



FLOOD RISK ASSESSMENT

CHANGE OF USE | CROOK O MOOR FARM | MEDGE HALL

1.0 Introduction

This Flood Risk Assessment has been prepared by keystone**architecture** on behalf of the Applicant to accompany a Full Planning Application for the Proposed Change of Use of Agricultural Land / Buildings, to General Industrial for Motor Vehicle Repairs, at Crook O Moor Farm, Medge Hall, North Lincolnshire, DN8 5SP.

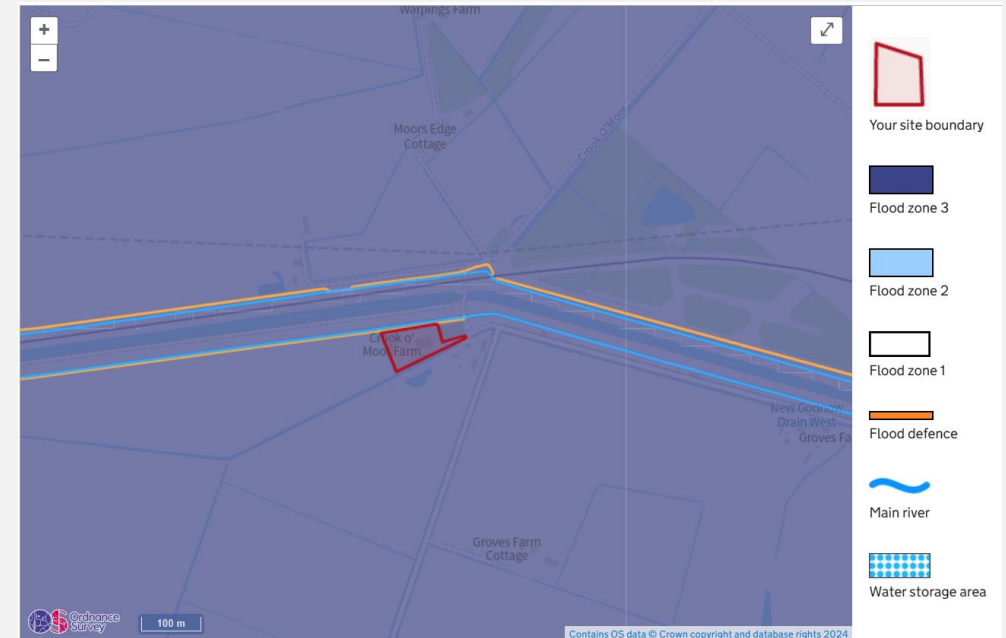
The site currently houses an area of hard standing, with a series of modern agricultural buildings.

The purpose of this assessment is to comply with National Planning Policy Framework (NPPF); to enable an investigation into the potential flood associated risks relating to the development. The purpose of the Flood Risk Assessment is therefore to: -

- Demonstrate whether a particular project is likely to be affected by flooding from any source, both now and in the future;
- Satisfy the Local Planning Authority that the development is safe and, where possible, reduces the flood risk overall.
- Demonstrate whether it will increase the flood risk elsewhere.
- Demonstrate the measures proposed to deal with the identified risks.

2.0 Sequential Test

Below is an extract of the Environment Agency Flood Zone Map, showing the proposed site location.



The proposed site is in an area that falls within the extent of a flood from a river or the sea, at the time of assessment of the likelihood of flooding.

Generally this means a site that has land assessed as having a 1 in 100 or greater annual probability of river flooding ($> 1\%$) or a 1 in 200 or greater annual probability of flooding from the sea ($> 0.5\%$) in any year

It is important to note however, that these flood zones refer to the probability of river and sea flooding, ignoring the presence of defences.

A Zone 2/3 (a) under the National Planning Policy Framework Technical Guidance (below), equates to a High Probability.

Taking NPPF Table 2 (below), general industrial is defined as 'less vulnerable' classification.

Zone 3a - high probability

Definition
This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.

Appropriate uses
The water-compatible and less vulnerable uses of land (table 2) are appropriate in this zone. The highly vulnerable uses should not be permitted in this zone.

The more vulnerable uses and essential infrastructure should only be permitted in this zone if the Exception Test is passed. Essential infrastructure permitted in this zone should be designed and constructed to remain operational and safe for users in times of flood.

Flood risk assessment requirements
All development proposals in this zone should be accompanied by a flood risk assessment.

Policy aims
In this zone, developers and local authorities should seek opportunities to:

- reduce the overall level of flood risk in the area through the layout and form of the development and the appropriate application of sustainable drainage systems;
- relocate existing development to land in zones with a lower probability of flooding; and
- create space for flooding to occur by restoring functional floodplain and flood flow pathways and by identifying, allocating and safeguarding open space for flood storage.

