

**FLOOD RISK ASSESSMENT FOR
PROPOSED RESIDENTIAL DEVELOPMENT
AT 4A GIMMELS GATE, SUTTON CROSSES,
LONG SUTTON, LINCS.**

FINAL REPORT

GEOFF BEEL CONSULTANCY

DECEMBER 2025

GCB/HEADING

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CONTENTS

- 1.0 INTRODUCTION
- 2.0 LOCATION
- 3.0 THE SITE AND SEQUENTIAL TEST
- 4.0 EXISTING FLOOD ALLEVIATION MEASURES
- 5.0 POTENTIAL SOURCE OF FLOODING
- 6.0 EXTENT OF KNOWN FLOODING
- 7.0 PROBABILITIES AND TRENDS OF FLOODING
- 8.0 IMPACTS OF FLOODING
- 9.0 RESIDUAL RISKS – EXTREME EVENTS
- 10.0 CONCLUSIONS AND RECOMMENDATIONS

- Fig 1 - Location Plan & Block Plan – HEAL drg.no. HP-GGL-01
- Fig 2 - Elevations & Plans – HEAL drg.no. HP-GGL-02
- Fig 3 - Environment Agency Flood Map for Planning
- Fig 4 - South East Lines. Strategic Flood Risk Assessment Residual Flood Depth Maps of 1 in 100 Fluvial and 1 in 200 Tidal events (Present day and 2115))
- Fig 5 - South Holland Internal Drainage Board district plan

1.0 INTRODUCTION

- 1.1 A full planning application is to be submitted by HEAL Planning & Developments on behalf of Mr John Heading for proposed residential development at 4A Gimmels Gate, Sutton Crosses, Long Sutton, Lincs.
- 1.2 A Flood Risk Assessment is required to accompany the planning application and meet the requirements and general principles of the Planning Practice Guidance to the National Planning Policy Framework (NPPF) and for approval by the Environment Agency.

The site, as situated, is located within Flood Zone 3, of the Environment Agency's Flood Map for Planning. The latest Agency Flood Maps have been created as a tool to raise awareness of flood risk with the public and our partner organisations, such as Local Authorities, Emergency Services and Drainage Authorities. The Maps do not take into account any flood defences.

The site is also shown in a Danger for Some Hazard Zone of Flooding in the South East Lincs. Strategic Flood Risk Assessment Maps.

The site is also located in the South Holland IDB drainage district.

- 1.3 Geoff Beel Consultancy was appointed on 10th December 2025 to undertake a Flood Risk Assessment.

2.0 LOCATION

- 2.1 The development site is located at 4A Gimmels Gate, Sutton Crosses, Long Sutton. The National Grid Reference of the central point of the development is TF 4312821028.
- 2.2 The position and extent of the site is shown on Fig 1 – Location Plan & Block Plan at the end of the document.
- 2.3 The site, located within the South Holland Internal Drainage Board district is shown within Flood Zone 3 as detailed on the Environment Agency Flood Map for Planning and in a Danger for Some Hazard Zone of Flooding of the South East Lincs. Strategic Flood Risk Assessment Map.

3.0 THE SITE AND SEQUENTIAL TEST

- 3.1 The site is currently part of a residential property curtilage.
- 3.2 The area of development is approximately 0.20 hectare.
- 3.3 The proposed site layout consists the positioning of a shed for residential purposes in the grounds of the property.

- 3.4 The Sequential Test and Exception Test will require to be applied but the development may be permitted as the site is protected against both the 1 in 200 year return period tidal event and the 1 in 100 year return period fluvial event with no increase of risk of flooding to any surrounding properties.

Large parts of the South Holland district between the River Welland and River Nene lie in Flood Zone 3. As such, the opportunities to undertake the development at an alternative site with a lower flood risk are limited. At this location it is not possible to position the development on higher ground within the proposed site.

Both the River Welland and River Nene have defences that provide protection during the 0.5% annual probability (1 in 200 year chance each year) event. Therefore the 'actual risk' of flooding at the site is low and is considered to pass the Sequential Test.

