



Huntingdonshire Level 2 Strategic Flood Risk Assessment Site Summary

Site CfS:53

Final Draft Report

Prepared for
Huntingdonshire District
Council

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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.

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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.

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Contents

1	Background	1
1.1	Site CfS:53	1
2	Flood risk from rivers and sea	5
2.1	Existing risk	5
2.2	Flood risk management	6
2.3	Impacts from climate change	7
2.4	Historic flood incidents	8
2.5	Emergency planning	8
2.6	Observations, mitigation options, site suitability, sequential approach to development management - fluvial and tidal	10
3	Flood risk from surface water	11
3.1	Existing risk	11
3.2	Impacts from climate change	14
3.3	Observations, mitigation options, site suitability, sequential approach to development management - surface water	15
4	Cumulative impacts assessment and high risk catchments	16
4.1	Level 1 cumulative impacts assessment	16
5	Groundwater, geology, soils, SuDS suitability	17
6	Residual risk	20
6.1	Potential blockage	20
6.2	Flood risk from reservoirs	20
7	Overall site assessment	22
7.1	Can part b) of the exception test be passed?	22
7.2	Recommendations summary	22
7.3	Site-specific FRA requirements and further work	22
8	Licencing	23

List of Figures

Figure 1-1: Existing site location boundary	2
Figure 1-2: Aerial photography	3
Figure 1-3: Topography	4
Figure 2-1: Existing risk	6
Figure 2-2: Natural Flood Management (NFM) potential mapping	7
Figure 2-3: Flood Map for Planning - Climate Change 2070 - 2125 outputs	8
Figure 2-4: EA Flood Warning Areas and Flood Alert Areas	9
Figure 2-5: Potential access and escape routes	10
Figure 3-1: Surface water flood extents (NaFRA2 - Risk of Flooding from Surface Water map)	12
Figure 3-2: Low risk event surface water flood depths (Third generation - Risk of Flooding from Surface Water map)	13
Figure 3-3: Low risk event surface water flood hazard (Third generation - Risk of Flooding from Surface Water map)	14
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)	15
Figure 5-1: JBA 5m Groundwater Emergence Map	17
Figure 5-2: Soils and geology	19
Figure 6-1: Potential blockage / breach locations	20
Figure 6-2: EA Reservoir Flood Map	21

List of Tables

Table 2-1: Existing flood risk based on percentage area of site at risk	5
Table 3-1: Existing surface water flood risk based on percentage area at risk using the NaFRA2 RoFSW map	11
Table 5-1: Groundwater Hazard Classification	18

1 Background

This is a Level 2 Strategic Flood Risk Assessment (SFRA) site screening report for Local Plan Site CfS:53. 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:53

- Location: Ramsey Forty Foot Village rural mooring, Ramsey Forty Foot
- Existing site use: Vermuden's Drain and greenspace
- Existing site use vulnerability: Water compatible
- Proposed site use: Natural / open space
- Proposed site use vulnerability: Water compatible
- Site area (ha): 1.39
- Watercourse: Vermuyden's 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 extent, depths and hazards
 - Assessment of all other sources of flood risk

