

FLOOD RISK ASSESSMENT

Proposed installation of a static caravan unit to be used as ancillary accommodation

15 Willington Road, Kirton, Boston, PE20 1EP



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Corn Exchange Chambers
Queen Street
Market Rasen
Lincolnshire
LN8 3EH

T: 07368 911052
mail@andrewcloverplanninganddesign.co.uk

1 INTRODUCTION

- 1.1 This Flood Risk Assessment (FRA) accompanies a planning application to site a static caravan at 15 Willington Road in Kirton. The caravan will be occupied the applicant's son who needs to live with the family for health reasons.
- 1.2 The objective of this FRA is to identify, appraise, manage, and reduce the flood risk to life and property at the proposed site and has been produced in accordance with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance.

2 THE SITE & SURROUNDINGS

- 2.1 The application site is located on the eastern side of Willington Road, backing on to Penny Gardens (at Grid reference TF 30464 38632), which is within the centre of Kirton (Figure 1).
- 2.2 The site currently comprises of a two-storey dwelling and several large sheds (Figure 2) which are used as part of commercial business within the family (Wilsons Motorcycles Ltd). Immediately to the west is an area of open space which has recently been granted planning approval for the erection of 5 dwellings (app. reference B/20/0310).



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



Figure 2: Aerial photograph showing the site in more detail.

3 THE PROPOSAL

- 3.1 The proposal involves the siting of a static caravan to be used as ancillary accommodation by the applicants son. The caravan has been sited to the rear/east of the dwelling, where a small storage building will be demolished. The caravan is a standard 40 x 14ft building comprising of an open plan living space, two bedrooms (one ensuite) and a bathroom. Externally there will be a shallow ramp to the entrance door and an area of garden. The existing drive provides ample parking for the parent dwelling and the annex.

4 FLOOD RISK PLANNING POLICY

- 4.1 The NPPF sets out the Governments national policies on different aspects of land use planning and in relation to flood risk. The NPPF is also supported by web-based Planning Practice Guidance (PPG)
- 4.2 The PPG uses Flood Zones to characterise flood risk, and these refer to the probability of river and sea flooding, ignoring the presence of defences. They are shown on the Environment Agency's Flood Map for Planning and are as indicated in the Table 1.

TABLE 1: FLOOD ZONES (SOURCE: PPG PARAGRAPH 65)

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 & 3)
Zone 2 Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

- 4.3 As can be seen in Figure 3, the application site is located within Flood Zone 3a.
- 4.4 The NPPF requires the application of a Sequential Test to steer new development to areas with the lowest probability of flooding. The Flood Zones provide the basis for applying the test.
- 4.5 The aim is to steer new development to Flood Zone 1 (areas with a low probability of river or sea flooding). Where there are no reasonably available sites in Flood Zone 1, local planning authorities in their decision making should take into account the flood risk vulnerability of land uses (as shown in Table 2, page 6) and consider reasonably available sites in Flood Zone 2 (areas with a medium probability of river or sea flooding), applying the Exception Test if required. Only where there are no reasonably available sites in Flood Zones 1 or 2 should the suitability of sites in Flood Zone 3 (areas with a high probability of river or sea flooding) be considered, taking into account the flood risk vulnerability of land uses and applying the Exception Test if required.
- 4.6 In this instance it would not be appropriate to search for alternative sites at a lower risk of flooding as the proposal involves ancillary accommodation to an existing dwelling. The accommodation is required so that the applicant's father can live close to his family for health reasons whilst still retaining an element of privacy and independence.