The Exception Test requires consideration of the wider sustainability benefits of a development and that the development would be safe and residual risks managed. The Local Plan has a target of a net increase of some 10000 dwellings in South Holland over the 25 year local plan period and the proposed development will contribute to this target and the provision of rural housing is of benefit.

The site is shown located in a Danger for Some Hazard Zone which is at the lowest risk of flooding other than being located in the Low Hazard Zone.

4.0 EXISTING FLOOD ALLEVIATION MEASURES

- 4.1 The site is within a defended floodplain, as defined in Appendix 1 of the Environment Agency's 'Policy for the Protection of Floodplains' and is considered to be passive until such time as a flood greater than that for which the defences were designed occurs. The likelihood of flooding due to overtopping or failure of a flood defence embankment is considered to be small.

The South Holland Internal Drainage Board is protected by a combination of the River Welland tidal defences downstream of Spalding, the River Welland fluvial embankments as well as the River Nene tidal defences downstream of Foul Anchor.

- 4.2 The site and the surrounding land drains by gravity to a Board drain south of the site and hence to the South Holland Outfall Sluice to discharge into the tidal River Nene upstream of Sutton Bridge.
- 4.3 The existing standard of drainage for the South Holland Internal Drainage Board is 1 in 50 years return period, compatible with the Department of the Environment, Food and Rural Affairs target level of service for rural drainage and flood defence works. Freeboard of 900mm is provided to the lowest land levels.

- 4.4 Current maintenance standards within the South Holland Internal Drainage Board and of the Environment Agency defences are generally very good.

During the operation and maintenance of its pumping stations, associated structures and channel systems, particularly those that could affect property, the Board seeks to maintain a general standard capable of providing flood protection to its district. A routine maintenance programme is in place to ensure that the Boards assets are commensurate with the standard of protection that is sought. However, bank slips, blocked culverts etc may occur from time to time and these matters are usually dealt with promptly.

5.0 POTENTIAL SOURCES OF FLOODING

- 5.1 Three potential sources of flooding have been identified as a result of this assessment:

- a) local blockages to IDB main drain system.
- b) storm return period of 1 in 50 years being exceeded
- c) overtopping and breaching the tidal River Nene defences

- 5.2 The probability of flooding from source a) is low due to the maintenance standards already achieved and managed by the IDB.

The probability of flooding from b) is also low due to the South Holland IDB main drain design standard incorporating a minimum 900mm freeboard to the lowest land level which provides adequate storage in events greater than 1 in 50 years.

Previous historic rainfall events of 1968 and 1978, estimated to be greater than 1 in 100 year events, caused no flooding to any residential properties at the time and the Boards policy is to provide a standard of drainage which satisfies NPPF requirements of a 1 in 100 year return period for fluvial protection inclusive of the effects of climate change and developments to the arterial system enables a flexible approach to be adopted and meet the criteria for “sustainable urban drainage”.

- 5.3 The flood embankments to the tidal River Nene provide a 1 in 200 year return period level of protection. Surface water drainage from the site will discharge to soakaways designed to BRE365 requirements and Building Regulations approval.
- 5.4 The South East Lincs. Strategic Flood Risk Assessment Residual Flood Depth Map shows the site as affected by floodwaters of between 0.00 – 0.25m in year 2115 as a result of a breach to the River Nene tidal defences. It is necessary to mitigate against this remote risk of flooding and finished floor level of the residential shed will be raised a minimum of 400mm above ground level.

6.0 EXTENT OF KNOWN FLOODING

- 6.1 During the preparation of this assessment, no evidence was discovered of the site being flooded or of any adjoining properties

7.0 PROBABILITIES AND TRENDS OF FLOODING

- 7.1 The probability of this development flooding from localised drainage systems is very low.
- 7.2 The probability of the site flooding with water from any South Holland IDB main drain is less than 1% because of the standards of the existing flood defence systems, storage within existing drainage channels and the location of the site.
- 7.3 The probability of the site flooding with fluvial waters from any main river system is less than 1% because of the standards of the existing flood defences and the location of the site.
- 7.4 If under very extreme events, levels of floodwater from the South Holland IDB main drains or arterial systems rose to such an extent that the site was affected, the situation would not be sudden. It is very probable that sufficient time would be available to take precautionary actions to limit the extent and potential impact of flooding.
- 7.5 The water levels in the drainage channels will tend to rise as a result of the impacts of climate change. However the existing systems and defences together with the proposed finished floor level a minimum 400mm above existing ground level is appropriate for the design life of the development.

