FLOOD RISK ASSESSMENT

FOR THE

PROPOSED OUTLINE

AT

73 PASTURE ROAD
BARTON UPON HUMBER

This Flood Risk Assessment accompanies plans to obtain outline approval for 2 detached dwellings at 73 Pasture Road, Barton upon Humber, DN18 5HS.

The site currently comprises part of the garden area.

The site is within a residential area.

The proposal is to erect 2 detached dwelling with garages

The total site covers an area of 0.18 hectares.

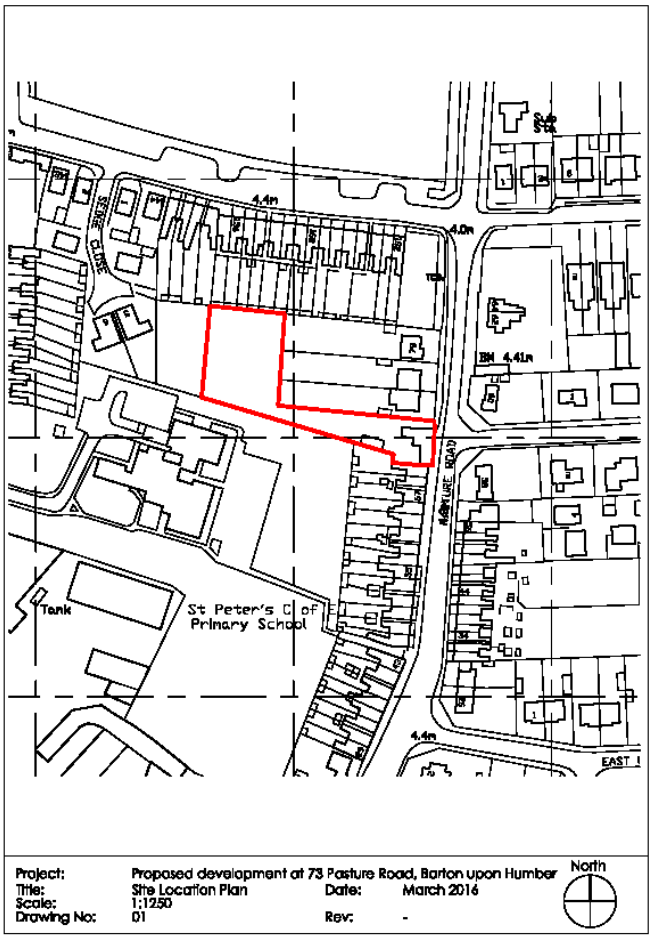
The site falls within Zone 3 as indicated on the Environment Agency Flood Maps, high flood risk. The ground levels within the site boundary vary from 10.0m to 10.2m. The site is generally 4.4m AOD.

There are no other available sites of similar size within Barton upon Humber in a lesser Flood Zone.

