

**FLOOD RISK ASSESSMENT
FOR RESIDENTIAL DEVELOPMENT AT
PRIMROSE FARM (PLOT 1), MAISDIKE LANE, FLEET**

FINAL REPORT

ECL1347-3/GR MERCHANT LTD

DATE APRIL 2026

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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 Test 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
- 4.6 Residual Risks

5.0 FLOOD RISK MITIGATION

- 5.1 Summary of Risks
- 5.2 Mitigation Measures

6.0 CONCLUSIONS

- ATTACHMENT 1 – Floor Plans & Elevations – Proposed
(Dwg 4298-24 05)
- Site Plan and Location Plan
(Dwg 4298-24 07)

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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 GR Merchant Ltd in respect of a development that consists of one dwelling at Primrose Farm, Maisdike Lane, Fleet.

Prior Notification (H05-0991-24) to convert an agricultural building to form a dwelling was approved in January 2025. The proposed development will supersede the approval granted. A planning application for the proposed development is to be submitted by GR Merchant Ltd.

The mitigation measures proposed within this Flood Risk Assessment are consistent with those recommended within the Flood Risk Assessment prepared to support the previous application.

2.0 SITE LOCATION AND DESCRIPTION

2.1 Site Location

The site is located at Plot 1, Primrose Farm, Maisdike Lane, Fleet, Lincolnshire, PE12 8NH. The National Grid Reference of the site is 53868/32195.

The location of the site is shown in Figure 1.

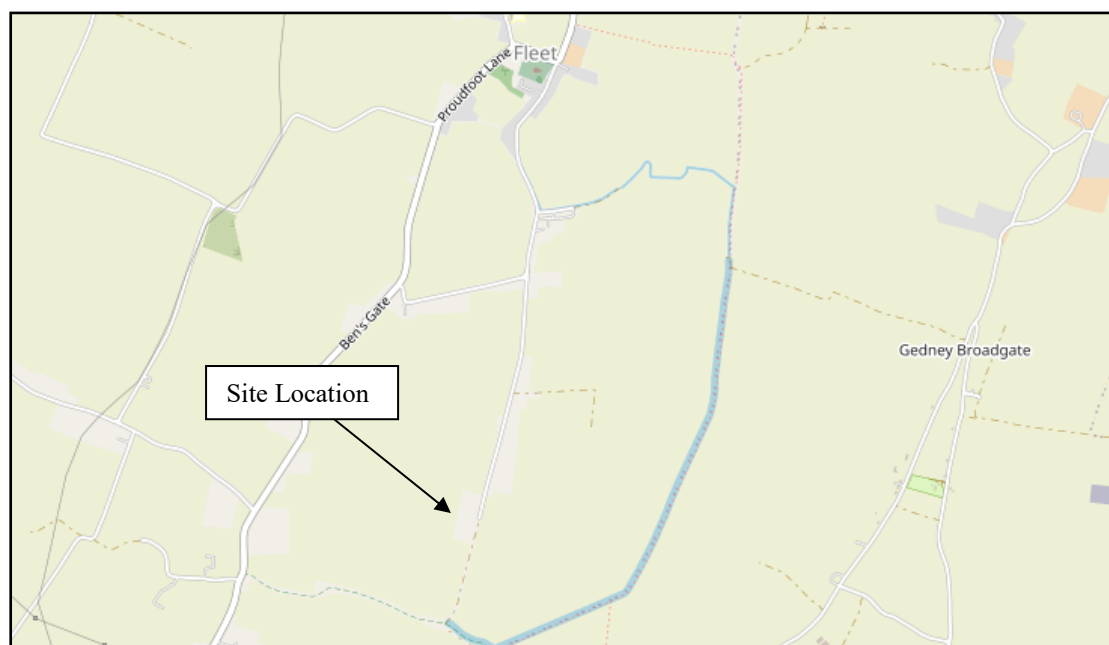


Figure 1 – Location Plan (© OpenStreetMap contributors)

2.2 Existing Site

The site is on the western side of Maisdike Lane. The site is an agricultural building within an agricultural holding consisting of a series of agricultural buildings. The site is surrounded by agricultural land apart from a dwelling to the north of the site.

