

FLOOD RISK ASSESSMENT

Proposed Erection of a Dwelling

Church Farm, Louth Road,
South Somercotes, Louth, Lincolnshire, LN11 7BW



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DOCUMENT HISTORY

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1 INTRODUCTION

- 1.1 This Flood Risk Assessment (FRA) accompanies a planning application for the erection of a dwelling at Church Farm in South Somercotes. The dwelling is effectively a replacement for the same building which was approved as a change of use under application reference N/162/01366/19.
- 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 site is located on the northern side of Louth Road, within the centre of South Somercotes (Figures 1 & 2) and at Ordnance Survey grid reference TF 541503 393815.
- 2.2 The site is currently part of Church Farm but has its own access directly off Louth Road. There is an agricultural building immediately to the north and a large area of garden to the east. There is a dwelling with outbuildings to the west and the adjacent land to the south is in agricultural use.



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

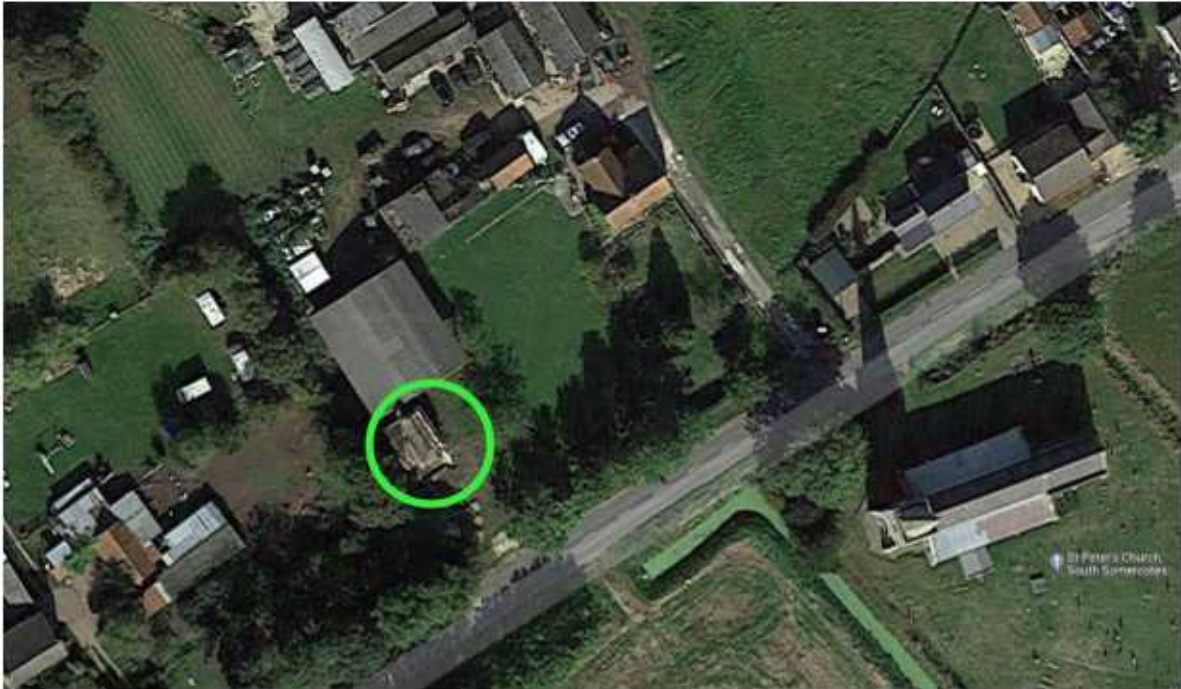


Figure 2: Aerial photograph showing the proposed site in more detail.

3 THE PROPOSAL

- 3.1 In July 2019 an application was submitted to the Local Planning Authority (LPA) to determine whether Prior Approval was required to convert an agricultural building to a dwelling under Class Q of the Permitted Development regulations (application reference N/162/01366/19). In September 2019 the LPA confirmed that Prior Approval was not required and that the conversion of the barn (which was originally built as a chapel) to a dwelling could proceed. The approved plans and a photograph of the original building can be seen in Figures 3 and 4.



Figure 3: The original barn which was to be converted to a dwelling under Permitted Development.

