FLOOD RISK ASSESSMENT

OUTLINE ERECTION OF 2No. DWELINGS WITH MEANS OF ACCESS TO BE CONSIDERED

AT

THE OLD HORSESHOES
SHEEPGATE
LEVERTON
BOSTON
PE22 0AR

For-Ward Planning Consultancy Limited

Planning Applications | Design & Access Statements | Site Appraisals | Pre-Application Submissions | Planning Appeals

Reference 422-21 - May 2021
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FLOOD RISK ASSESSMENT

1.0 INTRODUCTION

This Flood Risk Assessment been prepared on behalf of Mr and Mrs Fravigar and accompanies a planning application for the outline erection of 2no. dwellings with means of access to be considered at land to the west of The Old Horseshoes, Sheepgate, Leverton, Boston PE22 0AR.

This document should be read in conjunction with the drawing referenced 422-21-01 and the Design and Access Statement (incorporating the Heritage Asset Statement) that also forms part of the application package.

The need for the flood risk assessment relates to the site being in Flood Zone 3, and the nature of the proposed works themselves. 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.

PLANS AND INFORMATION TO BE READ IN CONJUNCTION WITH THIS REPORT

- ✓ Drawing 422-21-01; and
- ✓ A Design and Access Statement (incorporating a Heritage Asset Statement) An existing and proposed block plan with site levels noted;

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2.0 SITE HISTORY

A search of the planning records held online has revealed no applications of relevance to this proposal.

However, having discussed the history of the site with the applicants, they are aware that this site was historically the home of a now demolished former public house known as the Three Horseshoes.

A search online of lost pubs has sourced the following extract:

The Three Horse Shoes was situated on Sheepgate, closing about 1962. I remember going in long before I should have. It was the last ale-house (no spirits licence) in Lincolnshire. The pub was demolished around 1980 and the site is now a private house. There was a blacksmiths shop next door, run by Mr Britton, who was gassed in the First World War. He and Mrs Britton also lived at the pub. There was no bar - only some rooms with benches. The last licensee, was a landlady, Mrs Rose Taylor, who went down to the cellar and came back with a jug of beer - straight from the barrel. I think it was a Batemans pub.

Source – Andy Fletcher
https://www.closedpubs.co.uk/lincolnshire/leverton_threehorseshoes.html

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3.0 SITE LOCATION

The site is located between the applicant's dwelling known as The Old Horseshoes and a further residential dwelling which is attached to a café/takeaway known as 'The Travellers Rest' to the north of the village of Leverton.

To the south of the site stands a lay-by, where there are some public toilets and the Church Hall. The A52 which connects Boston to the south west with Skegness to the north east and winds through a series of settlements along its route.

Leverton is a modestly sized settlement which provides a good range of services and amenities including the village store, church, and some small-scale employers. Slightly further to the east stand a plant nursery and Sheepgate Equestrian.

The host property (The Old Horseshoes) is set to the east of the plot and is well separated from the proposed site of the dwellings, in a part of the grounds not widely used or having a significant connection with the dwelling, whose private amenity spaces are contained to its eastern aspects. Access to the dwelling is directly from Sheepgate, adjacent the Grade II listed Leverton War Memorial. To the north west as confirmed stands a further residential dwelling which whilst being of two storey construction is of a lesser scale taking on the form of a traditional Lincolnshire cottage. Attached to this is the single storey café building. Parking for the café is on its frontage, with an access to the side of the dwelling (in the ownership of The Old Horseshoes) used to serve the cottage.

The site is bounded by a mixture of mature and semi mature trees to its frontage and northernmost boundary, with some trees noted to the north western side also. The whole site is grassed.

A belt of trees surrounds the listed memorial and largely screen its presence. Access to the memorial is via a pedestrian link from Sheepgate itself.

Materiality in the area is extremely varied with red brick, buff/brown brick, render, and tin structures noted, ensuring the character is truly diverse, not only in terms of appearance, but also in form, scale, and proportion.

Despite its location, the site in our view is sustainably located close to all the services and facilities within the settlement, and close to the transport links that provide access to the larger service centres of Boston and Skegness which are circa 13 and 5 miles distant, respectively. Services and facilities in Leverton are no further than 600m away from this site, with the nearest bus stops within 100 metres of this site.

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As confirmed adjacent the site is a Grade II listed war memorial and it is important that the scheme acknowledges this, and we consider the impact of the proposed development upon its setting.

The map below identifies the location of the listed buildings, and Appendix A consists of the listing descriptions and where available, images. The listed building is identified with a blue triangle.

