# FLOOD RISK ASSESSMENT

**PROPOSED AGRICULTURAL ENGINEERS DEPOT**
**BRIDGE HOUSE FARM**
**RAVENS BANK**
**SUTTON ST. JAMES**
**SPALDING**
**PE12 0EZ**

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Version 1 March 2014

# FLOOD RISK ASSESSMENT FOR PROPOSED,
# BRIDGE HOUSE FARM, SUTTON St. JAMES, SPALDING. PE12 0EZ

**INTRODUCTION**

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 seeks to reduce the future damage to property and the risk to life from incidents of flooding. Their expectations relating to flooding are contained in the National Planning Policy Framework March 2012, (NPPF), which identifies how the issue of flooding is dealt with in the drafting of planning policy and the consideration of planning applications by avoiding inappropriate development in areas at risk from flooding and to direct development away from areas at highest risk.

Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere. Local Plans should apply a sequential, risk-based approach to the location of development to avoid where possible flood risk to people and property and manage any residual risk, taking account of the impacts of climate change.

The Environment Agency's flood maps show areas that are at risk, from fluvial and tidal flooding. These maps show the limits of the flood plain of the area which could be affected by flood events, over topping or breaching of flood defences. They are based on the approximate extent of floods with a 1% annual probability of exceedance (1 in 100 year flood) for rivers and 0.5% annual probability of exceedance (1 in 200 years flood) for coastal areas under present expectations or the highest known flood. However they do not take into account of the presence of defences or the likelihood that flood return intervals will be reduced by climate change.

This Flood Risk Assessment has been prepared in support of the planning application and considers the risk of flooding from fluvial and tidal sources in accordance with National Planning Policy Framework (NPPF). It also considers the risks of localised flooding due to inadequate Foul and Surface Water Sewers, Failure of Reservoirs, Water Main pipe bursts, Sewer Blockages, Pump Failures or High Ground Water Table etc.

This document has been prepared solely as a flood risk assessment on behalf of the client, Mr. G. Sly.
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**APPLICATION SITE**

The site is located at Bridge House Farm, Ravens Bank, Sutton St James, Spalding, PE12 0EZ, within the South Holland District Council's administrative area. **Plan 1**

The Site would be classed as Non Major Development applying the Town & Country Planning (Consultation) (England) Direction 2009 as the site is to be developed is less than one hectare.

The National Grid Reference is TF 38071 19033.

This flood risk assessment has been prepared for a planning application at Bridge House Farm is for the erection of two steel frame portal buildings, the stationing of two storage containers and a two storey office block and associated infrastructure including a 2.2m palisade fence. **Plan 2**

The National Planning Policy Framework Technical Guidance (NPPF TG) defines three levels of flood risk depending upon the annual probability of fluvial flooding occurring.
Zone 1 – Low Probability (<0.1%)
Zone 2 – Medium Probability (0.1 – 1.0%
Zone 3 – High Probability (>1.0%)

The proposed development site is shown to be within Flood Zone 3a 'High Probability' and partly within Flood Zone 2 'Medium Probability' as detailed on the Environment Agency's Flood Zone Maps without defences, and as defined in Table 1 of NPPF TG.**Map1**

**Table 1: Flood Zones Definition**

**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.

Applying the Flood Risk Vulnerability Classification in Table 2 of (NPPF TG), the proposed industrial use for the site is classified as "Less Vulnerable," Table 1 of NPPF TG states that such uses are permitted in Flood Zone 3a

**Table 2: Flood Risk Vulnerability Classification**

| Less vulnerable |
| --- |
| • Police, ambulance and fire stations which are *not* required to be operational during flooding.<br>• 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.<br>• Land and buildings used for agriculture and forestry.<br>• Waste treatment (except landfill and hazardous waste facilities).<br>• Minerals working and processing (except for sand and gravel working).<br>• Water treatment works which do *not* need to remain operational during times of flood.<br>• Sewage treatment works (if adequate measures to control pollution and manage sewage during flooding events are in place). |

From the topographic survey the road level on Ravens Bank at the site entrance is 3.00mODN with the site levels varying from 2.78mODN to 2.21mODN. The floor level of the existing workshop is 2.70mODN. It is proposed that the ground floor level for the two storey offices be 3.00mODN and the other buildings be 2.70mODN. **(Plan 3)**

## DRAINAGE AUTHORITIES

### Environment Agency

The Environment Agency is responsible for reducing the risk of flooding from designated main rivers and from the sea.

There are no fluvial Main Rivers in the close vicinity of the site, maintained by the Environment Agency, which could be potential sources of flooding affecting the development site

The Flood Zone Maps identify river catchments over 3 sq. km. These maps are a theoretical estimate of areas that could be inundated should no defence exist. In practice current standards of protection would result in flood envelopes substantially less than shown by these maps. The maps make no allowance for local, site specific features.

The flood zone maps show that the site of the proposed development is considered at risk from flooding. These maps indicate that the area would be flooded without flood defences, which are in place, (with an annual probability of more than 0.5% i.e. return frequency of less than 1 in 200 years for tidal flooding or more than 1.33% return frequency of less than 1 in 100 years for fluvial flooding). (**Map 1)**

The Environment Agency Risk of flooding from Rivers and Sea show that the site is at Low Risk. Low means that each year, this area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%). This takes into account the effect of any flood defences that may be in this area. Flood defences reduce, but do not completely stop the chance of flooding as they can be overtopped or fail. **Map 2**

Taking the precautionary approach the Hazard Rating following a breach which in Flood Risk Assessment (FD 2320) Guidance for New Development Phase 2 R& D Technical Report these are classified as low <0.75, moderate 0.75-1.25, significant 1.25-2.50 and extreme >2.50 based upon an empirical measure of velocity and depth.

| Flood Hazard value | Degree of flood hazard | Description | Indicative depth range |
|---|---|---|---|
| < 0.75 | Low | Caution<br>'Flood zone with shallow flowing water or deep standing water' | Up to 0.25 m |
| 0.75 – 1.25 | Moderate | Danger for some (i.e. children)<br>'Danger: flood zone with deep or fast flowing water' | Up to 0.5 m |
| 1.25 – 2.0 | Severe | Danger for most<br>'Danger: flood zone with deep fast flowing water' | 0.5 m to 3 m |
| > 2.0 | Extreme | Danger for all<br>'Extreme danger: flood zone with deep fast flowing water' | 0.5 m to over 3 m |

**HR = d x (v + 0.5) +DF**

Where V = Flood flow velocity (m/sec)

D = Flood depth (m)

DF = A debris factor included to represent the greater damage, or risk of injury to people, that can occur if debris is swept along with the water. = 0.5 for depths <0.25 or 1.0 for depths

For the degree of Flood Hazard to be classified as low HR has to be <0.75.