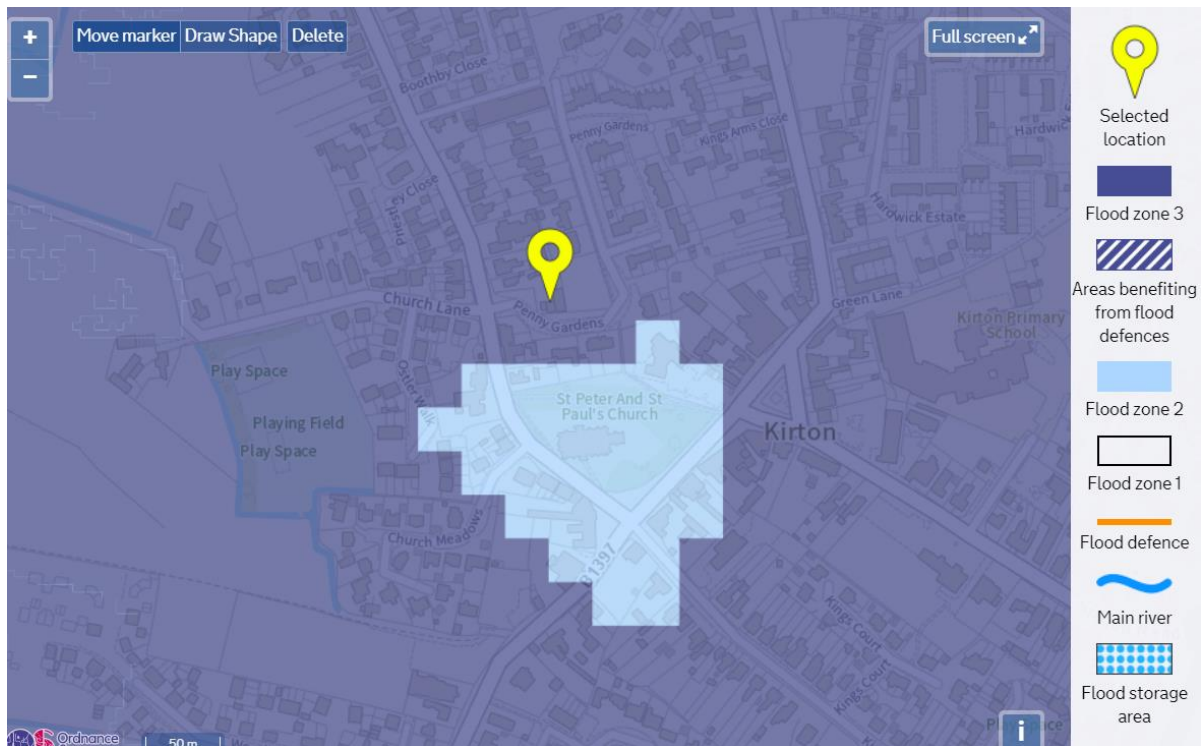


Figure 3: Extract from the Flood Map for Planning with the site highlighted.

TABLE 2: FLOOD RISK VULNERABILITY CLASSIFICATION (SOURCE: PPG PARAGRAPH 66)	
Essential infrastructure	<ul style="list-style-type: none"> • Transport infrastructure • Essential utility infrastructure • Wind turbines.
Highly vulnerable	<ul style="list-style-type: none"> • Emergency Service which are required in times of flood • Basement Dwellings • Mobile Home parks • Installations requiring hazardous substances consent
More vulnerable	<ul style="list-style-type: none"> • Hospitals • Residential institutions (i.e., care homes, hostels, prisons) • Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs, and hotels • Non-residential uses for health services, nurseries and educational establishments • Landfill and hazardous waste management facilities • Site used for holiday short-let caravans and camping
Less vulnerable	<ul style="list-style-type: none"> • Emergency services which are not required to be operational during flooding • Buildings used for commercial establishments (i.e., shops, restaurants) • Land and buildings used for agriculture and forestry

- 4.7 Based on the vulnerability of a development the PPG states what Flood Zone(s) the development is appropriate in. This is demonstrated by Table 3 which is reproduced below. Table 3 confirms that the proposed annex, classified as 'more vulnerable' in Table 2, is appropriate within Flood Zone 3 but is subject to the Exception Test.

