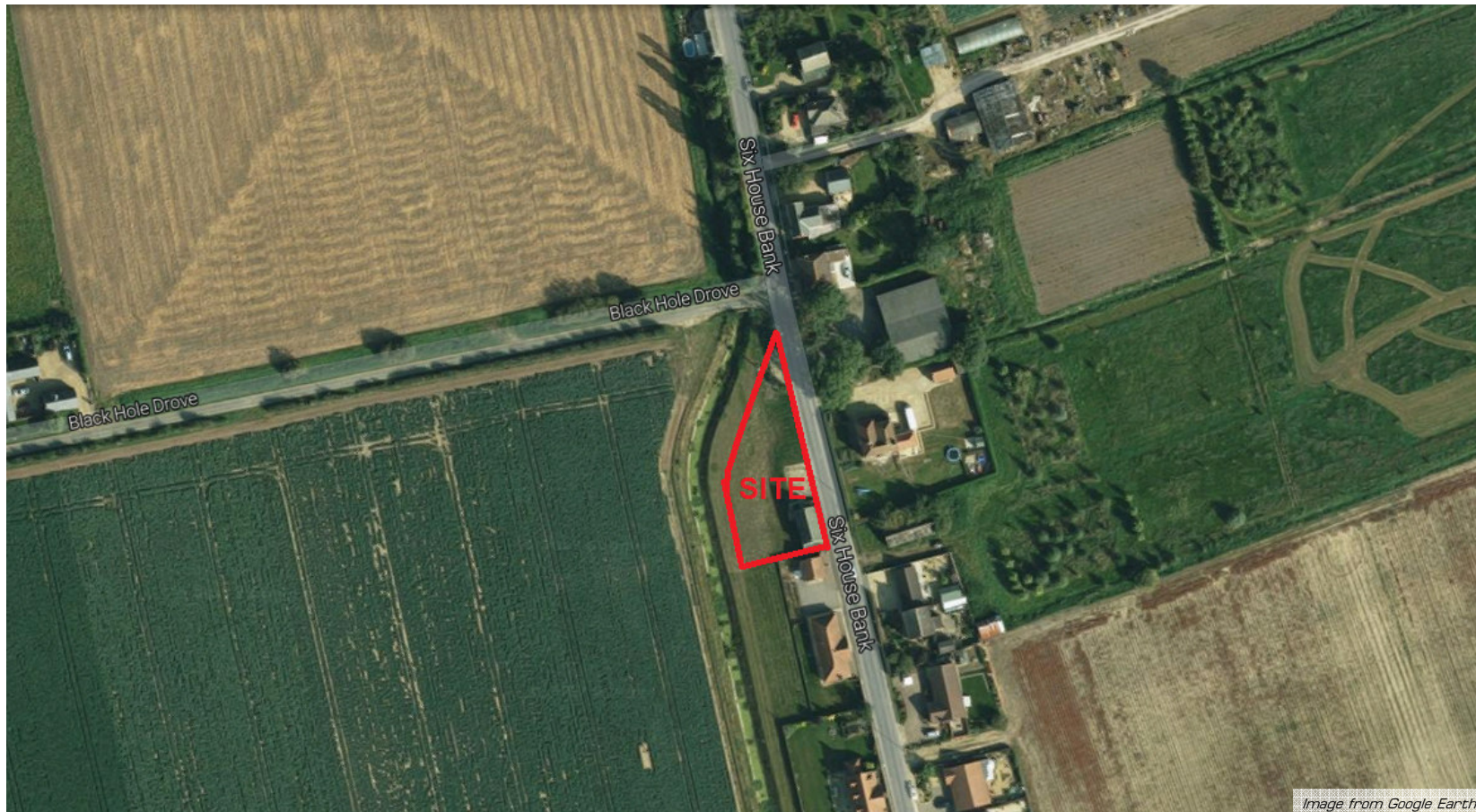


Planning, Design and Access Statement on behalf of
Mr. Michael Yould

Prepared by: **NEWLAND**
BUILD SERVICES
• ARCHITECTURE • DESIGN • CONSULTATION • PLANNING •

POACHER'S DEN, 88 SIX HOUSE BANK, WEST PINCHBECK, SPALDING, LINCOLNSHIRE, PE11 3QG.



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Statement prepared by:

William Newland

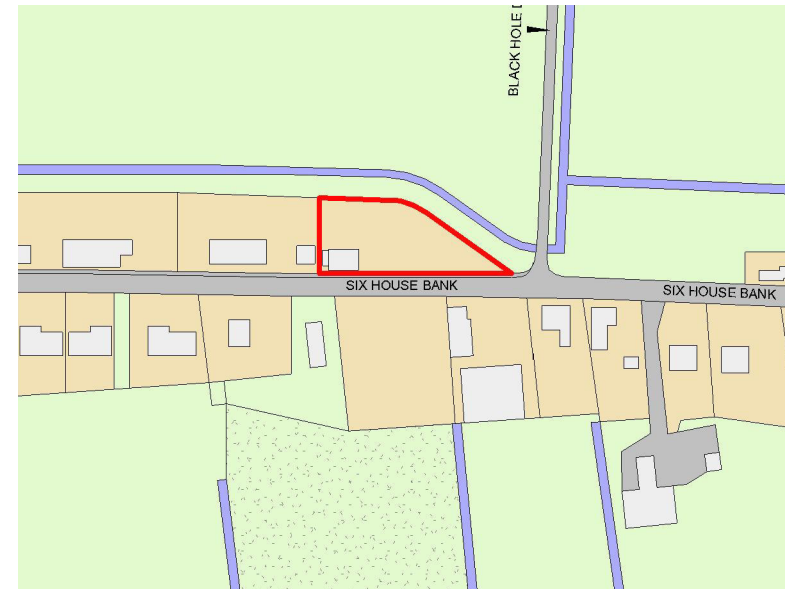
BSc (Hons) Architectural Design and Technology

1. Introduction:

1. **NEWLAND BUILD SERVICES** has been instructed by Mr. Michael Yould to prepare this Planning, Design and Access statement regarding the proposed re-development Poacher's Den, No. 88 Six House Bank, West Pinchbeck, Spalding, Lincolnshire, PE11 3QG.
2. This Planning, Design and Access Statement supports the planning application proposing the erection of 2 x 4 bedroom detached dwellings with associated parking and garaging.
3. The statement should be read in conjunction with the associated drawings submitted for the application. It describes the application site and explains how the proposed design has been reached.
4. It also highlights the ways in which the development meets the National Planning Policy Framework (NPPF) as well as the South Holland District Council Local Plan 2006. Additionally, reference is made to the previous planning history of the site where an application for a similar development was approved by South Holland District Council.

2. Site Description:

1. The application site is an irregular shape, square to the Southern end, tapering to a point at the North with a length of approximately 63.5m and a depth of up to approximately 25m. The site area totals approximately 2485m² (0.614acres). The Location Plan to the right highlights the general location of the site relative to it's surroundings.
2. The site itself comprises an existing dwelling to the South Eastern corner. There is an existing access point to the site from Six House Bank relatively central to the Eastern boundary leading to a shingle driveway. To the rear of both the dwelling and driveway is an enclosed garden separating the remaining area of amenity land by a 1.2m close boarded fence. The amenity land is predominantly laid to grass and likely to be subject to infrequent maintenance.
3. The site is currently defined at it's boundary with the neighbouring property to the south by 1.8m close boarded fencing. The rear boundary to the west is comprises 1.2m close boarded fencing to the garden with a timber post and rail fence to the point at the Northern end. Both giving a 6m clear separation to a drainage dyke beyond. From North to South along the Eastern boundary, separation from the road is defined in part by timber post and rail fence, a 2m high hedge and a brickwork retaining wall with 1.2m high close boarded fence towards the Southern end. Slab level of the existing property is approximately 0.6m below the adjacent road level, hence the retaining wall allowing for a pathway around the building at the lower ground level.



