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Ref: 3213-17

**ERECTION OF DWELLING WITH GARAGES
IN ASSOCIATION WITH EXISTING PLANT HIRE BUSINESS**

**TILSON YARD
BLACK BARN
GEDNEY MARSH
SPALDING
LINCS
PE12 9PA**

FOR

ANGLO PLANT LTD



PLANNING, DESIGN & ACCESS STATEMENT

**ERECTION OF DWELLING WITH GARAGES
IN ASSOCIATION WITH EXISTING PLANT HIRE BUSINESS**

**TILSON YARD
BLACK BARN
GEDNEY MARSH
SPALDING
LINCS
PE12 9PA**

This application is to acquire Town and Country Planning Permission for a 3 bedroom dwelling with attached garages in association with the established family business Anglo Plant Ltd and will be occupied by Matthew Parnell, wife and family.

Anglo Plant Ltd has occupied the site for the last 25 years providing a major service to the immediate surrounding agricultural industry building numerous reservoirs, drainage solutions, building infrastructure, sea defences etc. The business provides 24/7 emergency service to the South Holland Internal Drainage Board.

Although security is not a specific justification for a new dwelling in this location but the business has experienced "break ins" over a long period of time which has made security devices very expensive, particularly insurance of the premises (see letter from insurance company).

A future project in association with the South Holland Internal Drainage Board and neighbouring farmer/landowner is to re-align the Drainage Board controlled water course to the West which will be of benefit to all parties and allow a degree of future expansion to Anglo Plant Ltd.

The head of the family business, who lives approximately a mile away towards Gedney Drove End, is retiring and the applicants (Mr & Mrs M Parnell) will be taking control, currently they live in Fleet which is approximately 5 miles away, not ideal from a security view point.

Following discussions and pre-application enquiries with the Planning Department it is accepted that a dwelling in the open countryside needs to be tied to the business together with the need to comply with Paragraph 55 of the National Planning Policy Framework (NPPF).

The dwelling design attempts to replicate a typical South Lincolnshire barn conversion and the following design details are to be included:-

- PV panels to South and West facing roofs
- Air source or ground source heat pumps

- Rainwater harvesting system
- High levels of insulation to all areas (walls, doors, windows, roofs etc)
- Log burning system

South Holland District Council do not currently have a 5 year deliverable housing supply, as such, the NPPF dictates that all of the Council's policies with regard to housing are out of date. Essentially the NPPF is now the driving policy document for all housing applications and it states that all housing applications should be considered in context of the presumption in favour of sustainable development, in accordance with Paragraph 14 of the NPPF, this means where the development policies are out of date, permission should be granted unless:-

- Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits when assessed against the policies of the NPPF taken as a whole , or
- Specific policies in the NPPF indicate development should be restricted (eg:- protected sites, SSS1, green belt, local green spaces, National Parks etc)

As this document outlines it is clear that the proposal is delivering a high quality sustainable development on brownfield land with a comprehensive landscaping scheme that enhances the biodiversity of the area and allows an existing business to grow. As such the proposal will not cause significant and demonstrable harm to the area and will result in numerous benefits to the area and family business in accordance with the NPPF.

The proposed dwelling in this remote location will not necessarily assist in housing numbers in sustainable locations, the applicant's current property will become available in a sustainable area of Fleet.

Paragraph 7 & 8 of the NPPF is to contribute to the achievement of sustainable development. As part of this the government define three dimensions of sustainable development.

- An economic role, a social role and an environmental role, we have outlined how this proposal contributes to each of the three parameters:-
 - Economic – the proposal provides the opportunity for Mr & Mrs Parnell to live and work and allows enhanced security and growth of their business
 - Social – as outlined above the proposal will allow Mr & Mrs Parnell to live and work essentially on the adjacent site and allow their business to grow. The dwelling will be designed to be energy efficient, alleviating the occupants from the threat of fuel poverty and supporting its health, social and cultural wellbeing
 - Environmental – the dwelling will mitigate the clients impact on the environment both locally whilst creating a benchmark for high quality sustainable architecture being designed to replicate a rural barn conversion.

As suggested in the NPPF consideration of the three facets of sustainable development as a whole and not in isolation as they are mutually dependant. This approach demonstrates the

sustainability of this proposal when considered against economic, social and environmental gains.

A site specific Flood Risk Assessment has been carried out as the site is within Flood Zone 3 of the Environment Agency flood maps which concludes:-

"Floor levels of the dwelling will be 1.00 metres above ground level at a minimum of 4.50 metres above O D Newlyn with a further 300mm of flood resilient construction above finished floor level and all sleeping accommodation at first floor level"

The occupants will sign up to the Environment Agency automated flood warning system.

The requirements to build the property at this elevated level are easily achievable as the site is large enough to accommodate these requirements.

Anglo Plant Ltd have been in business for 25 years, if required, accounts could be provided to justify sustainability.

In conclusion the proposal to build a family home adjacent to the applicants family business and legally connected to the family business will be of benefit to all parties and enable the business to be sustainable and financially viable for the future.

