ROY LOBLEY CONSULTING
Specialists in Flood Risk Management

FLOOD RISK ASSESSMENT

CHANGE OF USE TO RESIDENTIAL
31,33,33A HIGH STREET, GOSBERTON

Bacon & Webb Ltd
February 2025

DOCUMENT ISSUE RECORD

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EXECUTIVE SUMMARY

This Flood Risk Assessment is compliant with the requirements set out in the National Planning Policy Framework, and the associated online Planning Practice Guidance. It has been produced on behalf of Bacon & Webb Ltd. This report demonstrates that the proposed development is not at significant flood risk, and will not increase flood risk to others, subject to the recommended flood mitigation strategies being implemented.

Policy

Development Type	Flood Zone	Vulnerability	Sequential Test
DWELLING HOUSES	3	MORE VULNERABLE	NOT REQUIRED

Climate Change Allowance

Peak River Flow

WELLAND MANAGEMENT CATCHMENT	
Allowance Category	Percentage Increase
CENTRAL	17

Sea Level Rise

Area of England	Allowance	2000-2035 (mm/year)	2036-2065 (mm/year)	2066-2095 (mm)/year	2096-2125 (mm/year)
Anglian	Higher Central	5.8	8.7	11.6	13.0
	Upper End	7.0	11.3	15.8	18.1

Flood Risk and Mitigation

Flood Risk Source	Level of Risk Without Mitigation	Proposed Mitigation
Fluvial Tidal Groundwater Sewers	Low	No additional mitigation proposed
Pluvial Reservoir Canal/Artificial	None	

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APPENDICES

Appendix 1 Topographic Survey

1.0 INTRODUCTION

1.1 This Flood Risk Assessment, (FRA), is compliant with the requirements set out in the National Planning Policy Framework, (NPPF), and the associated online Planning Practice Guidance.

1.2 The FRA has been produced on behalf of Bacon & Webb Ltd in respect of a planning application for a change of use to residential at 31,33,33a High Street, Gosberton.

Data Used

1.3 This FRA is based on the following information:

- Topographic Survey
- Proposed Plans
- British Geological Survey Drift & Geology Maps
- Environment Agency Data
- British Geological Survey Hydrogeology Data
- South East Lincolnshire Strategic Flood Risk Assessment

Existing Site

1.4 The site is located at grid reference TF2419831559 as shown in **Figure 1.1** below.



Figure 1.1 Site Location

1.5 A full topographic survey has been undertaken and is included as **Appendix 1**.

1.6 The online British Geological Survey maps indicates that the site is located on superficial deposits of clay and silt over a bedrock of mudstone.

Proposed Development

1.7 The proposed development consists of alterations to the ground floor of an existing dwelling to create a 2 bedroom, 3 person flat, and the change of use of a detached workshop to create 2 no. 1 bedroom 2 person flats, as shown on the extract of the proposed plans below in **Figure 1.2**