Environment Agency LiDAR shows that the site is flat with ground levels surrounding the building typically between +2.8m OD and +3.1m OD. The agricultural land surrounding the site is typically +2.2m OD to +2.5m OD. Maisdike Lane carriageway adjacent to the site is at a level of +2.9m OD.

The site is in the South Holland Internal Drainage Board (IDB) District. Surface water at the site would naturally drain through soakaway and hence to the IDB drain system. There is an IDB Ordinary Watercourse located on the northern side of the agricultural holding.

The online British Geological Survey maps indicate that the site is likely to be underlain by Amptill 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 one dwelling. The dwelling will have two storeys. Details of the proposed development are provided in Attachment 1.

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.

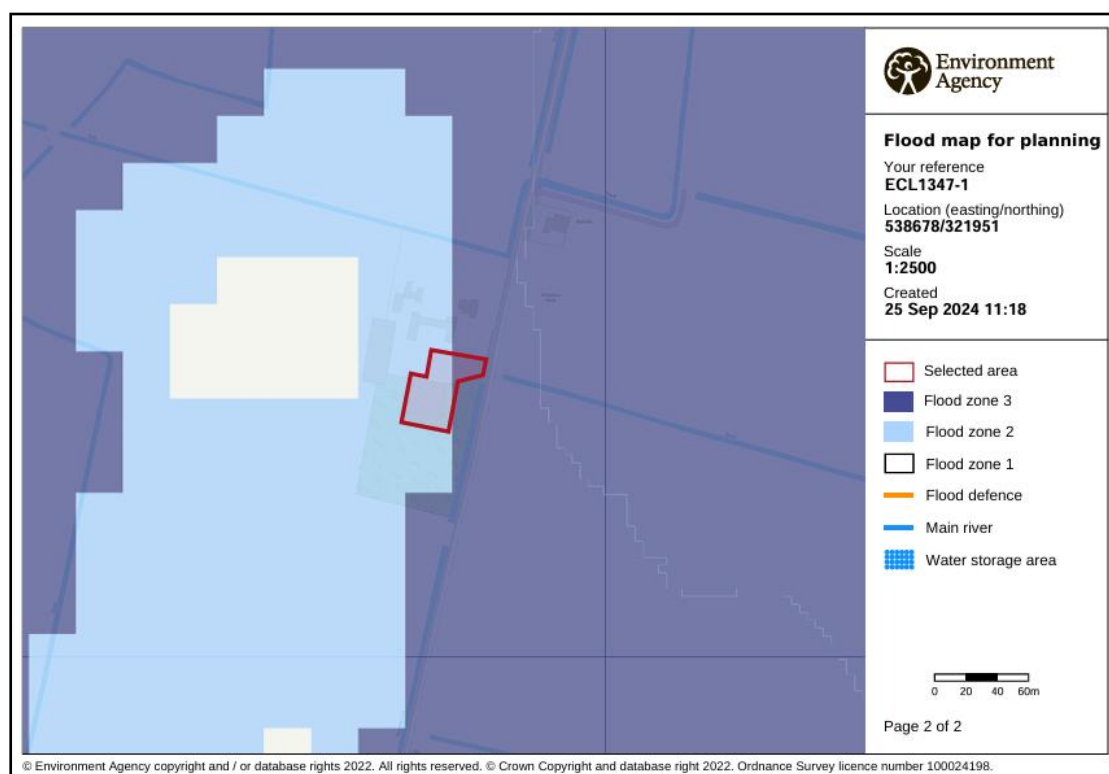


Figure 2 – Environment Agency Flood Map for Planning

The Environment Agency Long Term Flood Risk maps provide an indication of the risk from the primary sources of flooding. The details provided with these maps are summarised in Table 1. The depth of flooding identified is the maximum depth that occurs during a low chance (between 0.1% and 1% chance each year) event.

