FLOODPLAN
LIMITED

Project Title: 00312 Manor Farm

Product: Level 2 Flood Risk Assessment

Date: 29 August 2023

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Web: www.floodplanreports.co.uk

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FLOODPLAN LIMITED

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Report Revision Log

Report Reference	Date Issued	Issued To	Notes
00312 Manor Farm	29/08/2023	Client	

1. INTRODUCTION

1.1. PURPOSE OF THE REPORT

FloodPlan have been commissioned on behalf of L. Baker to produce a Flood Risk Assessment for Manor Farm, St Christopher Road, Cowley, Uxbridge, UB83SG. This assessment has been conducted with the understanding that the document will be used as part of a planning permission proposal by L. Baker.

1.2. LOCATION OF SUBJECT SITE

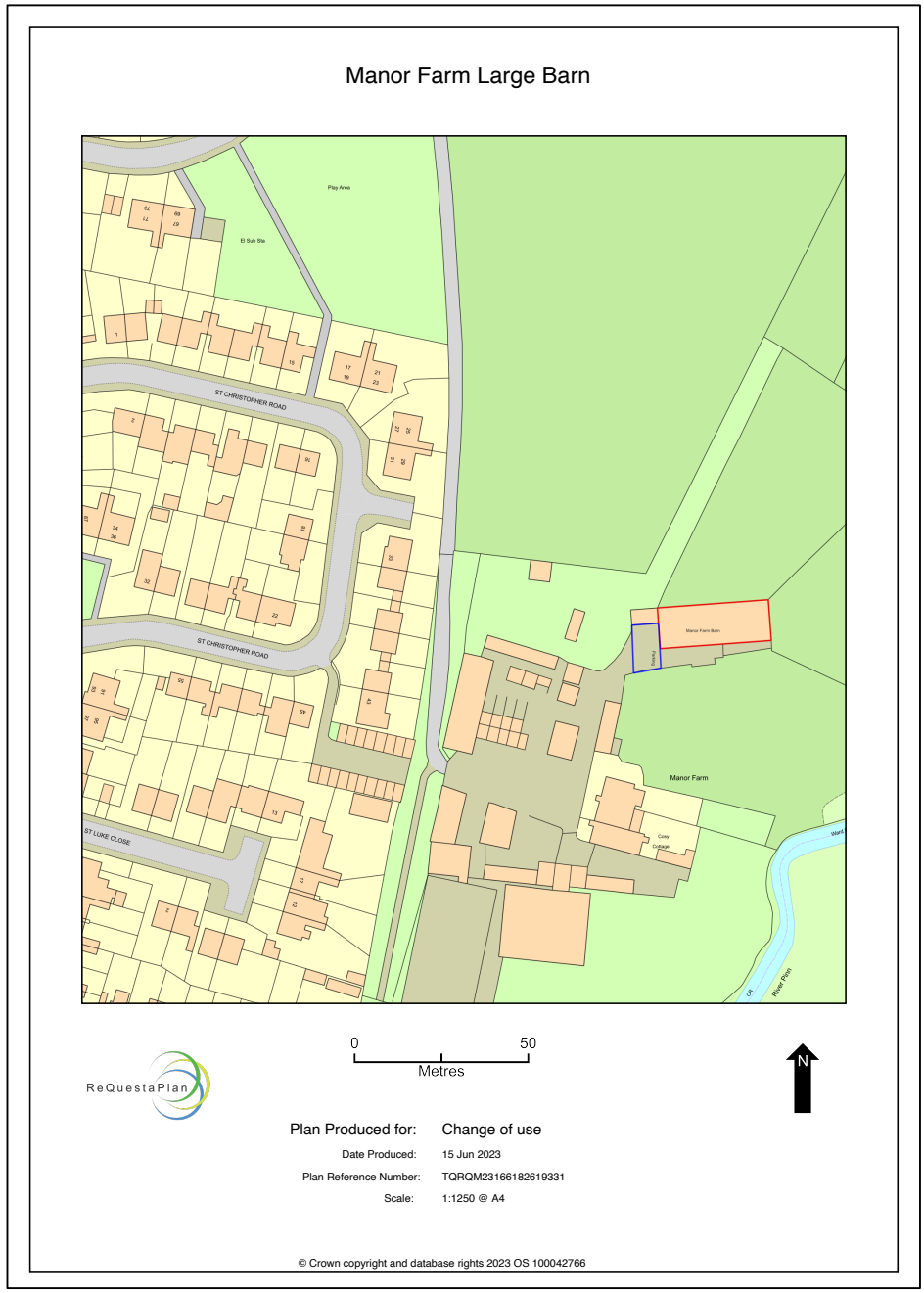


Figure 1: Site Location

1.3. SITE PROPOSALS

The development proposes the conversion of an agricultural use barn to Class E. The proposals are internal only and show no increase in footprint area.