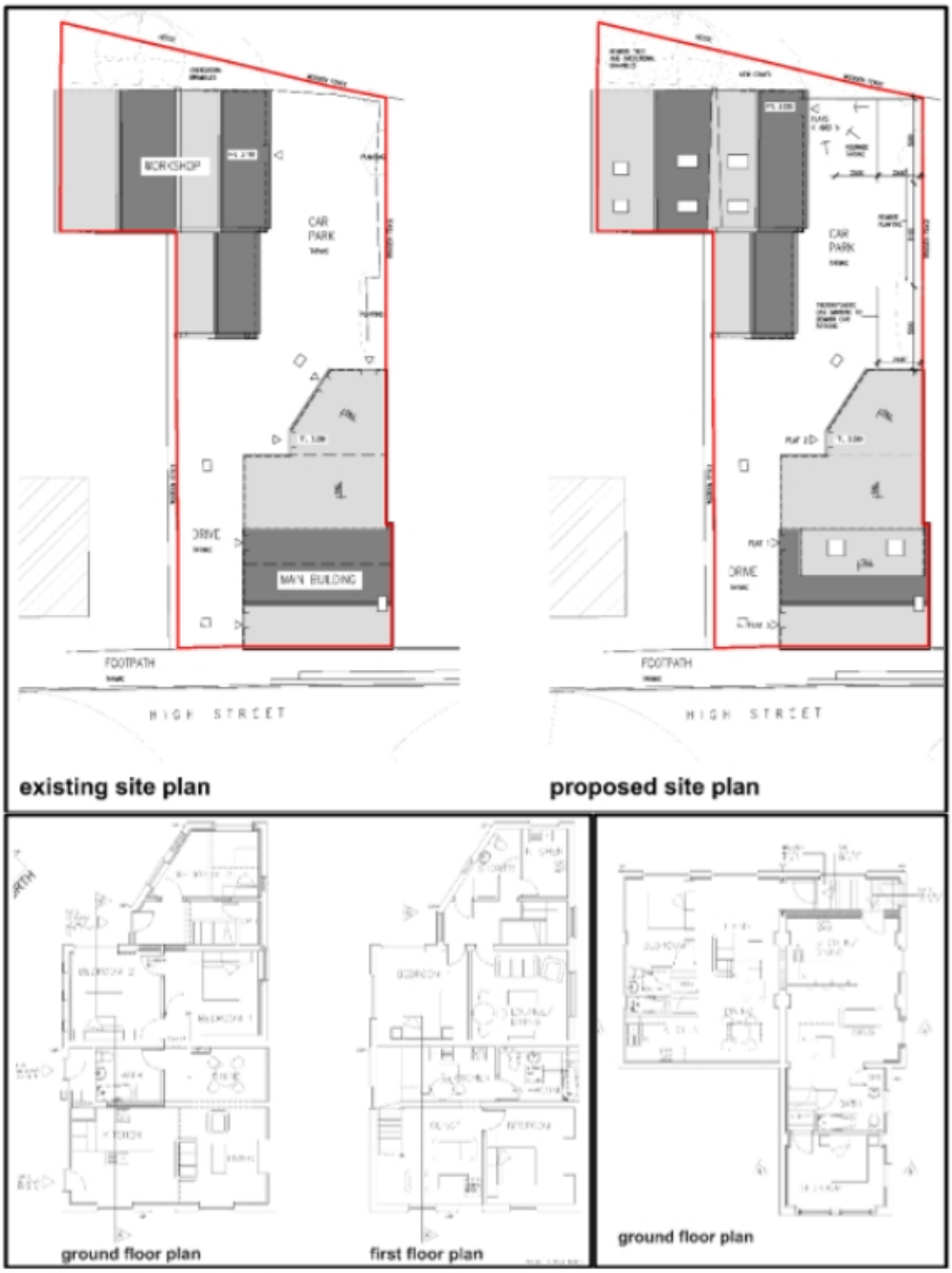


Figure 1.2 Proposed Plans

2.0 FLOOD RISK PLANNING POLICY

National Planning Policy Framework

2.1 The NPPF sets out the Government's national policies on different aspects of land use planning in England in relation to flood risk. A supporting web-based Planning Practice Guidance is also available.

Sequential Test

2.2 The NPPF requires a sequential risk-based approach to be undertaken to individual applications in areas known to be at risk now or in the future from any form of flooding. Within this context the aim of a Sequential Test is to steer new development to areas with the lowest risk of flooding from any source.

2.3 The sequential test should be used in areas known to be at risk now or in the future from any form of flooding, except in situations where a site-specific flood risk assessment demonstrates that no built development within the site boundary, including access or escape routes, land raising or other potentially vulnerable elements, would be located on an area that would be at risk of flooding from any source, now and in the future (having regard to potential changes in flood risk).

Flood Zone Definition

Flood Zone 1	Low probability (1 in 1000 annual probability of river or sea flooding (<0.1%)).
Flood Zone 2	Medium probability (between 1 in 100 and 1 in 1000 annual probability of river flooding (1.0%.-.0.1%) or between 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5%.-.0.1%) in any given year).
Flood Zone 3a	High probability (1 in 100 or great annual probability of river flooding (>1.0%) or 1 in 200 or greater annual probability of sea flooding (>0.5%) in any given year).
Flood Zone 3b	This zone comprises land where water must flow or be stored in times of flood. Land which would flood with an annual probability of 1 in 30 (3.3%), or is designed to flood in an extreme flood (0.1%) should provide a starting point for discussions to identify functional floodplain.

2.4 The aim is to steer new development to Flood Zone 1 and where there are no reasonably available sites in Flood Zone 1, local planning authorities in their decision making should consider the flood risk vulnerability of land uses and consider reasonably available sites in Flood Zone 2, applying the Exception Test if required. Only where there are no reasonably available sites in Flood Zones 1 or 2 should the suitability of sites in Flood Zone 3 be considered.

2.5 The guidance also sets out the vulnerability to flooding of different land uses and this land use is highlighted below.

