

Flood Risk Assessment

**Proposed change of use of dwelling (C3) to provide a house of multiple
occupancy (C4).**

3 Waterloo Road, Mablethorpe, Lincolnshire. LN12 1JR.



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DOCUMENT HISTORY

ISSUE NO	COMMENTS	DATE
1	Client	11.04.2024

1 Introduction

1.1 This Statement has been prepared to accompany a full planning application for a change of use at 3 Waterloo Road, Mablethorpe, Lincolnshire. LN12 1JR.

1.2 The Government has placed increasing priority on the need to take full account of the risks associated with flooding at all stages of the planning and development process. This course of action seeks to reduce the future damage to property and risk to life resulting from incidents of flooding. National Planning Policy does not prevent all development in flood risk areas and this would be unsustainable and result in economic stagnation, depriving existing communities of much needed homes, services, employment opportunities etc. It is in the essential interests of the vitality of settlements and for the wider economic and social wellbeing of the community, that development opportunities are not unnecessarily constrained. Accordingly, the aims of this site specific FRA will be as follows:

- Identify and address flood risk issues associated with the development.
- Assess if the project is likely to be affected by flooding from all relevant sources both now and in the future.
- Assess whether the project will increase the flood risk elsewhere.
- Demonstrate that the project is safe and where possible, reduces flood risk.
- Propose measures to deal with the identified effects and risks.

2 Existing Site

- 2.1 The application site is a property known as number 3 Waterloo Road is located within the coastal town of Mablethorpe in Lincolnshire (See Figure 1). The grid reference for the centre of the site is TF 50493 85124.

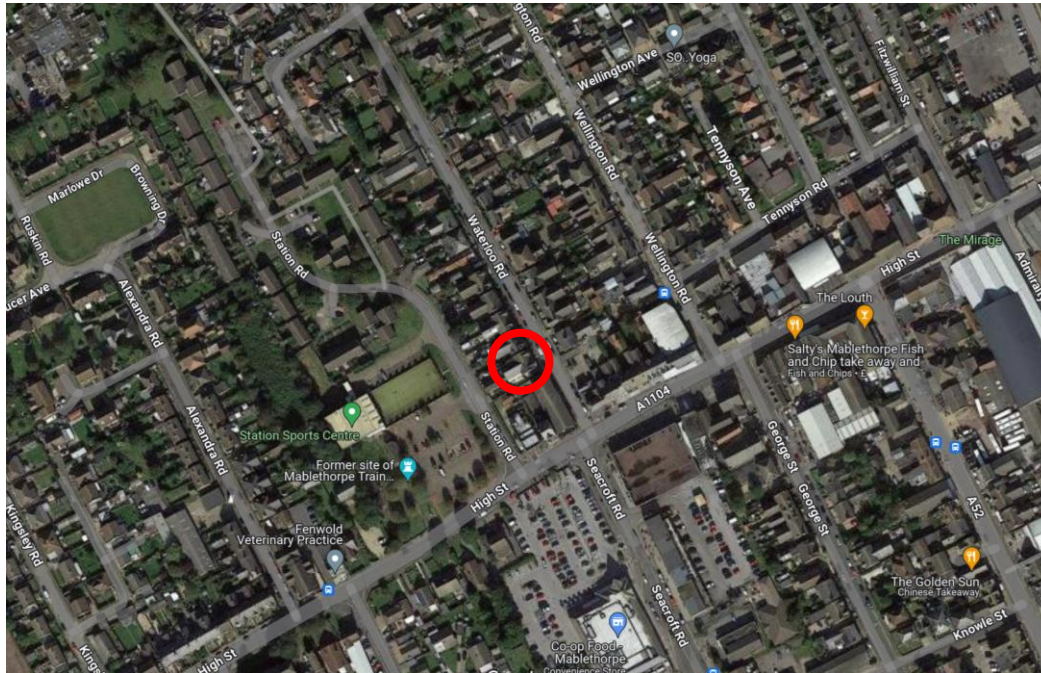


Figure 1- Aerial photograph showing the location of the site.

- 2.2 Number 2 Waterloo Road is a 3 storey semi-detached property which has a traditional style and construction typology. The dwelling is finished with red facing brick, a tile roof and detailing to heads, cills, bays and gables. Internally the dwelling provides 2 bedrooms and kitchen/living space at ground floor, 5no bedrooms and a bathroom at first floor and 1no bedrooms at second floor. Externally a small area of garden is located to the front of the property with a larger area of provide garden to the rear.
- 2.3 The Environment Agency flood map for planning identifies the site as being located within Flood Zone 3 (See Figure 2).

