

FLOOD RISK ASSESSMENT

Domestic Extension
Spegla House, Station Road,
Fiskerton

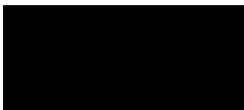
Daniel and Laura Perkins
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Limitations

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The information in this report is based on statistical data and qualitative analysis which are for guidance purposes only. This study provides no guarantee against flooding or of the absolute accuracy of water levels, flows and associated probabilities.

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1.0 INTRODUCTION

- 1.1 The FRA has been produced on behalf of Daniel and Laura Perkins in respect of a planning application for a domestic extension at Spegla House, Station Road, Fiskerton.
- 1.1 It has been based on readily available information.

Existing Building

- 1.1 The dwelling is located at grid reference SK7373951254 as shown in Figure 1.1 below.

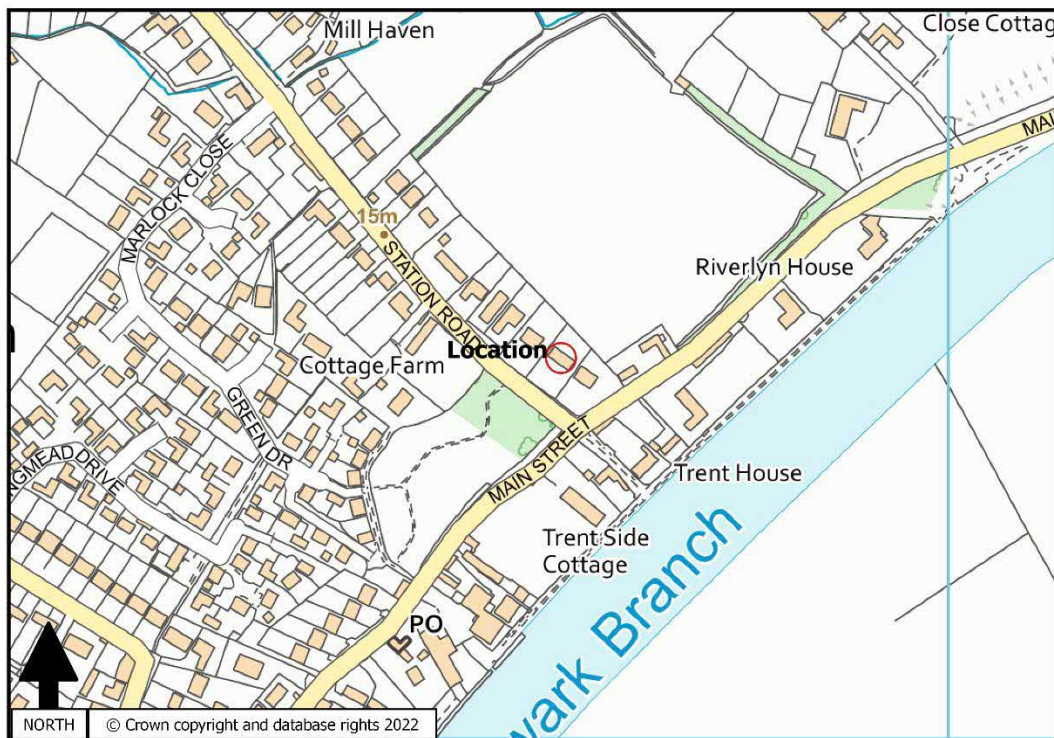


Figure 1.1 Site Location

Proposed Extension

- 1.1 The proposed ground floor of the extension is shown on Figure 1.2 below.