Flood Risk Vulnerability Classification

Essential Infrastructure

- Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk.
- Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including infrastructure for electricity supply including generation, storage and distribution systems; including electricity generating power stations, grid and primary substations storage; and water treatment works that need to remain operational in times of flood.
- Wind turbines.
- Solar farms

Highly Vulnerable

- Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding.
- Emergency dispersal points.
- Basement dwellings.
- Caravans, mobile homes and park homes intended for permanent residential use.
- Installations requiring hazardous substances consent. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as 'Essential Infrastructure'.)

More Vulnerable

- Hospitals
- Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels.
- **Buildings used for dwelling houses**, student halls of residence, drinking establishments, nightclubs and hotels.
- Non–residential uses for health services, nurseries and educational establishments.
- Landfill and sites used for waste management facilities for hazardous waste.
- Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

Less Vulnerable

- Police, ambulance and fire stations which are not required to be operational during flooding.
- Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'more vulnerable' class; and assembly and leisure.
- Land and buildings used for agriculture and forestry.
- Waste treatment (except landfill and hazardous waste facilities).
- Minerals working and processing (except for sand and gravel working).
- Water treatment works which do not need to remain operational during times of flood.
- Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place.
- Car parks.

Water Compatible

- Flood control infrastructure.
- Water transmission infrastructure and pumping stations.
- Sewage transmission infrastructure and pumping stations.
- Sand and gravel working.
- Docks, marinas and wharves.
- Navigation facilities.
- Ministry of Defence installations.
- Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location. Water-based recreation (excluding sleeping accommodation).
- Lifeguard and coastguard stations.
- Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms.
- Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan

Exception Test

2.6 Having applied the sequential test, if it is not possible for development to be located in areas with a lower risk of flooding (taking into account wider sustainable development objectives), the exception test may have to be applied. The need for the exception test will depend on the potential vulnerability of the site and of the development proposed. The first part of the Exception Test is to show that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk. The second part is the requirement for a FRA to demonstrate that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The guidance states when the application of the Exception Test is required and this is summarised below.

Flood Zone 1	Exception Test is not required	All.
Flood Zone 2	Exception Test is not required	Essential Infrastructure; More Vulnerable; Less Vulnerable; Water Compatible;
	Exception Test required	Highly Vulnerable.
Flood Zone 3a	Exception Test is not required	Less vulnerable; Water Compatible.
	Exception Test required	Essential Infrastructure; More Vulnerable.
	Should not be permitted	Highly vulnerable.
Flood Zone 3b	Exception Test is not required	Water Compatible.
	Exception Test required	Essential Infrastructure;
	Should not be permitted	Highly vulnerable; More vulnerable; Less vulnerable.

