FLOOD RISK ASSESSMENT
FOR RESIDENTIAL DEVELOPMENT AT
12 NEW ROAD, SPALDING

FINAL REPORT

ECL1431/GR MERCHANT LTD

DATE JANUARY 2025

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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 proposed conversion to a commercial unit and ten flats at 12 New Road, Spalding.

A planning application for the proposed development is to be submitted by GR Merchant Ltd.

2.0 SITE LOCATION AND DESCRIPTION

2.1 Site Location

The site is located at 'The Black Swan', 12 New Road, Spalding, Lincolnshire, PE11 1DQ. The National Grid Reference of the site is 52473/32282.

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 northern side of New Road. The proposed development is to a public house which comprises a bar and function room on the ground floor and a dwelling in the first floor. The site includes a car park to the north of the building that is accessible between 14 and 15 New Road. The area of development is approximately 0.11 hectares.

Environment Agency LiDAR shows that ground levels on New Road are typically +5.5m OD and in the car park to the rear are between +4.5m OD and +5.0m OD.

The site is in the Welland and Deepings Internal Drainage Board (IDB) District. The site and the surrounding land are within the Urban Spalding catchment and the nearest IDB watercourse, Cemetery Drain is 500m north east of the site.

The online British Geological Survey maps indicate that the site is likely to be underlain by Oxford 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 the change of use and conversion of a public house that includes a dwelling to form ten flats and a commercial unit. There will six ground floor flats and four first floor flats. 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 Available Flood Risk Information

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

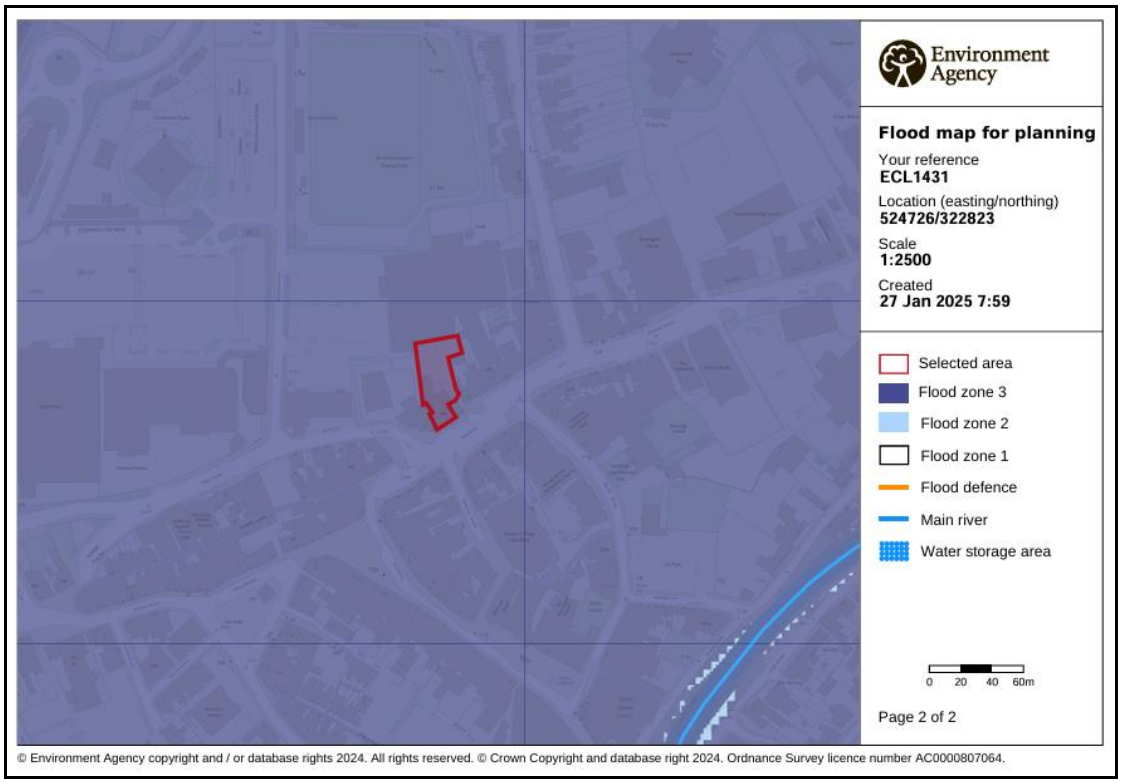


Figure 2 – Environment Agency Flood Map for Planning

The Environment Agency Long Term Flood Risk maps show that:

- the site has a medium risk of flooding (annual probability between 1% and 3.3%);
- the site has a very low risk of surface water flooding (annual probability less than 0.1%) and parts of New Road have a low risk (annual probability between 0.1% and 1%); and
- the site is not within an area at risk of reservoir flooding.

