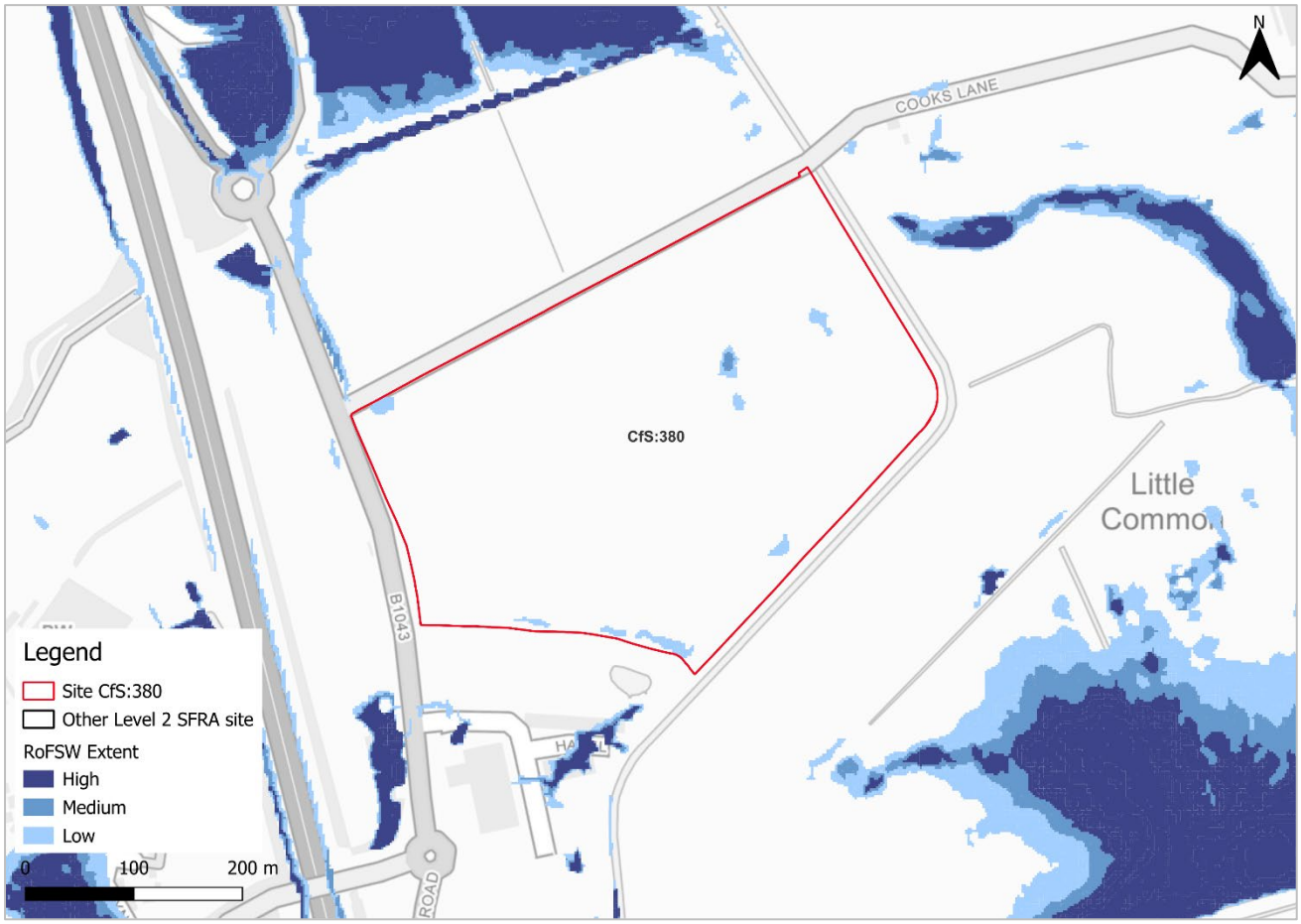


Figure 3-1: Surface water flood extents (NaFRA2 - Risk of Flooding from Surface Water map)

3.1.2 Risk of Flooding from Surface Water - third generation depths and hazard

Based on the EA's national scale third generation RoFSW map, flood depths, outside of the Middle Level Catchwater Drain channel, during the low risk event remain below 0.15m (Figure 3-2) with a predominantly low flood hazard rating. There is a small area of moderate hazard flooding modelled in the southern corner of the site (Figure 3-3).

