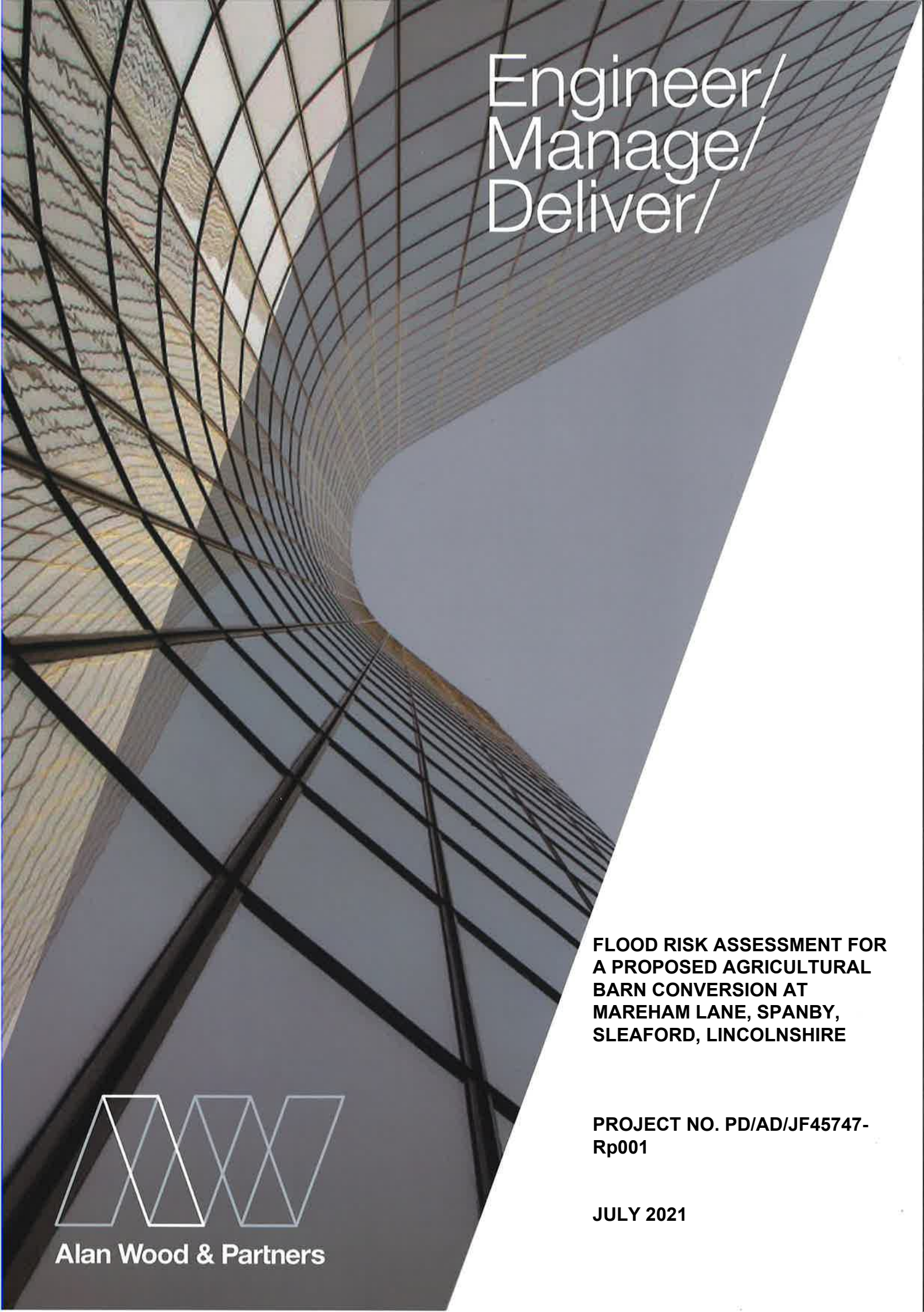


FLOOD RISK ASSESSMENT FOR A PROPOSED AGRICULTURAL BARN CONVERSION AT MAREHAM LANE, SPANBY, SLEAFORD, LINCOLNSHIRE

PROJECT NO. PD/AD/JF45747-Rp001

JULY 2021

Alan Wood & Partners

Alan Wood & Partners

Issuing Office
341 Beverley Road
HULL
HU5 1LD

Telephone: 01482 442138

Email: eng@alanwood.co.uk
Website: www.alanwood.co.uk

FLOOD RISK ASSESSMENT FOR A PROPOSED AGRICULTURAL BARN CONVERSION AT MAREHAM LANE, SPANBY, SLEAFORD, LINCOLNSHIRE

Prepared by: A Dunn

Signed: ……
Date: 2nd July 2021

Approved by: P Drenon, EUR ING, BSc (Hons), CEng, MICE, FFBE
Civil Engineering Director

Signed: ……
Date: 2nd July 2021

Issue	Revision	Revised by	Approved by	Revised Date

TABLE OF CONTENT

APPENDICES

1.0 INTRODUCTION

1.1 Background

1.1.1 Alan Wood & Partners were commissioned by Mr D Morris to prepare a Flood Risk Assessment for a proposed barn conversion at the rear of Spanby House, Mareham Lane, Spanby, Sleaford, Lincolnshire in support of an application for planning consent.

1.1.2 A Flood Risk Assessment (FRA) for the proposed development is required to assess the development's risk from flooding.

1.2 Layout of Report

1.2.1 Section 1 provides an introduction to the FRA, explains the layout of this FRA and provides an introduction to flood risk and the latest guidance on development and flood risk in England.

1.2.2 Section 2 provides an introduction to the site. The site description is based upon a desktop study and information provided by the developer. In order to obtain further information on flood risk, consultation was undertaken with the Environment Agency.

1.2.3 Section 3 of this report details the information gathered through the consultation.

1.2.4 Section 4 of this report details the development proposals and considers the development proposals in relation to the current planning policy on development and flood risk in England (and what type of development is considered appropriate in different flood risk zones). National Planning Policy Framework (NPPF): and its associated Technical Guidance (Communities and Local Government, March 2012) is the current planning policy on flood risk in England, and an introduction to NPPF is provided below.

1.2.5 Section 5 considers the drainage arrangements for the proposed development.

1.2.6 Section 6 of this report considers the flood risk to site, and the potential for the development proposals to impact on flood risk. The assessment of flood risk is based on the latest planning policy and utilises all the information gathered in the preparation of the report.

1.2.7 Section 7 of this report provides details of any recommendations for further work to mitigate against possible flooding.

1.2.8 Section 8 of this report provides a summary of the report.

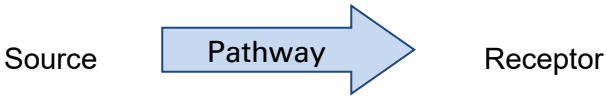
1.3 Flood Risk

1.3.1 Flood risk takes account of both the probability and the consequences of flooding.

1.3.2 Flood risk = probability of flooding x consequences of flooding

1.3.3 Probability is usually interpreted in terms of the return period, e.g. 1 in 100 and 1 in 200 year event, etc. In terms of probability, there is a 1 in 100 (1%) chance of one or more 1 in 100 year floods occurring in a given year. The consequences of flooding depends on how vulnerable a receptor is to flooding.

The components of flood risk can be considered using a source-pathway-receptor model.



1.3.4 Sources constitute flood hazards, which are anything with the potential to cause harm through flooding (e.g. rainfall extreme sea levels, river flows and canals). Pathways represent the mechanism by which the flood hazard would cause harm to a receptor (e.g. overtopping and failure of embankments and flood defences, inadequate drainage and inundation of floodplains). Receptors comprise the people, property, infrastructure and ecosystems that could potentially be affected should a flood occur.

1.4 National Planning Policy Framework

1.4.1 General

1.4.1.1 NPPF and its associated Technical Guidance replaces Planning Policy Statement 25 and provides guidance on how to evaluate sites with respect to flood risk.

1.4.1.2 A summary of the requirements of NPPF is provided below.

1.4.2 Sources of Flooding

1.4.2.1 NPPF requires an assessment to flood risk to consider all forms of flooding and lists six forms of flooding that should be considered as part of a flood risk assessment. These forms of flooding are listed in Table 1, along with an explanation of each form of flooding.

Table 1: Forms of flooding

Flooding from Rivers (Fluvial Flooding)
Watercourses flood when the amount of water in them exceeds the flow capacity of the river channel. Flooding can either develop gradually or rapidly, depending on the characteristics of the catchment. Land use, topography and the development can have a strong influence on flooding from rivers.
Flooding from the Sea (Tidal Flooding)
Flooding to low-lying land from the sea and tidal estuaries is caused by storm surges and high tides. Where tidal defences exist, they can be overtopped or breached during a severe storm, which may be more likely with climate change.
Flooding from Land (Pluvial Flooding)
Intense rainfall, often of short duration, that is unable to soak into the ground or enter drainage systems can run quickly off land and result in local flooding. In developed areas this flood water can be polluted with domestic sewage where foul sewers surcharge and overflow. Local topography and built form can have a strong influence on the direction and depth of flow. The design of development down to a micro-level can influence or exacerbate this. Overland flow paths should be taken into account in spatial planning for urban developments. Flooding can be exacerbated if development increases the percentage of impervious area.

Flooding from Groundwater
Groundwater flooding occurs when groundwater levels rise above ground levels (i.e. groundwater issues). Groundwater flooding is most likely to occur in low-lying areas underlain by permeable rocks (aquifers). Chalk is the most extensive source of groundwater flooding.
Flooding from Sewers
In urban areas, rainwater is frequently drained into sewers. Flooding can occur when sewers are overwhelmed by heavy rainfall and become blocked. Sewer flooding continues until the water drains away.
Flooding from Other Artificial Sources (i.e. reservoirs, canals, lakes and ponds)
Non-natural or artificial sources of flooding can include reservoirs, canals and lakes. Reservoir or canal flooding may occur as a result of the facility being overwhelmed and /or as a result of dam or bank failure.

1.4.3 Flood Zones

1.4.3.1 For river and sea flooding, NPPF uses four Flood Zones to characterise flood risk. These Flood Zones refer to the probability of river and sea flooding, ignoring the presence of defences, and are detailed in Table 2.

Table 2: Flood zones

Flood Zone	Definition
1	Low probability (less than 1 in 1,000 annual probability of river or sea flooding in any year (<0.1%).
2	Medium probability (between 1 in 100 and 1 in 1,000 annual probability of river flooding (1%-0.1%) or between 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5%-0.1%) in any year).
3a	High probability (1 in 100 or greater annual probability of river flooding (>1%) in any year or 1 in 200 or greater annual probability of sea flooding (>0.5%) in any given year).
3b	This zone comprises land where water has to flow or be stored in times flood. Land which would flood with an annual probability of 1 in 20 (5%) or is designed to flood in an extreme flood (0.1%) should provide a starting point for discussions to identify functional floodplain.