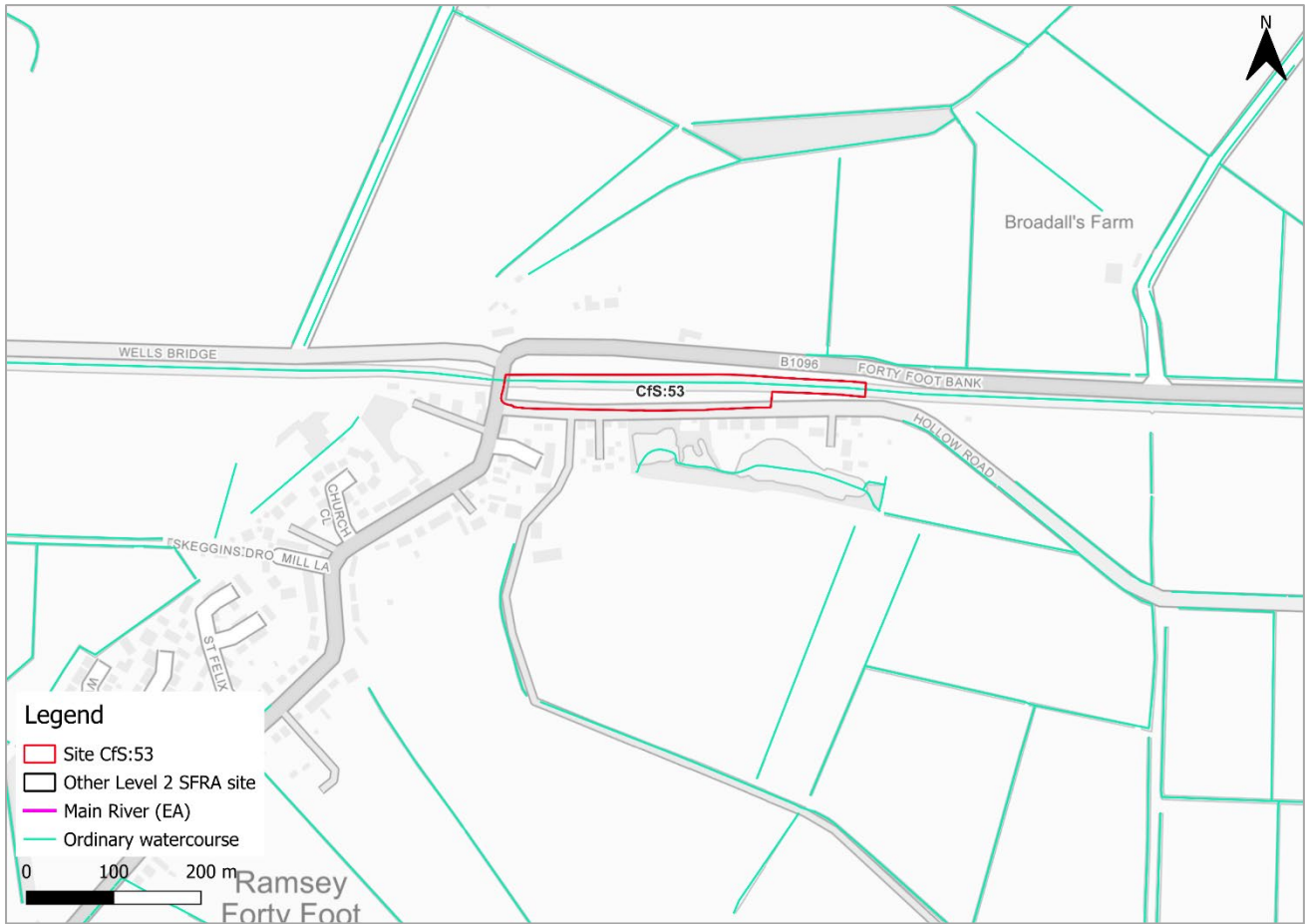


Figure 1-1: Existing site location boundary



Figure 1-2: Aerial photography

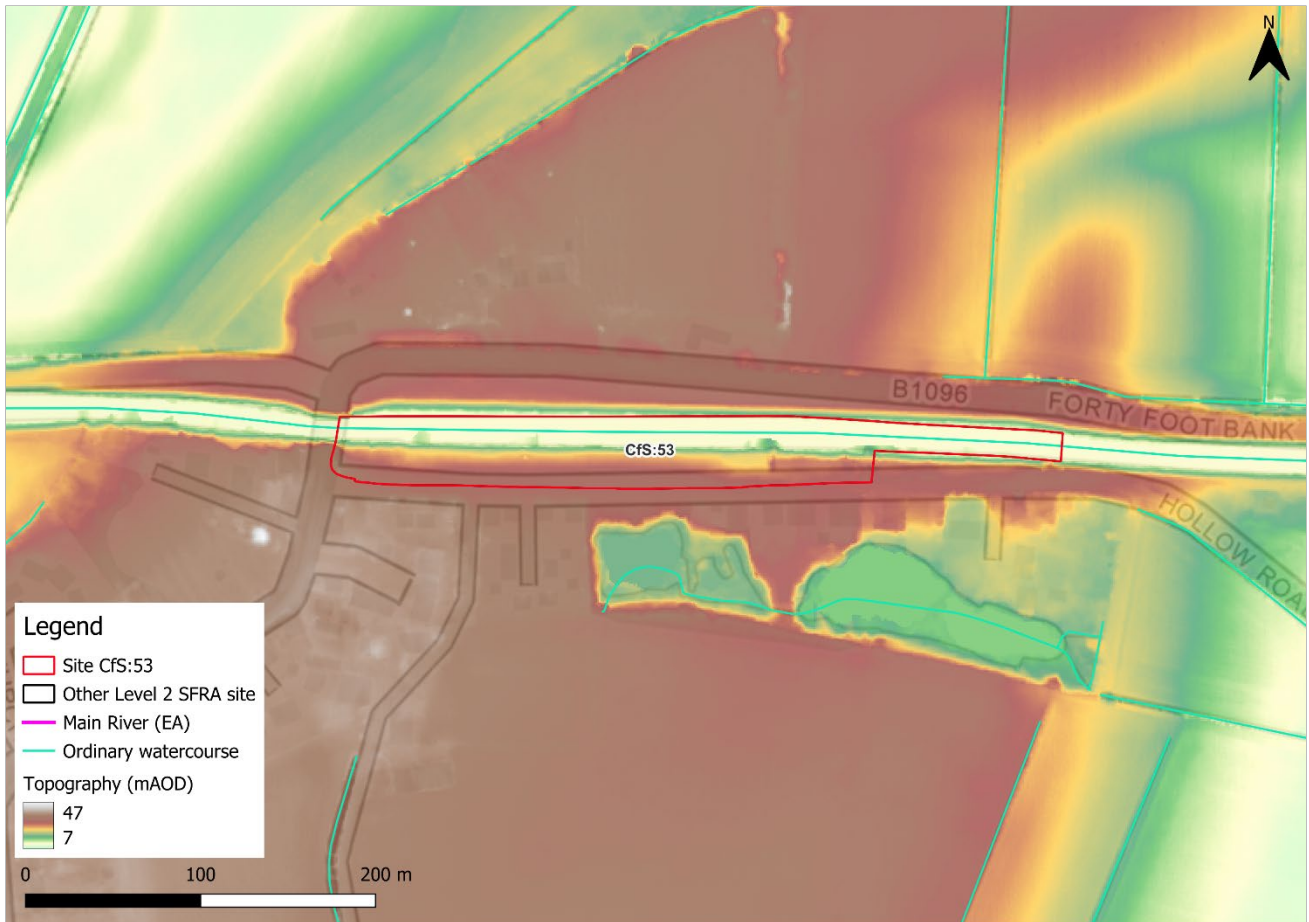


Figure 1-3: Topography

2 Flood risk from rivers and sea

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).

Part of the southern half of the site is within Flood Zone 1 indicating a low risk of flooding from rivers and sea. Much of the northern half of the site is within Flood Zone 3b due to the presence of Vermuyden's Drain which flows easterly through site. There is no detailed model available for Vermuyden's Drain, therefore the risk is likely based on the EA's New National Model meaning fluvial flood depths and hazards cannot be assessed.

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)
31	3	11	55



Figure 2-1: Existing risk

2.2 Flood risk management

2.2.1 Flood defences

There are no flood defences that provide protection to 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 woodland planting along the banks of Vermuyden's Drain. Tree planting can help to reduce runoff.

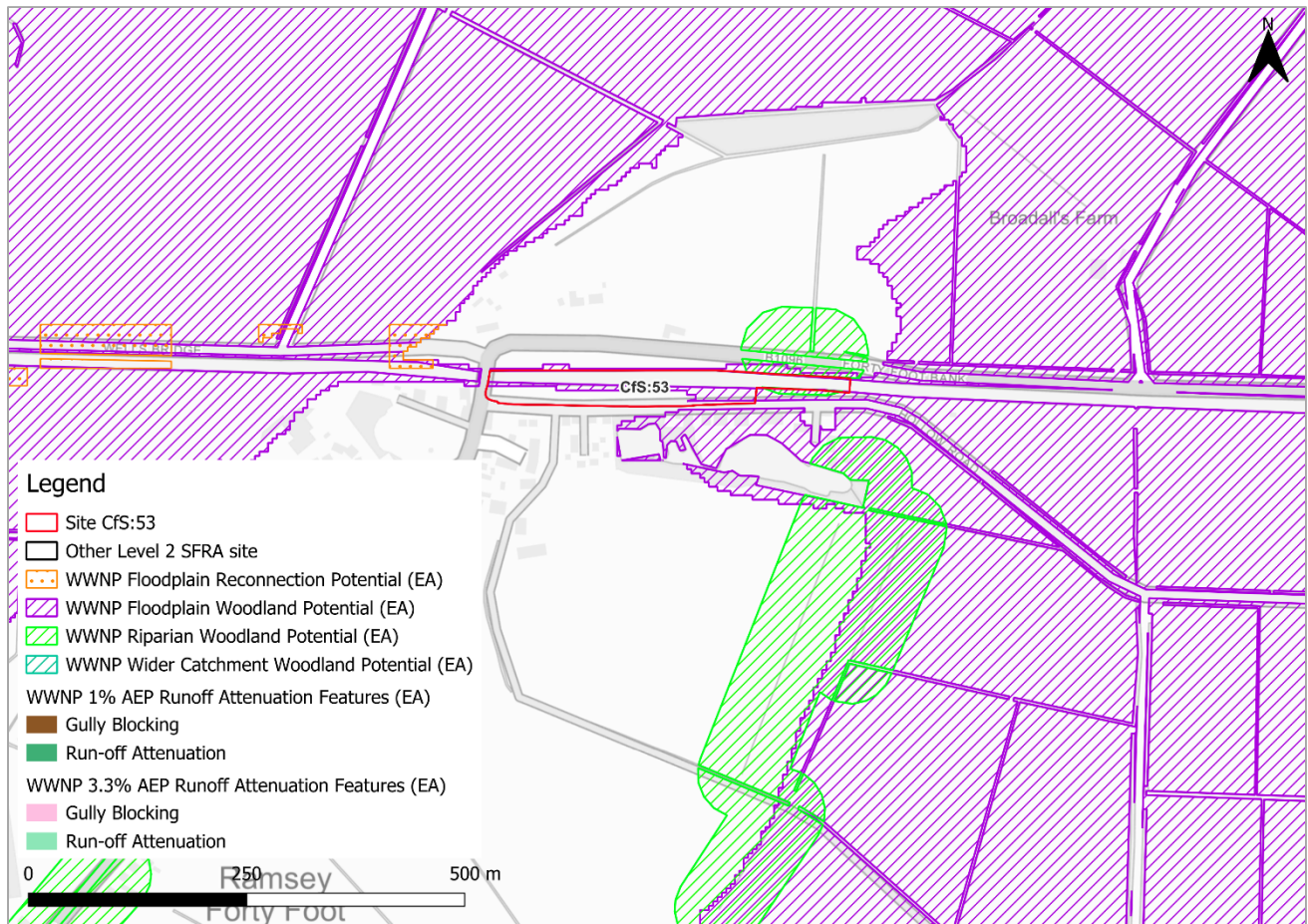


Figure 2-2: Natural Flood Management (NFM) potential mapping

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 Vermuyden's Drain, modelling of climate change has not been possible.