Figure 3-2: Low risk event surface water flood depths (Third generation - Risk of Flooding from Surface Water map)

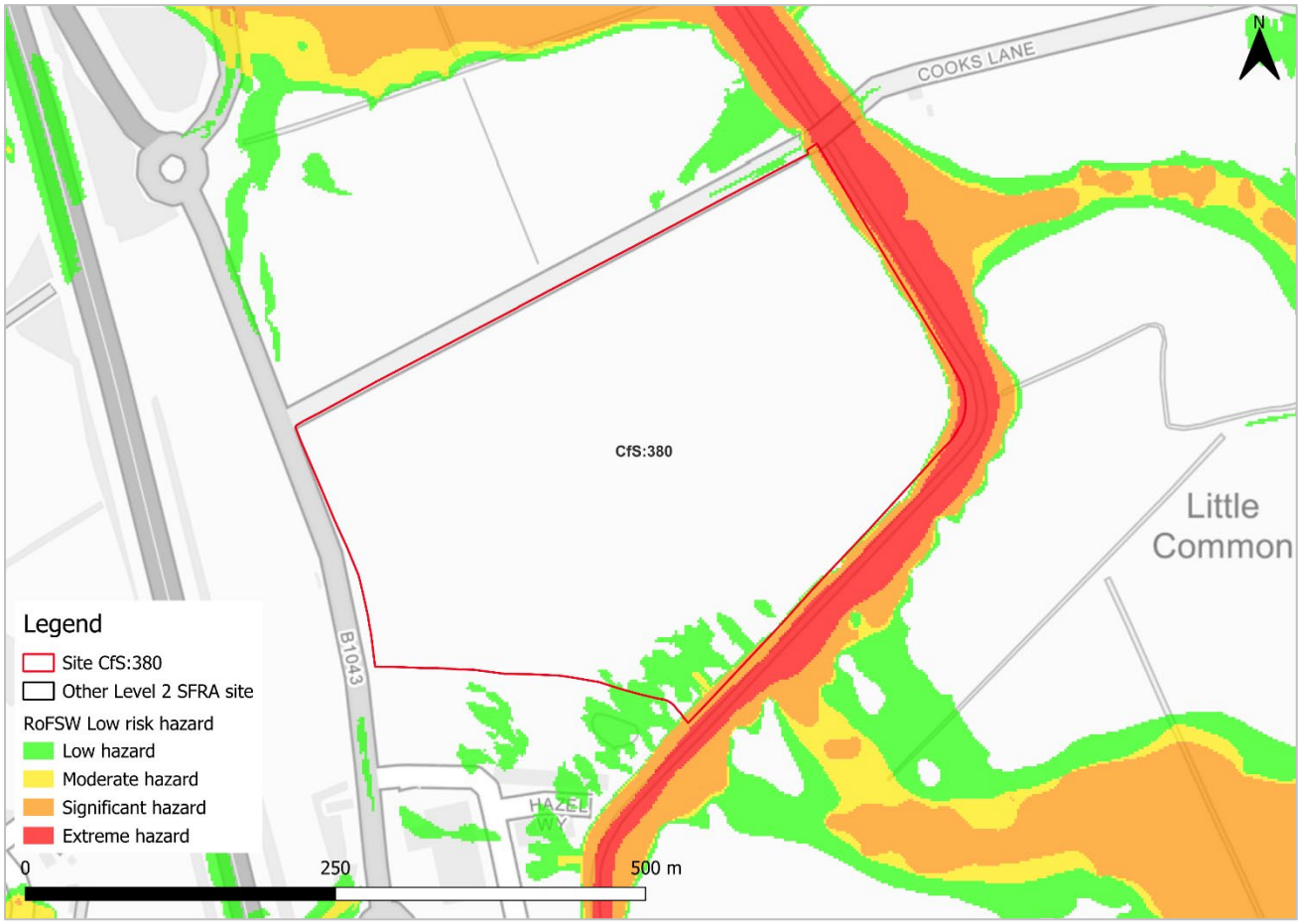


Figure 3-3: Low risk event surface water flood hazard[1] (Third generation - Risk of Flooding from Surface Water map)