8.0 IMPACTS OF FLOODING

- 8.1 No significant impacts of flooding are anticipated.
- 8.2 Floor level of the development will be a minimum 400mm above existing ground levels which together with the proposed soakaway drainage system will offer additional protection against impacts arising from any extreme short duration, localised events.
- 8.3 The general location of the site within the catchment is such that if flooding occurred from any of the South Holland IDB main drain systems, then probably 2 to 3 days warning time would be available.
- 8.4 No displacement of water from the site will affect any adjoining properties as it will be discharged to soakaways designed to BRE365 requirements and Building Regulations approval.
- 8.5 Safe and dry access/egress is available to the site from Long Sutton where land is in Flood Zone 1.

9.0 RESIDUAL RISK – EXTREME EVENTS

- 9.1 The residual risk from extreme events is very low on this site, because of its location, within the South Holland IDB area and its location 4.50 kms from the River Nene tidal defences.

9.2 Although within Flood Zone 3 according to NPPF classification, the site actually has a very low risk of flooding due to the current standards of drainage and flood defence and land levels. The site is not located within a Functional Flood Plain of any 'main river' or 'main drain'. The Environment Agency Flood Map for Planning has been produced irrespective of existing flood defences and standards of protection.

9.3 South Holland District Council and Boston Borough Council in conjunction with the Environment Agency and the local IDB's within the Council's area have carried out a Strategic Flood Risk Assessment of the whole District by appointed Consulting Engineers.

The South East Lincs. Strategic Flood Risk Assessment has produced more definitive Flood Risk Maps than those published by the Environment Agency and has analysed flood return periods of all tidal and fluvial defences for years 2002 and 2115 to account for the effects of climate change. Breach scenarios of embankments failing and/or being overtopped have also been carried out to establish Flood Risk Zones. The site is shown as being liable to flooding of between 0.00 – 0.25m as a result of a failure of the River Nene tidal defences.

9.4 As a result of the South East Lincs. Strategic Flood Risk Assessment; the South Holland Main Drain and associated IDB main drains have been determined as providing protection against a 1 in 100 year return period event both in years 2002 and 2115.

10.0 CONCLUSIONS AND RECOMMENDATIONS

10.1 As a result of the assessment, the following conclusions have been reached:-

- The proposed development is not in a Functional Floodplain. It is located in the Passive Floodplain protected by defences to a 1 in 100 year return period, (1.0%)
- Although the site is in Flood Zone 3, the actual risk of site flooding from any Environment Agency river system is very low (less than 0.5%). The site has been identified as being liable of between 0.00 – 0.25m depth of flooding due to the failure of the River Nene tidal defences in the South East Lincs. Strategic Flood Risk Assessment.
- Although the site is located within an Internal Drainage District with a minimum standard of drainage of 1 in 50 years, this accords with Defra guidelines for rural development. Freeboard to design water level of 900mm to lowest land level is available for events greater than 1 in 50 years providing further storage within the drainage channels.
- The development floor level has been raised a minimum 400mm above existing ground level with rainwater discharged to soakaways to BRE365 design requirements and Building Regulations approval.