According to the EA's Flood Map for Planning plus climate change (2070-2125) dataset, Climate change data for Vermuyden's Drain is unavailable, 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 slightly, as shown in Figure 2-1. However, given the site is proposed for natural open space, this should not be detrimental to the site.

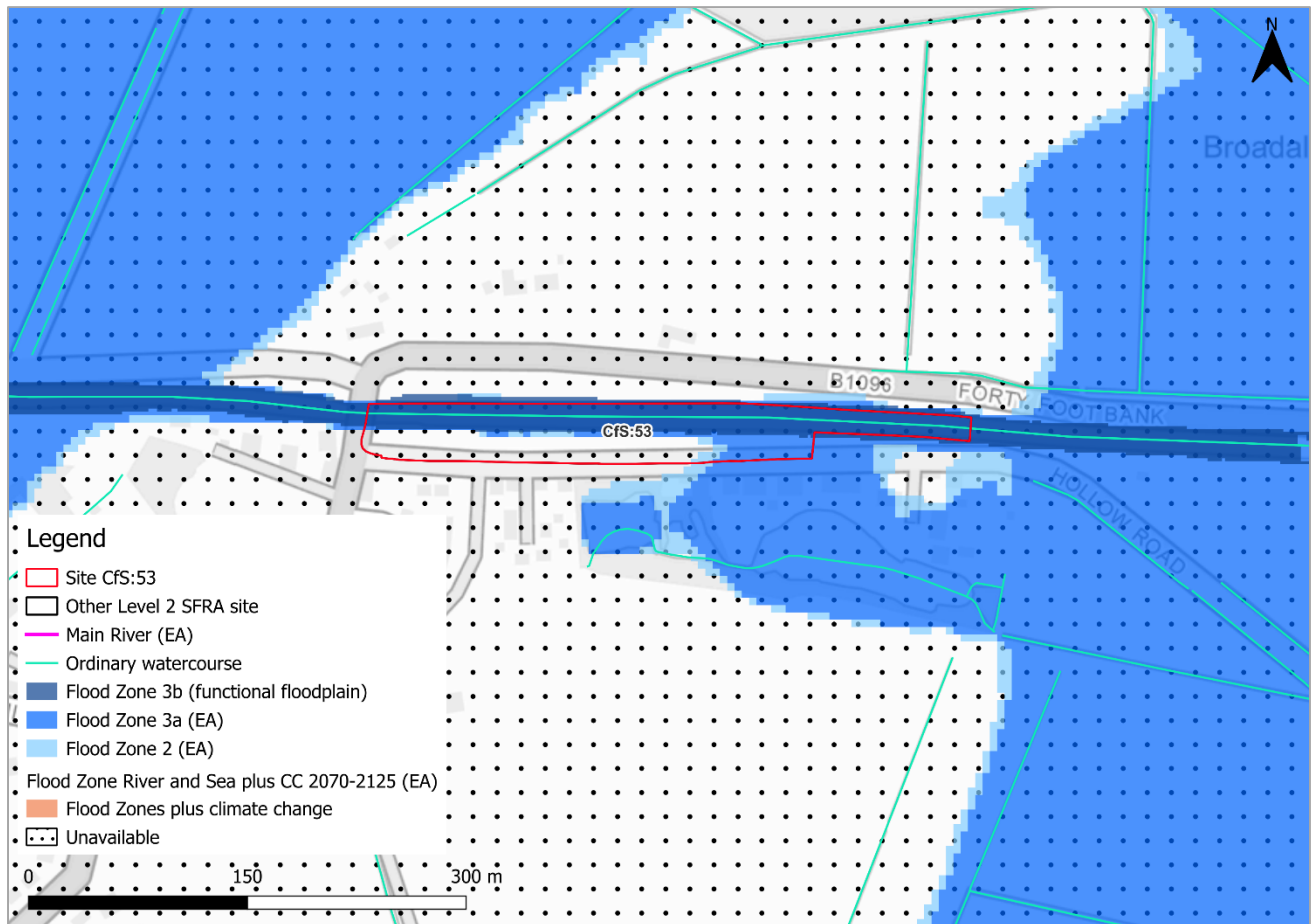


Figure 2-3: Flood Map for Planning - Climate Change 2070 - 2125 outputs

2.3.2 Tidal

The EA's SFRA guidance states that SFRAs should assess the higher central and upper end sea level rise allowances. However, as there is no existing detailed model of the Middle Level, modelling of climate change has not been possible. As with fluvial risk, there is no climate change information available from the Flood map for Planning, so Flood Zone 2 as a proxy shows a slight increase in risk to the site.

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. The site is not located within a FWA, however, as shown in Figure 2-4, the land surrounding the site is within a FWA, namely the River Delph west bank Flood Defences at Benwick, Chatteris and Manea 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 a 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.