3.2 Impacts from climate change

The NaFRA2 RoFSW mapping now includes one modelled climate change scenario, the 2050s central allowance for the high, medium and low risk events. However, the upper end allowance on peak rainfall for the 2070s should be assessed in SFRAs. Therefore, at the time of writing, the available national surface water climate change mapping is unsuitable for consideration in development planning. This Level 2 SFRA considers the low risk surface water event as a conservative proxy for the medium risk event plus climate change, as agreed with the EA. The impact of climate change on surface water flood risk should be fully accounted for at the site-specific FRA stage.

Based on the information available, surface water flood risk to the site may increase slightly with climate change. The areas of ponding within topographic low spots may expand in size though the depths and hazards mapping do not represent the NaFRA2 RoFSW map, therefore the depth and hazard mapping (as shown in the low risk event in Figure 3-2 and

1 Based on Section 7.5 Hazard rating. What is the Risk of Flooding from Surface Water map? Report version 2.0. April 2019. Environment Agency

Figure 3-3) may not be fully representative of potential risk. This reinforces the requirement for detailed assessment of surface water at the FRA stage.

Figure 3-4: Low risk event surface water flood extent, as a proxy for the medium risk event plus climate change (NaFRA2 - Risk of Flooding from Surface Water map)

3.3 Observations, mitigation options, site suitability, sequential approach to development management - surface water

- Current risk to the site is predominantly very low, with 98% of the site being at very low surface water flood risk. Surface water risk in the medium and low risk events is confined to small areas of ponding in topographic low spots.
- The effects of climate change on surface water have not been modelled for this SFRA, however the low risk surface water event has been used as a proxy for the medium risk event plus climate change. Risk is slightly greater than in the medium risk event, with a greater extent of ponding throughout the site.
- Surface water flood depths, hazards, including for the impact of climate change should be considered further through the site-specific FRA and drainage strategy. Any surface water modelling at the FRA stage should consider flood depths and hazards.
- The drainage strategy must ensure there is no increase in surface water flood risk elsewhere as a result of new development. Greenfield rates will apply, and

the developer should follow the National SuDS guidance and any local guidance available from the LLFA.

- Topographic low spots and flow paths should be retained onsite.
- The RoFSW map is not suitable for identifying whether an individual property will flood and is therefore indicative. The RoFSW map is not appropriate to act as the sole evidence for any specific planning or regulatory decision or assessment of risk in relation to flooding at any scale without further supporting studies, modelling, or evidence.

4 Cumulative impacts assessment and high risk catchments

4.1 Level 1 cumulative impacts assessment

A cumulative impact assessment was completed through the Huntingdonshire Level 1 SFRA (2024), which aimed to identify catchments sensitive to the cumulative impact of new development. This site is located within one catchment, namely, the Middle Level catchment. This catchment is ranked as a medium sensitivity catchment. Planning considerations for sites at medium sensitivity to the cumulative impacts of development can be found in Appendix G of the Level 1 SFRA. Cumulative impacts of development should also be considered as part of a site-specific FRA.

5 Groundwater, geology, soils, SuDS suitability

Risk of groundwater emergence is assessed in this SFRA using JBA's 5m Groundwater Emergence Map. This dataset is recommended for use by the EA in the SFRA Good Practice Guide[2]. Figure 5-1 shows the map covering this site and the surrounding areas. Table 5-1 explains the risk classifications.

Figure 5-1: JBA 5m Groundwater Emergence Map

The entire site and surrounding area are classified as no risk from groundwater emergence. Any infiltration SuDS should therefore be suitable across the whole site.