Location Plan
Application site outlined in **RED**

4. The surrounding area is made up of residential properties situated along the side of country roads and surrounded by open fields and farmland. The existing properties are of varying size with a mix of single and two-storey dwellings in the immediate vicinity of the application site.
5. Though there is a variety in style of buildings, two storey houses with a symmetrical front elevation are common along much of the Western Side of Six House Bank, particularly in more recent developments. Featuring in many cases a slightly reduced roofline, interspersed with dormer windows, Common elevation treatments feature a mixture of face brickwork finishes in various colours from red to brown and buff bricks.

POACHER'S DEN, 88 SIX HOUSE BANK, WEST PINCHBECK, SPALDING, LINCOLNSHIRE, PE11 3QG.



Top Left:

The application site viewed from the Northern end.

Bottom Left:

The existing building viewed from Six House Bank.

Bottom Right:

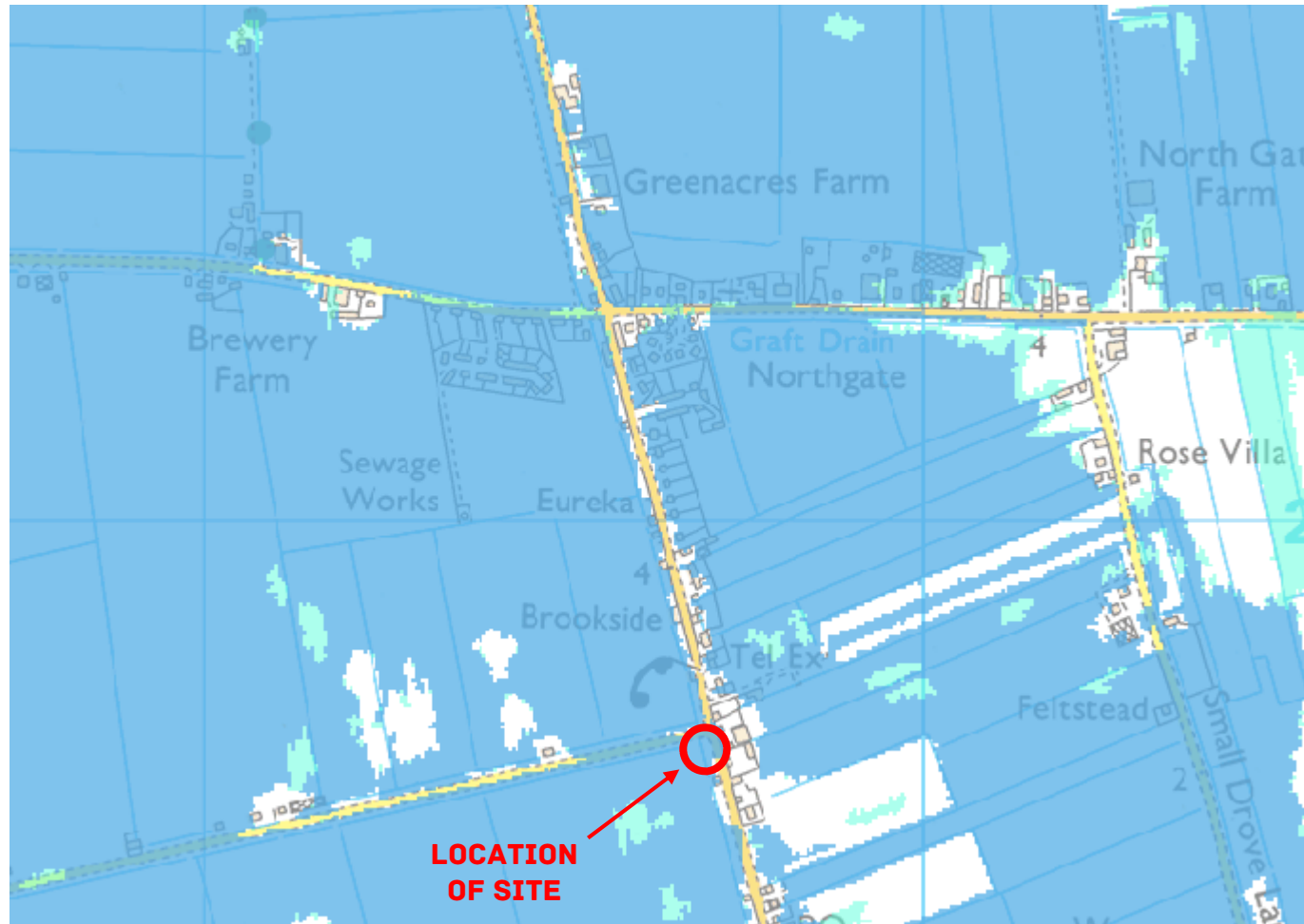
An example of a detached house on Six House Bank.



3. Proposed Development:

1. The proposed scheme comprises the erection of 2 x 4 bedroom detached dwelling-houses. The development is designed to be very similar in character to existing housing stock within Six House Bank.
2. As shown on the extract from the Environment Agency's Flood Map for Planning on page 6, Six House Bank and the proposed site is bordered and surrounded by area designated as Flood Zone 3. It is considered that without flood defences, areas in Flood Zone 3 could be affected by flooding from either the sea [1 in 200 chance] or from rivers [1 in 100 chance].
3. The planning application for this development is accompanied by a Flood Risk Assessment (See Appendix). The findings of the Flood Risk Assessment have suggested that the Finished Floor Level of Ground Floor accommodation should be no less than 3.8m OD (Ordnance Datum). This is approximately 100mm above the level of the highway.
4. The Front (East) elevations of the dwellings will be set back from the footpath to the carriageway by 3.15m and have been arranged such that the line of the front walls is common with that of established building line in the road.
5. The dwellings will be 11.25m wide, 8.43m deep and will be approximately 8.88m from ground floor slab to ridge. Living accommodation is arranged over 2 storeys, comprising a living room, kitchen/ dining area and W.C. on the ground floor, with stairs leading to the first floor landing serving 4 bedrooms and main bathroom with an en-suite to the master bedroom.
6. Externally, there will be windows giving views to the front and rear (East and West). All windows to the first floor will be set into dormers owing to the reduced eaves line similar to that of many other properties along Six House Bank. The only fenestration to the side elevations will be a door and window to the utility room giving access externally to the driveway. Overlooking of neighbouring properties will be of little concern as any view would be obstructed by the detached garage.
7. The dwellings will be built of a red multi stock brick. In addition, they are detailed with smooth red brickwork features to window heads and dentil courses to roof verges. The roof will be built to a 45 degree pitch and covered by slate tiles (or appropriate artificial alternative such as fibre cement slates).
9. The detached garages ancillary to the detached units will similarly be built of a red multi stock brick with features of smooth red brick. They will be 3.25m wide, 6m deep and approximately 4.1m from slab level to ridge.
10. The existing trees to the rear of plots 3, 5 and 7 will be retained. There will be additional planting following construction to the areas identified on the plans around the oil fuel tanks.
11. As can be seen on the site plan, access will be gained to each plot individually with each dwelling being served by a dedicated driveway. Parking for 3 vehicles is provided for each proposed dwelling (with garages to the detached units as previously stated).
12. In terms of landscaping, driveways will be surfaced with shingle whilst all paved areas will incorporate permeable paving. The remainder of the ground will be laid to lawn with planting borders to identified areas.