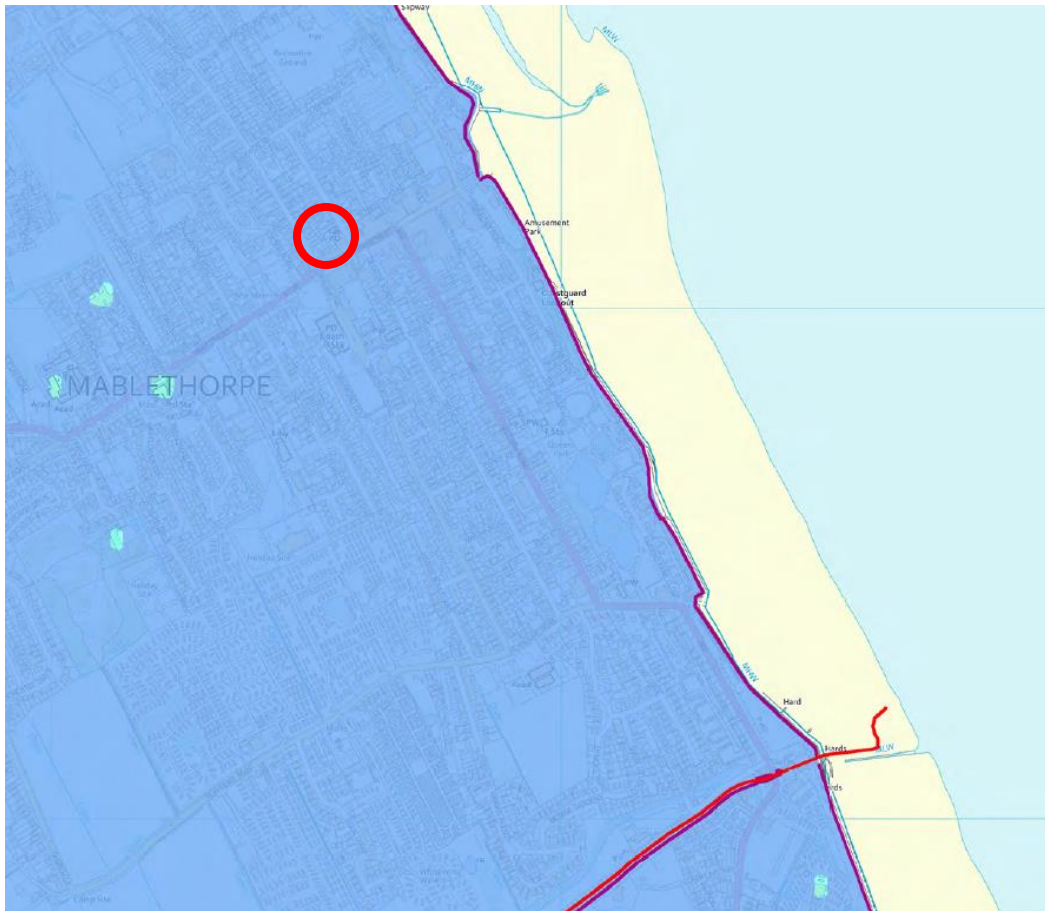


Figure 2- Extract from the Environment Agency flood map for planning showing the location of the site in relation to the flood zones.

3 Proposed Scheme

- 3.1 The proposed change of use will not entail any internal or external changes to the existing property.

4 The Sequential & Exceptions Test

- 4.1 As the proposal is for a change of use the Sequential and Exceptions Tests are not applicable to this development.

5 Assessment of potential sources of flooding and possible impact

- 5.0 This section presents an assessment of Flood Risk to the development from
- a) external sources; and
 - b) potential of the proposed development to cause flood risk elsewhere

Table 1: Summary of possible sources of flooding

Source	Significant?	Comment
Fluvial	No	Distance from watercourse
Tidal/Coastal	Yes	If a breach of the defences occurred
Pluvial (drainage)	No	Impermeable area to remain the same.
Groundwater	No	Unlikely due to local drainage network
Overland flow	No	No higher ground adjacent to the site
Blockage	No	No culverts or bridges close to the site
Infrastructure failure	No	No major infrastructure has been identified
Rainfall ponding	No	No depressed areas which could encourage ponding.

5.1 Assessment of Flood Risk from Fluvial/Tidal Sources

- 5.1.1 The Wold Grift Drain is located approximately 1.6km to the south of the site. The Environment Agency have provided Modelled Nodes for this water course, please see a summary of the nodes in Table 2. The Environment Agency have advised that the existing fluvial defences consist of earth embankments which are in fair condition and reduce the risk of flooding to a 1% (1 in 100) chance of occurring in any year.