G R Merchant
May 2018

APPENDIX

LOCATION PLAN 1/2500

SITE LAYOUT PLAN 1/500

PRE-APPLICATION ENQUIRIES

LETTER FROM CLEAR INSURANCE MANAGEMENT LTD – BUSINESS INSURANCE

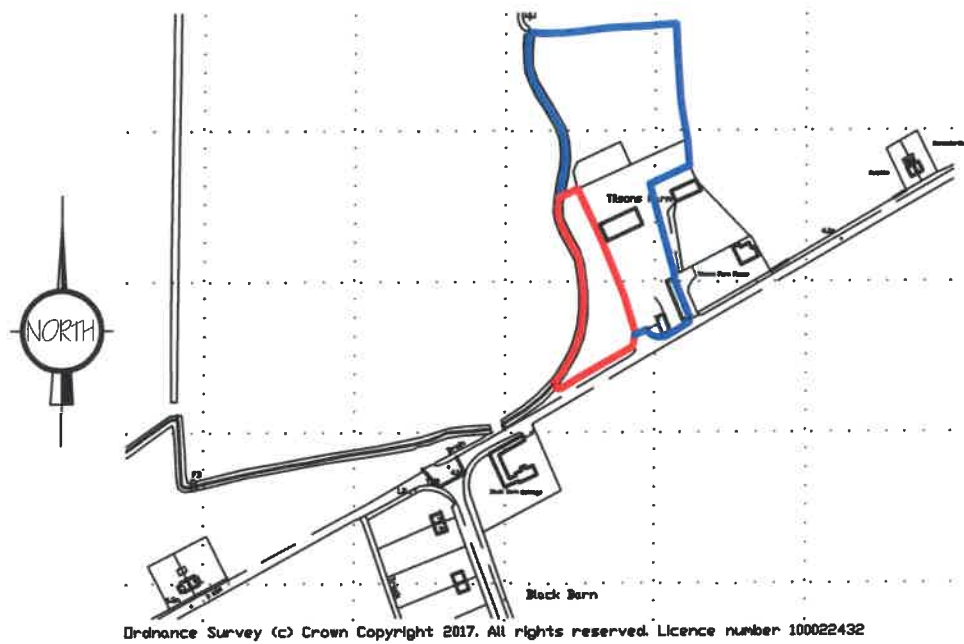
LETTER FROM SOUTH HOLLAND INTERNAL DRAINAGE BOARD

FUTURE RE-ALIGNMENT OF THE DRAINAGE BOARD CONTROLLED
WATERCOURSE

SITE SPECIFIC FLOOD RISK ASSESSMENT - GEOFF BEEL CONSULTANCY

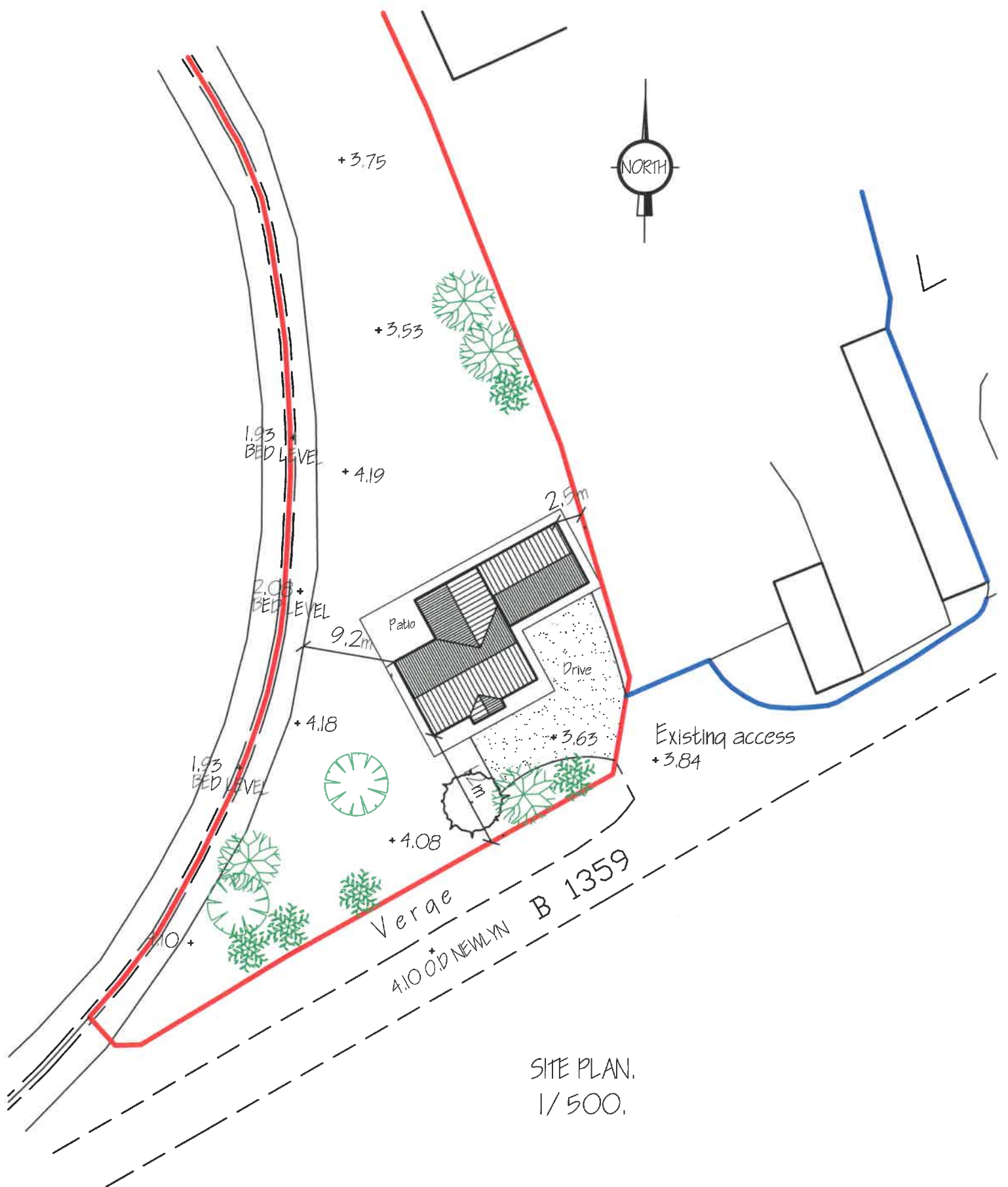
GENERIC FLOOD RESILIENT CONSTRUCTION METHODS

LOCATION PLAN 1/2500



LOCATION PLAN,
1/2500.

SITE LAYOUT PLAN 1/500



PRE-APPLICATION ENQUIRIES



G R MERCHANT <grmerchant.arch.cons@gmail.com>

Planning Enquiry

1 message

G R MERCHANT <gr.merchant@btconnect.com>
To: _planningadvice <planningadvice@sholland.gov.uk>

20 October 2017 at 14:08

Dear Sir/Madam

**PROPOSED HOUSE & GARAGES
TILSON FARM YARD, BLACK BARN, GEDNEY MARSH, PE12 9NE
ANGLO PLANT LTD**

I have been approached by Anglo Plant Ltd regarding building a house and garage in association with the existing plant hire and heavy machinery business.

The current owner is proposing to retire in the near future and the business will be handed over to his son who will occupy the proposed house; it is appreciated that security is not the main criteria in this type of application, but the company has had many problems over the years.