Table 1 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 of the 'Low Hazard' area	The site is outside of the 'Low Hazard' area
Residual Peak Depth Map for the 1% fluvial and 0.5% tidal event	The site is outside of the area at risk of flooding	The site is outside of the area at risk of flooding

Table 1 – 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 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 in Flood Zone 3 and the development is 'More Vulnerable' therefore it is necessary to complete the Exception Test.

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

3.3 Application of the Sequential and Exception Test

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.

Large parts of the South Holland district close to the River Welland lie within Flood Zone 3. As such, opportunities to undertake the development at an alternative site with a lower flood risk are limited. The Environment Agency Flood Maps for Planning show that the whole of Spalding is within Flood Zone 3. In this context it is noted that SE Lincolnshire Local Plan residential allocations are within flood risk areas due to the lack of availability of sites within areas of lower flood risk.

The River Welland has defences that provide protection during the 1% annual probability (1 in 100 chance each year) fluvial event including climate change. The site therefore has a low probability of flooding and is considered to pass the Sequential Test.

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

The Local Plan 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 site is 250m north west of the River Welland as it flows through Spalding. The site is 1100m north of the inlet to the Coronation Channel, a bypass channel of the River Welland. The embankments of the Coronation Channel were constructed in the 1950's to convey river flows around Spalding. The Coronation Channel together with the Crowland and Cowbit Washes offer flood reduction to Spalding and the surrounding district.

The River Welland tidal defences are downstream of the confluence of the Coronation Channel and River Welland, however, these defences provide benefit downstream of Spalding and not to the town. The Cowbit Washes, Coronation Channel and River Welland tidal defences are the responsibility of the Environment Agency.

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

There is an extensive local drainage network managed by Welland and Deepings IDB. The site and the surrounding land are within the Urban Spalding catchment and drain in a westerly direction to Pode Hole Pumping Station. Pode Hole Pumping Station discharges to Vernatts Drain which flows into the River Welland at Surfleet.

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 Welland and Deepings 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 2.

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.
Tidal Flooding	The site is not at risk of tidal flooding.
Reservoir Flooding	Based upon the EA Maps the site is not at risk of reservoir flooding.
Groundwater Flooding	There is no evidence to suggest the site is at risk of groundwater flooding.

Table 2 – Sources of Flooding

4.3 Probability of Flooding

The probability of flooding associated with blockages in the Welland and Deepings IDB drainage system is low due to the maintenance standards achieved and managed by the IDB. Failure of Pode Hall Pumping Station would lead to an increased level of risk in the IDB 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 Welland and Deepings IDB main drains incorporating freeboard. This freeboard provides storage during the exceedance events.

The Coronation Channel and the Cowbit Washes protect the site from the River Welland. These flood relief measures provide protection during the 1% annual probability (1 in 100 chance each year) fluvial event.

4.4 Historic Flooding

During the preparation of this assessment, no evidence was discovered of the site being flooded. Previous historic rainfall events of 1968 and 1978, estimated to be greater than 1% annual probability (1 in 100 chance each year), caused no flooding to any residential properties.

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.

The River Welland defences have been designed to include an allowance for climate change.

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 and around Spalding site should a breach occur in the defences. The South East Lincolnshire SFRA includes maps demonstrating the impact of a breach in 2115. The residual flood hazard map for a breach in 2115 during the 0.1% annual probability (1 in 1000 chance each year) event is shown in Figure 3.

