

Flood Risk Assessment

Application for Outline Planning Permission with all matters reserved

Land East of Chestnut Terrace, Sutton Bridge, Lincolnshire

Scope

This report is in support of an application for outline planning permission with all matters reserved for 6 dwellings on the land East of Chestnut Terrace, Sutton Bridge, Lincolnshire.

Terms of Reference

This report has been produced having due regard for the National Planning Policy Framework and requirements of the Town and Country Planning (General Permitted Development) (Amendment and Consequential Provisions) (England) Order 2014.

Location

The site is shown in the location plan in Appendix 1 of this document. The property is situated within the South Holland IDB district and within Flood Zone 3 as detailed on the Environment Agency Flood Zone map.

Flood Risk Assessment

The site lies within Flood Zone 3 of the Environmental Agency Flood Risk Maps; however, these maps do not take into account any flood defences in the area.

Flood risk primarily comes from tidal sources in this area, with surface water flooding being a potential secondary source. The Environment Agency have confirmed that this site is not at risk of flooding from overtopping in either a 1 in 200 or 1 in 1000 extreme weather event. This means that the main risk of flooding comes from tidal defences being breached.

Environment Agency Hazard, Depth and Velocity Mapping attached as Appendix 3 shows the predicted 2115 level and extent of flooding in the case of a breach occurring. The map shows the maximum depth of flood water on the site would be 1.6m, allowing for the impact of climate change over the next 100 years. This has been taken into account for the development strategy of the site. Any breach would be approximately 1.4km from the property, the velocity of water spread would be low, and there would be ample warning time of any potential danger to allow evacuation.

In terms of the sequential test, there are no other sites in the immediate vicinity of this site that are outside Flood Risk Zone 3.

The site lies outside of any risk zones on the present day fluvial flood risk map within the South Holland District Council Strategic Flood Risk Assessment maps from January 2010. The site is located within the South Holland IDB drainage district who manage the local drainage system.

The South Holland Internal Drainage Board undertake proactive management of the area with a schedule of regular clearance and maintenance of the watercourses to try and prevent flooding to best possible levels. The drainage system is controlled by pumping equipment with backup pumps

available and, in the unlikely event of complete failure; mobile pumps are also available to deal with localised incidents. In any overtopping scenario the water would dissipate over a wide area at a shallow depth and therefore would be unlikely to affect this site. The site is protected by the South Holland Main Drain, a channel located within 2kms of the site. Improvements are made regularly to this drain, with the latest being the construction of a new pumping station at Lawyers Sluice in 2003.

Since the proposed development on this site will all be two storey dwellings, occupants would not be sleeping at the ground floor level and will have a refuge area on the first floor of the property in the unexpected chance of an extreme weather event. It is considered that as the surrounding area is also in Flood Risk Zone 3 this development would not displace water to increase the risk of flooding to neighbouring properties.

Surface water from new impermeable areas would be taken to soakaways so that it percolates into the groundwater rather than causing increased run off from the site. It will thus not increase flood risk to neighbouring properties. The access road will be constructed with a permeable surface to allow water to percolate into the ground for similar reasons. The site will be developed on a SUDs basis, and there is ample adjoining land in the same ownership if greater attenuation measures were found to be required.

Other flood risk assessments in close proximity have been approved by Environment Agency on the basis of finished floor levels of 1m above existing ground level and flood resistant construction methods incorporated to approximately 300mm, e.g. application H18-0894-15

LIDAR data attached as Appendix 2 shows the ground levels of the site to be between 3.5 (Image 1) and 3.3m aOD (Image 6) with flood depths being a maximum of 1.6m. On the basis of maximum absolute flood levels being at most 5.1m aOD, we propose finished floor levels to be at 4.5m AOD and utilising Flood Resistance techniques up to the height of 600 mm above this finished floor level (i.e. to 5.1m aOD) which we envisage would be a safe level and height.

During the preparation of this report, there was no evidence showing that this site or neighbouring properties had been flooded in recent years and the probability of the site flooding is minimal due to the extent of the flood defences and mechanisms in the area. However, it is recommended that the developer and occupier of this site should be aware of the risks of flooding in the area and sign up through the Environment Agency for the Flood Direct Warning Service which produces codes and direct warnings if they feel a risk is imminent in the area directly to your mobile phone. This warning system would enable the occupier to prepare for possible flooding and give time for necessary evacuation if necessary.

Conclusion

As a result of the above we have come to the following conclusions:

- Despite being in Flood Zone 3, the maps do not take in to account the flood defences which surround the site and therefore the actual risk of flooding is very low; especially with the level of protection that is provided by South Holland Internal Drainage Board.
- We have proposed that the properties are built with finished floor levels at a minimum of 4.5m aOD with flood resistant materials to 0.6m above floor level which will help protect the property from any residual risk of flooding.

- Residents would be recommended to sign up to the Environment Agency Flood warning system to be alerted in case of risk of flooding.

Not to scale – For reference only

Appendix 2 – LIDAR data

1.



2.



3.



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5.



6.