1.4.4 Vulnerability

1.4.4.1 NPPF classifies the vulnerability of developments to flooding into five categories. These categories are detailed in Table 3.

Table 3: Flood risk vulnerability classification

Flood Risk Vulnerability Classification	Examples of Development Types
Essential Infrastructure	- Essential utility infrastructure including electricity generating power stations and grid and primary substations - Wind turbines
Highly Vulnerable	- Police stations, ambulance stations, fire stations, command centres and telecommunications installations required to be operational during flooding. - Emergency dispersal points. - Basement dwellings. - Caravans, mobile homes and park homes intended for permanent residential use.
More Vulnerable	- Hospitals. - Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels. - Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels. - Non-residential uses for health services, nurseries and educational establishments. - Sites used for holiday or short-let caravans and camping.
Less Vulnerable	- Building used for shops, financial, professional and other services, restaurants and cafes, hot foot takeaways, offices, general industry, storage and distribution, non-residential institutions not included in "more vulnerable" and assembly and leisure. - Land and buildings used for agriculture and forestry.
Water Compatible	- Docks, marinas and wharves. - Water based recreation (excluding sleeping accommodation). - Lifeguard and coastguard stations. - Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms.

1.4.4.2 Based on the vulnerability of a development, NPPF states within what Flood Zones(s) the development is appropriate. The flood risk vulnerability and Flood Zone 'compatibility' of developments is summarised in Table 4.

Table 4: Flood risk vulnerability and flood zone compatibility

Flood Risk Vulnerability Classification		Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone	1	✓	✓	✓	✓	✓
	2	✓	✓	Exception Test	✓	✓
	3a	Exception Test	✓	x	Exception Test	✓
	3b	Exception Test	✓	x	x	x

1.4.5 The Sequential Test, Exception Test and Sequential Approach

1.4.5.1 The Sequential Test is a risk-based test that should be applied at all stages of development and aims to steer new development to areas with the lowest probability of flooding (Zone 1). This is applied by the Local Planning Authority by means of a Strategic Flood Assessment (SFRA).

1.4.5.2 The SFRA and NPPF may require the Exception Test to be applied to certain forms of new development. The test considers the vulnerability of the new development to flood risk and, to be passed, must demonstrate that:

- There are sustainability benefits that outweigh the flood risk and;
- The new development is safe and does not increase flood risk elsewhere.

1.4.5.3 The Sequential Approach is also a risk based approach to development. In a development site located in several Flood Zones or with other flood risk, the sequential approach directs the most vulnerable types of development towards areas of least risk within the site.

1.4.6 Climate Change

1.4.6.1 This is a planning requirement to account for climate change in the proposed design. The recommended allowances should be based on the most relevant guidance from the Environment Agency and the Lead Local Flood Authority.

1.4.7 Sustainable Drainage

1.4.7.1 The key planning objectives in NPPF are to appraise, manage and where possible, reduce flood risk. Sustainable Drainage Systems (SuDS) provide an effective way of achieving some of these objectives, and NPPF and Part H of the Building Regulations (DTLR 2002) direct developers towards the use of SuDS wherever possible.

2.0 EXISTING SITE DESCRIPTION

2.1 Location

2.1.1 The development Is located to the rear of Spanby House on the western outskirts of the village of Spanby, Lincolnshire.

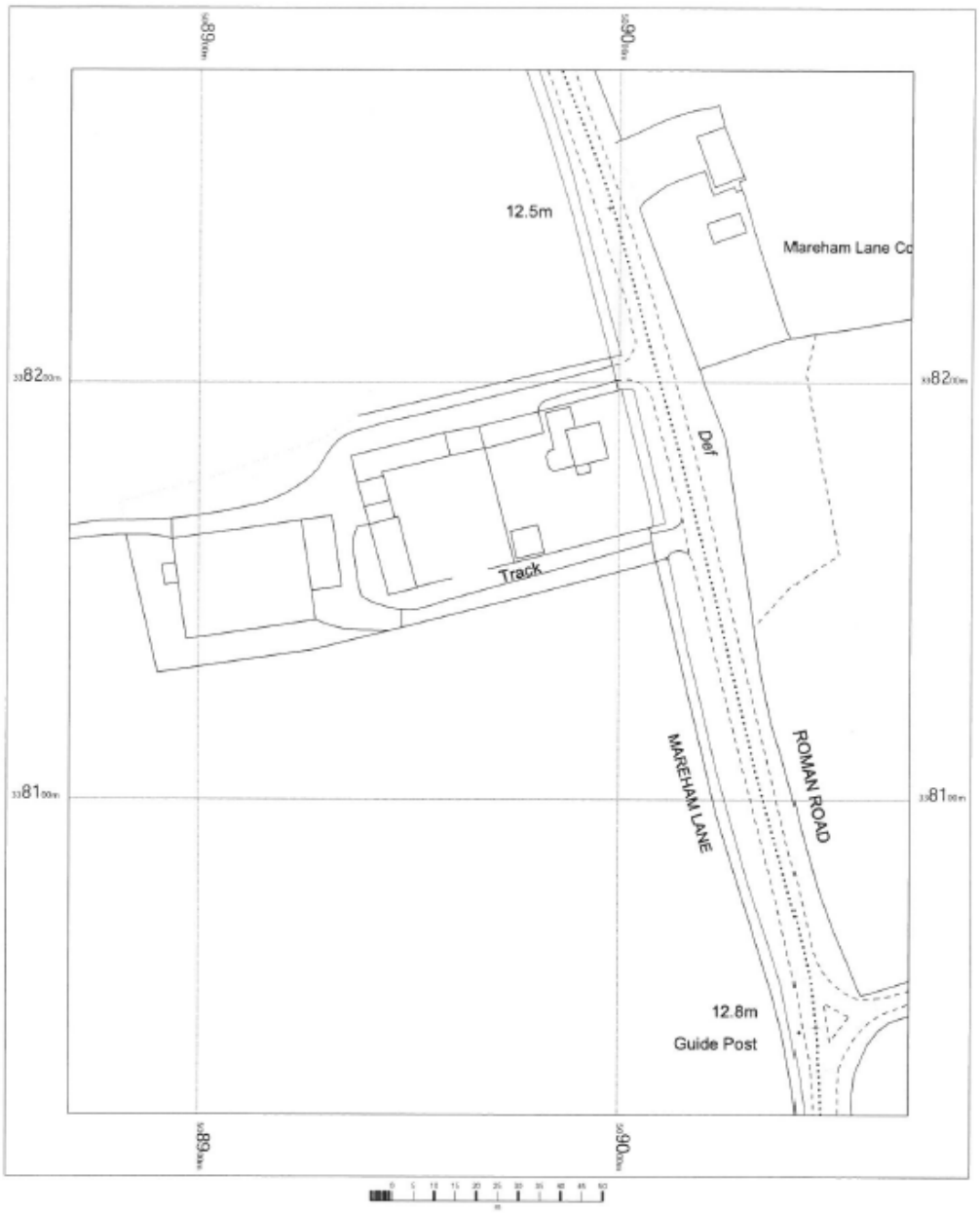
2.1.2 The development site currently comprises a number of existing agricultural buildings situated to the rear of Spanby House.

2.1.3 The site lies approximately 3.6km to the south of the village of Osbournby, approximately 2km to the north of the village of Threekingham and approximately 7.5km to the south east of Sleaford.

2.1.4 An aerial photograph and location plan are included in Figures 1 and 2 below, which identify the location of the site.

Figure 1: Aerial photograph

Figure 2: Site location plan



2.1.5 The Ordnance Survey grid reference for the centre of the site development is approximately 508940, 338170.

2.2 Surrounding Features

2.2.1 To the east of the development area is Spanby House and Mareham Lane, beyond which is an extensive area of agricultural land.

2.2.2 To the south of the existing agricultural barn complex lies an extensive area of agricultural land extending to the village of Threekingham.

2.2.3 To the west of the existing agricultural barn complex lies an extensive area of agricultural land extending to the A15.

2.2.4 To the north of the existing agricultural barn complex lies an extensive area of agricultural land extending to Sleaford.

2.2.5 There are a number of small open ponds situated to the north east of the site.

2.2.6 There are a number of small fishing lakes situated to the south east of the site.

2.2.7 South Forty Foot Drain lies to the east of the site.

2.2.8 South Beck is situated to the west and to the north west of the site.

2.3 Topography

2.3.1 A topographic survey of the development site has been undertaken, which shows that existing ground levels over the area of the development site vary from approximately 12.14m to approximately 12.46m OD(N).

2.3.2 The floor level of the existing barns and workshop buildings are shown to be at 12.56m OD (N).

2.3.3 Existing ground levels along the northern access track which will provide access to the development are shown to vary from approximately 12.35m to 12.64m OD(N).

2.3.4 Existing average carriageway levels along Mareham Lane fronting the site to the east are shown to vary from approximately 12.48m OD(N) to approximately 12.53m OD(N).

2.3.5 A copy of the topographic survey drawing is included in Appendix A.

2.4 Ground Conditions

2.4.1 A desktop study of the British Geological Survey map reveals that the local geology comprises superficial deposits of River Terrace Deposits (Undifferentiated) – Sand and Gravel overlaying bedrock comprising Peterborough Member – Mudstone.

2.4.2 An inspection of the groundwater shows reveals that the site does not overlay an Aquifer and lies in an area where the groundwater vulnerability classification is ‘Low’.

3.0 CONSULTATION

3.1 Consultation has taken place with the Design Team in order to obtain relevant information pertaining to the proposed development.

3.2 Consultation has taken place with the Environment Agency in order to obtain relevant information in respect of flood mapping, details of which are included within this report.

4.0 PROPOSED DEVELOPMENT

4.1 The Development

4.1.1 The proposed development involves the conversion of the existing agricultural barn and workshop buildings into a single residential dwelling, incorporating a garage, car parking and a courtyard garden.

4.1.2 The project includes the demolition of one dilapidated building.

4.1.3 Indicative layout drawings of the proposed development are included in Appendix B.

4.2 Flood Risk

4.2.1 In terms of flood risk vulnerability, the development is classed as ‘More Vulnerable’ (Table 3).

4.2.2 In terms of flood zone compatibility, the construction of ‘More Vulnerable’ development requires an Exception Test in Flood Zone 3 and is considered compatible in Flood Zone 1 (Table 4).

