FLOOD RISK ASSESSMENT
FOR RECREATIONAL DEVELOPMENT AT
FIR TREE FARM, SUTTON ST EDMUND

FINAL REPORT

ELLINGHAM CONSULTING LTD

ECL0067a/ STATUS DESIGN

DATE JULY 2019

DISCLAIMER

This document has been prepared solely as a Flood Risk Assessment in support of a planning application for proposed Recreational Development at Fir Tree Farm, Sutton St Edmund. "Ellingham Consulting Ltd" accepts no responsibility or liability whatsoever for any use made of this document other than by the client "Status Design" for the purposes it was originally commissioned and prepared. All comments and opinions made are based upon information available to "Ellingham Consulting Ltd" during the necessary investigative process, and the conclusions and recommendations, could therefore, differ in the event of material subsequently being found erroneous, incomplete or misleading. "Ellingham Consulting Ltd" therefore, accepts no liability should this prove to be the case.

CONTENTS

1.0 INTRODUCTION

2.0 SITE LOCATION AND DESCRIPTION
- 2.1 Site Location
- 2.2 Existing Site
- 2.3 Proposed Development
- 2.4 Local Development Documents
- 2.5 Available Flood Risk Information

3.0 FLOOD RISK VULNERABILITY
- 3.1 The Sequential and Exception Test
- 3.2 Vulnerability Classification
- 3.3 Application of the Sequential and Exception Test

4.0 SITE SPECIFIC FLOOD RISK
- 4.1 Local Flood Assets
- 4.2 Sources of Flooding
- 4.3 Probability of Flooding
- 4.4 Historic Flooding
- 4.5 Climate Change

5.0 FLOOD RISK MITIGATION AND RESIDUAL RISKS
- 5.1 Summary of Risks
- 5.2 Mitigation Measures
- 5.3 Residual Risks

6.0 CONCLUSIONS AND RECOMMENDATIONS

ATTACHMENT 1 – Site Plan (Dwg SD19-006/3) and Plan as Proposed (Dwg SD19-006/2)

1.0 INTRODUCTION

This Flood Risk Assessment has been prepared in accordance with National Planning Policy Framework (NPPF) and supporting planning practice guidance (PPG) on Flood Risk and Coastal Change.

In areas at risk of flooding or for sites of 1 hectare or more, developers are required to undertake a site-specific Flood Risk Assessment to accompany an application for planning permission. This Flood Risk Assessment has been produced on behalf of Status Design in respect of a development that consists of the conversion of a barn to two holiday cottages at Fir Tree Farm, Sutton St Edmund.

A full planning application for the proposed development is to be submitted by Status Design.

2.0 SITE LOCATION AND DESCRIPTION

2.1 Site Location

The site is located at Fir Tree Farm, Guanockgate Road, Sutton St Edmund, Spaldinng, PE12 0LU. The National Grid Reference of the site is 53713/31060.

The location of the site is shown in Figure 1.



Figure 1 – Location Plan (© OpenStreetMap contributors)

2.2 Existing Site

The site is a farm that consists of barns and outbuildings. The barn to be developed is on the northern side of an existing driveway through the site. The area of development is approximately 0.25 hectares.

Environment Agency LIDAR information shows that the site in the vicinity of the barn to be developed is typically between +0.8m OD and +1.3m OD with the higher ground at the western end. The level of Guanockgate Road adjacent to the site is approximately +1.4m OD.

The site is in the North Level Internal Drainage Board (IDB) District. The site and the surrounding land are within the Tydd catchment and drain under gravity to the North Level Main Drain.

The online British Geological Survey maps indicate that the site is likely to be underlain by West Walton Formation and Ampthill Clay Formation mudstone. The bedrock is shown to be overlain with superficial deposits of clay and silt.

2.3 Proposed Development

The proposed development consists of two new holiday cottages. The cottages will be single storey and will be accessed from the existing driveway on to Guanockgate Road.

2.4 Local Development Documents

The South East Lincolnshire Local Plan 2011 – 2036, adopted in March 2019, is the Local Plan for the district. Policy 4: Approach to Flood Risk states the requirements for flood risk reduction.

The South East Lincolnshire Level 1 and Level 2 Strategic Flood Risk Assessment (SFRA) was prepared in June 2017.

The Joint Lincolnshire Flood Risk and Drainage Management Strategy has been prepared by Lincolnshire County Council as the Lead Local Flood Authority. The purpose of the Strategy is to increase the safety of people across Lincolnshire by reducing the number of people at risk of flooding, increasing the resilience of local communities and reducing the impact of flooding

2.5 Flood Zones

The site is located within Flood Zone 3, an area with a high probability of flooding, of the Environment Agency Flood Maps for Planning as shown in Figure 2.