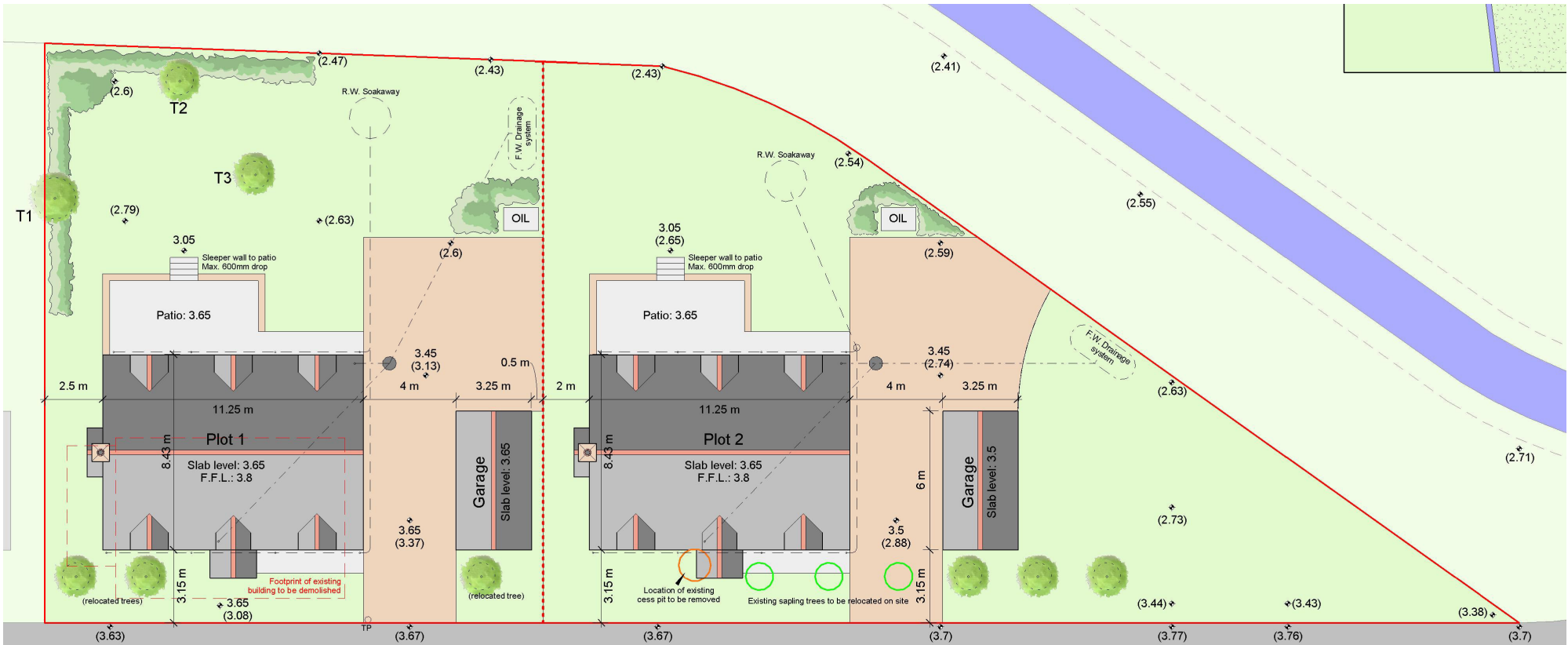
Flood Map: Extract from the Environment agency's Flood Map for Planning showing Six House Bank, West Pinchbeck and the surrounding area.



Proposed Development:

Right:

Extract of the Site Plan from the plans submitted in support of the application showing the Proposed development layout.



(PLANS NOT TO SCALE)

4. Planning History:

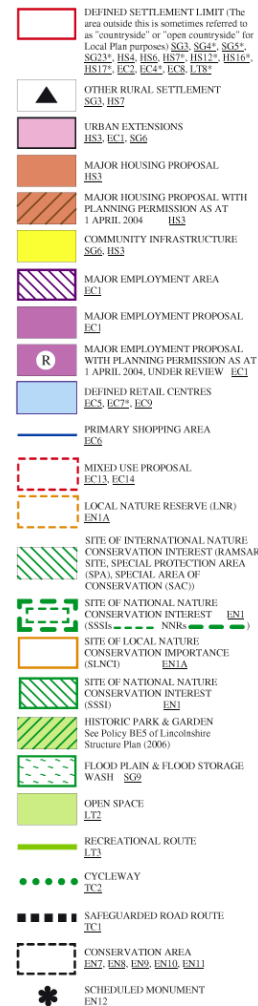
1. There are a number of planning applications along Six House Bank seeking approval for development schemes found on South Holland District Council's website.
2. A terrace of 4 houses was approved within the application H14-1443-03 submitted in 2003 for the erection of 6 dwellings. In addition, within the supporting documents of this application the site plan identifies further development potential of the land adjacent to this application.
3. Also from 2003 is approved application H14-1302-03 for a scheme of 3 dwellings to be built in a similar style to those proposed in the Poacher's Den scheme. This application was for reserved matters following an initial outline planning application approved in 2001.
4. Within the surrounding area, there is other relevant planning history concerning development proposals for additional dwellings to be built. In 2008, application H14-0759-08 was submitted seeking permission for a pair of semi-detached dwellings at 160 Six House Bank. This application was refused by SHDC. The decision was subsequently appealed by the applicant and the appeal later dismissed due to a number of factors including intensifying the land and having a cramped appearance as well as a poor provision of vehicular access.
5. More recently, in 2016 applications H14-0798-16 and H14-0976-16 were submitted proposing developments of residential dwellings.
6. H14-0798-16 relates to the land between No. 28 and No. 54 Six House Bank. This is a currently vacant plot of land occupied only by a shed/ garage in poor condition. The application was an outline proposal for a single dwelling to be built in its place. This application was approved.
7. H14-0976-16 refers to the outline planning application seeking the proposed development of 3 detached houses of a similar style to those proposed at Poacher's Den. The application is as yet undecided, however, throughout consultation it has been established that Pinchbeck Parish Council support the proposal, the Environment Agency have no objection provided the measures set out in the associated Flood Risk Assessment are carried out, whilst consultees for the Environmental Health Technician and S.U.D.S. had no comment/ do not wish to restrict permission.
8. Also submitted in 2016 concerning 76 Six House Bank is H14-0626-16. This full planning application relates to alteration and extension to form an independent annexe and has been approved.

5. Planning Assessment:

In developing the layout and appearance of the proposed development, both the South Holland District Council Local Plan 2006 and the National Planning Policy Framework (NPPF) have been considered.

South Holland District Council Local Plan 2006

1. On the right is Planning Policy Map Inset 14 from the SHDC Local Plan which shows Northgate/ West Pinchbeck and the surrounding area. The map identifies where there are areas of particular value/ interest that may have a bearing on how a planning application is decided such as Conservation areas, Green Belt and Open Space, areas of Historical Importance, etc.
2. For ease of identification, the location of the proposed site has been circled and labelled in **RED**. As can be seen from the map to the right, this location is not within any areas of significance such as a conservation area, it is however incorporated within the defined settlement limit of Spalding as the two settlements join at the narrow opening between the boundary lines shown to the South East (the boundary of Spalding extends beyond the edge of the map shown).
3. The local plan has a list of Core Strategic and General Policies which set out the planning strategy of the Council and what constitutes appropriate and acceptable development.