Table 3: Summary of tidal hazard maps		
NODE	0.5% (1 in 200) inc 65% Climate Change	0.1% (1 in 1000) inc 65% Climate Change
WOLD_INT_70	2.08	2.18
WOLD0512	2.08	2.18
WOLD0290	2.08	2.18

5.1.2 The North Sea is located approximately 200m to the east of the site therefore tidal flooding is considered to be a source of flood risk. The Hazard Maps provided by the Environment Agency show the hazard rating, depth and velocity of water for present day and future scenarios for a breach of the sea defences. These maps show that the site could be affected by tidal flooding from the North Sea if a breach or over topping of the sea defences occurred. A summary of the risks shown by the Hazard Maps is shown in Table 2, below. The existing tidal defences protecting this site consist of concrete floodwalls that are in fair condition and reduce the risk of flooding (at the defence) to a 0.5% (1 in 200) chance of occurring in any year. The EA inspect these defences routinely to ensure potential defects are identified.

5.1.3 The standing advice states that 2+ storey developments such as this should be subject to the 2115 0.5% Breach Event. The Hazard Mapping Shows that during the 2115 0.5% Breach Event the site is at risk of depth of 1.6+m.

Table 3: Summary of tidal hazard maps			
Breach Scenario	Hazard Rating	Max Depth (m)	Max Velocity (m/s)
Year 2115, 1 in 200 (0.5%)	Greater than 2.0 'Danger for all'	1.6+	0.3 – 1.0
Year 2115, 1 in 1000 (0.1%)	Greater than 2.0 'Danger for all'	1.6+	0.3 – 1.0
Overtopping Scenario	Hazard Rating	Max Depth (m)	Max Velocity (m/s)
Year 2115, 1 in 200 (0.5%)	Between 1.25 and 2.0 'Danger for most'	1.0 – 1.6	0.3 - 1.0
Year 2115, 1 in 1000 (0.1%)	Between 1.25 and 2.0 'Danger for most'	1.0 – 1.6	0.3 - 1.0

5.2 Assessment of Flood Risk from Overland Flow (Pluvial)

5.2.1 The Environment Agency Surface Water Flood Map shows that the site is not at risk from surface water flooding.

5.3 Assessment of Flood Risk from Ground Water

5.3.1 The area surrounding the site is not known to suffer from ground water problems.

5.4 Assessment of Flood Risk from Reservoirs

5.4.1 The Environment Agency Risk of Flooding from Reservoirs Map shows that the site is not within an area of reservoir flood risk.

B) Potential of the Proposed Development to Cause Flood Risk Elsewhere

5.5 In order to mitigate flood risk posed from the site post development adequate control measures have been considered for the site. In accordance with recognised guidance there is a hierarchy of surface water from new development should be discharges. This should be as follows

- Infiltration
- Water course
- Public sewer

5.6 The proposals will not increase the impermeable area of the site.

Mitigation Measures

- 5.7 A precautionary approach should be adopted to ensure that the development is safe and not exposed unnecessarily to flooding.
- 5.8 It is not feasible to provide physical mitigation measures such as raising floor levels but it should be noted that the proposals will retain the More Vulnerable flood risk vulnerability classification of the property.
- 5.9 Therefore, the following mitigation measures will be put into place;
- A room at first floor will be allocated a designated refuge room.
 - A flood warning and evacuation plan should be put into place.
 - It is recommended, that the site is registered with the Environment Agency's 'Warnings Direct' flood warning system. The Agency provides this flood warning service in England and Wales and supports the public taking action to prepare and respond when these warnings are issued. The warnings are provided for flooding from rivers and the sea but not for localised flash flooding that cannot be predicted, for example from blocked or overloaded sewers or local groundwater flooding. The Agency issues warnings through media on TV and radio weather bulletins and on its website (www.environment-agency.gov.uk/floodline). In areas of particular risk, the Agency can send a warning message direct to people at home or at work by telephone, fax or pager using an Automatic Voice Messaging (AVM) system.

6 Conclusion

6.1 The following conclusions, in relation to the questions posed at the start of this document, are as follows:

6.2 ***Identify and address flood risk issues associated with the proposed development;***

The main source of flood risk will be tidal from the North Sea.

6.3 ***Assess if the project is likely to be affected by flooding from all relevant sources both now and in the future:***

The site is located within Flood Zone 3 therefore the site is at risk of tidal flooding.

6.4 ***Assess whether the project will increase the flood risk elsewhere:***

The proposals will not increase impermeable area within the site.

6.5 ***Demonstrate the project is safe and where possible reduces flood risk overall and proposes measures to deal with the identified effects and risks:***

Mitigation measures include the retention of a first-floor refuge room, provision of a flood warning and evacuation plan and registering of the property with with the Environment Agency's 'Warnings Direct' flood warning system.

6.6 This report demonstrates the proposed development is compliant with the requirements of the National Planning Policy Framework, and it is considered that planning permission should not be refused on flood risk grounds.