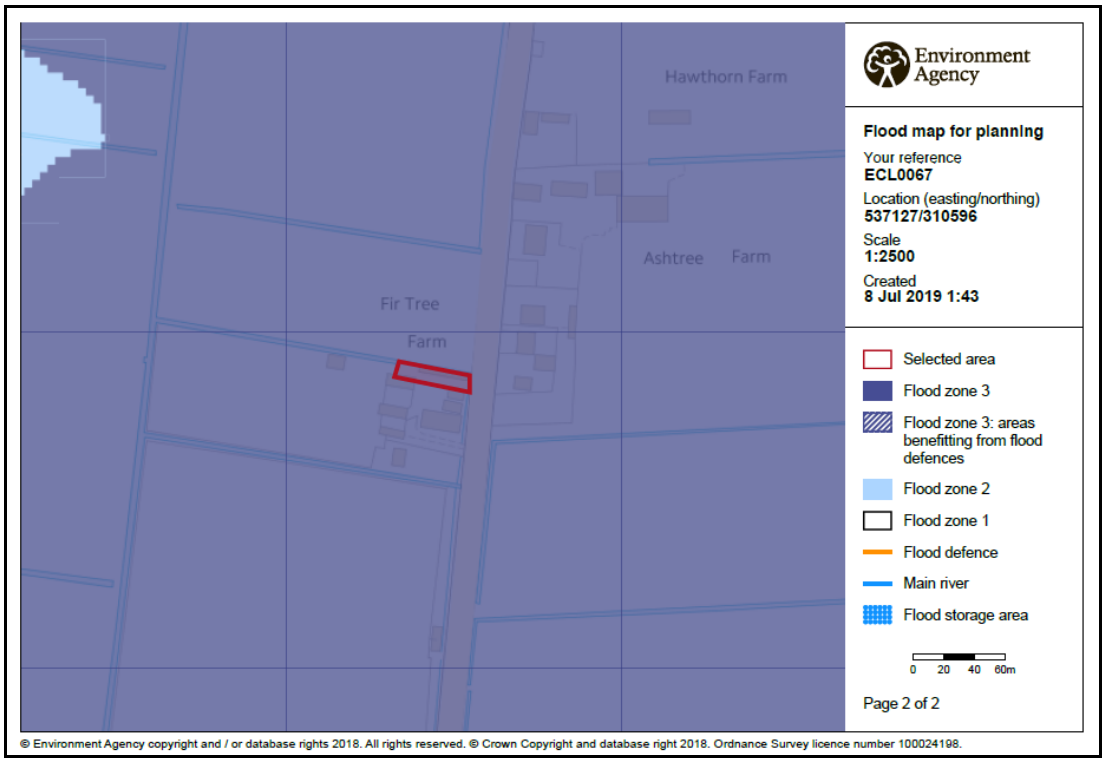


Figure 2 – Environment Agency Flood Map for Planning

The Environment Agency Long Term Flood Risk maps show that:

- the site has a low risk of flooding from rivers or the sea (annual probability between 0.1% and 1%);
- the site is not within an area at risk of surface water flooding; and
- the site is not within an area at risk of reservoir flooding.

Within the South East Lincolnshire SFRA:

- the Residual Flood Hazard Map for the present day 1% fluvial and 0.5% tidal event shows that the site is outside of the 'Low Hazard' area;
- the Residual Flood Hazard Map for the 2116 1% fluvial and 0.5% tidal event shows that the site is is outside of the 'Low Hazard' area;
- the Residual Peak Depth Map for the present day 1% fluvial and 0.5% tidal event shows that the site is not at risk of flooding; and
- the Residual Peak Depth Map for the 2116 1% fluvial and 0.5% tidal event shows that at the site is not at risk of flooding.

3.0 FLOOD RISK VULNERABILITY

3.1 The Sequential and Exception Test

The NPPF requires the application of a Sequential Test to ensure that new development is in areas with the lowest probability of flooding.

The Exception Test is a method to demonstrate and help ensure that flood risk to people and property will be managed, while allowing necessary development to go ahead in situations where suitable sites at lower risk of flooding are not available.

3.2 Vulnerability Classification

Table 2 of the PPG Flood Risk and Coastal Change categorises different types of uses and development according to their vulnerability to flood risk. The proposed development is covered by the description of sites used for holiday and is classified as 'More Vulnerable'.

Table 3 of the PPG Flood Risk and Coastal Change sets out Flood Risk Vulnerability and flood zone 'compatibility'. The site is in Flood Zone 3 and the development is 'More Vulnerable' therefore it is necessary to complete the Exception Test.

PPG Flood Risk and Coastal Change defines that the lifetime of the development in terms of flood risk and coastal change is 100 years.

3.3 Application of the Sequential and Exception Test

The Sequential Test and Exception Test are required to be applied by the Local Planning Authority.

Large parts of the South Holland district between the River Welland and River Nene lie within Flood Zone 3. As such, the opportunities to undertake the development at an alternative site with a lower flood risk are limited. At this location it is not possible to position the development on higher ground within the proposed site.

The River Nene and River Welland have defences that provide protection during the 0.5% annual probability (1 in 200 chance each year) event.

The SFRA states that it is necessary to use the refined flood risk information (hazard and depth maps) to assist with the application of the sequential test. The refined flood risk information contained within the SFRA demonstrates that the site is not at risk during the 1% annual probability event in 2115 with breaches. Together with the standard of protection provided by the Environment Agency defences the site is considered to pass the sequential test.

The Exception Test requires consideration of the wider sustainability benefits of a development and that the development would be safe and residual risks managed.

The Local Plan recognises that tourism is an important part of South East Lincolnshire's economy. Tourist facilities can offer benefits to local communities directly through employment, and indirectly, such as by supporting local food producers, local shops, pubs and restaurants. The proposed holiday cottages will therefore provide a wider sustainability benefit.