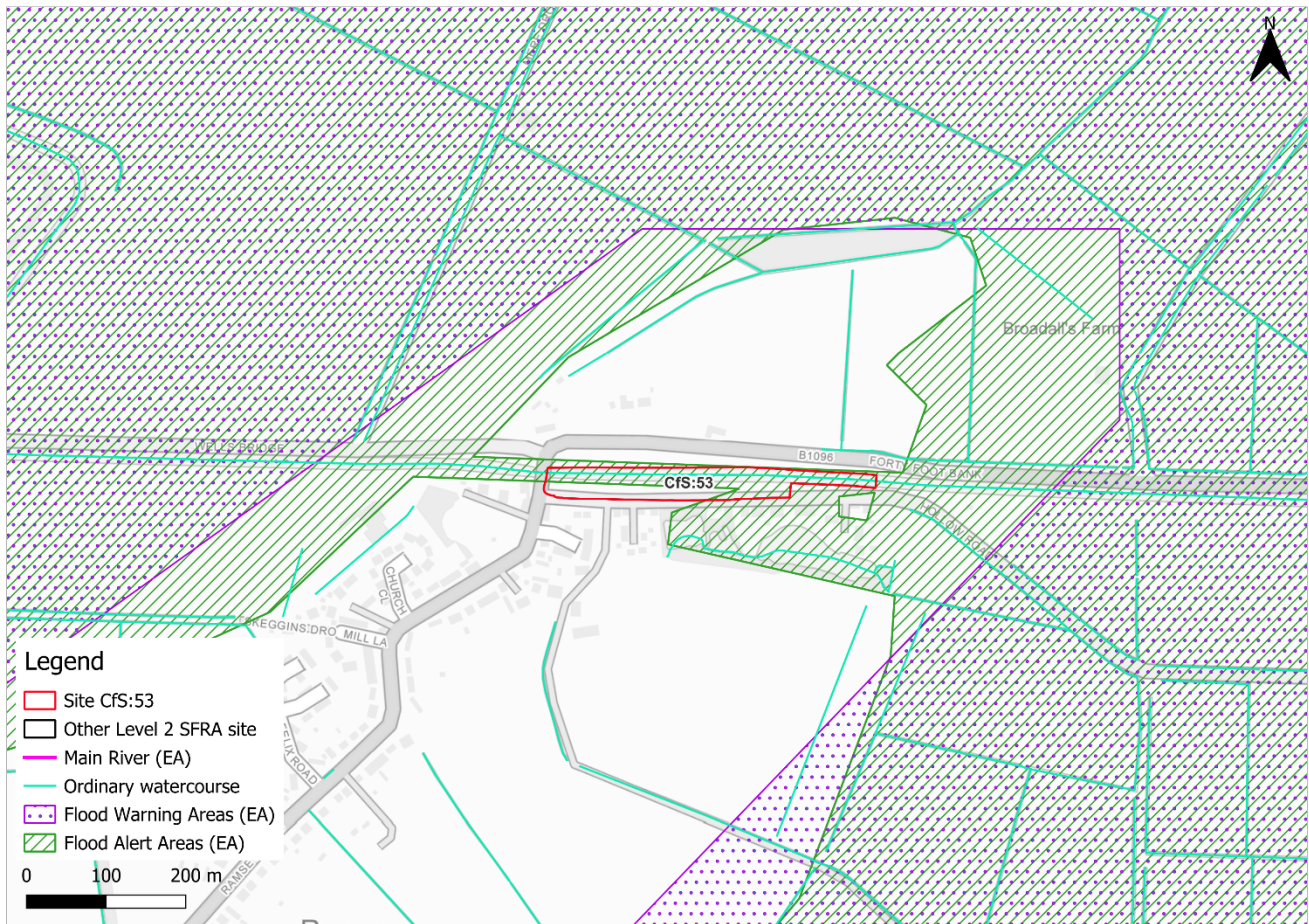


Figure 2-4: EA Flood Warning Areas and Flood Alert Areas

2.5.2 Access and escape routes

Based on available information, safe access and escape routes could likely be achieved during a flood event via Hollow Road to the south, leading to Ramsey Road (B1096) to the west as shown by the orange circle 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.

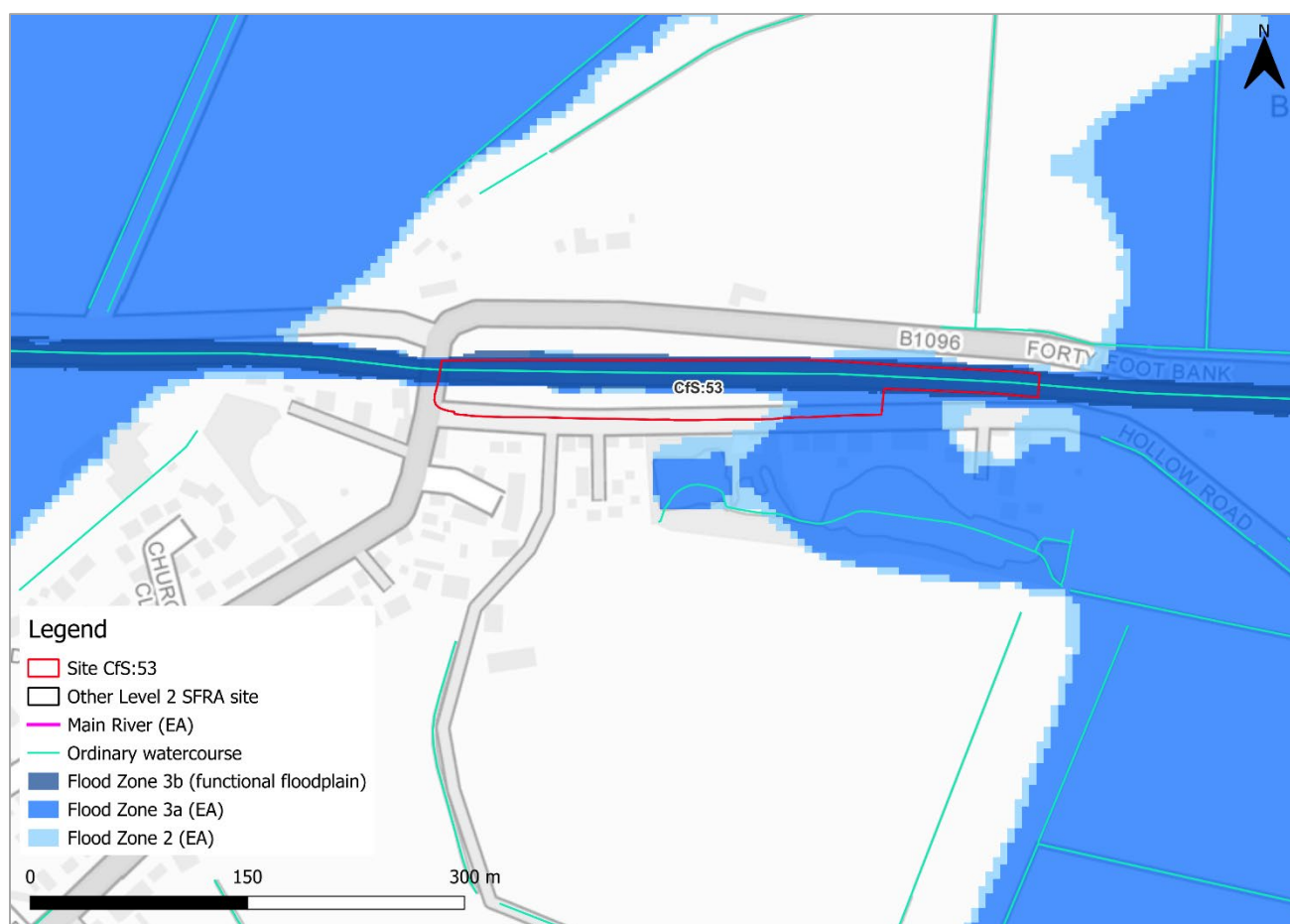


Figure 2-5: Potential access and escape routes

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

- **Observations:**
 - Functional floodplain is present within the channel of Vermuyden's Drain.
- **Defences:**
 - According to the EA's Spatial Flood Defences dataset, the site doesn't benefit from any formal engineered flood defences.
- **Mitigation:**
 - The Vermuyden's Drain should be included within the site design and layout.
- **Access and escape:**
 - Safe access and escape routes must be available at times of flood and appear to be available from the south and southwest of the site, via Hollow Road and Ramsey Road respectively.
 - 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, surface water flood risk within the site is predominantly very low. Approximately 2% of the site is at low surface water flood risk. Risk is confined to within the channel Vermuyden's Drain.