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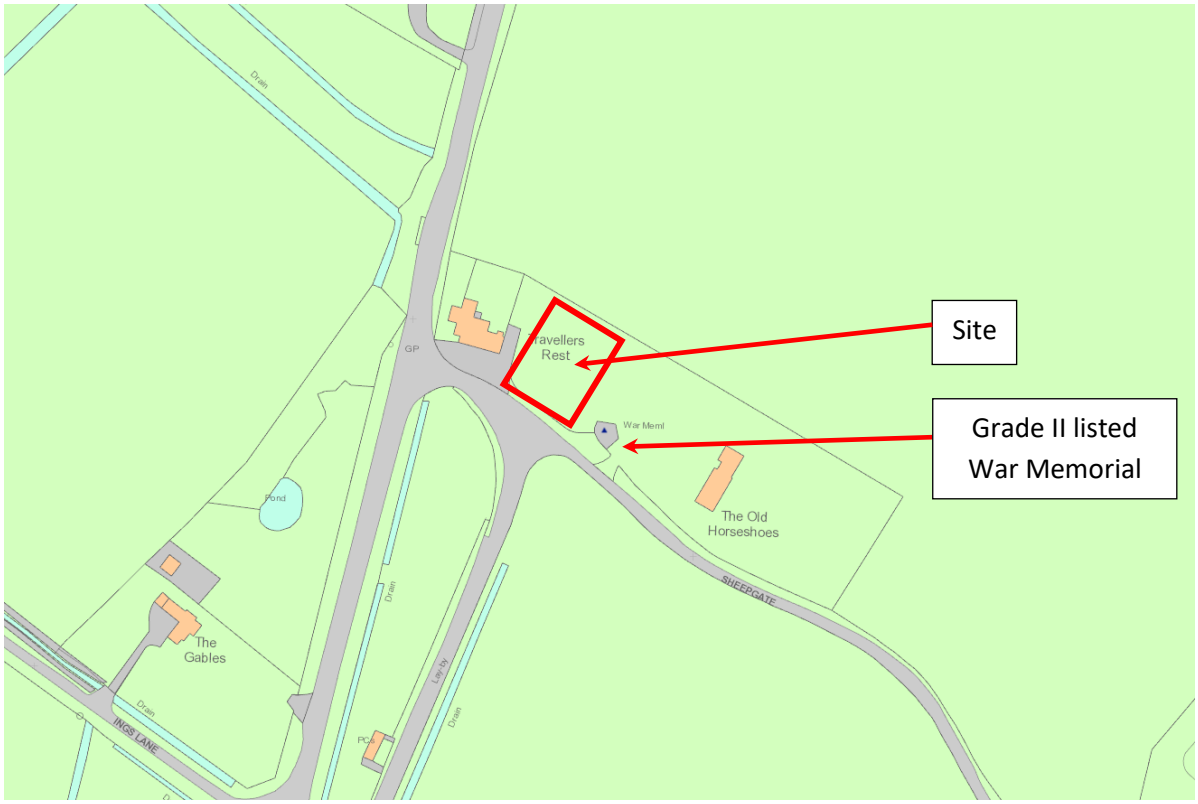

Source : https://historicengland.org.uk/listing/the-list/map-search

4.0 DEVELOPMENT PROPOSALS

The development proposed is the outline erection of 2no. dwellings with means of access to be considered. All other matters are reserved. The plot is proposed to be separated from the host property and provided with a pair of accesses serving the proposed dwellings. As this is an outline proposal, not definitive choices have been made in respect of the design, but indicatively, it is demonstrated how two detached dwellings can be accommodated upon the site.

5.0 THE SEQUENTIAL AND EXCEPTIONS TEST

The Revised National Planning Policy Framework (NPPF) published in February 2019 have replaced the previous NPPF and Planning Policy Statements such as PPS25 (Development and Flood Risk). This is a key part of the Governments reforms to make the planning system less complex and more accessible, to protect the environment and to promote sustainable growth. The Revised NPPF like its predecessor also sets a presumption in favour of sustainable development.

Section 14 (paragraphs 155 – 165 inclusive) of the recently revised National Planning Policy Framework (NPPF) aim to restrict inappropriate development in areas at risk of flooding and that development should be directed away from areas at highest risk. This is done through the application of the Sequential Test. Paragraph 158 of the NPPF states that the 'The aim of the Sequential Test is to steer new development to areas with the lowest risk of flooding'.

However, there is also a recognition that development does still and can still take place within areas at risk from flooding. Paragraph 159 confirms that "If it is not possible for development to be located in zones with a lower risk of flooding (considering wider sustainable development objectives), the exception test may have to be applied. The need for the exception test will depend on the potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification set out in national planning guidance."

Paragraph 160 reads "The application of the exception test should be informed by a strategic or site-specific flood risk assessment, depending on whether it is being applied during plan production or at the application stage. For the exception test to be passed it should be demonstrated that:

a) the development would provide wider sustainability benefits to the community that outweigh the flood risk; and

b) the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall."

Sequential Test

The aim of the Sequential Test is to steer new development to areas with the lowest probability of flooding as stated previously.

The NPPF states that development should not be permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower probability of flooding. At this stage it is important to recognise that the Sequential Test does not specifically limit or preclude the development of sites, moreover it means that the focus should be to develop sites at a lower risk first.

When checking the flood map for the village of Leverton it is noted that a very high percentage of the existing housing stock within the village is located within areas at high risk of flooding, and therefore it would be unreasonable to then apply the sequential test rigidly as this essentially render large parts unsuitable for further residential development.

The National Planning Policy Framework (NPPF) indicates that housing applications should be considered in the context of the presumption in favour of sustainable development subject to normal development control criteria. The NPPF seeks the approval of proposals that accord with the development plan 'without delay' and, where the plan is "absent, silent or relevant policies are out of date", to grant permission unless there are sound material planning reasons for not doing so.

In this context, it is worth referring to the general housing needs within the Boston Borough area and specifically to the most up to date Strategic Housing Land Availability Assessment (SHLAA) published in March 2020. This outlines a shortfall in the supply of deliverable housing land, and it would be expected that this shortfall would have potentially increased in the past 12 months due to the COVID pandemic? Of relevance to this and given the significant proportion of the Borough, which is deemed to be at risk of flooding, to rigidly apply the Sequential Test on a settlement-by-settlement basis would undermine the ability of the Borough to meet its strategic housing need by

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further restricting available, developable land. Consequently, in both the short and long term, the approach would severely undermine the wider strategic objectives of the NPPF in ensuring there are enough deliverable sites to meet wider housing needs. The South East Lincolnshire Local Plan identifies the site as being just outside the settlement boundary, but upon closer analysis, it is universally accessible to all of the services and facilities within the village, close to public transport links and the nearby educational establishments in neighbouring villages and is on balance felt to be a site that could be considered suitable for development.