5.0 SURFACE WATER DRAINAGE ASSESSMENT

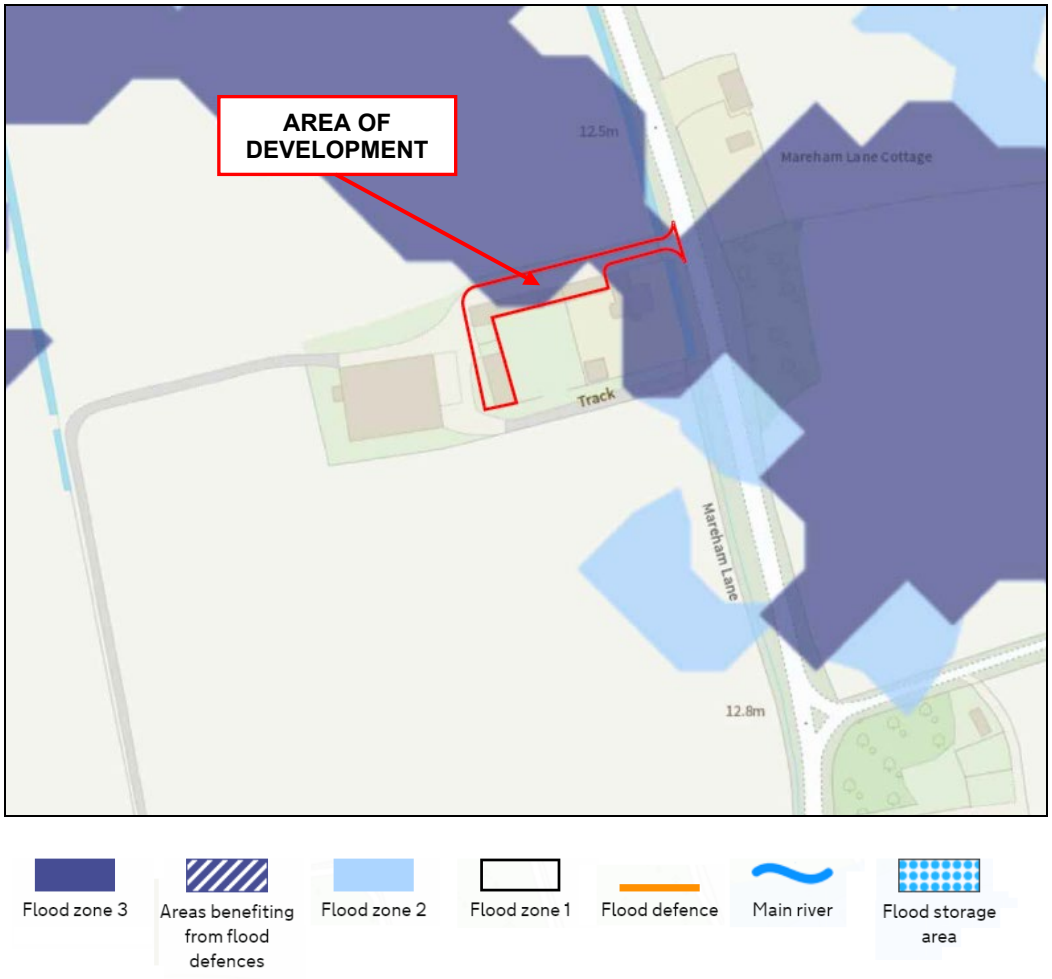
5.1 As the project involves the proposed conversion of existing agricultural buildings to residential use including the demolition of one existing building, there will be no increase in the existing impermeable area requiring positive drainage resulting from the development.

6.0 FLOOD RISK ASSESSMENT

6.1 Flood Zone

6.1.1 A copy of the Environment Agency Flood Map for Planning is included in Figure 3 below, which identifies the majority of the development site to be located within an area designated as Flood Zone 1, (low probability of flooding), with a less than 1 in 1000 annual probability of flooding in any year.

Figure 3: Environment Agency Flood map for planning dated July 2021



6.1.2 The central area of the northern building is shown to lie in Flood Zone 3, (high probability of flooding), comprising land assessed as having a 1 in 100 or greater annual probability of river flooding or a 1 in 200 year or greater annual probability of flooding from the sea.

6.2 Fluvial Flooding

6.2.1 South Beck is located approximately 1.1km to the north west of the site at it's nearest location.

6.2.2 South Forty Foot Drain is located approximately 9km to the east of the development at its' nearest location.

6.2.3 The flood mapping shows that the northernmost area of the site could be affected by flood waters arising from South Beck overtopping its' banks during an extreme flood event, with the flood waters gravitating south eastwards towards the lower-lying land.

6.2.4 Flood mitigation measures will therefore need to be considered within the design of the development.

6.2.5 Details of such measures are set out in Section 7 of this report.

6.3 Tidal Flooding

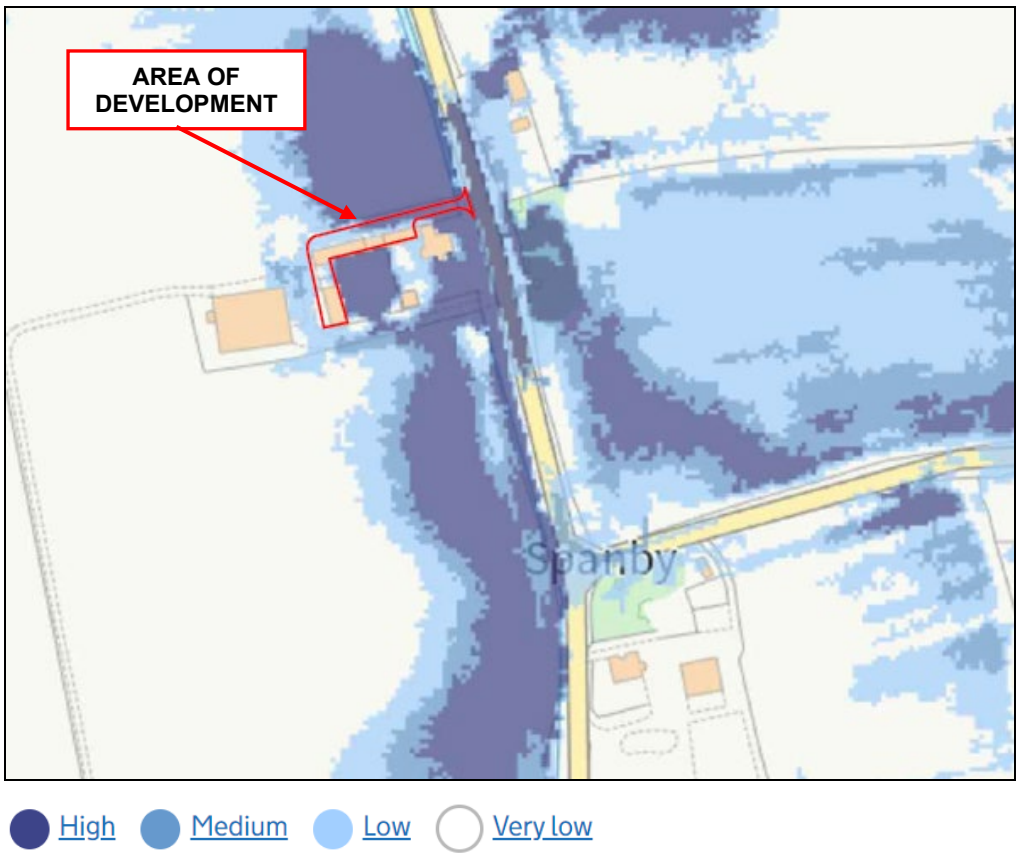
6.3.1 The coastline of The Wash is located approximately 30km to the east of the site.

6.3.2 The site is not considered to be at risk from tidal flooding.

6.4 Surface Water Flooding

6.4.1 A copy of the Environment Agency map showing the extent of flooding from surface water is included in Figure 4 below.

Figure 4: Environment Agency map dated June 2021 showing the extent of flooding from surface water



6.4.2 The map shows that the area of the development site is considered to be at risk from overland surface water flooding.

6.4.3 Copies of the maps produced by the Environment Agency showing the likely depth of surface water flooding are included in Figures 5, 6 and 7 below.

Figure 5: Environment Agency map dated July 2021 showing the likely depth of flooding from surface water – low risk

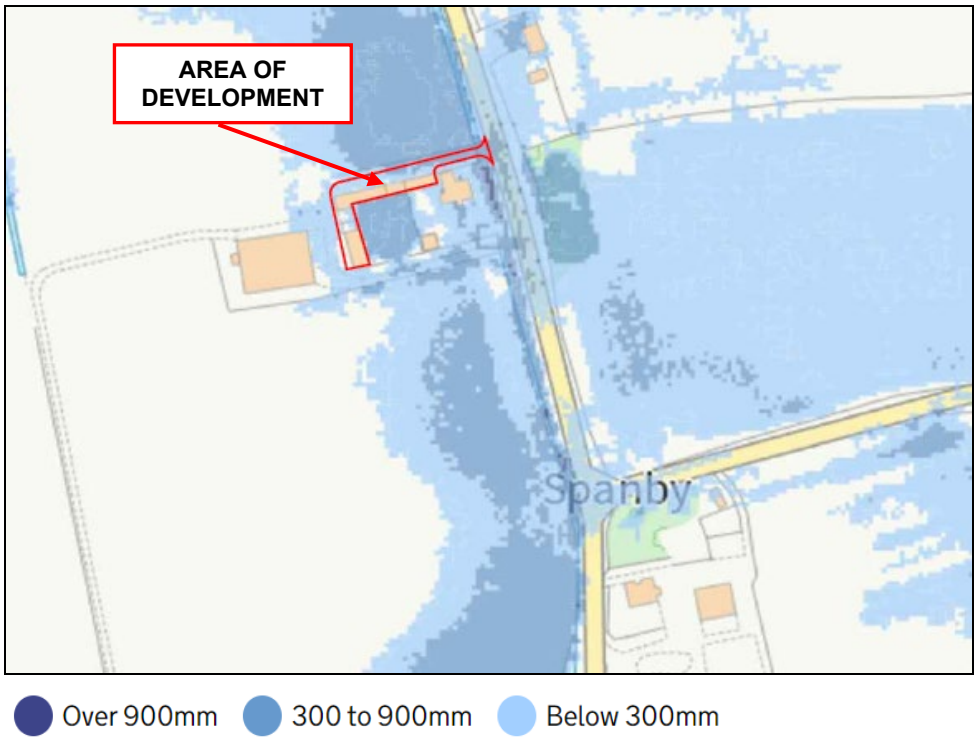


Figure 6: Environment Agency map dated July 2021 showing the likely depth of flooding from surface water – medium risk