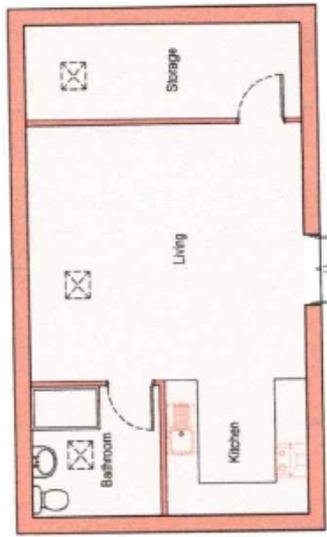
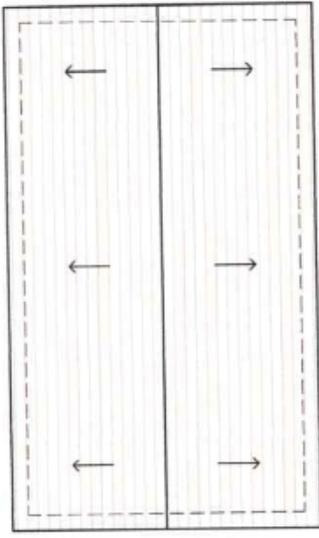
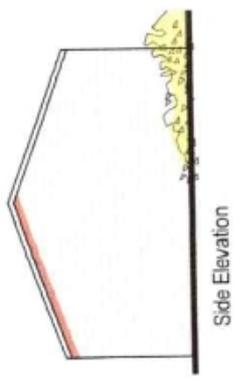
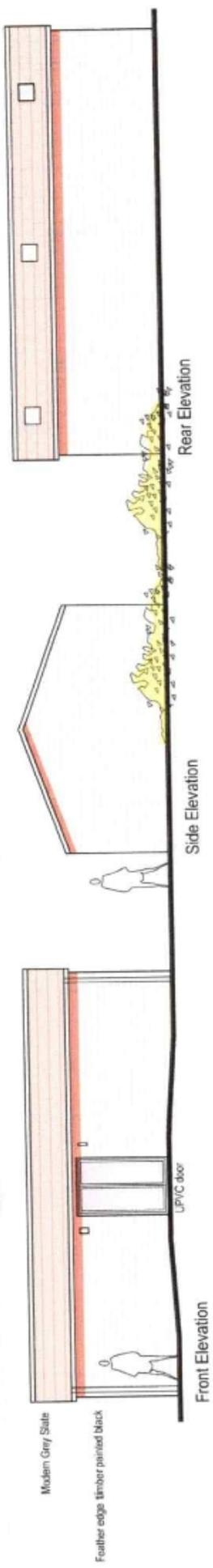


BLOCK PLAN 1:200



LOCATION PLAN 1:1250

HEAL PLANNING APPEALS	HEAL Hedge Enterprise Associates Ltd 8, May's Head, Drimlech, Stranorlar, BT1 1DZ.
Project:	4a Garrahae Caisleir Corp Suburb Expansion
Date:	Location and Mass plan
Issue:	Nov 2025
Scale:	1:1250 & 1:200
Drawn by:	HP-024-01
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Rev.	Description	Date
HEAL PLANNING APPEALS		
Hooper Enterprise Associates Ltd St. Mary's Place, Shrewsbury, Shropshire, SY1 1DZ.		
Project: 4a Gimmels Gells Long Sutton Spalding		
Title: Elevations and Plans		
Date:	Nov 2025	Drawing No:
Scale:	1:100	HP-GGL-02
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Flood map for planning