Section 5 of this Flood Risk Assessment describes the flood mitigation measures and the management of the residual risks, demonstrating that this development will be safe and not increase flood risk elsewhere. The development is considered to pass the Exception Test.

4.0 SITE SPECIFIC FLOOD RISK

4.1 Local Flood Assets

The site is approximately 7km west of the River Nene. The site is protected by the tidal defences between Wisbech and Sutton Bridge. The site is 12km east of the River Welland. Cowbit Wash is the floodplain to the River Welland and the land to the east is protected by the Cowbit Wash Barrier Bank. The Cowbit Wash Barrier Bank and the River Nene tidal defences are the responsibility of the Environment Agency.

There is a long-term strategy for the maintenance of the Environment Agency defences which is reviewed and updated every 5 years.

There is an extensive local drainage network managed by North Level IDB. There is a riparian drain on the northern boundary of the site and an IDB High Priority Watercourse approximately 200m west of the site. The site and surrounding land are part of the Tydd catchment and drain by gravity to the North Level Main Drain. The North Level Main Drain discharges to the tidal River Nene at Tydd Pumping Station.

During the operation and maintenance of its pumping stations, associated structures and channel systems, the IDB seeks to maintain a general standard capable of providing flood protection to its district. A routine maintenance programme is in place to ensure that the Boards assets are commensurate with the standard of protection that is sought.

Current maintenance standards of the North Level Internal Drainage Board and the Environment Agency are generally good.

4.2 Sources of Flooding

The potential sources of flooding that have been identified during this assessment are:

- local blockages to the North Level IDB system;
- an event in the local drainage network greater that exceeds the standard of protection;
- failure of Tydd Pumping Station;
- overtopping and/or breaching of the River Nene tidal defences.

4.3 Probability of Flooding

The probability of flooding associated with blockages in the North Level IDB drainage system is low due to the maintenance standards achieved and managed by the IDB.

The standard of drainage provided by North Level IDB is assessed at 2% annual probability (1 in 50 chance each year), compatible with the Department of the

Environment, Food and Rural Affairs (DEFRA) target level of service for rural drainage and flood defence works. The risk associated with flooding due to events greater than 2% annual probability (1 in 50 chance each year) is lowered due to the South Holland IDB high priority watercourses incorporating a freeboard. This provides storage during events greater than 2% annual probability (1 in 50 chance each year).

The site benefits from defences on the River Nene that provide protection during a 0.5% annual probability (1 in 200 chance each year) tidal event and a 1% annual probability (1 in 100 chance each year) fluvial event. The SFRA indicates the maximum flood depths in the event of a combined breach. These demonstrate the site is not affected should the defences be breached.

4.4 Historic Flooding

During the preparation of this assessment, no evidence was discovered of the site being flooded.

4.5 Climate Change

Climate change is likely to impact the site through increased rainfall intensity and duration affecting the local drainage network and increased tide levels.

The South East Lincolnshire SFRA includes maps demonstrating the impact of climate change in 2116. The Residual Peak Depth maps within the SFRA indicate the maximum flood depths associated with a breach and overtopping of defences. These show that the site is not at risk.

5.0 FLOOD RISK MITIGATION AND RESIDUAL RISKS

5.1 Summary of Risks

The probability of this development flooding from localised drainage systems is low. Failure of Tydd Pumping Station could occur due to long term mechanical breakdown or power supply being disrupted.

The probability of the site flooding from any Environment Agency system is less than 1% annual probability (1 in 100 chance each year) because of the standards of the existing flood defences. During the design life of the development it is not anticipated that the site would flood.

Any increase in impermeable area associated with the development will be minimal so there is no potential that flood risk will be increased elsewhere due to surface water.

Over time there will be a gradual increase in risk to the site due to climate change.

If during extreme events, levels of floodwater rose to such an extent that the site was affected, the situation would not be sudden.

5.2 Mitigation Measures

Based upon the information available during the preparation of this flood risk assessment the risk of flooding is very low. The recommended mitigation against the remote risk of flooding has considered the maximum height to which floor levels can be raised. The development utilises the existing building and therefore floor raising is constrained by buildings height and the existing doors and windows. It is recommended that the floor level of the holiday cottages is a minimum of 0.1m above ground level with 0.3m of flood resilient construction above finished floor level.

It is recommended that surface water run-off is discharged to soakaways to BRE365 design requirements and therefore water from the site will not affect any adjoining properties or increase the flood risk elsewhere.

Should there be a failure of Tydd Pumping Station and conditions were such to put properties and land at risk of flooding, the Internal Drainage Board would take emergency action to maintain the drainage level of service by utilising temporary pumping equipment.

The developer should ensure that the eventual users of the holiday cottages are sufficiently aware of the risk of flooding, and the standard of the existing defences. 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.

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. The owner of the holiday cottages should register with the Floodline Direct Warnings Service to receive any future flood warnings.

5.3 Residual Risks

The residual risk at the site from extreme events is low because of its location within the North Level IDB district and the protection provided by the River Nene tidal defences.

In the extreme event that leads to inundation at the site, further protection will be provided by the floor level of the holiday cottages being a minimum of 0.1m above ground levels with 0.3m of flood resilient construction above finished floor level.

6.0 CONCLUSIONS AND RECOMMENDATIONS

As a result of the assessment, the following conclusions have been reached.