The Environment Agency has recently carried out a Tidal Hazard Mapping and following a breach to the defences. The Northern Area Tidal Hazard Maps (2009) for Scenario year 2006 for the 1 in 1000 year event show that the site is not affected by breaching. With climate change up to year 2115 the maps show that for the 1 in 200 event the majority of the site is also not affected by breaching with only a small area running parallel to the Main Drain being within a Hazard Rating area of Less than 0.75 (Low Hazard), a velocity of 0 - 0.3 /sec and depth of flow 0 – 0.25m.

From studying the maps it would appear that the model has probably been influenced by the presence of the major watercourse.

**Map 4** shows the results for breaching the defences, taken from the Environment Agency Northern Area Tidal Hazard Mapping. Licence No CCN-2013-35833

The Environment Agency has also produced maps based on computer modeling of simulated overtopping of defences along the coastline for specific tidal scenarios. The maps only consider the consequences of overtopping of defences and do not show the possible consequences of breaches of the tidal defences. For future climate change scenarios, it is assumed that the defences remain at 2006 heights. The outputs are based on computer modeling of simulated overtopping of the main coastal defences for specific tidal scenarios.

The site is not affected by overtopping for the 0.5% (1 in200) and the 0.1% (1 in 1000) chance events for 2006 and 2115.

**South Holland Internal Drainage Board**

The proposed development site is located within Catchment area of South Holland Internal Drainage Board. The Board is responsible to operate and maintain the arterial fluvial system. **Map 4**

The site is located within Catchment F Little Holland which is pumped into the Main Drain at Little Holland P.S.

The Boards Main Drain which serves the site is located adjacent to the south-east boundary.

**South Holland District Council**

In order to inform the process of risk assessment and site selection the District Council commissioned Haskoning UK Ltd Consultants to prepare a Strategic Flood Risk Assessment in December 2002.They have carried out an update of this report and this report was published in January 2010

This Flood Risk Assessment has taken the results of the updated South Holland Strategic Flood Risk Assessment (SHSFRA) into account in its findings.

It was found that the actual risk from primary sources of flooding (taken as being rivers and the sea) was assessed as being the product of:

• Medium probability (assigned because the standards of the primary defences are variable) and

• Low consequence (assigned because of the District's generally rural nature and because any urban flooding is likely to be shallow with minimal impact).

The findings reflect the considerable protection afforded to the area by coastal and tidal & fluvial flood defences and by the extensive well organised system of lowland IDB fluvial drainage.

The computer modelling used in the SFRA to produce the Hazard, depth and velocity maps simulated the spread of flood waters over the land and allowed for the presence of locally raised features such as road embankments etc. The maps produced by the Environment Agency took a more precautionary approach.

The potential flooding consequences shown on this map relate to flooding from the sea, main rivers and Internal Drainage Board systems taking into account the presence of current flood risk management measures such as flood defences.

The consequences designated as being an Actual Risk arise from direct overtopping of defences, where this would occur, together with assumed breach failure of some defences. Breach failure has been assumed to occur in places where the freeboard between Peak Sea or river water level and the defence crest level is less than the minimum desirable for structural security of the defence.

From the Actual Peak Depth District - Year 2115 1% Fluvial / 0.5% Tidal Event Probability and Actual Flood Hazard District - Year 2115 1% Fluvial / 0.5% Tidal Event Probability maps from the update of strategic flood risk assessment for South Holland District Council the site is not affected from any breach to the flood defences.

**SEQUENTIAL APPROACH**

When considering the sequential approach for flood risk from fluvial flooding in accordance with NPPF the site

would fall into Zone 3a (High Probability)and partly within Flood Zone 2 ‘Medium Probability' as defined in Table 1: Flood Zones, and illustrated on the Environment Agency's Flood Maps, if defences were not present.

The flood zones as detailed on the flood map show the area of land which theoretically would be inundated by floodwater during a flooding event from either tidal or fluvial sources without flood defences.

The Environment Agency categorise land into one of three Flood Zones.

- Flood Zone 1 is land outside the 0.1% floodplain (with a chance of flooding of less than 0.1 % chance in any given year);
- Flood Zone 2 is land that falls between the 1 in 100 year extent and the 1 in 1000 year extent (a chance of flooding between 1% and 0.1% in any given year);
- Flood Zone 3a is land which falls within the 1 in 100 year flood extent (has a 1 %chance of a flood occurring in any given year).

The Sequential Test is defined in NPPF with the principal aim of steering new development to areas of the lowest probability of flooding (Flood Zone 1). Where there are no reasonably available sites in Flood Zone 1 then decision makers should first consider Zone 2and then Zone 3a taking into account the flood risk vulnerability of land uses as categorised in Table 2 of NPPF.

The proposed commercial use for the site falls within "Less Vulnerable" uses of land in Table 3 Flood Risk Vulnerability Classification and Table 1 shows that developments of this nature are appropriate in Flood Zone 3a and Flood Zone 2. All development is permitted in Zone 1. Development in Zones 2 and 3 is restricted based on Table 3 of NPPF replicated below

**TABLE 3: Flood risk vulnerability and flood zones 'compatibility'**

| Flood risk vulnerability classification (see table 2) | | Essential infrastructure | Water compatible | Highly vulnerable | More vulnerable | Less vulnerable |
|---|---|---|---|---|---|---|
| Flood zone (see table 1) | Zone 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Zone 2 | ✓ | ✓ | Exception Test required | ✓ | ✓ |
| | Zone 3a | Exception Test required | ✓ | × | Exception Test required | ✓ |
| | Zone 3b functional floodplain | Exception Test required | ✓ | × | × | × |

**CLIMATE CHANGE**

Global warming is now recognised that it is likely to affect the frequency and severity of extreme events as both tidal and fluvial flooding.

The annual sea rise due to climate change is given in the NPPF and the recommended contingency allowances are stated in Table 4.

**TABLE 4: Recommended contingency allowances for net sea level rises**

| | Net sea level rise (mm per year) relative to 1990 | | | |
|---|---|---|---|---|
| | 1990 to 2025 | 2025 to 2055 | 2055 to 2085 | 2085 to 2115 |
| East of England, east midlands, London, south-east England (south of Flamborough Head) | 4.0 | 8.5 | 12.0 | 15.0 |
| South-west England | 3.5 | 8.0 | 11.5 | 14.5 |
| North-west England, north-east England (north of Flamborough Head) | 2.5 | 7.0 | 10.0 | 13.0 |

The effect of global warming on fluvial flood peaks is given in Table 5. It is expected that the overall effect up to 2025 will result in an increase of rainfall of 5%, 2025-2055 10%, 2055-2085 20% and2085-2115 of 30% with Peak River flows increasing by 20%.