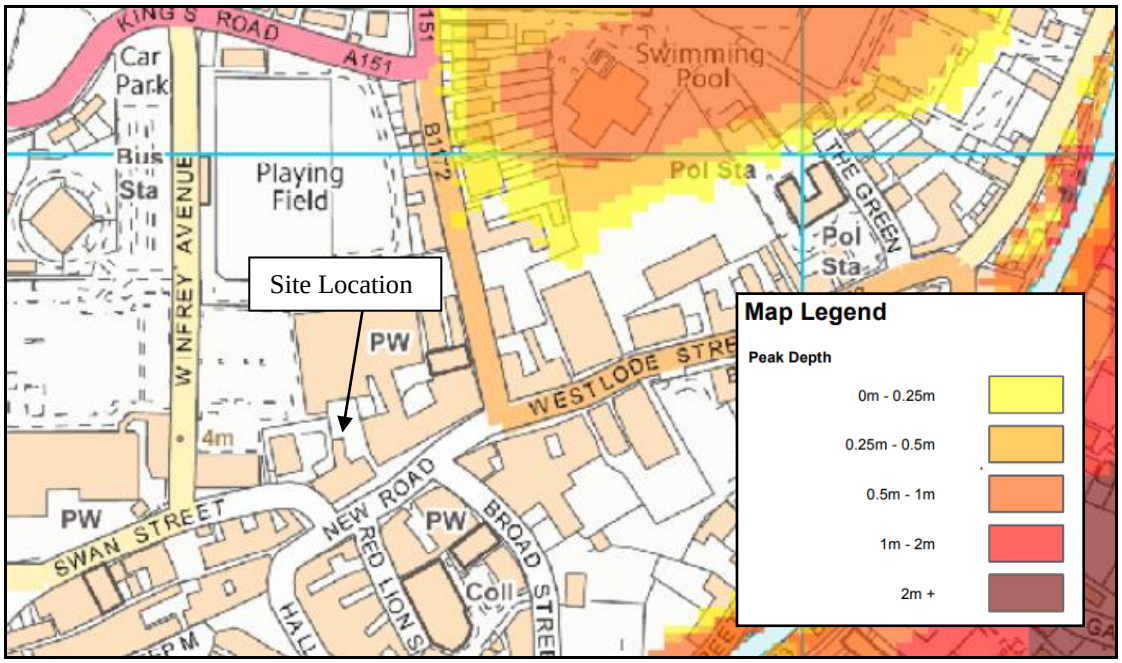


Figure 3 – Residual Flood Hazard Map 2115 0.1% Annual Probability

As shown in Figure 3 the site is not at risk during a breach.

5.0 FLOOD RISK MITIGATION

5.1 Summary of Risks

The probability of this development flooding from localised drainage systems is low. Failure of Pode Hole Pumping Station could lead to an increased level of risk at the site.

The site benefits from any Environment Agency 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 chance each year) tidal event. 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 a breach in the defences. The maps show that the site is not at risk.

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

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 flats is 0.3m above surrounding ground levels. Furthermore, it is recommended that there is 0.3m of flood resilient construction above finished floor level.

The developer should ensure that the eventual occupiers of the flats are 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 occupiers of the flats should register to receive flood warnings.

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

6.0 CONCLUSIONS

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

- The proposed development consists of the change of use and conversion of a public house and dwelling to form ten flats and a commercial unit at The Black Swan, 12 New Road, 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 on the River Welland that provide protection during the 1% annual probability (1 in 100 chance each year) fluvial event and 0.5% annual probability (1 in 200 chance each year) tidal event including climate change. The site is not at risk during a breach of the defences.

- It is recommended that the floor level of the flats is 0.3m above surrounding ground levels 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.