Your informal opinion would be appreciated prior to making a formal Town and Country Planning Application, which will need to be justified on financial and functional grounds.

If you require any further information or clarification of the company aspirations please do not hesitate to contact me.

Yours faithfully
G R Merchant

G R Merchant Ltd
01406 490800

 **3213-17-01 (ANGLOPLANT).pdf**
425K

G R Merchant
Email Address

Council Offices
Priory Road
Spalding
Lincolnshire
PE11 2XE

Admin 01775 764723
DC Officers 01775 764703
facsimile 01775 762937

planningadvice@sholland.gov.uk
www.sholland.gov.uk

8th November 2017

Dear Sir/Madam

PLANNING: PRE-APPLICATION ADVICE

Reference: PE-00796-17 Case Officer: David Grant
Location: Tilsons Farmyard Black Barn Gedney Marsh Spalding
Proposal: Proposed house and garage

Thank you for your enquiry. As you aware the proposal site and final design would be impacted by flood risk concerns. The site is predominately in a Danger for Most category on the 2115 Flood Hazard Map with predicted flood depths of 0.5 metres to 1 metre on the 2115 Flood Depth Map.

In order to adequately address flood risk concerns, the proposed finished floor level must be sited a minimum of 1 metre above ground level.

In the opinion of the Local Authority, the submitted information fails to demonstrate how the proposal would meet any of the criteria for countryside dwellings contained within Paragraph 55 of the National Planning Policy Framework. Therefore, should an application be forthcoming on the basis of the submitted information, the only recommendation would be for refusal.

This planning advice is given in good faith but is an officer opinion only and therefore is not binding on any formal decision the Council may make following the receipt of a planning application.

BUILDING REGULATIONS

The works that you are proposing may also require Building Regulations and this informal advice or any subsequent planning permission does not give authority under Building Regulations to commence work. Please contact the Building Control section for further information on 01775 764557

Yours faithfully



² **David Grant, Planning Officer**
dgrant@sholland.gov.uk

G R Merchant
Email Address

Council Offices
Priory Road
Spalding
Lincolnshire
PE11 2XE

Admin	01775 764723
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Yours faithfully



David Grant, Planning Officer
dgrant@sholland.gov.uk

G R Merchant
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Lincolnshire
PE11 2XE

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Yours faithfully



David Grant, Planning Officer
dgrant@sholland.gov.uk



G R MERCHANT <grmerchant.arch.cons@gmail.com>

PE-00796-17

1 message

G R MERCHANT <gr.merchant@btconnect.com>
To: "Grant, David" <dgrant@sholland.gov.uk>

8 November 2017 at 16:39

Dear David

Many thanks for your response to our enquiry, with reference to flood risk issues a site specific flood risk assessment will be provided which we should be able to deal with the finished floor levels as the site is particularly large.

I have discussed with our clients that they will have to justify the application on financial and functional grounds.

Regards
Bob Merchant

G R Merchant Ltd
01406 490800

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64K



G R MERCHANT <grmerchant.arch.cons@gmail.com>

PP-00796-17

1 message

G R MERCHANT <gr.merchant@btconnect.com>

5 April 2018 at 11:13

To: "Grant, David" <dgrant@sholland.gov.uk>

Dear David,

Following on from our previous pre-application discussions in November 2017 about the possibility of erecting a house in relation to the adjacent business and under paragraph 55 of NPPF.

We have had several meetings, surveys and design ideas with our client and attached is a scheme for your consideration.

Within our statement we will give evidence on the history and current business needs for our client and his family including agreeing to enter into a Section 106 to tie the new dwelling to the business.

Our client has had discussions and applications passed by SHIDB with regards to straightening to the drain to the left hand side of the site. This will increase the water flow and help with maintenance. The new ground will be planted and landscaped with fauna and flora to attract insects and bees. This scheme will be submitted with the Planning Application.

The new dwelling will include:-

- SIP panels for maximum insulation and air tightness
- Triple glazing units
- Heat exchange units
- Ground source heat pump
- Rainwater harvesting system that will supply pressure washer/stem cleaning for plant machinery
- Solar panels on the rear large sheet (south facing) to run the house and any business premises
- Other low carbon & high performance materials & details are still being looked into

The dwelling will be built in facing bricks with slates on the main house with black wood cladding and reclaimed pantile roof on the single store garage. The windows and doors are to be grey by Residence R9 Collection with black rainwater goods.

We look forward to hearing from you before a formal Planning Application is submitted.

Regards
Sarah

G R Merchant Ltd
01406 490800

2 attachments **3213-17-02B (ANGLOPLANT).pdf**
723K **3213-17-03A (ANGLOPLANT).pdf**
694K



G R MERCHANT <grmerchant.arch.cons@gmail.com>

PP-00796-17

Grant, David <dgrant@sholland.gov.uk>
To: G R MERCHANT <gr.merchant@btconnect.com>

10 April 2018 at 12:01

Dear Sarah,

When assessing whether a dwelling is essential for rural workers is appropriate, the following criteria area normally used:

- 1 There is an established functional need;
- 2 The need relates to a full time worker;
- 3 The unit and agricultural activity have been established for at least 3 years, have been profitable for at least one of them, are currently financially sound and have a clear prospect of remaining so;
- 4 The functional need could not be met by another existing dwelling on the unit, or any other accommodation in the area;
- 5 Other planning requirements such as access and impact on the countryside.

If you believe your application can adequately demonstrate that the applicant complies with the above criteria then please feel free to submit an application.

Kind regards,

David Grant

Planning Officer

David Grant | Planning Officer | **South Holland District Council**

Direct Dial: 01775 764472

www.sholland.gov.uk

From: grmerchant.arch.cons@gmail.com [<mailto:grmerchant.arch.cons@gmail.com>] **On Behalf Of** G R MERCHANT
Sent: 05 April 2018 11:14
To: Grant, David
Subject: PP-00796-17

LETTER FROM CLEAR INSURANCE MANAGEMENT LTD – BUSINESS INSURANCE

INSURANCE. TILSONS FARM, BLACKBARN, GEDNEY MARSH. PE12 9NE.