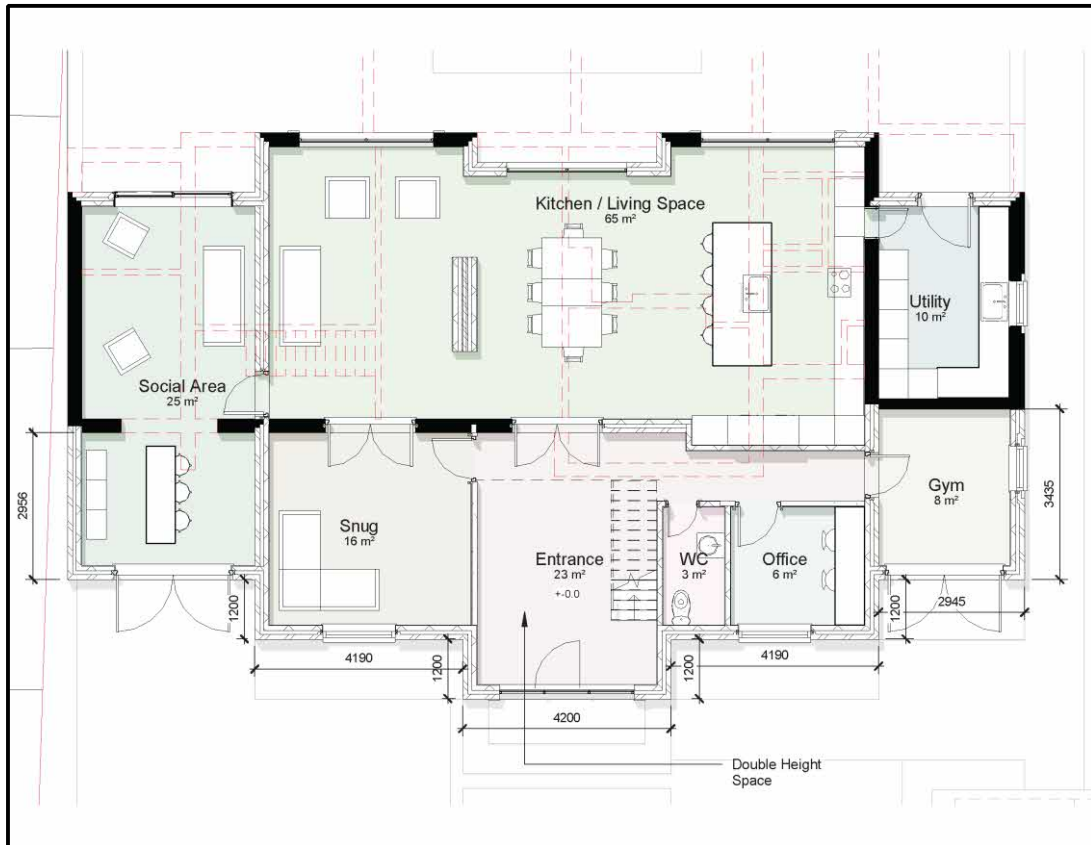


Figure 1.2 Proposed Extension on ground Floor

- 1.1 A topographic survey LiDAR 2m DTM shows that existing land levels adjacent to the dwelling are approximately 14.90m AOD and the existing ground floor level is approximately 15.25m AOD. The online British Geological Survey maps indicates that the site is located on superficial deposits of sand and gravel over a bedrock of mudstone.

National Planning Policy Framework

- 1.1 The National Planning Policy Framework, (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 along with flood risk standing advice for minor extensions.
- 1.1 The guidance uses four Flood Zones to characterise flood risk which refer to the probability of river and sea flooding, ignoring the presence of defences.

Sequential Test

- 1.1 The NPPF requires the application of a Sequential Test to ensure that new development is in areas with the lowest probability of flooding and the Flood Zones provide the basis for applying the Test.

Flood Zones

- 1.1 The Flood Zones are shown on Figure 1.3 below which shows the site to be in Flood Zone 2.