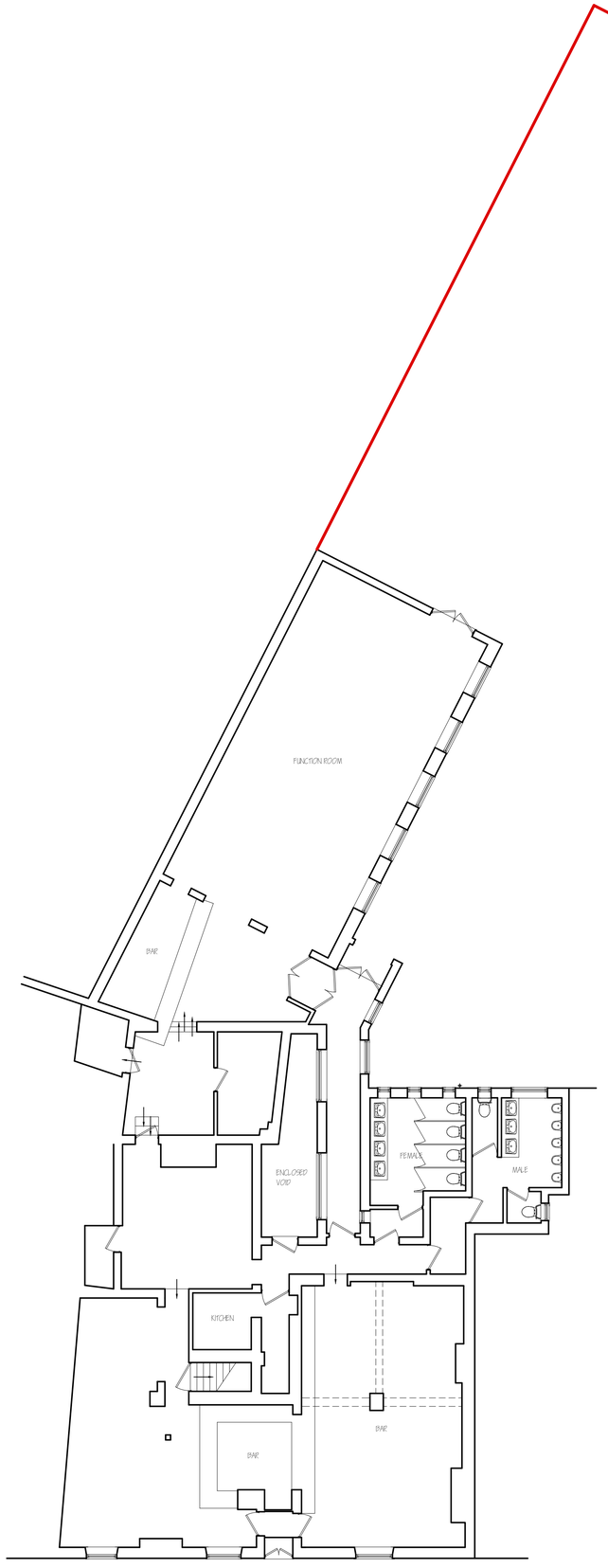
ATTACHMENT 1

EXISTING PLANS & LOCATION PLAN (DWG 4328-24 01)

PROPOSED PLANS (DWG 4328-24 02C)



