

FWS Geotechnical & Environmental Consultants

LEVEL 1 SCREENING FLOOD RISK ASSESSMENT FOR LAND AT FOLLY HALL, HUDDERSFIELD

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PROJECT NUMBER	4363	
PROJECT TITLE	Folly Hall, Huddersfield	
CLIENT	Folly Hall Residential Ltd 32 Lynton Avenue Huddersfield HD1 4EX	
ARCHITECT	C49 Architecture 23 D Woodhead Rd Holmfirth HD9 2JU	
REPORT TITLE	Level 1 Screening Flood Risk Assessment for Land at Folly Hall, Huddersfield	
REPORT REFERENCE	4363OR02	
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CONTENTS

1	INTRODUCTION	1
1.1	General.....	1
1.2	Scope of this Report.....	1
2	SITE LOCATION AND DESCRIPTION	2
3	PROPOSED DEVELOPMENT	2
4	SITE SPECIFIC FLOOD RISK	2
4.1	Hydrology and Flooding	2
4.2	Hydrogeology	2
4.3	Sources of Flooding	3
4.4	Local Authority Information	3
4.4.1	Local Authority Enquiries	3
4.4.2	Strategic Flood Risk Assessment and Probability of Flooding	3
4.5	Environment Agency Publicly Available Information.....	4
4.6	Envirocheck	4
4.7	Existing Utilities	4
4.8	Climate	4
4.9	Surface Water Management.....	5
4.10	Residual Risk.....	5
5	THE SEQUENTIAL TEST	6
6	EXCEPTIONS TEST	6
7	DETAILED DESIGN	7
8	CONCLUSIONS	7
9	REFERENCES	9

APPENDICES

1	DRAWINGS	
1.1	FWS DRAWINGS	
	4363OD01	SITE LOCATION PLAN
	4363OD04	RISK OF FLOODING FROM RIVERS AND SEA – SITE SPECIFIC
	4363OD05	RISK OF FLOODING FROM SURFACE WATER – SITE SPECIFIC
	4363OD06	RISK OF FLOODING FROM RESERVOIRS – SITE SPECIFIC
1.2	THIRD PARTY DRAWINGS	
	FLH-PL-001	EXISTING PLANS AND ELEVATIONS
	FLH-PL-002	PROPOSED PLANS
	FLH-PL-003	PROPOSED ELEVATIONS
	G	KIRKLEES FLOOD RISK MAP G
2	ENVIRONMENT AGENCY DATA	
3	LOCAL AUTHORITY CORRESPONDENCE	
4	NOTES ON LIMITATIONS	

LEVEL 1 SCREENING FLOOD RISK ASSESSMENT FOR LAND AT FOLLY HALL, HUDDERSFIELD

1 INTRODUCTION

1.1 General

FWS Consultants Ltd (FWS) have been instructed to undertake a Level 1 Screening Flood Risk Assessment (FRA) for land at Folly Hall, Huddersfield (the 'site') for Folly Hall Residential Ltd (the 'Client') to provide information for a future mixed commercial and residential development. The site location is shown on Drawing 4296OD01, Appendix 1 and is situated within a Flood Zone 2 as defined by the Environment Agency (EA).

This Level 1 Screening FRA has been undertaken in general accordance with current EA guidance (published online) and aims to provide an indication of the potential flood risk to the site, and identify whether there are likely to be any flooding or surface water management issues requiring further consideration in the proposed development. The objectives of this report are to undertake an assessment of potential flooding sources on the development in accordance with current guidance and planning policy. A separate Sequential Test is to be undertaken by the Architect and is, therefore, not included in this report.

A Preliminary Contamination and Mining Risk Assessment was undertaken for the site in May 2024 (Ref. 1).

1.2 Scope of this Report

This Level 1 screening report will briefly describe the existing conditions of the site and its surrounding area. The report shall assess the potential sources of flooding and the potential impacts; taking a risk based approach in accordance with the requirements set out in paragraph 020 of the Planning Practice Guidance, to comply with paragraph 167 of the National Planning Policy Framework.

Paragraph 167 of the National Planning Policy Framework requires a site specific flood risk assessment to demonstrate that:-

- within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;
- the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;
- it incorporates sustainable drainage systems unless there is clear evidence that this would be inappropriate;
- any residual risk can be safely managed; and
- safe access and escape routes are included where appropriate, as part of an agreed emergency plan.