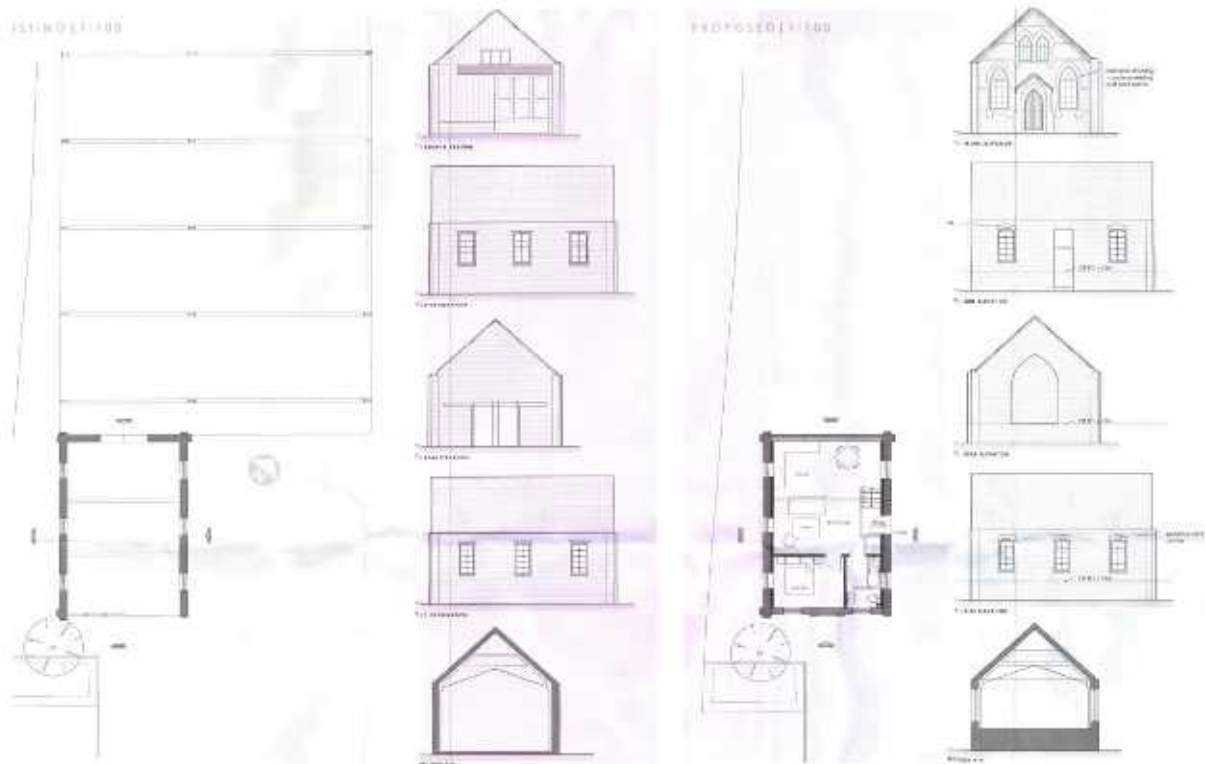


Figure 4: The original existing and proposed plans for the conversion to a dwelling.

- 3.2 Prior to works commencing a tree collapsed onto the building (Figure 5). Due to the extensive damaged caused it was deemed more appropriate to rebuild the structure. These works are at an advanced stage and as can be seen in Figure 6, the replacement building has been constructed as per the approved conversion plans.



Figure 5:
The damaged caused to the original building.



Figure 6: The current progress of the rebuilt structure.

- 3.3 This full planning application seeks retrospective permission for the demolition of the barn and the construction of a replacement building to be used as a dwelling. The replacement building is in the same position as the original and has the same footprint and scale. The appearance will be the same as the original plans for the conversion and reclaimed materials will be used wherever possible. The mitigation measures set out in the previous Flood Risk Assessment will be adopted and the raised floor is clearly visible in the current construction. In addition to the previous measures, a mezzanine will be added, providing a further area for refuge.

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 and are as indicated in the Table 1 (below). As can be seen in Figure 7, the application site is located within Flood Zone 3a.

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 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.

