

FLOOD RISK ASSESSMENT



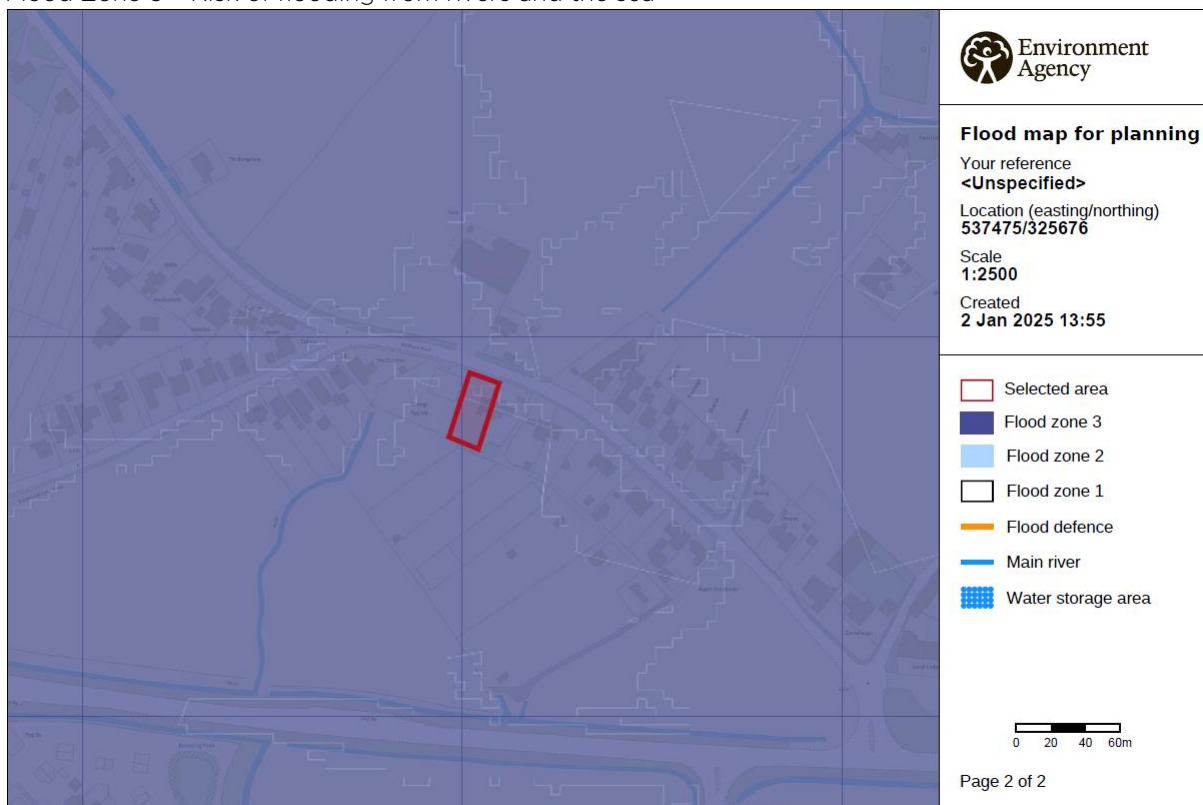
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Job No. 101
Client: Mr Robson
Date: November 2024
Location: 10 Washway Road, Holbeach, PE12 7PE
Reference/Description: Two Storey Extension