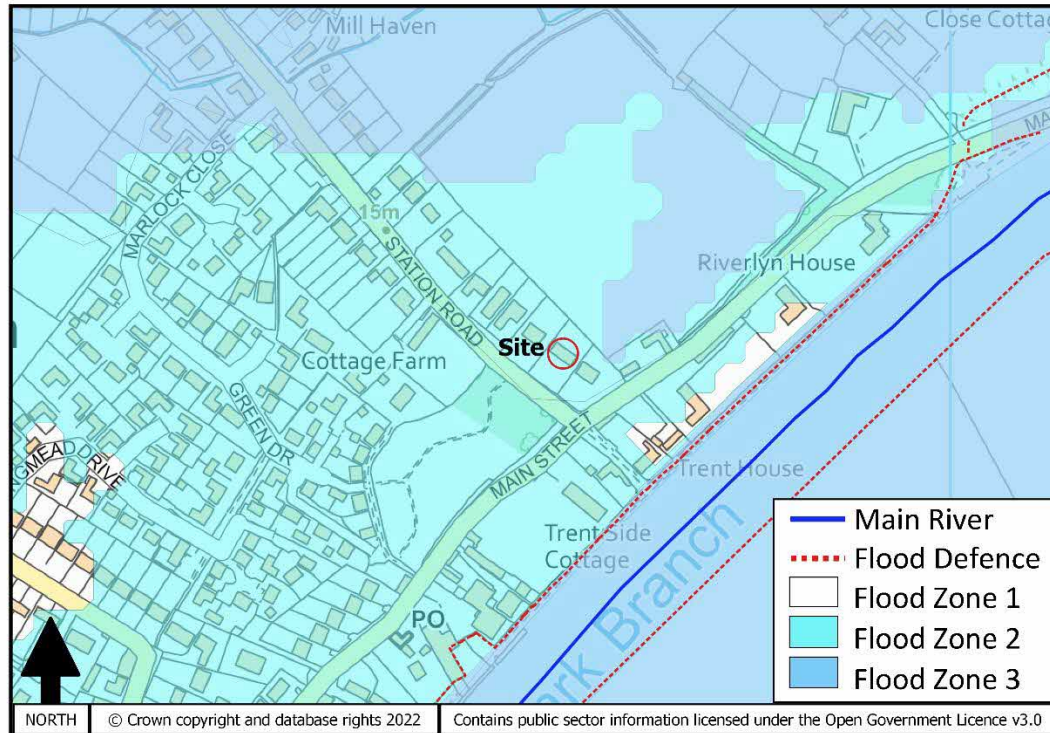


Figure 1.3 Flood Zones

Site Sequential Test

- 1.10 Paragraph 164 of the NPPF states that “Applications for some minor development and changes of use should not be subject to the Sequential or Exception Tests.”

Exception Test

- 1.11 Whilst the extension is considered appropriate a FRA is required to ensure the extension will remain safe over its lifetime.

2.0 FLOOD RISK SOURCES

Fluvial

Main River

- 1.1 The nearest EA Main River to the site is the River Trent.
- 1.1 The EA have produced maps which show the flood risk from rivers or the sea. These maps take into account the effect of any flood defences in the area. These defences reduce but do not completely stop the chance of flooding as they can be overtopped, or fail.
- 1.1 The risk of flooding map is shown below in Figure 2.1 which shows the site to be at a low risk of flooding.