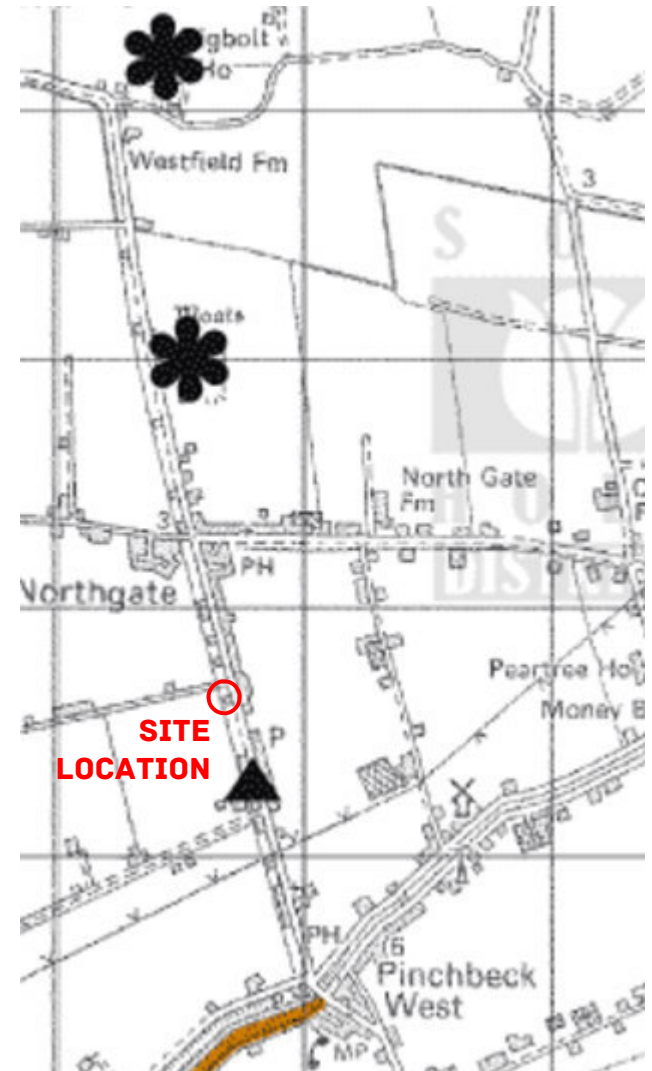


(In the case of area boundaries, the policy applies inside the boundary, except that any policy marked * apply outside it)

Sue Williams
Head of Planning and Development
Council Offices
Priory Road
Spalding
Lincs PE11 2XE

July 2006

Extract from Main Planning Policy Map showing



(PLAN NOT TO SCALE)

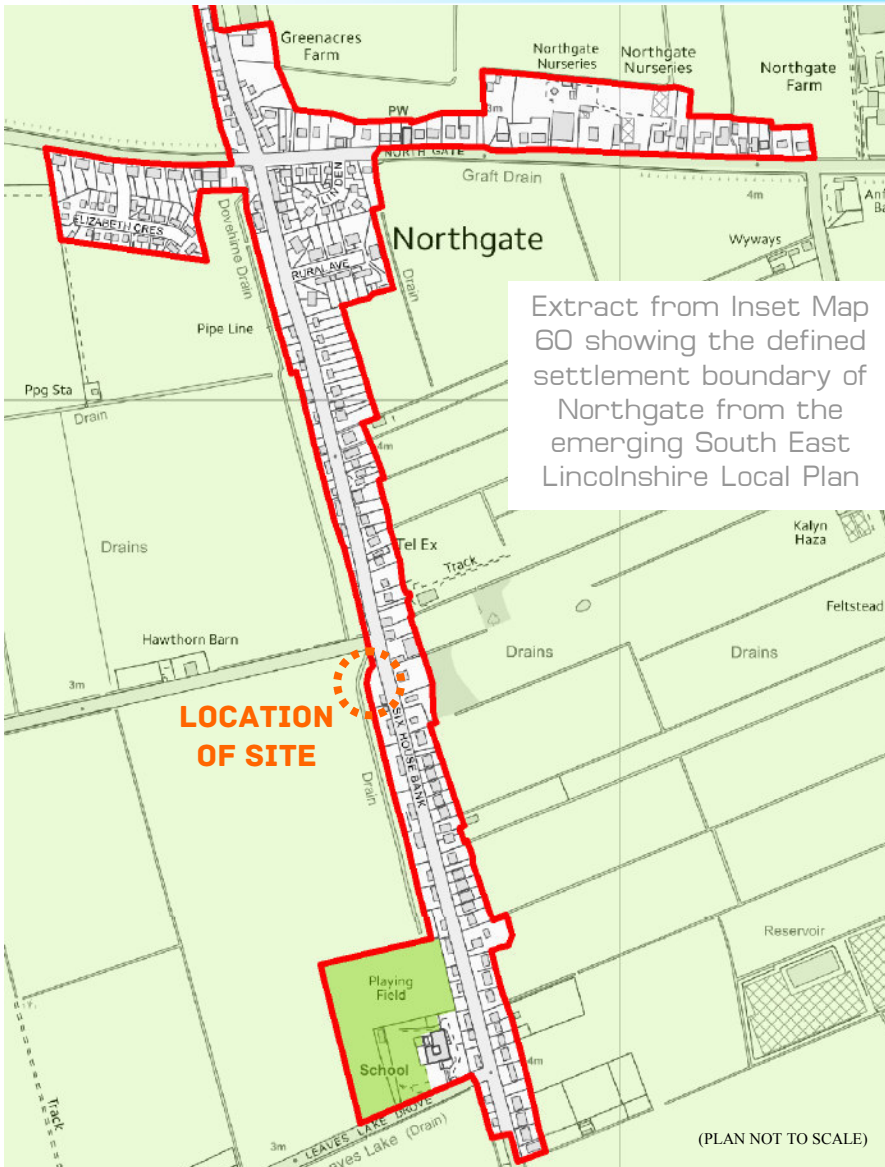
POACHER'S DEN, 88 SIX HOUSE BANK, WEST PINCHBECK, SPALDING, LINCOLNSHIRE, PE11 3QG.