Development Proposals

2.8 The proposed development consists of buildings used for dwelling houses.

Flood Zones

2.9 The Flood Zones are shown on **Figure 2.1** below which shows the site to be in Flood Zone 3.

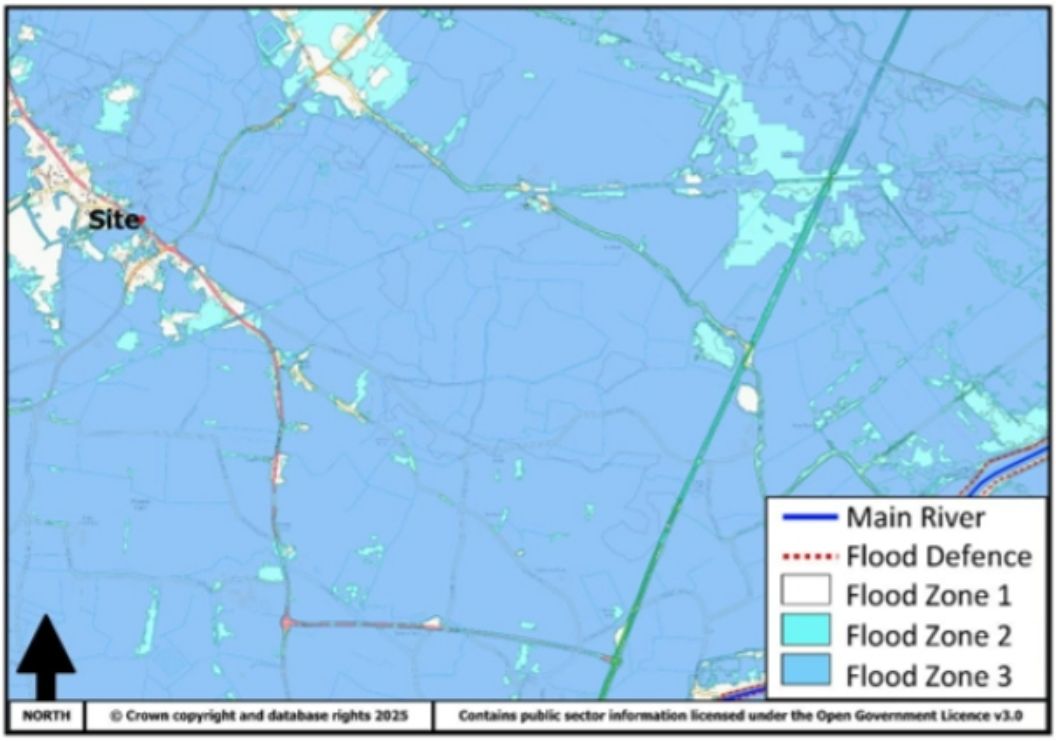


Figure 2.1 Flood Zones

Development Vulnerability

2.10 Dwelling houses are more vulnerable.

2.11 The NPPF states that *"Applications for some minor development and changes of use should not be subject to the Sequential or Exception Tests but should still meet the requirements for site-specific flood risk assessments."*

2.12 The proposed development is for a change of use and therefore not subjected to the Sequential and Exception Tests.

2.13 A FRA is required to ensure the development will remain safe over its lifetime from all sources of flooding and not increase flood risk elsewhere.

3.0 CLIMATE CHANGE

3.1 The NPPF sets out how the planning system should help minimise vulnerability and provide resilience to the impacts of climate change.

3.2 As the Government's expert on flood risk on 19th February 2016 the Environment Agency, (EA), published revised climate change allowances to support the NPPF. The sea level rise allowances were revised on the 17th December 2019, the peak river flows revised on the 20th July 2021 and the peak rainfall allowances were revised on 10th May 2022.

3.3 The climate change allowances are based on projections and different scenarios of carbon dioxide (CO2) emissions to the atmosphere and provide predictions of anticipated change for:

- peak river flow and peak rainfall intensity by river Management Catchment;
- sea level rise;
- offshore wind speed and extreme wave height.

Peak River Flow Allowances

3.4 The peak river flow allowances show the anticipated changes to peak flow by Management Catchment with three allowances; central; higher central and upper end. This proposed development is in the Welland Management Catchment.

3.5 The appropriate allowance depends on the Flood Zone and vulnerability classification of the development and for this proposal it is appropriate to use the Central allowance.

3.6 The following climate change allowances in peak river flows therefore need to be applied:

WELLAND	
Allowance Category	**Percentage Increase**
Central	17

Table 3.1 Climate Change Allowances for Peak River Flow

Peak Rainfall Intensity Allowance

3.7 Increased rainfall affects river levels and land and urban drainage and should be applied to surface water drainage systems. However, the proposed development does not increase the impermeable area for these allowances to apply.

Sea Level Allowances

3.8 There is a range of allowances for each region and epoch or time frame for sea level rise as follows:

Area of England	Allowance	2000-2035 (mm/year)	2036-2065 (mm/year)	2066-2095 (mm)/year	2096-2125 (mm/year)
Anglian	Higher Central	5.8	8.7	11.6	13.0
	Upper End	7.0	11.3	15.8	18.1

Table 3.2 Climate Change Allowances for Sea Level Rise

4.0 FLOOD RISK SOURCES

4.1 The following flood risk sources have been identified and where mitigation is required to reduce the flood risk this is discussed in **Section 5**.

Fluvial and Tidal

Main River

4.2 The nearest EA Main River to the site is the River Welland approximately 4.50km to the south east of the site.

Ordinary Watercourses

4.3 The site lies within the district of the Welland and Deeping Internal Drainage Board, (IDB), and the Boards maintained watercourse is located approximately 0.28km to the east of the site.

4.4 An ordinary watercourse is located on the north east boundary of the site.

Tidal

4.5 The site is approximately 17.00km from the Wash Estuary to the east

South East Lincolnshire Strategic Flood Risk Assessment

4.6 The South East Lincolnshire Joint Planning Unit (SELJPU) area lies to the west and south-west of the Wash estuary. The low-lying nature of the area makes it vulnerable to flooding from both rivers and the sea.

4.7 The Strategic Flood Risk Assessment, (SFRA), carried out by the SELJPU is accompanied by mapping which shows the variation in flood risk for land within the SELJPU area.

4.8 The SFRA has been undertaken to ensure there is consistent evidence base against which the SELJPU can inform its Local Plan and Development Management decisions. The previous Boston Borough Council SFRA was completed in October 2010. South Holland District Council's SFRA was completed in January 2010.

4.9 This SFRA supersedes these existing documents and provides the latest and best available information on flood risk and contains mapping showing the extent of the 1.0%, (1:100), fluvial and 0.5%, (1:200), tidal events in 2115 across the area.