LOCATION PLAN 1:1250



GROUND FLOOR PLAN 1:100



FIRST FLOOR PLAN 1:100

ref:	revision	date

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Project

CONNVERSION TO FLATS
'THE BLACK SWAN', 12 NEW ROAD
SPALDING
LINCS. PE11 1DQ

Client

MR T MAHMOOD

Drawing

FLOOR PLANS - EXISTING
LOCATION PLAN

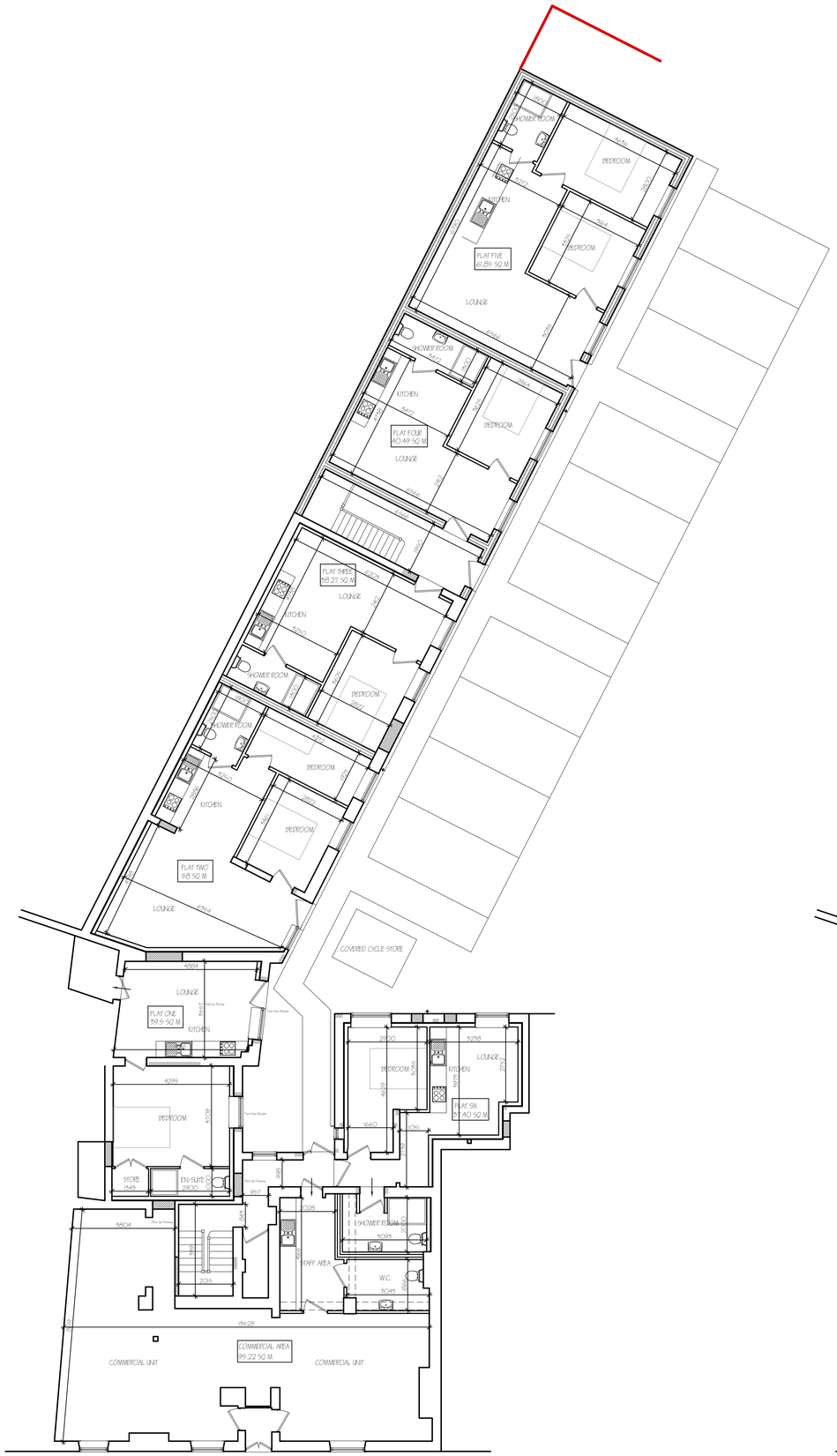
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4328-24	01
Date	**Drawn**
NOVEMBER 2024	SLB