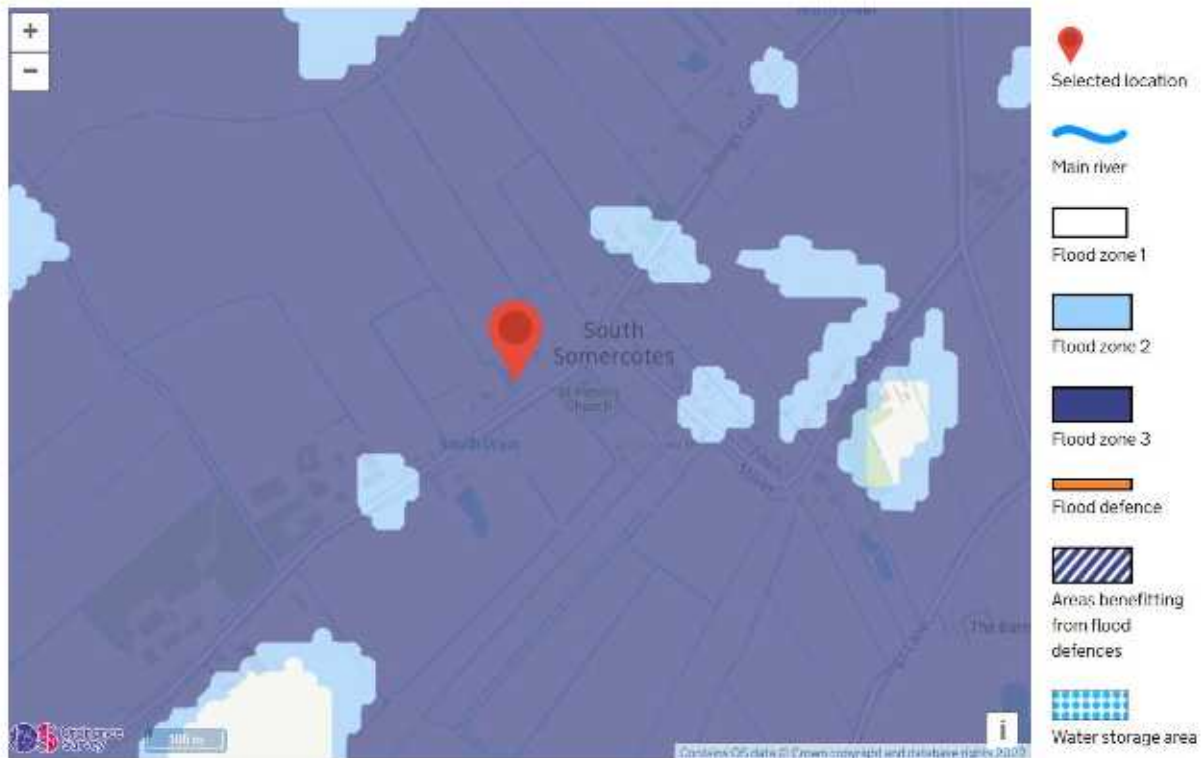


Figure 7: Environment Agency flood map with the site highlighted.

- 4.4 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 9) 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.
- 4.5 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 Based on the vulnerability of a development the guidance states what Flood Zone(s) the development is appropriate within. This is demonstrated by Table 3 which is reproduced on page 9. In this instance the development involves a ‘more vulnerable’ use and as such the Exception Test applies.
- 4.7 In relation to the sequential test, on this occasion it does not have to be applied as the proposal effectively involves a replacement dwelling.
- 4.8 In relation to the exception test, the NPPF states that for this 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.

**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

**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

- 4.9 The building of a like for like replacement dwelling will have numerous benefits for the future occupants and the wider area. The new building will be superior in terms of thermal efficiency and energy use, not only helping the occupant to keep the cost of living down but also reducing the effect of the dwelling on the environment. Materials from the original structure have been reused wherever possible, reducing waste and the amount of embodied energy. Whilst the replacement building will have the same appearance as the original, the quality of the aesthetics will be significantly improved and as such will lead to a further enhancement to the character of the area.
- 4.10 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.
- 4.11 Overall the proposal satisfies the requirements of the Sequential and Exception Tests.

5 FLOOD RISK SOURCES

- 5.1 The following sources of flood risk have been identified. Where mitigation is required to reduce the risk from flooding this is discussed in Section 6.

FLUVIAL

- 5.2 The nearest ordinary watercourse is the Lindsey Marsh Drainage Board maintained South Drain on the adjacent side of Louth Road. The Board have confirmed that they have no records of this watercourse flooding. Any flooding from this source should be shallow in depth and would be spread across a wide area. As the proposed raised floor level will be 1m above ground level the risk from this source is low.

TIDAL

- 5.3 The defences to the North Sea are over 3.5km to the east. The coastline in this area is mainly protected from earth embankments and saltmarsh. Whilst these defences protect the site there is a residual risk that they could fail and as such suitable mitigation is still required.
- 5.4 The detailed hazard maps show that the site would not be affected during a present-day breach in the tidal defences. The 0.5% (1 in 200) breach scenario for the year 2115 shows that the site could be affected by flooding to a depth of between 0.25 and 0.5m. The 0.1% (1 in 1000 year) scenario for 2115 shows that the depth could be between 0.5 to 1.0m.

SURFACE WATER

- 5.5 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%.

OTHERS

- 5.6 The Flood Map for Planning shows that the site is not at risk of reservoir flooding.
- 5.7 It is understood that the site has not been affected by flooding in the past.

6 MITIGATION

- 6.1 The previous section has identified the sources of flooding which could potentially pose a risk to the site and the proposed dwelling. 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.

- 6.2 The mitigation measures which were supported by the Environment Agency and approved as part of the previous approval have been incorporated into the works which have already taken place for the replacement dwelling and will be further implemented as the works proceed. Most significantly the ground floor level of the proposed dwelling has been raised 1m above existing ground level. An additional mitigation measure which was not included in the previous approval is a first-floor mezzanine level. This additional floor would provide a safe refuge if required.
- 6.3 In addition to raising the floor level, further physical measures to be incorporated into the building include water resisting air bricks, backwater valves and non-return valves and all electrical installations will be located at least 600mm above finished floor level.
- 6.4 In addition to physical measures it is recommended that the future occupiers of the dwelling sign up to the EA flood warning service.

7 CONCLUSIONS

- 7.1 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. As the proposal occupies the same area as the original building it should also not increase the risk of flooding elsewhere.