Relevant Planning policy:

4. Policy SG2 is the policy concerning sustainable development. New development within the district should be predominantly upon brown-field sites within the defined settlement boundary limits. The settlement of Northgate/ West Pinchbeck is identified by the local plan as and 'other rural settlement', considered to be largely open countryside, though may be well related to an area centre, or in this case, the Main Town of Spalding.
5. Policy SG2 also outlines that future users of suitable sites should also have a choice as to the forms of transport available to them. As well as having parking provision for up to 6 vehicles (2 per proposed unit). The proposed development also benefits from a location within walking distance of two bus stops to the North and South of the site.
6. Policy SG3 suggests that other rural settlements should have limited new development, however, where development is to take place, it should be well related to the built up area of the settlement. The location of the application site towards the middle of Six House Bank is considered to be an ideal location for development given its relation within Northgate/ West Pinchbeck.
7. Re-development of this site would make good use of a currently unused plot of land, in a natural location for infill development whilst still maintaining ample spacing between buildings and not impacting on the openness of the countryside. The un-developed amenity land is currently an overgrown grassy area and not maintained, it would not be unreasonable to make use of this void in the street scene, improving the appearance with a sympathetic development in keeping with the existing character of Six House Bank.
8. More specifically to applications for residential development, Policy HS3 acknowledge the requirement for housing within the district and outline how the Council intend to provide further housing stock in order to meet this requirement.
9. Policy SG4 states that permission will be granted for development in areas considered open countryside where it is essential and cannot reasonably be accommodated within defined settlement limits.
10. This was recently identified in the planning officer's report relating to approved application H14-0798-16 for residential development in Six House Bank where it was stated that the development does not accord to the current SHDC Local Plan 2006. The officer then goes on to say:

"However, paragraph 49 of the National Planning Policy Framework 2012 makes provision for residential development in a sustainable location where there is an absence of a five year supply of deliverable housing sites. Also the emerging South East Lincs Local Plan has now identified Northgate and West Pinchbeck as an Other Service Centre with a defined settlement boundary. These matters are material considerations that are sufficient to outweigh Local Plan Policies SG4 and HS7."
11. The new Inset Map 60 showing the defined settlement boundary of Northgate as referred to above can be found on page 11 of this statement. The above statement sets a precedent for the way that future applications concerning development in this area should be considered by the Local Authority.

POACHER'S DEN, 88 SIX HOUSE BANK, WEST PINCHBECK, SPALDING, LINCOLNSHIRE, PE11 3QG.



11. Policy SG9 concerns the flood risk to new developments and states that all new developments will require a Flood Risk Assessment. A Flood Risk Assessment accompanies this application and can be found in the Appendix of this statement.
12. Policy SG11 refers to sustainable drainage and in particular that some form of Sustainable Urban Drainage system (SUDs) should be provided. This has been considered within the layout of the development. Each proposed dwelling will be served by its own dedicated rainwater soakaway with sufficient capacity to allow surface water run-off collected on site to be attenuated and discharged to the ground.
13. Policy SG14 covers the Design and Layout of new developments and outlines that proposals should be in keeping with the existing character of their surroundings and not harmful to the area. Throughout the design stage of the proposal there has been consultation regarding the appearance and layout of the development to ensure that the scheme is satisfactory with regard to the visual appearance and suitability for the site to make the best use of the site.
14. National Planning Policy Framework (NPPF)
15. The NPPF, is a document produced by the Department for Communities and Local Government with a view to giving guidance to Local Authorities on how planning proposals should be evaluated and how decisions should be reached.
16. Sustainable development is key within the NPPF which states that '*planning authorities should positively seek opportunities to meet the development needs of their area*' and that plans for sustainable development should be approved without delay.

17. According to the NPPF, sustainable development is made up of three elements:

- An economic role
- A social role
- An Environmental role

18. The economic role suggests that land should be made available to allow for growth in areas that there is a demand. It is considered that having been identified in the emerging South East Lincolnshire Local Plan as an Other Service Centre, there is potential for a reasonable amount of growth in this area and therefore demand for housing.

19. The social role looks to provide a stock of housing that will meet the needs of present and future generations. In addition to considering what future occupiers of the proposed houses will need, considerations have been made within the design stage of the proposal. Reasonable precautions have been set in place to limit any impact from long-term potential occurrences such as flooding in the future.

20. The environmental role focuses on protecting the natural, built and historic environment. The proposed development is located in an area recognised as suitable for minor development, designed to be in keeping with the surrounding built environment. It utilises a site which can provide a positive infill development within a settlement, making use of a brown-field site as opposed to using a high quality farmland green-field site which could be considered harmful to the natural environment. There is to be no impact on the historic environment in particular. It therefore satisfies the environmental role.

6. Conclusion:

1. The application proposes a new-build residential development of 2 x 4 bedroom detached dwellings on Six House Bank, West Pinchbeck, PE11 3QG.
2. The requirements of the South Holland District Council Local Plan 2006 as well as the National Planning Policy Framework have been considered throughout the design process to ensure that they have been met by the proposal.
3. It has also been demonstrated that development in the area would be acceptable in planning terms with precedent set by the approval of application H14-0798-16. In addition, the character of the proposed development will not be detrimental to the existing character or the surrounding area.
4. Based on the precedent set by the officer's report for application H14-0798-16, with particular reference to the consideration of emerging Local Plan Policy, this proposal should be considered favourably by the local authority as providing a valuable means of meeting the housing needs within the district.
5. For the reasons explained throughout this statement and those listed above, it is requested that the Local Planning authority favourable support this planning application.

APPENDIX

NEWLAND BUILD SERVICES

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**PROPOSED DEVELOPMENT AT POACHERS DEN,
SIX HOUSE BANK, WEST PINCHBECK,
SPALDING, PE11 3QG.**

FLOOD RISK ASSESSMENT



View of site from Six House Bank

S M Hemmings B Sc C Eng MICE MIWEM,
69 Charlotte Way,
Peterborough,
PE3 9ER.

This flood risk assessment has been prepared solely to support the planning application for the development at Poachers Den, Six House Bank, West Pinchbeck, Spalding. The author has made every effort to provide an accurate assessment of the flood risk but accepts no liability should the information be found to be incorrect or incomplete, or if it is used for any other purposes other than for which it was originally commissioned.

Introduction

An application is due to be made to South Holland District Council for planning permission to construct a new dwelling on a vacant plot south of Black Hole Drove, and formally named Poachers Den, at 88, Six House Bank, West Pinchbeck, Spalding, PE11 3QG.

The site is within Flood Zone 3 as shown on the Environment Agency's Flood Zone Map. These maps do not take into account existing flood defences.

The Planning Application therefore requires a Flood Risk Assessment to be carried out as required in the Planning Practice Guidance to the National Planning Policy Framework.

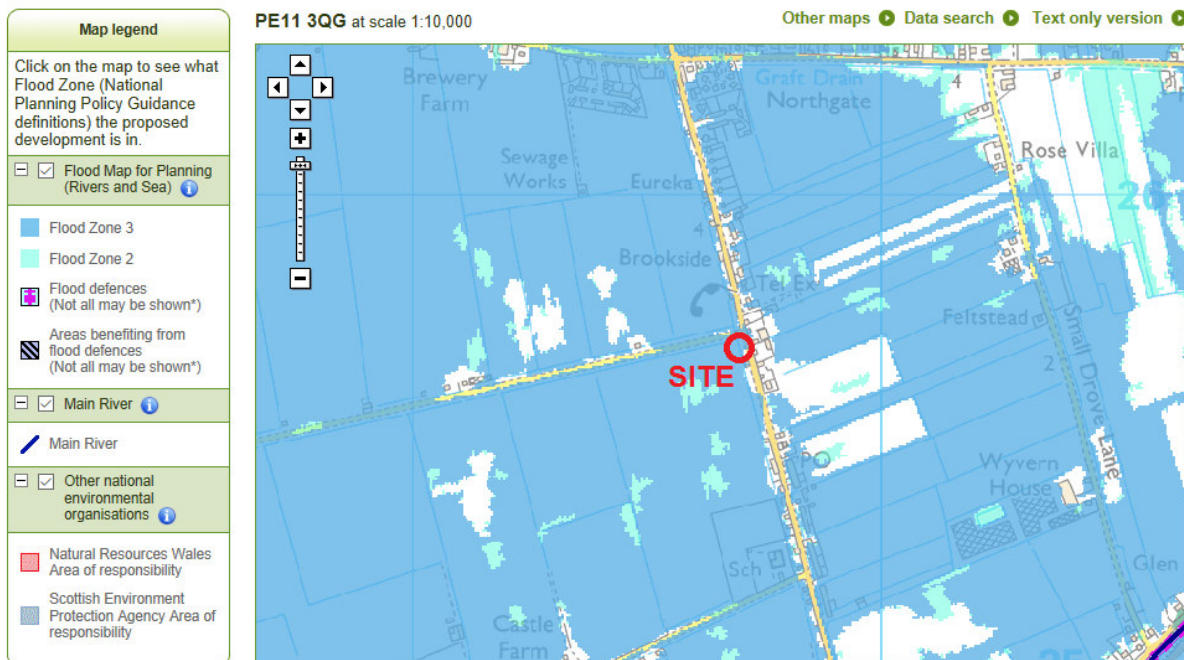
The site is shown within the defended area of the South Holland District Council's Strategic Flood Risk Assessment (SHDC SFRA) map and is located in the Black Sluice Internal Drainage Board district.