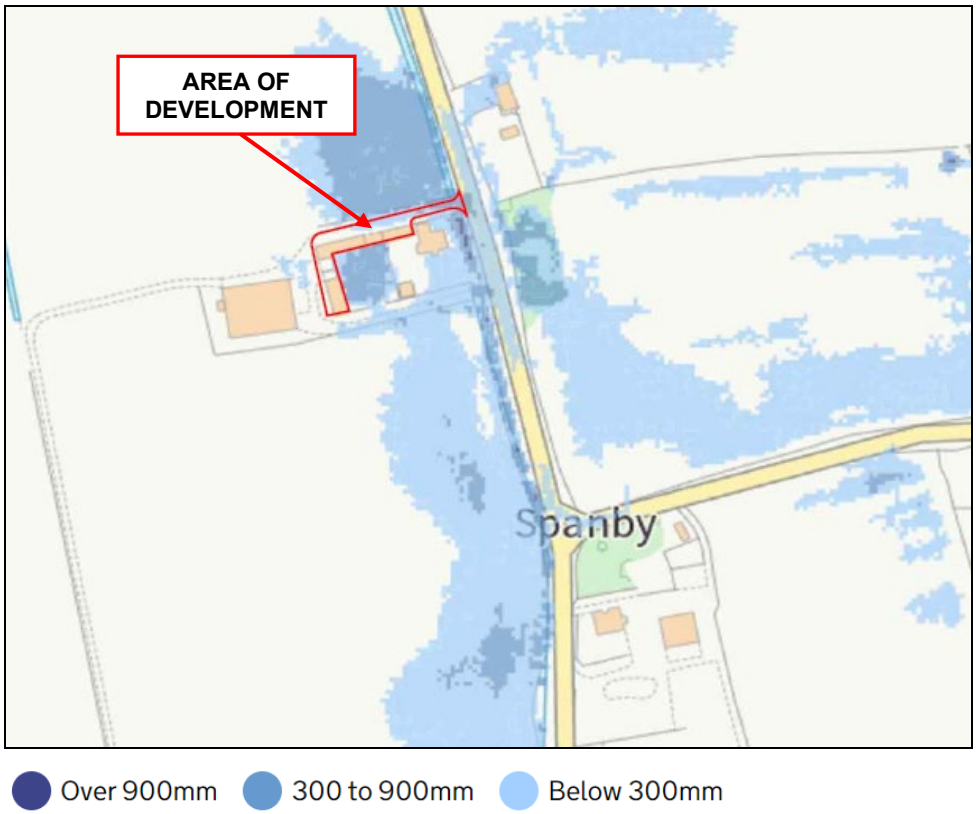
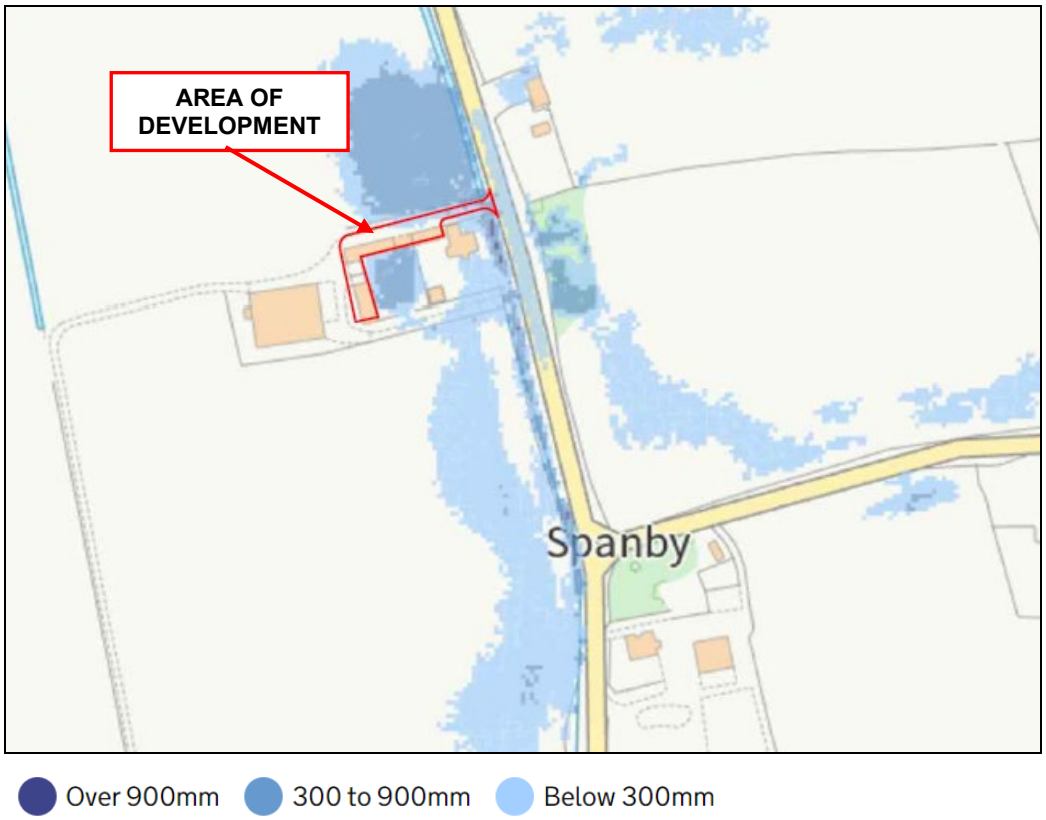


Figure 7: Environment Agency map dated July 2021 showing the likely depth of flooding from surface water – high risk



6.4.4 The maps show that for a 'low risk' scenario the likely flood depth around the buildings would be below 300mm, other than the courtyard to the east of the farm buildings which is shown to have a likely flood depth of 300 to 900mm.

6.4.5 For a 'medium risk' scenario the likely area which would be affected around the buildings is reduced, whilst the likely flood depth to the courtyard remains at 300 to 900mm.

6.4.6 For a 'high risk' scenario the area likely to be affected is further reduced, with the likely flood depth of the adjacent courtyard varying from below 300mm to 300 to 900mm, with very little risk of flooding elsewhere around the building.

6.4.7 Flood mitigation measures will need to be considered in order to minimise the risk of overland surface water flooding affecting the buildings.

6.5 Flooding from Open Drainage Ditches

6.5.1 There are a number of open drainage ditches located within the vicinity of the development site, which drains the agricultural land towards the coast.

6.5.2 There is a risk that these ditches could overtop their banks during an extreme rainfall event.

6.5.3 This scenario is reflected on the surface water flood maps considered in Section 6.4 above.

6.6 Flood Risk from Existing Water Mains

6.6.1 There are likely to be existing water mains located within the vicinity of the development site serving the existing agricultural buildings, which will be domestic in nature.

6.6.2 There are no known issues with regard to the condition of any such water mains.

6.6.3 The risk to the development from this potential flood source is therefore considered to be low and acceptable.

6.7 Existing Drainage Services

6.7.1 There are existing drainage services located within the vicinity of the development site serving the existing agricultural buildings, which will be domestic in nature.

6.7.2 There are no known issues with regard to the condition of such drainage services.

6.7.3 The risk to the development from this potential flood source is therefore considered to be low and acceptable.

6.8 Proposed Drainage Services

6.8.1 There are no new surface water drainage services involved with the development.

6.8.2 The risk to the development from this potential flood source is therefore considered to be low and acceptable.

6.9 Groundwater Flooding

6.8.1 Groundwater flooding can occur when the sub-surface water levels are high and emerges above ground level.

6.8.2 There are no proposals to create any basements within the development.

6.8.3 The construction works will not involve any deep excavation works and consequently the risk to the development from this potential flood source is considered to be low and acceptable.

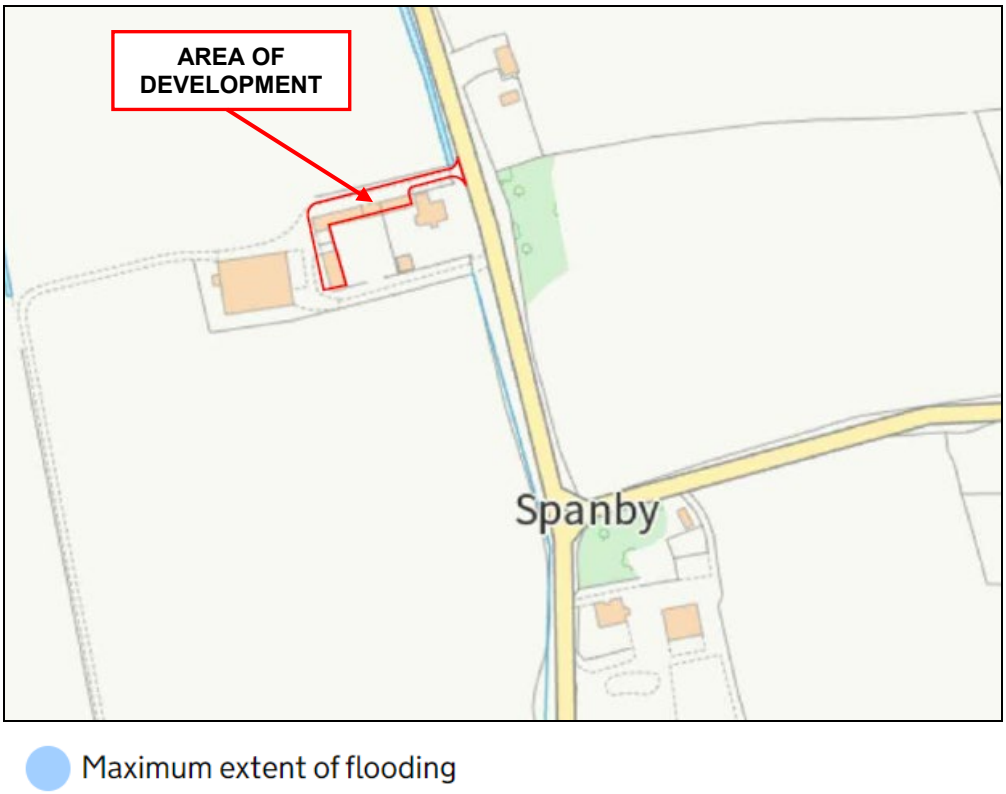
6.10 Flooding from Reservoirs, Canals and Other Artificial Sources

6.10.1 A study of the local area shows that there a number of small ponds and fishing lakes in the region.

6.10.2 However, due to their small scale and their distance from the site they are not considered to pose a risk of flooding to the development.

6.10.3 A copy of the map produced by the Environment Agency showing the extent of flooding from reservoirs is included in Figure 8 below.