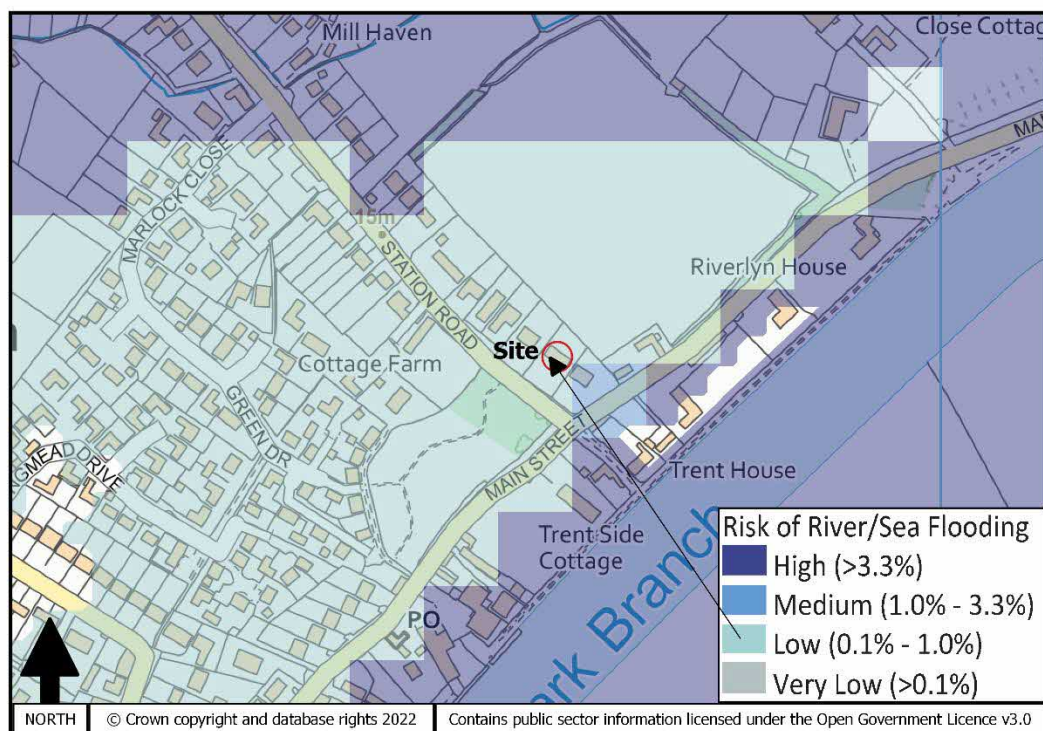


Figure 2.1 Flood Risk Map

- 2.4 The risk of flooding from fluvial sources is low.

Tidal

- 1.1 The site is not at risk from tidal sources.

Pluvial

- 2.4 The EA have produced maps showing flooding when rainwater lies or flows over the ground. The surface water flooding extents are shown below in Figure 2.2. Unlike the fluvial mapping, which is based on a detailed hydraulic model, this mapping is based purely on applying rainfall to a digital terrain model. As such this mapping serves to represent a worst-case scenario which may well overstate the actual probability of flooding in this area.
- 2.4 There is a caveat, as to the use of these maps and that they are not to be used to identify that an individual property will flood. Because of the way they have been produced and the fact that they are indicative these maps are 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 or evidence.