2. ASSESSMENT OF NPPF

2.1. INTRODUCTION TO NPPF

The National Planning Policy Framework (NPPF) document provides guidance to local planning authorities to ensure the effective implementation of the planning policy. The policy seeks to direct development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere. For these purposes:

- "areas at risk of flooding" means land within Flood Zones 2 and 3; or land within Flood Zone 1 which has critical drainage problems, and which has been notified to the local planning authority by the Environment Agency.
- "flood risk" means risk from all sources of flooding - including from rivers and the sea, directly from rainfall on the ground surface and rising groundwater, overwhelmed sewers, and drainage systems, and from reservoirs, canals and lakes and other artificial sources.

Flood risk (from river and sea) are categorised inro one of the below:

2.2. FLOOD RISK CLASSIFICATIONS

Flood Zone	Probability of flooding
Zone 1	Low probability
Zone 2	Medium probability
Zone 3a	High probability
Zone 3b	Functional Floodplain

2.3. FLOOD RISK VULNERABILITY CLASSIFICATION

NPPF categorises land by vulnerability. A summary of categories can be seen below:

Vulnerability Class	Infrastructure
Essential Infrastructure	Power stations, water treatment works, wind turbines etc.

Highly vulnerable	Police stations, basement dwellings, caravans, mobile homes etc
More vulnerable	Hospitals, residential buildings, landfill sites, drinking establishments etc
Less Vulnerable	Emergency services stations, shops and building that offer professional services etc
Water compatible development	Pumping stations, docks, marinas etc

2.4. SUITABLE DEVELOPMENT MATRIX

The below table outlines the suitable development type for the flood zone classification assigned by the Environment Agency flood maps.

Flood risk vulnerability classification	Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Zone 1					
Zone 2			Exception Test Required		
Zone 3a	Exception Test Required			Exception Test Required	
Zone 3b Functional floodplain	Exception Test Required				

Figure 2: Suitable Development Matrix

Key: Blue Development is appropriate; Red Development should not be permitted; Green Development is appropriate with the passing of an Exception Test.

3. NPPF SITE ASSESSMENT

3.1. FLOOD ZONE CLASSIFICATION

As per Figure 3, the site is within flood zone 1 and 2.

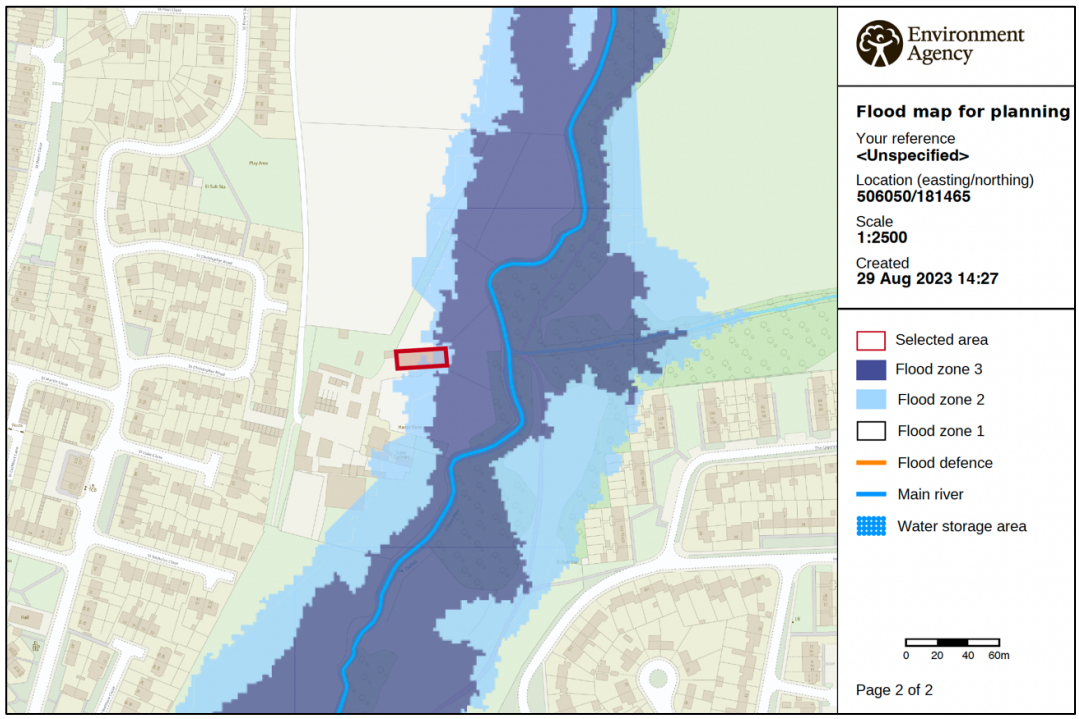


Figure 3: Flood Zone

3.2. LAND VULNERABILITY CLASSIFICATION

The existing land is used as an agricultural barn and is classified as 'less vulnerable. The proposed extension will be used for 'Class E' purposes and will also be classified as 'less vulnerable'. The proposals retain the vulnerability classification of the land.