Cavan Keogh <cavan.keogh@thecleargroup.com>

Tue 09/05/2017 11:53

To: angloplant@hotmail.co.uk <angloplant@hotmail.co.uk>;

Good Morning Mr. Parnell

Following our meeting last week at the above premises I have now had time to consider the various matters that arose.

The main concern of Insurers is the securities that are in force coupled with the very high value at risk.

We currently have a Sum Insured in excess of £1,100,000.

There is a history of thefts, attempted thefts and vandalism which obviously concerns you greatly as it does the Insurance Company.

We agree with you that you have gone as far as you can with physical securities but with the claims history and potential and remoteness of your premises this really leaves us with only one further option and that is to have someone on site either in the form of a person acting as a night watchman or ideally living on the premises.

I would be most grateful if you could give this matter serious consideration as we don't want to get to the point where you become uninsurable.

Kind regards

Cavan Keogh

Cavan Keogh ACII CIP

 **COMMERCIAL**

Direct 01775 716570
Tel 01775 716570
Fax 01775 716575

www.thecleargroup.com

Clear Insurance Management Ltd
Cover House
Wardentree Park, Pinchbeck
Spalding
PE11 3ZN



LETTER FROM SOUTH HOLLAND INTERNAL DRAINAGE BOARD



South Holland

Drainage Board

Marsh Reeves
Foxes Lowe Road
Holbeach
SPALDING
Lincs
PE12 7PA

t: +44(0)1406 421708
f: +44(0)1406 426501
e: andyl@wlma.org.uk
w: www.wlma.org.uk

Our Ref: ADP

Your Ref:

Dear Sirs

In my capacity as Operations Manager for South Holland Internal Drainage Board I support Mr Parnell's planning application.

Anglo Plant Ltd offer the Board a 24/7 emergency standby service, including machinery and labour to cover peak periods and breakdowns. Someone living on their premises would expediate the services the company provide and create an opportunity for SHIDB machinery to be securely parked there overnight and weekends when working in the area.

Yours Sincerely

A D Price
Operations Manager
South Holland IDB



Mr D R Worth (Chairman) Mr S A R Markillie (Vice-Chairman)

Mr P J Camamile (Chief Executive)

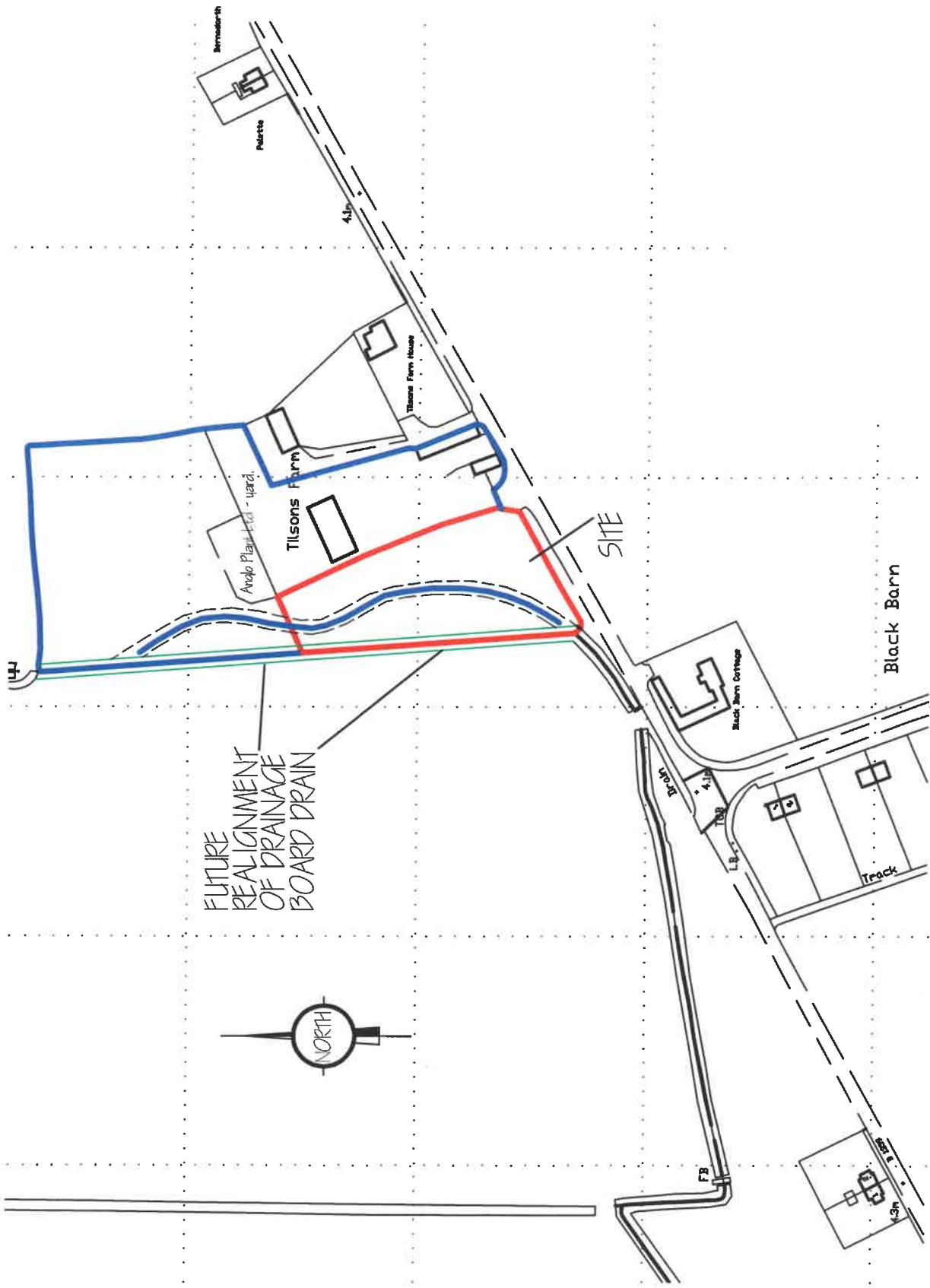


Cert No. GB11990

Mr K L J Vines (District Engineer) Mr A D Price (Operations Manager)

Cert No. GB11991

**FUTURE RE-ALIGNMENT OF THE DRAINAGE BOARD CONTROLLED
WATERCOURSE**



LOCATION PLAN,
1/ 2500.