- The proposed development is in a defended floodplain. It is in the floodplain of the River Nene protected during the 0.5% annual probability (1 in 200 chance each year) tidal event. During the design life of the development, including an allowance for climate change, it is not anticipated that there would be flooding at the site.

- The site is located within an Internal Drainage Board catchment with a minimum standard of drainage of 2% annual probability (1 in 50 chance each year) which accords with DEFRA guidelines for rural development. The risk of flooding is lowered further due to the North Level IDB high priority watercourses incorporating a significant freeboard. This provides storage during events greater than 2% annual probability (1 in 50 chance each year).

- As the proposed holiday cottages are single storey it is recommended that the floor level is a minimum of 0.1m above ground level with 0.3m of flood resilient construction above finished floor level to mitigate against events that exceed the standard of those considered in the SFRA. Surface water run-off from the development should be discharged to soakaways to BRE365 design requirements so that adjoining land and properties are not affected.

- The development passes the Sequential Test and Exception Test and is therefore suitable for the proposed location.

ATTACHMENT 1

SITE PLAN (Dwg SD19-006/3)
PLAN AS PROPOSED (Dwg SD19-006/2)

Existing open fronted barn to be converted to 2 No: holiday cottages.

Existing main timber frame to remain and bricked round with new cavity walls as shown.

External materials to be
Pantiles to roof
Windows and doors to be dark grey UPVC double glazing
External walls to be clad with black timber boarding.

Connect foul drains to Treatment Plant with outfall to adjacent dyke.

Install Velux roof lights where shown all to manufacturers instructions.

Make good to all disturbed and affected areas.

Meter Boxes
Position gas and electricity meter boxes if required in external position to suit client, to be completely sealed around in non-combustible material, to be minimum 500mm, maximum 1000mm above footpath to base.

Roof Ventilation to Sloping Ceiling
At eaves provide proprietary ventilation equivalent to a 25mm continuous gap along eaves. At ridge provide proprietary ventilation equivalent to a 5mm continuous gap.

Kitchen Ventilation
Provide proprietary mechanical extract ventilation unit capable of extracting 60lt/sec. Alternatively provide proprietary cooker hood capable of extracting 30lt/sec.

Bathroom/En-Suite Ventilation
Provide proprietary mechanical extract ventilation unit capable of extracting 15lt/sec. System to offer intermittent operation.

Hot Water Storage
Provide system approved by BBA and installed by BBA approved installer. System to be vented and insulation in accordance with BS5615 1985. Provide thermostatic control.

Heating System
Provide room thermostat or thermostatic radiator valves or similar approved to control the output from the heating system.

Insulated Pipes and Ducts
All pipes, which do not contribute to the heating of the building, will be insulated to BS5422 1977.

External Wall Construction (300mm cavity)
100mm facing brickwork (see site plan for details)
100mm Cavity with ISOVER, HI-CAV 32 insulation
100mm inner skin of tarmac Hemalite blocks
Cavity wall ties to be stainless steel type spaced 900mm horizontally and 450mm vertically to BS1243;1978. Internal block walls to receive 10mm sand/cement render and skim. Robust details in accordance is T50,2001

Hot Water Temperature
Where the operating temperature of the hot water storage vessel is capable of reaching 80°C it should be fitted with a safety device to ensure the temperature distributed does not exceed 60°C. The safety device from the hot water supply should discharge to a place where it will not pose a danger to any person. The hot water supply to the bath should be controlled so that it does not exceed 48°C

All easily accessible doorsets (including garage doorsets and communal entrance doorsets) that provide access into a dwelling or into a building containing a dwelling should be secure doorsets to the following:
a Manufactured to a design that has been shown by test to meet the security requirement of British Standard publication PAS 24:2012 or
b Designed and manufactured in accordance with Approved Document Q appendix B.

Ground floor, basement and other easily accessible windows (including accessible roofflights) should be secure windows in accordance with Approved Document Q paragraphs 2.2 and 2.3, windows should be made to a design that has been shown to meet the security requirement of the British Standards publication PAS 24:2012.

Oil supply to have automatic isolation control to cut off fuel supply in the event of a fire.

The building should have a provision that in the future copper or fibre-optic cables or wireless devices capable of delivering broadband speeds greater than 30 Mbps can be installed.

Consumer units should be mounted so that the switches are 1350 – 1450 mm above floor level.

Roof Insulation to Sloping Ceiling
To ceiling slope provide 50mm Celotex GA4000 between rafters and 70mm Celotex CA4000 below rafters with joints taped to create VCL + air leakage barrier batten air space – low emissivity – 12.5mm Knauf wallboard, or similar approved. All to give 0.18W/m²K.

The flow rates for the mechanical extractor must be tested and results given to Local Authority Building Control to show that the extraction rate is the same as that specified in 'Approved Document F – Means of Ventilation', no later than 5 working days after the final test.

Provide wholesome or softened wholesome water to any wash basin in or adjacent to any room containing a sanitary convenience and any wash basin, bidet, fixed bath and shower in a bathroom.

Provide heated wholesome water or heated softened wholesome water to any wash basin or bidet in or adjacent to a room containing a sanitary convenience and any wash basins, bidet, fixed bath or shower in a bathroom and any sink that is provided in an area where food is prepared.