3.3. SITE SUITABILITY (NPPF)

'Less vulnerable' development is suitable for flood zone 1 and 2 as per Figure 2.

4. SITE FLOOD RISK

4.1. THIRD PARTY FLOOD RISK DATA SUMMERY

A 'Groundsure' flood report has been acquired for advising this assessment. The full report can be found in Appendix B. The main findings are summarised below:

Type of Risk	Assessment of Risk
Overall Flood Risk	High
Rivers and the Sea	Medium
Surface Water	Negligible
Groundwater	Moderate
Historic Flood	Identified
Flood Defences	No
FloodScoreTM – insurance rating	High

4.2. SURFACE WATER FLOODING

The Environment Agency surface water flood map Figure 4, shows the site to be at a very low risk from surface water flooding. The site boundary is at a high risk of flooding.

Figure 4: EA Surface Water Flood Map

Where the dark blue shaded area denotes high risk of surface water flooding; the light blue denotes low risk with white areas having very low risk of surface water flooding. The risk classification is comparable to the 'Groundsure' flood report.

4.3. TIDAL AND FLUVIAL FLOODING

The site is classified as having a very low risk of flooding from tidal or river sources by the EA mapping. The site boundary is at a high risk of flooding.

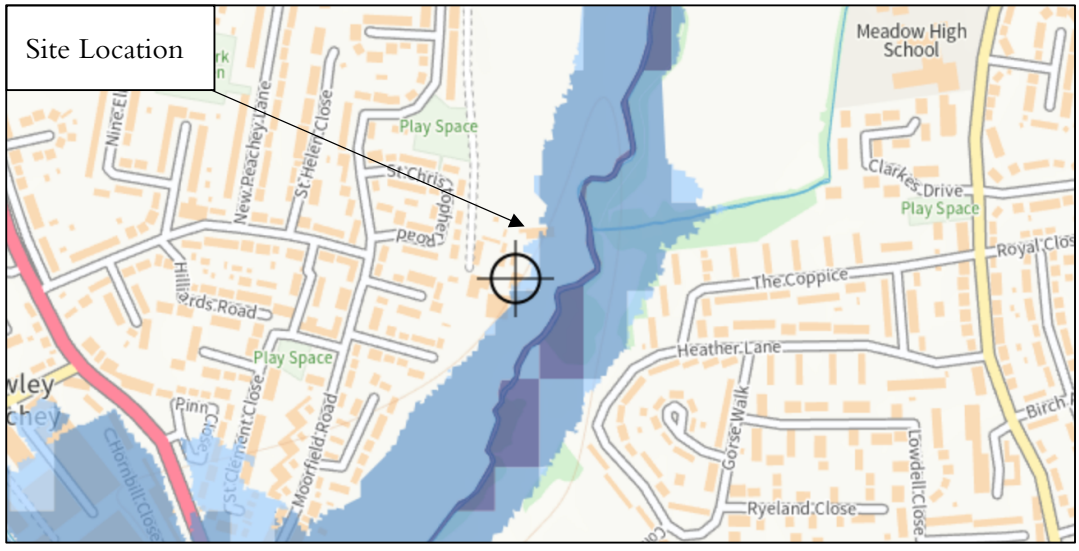


Figure 5: EA Tidal and Fluvial Flood Map

Where the dark blue shaded area denotes high risk of tidal and pluvial flooding; the light blue denotes low risk with the lightest blue areas having a very low risk of flooding.

4.4. GROUNDWATER FLOODING

The 'Groundsure' flood report indicates that the site has a moderate risk of groundwater flooding.

4.5. RESERVOIR FLOODING

There is a risk of flooding from reservoirs.

4.6. HISTORIC FLOODING

The 'Groundsure' flood report identified the site to have flooded in 1988.

5. FURTHER SITE ASSESSMENT

5.1. SITE ACCESS AND EGRESS ROUTES

The site access pay be hindered by pluvial flood risk.

5.2. FLOOD COMPENSATION

The proposals are not expected to displace floodwater during extreme events.