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	2	0	0

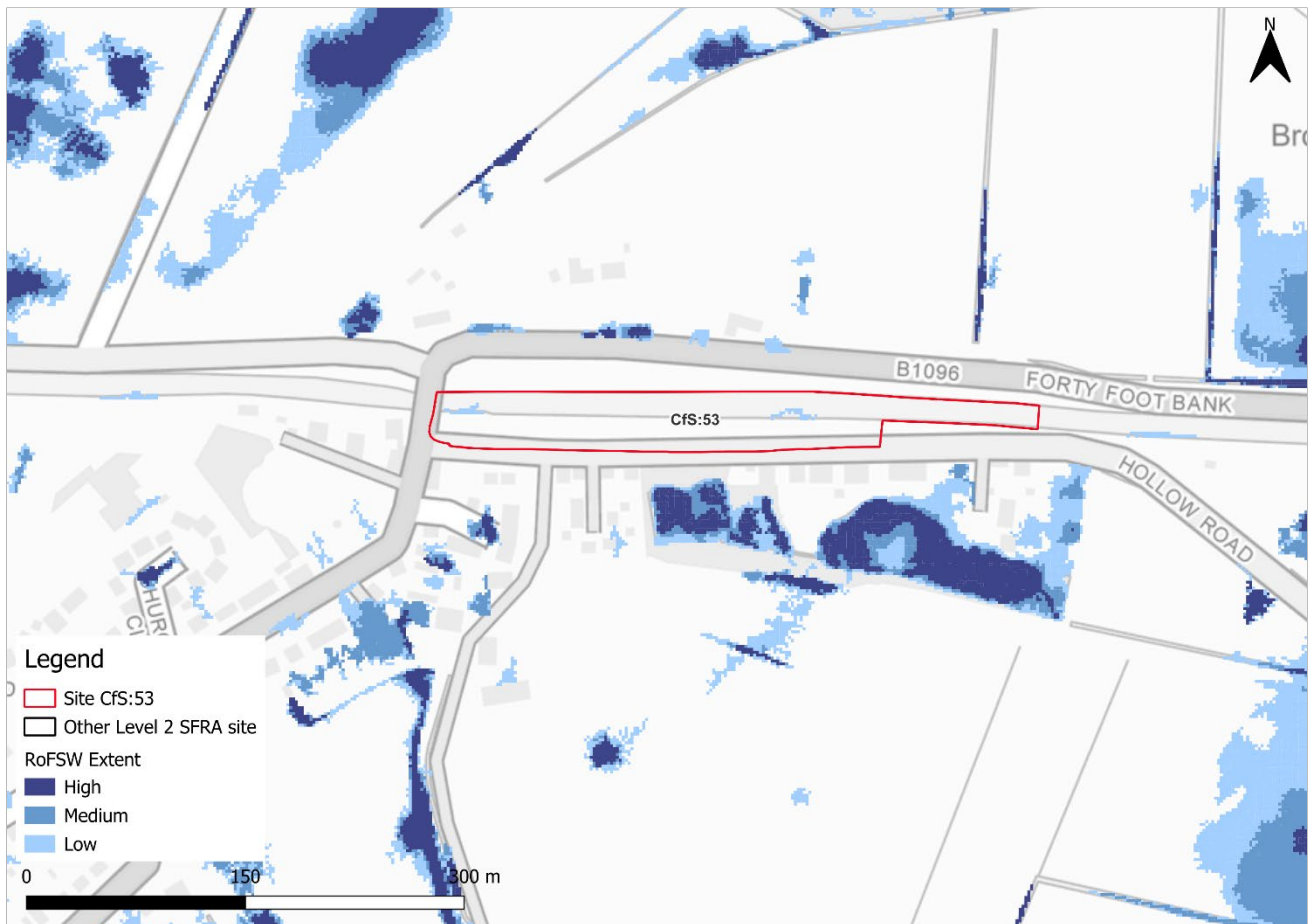


Figure 3-1: Surface water flood extents (NaFRA2 - Risk of Flooding from Surface Water map)

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, risk is confined to within the channel of Vermuyden's Drain (Figure 3-2 and Figure 3-3). The third generation mapping is similar to the NaFRA2 RoFSW mapping.



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

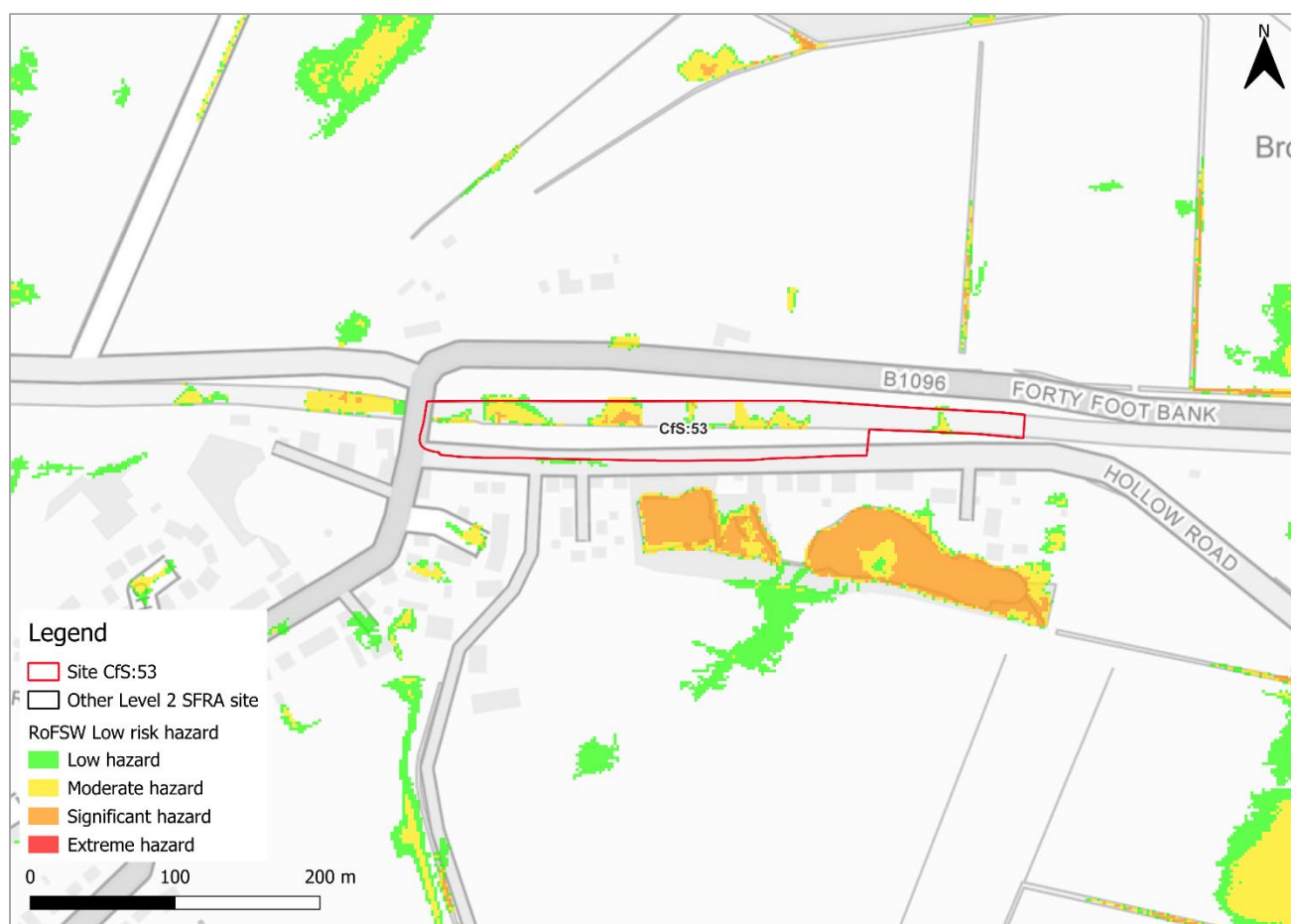


Figure 3-3: Low risk event surface water flood hazard¹ (Third generation - Risk of Flooding from Surface Water map)

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, during the low risk surface water event, risk is confined to the channel of Vermuyden's Drain. Depth and hazard information for the 0.1% AEP event is shown in Figure 3-2 and Figure 3-3.