**Table 5: Recommended National Precautionary Sensitivity Ranges for Peak Rainfall Intensities. Peak River Flows, Offshore Wind Speeds and Wave Heights.**

| Parameter | 1990 to 2025 | 2025 to 2055 | 2055 to 2085 | 2085 to 2115 |
|---|---|---|---|---|
| Peak rainfall intensity | *+5%* | *+10%* | *+20%* | *+30%* |
| Peak river flow | *+10%* | *+20%* | | |
| Offshore wind speed | *+5%* | | *+10%* | |
| Extreme wave height | *+5%* | | *+10%* | |

**INFRASTRUCTURE**

**Surface Water Drainage**

The rainwater from the roofs of the buildings and all concrete forecourts will drain via an three stage interceptor before discharging into the IDB Main Drain all other areas and parking/driveways to be constructed using permeable materials.

**Foul Water**

As the site is not within an area served by public foul sewers therefore there are no public sewers in the vicinity of the site the foul drainage is to be connected to a package sewage treatment plant.

As there is a positive drainage system to cater for the run-off from the development, the development proposal will not have adverse impact on the wider catchment elsewhere.

**FLOOD PROTECTION**

Any impact of damage to the properties can be foreseen and mitigated against by relatively simple design and construction techniques. There are two forms of flood protection works:-

- **Flood-resistance or proofing works**: - these try to reduce the amount of water actually entering a building.
- **Flood-resilient works: -** these reduce the amount of damage caused by water entering the building.

The proposed properties will have the following resilient measures incorporated in the construction in accordance with "Improving the flood performance of new buildings" CLG (2007).

- The ground floor of the offices is raised 400mm above the existing ground level to a minimum of 3.00mODN and being two storeys' there is a safe refuge provided.

- The ground floor of the proposed workshops are to be at the same level as the existing building at 2.70mODN

- Arrange for all service circuits to be routed at first floor level where practical socket outlets, boilers etc. to be a minimum of 0.5m above the raised ground floor level.

- The property Owner will contact the Environment Agency's Floodline on 0845 988 1188 to register the site to receive advance warning of flooding by telephone, mobile, fax, SMS text, email or pager.

**CONCLUSION**

- The site does have the benefit of protection from tidal/fluvial flooding by existing defences which are properly maintained to a 1 in 200 /100year standard of protection from tidal/fluvial flooding.

- The Actual Risk of flooding maps contained in South Holland's Strategic Flood Risk Assessment 2010 and the Environment Agency Breach and Overtopping Hazard maps shows that the site is unaffected from flooding from a breach to the defences.

- The proposed commercial use falls within the "Less Vulnerable" uses of land as defined in Table 2 NPPF for Flood Risk Vulnerability Classification and the proposed development for commercial use is appropriate in Flood Zone 3a and Flood Zone 2.

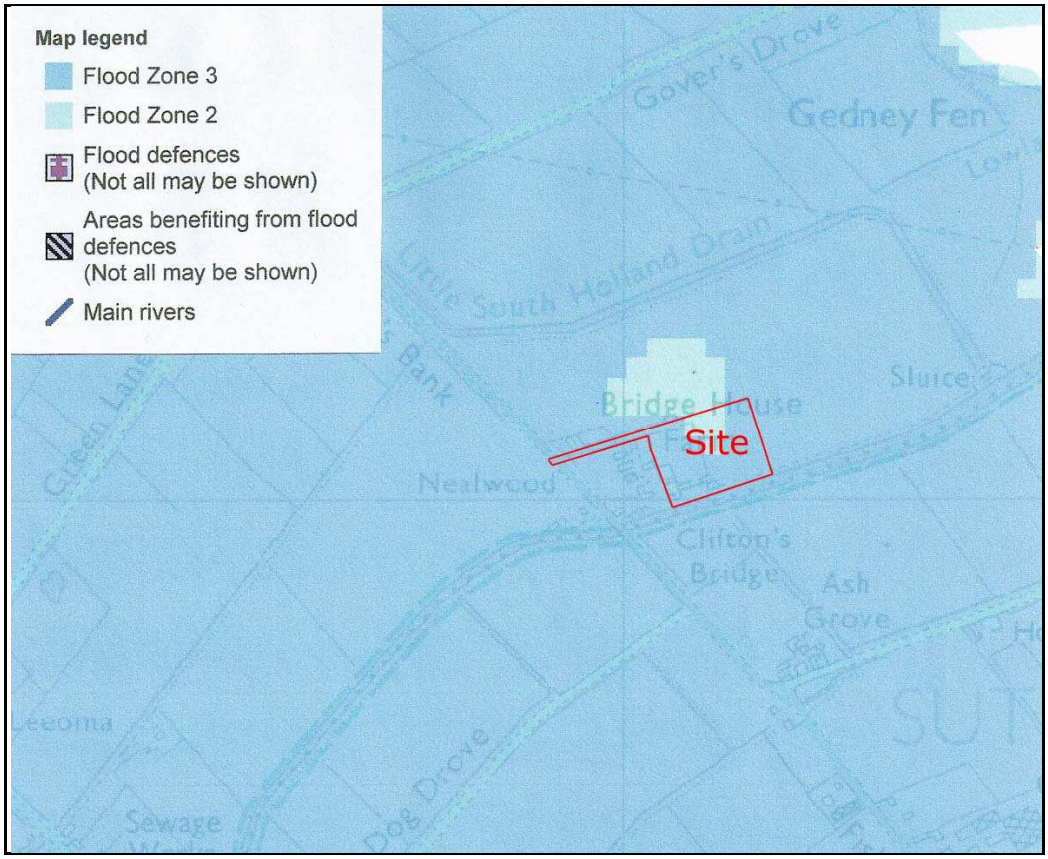
- Flooding from other sources is unlikely to affect the site.