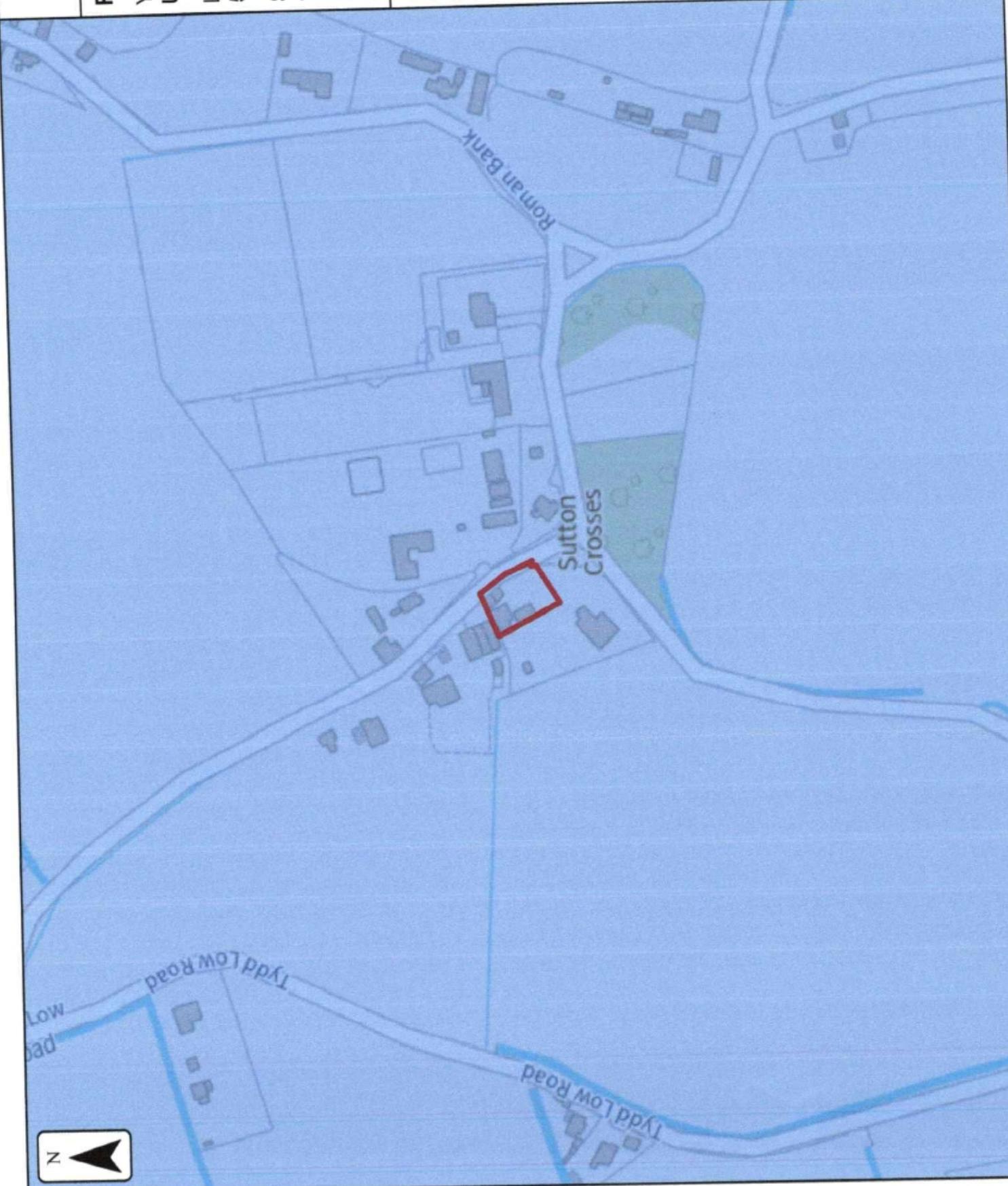
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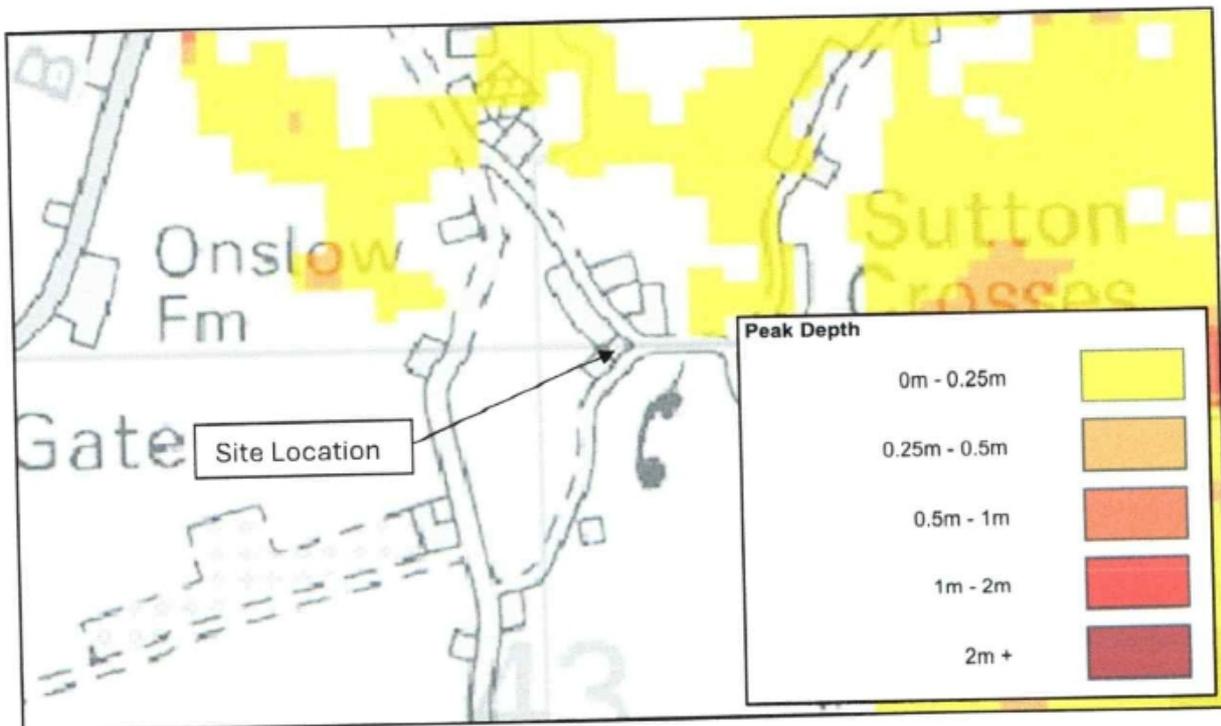
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29 Dec 2025 20:35