SITE SPECIFIC FLOOD RISK ASSESSMENT – GEOFF BEEL CONSULTANCY

**FLOOD RISK ASSESSMENT
FOR PROPOSED
RESIDENTIAL DEVELOPMENT AT
TILSONS FARM, MAIN ROAD, GEDNEY MARSH,
SPALDING, LINCS.**

FINAL REPORT

GEOFF BEEL CONSULTANCY

FEBRUARY 2018

GCB/MERCHANT

DISCLAIMER

This document has been prepared solely as a Flood Risk Assessment in support of a planning application for proposed Residential Development at Tilsons Farm, Main Road, Gedney Marsh, Spalding, Lincolnshire. "Geoff Beel Consultancy" accepts no responsibility or liability whatsoever for any use made of this document other than by the client "Mr & Mrs M Parnell" for the purposes it was originally commissioned and prepared. All comments and opinions made are based upon information available to "Geoff Beel Consultancy" 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. "Geoff Beel Consultancy" therefore, accepts no liability should this prove to be the case.

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G R Merchant drg. no. 3213-17.03
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G R Merchant drg. no. 3213-17.02
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G R Merchant drg.
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Risk Assessment Residual Flood Depths - District 2016
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Risk Assessment Residual Flood Depths – District 2116
- Fig 7 - South Holland Internal Drainage Board district plan

1.0 INTRODUCTION

- 1.1 A full planning application is to be submitted by G R Merchant Ltd on behalf of Mr & Mrs M Parnell for proposed residential development at Tilsons Farm, Main Road, Gedney Marsh, Spalding, Lincs.
- 1.2 A Flood Risk Assessment is required to accompany the planning application and meet the requirements and general principles contained in the Planning Practice Guidance to the National Planning Policy Framework (NPPF) and for approval by the Environment Agency.

The site, as situated, is located within Flood Zone 3, of the Environment Agency's Flood Zone Maps. The latest Agency Flood Maps have been created as a tool to raise awareness of flood risk with the public and our partner organisations, such as Local Authorities, Emergency Services and Drainage Authorities. The Maps do not take into account any flood defences.

The site is also shown in Flood Zone 3 and within a Hazard Zone of the South Holland District Council's Updated Strategic Flood Risk Assessment Maps (2016).

The site is also located in the South Holland IDB drainage district.

- 1.3 Geoff Beel Consultancy was appointed on 8th February 2018 to undertake a Flood Risk Assessment.

2.0 LOCATION

- 2.1 The development site is located at Tilsons Farm, Main Road, Gedney Marsh. The National Grid Reference of the central point of the development is TF 43272840.
- 2.2 The position and extent of the site is shown on Fig 1 – First Floor Plan, Site & Location Plans at the end of the document.
- 2.3 The site, located within the South Holland Internal Drainage Board district is shown within Flood Zone 3 as detailed on both the Environment Agency Flood Map for Planning and the Council's Updated Strategic Flood Risk Assessment Maps (2016) as defended by the Agency's tidal defences and the Internal Drainage Board system but liable to flooding as a result of a breach to the existing tidal defences.

3.0 THE SITE AND SEQUENTIAL TEST

- 3.1 The site is currently open land at Tilsons Farm.
- 3.2 The area of development is approximately 0.115 hectare.
- 3.3 The proposed site layout consists the construction of a two-storey dwelling and detached garage. Existing land level varies between 3.50m and 4.19m aOD. Main Road carriageway level is at 4.10m aOD.

- 3.4 The Sequential Test and Exception Test will require to be applied by the Local Planning Authority but the development may be permitted as the site is protected against both the 1 in 200 year return period tidal event and the 1 in 100 year return period fluvial event of the Council's Updated Strategic Flood Risk Assessment Maps (2016).

Flood mitigation measures have been incorporated in the design and construction to ensure the proposals pass Part 2 of the Exception Test with an adequate water exclusion strategy for the design flood and breach event.

There is no other land in Gedney Marsh at a lower risk of flooding and the Sequential Test is met.

4.0 EXISTING FLOOD ALLEVIATION MEASURES

- 4.1 The site is within a defended floodplain, as defined in Appendix 1 of the Environment Agency's 'Policy for the Protection of Floodplains' and is considered to be passive until such time as a flood greater than that for which the defences were designed occurs. The likelihood of flooding due to overtopping or failure of a flood defence embankment is considered to be small.

The development site within the South Holland Internal Drainage Board is protected by the Wash tidal defences to the Holbeach Marsh frontage with embankment levels of a minimum of 7.00m aOD.

- 4.2 The site and the surrounding land drains by gravity to a Board main drain immediately west of the site and hence to the Dawsmere Pumping Station.
- 4.3 The existing standard of drainage for the South Holland Internal Drainage Board is 1 in 50 years return period, compatible with the Department of the Environment, Food and Rural Affairs target level of service for rural drainage and flood defence works. Freeboard of 900mm is provided to the lowest land levels.
- 4.4 Current maintenance standards within the South Holland Internal Drainage Board and of the Environment Agency defences are generally very good.

During the operation and maintenance of its pumping stations, associated structures and channel systems, particularly those that could affect property, the Board 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. However, bank slips, blocked culverts etc may occur from time to time and these matters are usually dealt with promptly.

5.0 POTENTIAL SOURCES OF FLOODING

5.1 Three potential sources of flooding have been identified as a result of this assessment:

- a) local blockages to IDB main drain system.
- b) storm return period of 1 in 50 years being exceeded
- c) overtopping and breaching of defences of the Wash tidal defences

5.2 The probability of flooding from source a) is low due to the maintenance standards already achieved and managed by the IDB.

The probability of flooding from b) is also low due to the South Holland IDB main drain design standard incorporating a minimum 900mm freeboard to the lowest land level which provides adequate storage in events greater than 1 in 50 years.

Previous historic rainfall events of 1968 and 1978, estimated to be greater than 1 in 100 year events, caused no flooding to any residential properties at the time and the Boards policy is to provide a standard of drainage which satisfies NPPF requirements of a 1 in 100 year return period for fluvial protection inclusive of the effects of climate change and developments to the arterial system enables a flexible approach to be adopted and meet the criteria for “sustainable urban drainage”.