Paragraph 49 of the NPPF specifically states that 'relevant policies for the supply of housing should not be considered to be up-to-date if a five-year supply cannot be demonstrated'. Thus, if there is no five-year supply, relevant housing policies are considered out of date and therefore developments would automatically become subject to paragraph 14 of the NPPF which provides a presumption in favour of such development unless any adverse effects of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF taken as a whole. This tilted balance towards the sustainable development objectives of the NPPF offer a tilted balance in favour of sites not previously identified as coming forward and being potentially suitable for development. At present it is felt that whilst the latest figures may not be published, the Borough Council is not able to demonstrate a deliverable five-year housing land supply and therefore the paragraph 14 presumption is initiated.

The settlement of Leverton has a convenience store, a church, café/takeaway, church hall, a public house to the north of the site and a primary and a secondary school close by. Although the total services are somewhat limited, the Borough Council has accepted that Leverton is categorised as a 'Other Service Centres and Settlements' in the local plan.

This windfall site is available for development now, is sustainable and would contribute to the housing stock within the Borough at a time when the number of deliverable sites falls well short of what is required.

Exception Test

As the Sequential Test has been satisfied then development must pass the Exceptions Test to demonstrate that it provides wider community benefit to meet the overall requirements of sustainable development for this windfall site.

NPPF sets out three dimensions and roles of sustainable development i.e., social, economic, and environmental. Paragraph 7 and 8 of the Framework explain that these three roles should not be undertaken in isolation because they are mutually dependent.

In social term the provision of two new dwellings would only make a very modest contribution towards the supply of housing in the area which accords with paragraph 7 of the NPPF.

The design and access statement supplied with the application identifies the wider sustainable community benefits that the development would deliver. These are (inter alia):

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1) Future occupants who come into the village will inevitably use and therefore help to sustain existing local services, amenities, and facilities within Leverton and the nearby service centres and schools for example, all of which are within walking distance or a short commute of this site. This will not only help to sustain those existing local services but could also have the potential to enable or facilitate potential future growth opportunities due to their spending power. This would meet the requirements of the economic and social objectives outlined in paragraph 8 of the NPPF and in our opinion should carry significant weight in the determination of this application.
2) There will be several employment opportunities created within the construction industry in the short term of the construction of this development. It may only be a short-term benefit as once the development is complete, those jobs are likely to move to other development sites and could be viewed as more transient in terms of the long-term benefits to Leverton, but nevertheless, it will sustain and create employment in the construction industry. Again, we are of the view that it meets the requirements of the economic objectives outlined in paragraph 8 of the NPPF and as such, again should be a due consideration in the determination of this case.
3) The Council will create added benefit through a range of different types of 'development tax' that would be levied against the development through the collection of Council Tax payments that will be reinvested into the local parish, the council, county council and others. This continued reinvestment into the local economy that will help enhance and sustain services should also be an aspect that carries significant weight in the consideration of this application.

It is therefore concluded that the development would meet the requirements of the first part of the Exception Test and would be in accordance with the NPPF.

This Flood Risk Assessment provided in support of the development indicates that the second part of the Exceptions test is satisfied, and that the development would be safe for the lifetime of the development (100 years) and not increase flood risk elsewhere. The mitigation proposed and identified later in this statement is proof of this.

It is therefore concluded that both the Sequential and Exception Tests are satisfied.

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FLOOD RISK ASSESSMENT

6.0 DETAILED ASSESSMENT OF POTENTIAL SOURCES OF FLOODING

The following element of this Flood Risk Assessment has been prepared in accordance with the Revised NPPF, the Local Plan and all other relevant guidance to demonstrate that part 2 of the exceptions test is fully satisfied.

Paragraph 163 of the revised NPPF states "When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:

a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;
b) the development is appropriately flood resistant and resilient;
c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;
d) any residual risk can be safely managed; and
e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan."

This section presents an assessment of Flood Risk to the development from:

i) external sources; and

ii) potential of the proposed development to cause flood risk elsewhere.

Whilst there are a range of different flooding mechanism, the two principal sources of flooding that could impact upon this site, this being both fluvial and tidal. In this instance, the potential and primary source of flooding which could affect the development site has been identified as The Wash, which lies circa 3.7km to the east of the site.