The hot water supply to any fixed bath is to be designed and installed with measures to ensure that the temperature of the water that can be delivered to the bath cannot exceed 48°C.

All glazing to meet the requirements of 'Approved Document K – Safety Glazing' in relation to impact, opening and cleaning.

Water calculations are to be supplied to South Holland District Council Building Control showing how the water usage will be limited to 125 litres/per person/per day.

Mechanical Ventilation
Mechanical ventilation systems are to be commissioned in accordance with Regulation 44 (where they can be tested and adjusted to provide adequate ventilation) and a copy of the commissioning notice is to be given to the local authority not more than 30 days after completion of the works.

Protection to Underground Pipes
Where pipes are not under road and have less than 600mm cover concrete paving slabs should be laid as bridging above the pipes on minimum 75mm pea gravel. If flexible pipes are under a road and have less than 900mm cover reinforced concrete bridging should be used instead of paving slabs. Provide compressible material below slab/concrete.

Inspection Chamber Construction
Proprietary polypropylene inspection chambers bedded on 150mm concrete. Form protective 255mm thick concrete collar around head of inspection chamber with 300mm projection from cover. Covers to be Grade C light duty unless inspection chambers are in driveways where Grade B medium duty covers are to be used.

Boiler
Provide combi boiler of required rating in position indicated on drawing to be either a wall hung type or free standing on 125mm high concrete hearth above oversite. Boiler to have protective guard cover and to be minimum 600mm from any opening into the building. Read in conjunction with Approved Document J1/2/3. At completion of works commissioning of heating system to be provided to the local authority Building Control by a competent Oftec registered person. Boiler to have a Sedbuk rating of 86%

Fascia and Bargeboards
To be 25 x 75mm PSE with 6 mm groove to accept 6mm thick exterior grade plywood soffit.

Ceilings
To all insulated roof ceilings provide 12.5mm Gyproc Duplex plasterboard of 10kg/m² or similar and either 5mm skim or Artex finish. To remaining ceilings provide 12.5mm Gyproc plasterboard or similar with finishes as above.

Ground Floor Construction
65mm sand/cement screed on 100mm Celotex insulation with perimeter insulation to screed on 1200 gauge polythene d.p.m. on 100mm concrete oversite on minimum 150mm, maximum 600mm well blinded and compacted hardcore. Wall d.p.c. to lap floor d.p.m. by a minimum of 50mm.

Oil Tank
To be sited a minimum 1800mm from any building and a minimum 760mm from any boundary. Tanks to be bunded to give 110% capacity of the largest tank they contain or the tank should be double skinned

Sewage Treatment Plant
A suitable notice in regard to the package treatment work should be provided within the property, it is suggested that this is contained within a property log book. An example of the wording could be, 'The foul drainage from this property discharges to a package treatment works. Maintenance is required (insert frequency) and should be carried out by the owner in accordance with manufacturer's instructions. The owner is legally responsible to ensure that the system does not cause pollution, a health hazard or a nuisance'.

Electrical Work
All electrical work required to meet the requirements of Part P (electrical safety) must be designed, installed, inspected and tested by a person competent to do so. Prior to completion of the works the council must be satisfied that either:-
a) an electrical installation certificate issued under a competent person's scheme has been issued
or
b) an appropriate electrical installation certificate has been issued for the work, and that it has been signed by a person competent to do so.

External Cavity Wall Lintels for 300mm Cavity Walls
IG type L1/S100 unless stated otherwise. To be confirmed on site with Building Control Surveyor.

Internal Lintels
IG type Internal 100mm lintels to openings in 100mm internal walls unless stated otherwise.

Purge ventilation to windows
For a hinged or pivot window that opens 30° or more the height and width should be at least 1/20th of the floor area of the room.
For a hinged or pivot window that opens less than 30° the height and width should be at least 1/10th of the floor area.

Background Ventilation
Background ventilation is to be provided by trickle ventilators to the tops of windows. Use trickle vents offering 8000mm² per window head. Ventilation for whole extension to be 30,000mm² to each cottage.

Expansion joints should be included in walls at no more than the following centres:

Clay brickwork	10 – 12m
Lightweight concrete block/brick	6m
Dense concrete block/brick	7.5m
For unrestrained masonry such as parapets.	5 – 6m

Brickwork below d.p.c. to be F.L. quality

Outlets from balanced flue boilers to be at least 300mm from any openings.

All soakaways to be minimum 1m deep.

Provide cavity trays above in situ meter boxes.

Provide area for provision of solid waste storage (rubbish bins).

All external lintels to be insulated type.

All external joinery to be fully draught proofed.

Insulation in roof space to meet with insulation in external cavity walls to prevent cold bridging.

To all domestic floors to external perimeter walls provide 25mm thick insulation dressed up walls to prevent cold bridging.

Seal all openings and joints to perimeter walls.

All doors, windows and any loft hatches to be effectively sealed and draught proofed.

Provide a fibrous separating member between floor screed and insulation and provide chicken wire between insulation and screed.

Smoke detectors to be to BS5839/6:2004, Grade D, Category LD3.

Roof construction to be roof tiles on 38 x 25 softwood treated timber battens on underfelt to BS747 (Type 1B) lapped 150 horizontally and 100 vertically on 150 x 150 SC3 grade rafters at 400 centres to a similar pitch and position of the existing roof. 200 x 25 ridge board.