TABLE 3: FLOOD RISK VULNERABILITY AND FLOOD ZONE 'COMPATIBILITY' (SOURCE: PPG PARAGRAPH 67)					
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a	Exception Test required	✗	Exception Test required	✓	✓
Zone 3b	Exception Test required	✗	✗	✗	✓*
KEY: ✓ Development is appropriate ✗ Development should not be permitted					

- 4.8 The NPPF states that for the 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.

- 4.9 As the proposal is relatively small in scale the benefits to the community will be low. However, the benefit to the applicant and their family will be considerable. In relation to the second criterion, this site-specific FRA has been produced to ensure that the development is safe and will not increase risk elsewhere.
- 4.10 Overall the proposal satisfies the requirements of the Sequential and Exception Tests.

5 HISTORIC FLOODING

- 5.1 The Environment Agency had advised that they do not have any records of historic flooding around the application site.

6 FLOOD RISK SOURCES

- 6.1 The following sources of flood risk have been identified. Where mitigation is required to reduce the risk from flooding this is discussed in Section 7.

FLUVIAL (MAIN RIVERS)

- 6.2 The nearest EA main rivers to the site are the River Witham (over 6km to the north) and the River Welland (over 6km to the southeast). Due to the distance and the intervening development, roads, and ordinary watercourses these are not considered to be viable sources of flood risk to the application site.

FLUVIAL (ORDINARY WATER COURSE)

- 6.3 The South Forty Foot Drain is located approximately 4.7km to the north. This watercourse is maintained by the Environment Agency and the levels are controlled by the Black Sluice Pumping Station at Boston. Overall, it is considered that the risk from this maintained watercourse is low.

TIDAL

- 6.4 The site is over 5km to the west of The Haven and over 9km from The Wash and the flood risk to the site is reduced by the raised defences. The EA have confirmed that the existing tidal defences protecting this site consist of earth embankments which are said to be in fair condition and reduce the risk of flooding (at the defence) to a 0.67% (1 in 150) chance of occurring in any year. Whilst the EA inspect these defences routinely to ensure potential defects are identified, there is still a risk that the defences could be overtopped or breached.
- 6.5 The effects of overtopping or a breach of tidal defences is shown in the hazard maps provided by the EA. The EA confirm that the site is not affected by a breach of the defences for the present day 0.5% (1 in 200 year) and 0.1% (1 in 1000 year) scenarios.
- 6.6 The range of depths on and adjacent to the site because of a 0.1% breach of the tidal defences in the future (scenario year 2115) is shown in Figure 4 (below). This map shows that in this most extreme worst-case scenario the site is partially not affected and that where flooding does occur the depth of water is no greater than 250mm.

SURFACE WATER

- 6.7 The Flood Map for Planning shows that the site is at 'very low' risk of surface water flooding. 'Very low' risk means that each year this area has a chance of flooding of less than 0.1%.