	Present Day		2050 Epoch	
	Chance of Flooding	Depth (Low chance)	Chance of Flooding	Depth (Low chance)
Rivers and the Sea	The site has a low chance (between 0.1% and 1% chance each year)	No data available	No data available	No data available
Surface Water	The site is outside of the area with a low chance (between 0.1% and 1% chance each year)	Not at risk	The site is outside of the area with a low chance (between 0.1% and 1% chance each year)	Not at risk
Reservoir	Outside of the area at risk.			

Table 1 – Environment Agency Long Term Flood Risk Maps

Table 2 shows the level of risk at the site within the South East Lincolnshire SFRA.

SFRA Map	Present Day	2116
Residual Flood Hazard Map for the 1% fluvial and 0.5% tidal event	The site is outside the 'Low Hazard' area	The site is outside the 'Low Hazard' area
Residual Peak Depth Map for the 1% fluvial and 0.5% tidal	The site is outside the area at risk	The site is outside the area at risk

Table 2 – Flood Risk within SFRA Maps

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 buildings used for dwellings 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 within 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 Test and Exception Test

It is for the Local Planning Authority, using the evidence provided and taking advice from the Environment Agency as appropriate, to consider whether an application passes the Sequential Test.

The site has permission for the conversion of the agricultural building to form a dwelling. It is considered that the permission for the change of use of the building has established the principle for a dwelling at the site. It is proposed that the dwelling that forms this application will replace the existing permission.

As the proposed development can be considered to be the same as replacement dwellings it is not necessary to apply 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 has a target of a net increase of at least 11,681 dwellings in South Holland over the 25-year local plan period. The Plan considers this new housing is required to ensure the sustainability of the Local Plan area. The proposed development will contribute to this target.

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 South Holland IDB district is protected by the Wash tidal defences along the Holbeach Marsh frontage with embankment levels at a minimum of +7.0m OD. The Wash tidal defences are 11.5km from the site. The River Nene tidal defences are 9.0km to the east of the site. The River Welland tidal defences are 12.8km to the north west of the site. All three 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 periodically.

There is an extensive local drainage network managed by South Holland IDB. There is an IDB Ordinary Watercourse on the northern side of the agricultural holding. The site and the surrounding land are within the Free Discharge catchment and drain to the South Holland Main Drain and discharge to the tidal River Nene at the Sutton Bridge Outfall Sluice.

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

A summary of the sources of flooding is provided in Table 3.

Source of Flooding	Level of Risk
Drainage Network Flooding	The risk is assessed in Section 4.3.
Surface Water Flooding	Based upon the EA maps the risk is very low.
Fluvial Flooding	The risk is assessed in Section 4.3 and 4.5.
Tidal Flooding	The risk is assessed in Section 4.3 and 4.5.
Reservoir Flooding	Based upon the EA maps the site is not at risk of flooding from reservoirs.
Groundwater Flooding	There is no evidence to suggest the site is at risk of groundwater flooding.

Table 3 – Sources of Flooding

4.3 Probability of Flooding

The probability of flooding associated with blockages in the South Holland IDB drainage system is low due to the maintenance standards achieved and managed by the IDB. Failure of Sutton Bridge Outfall Sluice would lead to an increased level of risk in the catchment.

Through the operation and maintenance of the pumping stations and the channel system the Board seek to maintain a general standard capable to providing flood protection to agricultural land and developed areas of 1 in 20 years and 1 in 100 years, respectively. The risk associated with flood events that exceed the standard of protection provided is lowered due to the South Holland IDB main drains incorporating freeboard. This freeboard provides storage during the exceedance events.