Application Site

The development is located 4km west of the village of Pinchbeck and the National Grid Reference of the site is 519700 325680.

The position and extent of the site is shown on the plan at the end of this document.

As the site is within a defended area and is not in a flood plain it can be designated to be within Flood Zone 3(a) as defined in Table 1 of the Technical Guidance (see map below).



Applying the flood risk vulnerability classification in Table 2 of the Guidance, residential development is classified as “more vulnerable”. Reference to Table 3 (shown below)

of the Guidance informs us that more vulnerable development is only satisfactory in Flood Zone 3 after the Sequential and Exception Test has been passed.

<u>Flood Zones</u>	<u>Flood Risk Vulnerability Classification</u>				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	X	X	X	✓*

Sequential Test

The aim of the Sequential Test, as set out in the Planning Practice Guidance, is to ensure that a sequential approach is followed to steer new development to areas with the lowest probability of flooding. The flood zones as refined in the Strategic Flood Risk Assessment for the area provide the basis for applying the Test. 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 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.

If a larger scale map showing the flood zones is considered, it can be seen that all of the area around West Pinchbeck is in Flood Zone 3(a).

This plot is one of a few available undeveloped plots on the west side of Six House bank. Much of the earlier development along the west side of Six House depended on the IDB drain being piped. However now that the IDB drain has been relocated as an open drain about 20 metres to the west the plots are ideal for development. There are no plots in the village in flood zone 1 and 2 where development can be carried out.

Therefore I consider that the sequential test has been passed.

Exception Test

The Sequential Test has demonstrated that it is not possible, consistent with wider sustainability objectives, for the development to be located in zones with a lower probability of flooding. Therefore the Exception Test must be applied and for this to be passed:

- It must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risks, informed by the Strategic Flood Risk Assessment; and
- A site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking into account of the vulnerability of its users, without increasing flood risk elsewhere, and where possible will reduce flood risk overall.

Both parts of this test must be satisfied in order for the development to be considered appropriate in terms of flood risk. There must be robust evidence in support of every part of the test.

The first section will be demonstrated by the Supporting Planning Statement and compliance with South Holland District Council's planning policies.

This flood risk assessment will demonstrate that the development will be safe for its lifetime and it will not increase flood risk elsewhere.

Strategic Flood Risk Assessment

The following information about the flood risk in the location of this development has been sourced from the maps and reports in the SHDC SFRA.

1. Report Maps

Map 5 shows that the site is at low or medium risk, but reliant on flood defences for this standard.

Map 6 indicates the peak depth is zero for the present day 1% fluvial and 0.5% tidal event probability.

Map 7 indicates the peak velocity is zero for the present day 1% fluvial and 0.5% tidal event probability.

Map 12 indicates the actual risk is high for the year 2055 1% fluvial and 0.5% tidal event probability.

Map 13 indicates the actual risk is high for the year 2115 1% fluvial and 0.5% tidal event probability.

Map 14 indicates it will be at least 3 hours, and possibly at least 6 hours, from the start of an event before flood water would reach the site.

Map 16 shows that the site is not within a rapid inundation zone.

Flood Maps Table D1

The maps illustrate the actual flood hazard which is as follows:

For the present day	Depth of flooding ... zero
	Extent of flooding .. Low or medium flood probability
	Peak Velocity Nil
For year 2115	Depth of flooding ... zero
	Extent of flooding.... Low or medium flood probability
	Peak Velocity Nil

The maps also illustrate the residual flood hazard which is as follows:-

For the present day	Depth of flooding ...zero
	Extent of flooding .. Low or medium flood probability
	Peak Velocity .. Nil
For the year 2115	Depth of flooding ... zero
	Extent of flooding .. Low or medium flood probability
	Peak Velocity .. Nil

Maximum flood level and bank levels in the River Glen

Maximum flood levels in the River Glen at chainage 10.2 km are shown in the reports as follows:

	Present	Including Climate Change
1 in 100 year	4.66	4.93
1 in 1,000 year	4.94	5.16

The defences west of the A151 bridge consist of earth banks with minimum levels of 5.70m OD and some higher levels of up to 6.20m OD.

Information from the Environment Agency

The Environment Agency has provided predicted flood levels for the River Glen. The levels quoted below are approximately 100 metres downstream of the road bridge at West Pinchbeck.

	2007	2115
Peak 1 in 100 year flood level	4.68m OD	5.23m OD
Peak 1 in 1,000 year flood level	4.96m OD	5.49m OD

The Environment Agency has provided the following predicted fluvial flood flows measured in cumecs for the River Glen at the same location.

	2007	2115
Peak 1 in 100 year flow	32.35	39.11
Peak 1 in 1,000 year flow	39.83	49.54

Site levels

The level of Six House Bank is 3.70m OD. The site slopes down from the road and the level adjacent to the watercourse on the west side of the site is approximately 2.40m OD.

The normal water level in Dovehirm Drain as measured on the 26th August was 0.3m OD.

Existing Flood Alleviation Measures

The site is within a defended flood plain, as defined in Appendix 1 of the Environment Agency's "Policy and Practice for the Protection of Flood Plains". The area is considered to be passive until such time that a flood greater than the defences can withstand occurs. The likelihood of flooding due to overtopping or failures of the defences to the River Welland is very low.

The site is approximately 1.1 km north of the River Glen, which is main river and maintained by the Environment Agency.

Potential Sources of Flooding

The following sources of flooding have been identified:

- 1) Failure or overtopping of the south bank of the River Glen.
- 2) Failure or overtopping of tidal defences of the River Welland
- 3) Failure or overtopping of South Forty Foot Drain
- 4) Overtopping of IDB drainage systems.
- 5) Flooding from local surface water systems.

1. Failure or Overtopping of the South Bank of the River Glen

The River Glen is located 1.1km south of the site. The maximum predicted 1 in 100 year water level in 2115 in the SHDC SFRA is 4.93m OD, but advice from the Environment Agency based on later modelling of the River Glen predicts a higher 1 in 1000 year level in 2115 of 5.23m OD. All of these levels are below the lowest level of 5.70m OD of the earth banks west of the A151 bridge.

The risk of flooding from this source can be considered to be low.

2. Failure or overtopping of tidal defences of the River Welland

The tidal defences of the River Welland are only 5 to 6 km east of the development site. However if the defence bank breached directly east of the site flood water could not reach the site as it would have to flow over the embanked River Glen.