4.10 An extract of that map is shown below in **Figure 4.1**.

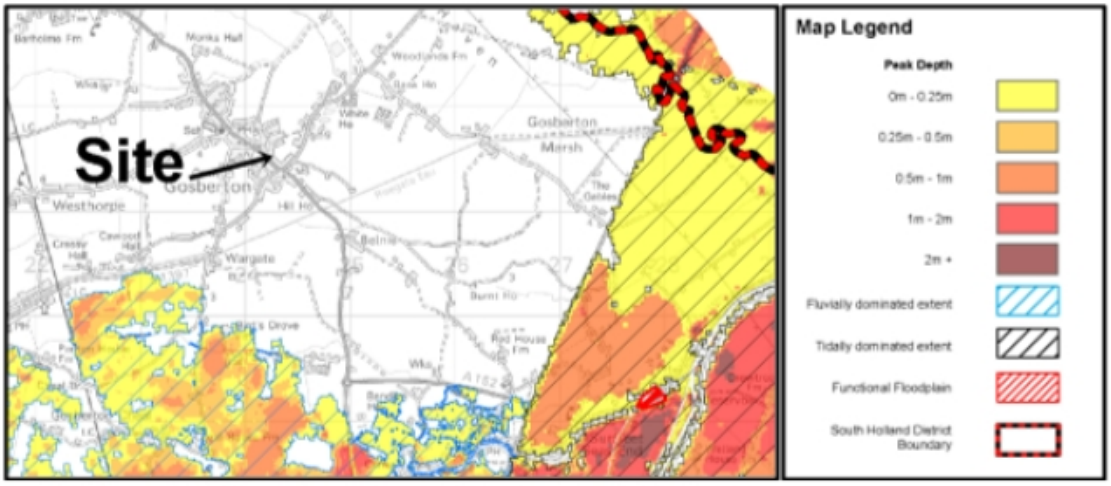


Figure 4.1 Extent of Fluvial and Tidal Domination 2115

Residual Risk

4.11 The site is protected from flooding by defences, including a raised defence. However, if that defence was to be breached then flooding could occur. The SFRA also includes mapping showing the residual peak flood depths for the 1.0%, (1:100), fluvial and 0.5%, (1:200), tidal events in 2115.

4.12 An extract of that map is shown below in **Figure 4.2**.

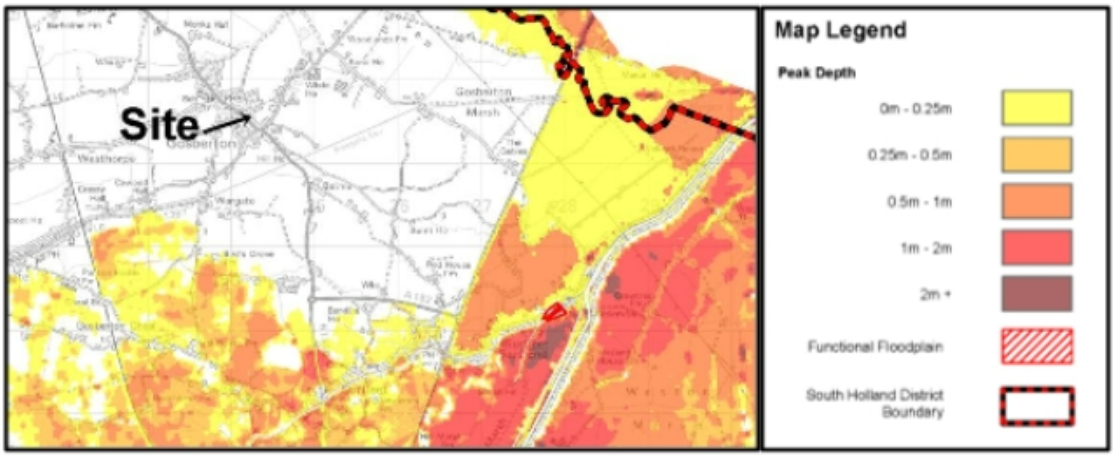


Figure 4.2 Residual Peak Depths Fluvial and Tidal 2115

4.13 The site is at low risk of flooding from fluvial and tidal sources.

Pluvial

4.14 The EA have produced maps that show the chance of flooding from surface water to areas of land. Climate change scenarios have been produced to indicate the predicted impacts of climate change on future flood risk between 2040 and 2060.

4.15 The flood Risk is displayed as one of three likelihood categories:

- High Greater than or equal to 1 in 30 (3.3%) chance of flooding in any year.
- Medium Less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) chance of flooding in any given year.
- Low Less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) chance of flooding in any given year.