No Level 2 or 3 hydraulic river or surface water modelling has been undertaken within this report. This report shall conclude with recommendations for appropriate mitigation measures against flood risk potential based upon the findings.

2 SITE LOCATION AND DESCRIPTION

The approximately 0.03 hectare site located at National Grid Reference 414240E, 415890N is situated 1 km from Huddersfield town centre, as shown in Drawing 4363OD01 (Appendix 1).

The site is presently occupied by a three-storey linked premises comprising a former restaurant and offices, and previously a pub.

3 PROPOSED DEVELOPMENT

The proposed development is for refurbishment and extension of the existing building and so ultimate design levels are anticipated to remain unchanged with the exception of the height of the buildings. The extension will comprise an additional two storeys to house student bedsits.

The proposed development comprises 32 student bedsits over the first, second, third and fourth floors, and two commercial units on the ground floor. In addition, a gym, service and leisure facilities for the student bedsits will also be developed on the ground floor. There is to be no significant change to the existing building footprint, and no garden or soft landscaped areas.

It is assumed that all sleeping areas (bedrooms) will be on the upper floors of the building. The proposed mixed commercial and residential development classifies as a 'More Vulnerable' development (worst case – residential) under the National Planning Policy Framework Annex 3: Flood risk vulnerability classification with an expected development lifetime of 100 years.

4 SITE SPECIFIC FLOOD RISK

4.1 Hydrology and Flooding

The nearest surface water body is the River Holme located 40 m to the southeast of the site, a tributary for the River Colne located 60 m northeast of the site.

The area slopes very gently in a north-easterly direction, towards these two nearest surface water features.

There are two recorded surface water abstractions within 100 m of the site. The closest surface water abstraction is 55 m to the east of the site relating to the River Holme, but it is unclear as to whether the abstraction is still active as the company is reported to have been closed.

From the desk study information (Ref. 1), the site falls within an area of Extreme Flooding from rivers or sea without defences (i.e. a Zone 2), but not within an area of Flooding from rivers or sea without defences (Zone 3). The site does fall within an area with the potential for groundwater flooding to occur at surface (Ref. 1).

4.2 Hydrogeology

The superficial deposits (Alluvium) are classified as a Secondary A Aquifer. The bedrock (Soft Bed Flags of the Pennine Lower Coal Measures) is classified as a Secondary A Aquifer.

4.3 Sources of Flooding

The potential sources of flooding that may affect the site are surface water flooding – both fluvial (rivers – the nearest being 40 m to the southeast of the site) and relating to high rainfall, groundwater flooding and flooding from reservoirs or blocked drainage (infrastructure failure). Sea/tidal-related flooding is not considered likely to impact this development due to its location away from the sea.

4.4 Local Authority Information

4.4.1 Local Authority Enquiries

Email enquiries for flood risk, historical flooding and drainage information for the site were made to Kirklees Council on 30 April 2024. A response was received on 1 May 2024 (see Appendix 3) that reported one local flood incident ‘in the vicinity of the development’ in the past 25 years, relating to a blocked gully. The Council records ‘do not indicate any surface water flooding on the road outside the property itself’.

It is reported in the Kirklees SRFA (Ref. 3) that there was widespread flooding of the Kirklees district in Winter 2015, but there is no indication that this site flooded during the incident.

4.4.2 Strategic Flood Risk Assessment and Probability of Flooding

A Strategic Flood Risk Assessment (SFRA), dated July 2016, has been made available on the Kirklees Council website.

The site is located on Detailed Map G (Appendix 1.2) within the SFRA. The maps identify the following features for the site:

- The site **is** in a Flood Zone 2 (defined as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% - 0.1%) in any year (or 0.5% - 0.1% for sea flooding, although sea flooding is not relevant to the current site).
- The site is not in a zone of historic flooding.
- The site is not within an area of a 30, 100 or 1000 year event for surface water flooding.
- The site **is** within a flood warning area.
- The site **is** within an area (1 km²) susceptible to groundwater flooding with a 50% to 75% risk of groundwater emergence (in contrast to the Environment Agency data indicating that groundwater flooding is ‘Unlikely’).
- The site **is** within an area at **low** risk of flooding from rivers and sea (defended).

Flood Zone 2 is defined as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% - 0.1%) in any year (or 0.5% - 0.1% for sea flooding, although this is not relevant to the current site).