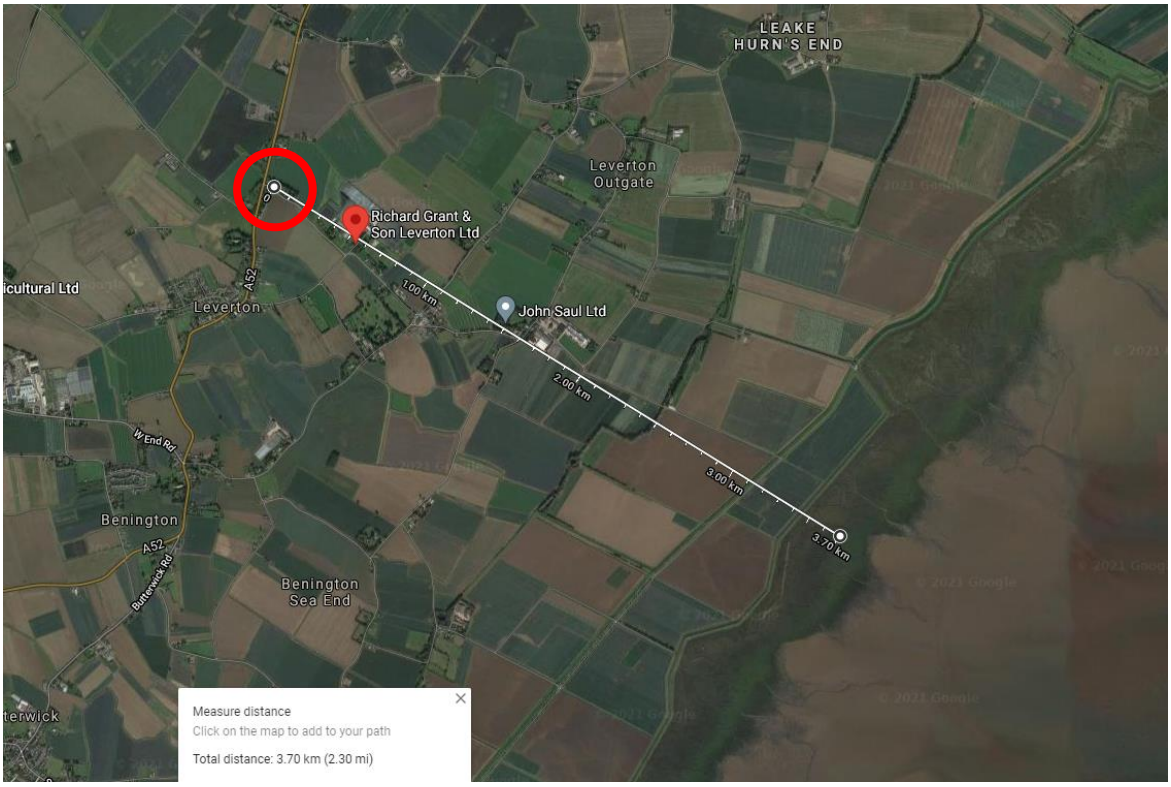
Greater analysis of these sources is explored below.

POSSIBLE FLOODING MECHANISMS		
Source	**Significant?**	**Comment**
Fluvial	Low	Site not considered to be at risk from fluvial flooding
Tidal/Coastal	Yes	If a breach or over topping of the defences occurred.
Pluvial (drainage)	Low	On site run off.
Groundwater	No	Unlikely due to local drainage network.
Overland flow	Yes	The landscape is generally flat and open.
Blockage	Low	Drainage network is established, and capacity exists.
Infrastructure failure	No	No major infrastructure has been identified.
Rainfall ponding	No	No depressed areas which could encourage ponding.

FLOOD RISK ASSESSMENT

i) Assessment of Flood Risk to Development from External Sources
Assessment of Flood Risk from Fluvial/Tidal Sources

The Wash is located circa 3.7km east of the site and forms the dominant source of flooding.

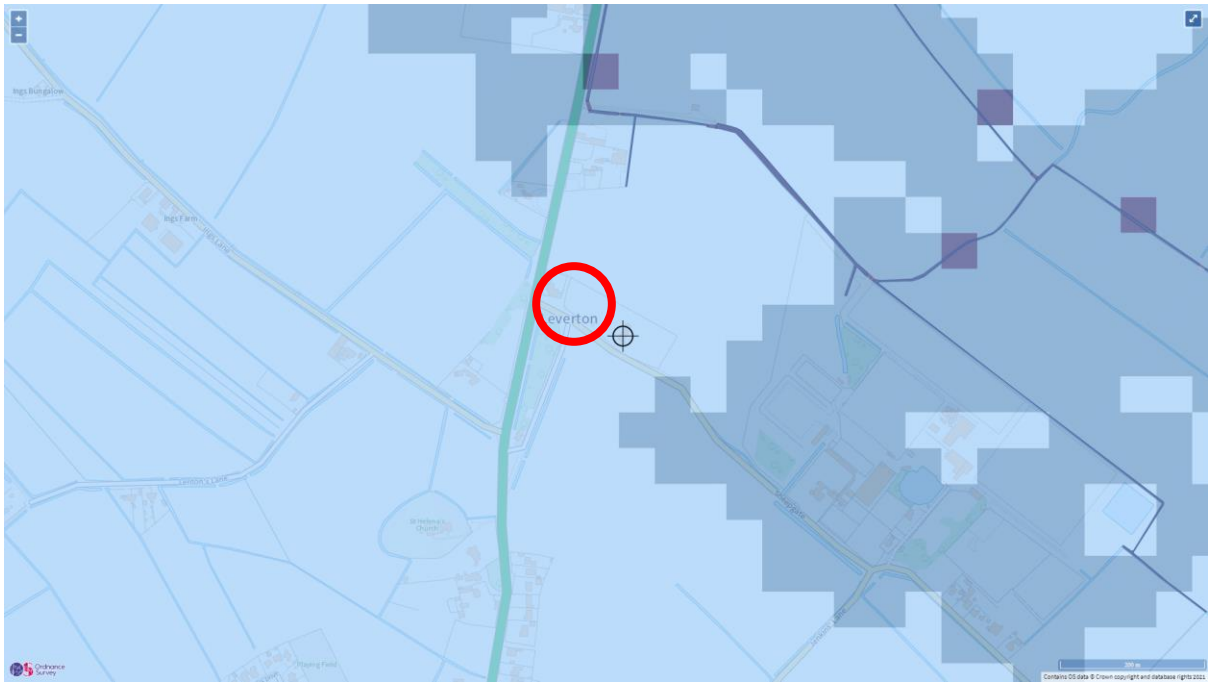


Source: Google Maps

The map over the page identifies the extent and risk of flooding. The site is deemed to be at low risk* of flooding from rivers or the sea. In this case, the source as confirmed is the sea.

*Low risk means that each year this area has a chance of flooding of between 0.1% and 1%. This takes 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.