Figure 8: Environment Agency map dated July 2021 showing the extent of flooding from reservoirs



6.10.4 The map shows that the development site is not considered to be at risk from reservoir flooding.

6.10.5 The risk to the development from any such potential flood source is considered to be low and acceptable.

7.0 FLOOD MITIGATION MEASURES

7.1 Passive Flood Protection Works

7.1.1 The majority of the development site is shown to lie within an area designated as Flood Zone 1 (low probability of flooding) on the Environment Agency Flood Map for Planning.

7.1.2 However, the central area of the northern building is shown to lie within Flood Zone 3 (high probability of flooding).

7.1.3 For new developments lying in Flood Zone 3 the normal requirement is to elevate the ground floor construction level by a minimum of 600mm and provide 300mm of flood resilient construction above the raised floor in order to minimise the risk of flood damage.

7.1.4 However, as the proposals involve the refurbishment of the existing agricultural buildings, it will not be possible to elevate the floor due to headroom constraints.

7.1.5 Flood resilient construction methods will therefore need to be provided within the refurbishment works in order to provide the required level of flood resilience.

7.2 Flood Resilience

7.2.1 For new developments which lie within the flood zone, the normal requirement to provide an additional 300mm of flood resilience above the elevated ground floor construction level in order to minimise any flood damage and provide ease of reconstruction, should flood waters enter the building.

7.2.2 However, the floor is not being elevated by the recommended 600mm due to the constraints imposed on the building works.

7.2.3 In order to provide the required flood protection, it will therefore be necessary to elevate the flood resilient construction up to a height of 900mm above the ground floor level.

7.2.4 The following measures should therefore be adopted within the new construction:-

- There should be no voids within the external walls, other than doorways within 900mm of finished floor level which would allow flood waters to enter the buildings.
- All new partition walls constructed at ground floor level should be of suitable robust construction or metal stud partitions fixed with plasterboard, with the lower boarding laid horizontally for ease of replacement.
- All electrical apparatus or other flood sensitive equipment should be elevated to a minimum of 900mm above finished floor level to prevent damage occurring should flood waters enter the building.
- All cables should be routed at high level with vertical drops to the fittings.
- The ground floor electric circuits should be suitable isolated such that the upper floor of the development can remain in operation should the ground floor electrical installation become damaged.
- Floor finishes provided at ground floor level should be suitable for ease of cleaning after flooding, should this situation occur.

7.2.5 It is considered that these measures will also adequately mitigate any likely risk of flood damage occurring from overland surface water flooding.

7.3 Management

7.3.1 Once occupied, the development should be connected to the Environment Agency's early 'Flood Direct' warning service to ensure there is adequate notice for any flood protection works to put in place should the need arise.

7.4 Safe Refuge

7.4.1 It is a requirement for safe refuge to be provided within new developments which lie in Flood Zone 3 to ensure that there will be no requirement for evacuation measures by the emergency services.

7.4.2 The development incorporates two-storey construction, and consequently safe refuge will be available on the upper floor of the building which can be accessed by the internal staircase in an emergency situation,

7.4.3 The requirement for safe refuge provision has therefore been satisfied.

7.5 Access/Egress

7.5.1 Safe access or egress from the development could be restricted during the peak time of a major flood scenario as the adjacent public roadway is shown to lie in Flood Zone 3. However, adequate warning will be given and the timescale of the flood should not be extensive due to the minor scale of the local watercourses. Safe access and egress will therefore be predominantly available.

7.5.2 Safe refuge is provided and there should therefore be no requirements for evacuation of occupants of the development by the Emergency Services during a major flood situation.

8.0 SUMMARY

8.1 This report has been prepared to assess the flood risk implications for the conversion of existing agricultural barns to a residential dwelling to the rear of Spanby House, Mareham Lane, Spanby, Sleaford, Lincoilnshire.

8.2 The majority of the site is shown to lie in Flood Zone 1 (low probability of flooding) on the maps produced by the Environment Agency, whilst the central area of the northern building is shown to lie in Flood Zone 3 (high probability of flooding).

8.3 The primary risk to the development is from flooding arising from the local watercourses overtopping their banks during an extreme flood event.

8.4 The site is also shown to be at risk from overland surface water flooding.

8.5 Flood mitigation measures are proposed, which it is considered will reduce the risk to the development from these flood sources to an acceptable level.

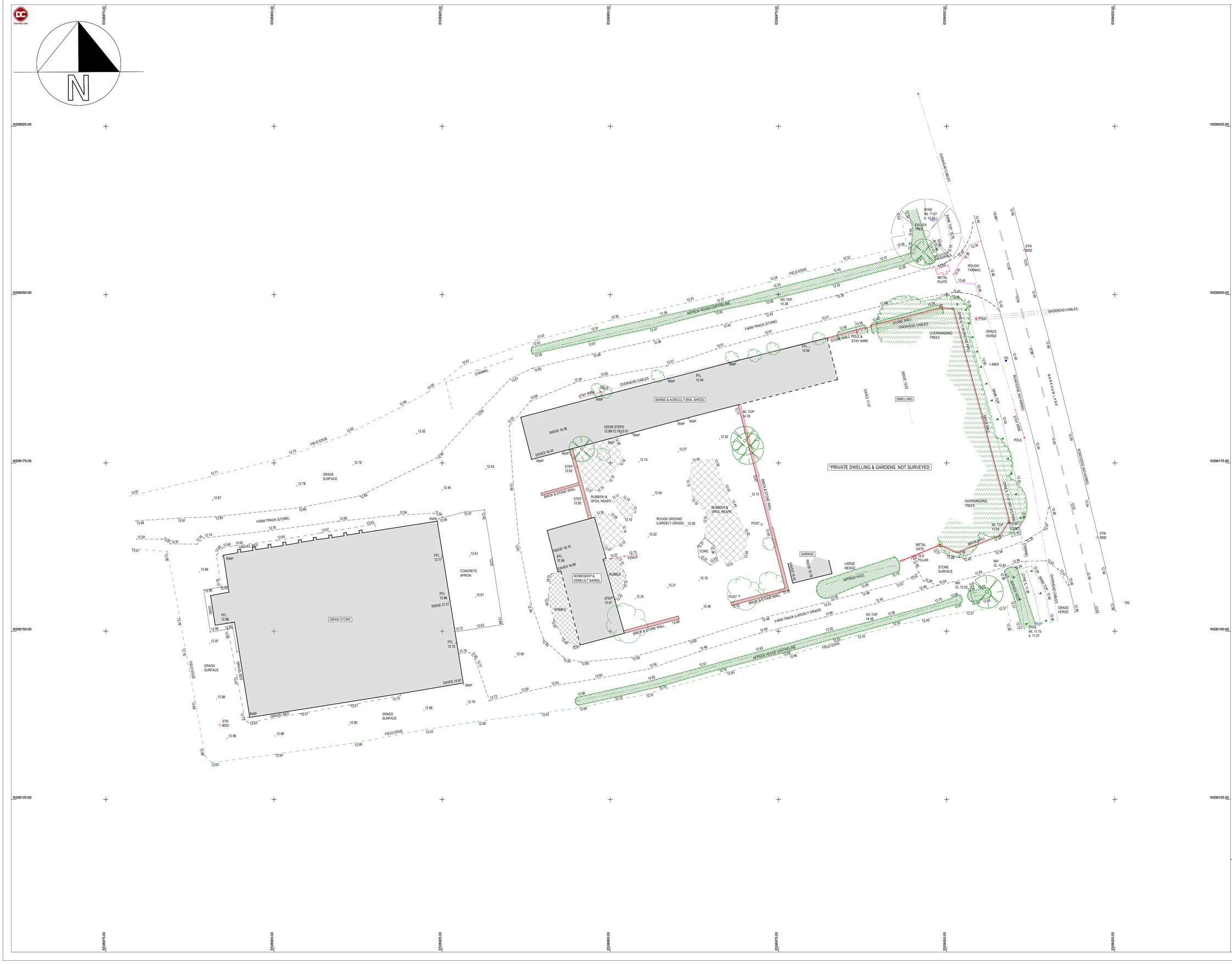
8.6 This report has also considered other potential sources of flooding to the site, including groundwater, water mains, drainage services, reservoirs and other artificial sources.

8.7 Overall, this report demonstrates that the flood risk to the site is reasonable and acceptable providing any mitigation measures detailed in Section 7 are incorporated into the design of the development.

Alan Wood & Partners

APPENDIX A

Topographic Survey Drawing



NOTES

ABBREVIATIONS & SYMBOLS

AV	AIR VALVE	OHC	OVERHEAD CABLE
BH	BORE HOLE	PB	POST BOX
BOL	BOLLARD	PINV	PIPE INVERT LEVEL
CATV	CABLE TV MH	PM	PARKING METER
CCTV	SECURITY CAM	PO	POST
CL	COVER LEVEL	PT	PIPE TOP LEVEL
CH	CHANNEL	P/R	POST & RAIL FENCE
COL	COLUMN	P/W	POST & WIRE FENCE
DC	CABLE TV LID	RD	EDGE OF ROAD/NO KERB
DP	DOWN PIPE	RE	RODDING EYE/POINT
DR	DRAIN	RL	RIDGE LEVEL
EL	EAVES LEVEL	RP	REFLECTIVE POST
EP	ELECTRIC POLE	RS	ROAD SIGN
ER	EARTH ROD	SLVL	STONE LEVEL
FB	FLOWER BED	SOFF	SOFFIT LEVEL
FH	FIRE HYDRANT	SV	VALVE
FFL	FINISHED FLOOR LEVEL	SW	SURFACE WATER
FP	FLAG POLE	Tac	TACTILE PAVING
FW	FOUL WATER	TH	TRIAL HOLE
GV	GAS VALVE	TL	TRAFFIC LIGHTS
HW	HEADWALL	TLVL	TARMAC LEVEL
IC	INSPECTION COVER	TOW	TOP OF WALL LEVEL
IL	I NVERT LEVEL	TP	TELEGRAPH POLE
KB	KERB BOTTOM	TRK	TRACK
KO	KERB OFFLET	UTL	UNABLE TO LIFT
KT	KERB TOP	VP	VENT PIPE
LP	LAMP POST	WL	WATER LEVEL
LC	LIGHT COLUMN	WLVL	WATER LEVEL
MH	MANHOLE	WM	WATER METER
MP	MARKER POST	WO	WASH OUT POINT

FENCE, HEDGE, ELECTRIC, BANK EDGE, STORM LINE, FOUL LINE, TELECOM LINE, GAS LINE, LARSON PILES, CHANNELS, WATER MAIN

TREE, BOREHOLE, STATION, TBM, MANHOLE, GULLY, BATTER, WATER LVL, GATE

1. THE POSITION OF THIS SURVEY IS BASED ON GPS OSTN15 GRID.

2. ALL LEVELS RELATE TO GPS DATA ACQUIRED WITH TRIMBLE VRS.

3. TREES SPREADS ARE DRAWN TO SCALE AND SHOW THE GENERAL AVERAGE CANOPY SPREAD.

4. ALL BELOW GROUND LEVEL INFORMATION INCLUDING VOIDS, DRAINAGE & SERVICES HAVE BEEN IDENTIFIED FROM THE SURFACE LEVEL ONLY, THEREFORE PIPE SIZES ETC ARE ESTIMATIONS ONLY. ALL CRITICAL DIMENSIONS SHOULD BE CHECKED PRIOR TO THE COMMENCEMENT OF ANY SITE WORKS

5. EVERY EFFORT HAS BEEN MADE TO LOCATE AND SURVEY ALL VISIBLE FEATURES. IT SHOULD BE NOTED THAT SOME ITEMS MAY HAVE BEEN OBSCURED AT THE TIME OF THE SURVEY AND THEREFORE NOT SHOWN ON THIS DRAWING.