4.16 The climate change, (2040 – 2060), risk of flooding map is shown below in **Figure 4.3**.

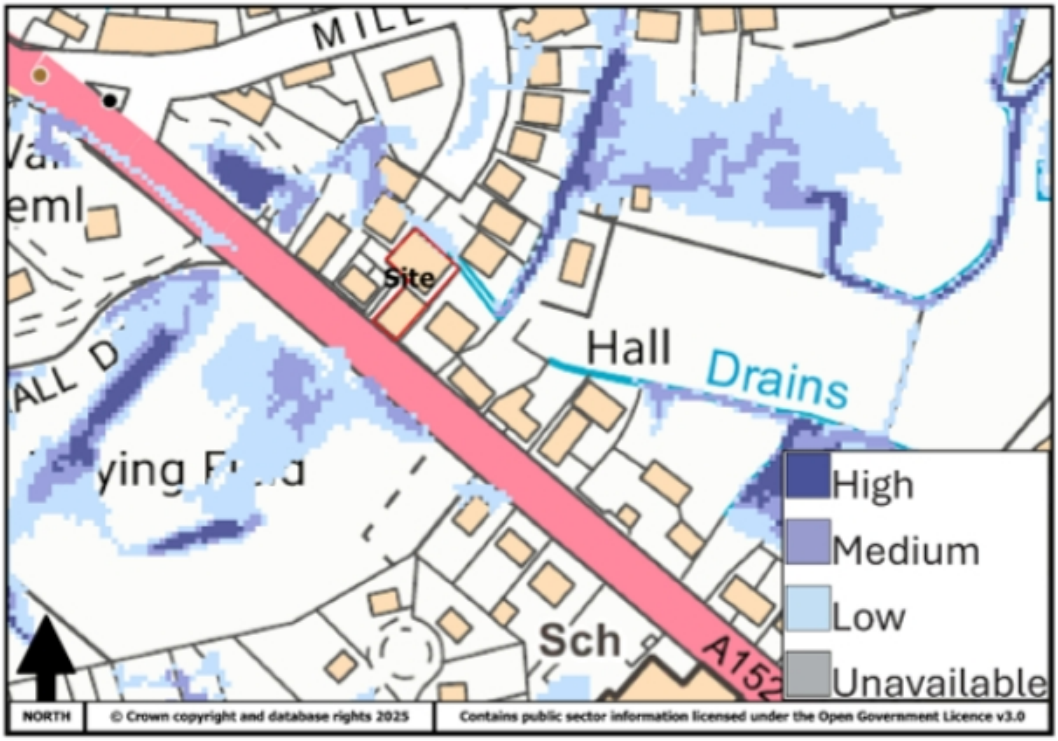


Figure 4.3 Risk of Flooding from Surface Water (2040 – 2060)

4.17 The site is not at risk of flooding from pluvial sources.

Groundwater

4.18 The site is located on rocks with essentially no groundwater and there are no known instances of groundwater flooding in the area.

4.19 The risk of flooding from groundwater is low.

Sewers

4.20 Public maintained sewers run adjacent to the site but are unlikely to pose a significant flood risk as they are well maintained.

4.21 The risk of flooding from existing sewers is low.

Reservoirs

4.22 The EA has prepared reservoir failure flood risk mapping to show the largest area that might be flooded if a reservoir were to fail and release the water it holds.

4.23 The site is not at risk of flooding from reservoirs.

Canals and Artificial Water Bodies

4.24 The site is not at risk of flooding from canals.

5.0 MITIGATION

5.1 Section 4.0 has identified the sources of flooding which could potentially pose a risk to the site and the proposed development. This section of the FRA sets out the mitigation measures which are to be incorporated within the proposed development to address and reduce the risk of flooding to within acceptable levels.

Site Layout

5.2 The proposed development is at a low risk of flooding from fluvial, tidal, groundwater and existing sewers.

5.3 No additional flood mitigation is proposed.

6.0 CONCLUSIONS

6.1 This FRA is compliant with the requirements set out in the NPPF and the associated online Planning Practice Guidance.