Therefore the only way the site could be affected would be if the tidal banks breached north of Surfleet Sluice at Surfleet Reservoir where the River Glen discharges into the River Welland. The location of this breach would be at least 10 km from the development site and therefore the risk of flooding from this source can be considered to be remote.

3. Failure or Overtopping of South Forty Foot Drain

The South Forty Foot Drain is located 3km west of the site. This watercourse is maintained by the Environment Agency. The Drain is embanked from the southern end at Black Hole drove Pumping station to north of Donington. The maximum water levels in the Drain are approximately 3.0m OD. If levels exceed 3.0m OD water will overtop the banks of the Drain and the embanked highland watercourses that lead into the Drain from the west.

As the proposed ground floor level of the house is 3.80m OD then this source of flooding can be discounted.

4. Overtopping of IDB Systems

The Drain on the western side of the property is the Dovehurn Drain which is maintained by Black Sluice IDB. The level of water in this drain is controlled by Gosberton Fen Pumping Station which is located alongside the South Forty Foot Drain approximately 5km north west of the development site.

Black Sluice IDB have carried out modelling of the flows in this catchment and have advised that the maximum predicted water levels at the junction of Dovehurn Drain and the Graft Drain 400 metres north of the site are:

1 in 100 year event 2.490m OD

1 in 100 year + climate change 2.570m OD

Drainage channels maintained by the Black Sluice IDB generally have a 1 in 10 year standard with up to 1.0 metre of freeboard, which generally provides between 1 in 50 and 1 in 100 year standard against flooding.

As the proposed level of the house is 3.80m OD then this source of flooding is remote.

5. Flooding from local foul or surface water systems

It is assumed that the foul water from the proposed house will discharge into a septic tank or a similar system. As the proposed ground floor level will be raised above the

ground level outside any malfunction of this or an accumulation of surface water around the building would not cause any flooding to the proposed dwelling.

Extent of known Flooding

During the preparation of this assessment, no evidence was discovered of the site or any of the adjoining properties being flooded.

Probabilities and Trends of Flooding

The probability of this development flooding from Environment Agency main river is very low. However in an extreme event at this location water levels could rise quickly and residents would need to take refuge in the upper floors of the building.

Residual Risk – Extreme Events

The residual risk from extreme events is very low on this site.

There are no records of the area around Six House Bank having been flooded in the last 60 years.

Climate Change

The recommendations for flood depths for this flood risk assessment use information mostly taken from the South Holland DC SFRA which was last updated in 2010. The EA have issued new guidance on recommended contingency allowances for predicted sea rises, fluvial flows and rainfall intensities which from 19th February 2016 needs to be considered in the FRA. The effects of these new recommendations are considered in Appendix A of this report (pages 13 to 16). It is concluded that no extra mitigation measures are necessary to comply with the new guidance on climate change.

Summary of Risk of Flooding to the Site

There are no records of the site ever having been flooded in the past.

The maps in the SFRA indicate that no flooding of the road called Six House Bank is predicted take place in a 1 in 100 year residual event in 2115.

Land levels on the west (rear) of the site are approximately 2.40m OD in the 6.0 metre access strip alongside the IDB drain and then rise by approximately 1.0 metre to the road on the east (front) of the plot and the level of Six House Bank is 3.70m OD. The recommended ground floor level of the proposed house is 3.80m OD. If the north bank of the River Glen just west of the A151 bridge breached during a 1 in 100 year event in 2115 flood water would flow northwards onto the lower land west of the site. The depth of this flood water would need to be at least 1.2 metres before the proposed property was at risk of flooding.

Similarly flooding from the South Forty Foot Drain would need to be 1.2 metres deep before the proposed property was at risk of flooding.

Therefore the mitigation of raising the floor level of the new building 100mm above the level of Six House Bank to a level of 3.80m OD is considered acceptable.

Conclusions

The following conclusions can be made:

- The proposed development is not in a functional flood plain as defined by PPS25.
- The risk of the site flooding from any Environment Agency watercourse is very low.
- The risk of flooding from IDB watercourses is also extremely low.

Recommendations

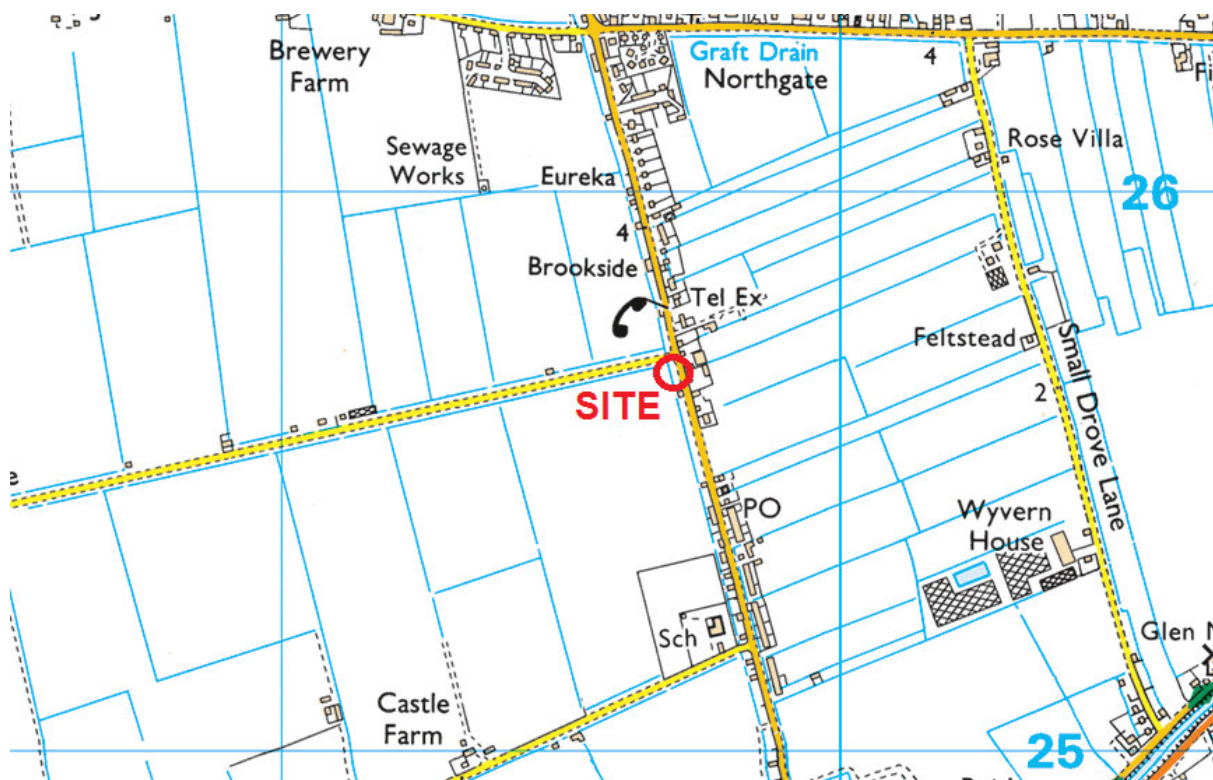
- In any area where there is a risk of flooding, although the risk at this site is low, it is preferable to construct new buildings with two stories with all sleeping accommodation on the first floor, in order that the first floor can provide a safe refuge if any flooding were to occur.
- The ground floor level of the proposed property should be no lower than 3.80m OD, which is 100mm above the level of the road.
- Occupiers of the Property should register with the Environment Agency's Floodline Warnings Direct Service to receive automated early warnings of potential flooding.
- Although the risk of flooding is extremely low, if through a set of circumstances acting together any flooding were to begin to occur, residents would have adequate time to evacuate the area and remain safe.
- On site surface water drainage will be discharged into soakaways and these should be designed to BRE Digest 365 and approved under Building regulations.