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# APPENDICES

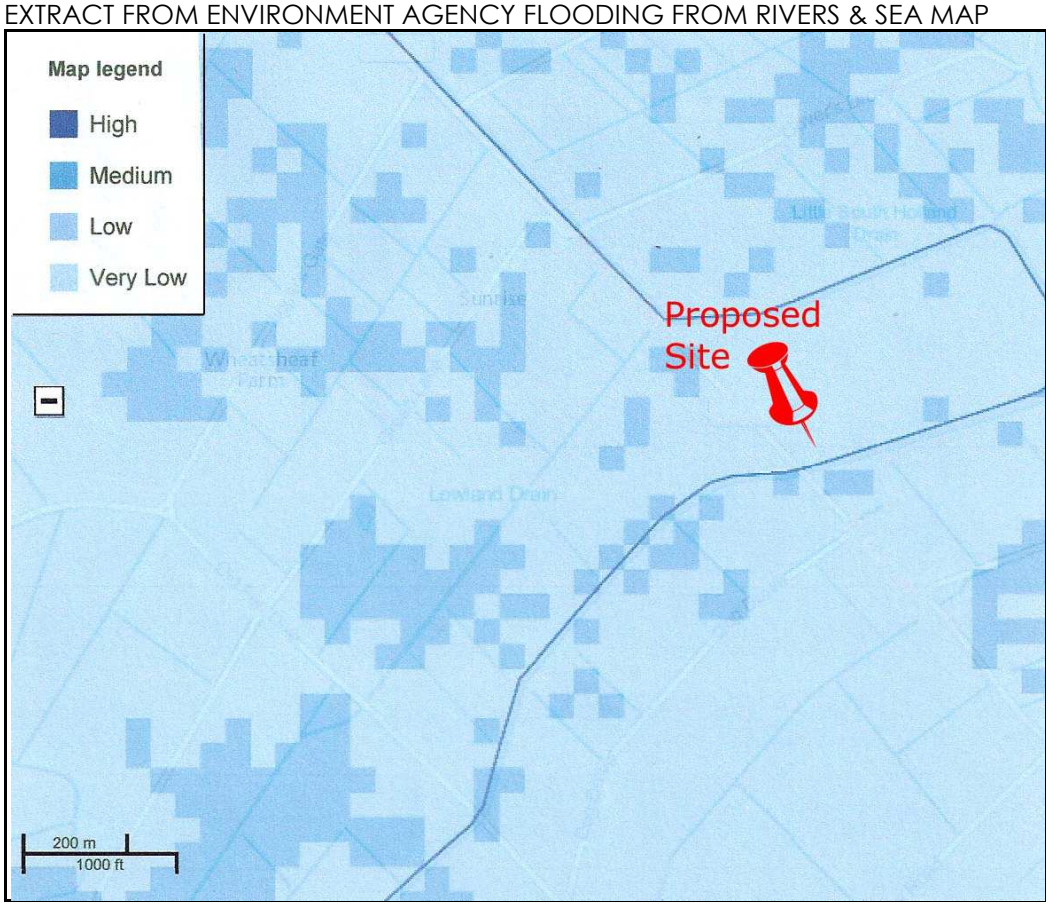
| | |
|---|---|
| Map 1 | Environment Agency Flood Plain Map. |
| Map 2 | Environment Agency Risk of Flooding from Rivers and Sea Map. |
| Map 3 | Northern Area Tidal Model Analysis 2006 Map |
| Map 4 | Tidal Breach Hazard Maps 1 in 200 Year Event 2115 |
| Plan 1 | Site Plan with OS Levels |
| Plan 2 | Proposed Offices Details |
| Plan 3 | Proposed Workshop Details |