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

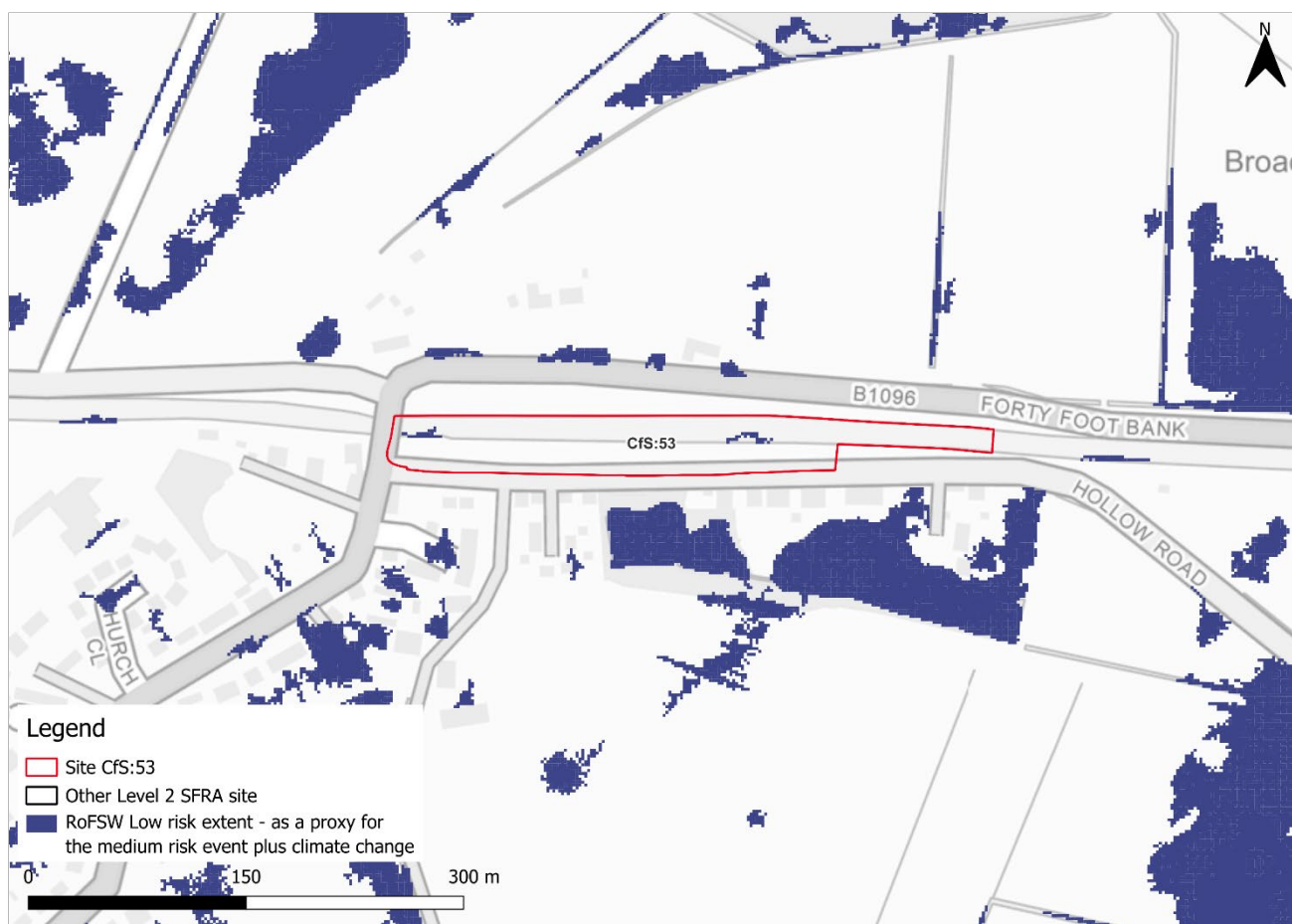


Figure 3-4: Low risk event surface water flood extent, as a proxy for the medium risk event plus climate change (NaFRA2 - Risk of Flooding from Surface Water map)

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 low risk event is confined the channel of Vermuyden's Drain.
- 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 confined to the channel of Vermuyden's Drain.
- 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 Guide². 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 majority of the site is classified as no risk.

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 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
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	There is a risk of flooding to subsurface assets, but surface
>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	This zone is deemed as having a negligible risk from groundwater
*Difference is defined as ground surface in mAOD minus modelled groundwater table in mAOD.	