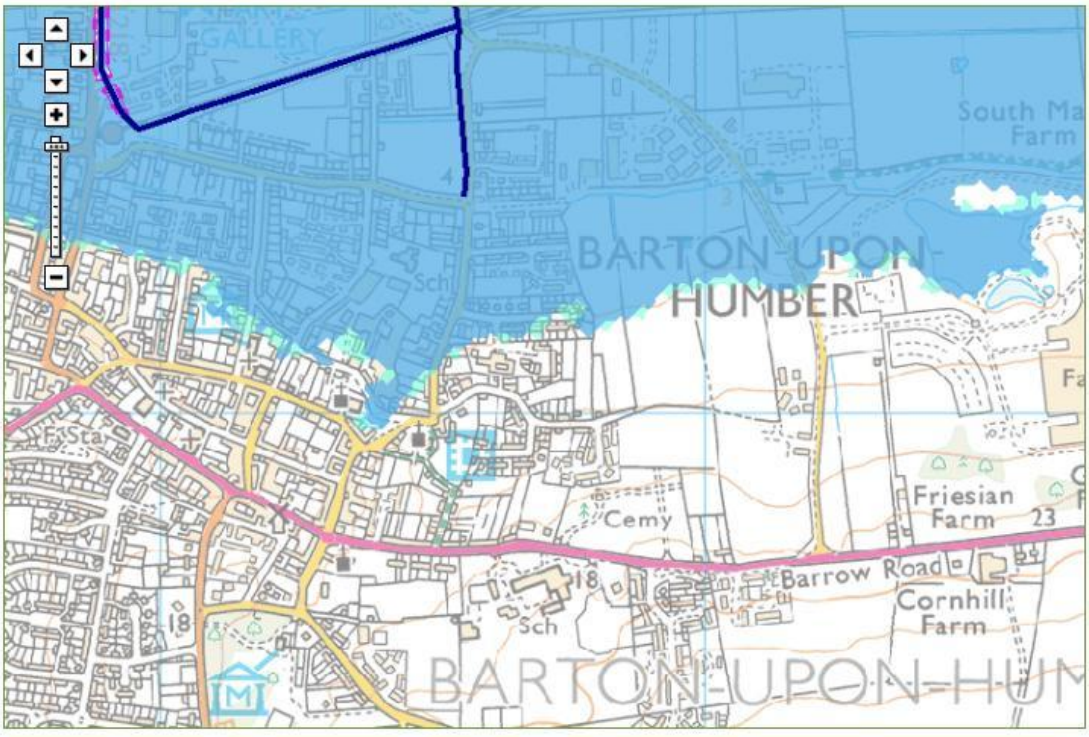
A site visit was undertaken, along with a topographical survey.

The flood risk assessment shall consider the following:-

- Information on historical flooding in the area.
- Site level information.
- Details of structures, which may influence hydraulics of the watercourse and consideration of the effect of blockage of structures.
- Estimates of design levels, equivalent to a 100 year flood event.
- Allowances for increased flows resulting from the effects of climate change.
- Allowances for sea level rise resulting from the effects of climate change.
- Assess the existing runoff characteristics and the potential impact the proposed development will have on the runoff.



Location Plan



Environment Agency Flood Zones

The site specific data extracted from The Environment Agency mapping is as follows:-

Tidal Breach Hazard

Scenario Year 2115	Maximum hazard between 2.00 (danger for all)
(0.5% 1:200 chance)	Maximum depth between 1.0 & 2.0m
	Maximum velocity between 1.5 & 2.5m/sec.

Overtopping Hazard

Scenario Year 2115	Maximum hazard - NIL
(0.5% 1:200 chance)	Maximum depth - NIL
	Maximum velocity - NIL

Referring to other information produced for the area, a suggested FFL for the dwelling is 5.4m AOD. 1000mm above existing ground levels.
The likelihood of the site being affected by overtopping is considered low given the height of the sea defences and the distance from the defences to the site.

Mitigation Measures

The proposal is intended to be of two-storey construction with all sleeping accommodation at first floor. The first floor is intended as a refuge in the event of flooding. As part of a Building Regulations Application, the first floor bedroom windows and/or roof windows will be of the escape type (primary for escape in case of fire) and would form part of the proposed escape route and evacuation procedures.

It is proposed that the detailed design and construction works should incorporate resilient measures contained in BRE Publication: Design Guidance on Flood Damage to Buildings (1996). This would include the following: -

- Ground floors in either oversite concrete or suspended precast concrete (depending on site conditions).
- Masonry construction to all ground floor walls with internal plaster finish.
- Insulation materials on both floor and walls to be impervious foam types.
- uPVC windows and doors with sealed double glazed units.
- Electrical fittings, wiring and consumer units at ground floor will be fixed above any potential flood level (as per Building Regulations Approved Documents).
- Heating system and later installation to be wall mounted above the potential flood level. Associated pipe work will be by their native, resistant to any potential flooding.

It is intended that all occupants will be provided with information regarding the Environment Agency's Automated Flood Warning System. This will be in the form of the agency's information leaflet, which will be provided as part of the buildings handover documentation.

It will be recommended that the client subscribes to the Environment Agency's "Warning Direct "flood warning messaging service. This will provide a phone call / text message to warn the occupiers.

The new on site drainage will be connected into the existing system on site and be attenuated and designed to discharge at a rate of current levels on site.