2 Strategic flood risk assessment good practice guide. ADEPT. December 2021.

Table 5-1: Groundwater Hazard Classification

Groundwater head difference (m)*	Class label
0 to 0.025	Groundwater levels are either at very near (within 0.025m of) the ground surface in the 100-year return period flood event. Within this zone there is a risk of groundwater flooding to both surface and subsurface assets. Groundwater may emerge at significant rates and has the capacity to flow overland and/or pond within any topographic low spots.
0.025 to 0.5	Groundwater levels are between 0.025m and 0.5m below the ground surface in the 100-year return period flood event. Within this zone there is a risk of groundwater flooding to surface and subsurface assets. There is the possibility of groundwater emerging at the surface locally.
0.5 to 5	Groundwater levels are between 0.5m and 5m below the ground surface in the 100-year return period flood event There is a risk of flooding to subsurface assets, but surface manifestation of groundwater is unlikely.
>5	Groundwater levels are at least 5m below the ground surface in the 100-year return period flood event. Flooding from groundwater is not likely.
N/A	No risk. This zone is deemed as having a negligible risk from groundwater flooding due to the nature of the local geological deposits.
*Difference is defined as ground surface in mAOD minus modelled groundwater table in mAOD.	

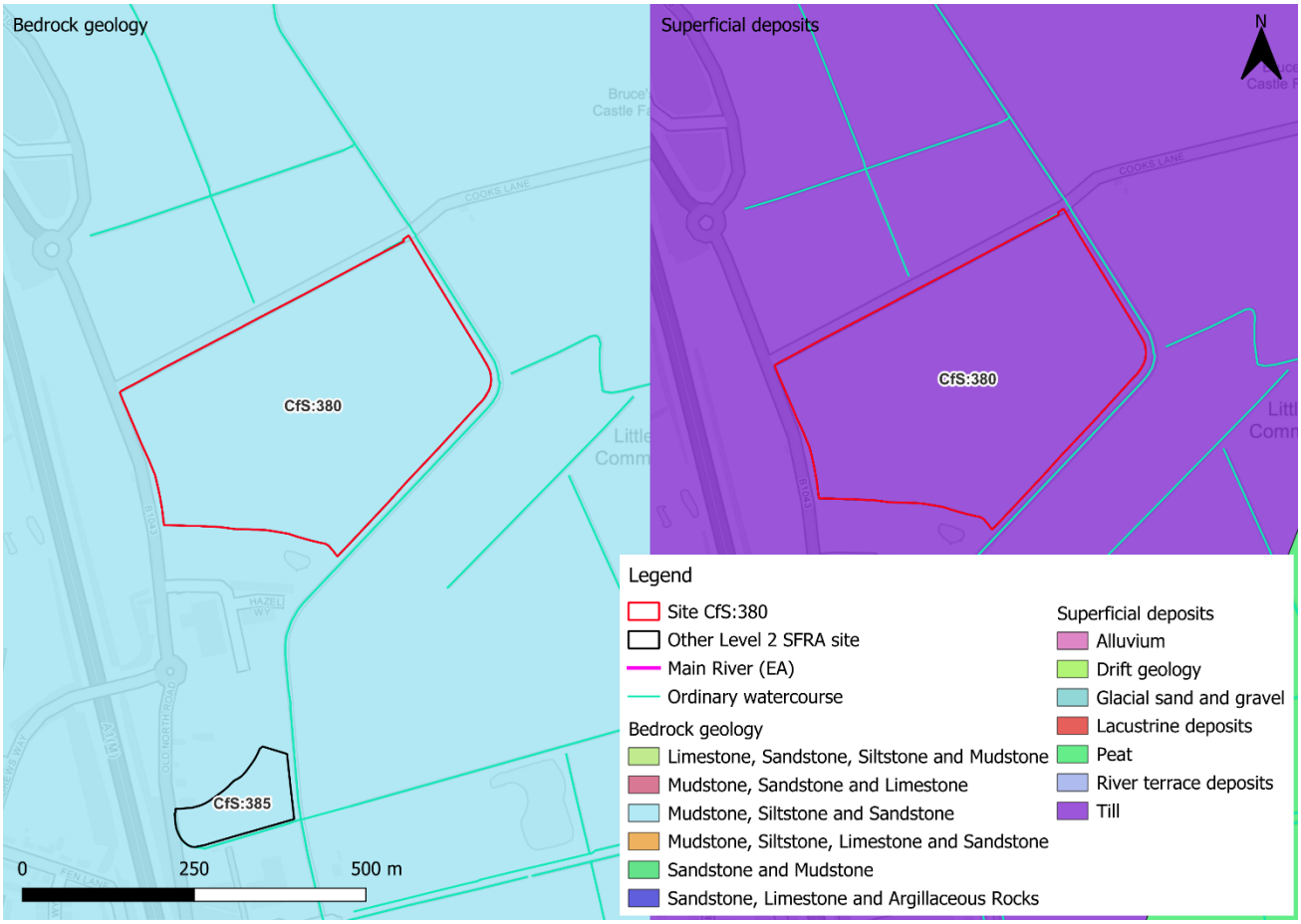


Figure 5-2: Soils and geology

6 Residual risk

Although a site may be afforded some protection from defences and / or drainage infrastructure, there is always a residual risk of flooding from asset failure i.e. breaching / overtopping of flood defences, blockages of culverts or drainage assets.

Residual risk at this site comes from the potential blockage of the small bridge over the Middle Level Catchwater Drain on Cooks Lane.

6.1 Potential blockage

A blockage of the bridge over Cooks Lane may cause flooding to the site, depending on the severity of the blockage and the magnitude of the flood event. Such a scenario should be investigated at the FRA stage. Bridge condition surveys may be required, including for consultation with the bridge owner.

Figure 6-1: Potential blockage

6.2 Flood risk from reservoirs

The EA's Reservoir Flood Maps (RFM) (2021) show where water may go in the unlikely event of a reservoir or dam failure. A 'dry day' scenario assumes that the water level in the reservoir is the same as the spillway level or the underside of the roof for a service reservoir and the watercourses upstream and downstream of the reservoir are at a normal level. A 'wet day' scenario assumes a worst-case scenario where a reservoir releases water held on a 'wet day' when local rivers have already overflowed their banks.

The site is not modelled to be at risk from reservoir flooding.

7 Overall site assessment

7.1 Can part b) of the exception test be passed?