5.3. FLOOD WARNING AREAS

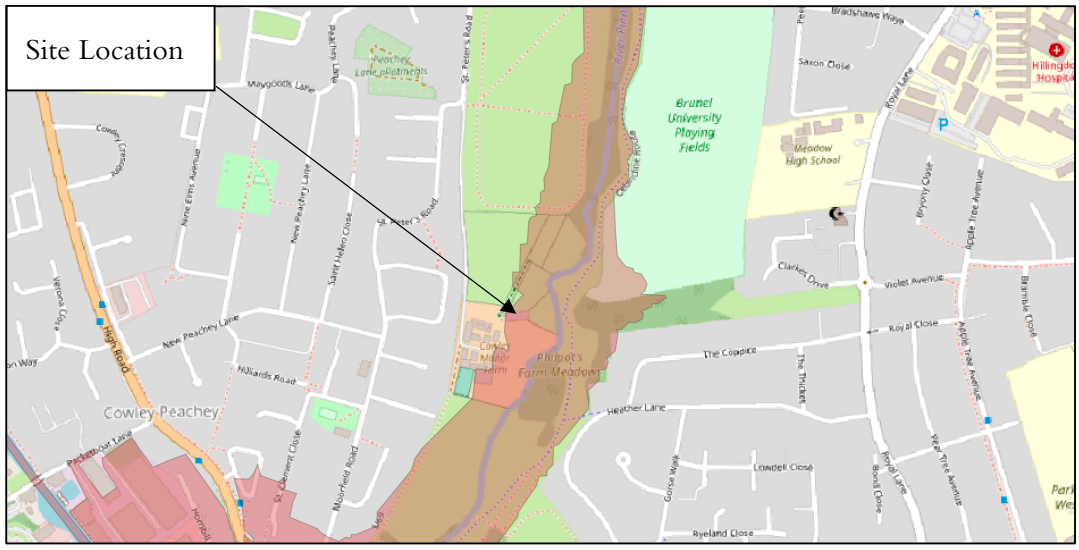


Figure 6: Flood Warning Areas

The site may benefit from EA flood warnings.

5.4. AWARENESS OF FLOOD RISK

The developer should be aware that the site is not immune from flooding. It is recommended that all residents take the opportunity to develop emergency and non-emergency plans.

5.5. SEQUENTIAL TEST

Not Applicable

5.6. EXCEPTION TEST

Not Applicable

6. FINDINGS AND RECOMMENDATIONS

6.1. FINDINGS

The development proposes the conversion of an agricultural use barn to Class E. The proposals are internal only and show no increase in footprint area. The proposals are within flood zone 1 and 2. 'Less vulnerable' development is suitable for land within flood zone 1 and 2.

6.2. RECOMMENDATIONS

This report recommends the following be considered to lower the risk and/or consequences that flooding may cause to the proposed development:

- The proposed extension should be subject to an adequate SuDS design as per the CDA's requirements.
- Site users / managers should sign up to receive EA flood warnings.