6.2 The FRA has been produced on behalf of Bacon & Webb Ltd.

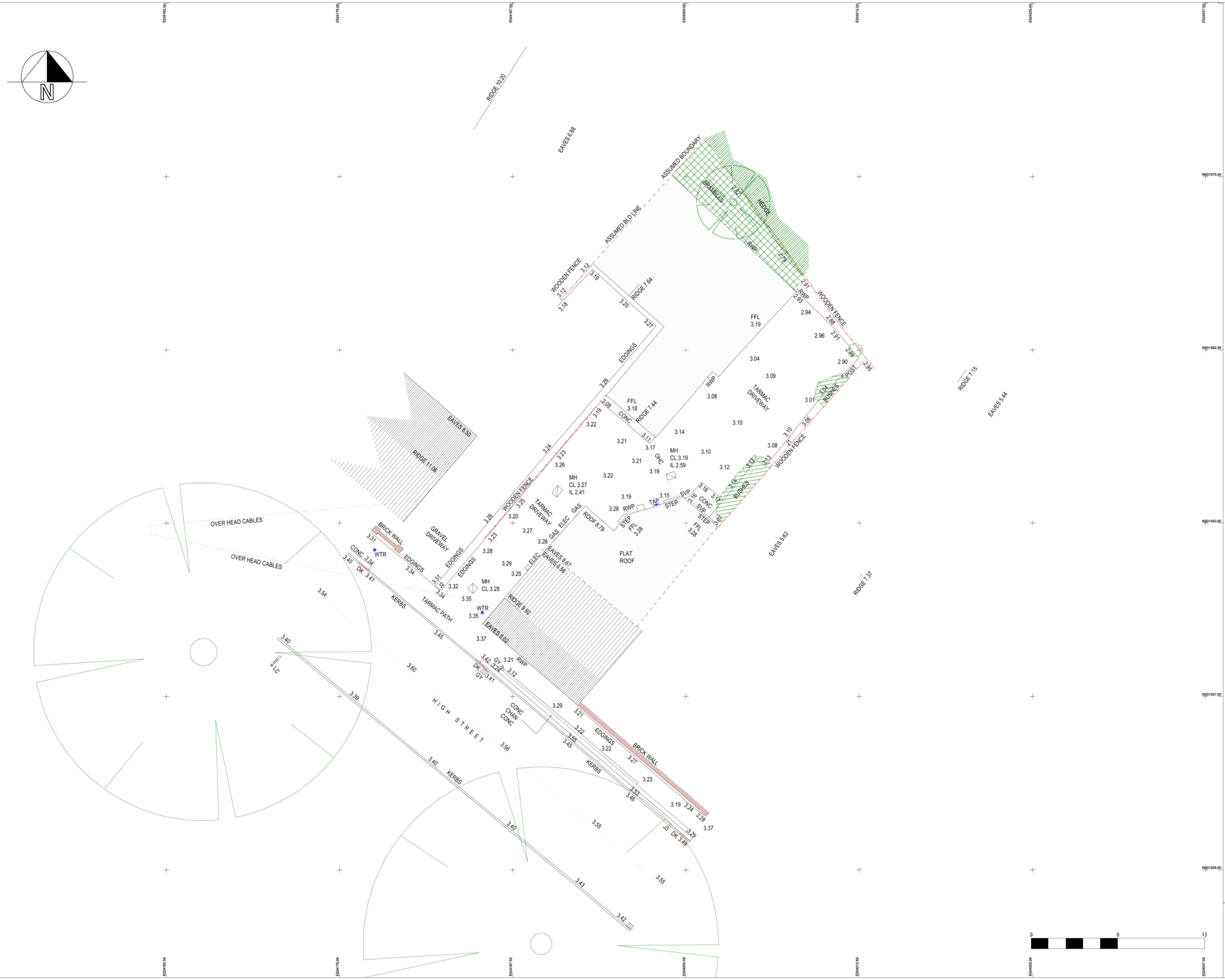
6.3 This report demonstrates that the proposed development is not at significant flood risk, and will not increase flood risk to others, subject to the recommended flood mitigation strategies being implemented.

6.4 The identified risks and mitigation measures are summarised below;

Flood Risk Source	Level of Risk Without Mitigation	Proposed Mitigation
Fluvial Tidal Groundwater Sewers	Low	No additional mitigation proposed
Pluvial Reservoir Canal/Artificial	None	