The site is within an area benefitting from defences. The flood embankments to the Wash and the River Nene and River Welland tidal defences provide protection during a 0.5% annual probability (1 in 200 chance each year) tidal event. The flood risk from the Wash is lowered further by second line defences and various informal banks constructed during the reclamation of Holbeach Marsh.

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 flood levels in the River Nene.

The tidal flood level during the 0.5% annual probability (1 in 200 chance each year) event inclusive of climate change to 2115 is estimated to be 7.2m AOD. The minimum defence level of the Wash, River Nene, and River Welland embankments is 7.0m AOD. There is a low risk during such an event for wave and wind action to cause overtopping and/or breaching of the tidal defences. However, the second line defences with embankment levels of 6.0m AOD would further reduce the probability of flood water reaching the development site.

In summary the existing systems and defences are appropriate for the design life of the development (i.e., 100 years).

4.6 Residual Risk

There is a residual risk of flooding in the vicinity of the site should a breach of the tidal defences occur. The South East Lincolnshire SFRA includes maps demonstrating the residual peak depth in 2116. An extract from this map is shown in Figure 3 below.

When climate change allowances are applied to the 1% annual probability (1 in 100 chance each year) fluvial event and 0.5% annual probability (1 in 100 chance each year) tidal event the site is not at risk during a breach.

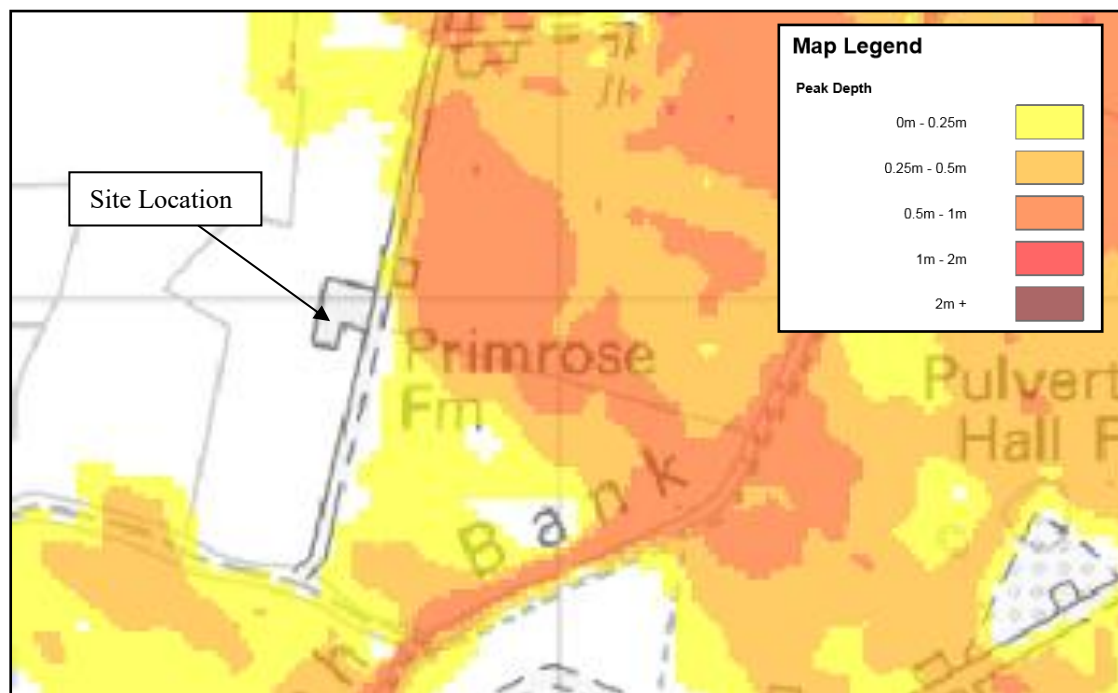


Figure 3 – SFRA 2116 Residual Peak Depth Map

The proposed development is a single storey dwelling and therefore the finished floor level needs to consider the 0.1% annual probability (1 in 1000 chance each year) event in 2115. The South East Lincolnshire SFRA includes 0.1% annual probability (1 in 1000 chance each year) maps for specific locations, but these do not cover the site.