EXTRACT FROM ENVIRONMENT AGENCY FLOOD MAP



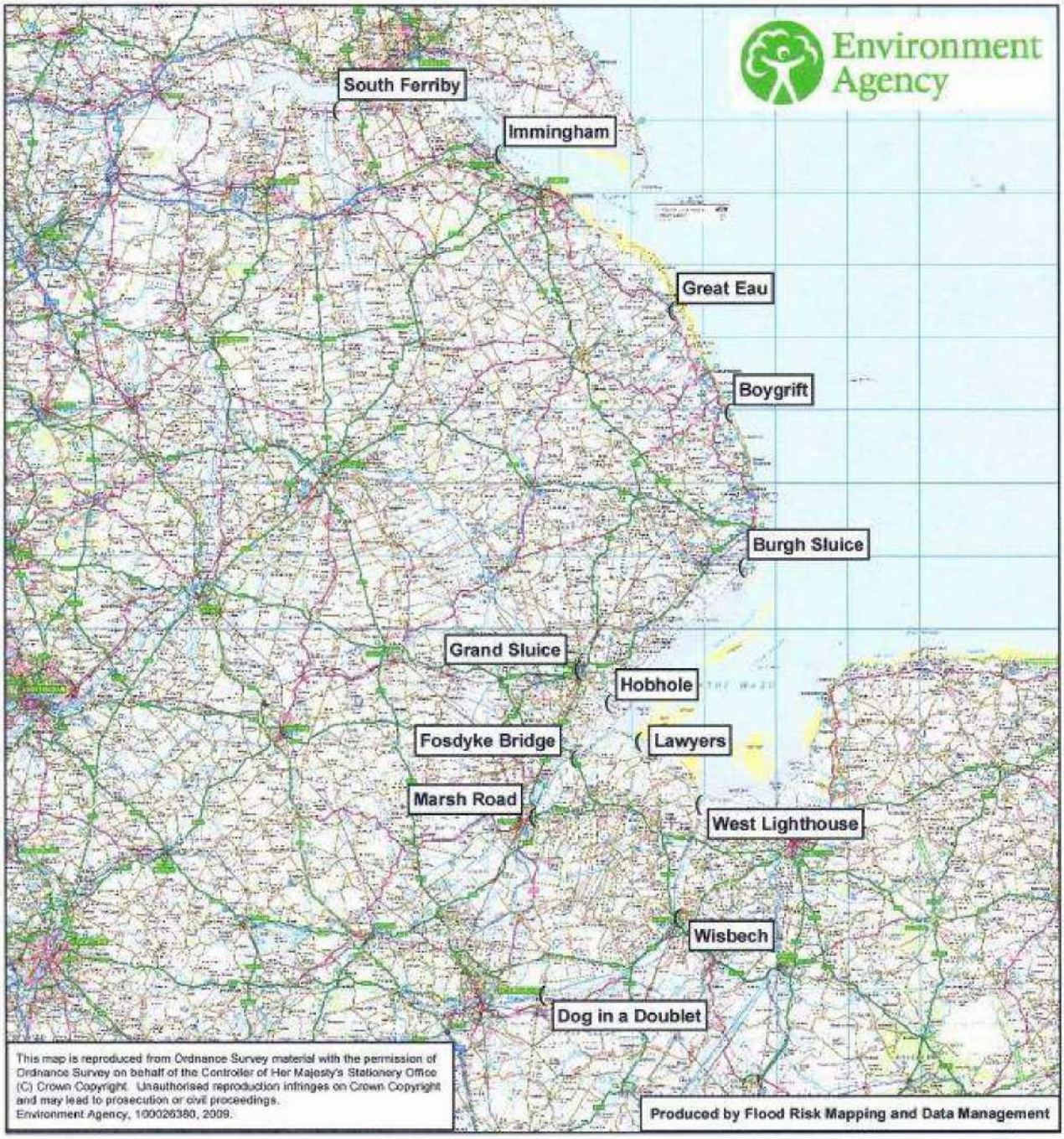

MAP 1

EXTRACT FROM ENVIRONMENT AGENCY FLOODING FROM RIVERS & SEA MAP




MAP 2

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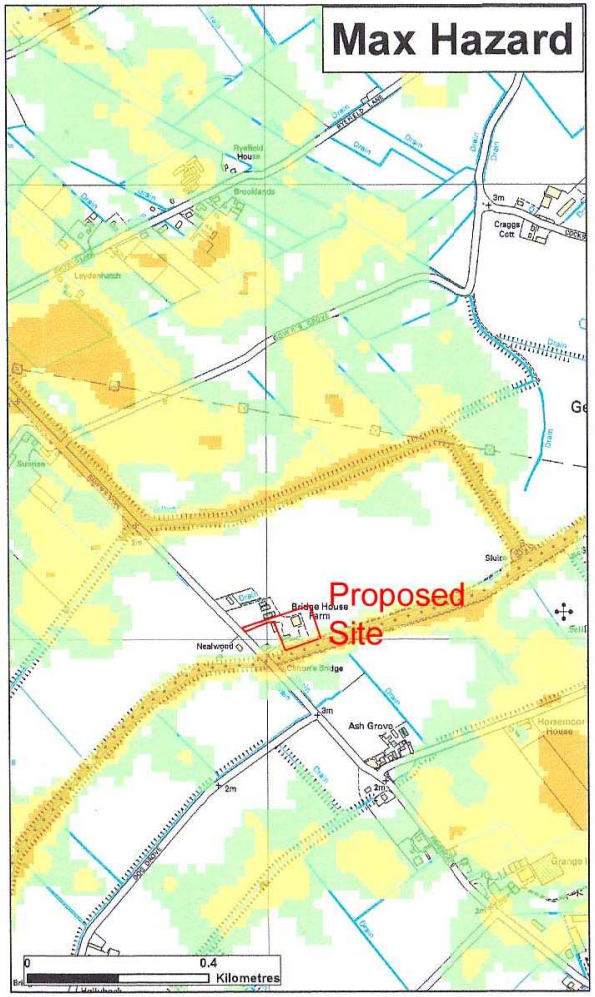

## Tidal Levels mODN - based Northern Area Tidal Model Analysis 2006

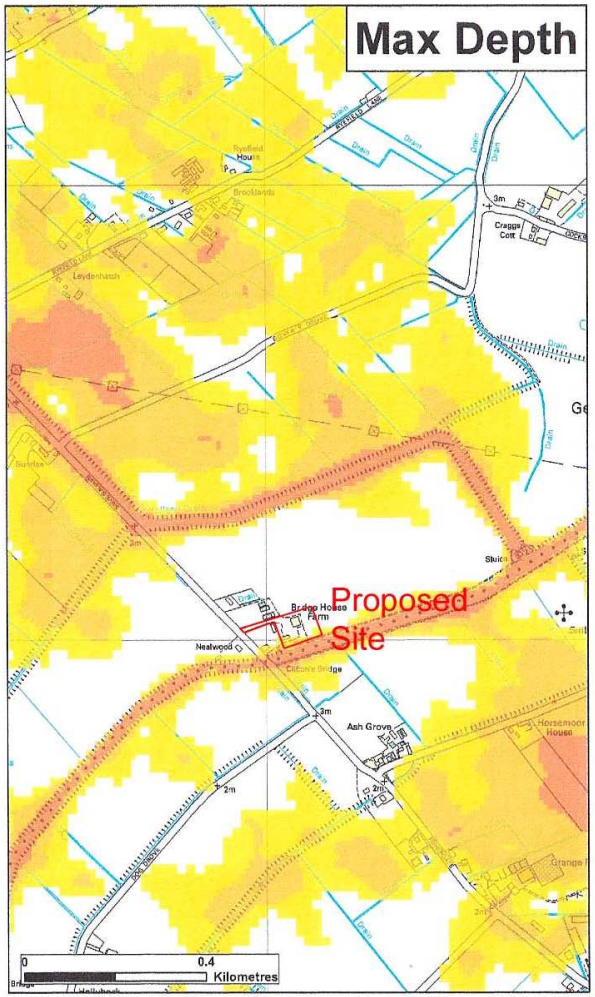
| Location | Easting | Northing | 100% (1 in 1) | 10% (1 in 10) | 4% (1 in 25) | 2% (1 in 50) | 1% (1 in 100) | 0.5% (1 in 200) | 0.1% (1 in 1000) |
|---|---|---|---|---|---|---|---|---|---|
| South Ferriby | 498772 | 421418 | 4.90 | 5.29 | 5.45 | ~ | ~ | 5.55 | 5.63 |
| Immingham | 521381 | 415464 | 4.08 | 4.49 | 4.65 | 4.76 | 4.88 | 5.05 | 5.34 |
| Great Eau | 545500 | 393800 | 3.80 | 4.19 | 4.34 | 4.46 | 4.57 | 4.69 | 4.96 |
| Boygrift | 553300 | 379800 | 3.84 | 4.24 | 4.41 | 4.53 | 4.65 | 4.77 | 5.05 |
| Burgh Sluice | 555190 | 358620 | 4.26 | 4.45 | 4.63 | 4.76 | 4.90 | 5.03 | 5.34 |
| Hobhole | 536610 | 339940 | 4.82 | 5.30 | 5.49 | 5.64 | 5.78 | 5.93 | 6.27 |
| Lawyers | 540750 | 334550 | 4.84 | 5.32 | 5.51 | 5.66 | 5.80 | 5.95 | 6.29 |
| West Lighthouse | 549150 | 325750 | 4.88 | 5.37 | 5.57 | 5.71 | 5.86 | 6.01 | 6.35 |
| Grand Sluice | 532400 | 344500 | 4.88 | 5.33 | 5.51 | 5.65 | 5.78 | 5.93 | ~ |
| Fosdyke Bridge | 531700 | 332200 | 4.91 | 5.38 | 5.56 | 5.71 | 5.85 | 5.99 | ~ |
| Marsh Road | 526000 | 324000 | 5.04 | 5.44 | 5.60 | 5.73 | 5.85 | 5.98 | ~ |
| Wisbech | 546100 | 310000 | 4.83 | 5.25 | 5.41 | 5.53 | 5.66 | 5.78 | ~ |
| Dog in a Doublet | 527300 | 299300 | 3.67 | 4.00 | 4.13 | 4.22 | 4.32 | 4.42 | ~ |