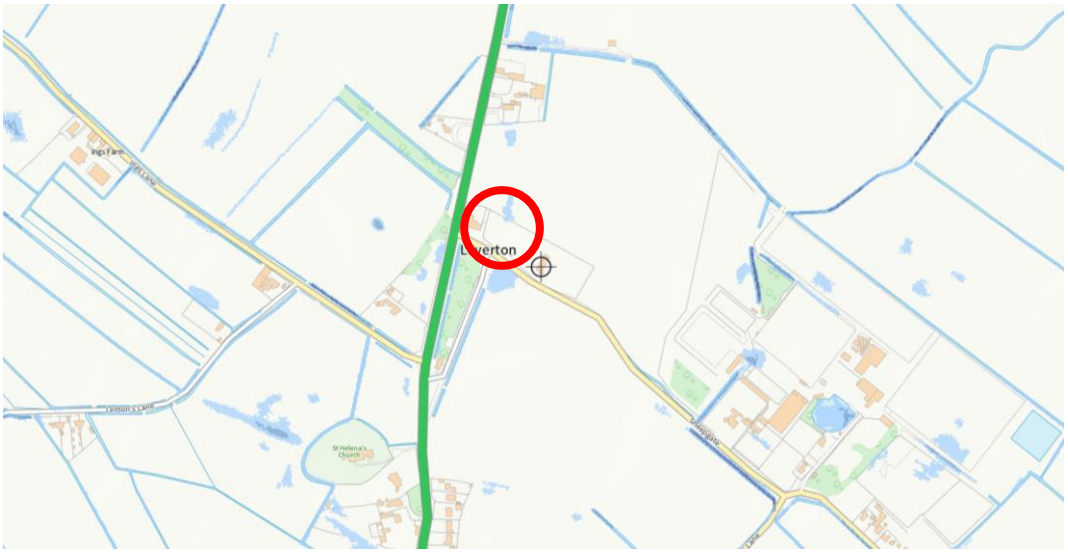
FLOOD RISK ASSESSMENT



Source: https://flood-warning-information.service.gov.uk/long-term-flood-risk/map

Assessment of Flood Risk from Overland Flow (Pluvial)

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



Source: https://flood-warning-information.service.gov.uk/long-term-flood-risk/map

Assessment of Flood Risk from Ground Water

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

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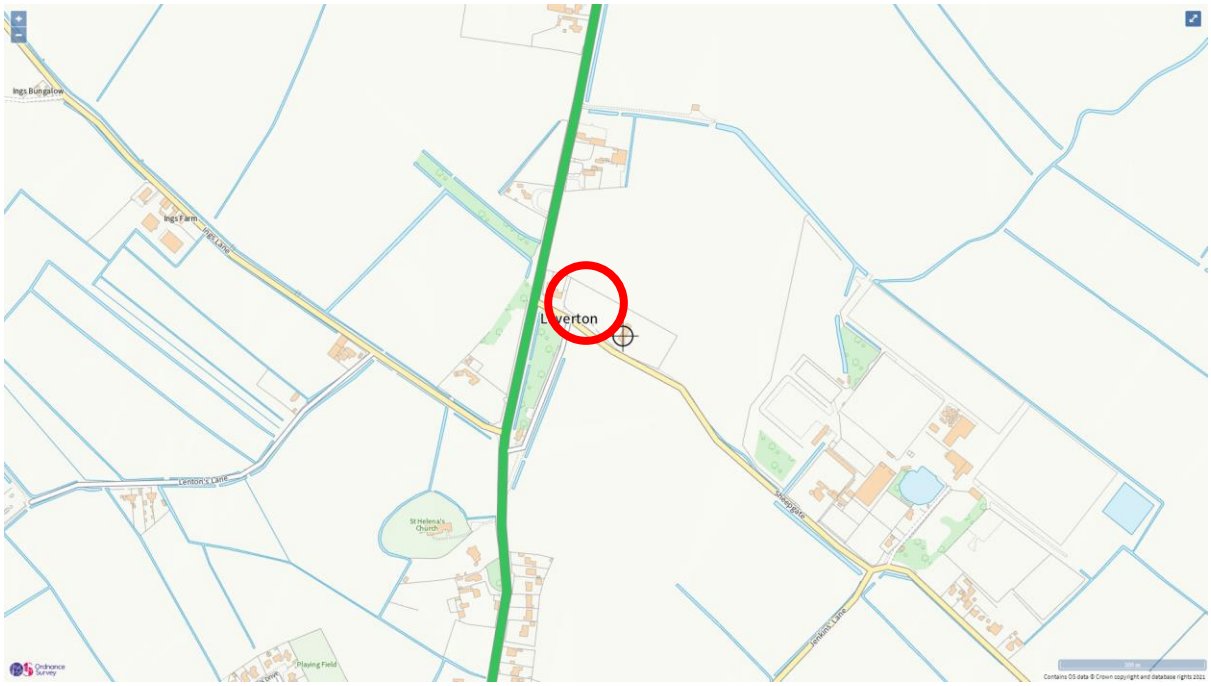
Assessment of Flood Risk from Reservoirs

The Environment Agency Flood Map shows the site is not at risk from reservoir flooding.



Source: https://flood-warning-information.service.gov.uk/long-term-flood-risk/map

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

The existing site is composed of part of the garden area to the host property and is laid predominantly to grass with tree planting to its perimeter and either a post and rail fence or mature native hedging to boundaries. No formal surface water discharge system exists for this site with natural filtration the sole means of surface water disposal. It is believed that the property relies on soakaway drainage?

The proposed development will introduce new permeable and impermeable surfaces into the site and a formal surface water system will be required to safely discharge water in a sustainable manner, to ensure that there is no increased flood risk elsewhere and reducing flood risk overall.