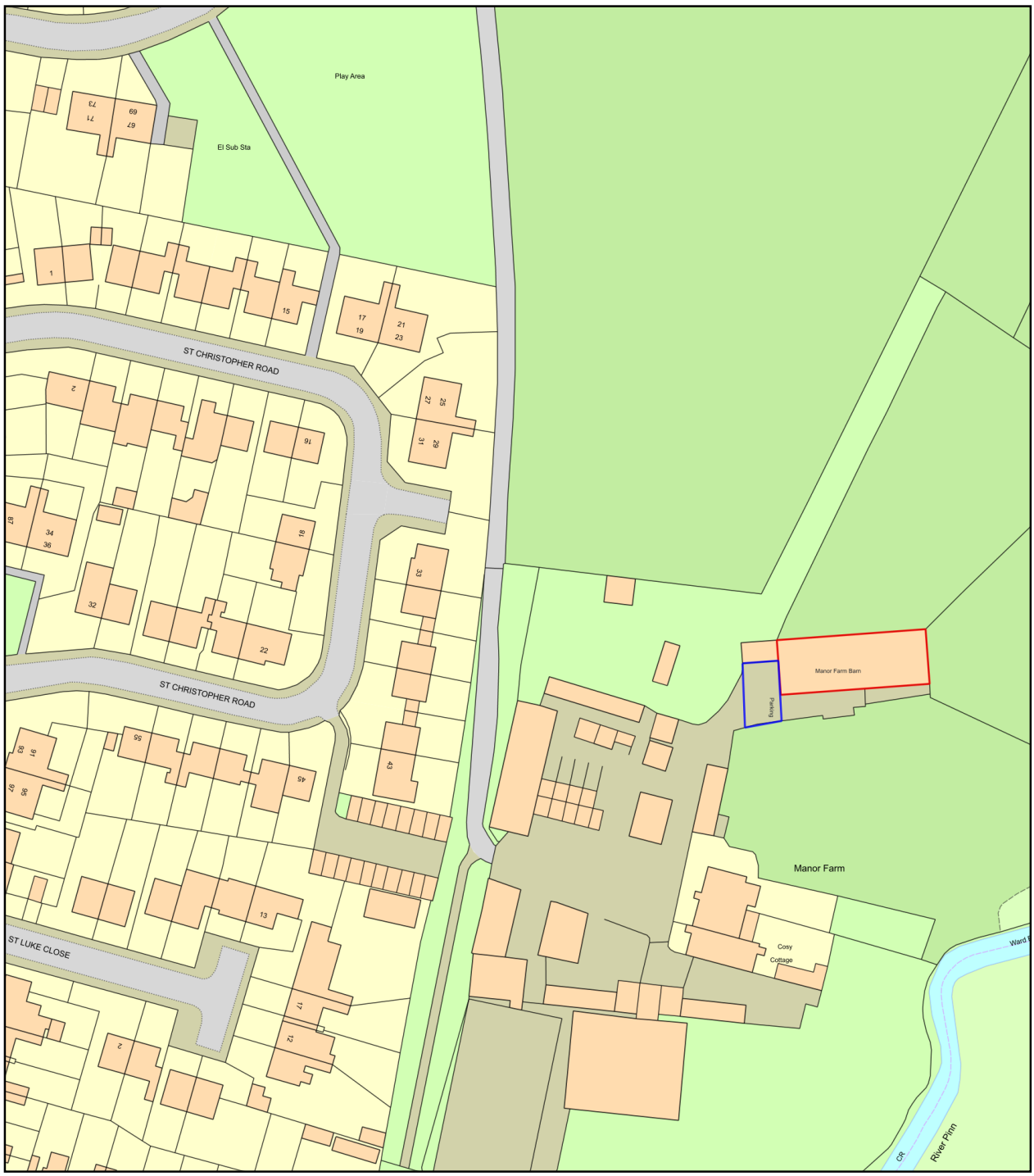
List of Appendices

Appendix A: Development Plan

Appendix B: Groundsure Flood Report

Appendix A: Development Plan

Manor Farm Large Barn



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ReQuestaPlan

Plan Produced for:	**Change of use**
Date Produced:	15 Jun 2023
Plan Reference Number:	TQRQM23166182619331
Scale:	1:1250 @ A4

Appendix B: Groundsure Flood Report

Groundsure
LOCATION INTELLIGENCE

Flood

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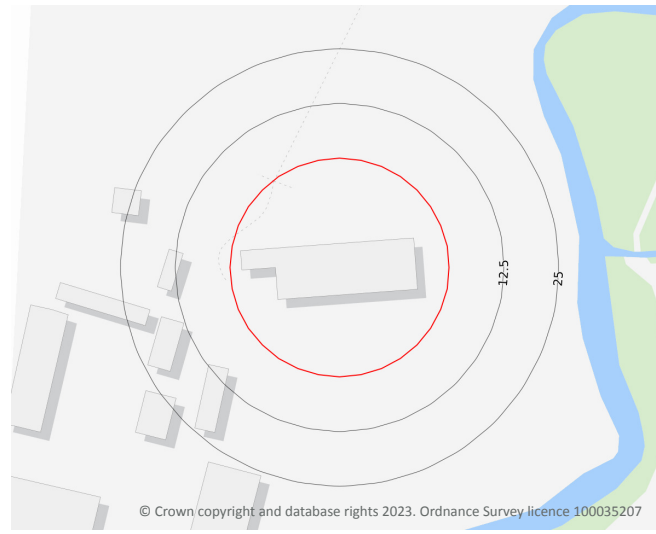
Overall Flood Risk

HIGH

Groundsure Flood complies with relevant Law Society practice notes on flood risk in property transactions.

Site plan



Search Results

Rivers and the Sea
Medium
page 3 >

Surface Water
Negligible

Groundwater
Moderate
page 5 >

Historic Flood
Identified
page 4 >

Flood Defences
No

FloodScore™ insurance rating
High
page 7 >

Full assessments for other environmental risks are available in additional Groundsure searches including the Groundsure Avista 7 in 1 report. Contact Groundsure or your search provider for further details.

Overview of findings and recommendations

To save you time when assessing the report, we only provide maps and data tables of features within the search radius that we have identified to be of note. These relate to environmental risks that may have liability implications, affect insurance premiums, property values and/or a lender's willingness to lend.

You can view the fully comprehensive library of information we have searched on **page 6 >**.

Flooding

Flooding

An elevated level of flood risk has been identified at the property.