Through a comparison of the flood depths in the areas covered by the maps during the 0.5% and 0.1% annual probability events for 2115 it can be estimated that flood depths are 0.1m higher for the more extreme event. Considering the site is 0.7m above the lowest areas of agricultural land it is not anticipated that the site is at risk during the more extreme event.

5.0 FLOOD RISK MITIGATION

5.1 Summary of Risks

The probability of this development flooding from localised drainage systems is low. Failure of Sutton Bridge Outfall Sluice could lead to an increased level of risk at the site.

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. Over time there will be a gradual increase in risk to the site due to climate change. During the design life of the development, it is not anticipated that the site would flood.

The SFRA considers the residual risk associated with overtopping and a breach in the defences in 2116. The maps show that the site is not at risk.

There will be no increase in impermeable area associated with the development so there is no potential that flood risk will be increased elsewhere.

5.2 Mitigation Measures

The site has a low 'actual risk' of flooding. Based upon the information available during the preparation of this flood risk assessment it is recommended that the floor level of the dwelling is 0.3m above surrounding ground level and there is 0.3m of flood resilient construction above finished floor level.

The developer should ensure that the occupier of the dwelling is sufficiently aware of the risk of flooding, and the standard of the existing defences. The Environment Agency operates a flood warning system for properties at risk of flooding to enable householders to protect life or take actions to manage the effect of flooding on property. Floodline Warnings Service is a national system run by the Environment Agency for broadcasting flooding warnings. The occupier of the dwelling should register to receive flood warnings.

Should there be a failure of Sutton Bridge Outfall Sluice 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 using temporary pumping equipment.

It is recommended that surface water run-off is managed so that stormwater from the site will not affect any adjoining properties or increase the flood risk elsewhere.

6.0 CONCLUSIONS

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

- The proposed development consists of one 2 storey dwelling at Plot 1, Primrose Farm, Maisdike Lane, Spalding.
- The site is located within an Internal Drainage Board catchment and through the operation and maintenance of the pumping stations and the channel system the Board seek to maintain a general standard capable to providing flood protection to agricultural land and developed areas of 1 in 20 and 1 in 100 years, respectively.
- The proposed development is in Flood Zone 3. The site benefits from defences that provide protection during the 1% annual probability (1 in 100 chance each year) fluvial event and 0.5% annual probability (1 in 200) tidal event including climate change.
- It is recommended that the floor level of the dwelling is 0.3m above the surrounding ground level and there is 0.3m of flood resilient construction above finished floor level.
- The development passes the Sequential Test and Exception Test and is therefore suitable for the proposed location.

ATTACHMENT 1

**FLOOR PLANS & ELEVATIONS – PROPOSED
(DWG 4298-24 05)**

**SITE PLAN AND LOCATION PLAN
(DWG 4298-24 07)**



ref:	revision	date
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G. R. MERCHANT LTD.