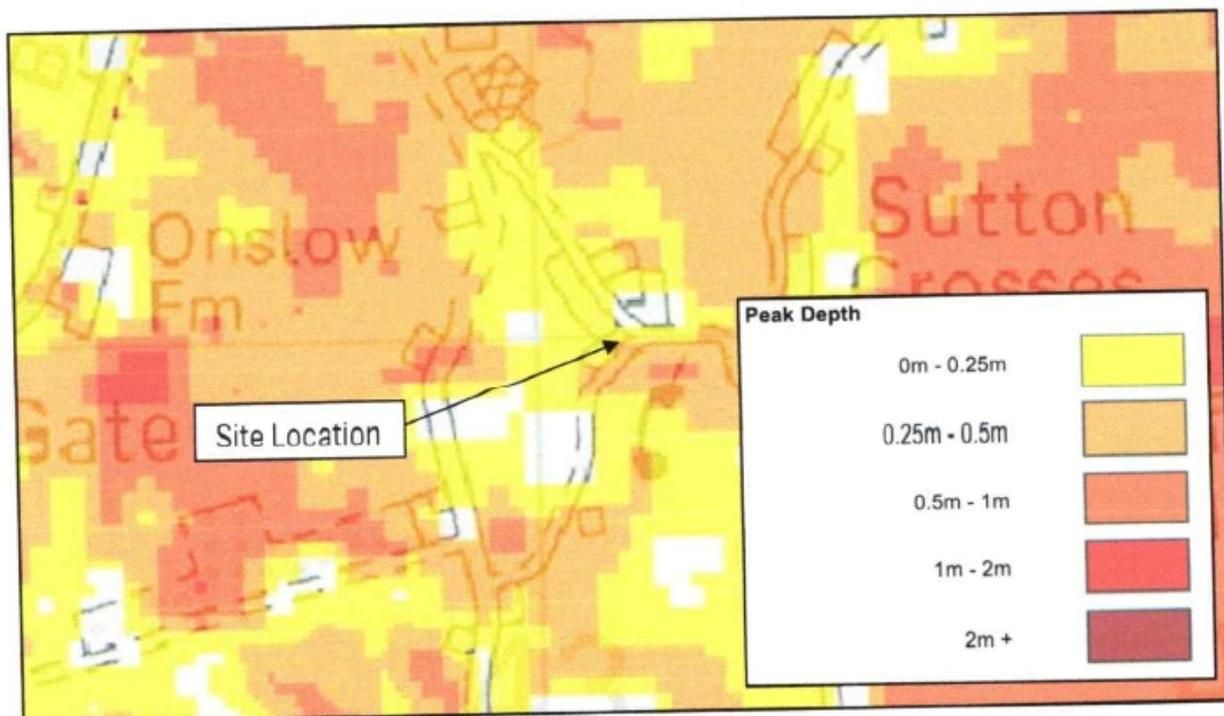
-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area