Kirklees Council chose not to review allocated development sites but instead reviewed ‘key settlements and overall catchment’, and therefore no site-specific data is available for this brownfield site.

4.5 Environment Agency Publicly Available Information

An enquiry to the EA flood map for planning database identified that the site lies within Flood Zone 2 (Appendix 1). A Flood Risk Summary enquiry for the general postcode area (not specific to the site) was also made via the EA website, and for more site-specific data, extracts from the EA maps have been included in Appendix 1. The response generated was as follows:

- Flood risk from rivers and sea: High Risk for the general area, but from the map, the site itself is actually **Medium Risk** (between 1% and 3.3% chance each year).
- Flood risk from surface water: High Risk for the general area, but from the map, the site itself is actually **not at risk**.
- Likelihood of flooding from reservoirs in the event of a reservoir or dam failure (an event noted by the EA as 'Extremely Unlikely': **Within the risk area** – reservoirs that could affect the area are listed in Appendix 2.
- Likelihood of flooding from groundwater: **Unlikely** (in contrast to the Kirklees Council SFRA data that covers an area of 1 km² around the site).

The discrepancies between the postcode area from which the EA data reports on and the specific site area are large and, therefore, only the site-specific data obtained from the EA maps are considered to be relevant to the site in this report.

4.6 Envirocheck

Information obtained as part of the desk study (Ref. 1) details that the site falls within an area of Extreme Flooding from rivers or sea without defences (i.e. a Zone 2), but not within an area of Flooding from rivers or sea without defences (Zone 3). The site does fall within an area with the potential for groundwater flooding to occur at surface (Ref. 1).

4.7 Existing Utilities

It is anticipated that, due to the previous development and site use, existing drainage and sewerage will be present for the site. Consideration of the effects of the proposed development on the existing drainage and sewerage network will be undertaken as part of the detailed design with further consultation with the utilities provider (Yorkshire Water).

4.8 Climate

The government guidance gives likely forecasted sea level rise allowances for different river basin districts. This site falls within the Humber River basin district (Aire and Calder Management Catchment).

A peak river flow allowance of 23% is applicable to the site assuming a development lifetime of 100 years (using the central allowance as in the EA guidance for 'more vulnerable' developments).

Increases in peak rainfall intensity due to climate change may cause additional surface water flooding from the River Holme 40 m to the southeast, or in the case that local drainage channels become blocked. Local drainage is, however understood to be under the management of Yorkshire Water who, it is assumed, will consider the effects of climate change on their drainage maintenance programme. Peak rainfall allowances for the Aire and Calder Management

Catchment area (using the central allowance as above) are 25% for a 3.3% annual exceedance rainfall event and 30% for a 1% annual exceedance rainfall event over the potential development lifespan.

Assuming a minimum development lifetime of 100 years (as per the guidance) a higher central sea level rise allowance of 372 mm and a cumulative upper end rise of 1.55 m above the present levels is forecasted (using government guidance data). The site is unlikely to be impacted by sea level rise within this timeframe due to its present elevation above sea level.

As the proposed development is in the outline design stage, it is not possible to comment further in detail. However, the potential for climate change shall be considered as part of the detailed design stage, particularly in the use of built-in flood protection measures and improvements to existing drainage.

4.9 Surface Water Management

The proposed development does not include for any significant change to the existing building footprint and, therefore, there is not expected to be any significant change to surface water runoff. Sustainable drainage systems (SuDS) are not appropriate for this development due to its location in a built up area and there being a lack of ground floor open space on which to site SuDS.

Due to the change of use of the existing buildings, however, consideration of the effects this will have on the existing drainage infrastructure will be undertaken in the detailed design, including for any climate change effects, and modifications or upgrading will be undertaken if necessary. A drainage strategy will be prepared for the site as part of the detailed design stage.

4.10 Residual Risk

It is considered that there will be a low to moderate residual risk of flooding to the development, subject to confirmation of design details. The existing building footprint will not change, and no changes in the site surfacing (e.g. from hardstanding to soft landscaping) are proposed. Therefore, there will be no change to the existing potential for fluvial, groundwater, reservoir or surface water flooding as detailed below.

Fluvial (Rivers)

The site is in a Flood Zone 2 (defined as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% - 0.1%) in any year. The Environment Agency data indicate that the site is at 'Medium' risk of flooding from rivers and sea (between 1% and 3.3% chance each year). Therefore, it is considered that there may be a moderate risk to the development of fluvial flooding.