6. PHYSICAL BOUNDARY FEATURES SHOWN ON THIS DRAWING DO NOT NECESSARILY REPRESENT THE ACTUAL LEGAL BOUNDARIES. THIS INFORMATION SHOULD BE CONFIRMED WITH THE RELEVANT DOCUMENTATION.

7. THE CONTRACTOR MUST CHECK AND VERIFY ALL SITE LEVELS, DIMENSIONS, UTILITIES AND DRAINAGE DETAILS PRIOR TO THE COMMENCEMENT OF ANY SITE WORKS. ANY DISCREPANCIES MUST BE NOTIFIED TO DANIEL CHARLES SURVEYS LTD.

8. ALL SURVEY STATION CONTROL POINTS MUST BE CHECKED BY THE CONTRACTOR PRIOR TO STARTING ANY SITE WORKS.

SURVEY CONTROL POINT INFORMATION.

Point	Easting	Northing	Elevation
9000	509022.390	338163.938	12.579
9003	508891.982	338136.046	13.027
9002	509011.569	338206.660	12.542

SURVEY DATE	25/03/2021	INITIALS	MJW

REV	AMENDMENTS	DRN	DATE

Client:
ASWARBY 1987 SETTLEMENT

Project Title:
MAREHAM LANE COTTAGE
SPANBY - LINCS

Drawing Title:
TOPOGRAPHICAL SURVEY

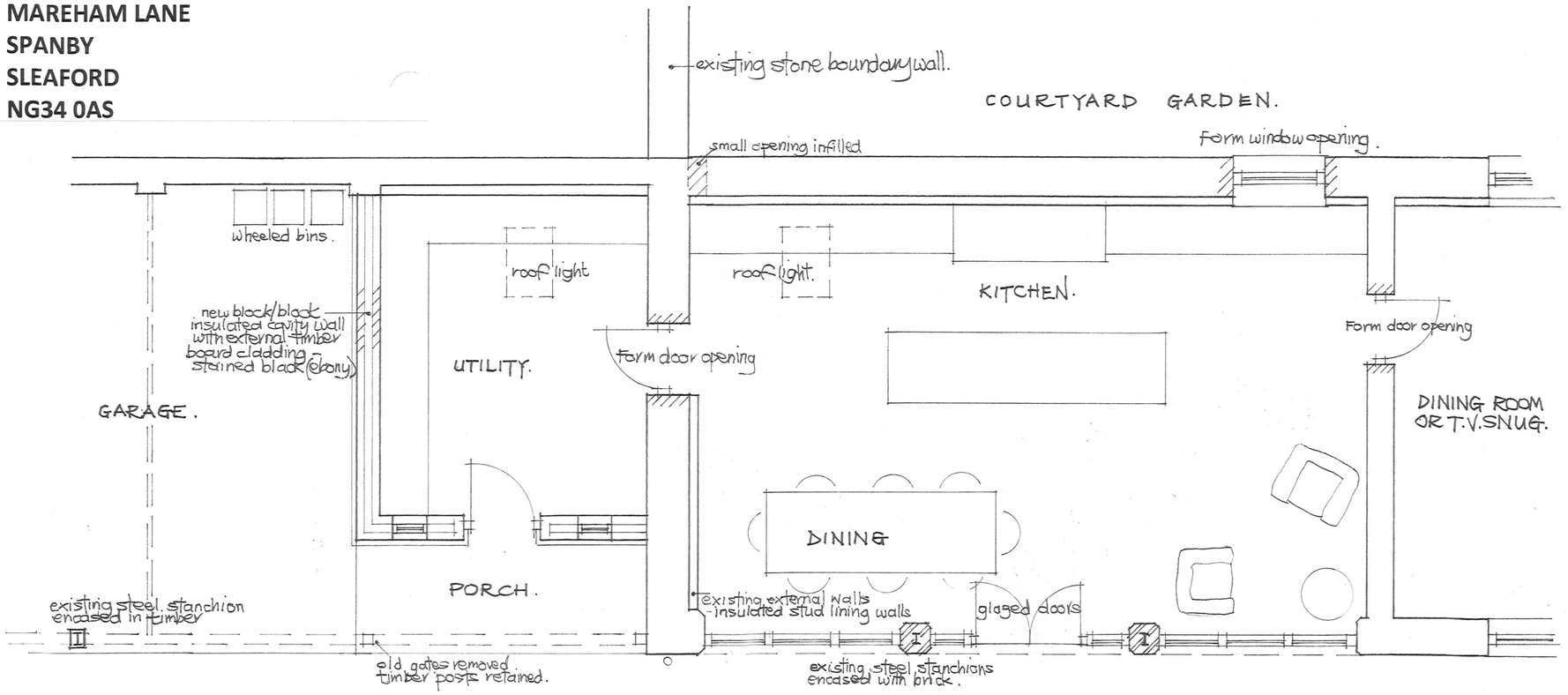
Scale @ A1:	1:200	Date:	25/03/2021
Drawing No:	21 - 60 - 01	Rev:	
C.A.D.Title:	aswarby 1987 settlement mareham lane spanby\topo master (21-60-01).mjo		
Drawn By:	MJW	Checked By:	SRW

Daniel Charles Surveys Ltd
Land Surveying & Engineering Services
Honeywood Barn, Honeyholes Lane,
Dunholme, Lincoln, LN2 3SU
Tel : 01673 860444 Fax : 01673 863362
E-mail : info@daniel-charles.co.uk
Website : www.daniel-charles.co.uk

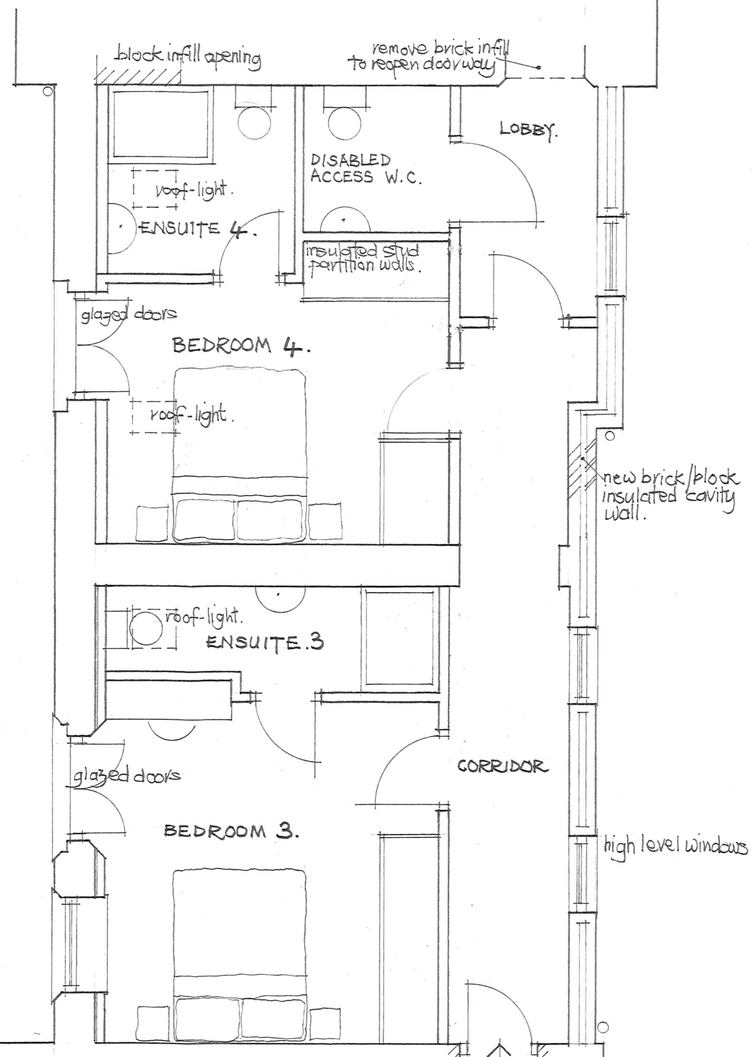
APPENDIX B

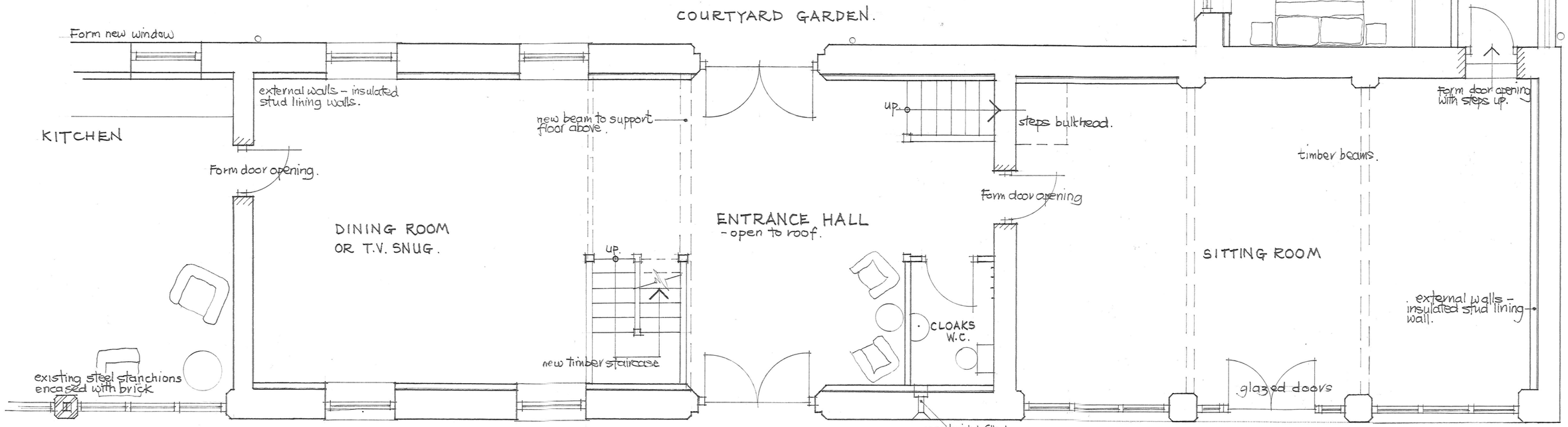
Indicative Layout Drawings

PROPOSED BARN CONVERSIONS
FARMSTEAD REAR OF SPANBY HOUSE
MAREHAM LANE
SPANBY
SLEAFORD
NG34 0AS



GROUND FLOOR PLAN - AS PROPOSED 1:50.