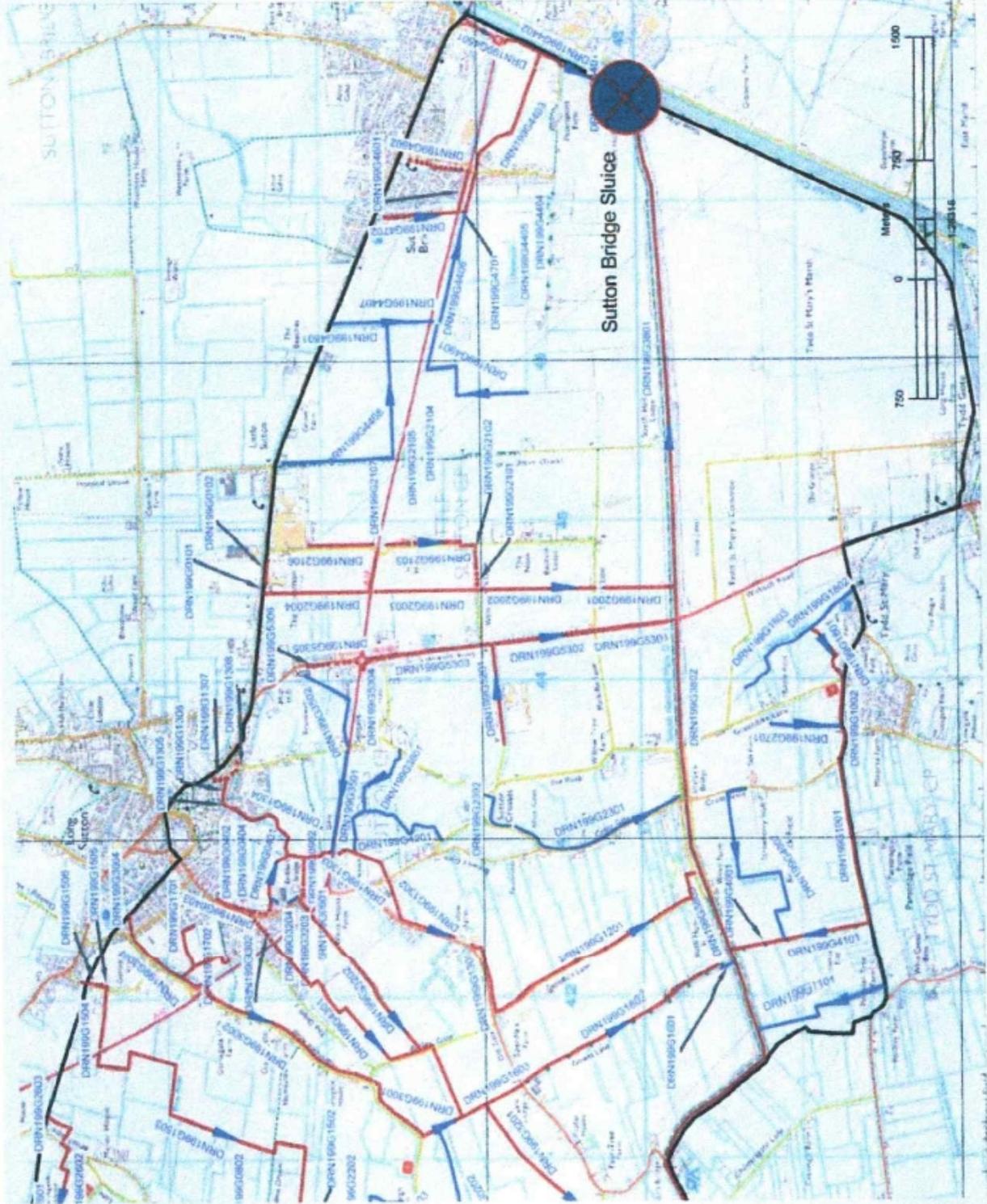
Residual Flood Depth – Gimmels Gate



Present Day 1% Fluvial 0.5% Tidal



2115 1% Fluvial 0.5% tidal



546000

G - Sutton St James

000300