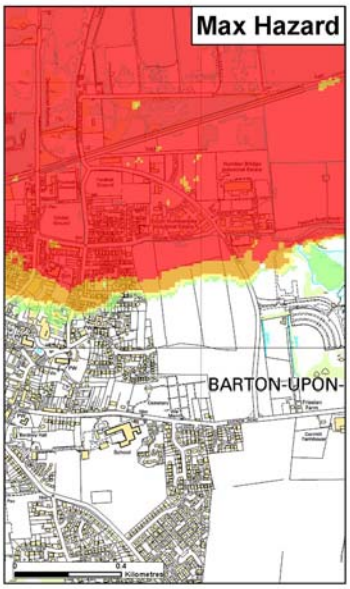
The principal floor level of the new development should be 1000mm above finished ground level. ***5.4m above ordnance datum.***

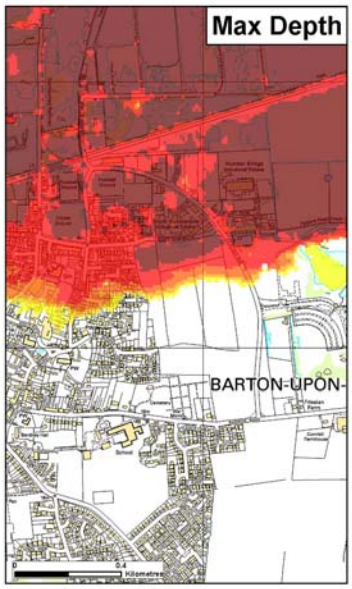
Conclusion

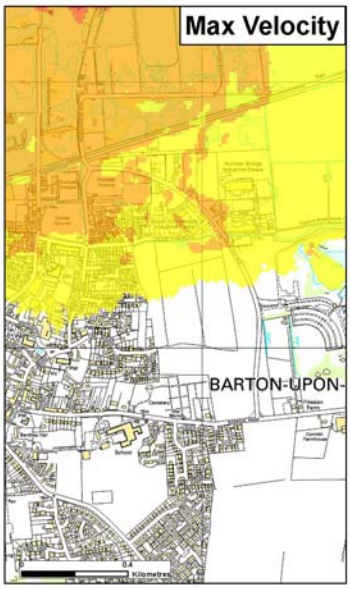
Although the site is at a theoretical risk from flooding in the long term scenarios, the proposed dwelling can be constructed to minimise the danger to life and property.

Should flooding occur, a two hour warning is generally given to allow the owner to evacuate.

The site is within a sustainable location, there are no alternative sites available within the town and the surrounding area is residential.







★ **Modelled Breach Locations** see also the accompanying plan "Location of Modelled Breaches"

Max Hazard (Flood Risk to People - FD2320)	Max Depth (m)	Max Velocity (m/s)
Less than 0.75 (Low Hazard)	0 - 0.25	0 - 0.3
Between 0.75 and 1.25 (Danger for Some)	0.25 - 0.50	0.3 - 1.0
Between 1.25 and 2.0 (Danger for Most)	0.50 - 1.0	1.0 - 1.5
Greater than 2.0 (Danger for All)	1.0 - 2.0	1.5 - 2.5
	2.0 +	2.5 +

Date Printed	May 2012	**Scenario year**	2115	**Scenario Annual Chance**	0.5% (1 in 200)

This map shows the level of flood hazard to people (called a hazard rating) if our flood defences are breached at certain locations, for a range of scenarios. The hazard rating depends on the depth and velocity of floodwater, and maximum values of these are also mapped.

The map is based on computer modelling of simulated breaches at specific locations. Each breach has been modelled individually and the results combined to create this map. Multiple breaches, other combinations of breaches, different sized tidal surges or flood flows may all give different results.

The map only considers the consequences of a breach, it does not make any assumption about the likelihood of a breach occurring. The likelihood of a breach occurring will depend on a number of different factors, including the construction and condition of the defences in the area. A breach is less likely where defences are of a good standard, but a risk of breaching remains.

Please contact the Environment Agency for further information on emergency planning associated with flood risk in this area.

Environment Agency

Northern Area Tidal Breach Hazard Mapping

Map Centered on TA 03000 22200