Next steps for consideration:

- check to see if the property is eligible for the Flood Re scheme, which enables many properties at risk of flooding to be insured at reasonable rates: http://www.floodre.co.uk/homeowner/about-us/ ↗
- investigate the insurance on offer for the property to ensure any implications on premiums are fully understood before completion
- a risk of groundwater flooding has been identified at the site. This will be more of an issue for properties with a basement or other section below ground. Further advice on groundwater flooding has been produced by the Environment Agency and the Local Government Association and can be found at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/297421/flho0911bugi-e-e.pdf ↗
- the assessment in this report is based on the highest flood risk found within the site boundary. The maps within the flood risk section clearly highlight which parts have a higher probability of flood risk, allowing you to visualise whether flood risk affects the buildings or the associated land. If required, we can provide an assessment that provides separate flood risk ratings for the main building and for the land/gardens around it. This assessment is carried out manually by one of our in house experts and can only be ordered by contacting our customer support team at info@groundsure.com ↗
- if the property has recently been constructed, the flood risk assessment contained within this report will not take into account any measures put in place by the developer to deal with flooding. You should seek further information from the developer on flood risk mitigation for the site
- investigate the various forms of flood resistance and resilience measures that will help protect your property in the event of a flood

Please note this report has been run on a point location buffered to 25m to account for uncertainties of the size of the property. Therefore some risk assessments and measurements may be overestimated.

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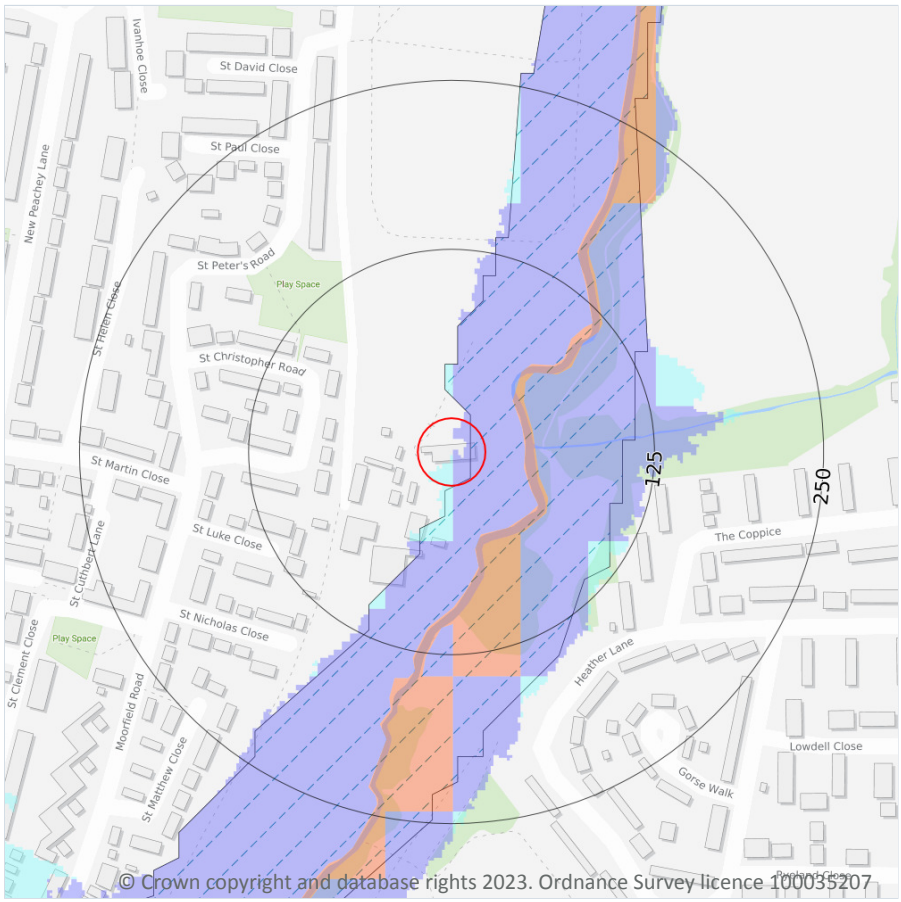
Flooding / Risk of flooding from rivers and the sea



Site Outline

Search buffers in metres (m)

River and coastal flooding:

- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Proposed Flood Defence Scheme
- Flood Defences

Risk of flooding from rivers and the sea

The property has a Medium chance of flooding in any given year, according to Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) data. This could cause problems with insuring the property against flood risk. However, if built before 2009, it may be eligible for insurance assistance from the Flood Re scheme: www.floodre.co.uk/ ↗

RoFRaS/FRAW assesses flood risk from rivers and the sea in England and Wales, using local data and expertise. It shows the chance of flooding from rivers or the sea, taking account of flood defences and the condition those defences are in. The model uses local water level and flood defence data to model flood risk. See page **page 7 >** for explanation of the levels of flood risk.

Please see **page 2 >** for further advice.