This site is not required to pass part b) of the exception test as the development proposed is less vulnerable. It must still be proven that the development can be safe for its lifetime, which is 75 years for non-residential development.

However, the test should be reapplied at the application stage as some flood risk information has not been available for consideration in this Level 2 SFRA, as outlined below. The test should also be reapplied if more recent information about existing or potential flood risk becomes available at application stage.

7.2 Recommendations summary

Based on the evidence presented in the Level 1 SFRA (2024) and this Level 2 SFRA:

- Were this site to be allocated based on current information, the LPA must make it clear that this site cannot be developed until the required information detailed in this SFRA on existing and future flood risk from the Middle Level Catchwater Drain is fully ascertained.
- The Middle Level Catchwater Drain and its floodplain should be included within the site design and layout. Infilling of drainage ditches should be avoided.
- Detailed drainage strategy will be required for any new development, given the large area of the site and the fact the site is currently greenfield.
- There is potential residual risk to the site from a blockage of the bridge on Cooks Lane along the Middle Level Catchwater Drain which should be investigated.
- The risk area and the watercourse should be included in site design as a blue green corridor, offering multifunctional benefits including ecological, social and amenity value to the site.
- EA flood warnings and alerts should continue to be in place to ensure early evacuation of site users before an extreme flood event occurs.
- Opportunities for NFM features to reduce flood risk to the site and surrounding areas should be explored at the site-specific FRA stage.

7.3 Site-specific FRA requirements and further work

At the planning application stage, the following should be considered:

- Full detailed flood modelling of the Middle Level Catchwater Drain to assess up to date risk to the site.
- Further modelling to understand the impacts of climate change on fluvial and surface water flood risk to the site.
- Further consideration of surface water flood risk, including a drainage strategy. Discharge rates should remain at greenfield rates at a minimum.

- A condition assessment of the small bridge adjacent to the northeastern corner of the site and investigation into the impact of a potential blockage of the structure.
- FRA should be carried out in line with the latest versions of the NPPF; FRCC-PPG; EA online guidance; the HDC Local Plan, and national and local SuDS policy and guidelines.
- Throughout the FRA process, consultation should be carried out with, where applicable, the local planning authority; the lead local flood authority; emergency planning officers; the Environment Agency; Anglian Water; the highways authorities; and the emergency services.