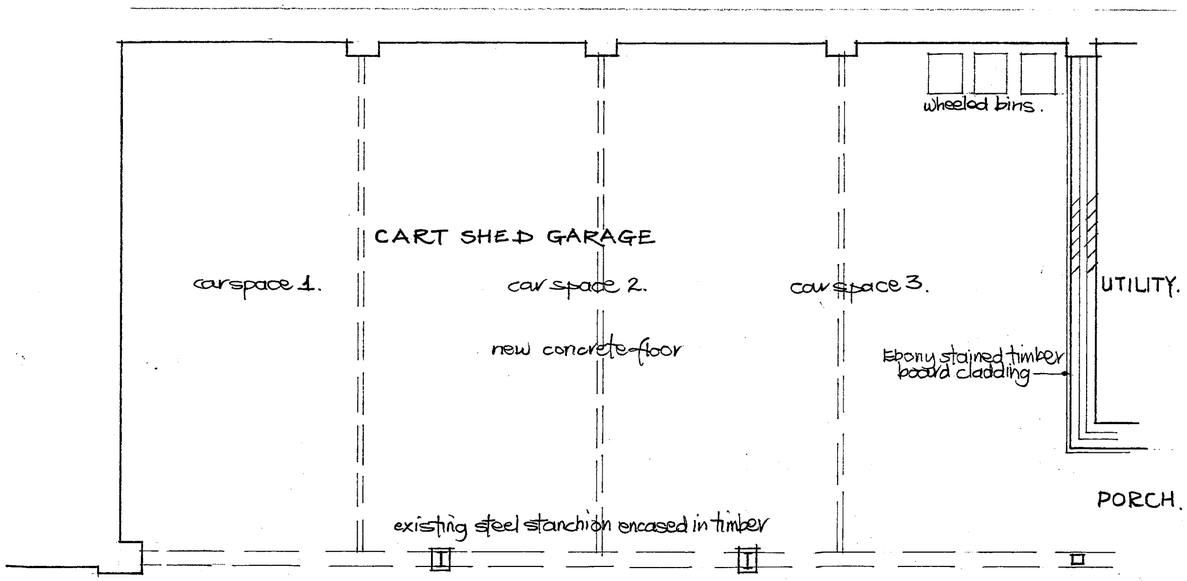




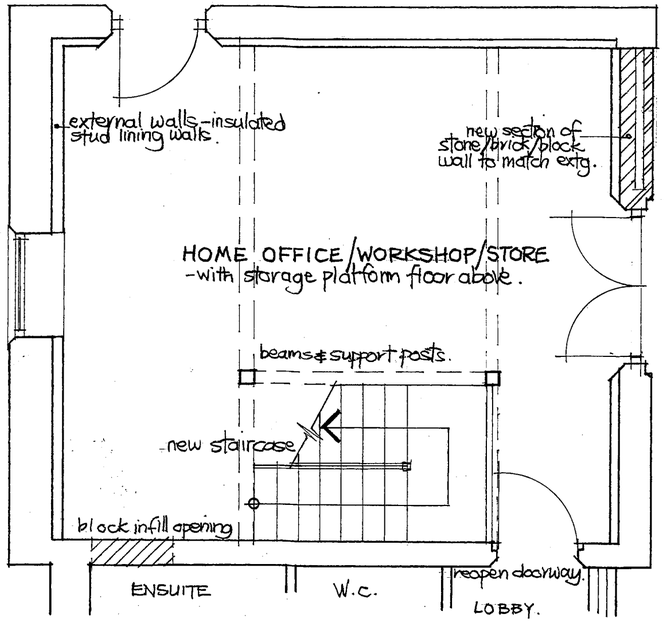
GROUND FLOOR PLAN - AS PROPOSED 1:50

FLOOR PLANS - AS PROPOSED (1 of 2)
Drawing No. SPANBY/2021/P2
Scale 1:50 @ A2
Drawn - David Morris MRICS
Date - June 2021

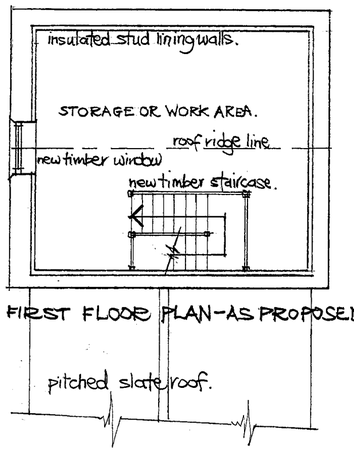
PROPOSED BARN CONVERSIONS
FARMSTEAD REAR OF SPANBY HOUSE
MAREHAM LANE
SPANBY
SLEAFORD
NG34 0AS



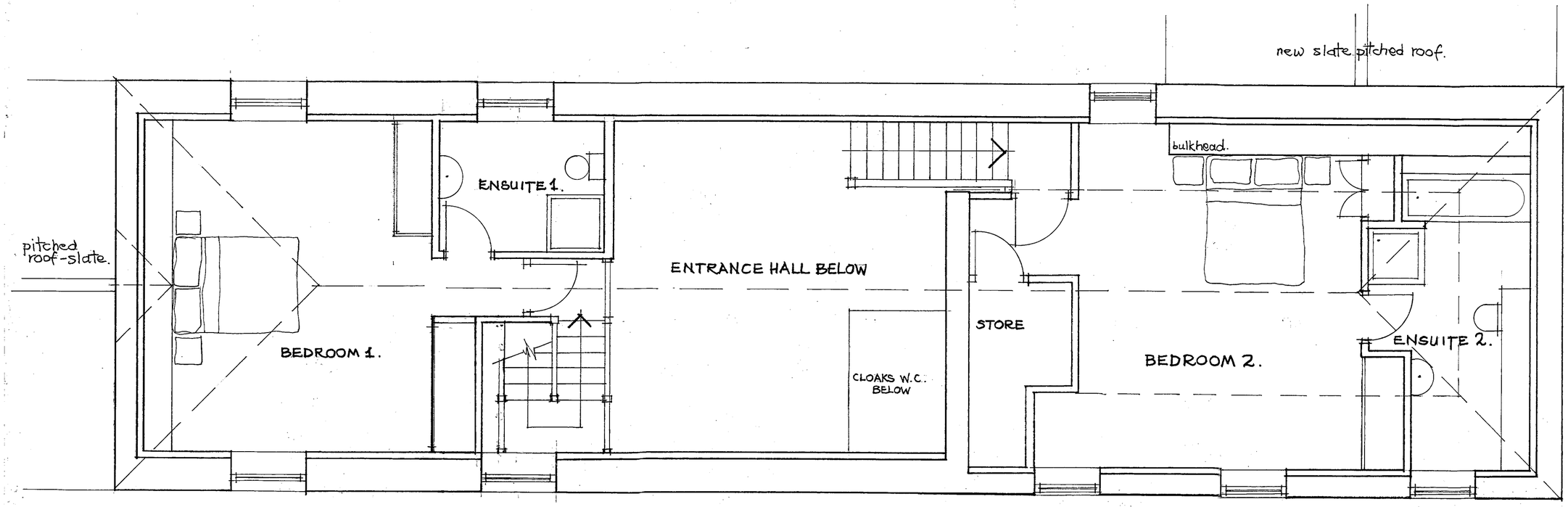
FLOOR PLAN OF GARAGE CARTSHED 1:50.



GROUND FLOOR PLAN - AS PROPOSED 1:50



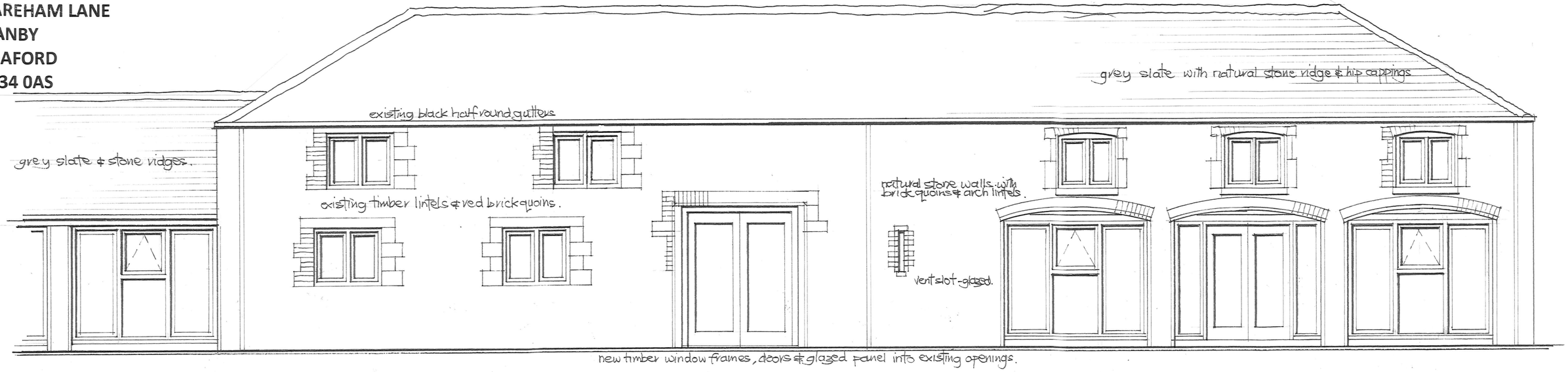
FIRST FLOOR PLAN - AS PROPOSED 1:100.