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

FLOOD RISK ASSESSMENT

Tidal Defences

The existing tidal defences protecting this site consist of earth embankments which are supplemented by saltmarsh maintain foreshore levels. They are in good condition and reduce the risk of flooding (at the defence) to a 0.67% (1 in 150) chance of occurring in any year. We inspect these defences routinely to ensure potential defects are identified.

The Flood Map indicates the area at risk of flooding, assuming no flood defences exist, for a flood with a 0.5% chance of occurring in any year for flooding from the sea, or a 1% chance of occurring for fluvial (river) flooding. It also shows the extent of the Extreme Flood Outline which represents the extent of a flood with a 0.1% chance of occurring in any year, or the highest recorded historic extent if greater.

In some locations, such as around the fens and the large coastal floodplains, showing the area at risk of flooding assuming no defences may give a slightly misleading picture in that if there were no flood defences, water would spread out across these large floodplains. This flooding could cover large areas of land but to relatively shallow depths and could leave pockets of locally slightly higher land as isolated dry islands. It is important to understand the actual risk of the flooding to these dry islands, particularly in the event of defence failure.

The Flood Map also shows the location of formal raised flood defences and flood storage reservoirs. It represents areas at risk of flooding for present day only and does not take account of climate change.

The Flood Map only indicates the extent and likelihood of flooding from rivers or the sea. It should also be remembered flooding may occur from other sources such as surface water sewers, road drainage, etc.

Historic Flood Event Outlines

With regards to the history of flooding the Environment Agency confirm that they do not have any records of flooding in this area. However, they do state that it is possible recent flooding may have occurred which we are currently investigating, therefore this information may be subject to change. It is possible other flooding may have occurred which other risk management authorities, such as the Lead Local Flood Authority (i.e., top tier council) or Internal Drainage Board (where they exist) have responsibility.

General conditions

There is limited development between the sea and our site. In these locations, such as around the fens, marshlands and the large coastal floodplains, the flooding if an event occurred could cover large areas of land but to relatively shallow depths and could leave pockets of locally slightly higher land as isolated dry islands.

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In this context, given the openness and flat nature of the surrounding land within the flood plain, it is expected that the rate of inundation would be relatively slow as the area of the flood plain is so wide and flat that the above statement would be true for this site.

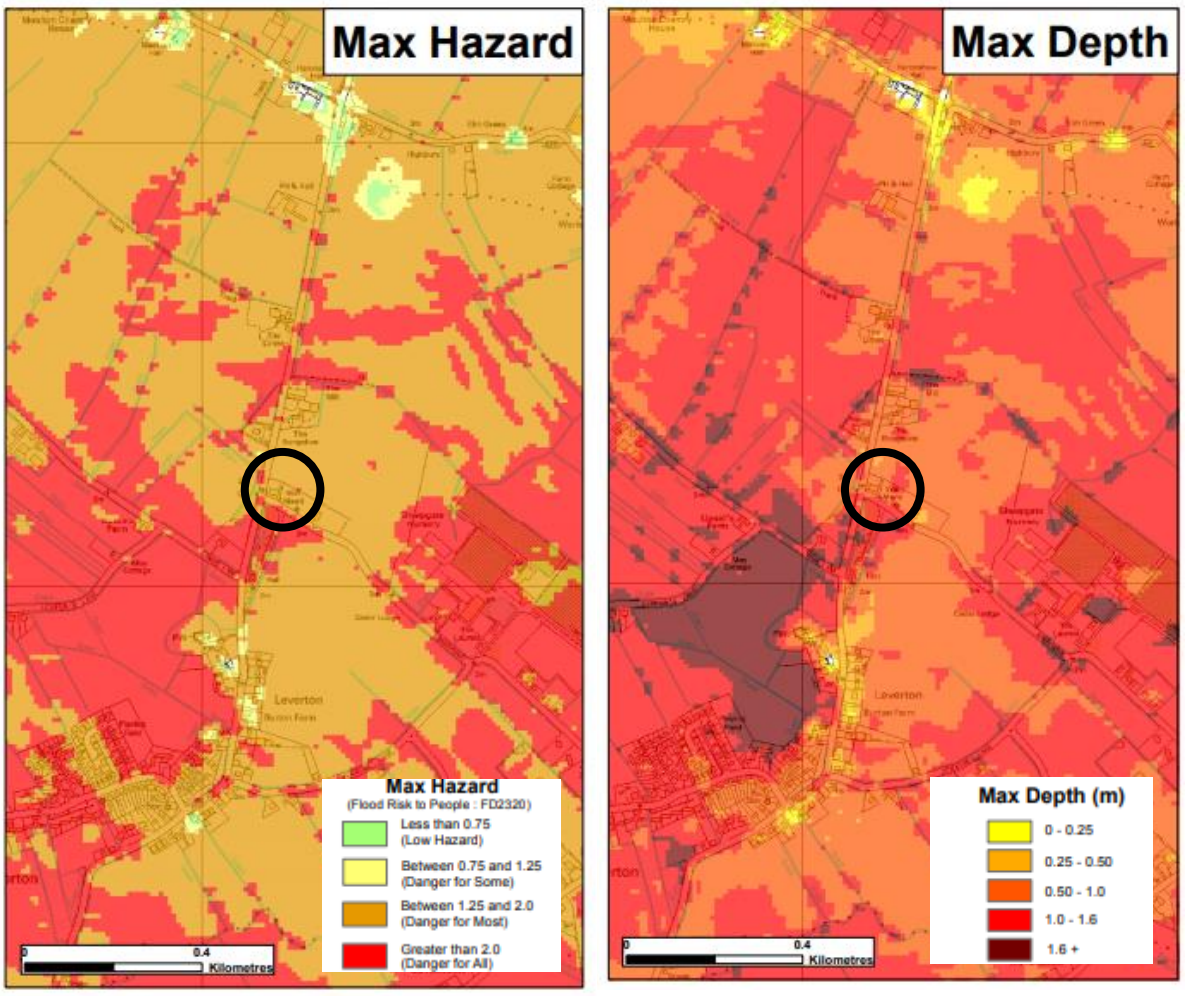
Site Specific Details

In summary, when assessing the implications of flood risk against the information supplied, based on the 1 in 200-year scenario would see the following outcomes.