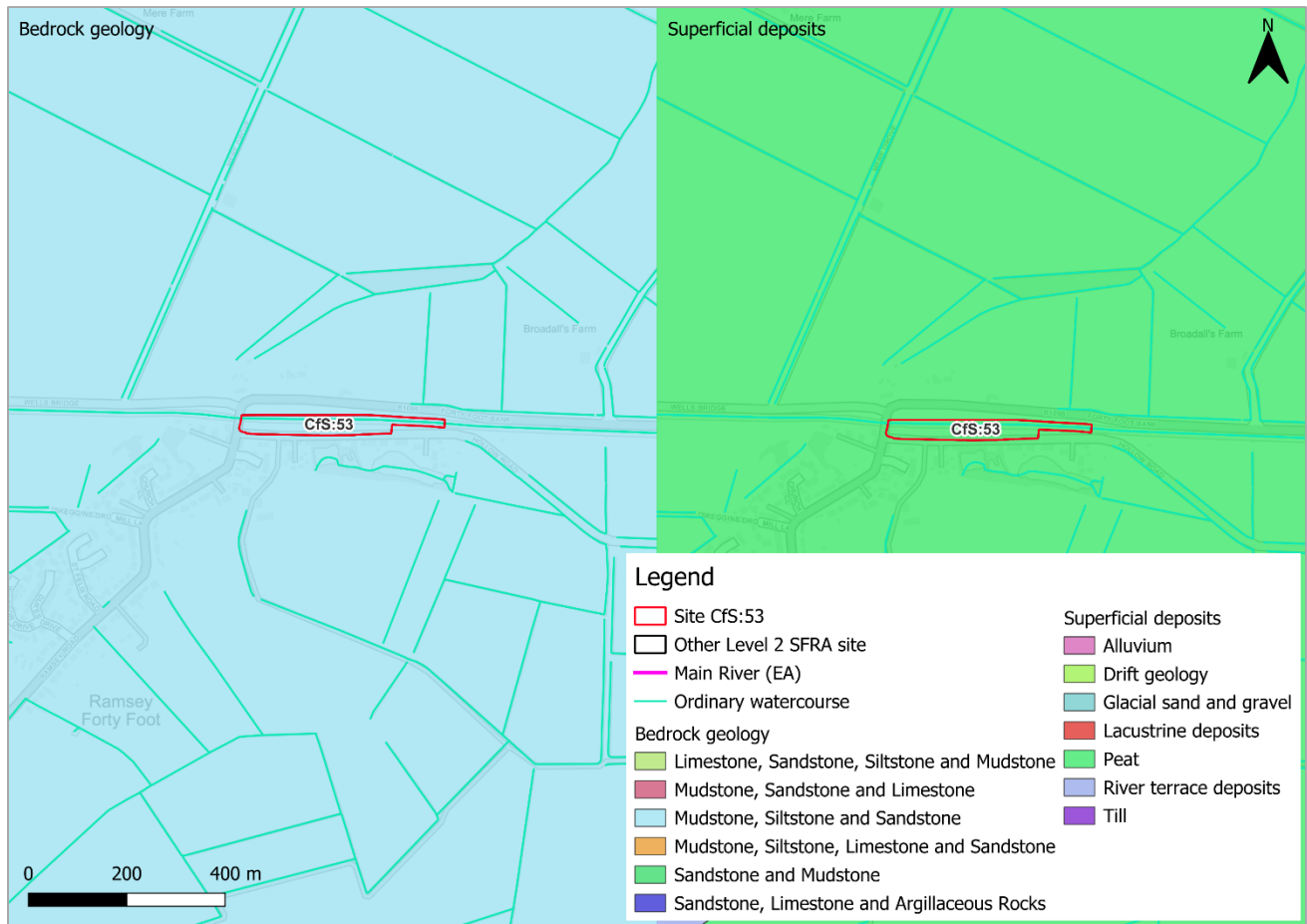


Figure 5-2: Soils and geology

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 bridge over Ramsey Road.

6.1 Potential blockage

A blockage of the bridge over Ramsey Road 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.

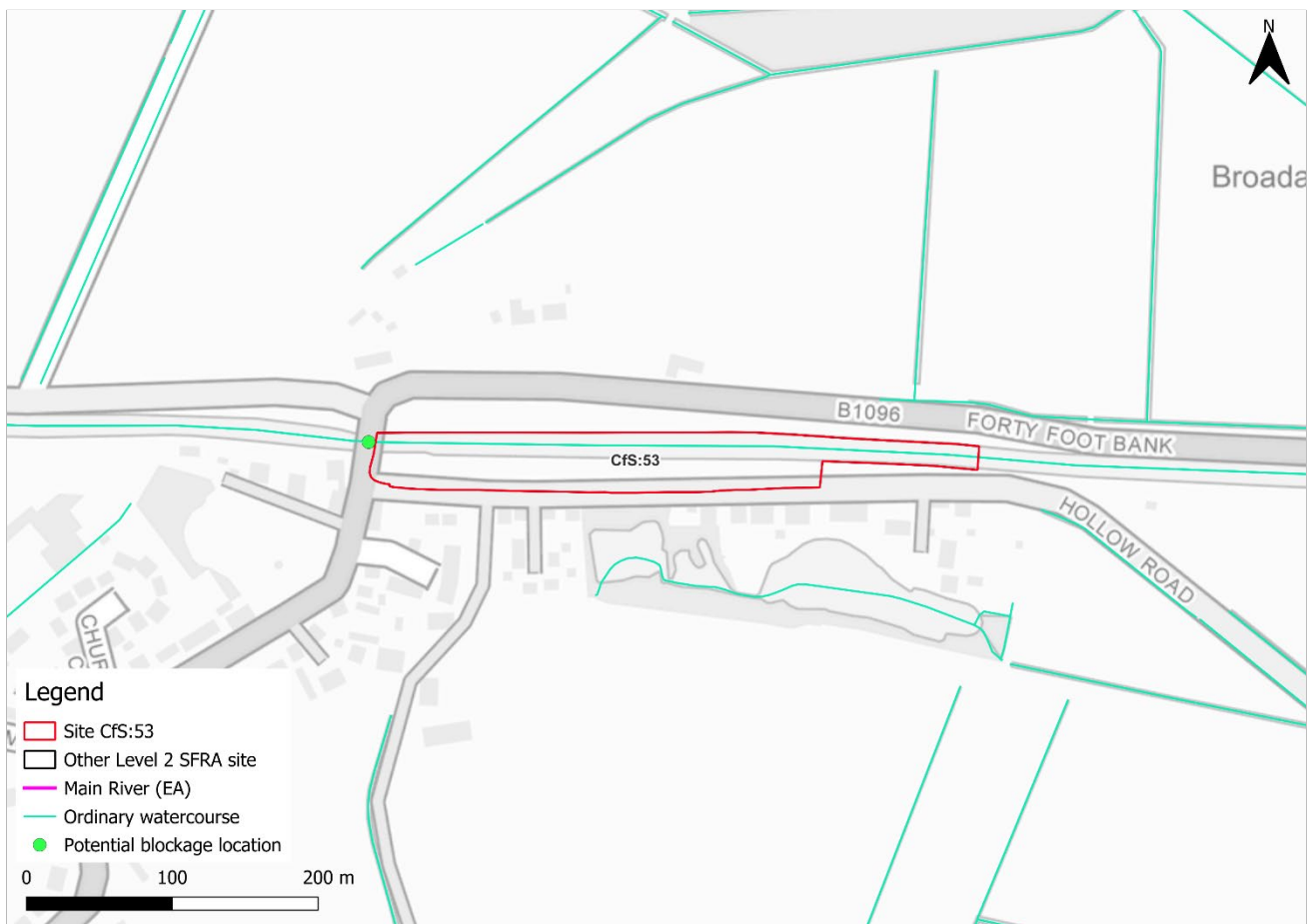


Figure 6-1: Potential blockage / breach locations

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. Figure 6-2 shows the RFM in a 'dry day' and 'wet day' scenario. 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 potentially at risk from one reservoir during the 'dry day' scenario, namely the Ouse Washes Flood Storage Area reservoir. Given the intended use of the site, risk should not be detrimental to the site.