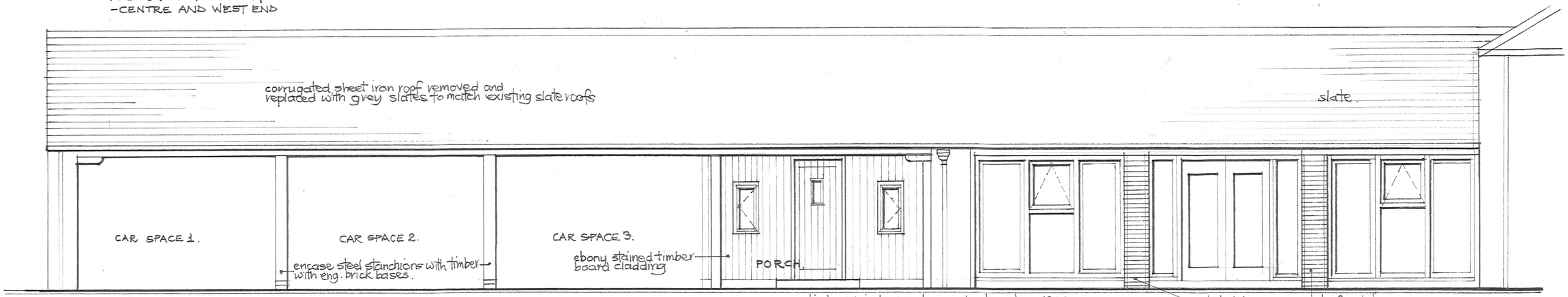
FIRST FLOOR PLAN - AS PROPOSED 1:50

FLOOR PLANS - AS PROPOSED (2 of 2)
Drawing No. SPANBY/2021/P3
Scale 1:50 @ A2
Drawn - David Morris MRICS
Date - June 2021

PROPOSED BARN CONVERSIONS
FARMSTEAD REAR OF SPANBY HOUSE
MAREHAM LANE
SPANBY
SLEAFORD
NG34 0AS

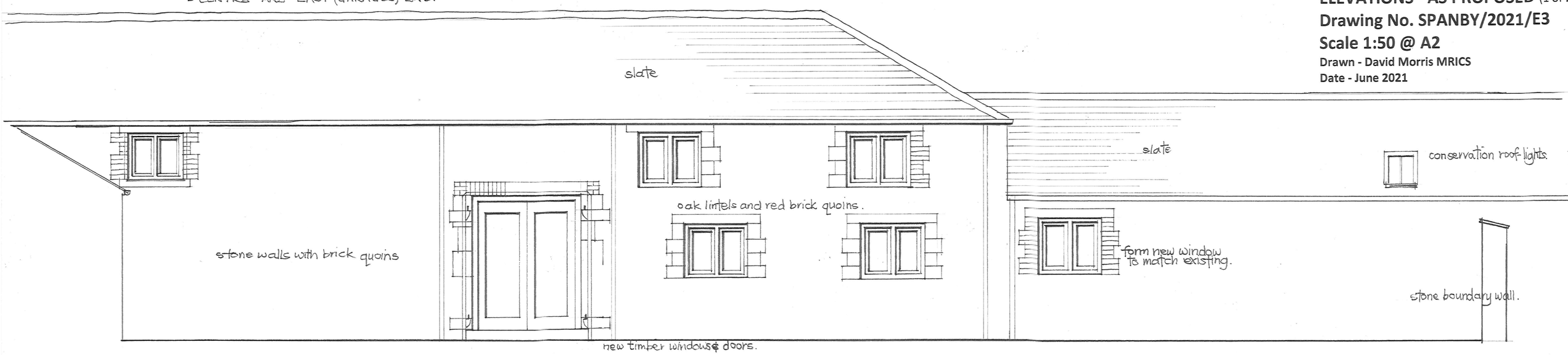


NORTH ELEVATION - AS PROPOSED 1:50
- CENTRE AND WEST END



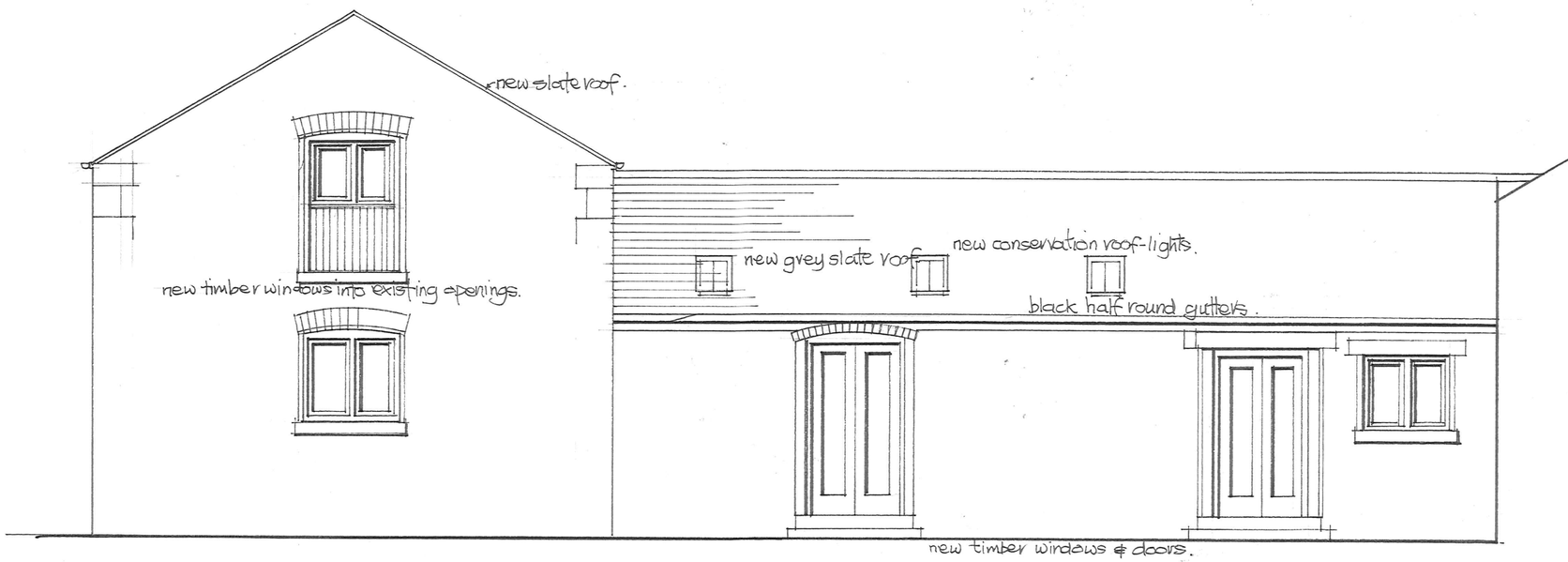
NORTH ELEVATION - AS PROPOSED 1:50
- CENTRE AND EAST (GARAGES) END.

ELEVATIONS - AS PROPOSED (1 of 2)
Drawing No. SPANBY/2021/E3
Scale 1:50 @ A2
Drawn - David Morris MRICS
Date - June 2021

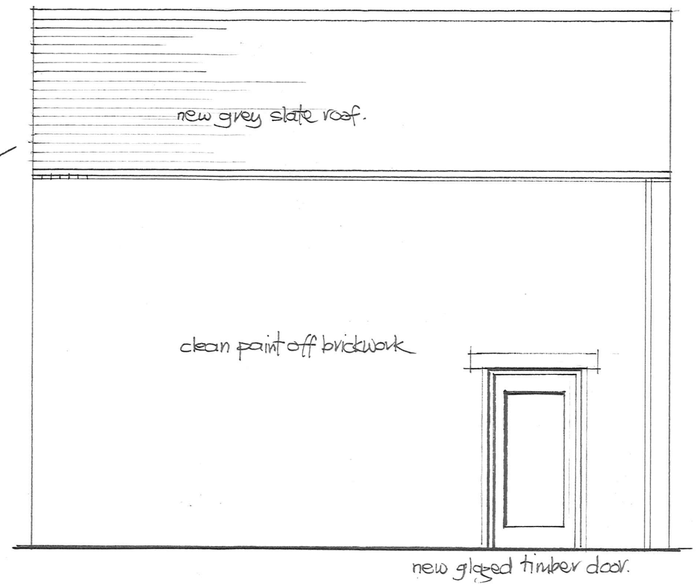


SOUTH ELEVATION - AS PROPOSED 1:50

WEST ELEVATION - AS PROPOSED 1:50



EAST COURTYARD GARDEN ELEVATION - AS PROPOSED 1:50.



SOUTH ELEVATION - AS PROPOSED 1:50

PROPOSED BARN CONVERSIONS
FARMSTEAD REAR OF SPANBY HOUSE
MAREHAM LANE
SPANBY
SLEAFORD
NG34 0AS

ELEVATIONS - AS PROPOSED (2 of 2)
Drawing No. SPANBY/2021/E4
Scale 1:50 @ A2
Drawn - David Morris MRICS
Date - June 2021

Alan Wood & Partners

Hull Office
(Registered Office)
341 Beverley Road
Hull
HU5 1LD
Telephone
01482.442138

Leeds Office
Suite 72
Brabazon House
Turnberry Park
Leeds LS27 7LE
Telephone
0113 531.1098

Lincoln Office
Unit H
The Quays
Burton Waters
Lincoln LN1 2XG
Telephone
01522.300210

London Office
Henry Wood House
2 Riding House Street
London
W1W 7FA
Telephone
020.71860761

Scarborough Office
Kingsley House
7 Pickering Road
West Ayton
Scarborough YO13 9JE
Telephone
01723.865484

Sheffield Office
Hallamshire House
Meadow Court
Hayland Street
Sheffield S9 1BY
Telephone
01142.440077

York Office
Omega 2
Monks Cross Drive
York
YO32 9GZ
Telephone
01904 611594

Email
eng@alanwood.co.uk

Website
www.alanwood.co.uk

Our Services

BIM Processes
Blast Design
Boundary Disputes
BREEAM
Building Regulations Applications
Building & Structural Surveyors
CDM – Principal Designer
Civil Engineering
Contaminated Land/Remediation
Contract Administration
Demolition
Disabled Access Consultants
Energy from Waste
Expert Witness Services
Form Finding
Flood Risk Assessments
Foundation Design
Geo-technical Investigations & Design
Geo-environmental Investigations
Historic Building Services
Highway Design
Land Remediation Advice
Land Surveying
Marine Works
Mining Investigations
Modular Design
Parametric Modelling
Party Wall Surveyors
Planning Applications
Project Managers
Renewable Energy
Risk Assessments & Remediation
Road & Drainage Design
Site Investigations
Site Supervision
Structural Engineering
Sulphate Attack Specialists
Temporary Works
Topographic & Measured Surveys
Traffic Assessments

Quality Assurance Accreditation
ISO 9001 Registered firm
Certificate no. GB.02/07

Environmental Accreditation
ISO 14001Registered firm
Certificate no. GB.09/277b


www.alanwood.co.uk
Alan Wood & Partners