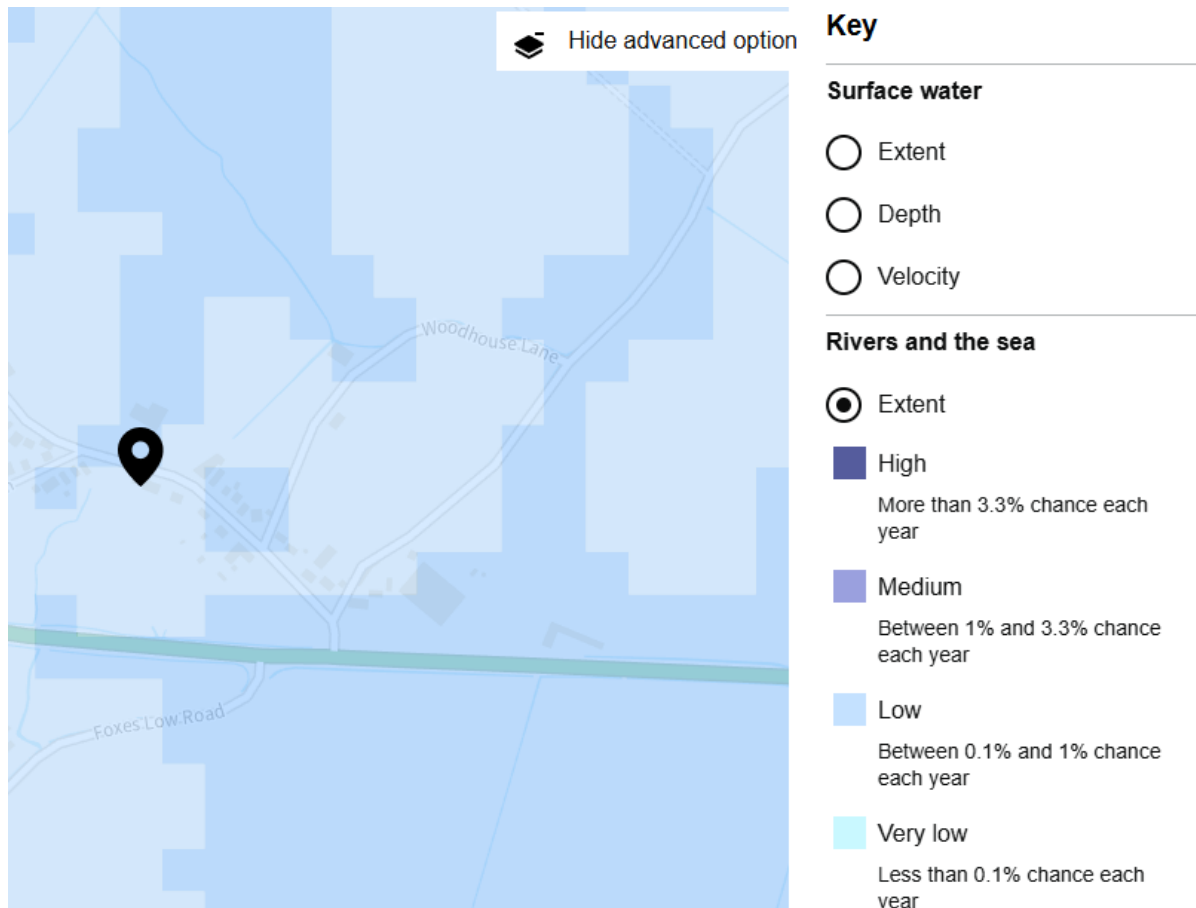
The Environment Agency mapping indicates the site is within Flood Zone 3. The following extracts are from gov.uk flood maps for planning.