Provide area within main driveway of hard surfacing (block paving, tarmac or similar) of adequate size to enable wheelchair access from parked vehicle direct to main access of dwelling. Footpath minimum 900mm wide to be directly linked to hard surfacing driveway.

Minimum width of corridors and passageways for a range of doorway widths

Doorway clear opening width (mm)	Corridor/Passageway width(mm)
750 or wider	900 (when approached head-on)
750	1200 (When approached not head-on)
775	1050 (when approached not head-on)
800	900 (when approached not head-on)

All windows to give minimum 1/20th of floor area as ventilation and to be double-glazed.

Glazing
All windows and doors to be double-glazed with Pilkington 'K' glass or similar approved, to achieve either WER Band C or a 'U' value of 1.6W/m²K.

Commissioning of Heating and HWS Systems
A competent person, i.e. the main contractor or sub-contractor shall supply a Certificate of Satisfactory Compliance with Building Regulations Part L. A copy of which shall be made available to both the client and the Building Control body.

A suitable set of operating and maintenance instructions are to be made available to the client to explain to the householders how to operate the systems so that they can perform efficiently and what routine maintenance is advisable for the purpose of the conservation of fuel and power.

Internal Lighting
Provide energy efficient lights that only take lamps having a luminous efficiency greater than 45 lumens per circuit watt. Examples of lamps are fluorescent tubes and compact fluorescent lamps (note GLS tungsten lamps with bayonet cap or Edison screw bases).

Method of determining number of locations:

75% of all lighting to be energy efficient.

Excludes garages, lofts and outhouses.

Safety Glazing
Provide safety glass to BS6206 to all windows to a minimum height of 800mm above floor level plus doors to a minimum height of 1500mm above floor level. Side screens to be same as doors if within 300mm of doors.

Smoke Detection
Provide mains operated self-contained smoke alarms to BS5839 Part 6, 2006 in accordance with Approved Document B1.

Rainwater Goods
PVC rainwater goods 110mm half-round gutters and 68mm diameter downpipes.

Kitchen/Utility/Bathroom/WC Trickle Ventilation
Provide proprietary trickle ventilators to head of window giving a total opening area of not less than 4000mm²

Foul Water Drainage
Underground drainage to be proprietary 110mm diameter p.v.c. pipes flexible jointed to fall 1:70 bedded in 100mm pea gravel. Under building drains to be encased in 150mm pea gravel with lintel over pipes at wall abutments. Where drain passes through wall, provide suitable protection to prevent gas ingress to building. 110mm diameter soil and vent pipe to extend 900mm above window head and to terminate in balloon finial. Soil and vent pipe to be fitted with access plate at base. Provide suitably sized wastes from all appliances (in accordance with Approved Document H) complete with minimum 75mm deep sealed traps and rodding eye access points at every direction change. All above ground drainage to BS5582 and all underground drainage to BS8301. Provide seal plates both sides of pipe entry to avoid vermin entry.

Surface Water Drainage
To be proprietary 110mm diameter p.v.c. pipes flexible joined to fall 1:70 bedded in 100mm pea gravel. Pipes to discharge into 1200mm diameter soakaways sited 5000mm away from buildings.

Lintels
All coded lintels as stated in Schedule or marked on plan to be by I.G. To be installed in strict accordance with manufacturers instructions. Form d.p.c. cavity tray above all lintels. To all exposed lintels i.e. not sheltered from overhanging eaves, etc. to have proprietary weepholes to joints of brickwork at approximately 450mm c/c. To be confirmed on site with Building Control Surveyor

Opening at eaves level to be L1/E lintels by I.G. or similar approved.

Sub-structure Walling
100 mm Class A dense concrete blocks. Bitumen felt d.p.c. to external walls 150mm above ground level. Weak mix infill to base of cavities to terminate 225mm below lowest d.p.c. level.

Foundations
As indicated on plan provide concrete strip foundations. To cavity walls provide 700mm wide x 225mm thick and to 100mm walls provide 450mm wide x 225mm thick, unless noted otherwise. To non-load bearing internal walls thicken out ground floor oversite concrete to 450mm wide x 200mm thick. Widen foundations at chimney breast accordingly and make 300mm thick. Foundations to be taken down to an approved firm base, subject to local authority specifications. Concrete to be ST3 grade unless noted otherwise. Proximity of existing and proposed trees are to be taken into account in accordance with N.H.B.C. chapter 4 when determining foundation depth.

Provide a firm level approach to front entrance of minimum width 900mm. Gradient of approach to be no steeper than 1:20. At entrance to building threshold to be maximum 15mm high.

External access door that serves as access to ground floor WC to have a minimum clear opening width of 775mm.

Ensure minimum 900mm corridor width, access to ground floor WC with no obstructions (radiators, etc.) to corridor area adjacent doors

Sockets, light switches, TV points, doorbells to habitable rooms to be positioned between 450mm and 1200mm above floor level.

General Notes

Do not scale from this drawing.

This drawing is copyright and may not be altered, traced, copied, photographed or used for any purpose other than that for which it is issued without written permission from Messrs Status Design.

The General Contractor is to check all dimensions on site and report discrepancies to the Architect.

All details shown on this drawing are based upon typical site conditions related to the area. No responsibility can be accepted for abnormal conditions unless reported to the Architects so that design amendments may be considered. Site soil surveys are recommended in respect of foundations to establish specific site conditions before foundation work is undertaken.