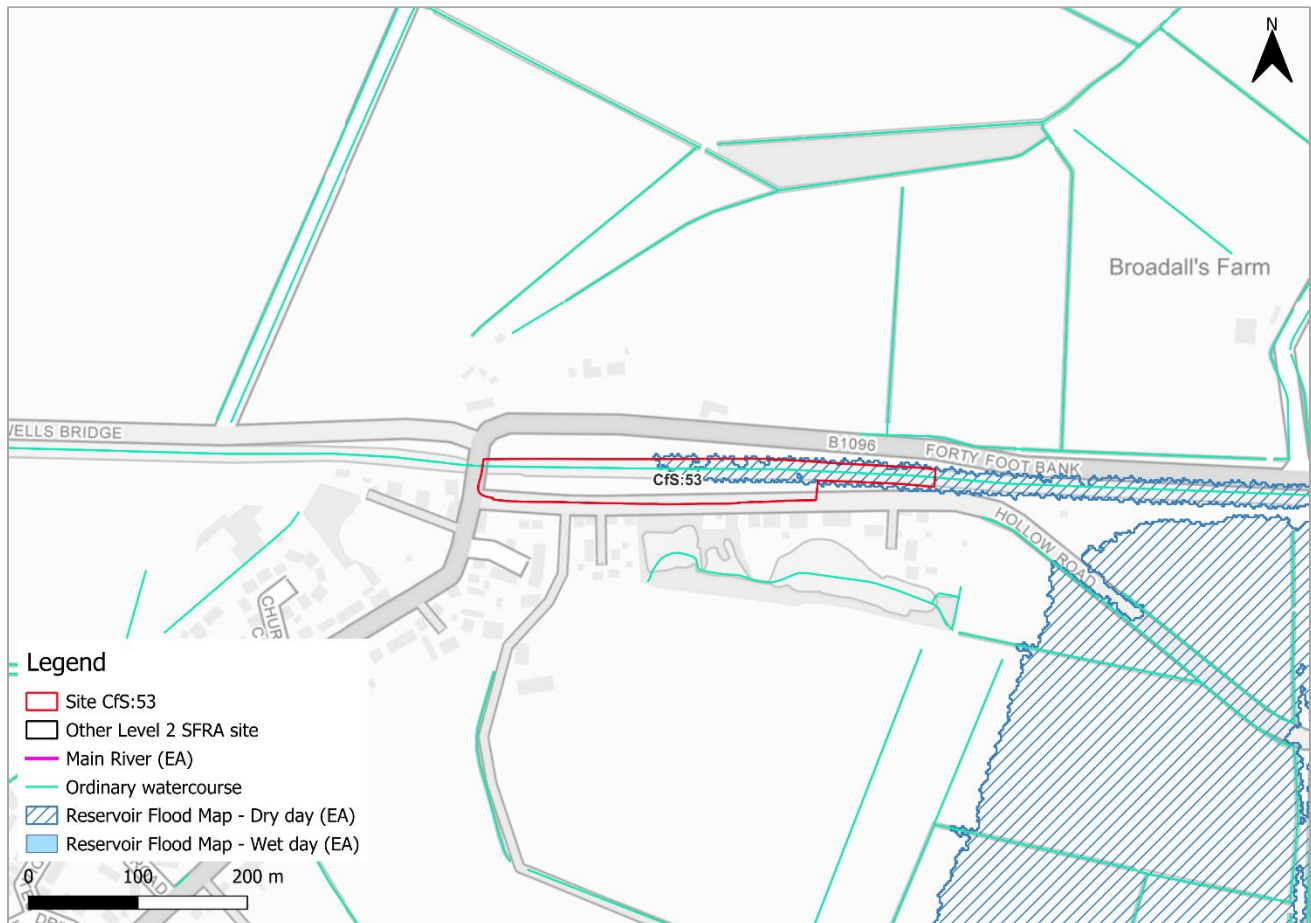


Figure 6-2: EA Reservoir Flood Map

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 site is proposed for natural open space, however it must still be proven that the site can be safe for site users for its lifetime.

7.2 Recommendations summary

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

- It should be appropriate to use this site for natural greenspace.
- Opportunities for NFM features to reduce flood risk to the site and surrounding areas could be explored.

7.3 Site-specific FRA requirements and further work

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

- Any requirement for a 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

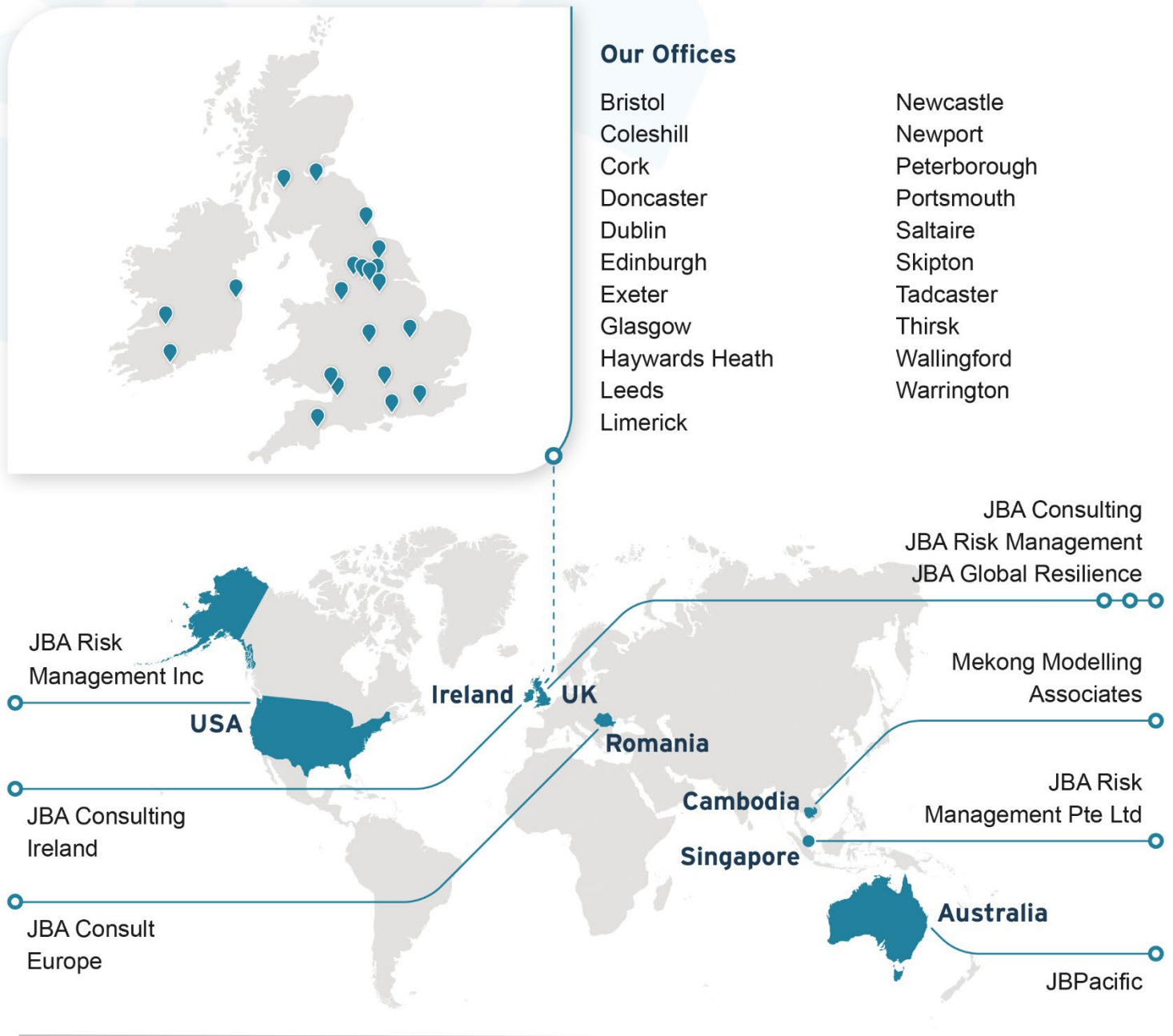
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