5.3 The flood embankments to the Wash tidal defences provide a 1 in 200 year return period level of protection.

The 1 in 200 year tidal event to the Holbeach Marsh frontage inclusive of climate change to 2115 is estimated to be 7.20m aOD as against existing embankment levels of a minimum of 7.00m aOD.

There is a low risk during such an event for wave and wind action to cause overtopping and/or breaching of the first line defences. However, the site is further protected by second line defences with embankment levels of 6.00m aOD. Any overtopping could reach the development site which is again further protected by land levels at 3.50m aOD which are well above surrounding land levels.

5.4 The South Holland Updated Strategic Flood Risk Assessment shows depths of flooding between 0.50-1.00m as a result of a breach to the tidal defences.

The Environment Agency requires the following mitigation measures:

- For areas where flood depths are 0.50-1.00m

Finished floor level (FFL) should be set a minimum of 1.00m above existing ground level with flood resilient construction incorporated to a weight of 300m above the FFL. Finished floor level will therefore be raised to 4.50m aOD.

- 5.5 The Environment Agency has recently published The Wash Shoreline Management Plan 2 from Gibraltar Point to Old Hunstanton. The summary of the plan between Gibraltar Point and Wolferton Creek is as follows:-

The intent of management for this Policy Development Zone (PDZ) is to sustain flood defence for the communities and their hinterland on the low-lying areas around The Wash. This includes an increase of management as needed to sustain the current level of flood risk in the face of climate change.

- 5.6 Surface water drainage from the development site will be to soakaways designed to BRE365 requirements and Building Regulations approval.

6.0 EXTENT OF KNOWN FLOODING

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

7.0 PROBABILITIES AND TRENDS OF FLOODING

- 7.1 The probability of this development flooding from localised drainage systems is very low.
- 7.2 The probability of the site flooding with water from any South Holland IDB main drain is less than 1% because of the standards of the existing flood defence systems, storage within existing drainage channels and the location of the site.
- 7.3 The probability of the site flooding with tidal waters from any main river system is less than 1% because of the standards of the existing flood defences and the location of the site.
- 7.4 If under very extreme events, levels of floodwater from the South Holland IDB main drains or arterial systems rose to such an extent that the site was affected, the situation would not be sudden. It is very probable that sufficient time would be available to take precautionary actions to limit the extent and potential impact of flooding.
- 7.5 The water levels in the drainage channels will tend to rise as a result of the impacts of climate change. However the existing systems and defences together with the proposed floor level at a minimum of 4.50m and 1.00m above ground level will be appropriate for the design life of the development (i.e. 100 years). Safe refuge is available with all sleeping accommodation at first floor level.

8.0 IMPACTS OF FLOODING

- 8.1 No significant impacts of flooding are anticipated.
- 8.2 Floor level of the development will be at a minimum of 4.50m aOD and 1.00m above ground levels which together with the proposed soakaway drainage system will offer additional protection against impacts arising from any extreme short duration, localised events.
- 8.3 The general location of the site within the catchment is such that if flooding occurred from any of the South Holland IDB main drain systems, then probably 2 to 3 days warning time would be available.
- 8.4 No displacement of water from the site will affect any adjoining properties as existing soakaway drainage system will be utilised.
- 8.5 Safe and dry access/egress is available to and from the site onto Main Road in a southerly direction to Holbeach town centre with carriageway level at 4.10m aOD.
- 8.6 The developer should ensure that the eventual occupiers of the property 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. Indirect warnings are provided to all flood risk areas, even those at low risk of flooding. The main method is media broadcasts via local radio and also by television.

In addition to direct and indirect flood warnings, the Environment Agency operates a 24 hour a day Floodline Service providing advice and information on flooding, contact tel no: 0345 988 1188 and the occupiers of the new dwelling should register with the Floodline Direct Warnings Service to receive future flood warnings.

9.0 RESIDUAL RISK – EXTREME EVENTS

- 9.1 The residual risk from extreme events is very low on this site, because of its location, within the South Holland IDB area and its location 4.25kms from The Wash tidal defences with secondary defences between the marsh frontage and the site.
- 9.2 The site is within Flood Zone 3 according to NPPF classification with a very low risk of flooding due to the current standards of drainage and flood defence and land levels. The site is not located within a Functional Flood Plain of any 'main river' or 'main drain'. The Environment Agency Flood Map for Planning has been produced irrespective of existing flood defences and standards of protection.

- 9.3 South Holland District Council in conjunction with the Environment Agency and the local IDB's within the Council area have carried out an Updated Strategic Flood Risk Assessment (2016) of the whole District by appointed Consulting Engineers.