This data is sourced from the Environment Agency and Natural Resources Wales.

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Historical flood areas

Large scale flooding has been recorded in the area where the property is located in the past.

A record of a flood in previous years does not mean that an area will flood again, especially as this information does not take account of flood management schemes and improved flood defences. Equally, absence of a historic flood event for an area does not mean that the area has never flooded, but only that it doesn't appear in Environment Agency national data. This information is collated from a database showing the individual footprint of every historic flood recorded by the Environment Agency. Please note this doesn't include records held by individual local offices.

As flood risks may or may not have changed, this requires further investigation.

Distance	Direction	Date of Flood	Flood Source	Flood Cause	Type of Flood
0	on site	1988-01-01 1988-12-12	Main river	Channel capacity exceeded (no raised defences)	Fluvial

Flooding / Groundwater flooding

Site Outline

Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

Ambiental data indicates that the property is in an area with a moderate risk of groundwater flooding. Should a 1 in 100-year groundwater flood event occur, groundwater levels may affect basement areas. Properties without basements are not considered to be at risk from this level of groundwater flooding.

Some of the responses contained in this report are based on data and information provided by the Natural Environment Research Council (NERC) or its component body British Geological Survey (BGS). Your use of any information contained in this report which is derived from or based upon such data and information is at your own risk. Neither NERC nor BGS gives any warranty, condition or representation as to the quality, accuracy or completeness of such information and all liability (including for negligence) arising from its use is excluded to the fullest extent permitted by law. Your use of the data/report/assessment constitutes your agreement to bring no claim against NERC or BGS in connection with it.

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Datasets searched

This is a full list of the data searched in this report. If we have found results of note we will state "Identified". If no results of note are found, we will state "Not identified". Our intelligent filtering will hide "Not identified" sections to speed up your workflow.

Flooding	
Risk of flooding from rivers and the sea	**Identified**
Flood storage areas: part of floodplain	Not identified
Historical flood areas	**Identified**
Areas benefiting from flood defences	Not identified
Flood defences	Not identified
Proposed flood defences	Not identified
Surface water flood risk	Not identified
Groundwater flooding	**Identified**

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Flood information

The Flood Risk Assessment section is based on datasets covering a variety of different flooding types. No inspection of the property or of the surrounding area has been undertaken by Groundsure or the data providers. The modelling of flood hazards is extremely complex and in creating a national dataset certain assumptions have been made and all such datasets will have limitations. These datasets should be used to give an indication of relative flood risk rather than a definitive answer. Local actions and minor variations, such as blocked drains or streams etc. can greatly alter the effect of flooding. A low or negligible modelled flood risk does not guarantee that flooding will not occur. Nor will a high risk mean that flooding definitely will occur. Groundsure's overall flood risk assessment takes account of the cumulative risk of river and coastal data, historic flood events and areas benefiting from flood defences provided by the Environment Agency/Natural Resources Wales (in England and Wales) and surface water (pluvial) and groundwater flooding provided by Ambiental Risk Analytics. In Scotland the river and coastal flood models are also provided by Ambiental Risk Analytics.

Risk of flooding from rivers and the sea

This is an assessment of flood risk for England and Wales produced using local data and expertise, provided by the Environment Agency (RoFRaS model) and Natural Resources Wales (FRAW model). It shows the chance of flooding from rivers or the sea presented in categories taking account of flood defences and the condition those defences are in. The model uses local water level and flood defence data to model flood risk.

The categories associated with the Environment Agency and Natural Resources Wales models are as follows:

RoFRaS (rivers and sea) and FRAW (rivers):

Very Low - The chance of flooding from rivers or the sea is considered to be less than 1 in 1000 (0.1%) in any given year.

Low - The chance of flooding from rivers or the sea is considered to be less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) in any given year.

Medium - The chance of flooding from rivers or the sea is considered to be less than 1 in 30 (3.3%) but greater than 1 in 100 (1%) in any given year.

High - The chance of flooding from rivers or the sea is considered to be greater than or equal to 1 in 30 (3.3%) in any given year.

FRAW (sea):

Very Low - The chance of flooding from the sea is considered to be less than 1 in 1000 (0.1%) in any given year.

Low - The chance of flooding from the sea is considered to be less than 1 in 200 (0.5%) but greater than or equal to 1 in 1000 (0.1%) in any given year.

Medium - The chance of flooding from the sea is considered to be less than 1 in 30 (3.3%) but greater than 1 in 200 (0.5%) in any given year.

High - The chance of flooding from the sea is considered to be greater than or equal to 1 in 30 (3.3%) in any given year.