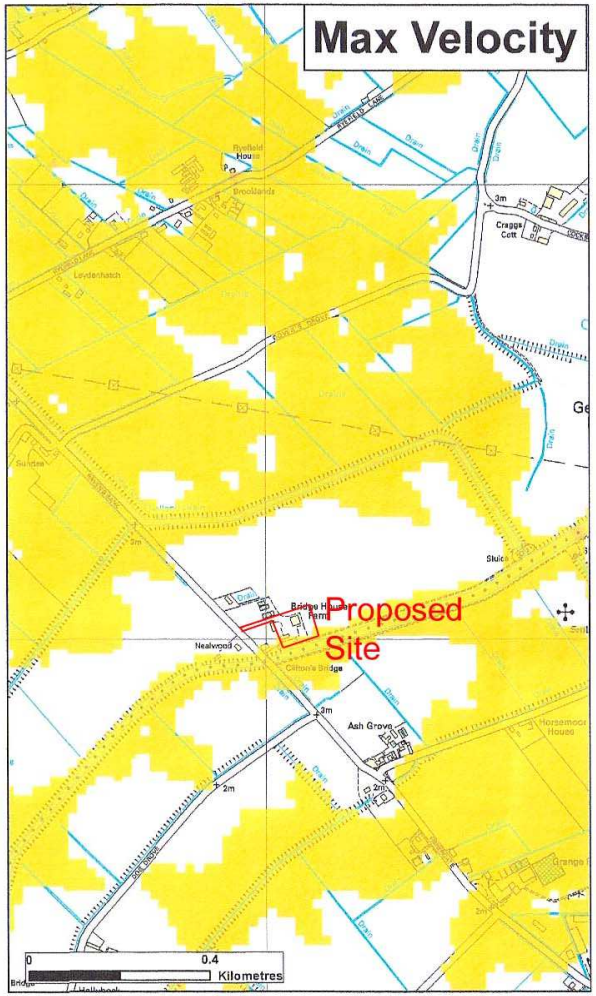
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MAP 3

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★ **Modelled Breach Locations** - see also the accompanying plan "Location of Modelled Breaches"

| Max Hazard (Flood Risk to People : FD2320) | Max Depth (m) | Max Velocity (m/s) |
|---|---|---|
| Less than 0.75 (Low Hazard) | 0 - 0.25 | 0 - 0.3 |
| Between 0.75 and 1.25 (Danger for Some) | 0.25 - 0.50 | 0.3 - 1.0 |
| Between 1.25 and 2.0 (Danger for Most) | 0.50 - 1.0 | 1.0 - 1.5 |
| Greater than 2.0 (Danger for All) | 1.0 - 2.0 | 1.5 - 2.5 |
| | 2.0 + | 2.5 + |

| Date Printed | January 2014 | Scenario year | 2115 | Scenario Annual Chance | 0.5% (1 in 200) |
|---|---|---|---|---|---|

This map shows the level of flood hazard to people (called a hazard rating) if our flood defences are breached at certain locations, for a range of scenarios. The hazard rating depends on the depth and velocity of floodwater, and maximum values of these are also mapped.

The map is based on computer modelling of simulated breaches at specific locations. Each breach has been modelled individually and the results combined to create this map. Multiple breaches, other combinations of breaches, different sized tidal surges or flood flows may all give different results.

The map only considers the consequences of a breach, it does not make any assumption about the likelihood of a breach occurring. The likelihood of a breach occurring will depend on a number of different factors, including the construction and condition of the defences in the area. A breach is less likely where defences are of a good standard, but a risk of breaching remains.

General Enquiries No: 03708 506 506. Weekday Daytime calls cost 5p plus up to 6p per minute from BT Weekend Unlimited. Mobile and other providers' charges may vary