Please note this drawing is not a conveyance drawing.

Proposed on-site soakaways to be maintained by the owner for the life duration of the property.

This drawing is limited in the amount of information contained and does not purport to contain a full specification of the works. It is solely for the purpose of obtaining Planning and Building Regulations approvals. This drawing must not be used as a contract document alone. The works will not be supervised or inspected by Status Design unless specifically contracted to do so. It is the client or their agent's responsibility to control workmanship, substitution of materials, adherence to specification, variations to contract, etc.

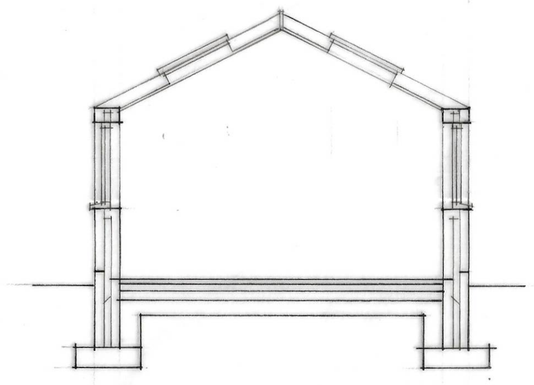
All materials to be new unless stated otherwise and all components and materials, etc. to be used, fitted and installed, etc. in strict accordance with manufacturers' instructions and relevant Code of Practise. Materials should conform to appropriate British Standard specification or BBA Certificate or European Code equivalent.

The Employer/Client shall ensure that the selected contractor is conversant with and adopts all measures necessary to achieve compliance with Health and Safety Legislation for Building Sites and Work Places. The Employer/Client is advised that should the works need to comply with the Construction Design and Management Regulations 2015 (CDM) and Health and Safety at Work, etc., Act 1974 (HSW Act) an independent Planning Supervisor will be required, whom should be supplied with a set of all relevant drawings, etc.

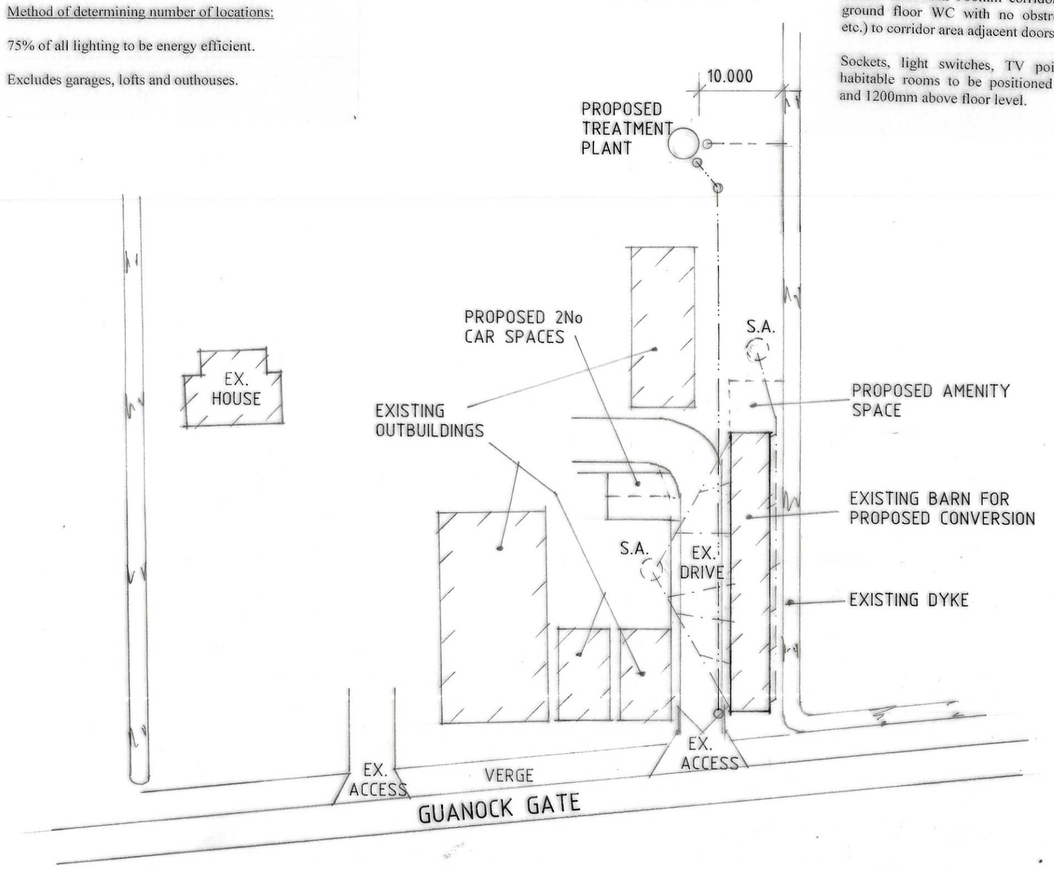
The works shall comprise of all that shown on the drawings and information, etc. Works that may not specifically be shown but may be reasonably inferred as necessary to carry out the works shall be deemed to be included.

These notes relate to this drawing and all associated drawings.

It is the property/landowner's responsibility to be aware of the Party Wall, etc. Act 1996 when building or carrying out alterations in close proximity to adjoining neighbour's boundaries.