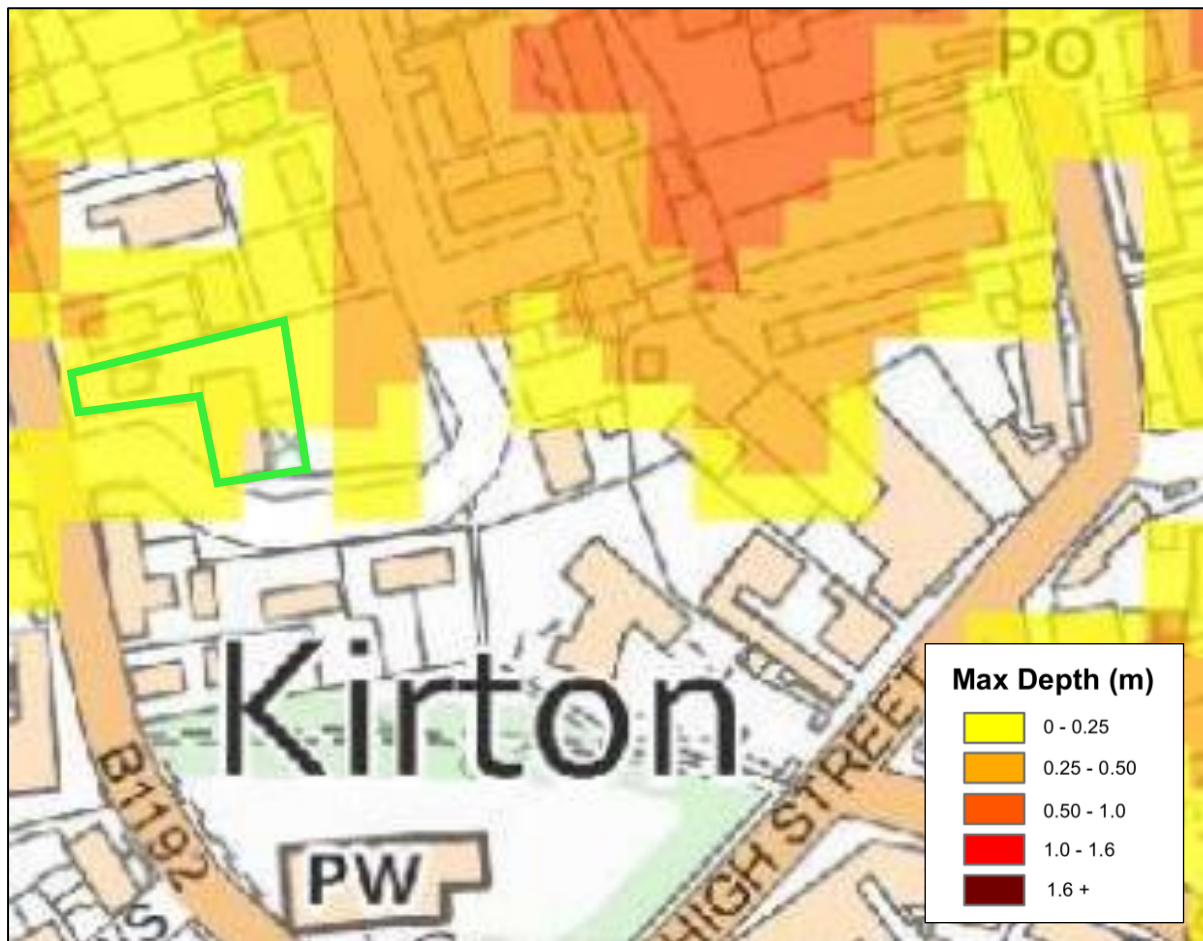


Figure 4: Hazard map for a 0.1% 2115 breach in the tidal defences (application site highlighted).

7 MITIGATION

- 7.1 The previous section has identified the sources of flooding which could potentially pose a risk to the site and the proposed annex. This section of the FRA sets out the mitigation measures which are to be incorporated within the proposed development to address and reduce the risk of flooding to within acceptable levels.
- 7.2 To help with accessibility the axle will be removed from the caravan to lower the height. However, the remaining substructure will still raise the caravan 300mm above existing ground level. This floor level accords with the standing advice from the Environment Agency where the worst case predicted flood depths are 250mm.
- 7.3 The risk to life will be further reduced as the occupants of the annex would have access to the host property which provide safe refuge at first floor level.
- 7.4 The caravan should be securely anchored to the concrete base using ground anchors and chains. Whilst unlikely due to the shallow depths predicted, this will ensure that the building does not move during a flood event.

- 7.5 The occupants of the property are advised to register with the Environment Agency flood warning service; further details are available at <https://www.gov.uk/sign-up-for-flood-warnings>.

8 CONCLUSIONS

- 8.1 This FRA is compliant with the requirements set out in the NPPF and the associated Planning Practice Guidance. This report demonstrates that subject to the flood mitigation measures being implemented there will be no risk to life or property as part of this development. Given the nature of the application and that the annex will remain in the same planning unit as the host property it is not considered that the proposal would increase the danger of risk to life or flooding elsewhere.