Table 6.1 Summary of Risk and Mitigation

Appendix 1
Topographic Survey



NOTES

ABBREVIATIONS & SYMBOLS

AV	AIR VALVE	OHC	OVERHEAD CABLE
BH	BORE HOLE	PB	POST BOX
BOL	BOLLARD	PINV	PIPE INVERT LEVEL
CATV	CABLE TV MH	PM	PARKING METER
CCTV	SECURITY CAM	PO	POST
CL	COVER LEVEL	PT	PIPE TOP LEVEL
CH	CHANNEL	P/R	POST & RAIL FENCE
COL	COLUMN	P/W	POST & WIRE FENCE
DC	CABLE TV LID	RD	EDGE OF ROAD/NO KERB
DP	DOWN PIPE	RE	RODDING EYE/POINT
DR	DRAIN	RL	RIDGE LEVEL
EL	EAVES LEVEL	RP	REFLECTIVE POST
EP	ELECTRIC POLE	RS	ROAD SIGN
ER	EARTH ROD	SLVL	STONE LEVEL
FB	FLOWER BED	SOFF	SOFFIT LEVEL
FH	FIRE HYDRANT	SV	VALVE
FFL	FINISHED FLOOR LEVEL	SW	SURFACE WATER
FP	FLAG POLE	Tac	TACTILE PAVING
FW	FOUL WATER	TH	TRIAL HOLE
GV	GAS VALVE	TL	TRAFFIC LIGHTS
HW	HEADWALL	TLVL	TARMAC LEVEL
IC	INSPECTION COVER	TOW	TOP OF WALL LEVEL
IL	I NVERT LEVEL	TP	TELEGRAPH POLE
KB	KERB BOTTOM	TRK	TRACK
KO	KERB OFFLET	UTL	UNABLE TO LIFT
KT	KERB TOP	VP	VENT PIPE
LP	LAMP POST	WL	WATER LEVEL
LC	LIGHT COLUMN	WLVL	WATER LEVEL
MH	MANHOLE	WM	WATER METER
MP	MARKER POST	WO	WASH OUT POINT

FENCE, HEDGE, ELECTRIC, BANK EDGE, STORM LINE, FOUL LINE, TELECOM LINE, GAS LINE, LARSON PILES, CHANNELS, WATER MAIN

TREE, BOREHOLE, STATION, TBM, MANHOLE, GULLY, BATTER, WATER LVL, GATE

1. THE POSITION OF THIS SURVEY IS BASED ON GPS OSTN15 GRID
2. ALL LEVELS RELATE TO HGTS TAKEN USING TRIMBLE VRS NOW
3. TREES SPREADS ARE DRAWN TO SCALE AND SHOW THE GENERAL/AVERAGE CANOPY SPREAD.
4. ALL BELOW GROUND LEVEL INFORMATION INCLUDING VOIDS, DRAINAGE & SERVICES HAVE BEEN IDENTIFIED FROM THE SURFACE LEVEL ONLY, THEREFORE PIPE SIZES ETC ARE ESTIMATIONS ONLY. ALL CRITICAL DIMENSIONS SHOULD BE CHECKED PRIOR TO THE COMMENCEMENT OF ANY SITE WORKS
5. EVERY EFFORT HAS BEEN MADE TO LOCATE AND SURVEY ALL VISIBLE FEATURES. IT SHOULD BE NOTED THAT SOME ITEMS MAY HAVE BEEN OBSCURED AT THE TIME OF THE SURVEY AND THEREFORE NOT SHOWN ON THIS DRAWING.
6. PHYSICAL BOUNDARY FEATURES SHOWN ON THIS DRAWING DO NOT NECESSARILY REPRESENT THE ACTUAL LEGAL BOUNDARIES. THIS INFORMATION SHOULD BE CONFIRMED WITH THE RELEVANT DOCUMENTATION.
7. THE CONTRACTOR MUST CHECK AND VERIFY ALL SITE LEVELS, DIMENSIONS, UTILITIES AND DRAINAGE DETAILS PRIOR TO THE COMMENCEMENT OF ANY SITE WORKS. ANY DISCREPANCIES MUST BE NOTIFIED TO CASTLE HILL SURVEYS LTD.
8. ALL SURVEY STATION CONTROL POINTS MUST BE CHECKED BY THE CONTRACTOR PRIOR TO STARTING ANY SITE WORKS.

Point	Easting	Northing	Elevation
J1	524207.486	331556.212	3.183
J2	524182.029	331545.350	3.342
J3	524198.868	331528.219	3.531

SURVEY DATE	24 / 01 / 2025	INITIALS	JT

REV	AMENDMENTS	DRN	DATE

Client:
KINGSMEAD DESIGN

Project Title:
31, 33 , 33A HIGH STREET
GOSBERTON
PE11 4NW

Drawing Title:
TOPOGRAPHICAL SURVEY

Scale @ A1:	Date:
1 : 125	26 / 01 / 2025

Drawing No: C H S 2 5 - 1 8 - 0 1 — Rev:

C.A.D.Title: kingsmead high street gosberton\topo (chs 25-18-01).mjo

Drawn By:	Checked By:
JT	CT

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