Historic flood events

Over 86,000 events are recorded within this database. This data is used to understand where flooding has occurred in the past and provides details as available. Absence of a historic flood event for an area does not mean that the area has never flooded, but only that Environment Agency/Natural Resources Wales do not currently have records of flooding within the area. Equally, a record of a flood footprint in previous years does not mean that an area will flood again, and this information does not take account of flood management schemes and improved flood defences.

Surface water flooding

Ambiental Risk Analytics surface water flood map identifies areas likely to flood following extreme rainfall events, i.e. land naturally vulnerable to surface water or “pluvial” flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1000 year rainfall events. The flood risks for these rainfall events are reported where the depth would be greater than the threshold for a standard property to modern building standards. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though older ones may even flood in a 1 in 5 year rainstorm event.

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Proposed flood defences

The data includes all Environment Agency/Natural Resources Wales's projects over £100K that will change or sustain the standards of flood defence in England and Wales over the next 5 years. It also includes the equivalent schemes for all Local Authority and Internal Drainage Boards.

Flood storage areas

Flood Storage Areas may also act as flood defences. A flood storage area may also be referred to as a balancing reservoir, storage basin or balancing pond. Its purpose is to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel. It may also delay the timing of a flood peak so that its volume is discharged over a longer time interval. These areas are also referred to as Zone 3b or 'the functional floodplain' and has a 5% or greater chance of flooding in any given year, or is designed to flood in the event of an extreme (0.1%) flood or another probability which may be agreed between the Local Planning Authority and Environment Agency/Natural Resources Wales, including water conveyance routes. Development within Flood Storage Areas is severely restricted.

Groundwater flooding

Groundwater flooding is flooding caused by unusually high groundwater levels. It occurs as excess water emerging at the ground surface or within underground structures such as basements. Groundwater flooding tends to be more persistent than surface water flooding, in some cases lasting for weeks or months, and it can result in significant damage to property. This risk assessment is based on a 5m Digital Terrain Model (DTM) and 1 in 100 year and 1 in 250 year return periods.

Ambiental FloodScore™ insurance rating

The property has been rated as **High** risk. Please see **page 2 >** for further advice.

Ambiental's FloodScore™ risk rating gives an indicative assessment of the potential insurance risk classification from flooding, which can provide an indication of how likely it is that a property's policy will be ceded to Flood Re. The assessment is based on Ambiental's river, tidal and surface water flood data and other factors which some insurers may use in their assessment are not included.

Flood Re is a re-insurance scheme that makes flood cover more widely available and affordable as part of your residential property home insurance. Properties at higher risk of flooding may have the flood part of their policy ceded to Flood Re by their insurer. It is important to understand that Flood Re does not apply to all situations. Exclusions from Flood Re includes properties constructed after 1 January 2009; properties not within domestic Council Tax bands A to H (or equivalent); commercial properties, certain buy to let scenarios and buildings comprising four or more residential units. A full list of the exemptions can be found on the Flood Re website (https://www.floodre.co.uk/can-flood-re-help-me/eligibility-criteria/) ↗.

The Ambiental FloodScore™ insurance rating is classified into six different bandings:

Very High indicates a level of risk that may make it more likely that standard insurance premiums will be higher, or additional terms may apply to the provision of flood cover. There is a very high possibility that the cover for flooding at the property will be ceded into the Flood Re scheme, particularly if the property has flooded in the past.

High indicates a level of risk that may make it more likely that standard insurance premiums will be higher, or additional terms may apply to the provision of flood cover. There is a high possibility that the cover for flooding at the property will be ceded into the Flood Re scheme, particularly if the property has flooded in the past.

Moderate-High indicates a level of risk that may make it more likely that standard insurance premiums will be higher, or additional terms may apply to the provision of flood cover. There is a moderate possibility that the cover for flooding at the property will be ceded into the Flood Re scheme, particularly if the property has flooded in the past.

Moderate indicates a level of risk that may make it more likely that standard insurance premiums will be higher, or additional terms may apply to the provision of flood cover. There is a low possibility that the cover for flooding at the property will be ceded into the Flood Re scheme, unless the property has flooded in the past.

Low indicates a level of risk that is likely to mean standard cover and premiums are available for flood cover. There is a low possibility the cover for flooding at the property will be ceded into the Flood Re scheme, unless the property has flooded in the past.

Very Low indicates a level of flood risk that should not have any impact on the provision of flood cover for the property.

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Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs.

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- acknowledge it within 5 working days of receipt
- normally deal with it fully and provide a final response, in writing, within 20 working days of receipt
- liaise, at your request, with anyone acting formally on your behalf

Complaints should be sent to:
Operations Director, Groundsure Ltd, Nile House, Nile Street, Brighton, BN1 1HW. Tel: 01273 257 755. Email: info@groundsure.com ↗ If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk ↗ We will co-operate fully with the Ombudsman during an investigation and comply with their final decision.

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