Scales

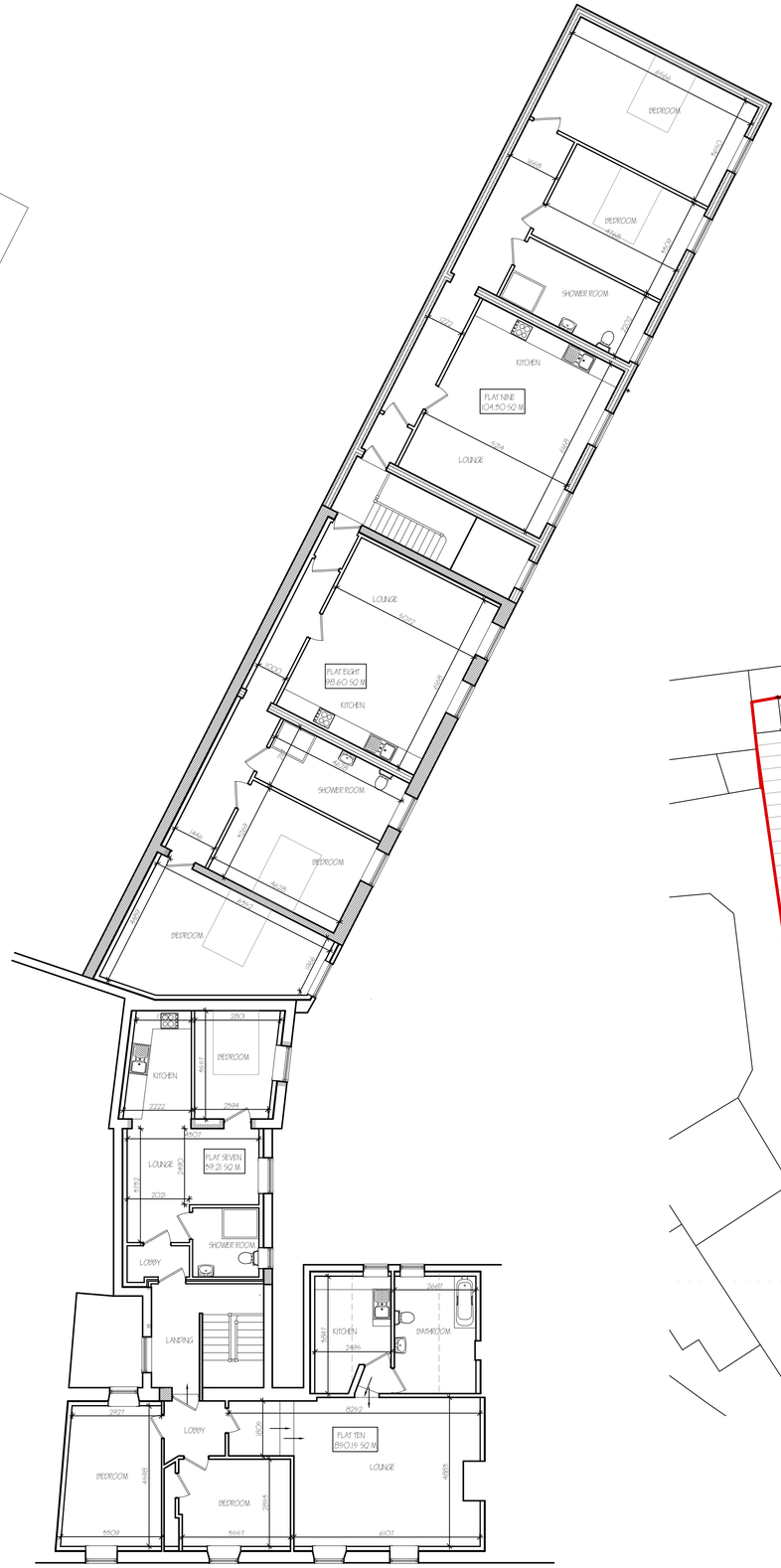
1:100 (Unless Otherwise Stated)

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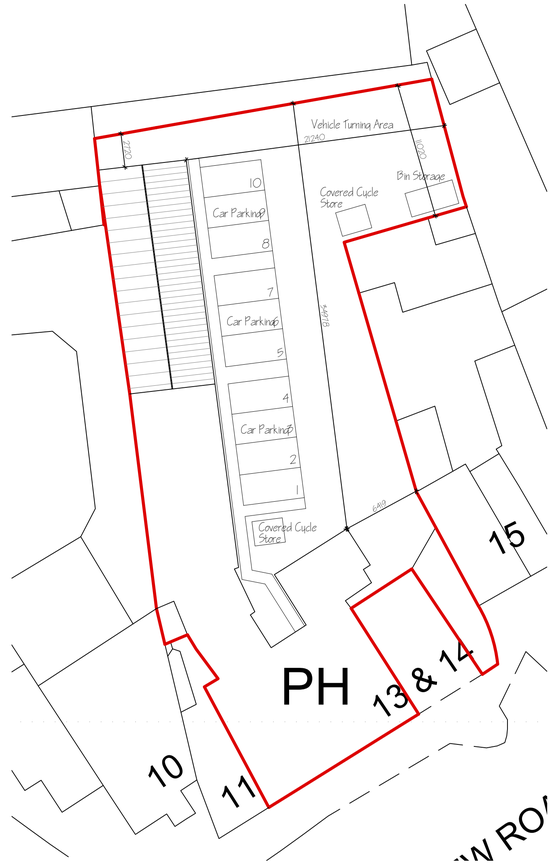
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GROUND FLOOR PLAN 1:100



FIRST FLOOR PLAN 1:100



SITE PLAN - PROPOSED 1:250

ref:	revision	date
C	CLIENT AMENDMENTS	JAN 2025
B	SITE PLAN ADDED	DEC 2024
A	FLAT AREAS ADDED - CLIENT	NOV 2024

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