The maximum hazard would be 'danger for most' of between 1.25 and 2.0.

The maximum depth of water is shown to be different across the site, but where development is planned, depths are shown to be 0.25 – 0.50 metres, but across the wider 'application site', between 0.5 and 1.0 metre.

The velocity of water is identified as being between 0.3 and 1.0 metres per second.



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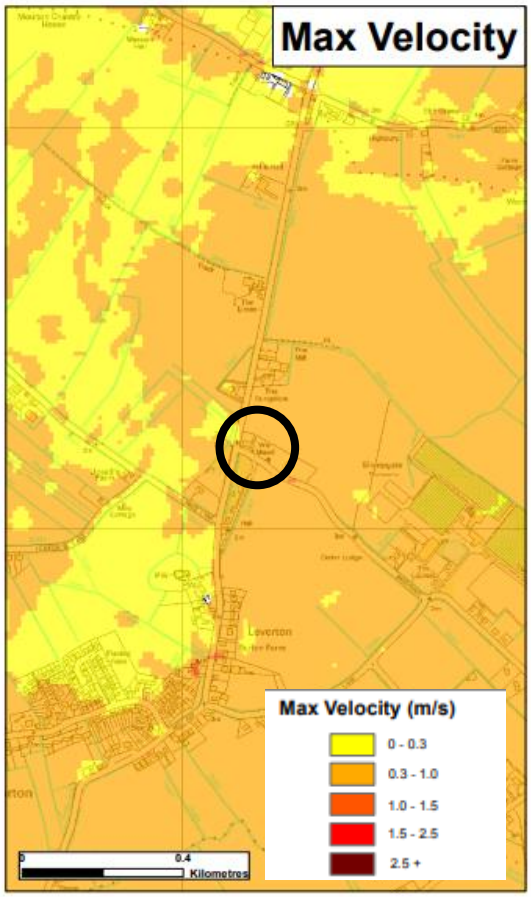

Overall, despite the relative lack of any development between the sources of flooding and the application site, the expanse of the flood plain would, should a flooding event occur, to some degree slow the rate of inundation down to a level where a pre-determined flood evacuation plan could be put into action and a safe point of refuge reached, especially given the distances over which the water would have to travel?

High intensity storms giving large amounts of rainfall are only likely to cause some ponding upon this site and not any actual flooding. The only impact in that scenario would be upon traffic and pedestrians.

If a dyke in the vicinity were to flood, this would be shallow the likely result would be again low-level ponding and flooding to some areas of the site.

It is not expected that there would not be any direct impact upon the occupants of the dwellings given the mitigation that can be incorporated into the design.

A serious breach would be the most severe risk to this site, and that breach would have to come from the sea. However, there are as mentioned the surrounding landscape and extent of the flood plain itself would lead to any water from a flooding event dissipating across a wide area.

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Taking the 1 in 200-year scenario over the lifetime of the development there is obviously a potential threat, and risk to human life without adequate mitigation provided. In this respect the development that requires mitigation need to be protected against this threat, and furthermore, a flood evacuation plan and safe point of refuge would be implemented for each dwelling and should be made available to the occupants of the properties for their lifetime.

7.0 PROPOSALS FOR FLOOD RISK MITIGATION

GENERAL COMMENTS:

Tidal Defence Information

As already confirmed above by the Environment Agency, the existing tidal defences protecting this site consist of earth embankments which are supplemented by saltmarsh maintain foreshore levels. They are in good condition and reduce the risk of flooding (at the defence) to a 0.67% (1 in 150) chance of occurring in any year. We inspect these defences routinely to ensure potential defects are identified.

The Flood Map indicates the area at risk of flooding, assuming no flood defences exist, for a flood with a 0.5% chance of occurring in any year for flooding from the sea, or a 1% chance of occurring for fluvial (river) flooding. It also shows the extent of the Extreme Flood Outline which represents the extent of a flood with a 0.1% chance of occurring in any year, or the highest recorded historic extent if greater.

Flooding Assessment

As a result of the potential sources of flooding and implications of such an occurrence from the sources examined earlier, and the fact that the site lies within an area identified as a future hazard 'danger for most' category with potential flood depths of between 0.25 and 1.0 metres expected upon this site, there will be a need to employ various forms of mitigation. However, as this is an outline submission only, and with no details of siting to be determined a wider precautionary approach could be adopted here, with details of the precise finished floor levels to be agreed once the siting has been determined. Provided the dwellings are situated within the areas of the site that are expected to be inundated should an event occur to a depth of up to 0.5 metres, then finished floor levels could be raised 500mm above ground levels with further mitigation proposed?

Across the site, the mean ground level is 2.399 AODN) (rounded up to 2.4 AODN). Quoted finished floor levels should always revert to this mean level for consistency.

The maximum velocity of the water that could potentially inundate this site being between 0.3 – 1.0 metres per second. Given the site is approximately 3700m away from the sea, and there are no concerns with fluvial flooding, it would be expected, in the worst-case scenario that in the event of a flood, water would reach this site in around one hour.