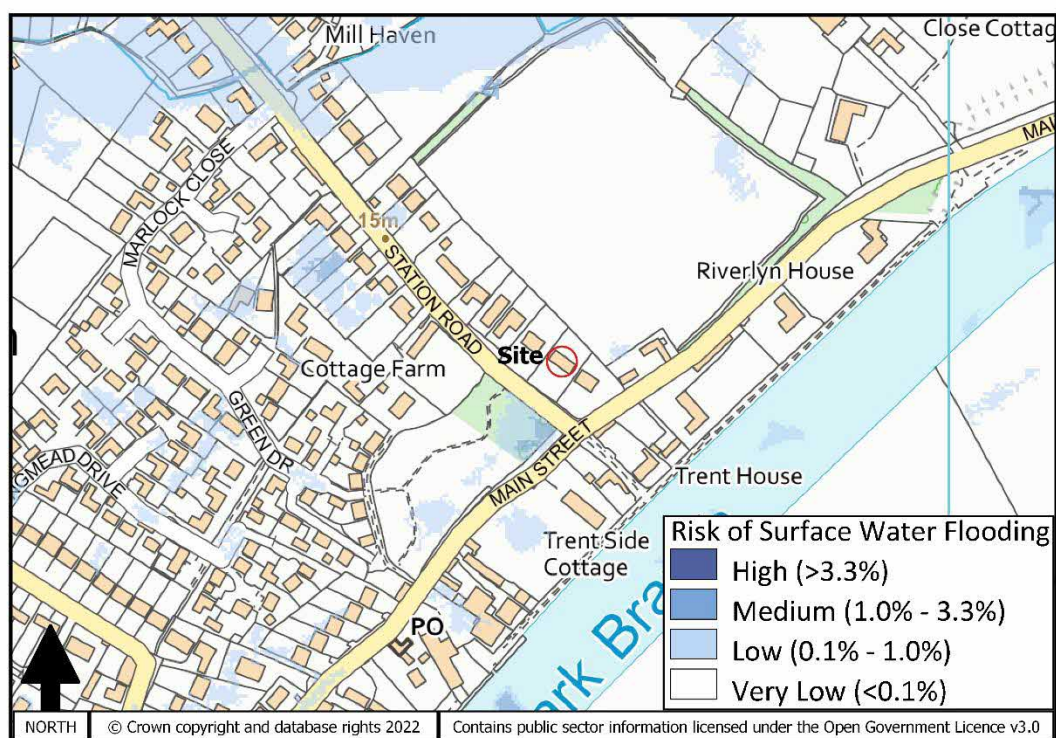


Figure 2.2 Surface Water Flooding Extents

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

Groundwater

- 1.1 The site is located on a low productive aquifer and there are no known instances of groundwater flooding in the area.
- 2.10 The risk of flooding from groundwater is low.

Sewers

- 1.10 Public maintained sewers are unlikely to pose a significant flood risk as they are well maintained.
- 1.10 The risk of flooding from existing sewers is low.

Reservoirs

- 1.10 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. The mapping displays two scenarios as follows:
 - Dry this is the extent when the river levels are normal,
 - Wet this is the extent when there is also flooding from rivers.
- 2.10 The mapping displays a worst-case scenario and is only intended as a guide.
- 1.10 The site is shown to be at risk of flooding due to the failure of a large, raised reservoir in the wet scenario. However, given the legal requirement to design, construct, inspect and maintain a reservoir under the Reservoirs Act this type of failure is very unlikely and therefore the risk of flooding is considered to be low.

Canals and Artificial Water Bodies

- 1.10 The site is not at risk of flooding from canals.

3.0 MITIGATION

- 2.4 Section 2.0 has identified the sources of flooding which could potentially pose a risk to the site and the proposed extension. This section of the FRA sets out the mitigation measures which are to be incorporated within the proposed extension to address and reduce the risk of flooding to within acceptable levels.

Site Layout

- 2.4 The proposed extension is only at a low risk of flooding from fluvial, groundwater, existing sewers and the failure of a large, raised reservoir.
- 2.4 The existing land level adjacent to the extension is 14.90m AOD and the floor level of the existing building is approximately 0.35m above ground level at 15.25m AOD.
- 2.4 The minimum floor level of the extension will be 15.25m AOD and there will be no ground floor sleeping accommodation.
- 2.4 Additional flood resilience measures will be included, where required, as follows;
- Water resisting airbricks.
 - Backwater valves and non-return valves.
 - Electrical installation to be above 15.55m AOD .

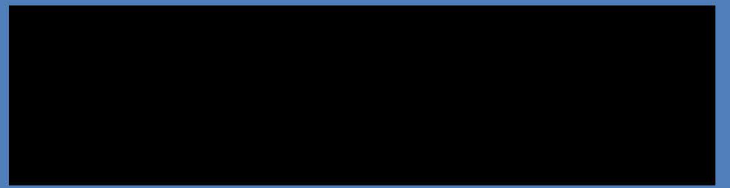
4.0 CONCLUSIONS

- 2.4 This Simplified Flood Risk Assessment, (FRA), is for a minor extension and has been produced on behalf of Daniel and Laura Perkins in respect of a planning application at Spegla House, Station Road, Fiskerton.
- 2.4 It has been based on readily available information.
- 2.4 This report demonstrates that the proposed extension is not at significant flood risk, and will not increase flood risk to others, subject to the recommended flood mitigation strategies being implemented.
- 4.4 The identified risks and mitigation measures are summarised below;

Flood Risk Source	Level of Risk Without Mitigation	Proposed Mitigation
Fluvial Groundwater Sewers reservoir	Low	Ground floor as existing at 15.25m AOD. No ground floor sleeping accommodation. Floor residence to 15.55m AOD.
Tidal Pluvial Canal/Artificial	None	

Table 4.1 Summary of Risk and Mitigation

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