Flood Zone 3 – Risk of flooding from rivers and the sea

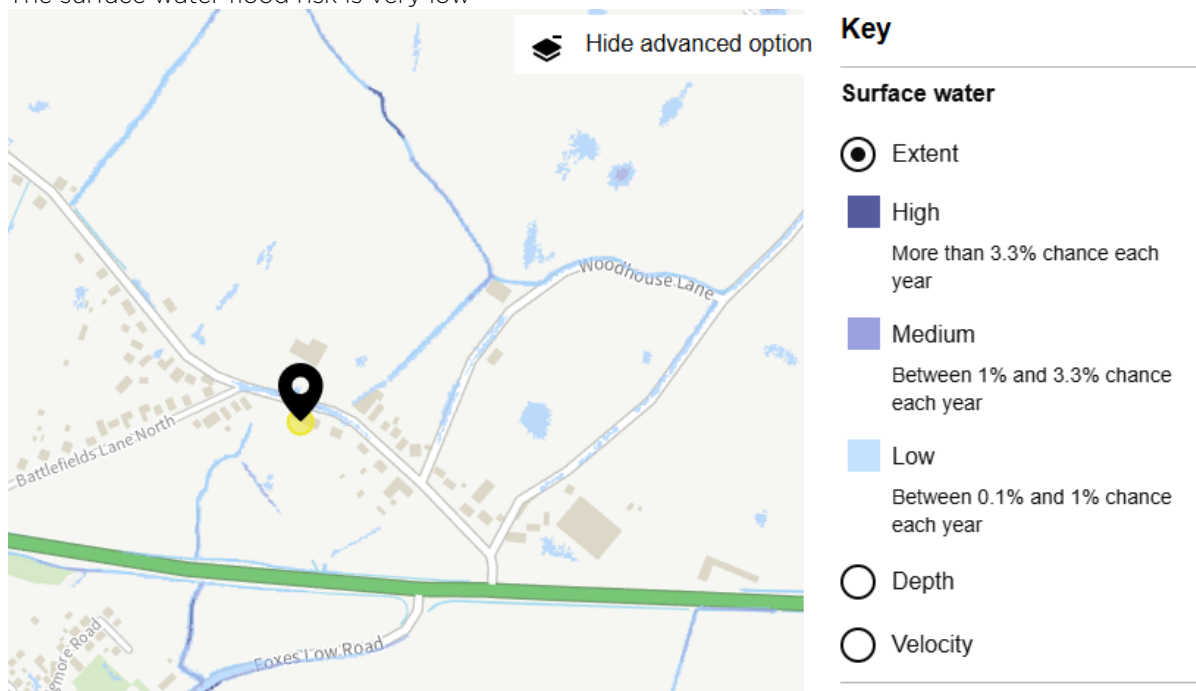


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Risk of flooding from rivers and sea is considered Low, with a 0.1% – 1% chance.



The surface water flood risk is very low



The flood risk context.

The existing dwelling and extension proposal are located entirely within a defended Flood Zone 3, surface water maps indicate the site is at very low risk of pluvial flooding, the site is not thought to be susceptible to ground water flooding. The site could experience flooding by breach of a defence with a 0.1-1% chance of this occurring in any one year up to 2115.

According to the updated Strategic Flood Risk Assessment residual flood hazard maps the site does not fall within any of the present day hazard areas identified for a 1.0% Fluvial and 0.5% Tidal breach event,

The predicted Residual Flood Hazard maps for the year 2115 indicate the site to be within the classification with a max flooding hazard of 0.75-1.25 Danger for Some, for a 1.0% Fluvial and 0.5% tidal event probability.

The South Holland IDB district is safeguarded by the Wash tidal defences, with embankments reaching a minimum height of +7.0m OD. These defences are approximately 9km north east and north west of the site, while the River Nene tidal defences lie about 10km to the east. The defences fall under the responsibility of the Environment Agency, which periodically reviews and updates a long-term maintenance strategy.

The local drainage network, managed by the South Holland IDB, is extensive. The IDB aims to maintain a general standard of flood protection for its district through the upkeep of pumping stations, associated structures, and channel systems, supported by a routine maintenance program. The current maintenance standards of both the South Holland IDB and the Environment Agency are commendably high.

The risk of flooding due to blockages in the South Holland IDB drainage system is low, given the IDB's effective maintenance standards. However, a failure of the Lutton Leam Tidal Sluice could elevate the risk in the catchment. Through its operational and maintenance activities, the Board strives to provide flood protection to agricultural lands and developed areas for events occurring once in 20 years and once in 100 years, respectively. The South Holland IDB main drains include a freeboard that lowers the risk during exceedance events by providing additional storage capacity.

The site benefits from flood defences, with embankments along the Wash and River Nene tidal defences offering protection against a 0.5% annual probability (1 in 200 chance each year) tidal event. Additionally, second-line defences and various informal banks reduce the flood risk further.

The likelihood of flooding from localised drainage systems for this development is low. However, the risk at the site could increase if a tidal sluice fails. The probability of flooding from any Environment Agency system remains below 0.5% annually due to the robust existing flood defences. While climate change may gradually elevate the risk over time, the overall flood risk during the development's design life remains low.

The SFRA assessment for a defence breach in 2115 indicates peak flood depths at the site could be between 0.25m and 0.5m

Mitigation of flooding effect.

The existing dwelling is constructed from low permeability materials, the proposed extension will continue this approach yet in a modern way with improved resilience.

The extension will not effect existing land levels across the remaining site area and will therefore not give rise to surface water run-off/flooding onto neighbouring properties.

As the existing dwelling is within an established residential area and semi-detached in nature, it is recommended that the floor level of the proposed extension is equal to existing dwelling, this accords with recent extensions to other properties further along this row of houses.

The proposal does not increase risk to life with ground floor sleeping accomodation, all existing and proposed bedrooms are at first floor level.

The use of non-return valves in new foul sewers will be recommended to the applicant.

Conclusion

The proposal is to extend an existing dwelling within an established residential area. The siting and nature of the proposal would not increase the potential for surface water to drain onto the highway nor give rise to detrimental surface water flooding elsewhere.

Situated within an Internal Drainage Board catchment, the site benefits from maintained pumping stations and channel systems aimed at providing flood protection for agricultural land and developed areas, against events once in 20 years and once in 100 years, respectively.

Located in Flood Zone 3, the site enjoys protection by tidal defences on the Wash frontage and the River Nene during a 0.5% annual probability (1 in 200 chance each year) tidal event, factoring in climate change.

If defences were breached, the proposal would not cause or heighten risk to health or life.