This gives an indication of the timescales that occupants and visitors would have to deal with the threat of an event.

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In all scenarios, the proposed mitigation measures for the development are explored below.

Given the level of risk perceived, a precautionary approach should always be adopted to ensure that the dwellings are safe and not exposed unnecessarily to flooding. The following mitigation measures have been incorporated:

- → The ground floor (finished floor level) should be raised a minimum of 500mm above the existing surrounding ground levels;
- → Demountable barriers of 600mm in height to be fitted to all ground floor external doors to provide further protection up to a height of 1.1 metres above ground level;
- → Because of the above, finished floor levels should be set at a minimum of 2.900 AODN, with the additional protection through the provision of demountable barriers providing a further 600mm up to 3.500 AODN. Future reserved matters proposals should use these heights;
- → Flood resilient construction should be used throughout the of the dwelling, with solid ground floor internal walls and floors, and where possible the use of plasterboard within eh ground floor should be avoided;
- → All bedrooms are located at first floor level with no sleeping accommodation on the ground floor;
- → The structures should be designed to limit the number of openings throughout on the ground floor where they face the source of flooding in particular, and only where necessary for design purposes;
- → Electrical circuits and sockets to be raised as high as reasonably possible i.e., 1m above finished floor level (and therefore above the expected depth of flooding should an event occur) in accordance with the BRE Publication: Design Guidance on Flood Damage to Buildings (1996). The position of sockets etc. should also comply with the Building Regulations; and
- → Boilers to be wall mounted & under floor heating should be avoided if possible.
- → Where possible, all service entries should be sealed (e.g., with expanding foam or similar closed cell material).

GENERAL COMMENTS

The Department of Communities and Local Government publication 'Improving the Flood Performance of New Buildings - Flood Resilient Construction', provides additional guidance for resilient construction, and should be always referred to during the construction phase. Reference should also be taken from the BRE Publication: Design Guidance on Flood Damage to Buildings (1996).

The residential dwellings must also be registered with the Environment Agency's 'Warnings Direct' flood warning system. To sign up they should visit https://www.gov.uk/sign-up-for-flood-warnings. 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.

Flooding events are generally predicted with a two-hour warning being given on pending events and the road network is adequate to allow escape further inland in the event of an unpredicted flooding event. If it was not possible to escape, then residents would be catered for on-site and move to a location above the flood level and could safely await rescue if required.

The nearest accessible point of refuge from flooding (flood zone 1) is located approximately 3 miles away in Sibsey and occupants should have sufficient time to evacuate and travel this distance should the need arise given the advance warnings in place and expected time any flood waters would be expected to inundate the site (approximately 1 hour).

8.0 CONCLUSIONS

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

- ✓ ***Identify and address flood risk issues associated with the proposed development:***

  It has been established that tidal flooding is the dominant source of flood risk to the site, and that this site is within Flood Zone 3.

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

  The Hazard Maps show that the site could be at risk if a breach or overtopping of the sea defences was to occur in the future scenario year of 2115. However, the likelihood of a breach is considered low (in overall percentage terms) given the current condition of the defences. However, whilst the likelihood of a breach in the sea defences is relatively low due to their current and expected future good standard, a risk of breaching remains.

- ✓ ***Assess whether the project will increase the flood risk elsewhere:***

  The amount of impermeable area within the site will naturally increase by virtue of the development planned. However, what will be implemented will be a managed system to deal with the surface water and all run off based on SUDS principles as a starting point. In this context the displacement of water will also will not cause significant displacement of water elsewhere or put at risk the agricultural fields that bound this site due to the nature of the surrounding landscape. Parking areas can be proposed to have a permeable finish, and in totality, these measures will undoubtedly improve the existing drainage methods, and limit any

surface water run off to a minimum. Resultantly it is considered that the development will have no harmful effect on the floodplain and will not increase risk elsewhere.

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

  This is a proposed development to provide 1.5 - 2 residential dwellings with no ground floor sleeping accommodation with finished floor levels set at 2.900 AODN and demountable barriers providing an additional 600mm up to 3.500 AODN. Whilst this submission is in outline form with only means of access to be determined, these levels should be carried through at the reserved matters or any full submission stage. The mitigation identified and evacuations procedures to be put into place as advocated in this document will ensure that this development will be safe for its lifetime, and satisfactorily demonstrates that it has proposed effective measures to deal with the risks identified.

SUMMARY

The site has been identified in an area that is at risk from flooding, however national planning policy in the form of the revised NPPF and the South East Lincolnshire Local Plan 2011-2036, adopted in March 2019 emphasise the need for a balanced flexible approach that addresses the risks of flooding whilst recognising the benefits of the potential development.

Flooding events are generally predicted with a two-hour warning being given on pending events and the road network is adequate to allow escape in the event of an unpredicted flooding event. Two hours is considered sufficient time to implement any evacuation, and the mitigation measures detailed further reduce the impact upon human life or risk associated, especially given that with advance warning and a 60-minute time expected to elapse between the event occurring and it inundating this site. Despite the overall risk, the measures proposed and the overall chance of flooding in percentage terms in our opinion reduces this potential risk.

The Sequential and Exceptions Test are passed in our opinion and this statement comprises of the necessary site-specific flood risk assessment. This assessment demonstrates that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere.

As a result of all the above, we respectfully consider that this Assessment demonstrates the proposed development is compliant with the sequential and exception tests set out in the National Planning Policy Framework and in the Council's Local Plan, that it would in our opinion deliver wider benefits as detailed, and that the proposals for mitigation and evacuation are sound and would deal with the threat of a flooding event upon this site effectively.

It is therefore felt that that planning permission should not be refused on flood risk grounds.

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