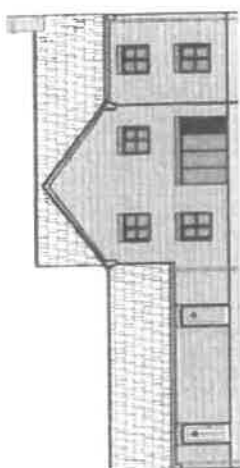
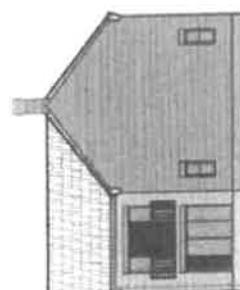
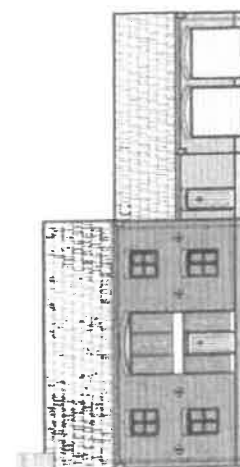
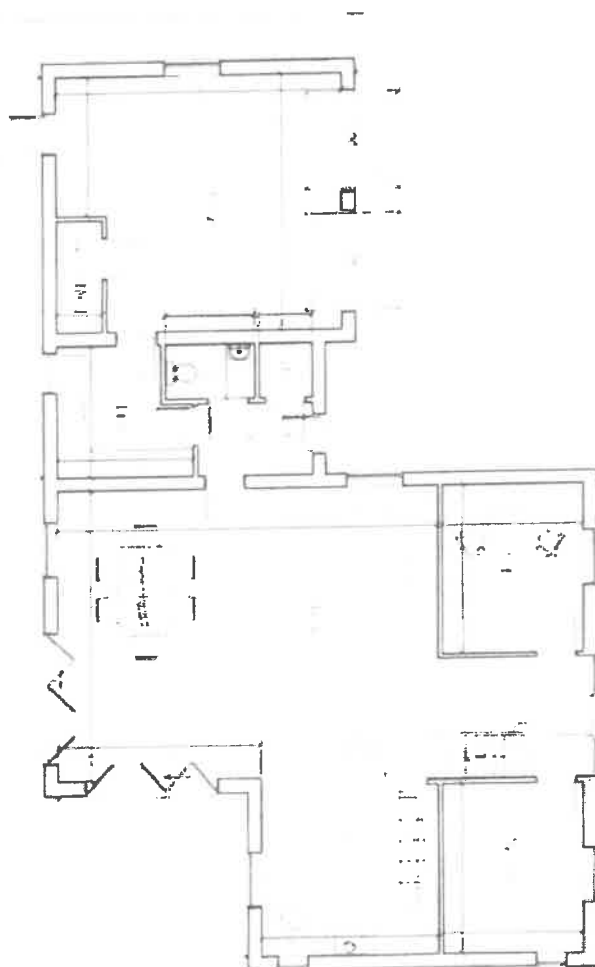
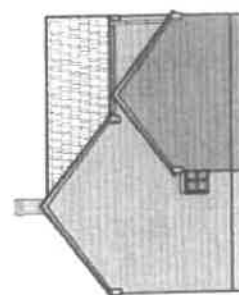
The Updated Strategic Flood Risk Assessment (2016) has produced more definitive Flood Risk Maps similar to those published by the Environment Agency and at the same time has analysed flood return periods of all tidal and fluvial defences to account for the effects of climate change.

Breach scenarios of embankments failing and/or being overtopped have also been carried out to establish Flood Risk Zones. As a result of the Strategic Flood Risk Assessment (2016) the site is within a Hazard Zone and defended by tidal defences and tidal doors but liable to flooding as a result of a breach to the existing tidal defences.

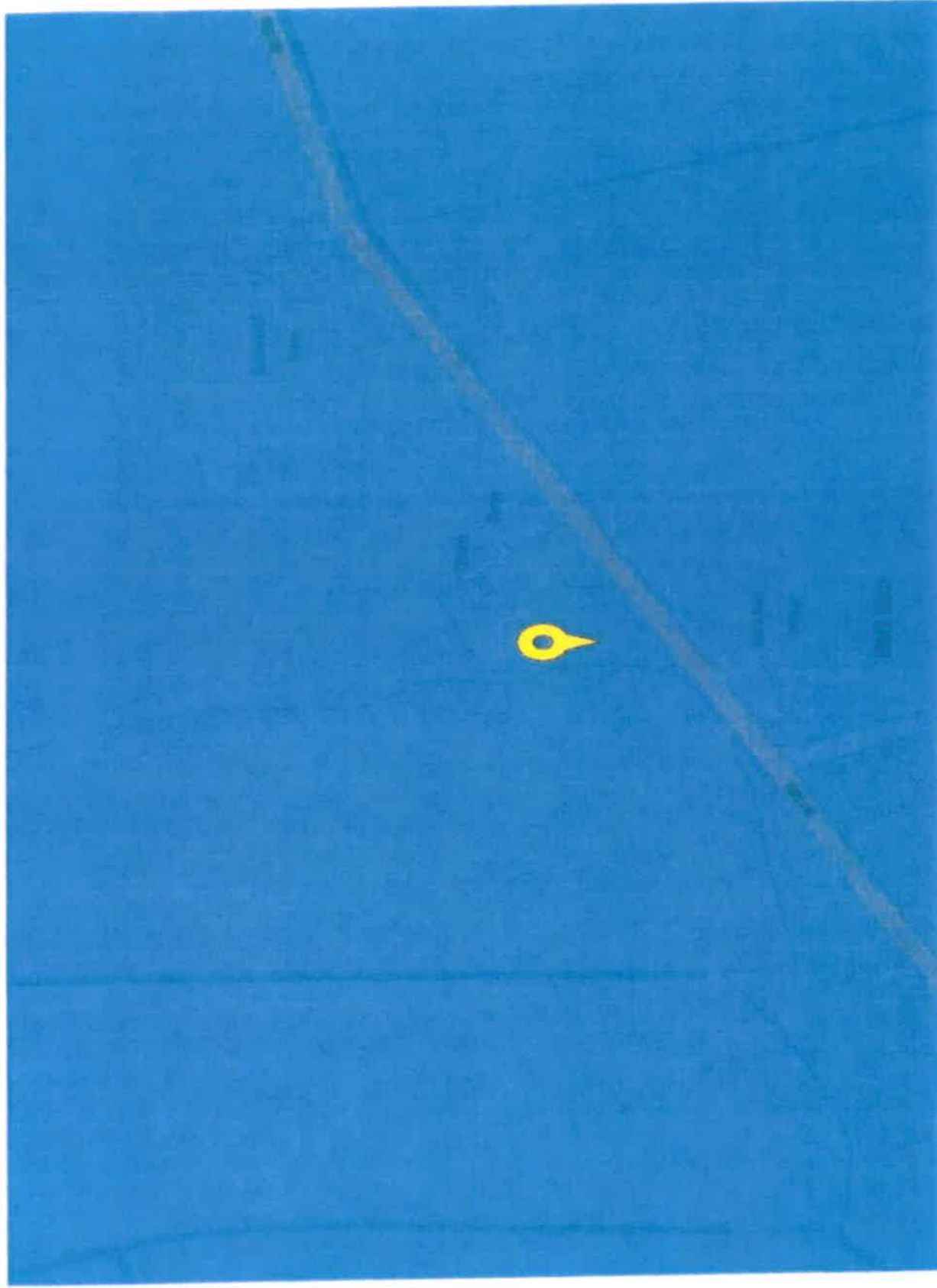
10.0 CONCLUSIONS AND RECOMMENDATIONS

- 10.1 As a result of the assessment, the following conclusions have been reached:-

- The proposed development is in a Defended Floodplain. It is located in the Passive Floodplain protected by the Wash tidal defences to a 1 in 200 year return period, (1.0%)
- The site is in Flood Zone 3 with the actual risk of flooding from any Environment Agency river system being very low (less than 0.5%).
- Although the site is located within an Internal Drainage District with a minimum standard of drainage of 1 in 50 years, this accords with Defra guidelines for rural development. Freeboard to design water level of 900mm to lowest land level is available for events greater than 1 in 50 years providing further storage within the drainage channels.
- On site rainwater from the development will be discharged via soakaway drainage to BRE365 design requirements.
- Floor levels of the development will be 1.00m above ground level at a minimum of 4.50m aOD with a further 300mm of flood resilient construction above finished floor level and all sleeping accommodation at first floor level.
- Any development within 9.00m of the adjoining IDB main drain will require Land Drainage Byelaw Consent from the South Holland IDB.