Less vulnerable

- Police, ambulance and fire stations which are *not* required to be operational during flooding.
- Buildings used for shops, financial, professional and other services, restaurants and cafes, hot food takeaways, offices, general industry, storage and distribution, non-residential institutions not included in "more vulnerable", and assembly and leisure.
- Land and buildings used for agriculture and forestry.
- Waste treatment (except landfill and hazardous waste facilities).
- Minerals working and processing (except for sand and gravel working).
- Water treatment works which do *not* need to remain operational during times of flood.

Under NPPF Table 3 (below), confirms that no Exceptions Test is required where the site is classed under Zone 3a. and the use is deemed as less vulnerable

Flood Risk Vulnerability		Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone	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

The change of use of the existing site and buildings to accommodate motor vehicle repairs, shall provide wider social benefits by way of direct employment opportunities. The location also accords with the NPPF, in promoting rural business to provide thriving rural communities, and agricultural diversification.

The change of use of the site will create no further surface water runoff than that of the existing buildings.

Surface water run-off from the roofs of the buildings shall be discharged to the existing arrangements.

3.0 Other Potential Sources of Flooding

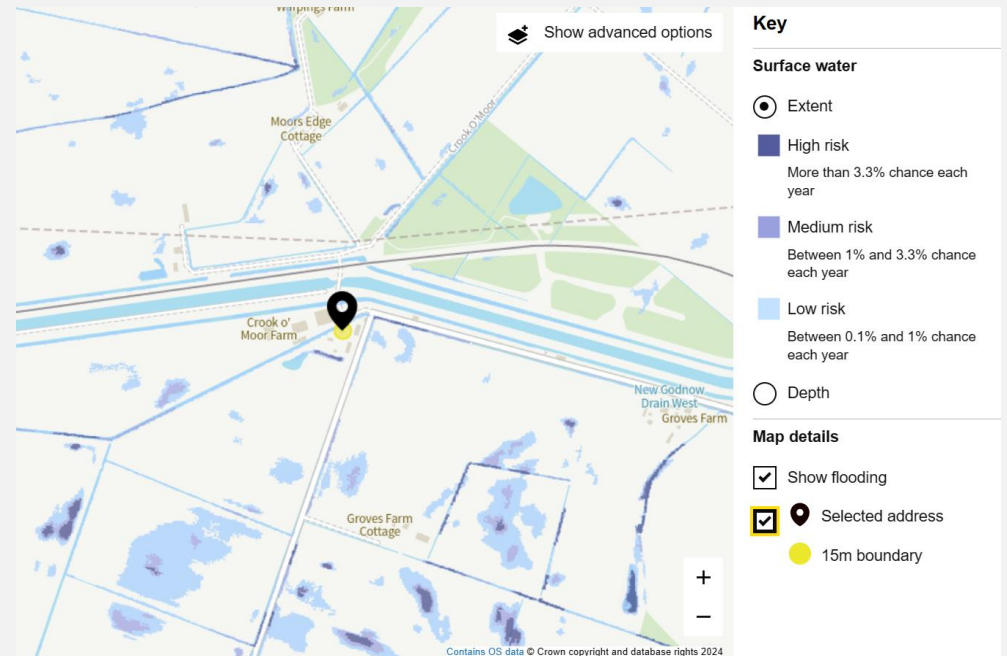
There are two other potential sources of flooding identified as a result of this assessment:

- a) local blockages to proposed soakaway drainage
- b) existing surface water runoff

Flooding from source a) is not applicable, as there is no change to the existing arrangements.

The probability of flooding from b) is also low generally. The site is identified as 'Very Low Risk', which means the area has a chance of flooding of less than 0.1%.

The map below shows the locations of the site in relation to possible areas of surface water flooding.



The Environment Agency provides a Flood Warning Service which includes Flood Warning Codes and uses direct warning methods where the risks and impacts of flooding are high. Indirect warnings are provided to all flood risk areas, even those at low risk of flooding. The main method is media broadcasts via local radio and also by television.

In addition to direct and indirect flood warnings, the Environment Agency operates a 24 hour a day Floodline Service providing advice and information on flooding contacting 0345 988 1188.

4.0 Conclusions

The site is considered as within 'Zone 3a, High Probability', and the proposed vulnerability is classed as 'Less Vulnerable', it is noted that an Exception Test is not required.

Based on the historic use of the site, and the similar proposed use, coupled with the information supplied in this FRA, it is considered that the development of the identified site, is acceptable.

As a result of the above and the previous, it is considered that the development is acceptable with regards to flood risk.