8 Licencing

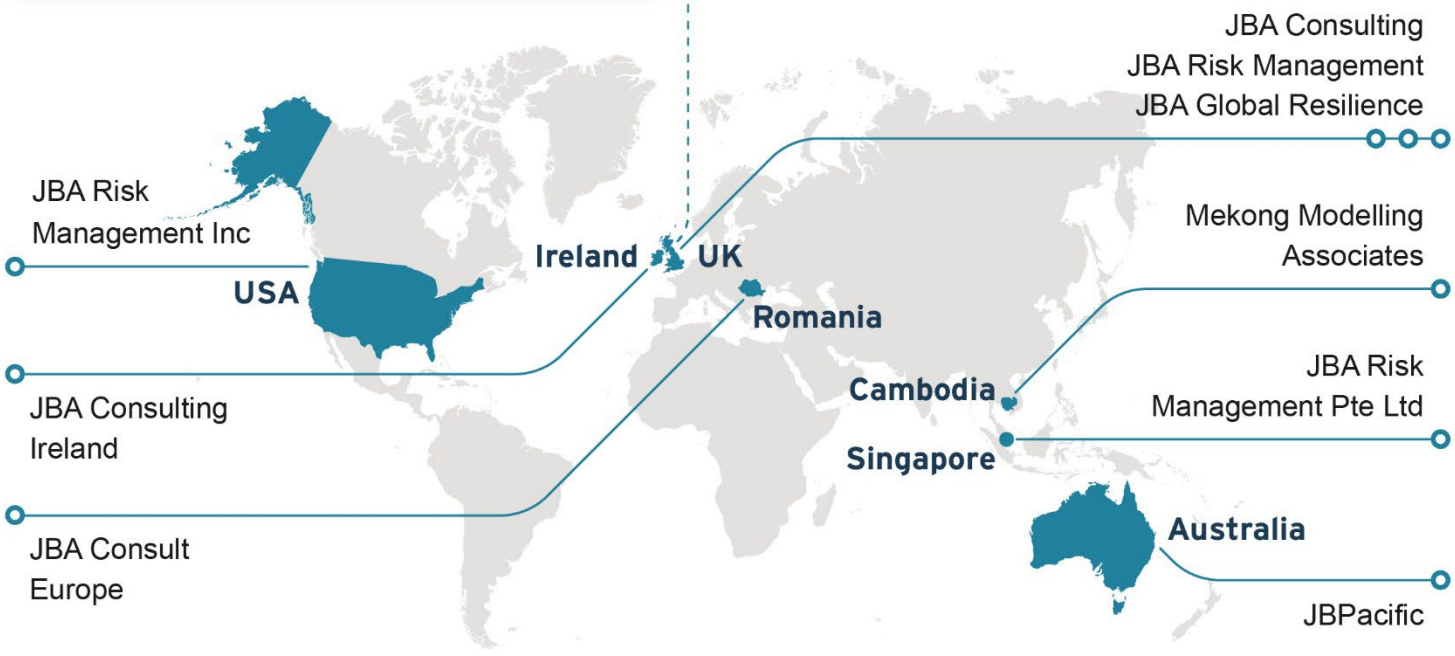
To cover all figures within this report:

- Contains Environment Agency information © Environment Agency and/or database right [2025]
- Contains public sector information licensed under the Open Government Licence v3.0. © Crown copyright and database rights [2025]
- HDC Ordnance Survey licence number: 100022322 [2025]
- © 2021 Esri, Maxar, Earthstar Geographics, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User Community

www.jbaconsulting.com

Our Offices

Bristol
Coleshill
Cork
Doncaster
Dublin
Edinburgh
Exeter
Glasgow
Haywards Heath
Leeds
Limerick
Newcastle
Newport
Peterborough
Portsmouth
Saltaire
Skipton
Tadcaster
Thirsk
Wallingford
Warrington



Registered Office
1 Broughton Park
Old Lane North
Broughton
SKIPTON
North Yorkshire
BD23 3FD
United Kingdom

+44(0) 1756 799919
info@jbaconsulting.com
www.jbaconsulting.com

Follow us on

Jeremy Benn
Associates Limited
Registered in
England
3246693

JBA Group Ltd is
certified to
ISO 9001:2015
ISO 14001:2015
ISO 27001:2022
ISO 45001:2018