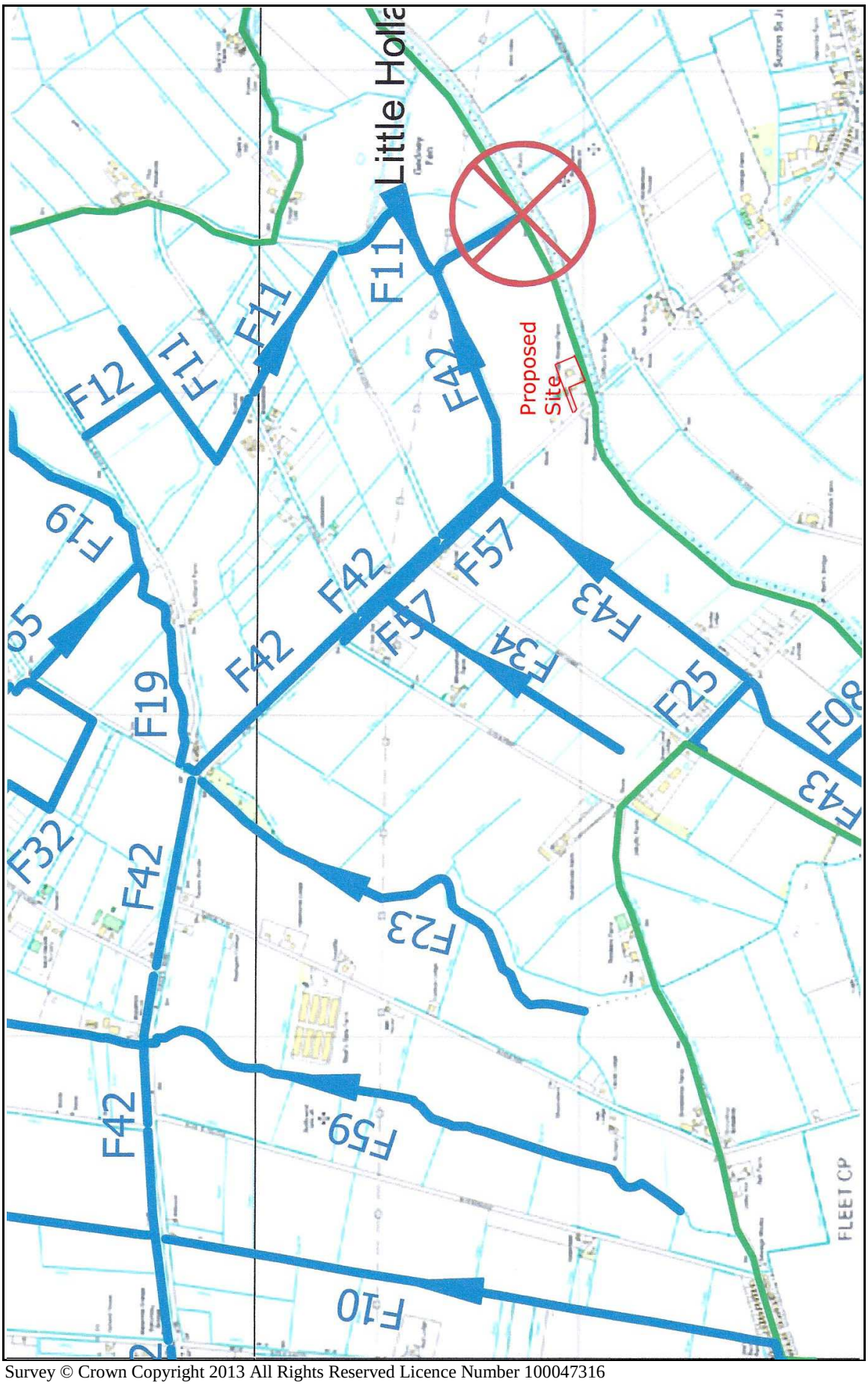
Environment Agency

**Northern Area Tidal Breach Hazard Mapping**

Map Centred on TF 38069 19309

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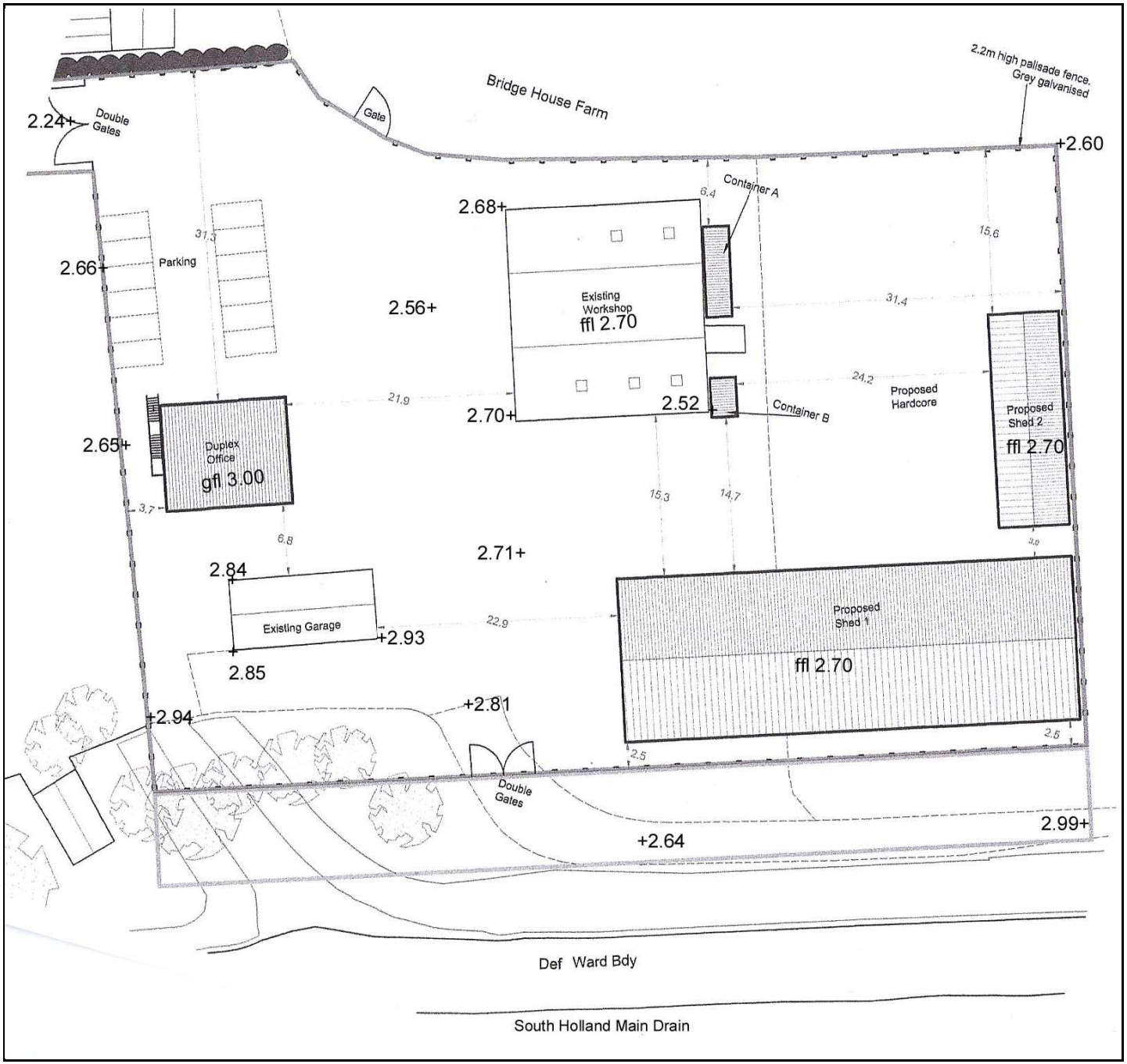
MAP 4

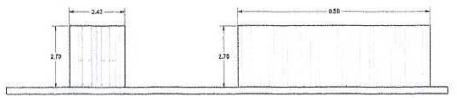


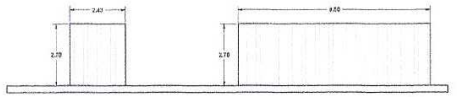

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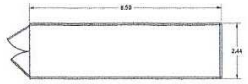
MAP 5

PLAN 1

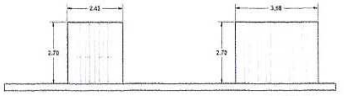

Bridge House Farm
2.2m high palisade fence. Grey galvanised
Double Gates
Gate
2.24+
+2.60
Container A
6.4
2.68+
15.6
31.3
2.66+
Parking
31.4
2.56+
Existing Workshop
ffl 2.70
24.2
Proposed Hardcore
21.9
2.52
Container B
2.70+
Proposed Shed 2
ffl 2.70
2.65+
Duplex Office
gfl 3.00
3.7
15.3
14.7
6.8
3.0
2.71+
2.84
Existing Garage
+2.93
22.9
Proposed Shed 1
ffl 2.70
2.85
+2.94
+2.81
2.5
2.5
Double Gates
2.99+
+2.64
Def Ward Bdy
South Holland Main Drain

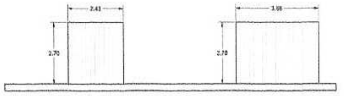



CONTAINER A 1:100

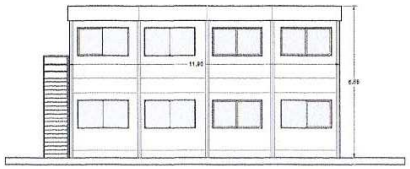


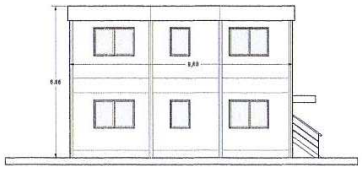



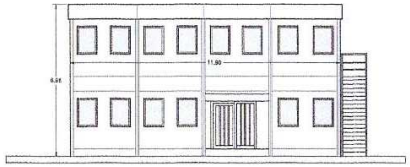


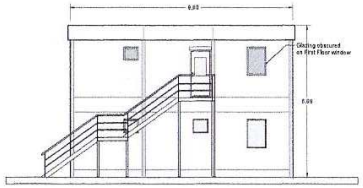


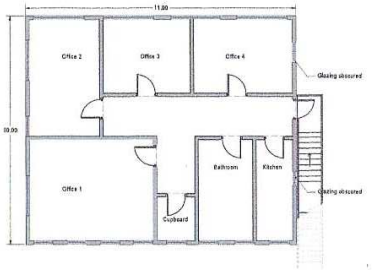
CONTAINER B 1:100

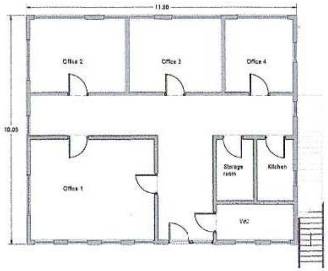



PROPOSED DUPLEX OFFICE 1:100

0 1 2 3 4 5m

THIS DRAWING IS FOR THE PURPOSE OF OBTAINING PLANNING PERMISSION ONLY

CDM NOTE:

The design has been undertaken as far as possible to avoid risks to health and safety or to reduce and control the effects of any unavoidable risks.