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Project

BETTERMENT DEVELOPMENT
'PRIMROSE FARM', MAISE DYKE LANE
FLEET
LINCS. PE12 8NH

Client
GROOM BROS. LTD

Drawing

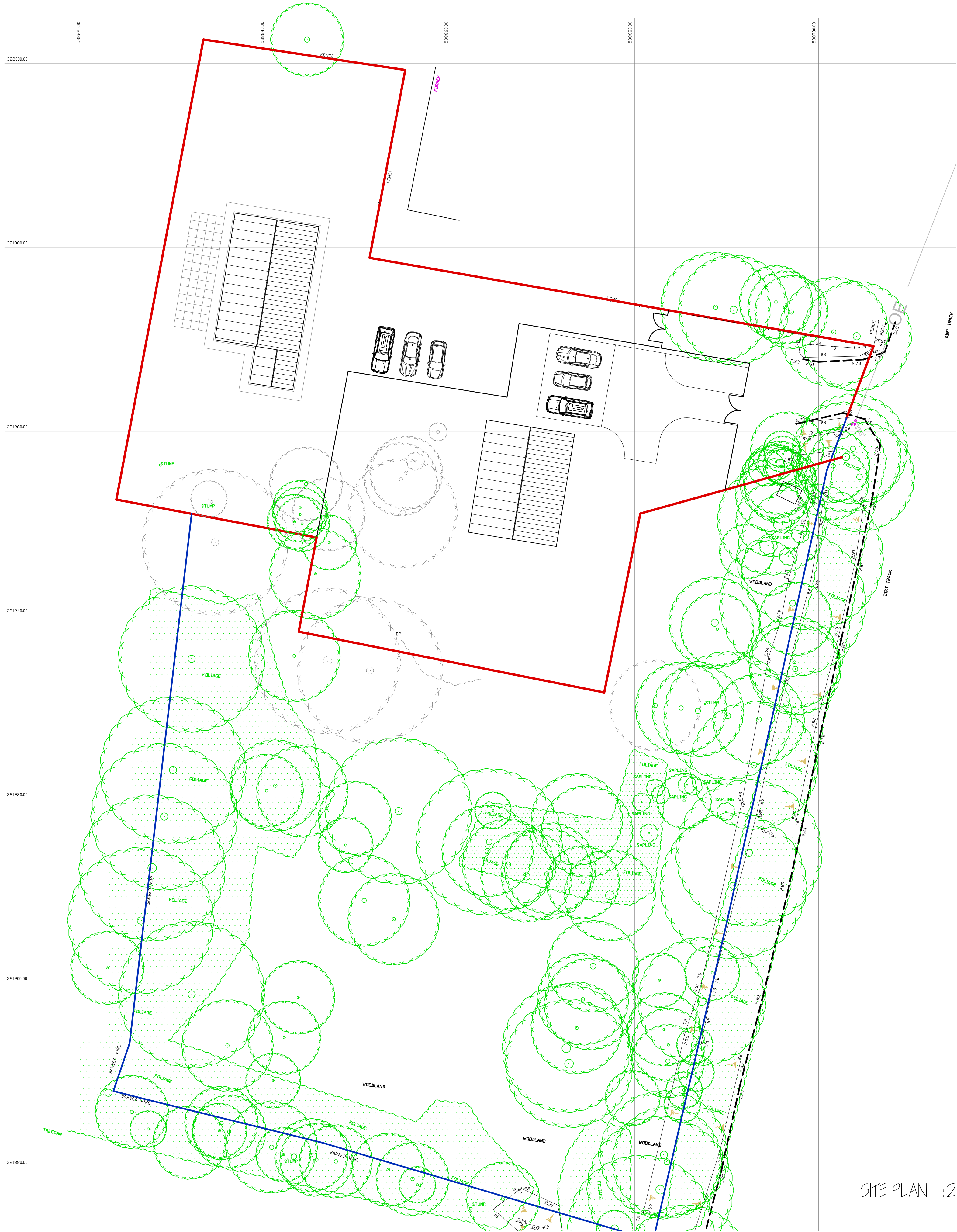
PLOT ONE BETTERMENT
FLOOR PLANS - PROPOSED
ELEVATIONS - PROPOSED

Job Ref. 4298-24	Drawing No. 05
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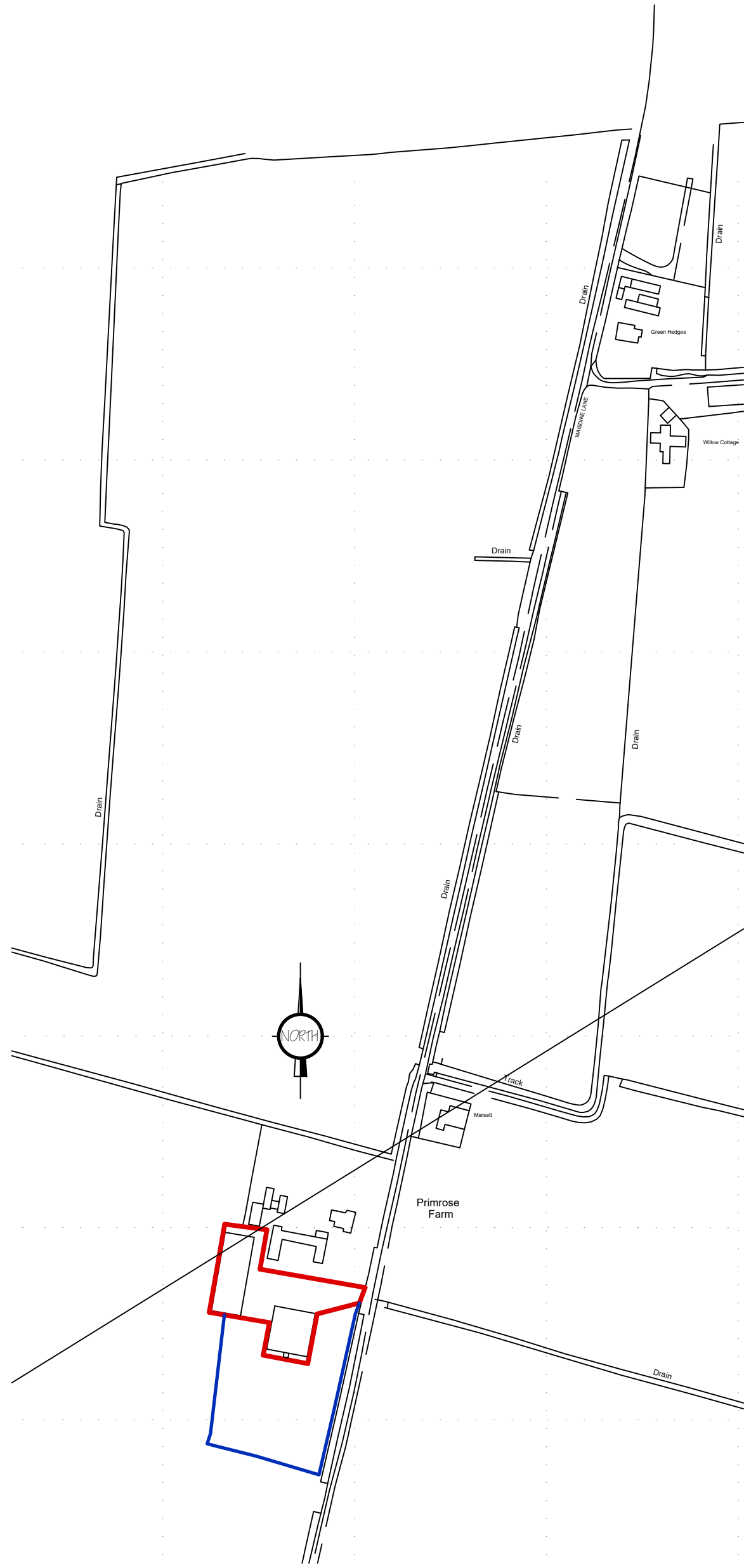
Date	Drawn
JANUARY 2026	SLB

Scales
1:100 & 1:200 (Unless Otherwise Stated)

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SITE PLAN 1:250



LOCATION PLAN 1:2500

ref.		revision	date
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Project BETTERMENT DEVELOPMENT 'PRIMROSE FARM', MAISE DYKE LANE FLEET Lincs. PE12 8NH			
Client GROOM BROS. LTD			
Drawing SITE PLAN LOCATION PLAN			
Job Ref.	Drawing No.		
429B-24	07		
Date	Drawn		
JANUARY 2026	S.L.B		
Scales 1:100 & 1:200 (Unless Otherwise Stated)			
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