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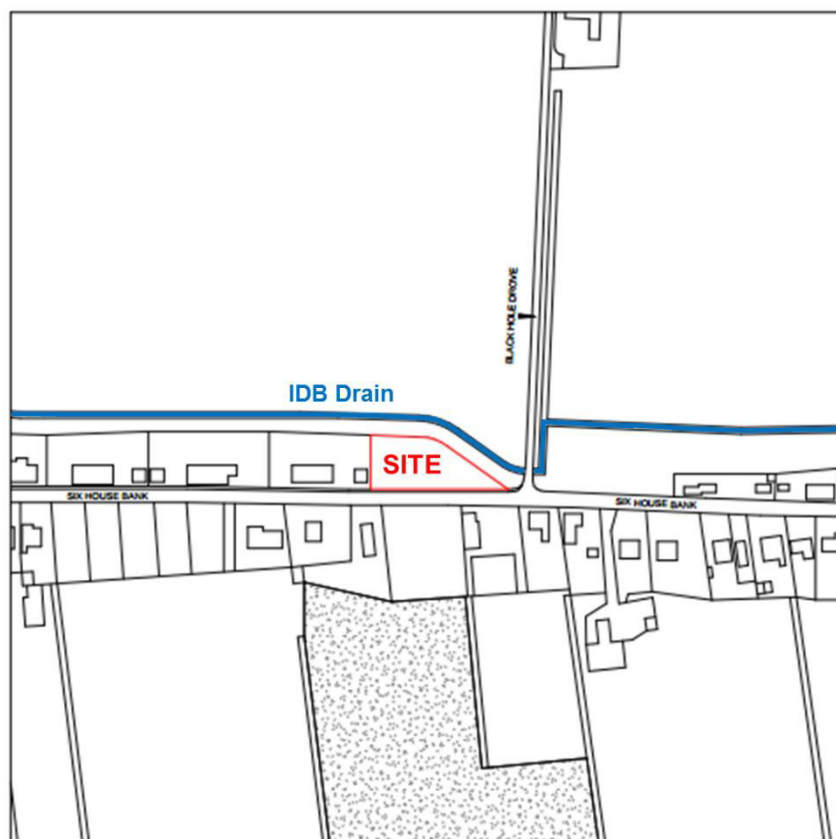
stuart.hemmings@btinternet.com

26th January 2017

LOCATION PLAN



PLAN OF SITE



APPENDIX A CLIMATE CHANGE

The Environment Agency has issued revised guidance on climate change and have now stated that the new predictions should be considered and incorporated into all flood risk assessments produced after 19th February 2016.

Listed below are the climate change allowances in three documents:

- South Holland SFRA
- EA guidance (2013)
- Revised EA guidance

The recommendations in each document are shown below.

2010 South Holland DC SFRA

The SHDC SFRA states that the the following allowances have been made for climate change:

4.4 Climate Change

Scenarios for the years 2055 and 2115 include for climate change contingency allowances to the amount suggested by PPS25¹. These allowances are expressed in Table 2. Percentage increases are relative to the present-day.

Table 2 – Adopted Climate change contingency allowances

Parameter	Year 2055	Year 2115
Sea level rise (m)	+ 0.33	+ 1.14
Extreme wave height	+ 10%	+ 10%
Peak river flow and volume	+ 20%	+ 20%
Peak rainfall intensity	+ 20%	+30%

Where flows arise from pumping rather than natural run-off, notably in the Vernatt's Drain and for the Fenland subcatchments of the South Forty Foot Drain, peak flow rates for future eras have been taken as equal to current rates since this SFRA assumes all flood risk management measures will remain in their current state.

2013 Guidance to Planners

Guidance to planners was issued by EA in September 2013

Table 1: 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

Table 2: Recommended national precautionary sensitivity ranges for peak rainfall intensity, peak river flow, offshore wind speed and wave height

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%	

Revised 2016 EA Guidance

Table 1 peak river flow allowances by river basin district (use 1961 to 1990 baseline)

River basin district	Allowance category	Total potential change anticipated for '2020s' (2015 to 39)	Total potential change anticipated for '2050s' (2040 to 2069)	Total potential change anticipated for '2080s' (2070 to 2115)
Anglian	Upper end	25%	35%	65%
	Higher central	15%	20%	35%
	Central	10%	15%	25%

For more vulnerable development in flood zone 3(a) the higher central and upper end should be used to assess the range of allowances.

Table 2 peak rainfall intensity allowance in small and urban catchments (use 1961 to 1990 baseline)

Applies across all of England	Total potential change anticipated for 2010 to 2039	Total potential change anticipated for 2040 to 2059	Total potential change anticipated for 2060 to 2115
Upper end	10%	20%	40%
Central	5%	10%	20%

Table 3 sea level allowance for each epoch in millimetres (mm) per year with cumulative sea level rise for each epoch in brackets (use 1990 baseline)

Area of England	1990 to 2025	2026 to 2050	2051 to 2080	2081 to 2115	Cumulative rise 1990 to 2115 / metres (m)
East, east midlands, London, south east	4 (140 mm)	8.5 (212.5 mm)	12 (360 mm)	15 (525 mm)	1.24 m

Table 4 offshore wind speed and extreme wave height allowance (use 1990 baseline)

Applies around all the English coast	1990 to 2050	2051 to 2115
Offshore wind speed allowance	+5%	+10%
Offshore wind speed sensitivity test	+10%	+10%
Extreme wave height allowance	+5%	+10%
Extreme wave height sensitivity test	+10%	+10%

Effects on Predictions of Flood Risk in FRA

Fluvial Flooding from River Glen.

As the development is in flood zone 3 and is classed as more vulnerable, the upper end climate change allowance, which is 35%, should first be considered. After considering the effects of this increase the upper end allowance, which is 65%, should be considered to assess the effect of this.

The EA have been using an allowance of 20% for climate change over the past few years in their assessments and modelling of their systems. The increase to 35% will not significantly change the conclusion in the SFRA of what might happen if a breach occurred in the bank of the River Glen. If there are additional flows along this part of the River Glen it will lead to overtopping of banks in numerous places between Bourne and the outfall at Surfleet Sluice. This will prevent the water level rising much above the predicted levels for the present day.

The upper end allowance predicting a 65% increase in flows above the 1 in 100 year predicted flows now needs to be considered. This level of predicted river flows again

will not lead to increased river levels as the river will be overtopping the banks in numerous places.

To conclude a breach in the north bank of the River Glen will not lead to a depth in excess of 1.2 metres on the fenland west of the site and course flooding to the proposed property even with the significant prediction of 65% for river flows.

Effect on IDB Systems

Black Sluice IDB, and all IDB's, are aware that climate change will affect the operations of pumping stations, sluices and drainage channels. Pumping stations and sluices only have a 30 year life and will need to be refurbished or rebuilt within this timespan. It is assumed that Black Sluice IDB will continue to review the modelling they have already carried out and when the Board consider these refurbishments adequate arrangements will be made to incorporate the latest climate change projections in order that Board continues to provide the same standard of service as the present day.

Therefore it is considered that the mitigation proposed for the development, with the recommendation that the floor levels should be a minimum level of 3.80m OD is satisfactory.