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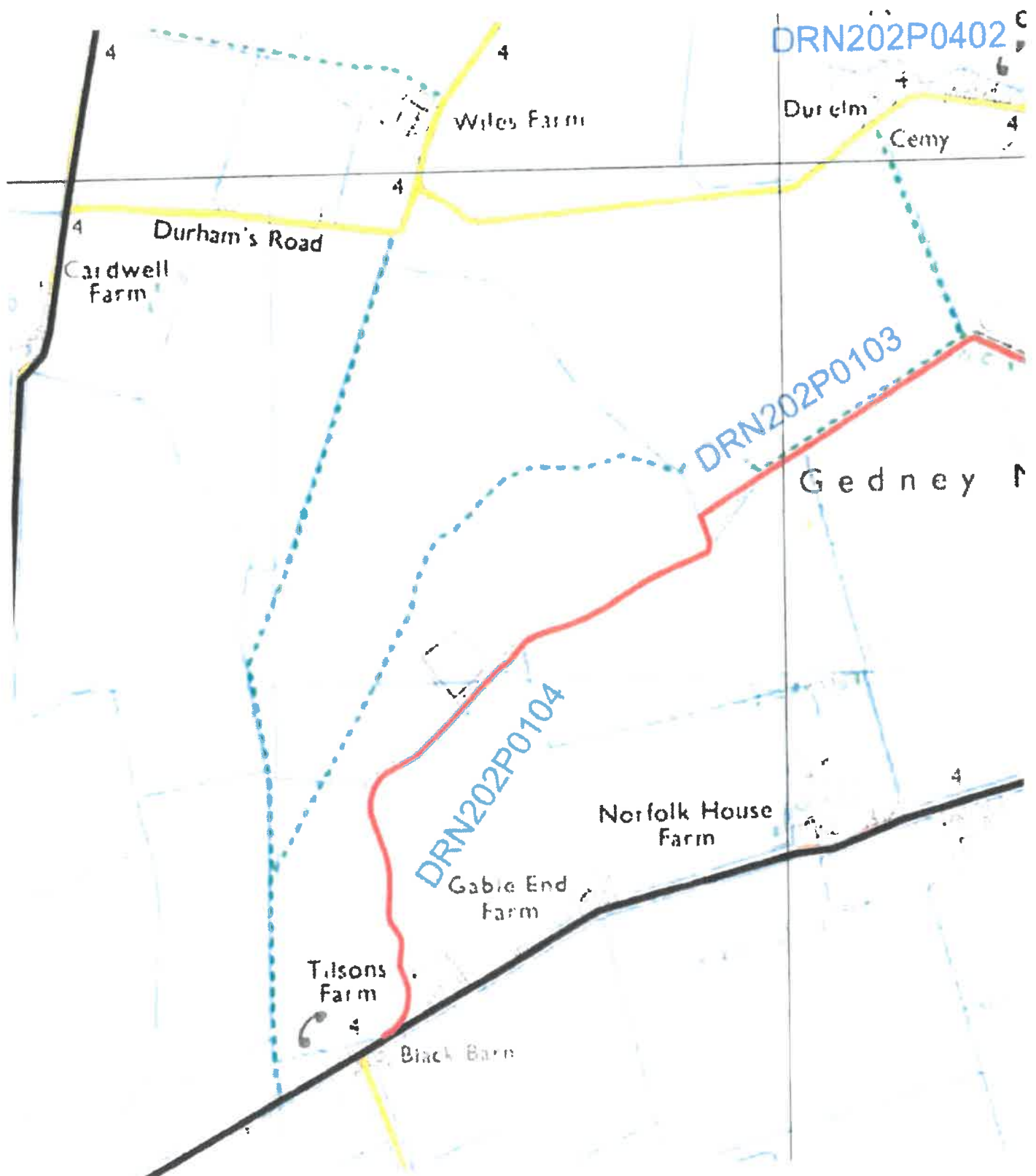


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GENERIC FLOOD RESILIENT CONSTRUCTION METHODS

FLOOD RESILIENT CONSTRUCTION

The following measures are to be taken in an attempt to satisfy this condition as suggested in the Communities and Local Government document "Improving the Flood Performance of New Buildings" – May 2007.

- Any flood waters to be diverted around the building, where possible, to where the gardens are lower.
- Ground floors to be constructed with ground bearing type concrete slab (at least 100mm thick) on well consolidated hard-core, the DPM is to be sealed with the DPC, the insulation is to be Celotex, or similar approved, closed cell type and be positioned over the ground floor bearing slab with sand and cement render topping.
- All sub-structure walling to be constructed from red engineering bricks, up to DPC level, the remainder of the external facing bricks up to 300mm above DPC to be either red engineering or pressed, not handmade bricks. The cavity insulation up to 300mm above DPC is to be partial fill Celotex, or similar closed cell type insulation secured to the internal wall.
- Avoid the use of plasterboard and gypsum plaster to lower part of internal walls and use water resistant lime and cement render or painted blockwork.
- All external doors to be of a good quality not susceptible to moisture and have good seals for water tightness.
- Treated and sealed timber or UPVC skirting's and architraves.
- Ensure all kitchen areas, particularly behind units, to be sealed to prevent passage of water.
- Arrange for all service circuits to be routed at a first floor level if practical and sockets, boilers and cookers to be a minimum 300mm above floor level.
- Occupants of the property to register with the Environment Agency automated early warning system of potential flood events.