All relevant information identifying the unavoidable risks has been passed to the planning supervisor for inclusion in the Health & Safety plan.

The Health & Safety plan will be issued by the planning supervisor with these drawings.

| Rev. | By | Notes | Date |
|---|---|---|---|
| A | ab | Duplex Office. Elevations renamed in accordance with rotated orientation on Site Plan. Containers 1 & 2 removed. Containers 3 & 4 renamed A & B. | 20/02/14 |

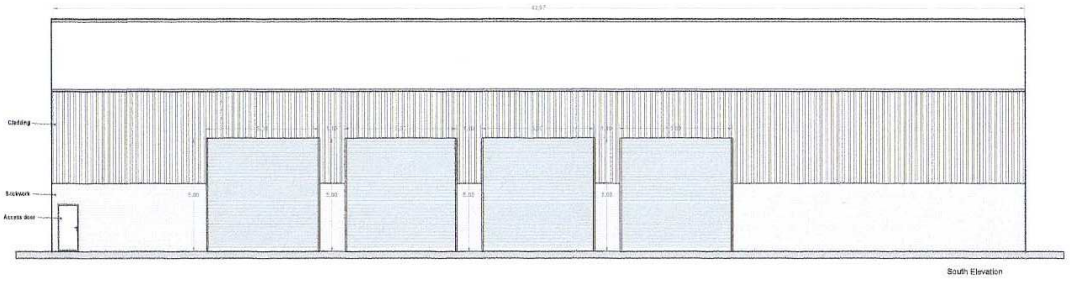
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| | |
|---|---|
| Client: | SLY AGRI LTD |
| Project: | Bridge House Farm, Sutton St James |
| Drawing title: | Design Sheet 01: Office Accommodation & Containers |
| Drawing No.: 1107-01-DS01 | Rev.: A |
| Drawn: AB | |
| Scale: 1: 100 @ A1 | Date: 22/01/2013 |
| Checked: LMS | |

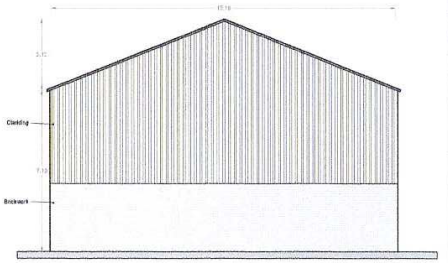
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PLAN 2

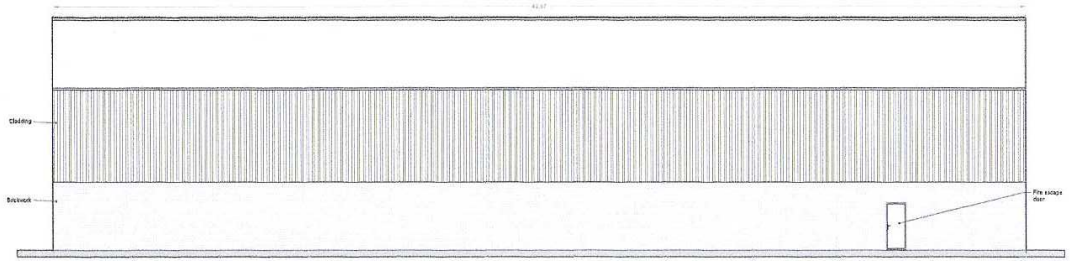
PLAN 3



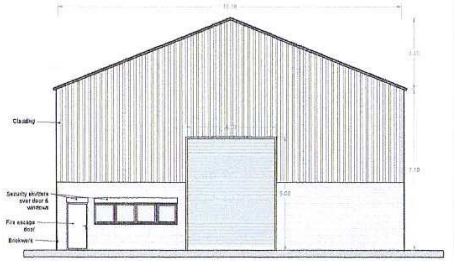

South Elevation



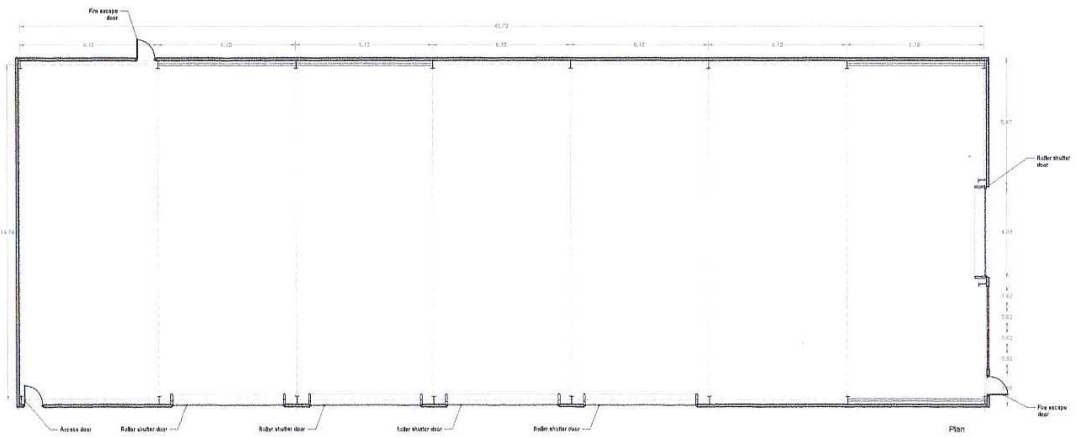

East Elevation




North Elevation




West Elevation




Plan

0 1 2 3 4 5m

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The Health & Safety plan will be issued by the planning supervisor with these drawings.

| Rev. | By | Notes | Date |
|---|---|---|---|
| A | ab | Client amendments. | 17/03/14 |

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Web: www.rdc-lamplan.co.uk

Client: SLY AGRI LTD

Project: Bridge House Farm, Sutton St James

Drawing title: Design Sheet 04: Proposed Shed 1

| Drawing No. | Rev. | Drawn |
|---|---|---|
| 1107-01-DS04 | A | AB |
| Scale | Date | Checked |
| 1: 100 @ A1 | 07/03/2014 | LMS |

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