SECTION



SITE PLAN

THIS DRG. TO BE READ IN CONJUNCTION WITH SD19-006/1, SD19-006/2

A - INF. ADDED - 28.5.19

Status DESIGN
CONSULTANTS IN ARCHITECTURE & PLANNING

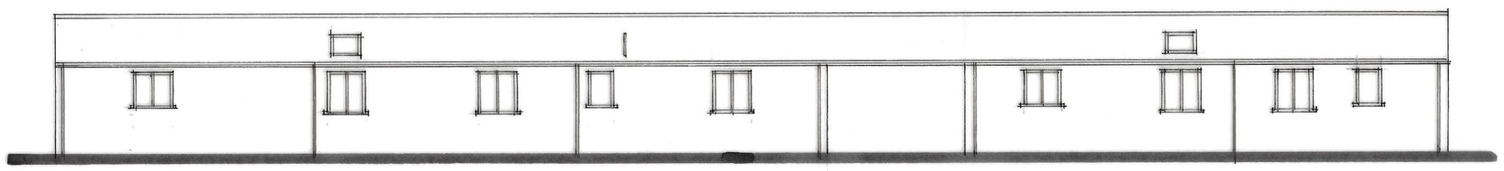
PROPOSED CONVERSION OF BARN TO HOLIDAY COTTAGES AT FIR TREE FARM, GUANOCK GATE, SUTTON ST. EDMUND FOR

MR. & MRS. A. FAULKNER.

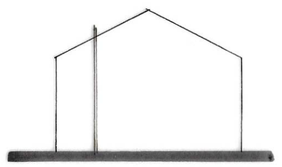
SITE PLAN

1:500	SD19-006/3
MARCH-19	B.GILHAM.

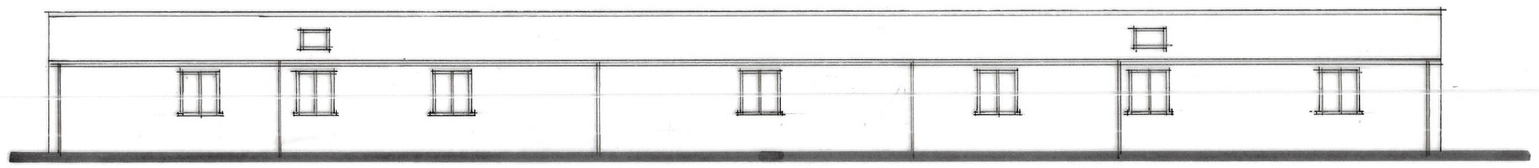
2 Edinburgh Walk, Holbeach,
Spalding, Lincs. PE12 7AP.
Tel: 01406 424343 Fax: 01406 490702



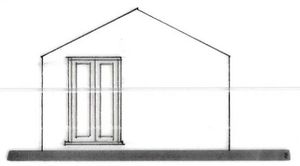
FRONT



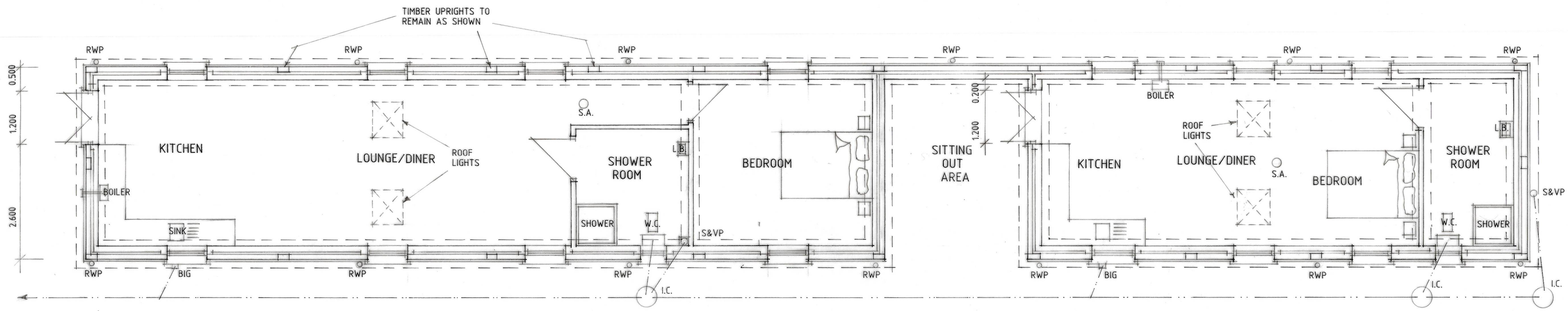
SIDE



REAR



SIDE



PLAN

A - INF. ADDED - 24.5.19

Status DESIGN
CONSULTANTS IN ARCHITECTURE & PLANNING

PROPOSED CONVERSION OF BARN TO HOLIDAY COTTAGES AT FIR TREE FARM, GUANOCK GATE, SUTTON ST. EDMUND FOR

MR. & MRS. A. FAULKNER.

PLAN AS PROPOSED

1:50 1:100 | SD19-006/2

MARCH-19 | B.GILHAM.

2 Edinburgh Walk, Holbeach,
Spalding, Lincs. PE12 7AP
Tel: 01406 424343 Fax: 01406 490702