Surface Waters

The Environment Agency data indicate that the site is not in an area at risk of surface water flooding. The Local Authority data also indicate that the site is not within an area of a 30, 100 or 1000 year event for surface water flooding. Therefore, it is considered that there is no residual risk to the development of surface water flooding within the lifetime of the proposed development.

Reservoirs

The Environment Agency data indicate that the site is within an area at risk of flooding in the unlikely event of catastrophic failure of a dam or reservoir in the near vicinity. Due to the extremely low likelihood of this occurring, it is considered that this presents a low risk of flooding to the proposed development.

Groundwater

Contradictory data is available for groundwater flooding risk to the proposed development. The Environment Agency data lists the likelihood as 'Unlikely', but the Local Authority SFRA lists the site as within an area susceptible to groundwater flooding with a 50% to 75% risk of groundwater emergence. Neither of these data sources have assessed the specific site location of the proposed development. The Environment Agency data is sourced for the general postcode area of the site, and the local Authority data is for a 1 km² grid square within which the site falls. The general postcode area is less than 1 km² and, therefore, it is considered that for this site, the Environment Agency data is likely to be more representative.

Drainage

With the vertical extension of the building and proposed 32 bedsit units, the demands on the existing local drainage and sewerage systems may increase, and this should be factored into the detailed design for the proposed development to prevent flooding from overwhelmed infrastructure.

5 THE SEQUENTIAL TEST

The site is located within a Flood Zone 2. A Sequential Test is being undertaken separately by the Architect and is, therefore, not covered in this report.

6 EXCEPTIONS TEST

The proposed mixed commercial and residential development represents a 'more vulnerable' development situated in Flood Zone 2 and, therefore, is not subject to the exceptions test as indicated by Table 2 (below) of the Government Flood Risk and Coastal Change Guidance.

Table 2: Flood risk vulnerability and flood zone 'incompatibility'

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

Key:

✓ Exception test is not required

X Development should not be permitted

7 DETAILED DESIGN

The project is not yet in the detailed design stage and, therefore, specific levels and finishes to the buildings are not yet finalised. There are to be no significant changes to the existing building footprint or changes in surfacing that would affect surface runoff or infiltration, and there have been no recorded historic floods that have affected the property. The only nearby flooding incident relates to a blocked gully 'in the vicinity' of the development within the last 25 years but does not seem to have affected the development site itself.

During the detailed design stage, the following will need to be taken into consideration:-

- Finished floor levels for the proposed development.
- Confirmation of proposed flood protection measures to be incorporated into the development (such as raised electricity outlets, door flood protection, none return values to drainage systems etc).
- Preparation of a detailed drainage plan including consideration of the existing drainage and sewerage infrastructure within the context of the effects on this from the new development.

8 CONCLUSIONS

From this Level 1 Screening Flood Risk Assessment, the proposed mixed commercial and residential development is considered appropriate for this Flood Zone 2 site subject to incorporation of flood defence measures in the detailed design and consideration of the proposed development changes effecting the existing drainage capacity.

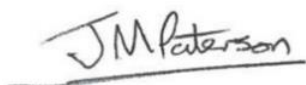
As the site is within a Flood Zone 2, a Level 2 risk assessment is also likely to be required once these details have been confirmed, and due to the remaining (though unchanged) moderate risk from fluvial flooding, in-built flood protection measures may be required (such as raised electrical sockets, door protection etc).

It is considered that this site specific flood risk assessment has demonstrated the following from paragraph 167 of the National Planning Policy Framework:-

- within the site, the most vulnerable development (residential) is located in areas of lowest flood risk i.e. above the ground floor, unless there are overriding reasons to prefer a different location;
- it incorporates sustainable drainage systems unless there is clear evidence that this would be inappropriate – see Section 4.9; and
- any residual risk can be safely managed (see Section 4.10).

The detailed design stage of the development must consider and allow demonstration of the following from paragraph 167 of the National Planning Policy Framework:

- safe access and escape routes are included where appropriate, as part of an agreed emergency plan;
- the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment – it is likely that flood protection measures will be incorporated into the final design, such as raised power outlets and door barriers.



J PATERSON
SENIOR GEOENVIRONMENTAL SCIENTIST



M LAKEY
DIRECTOR

9 REFERENCES

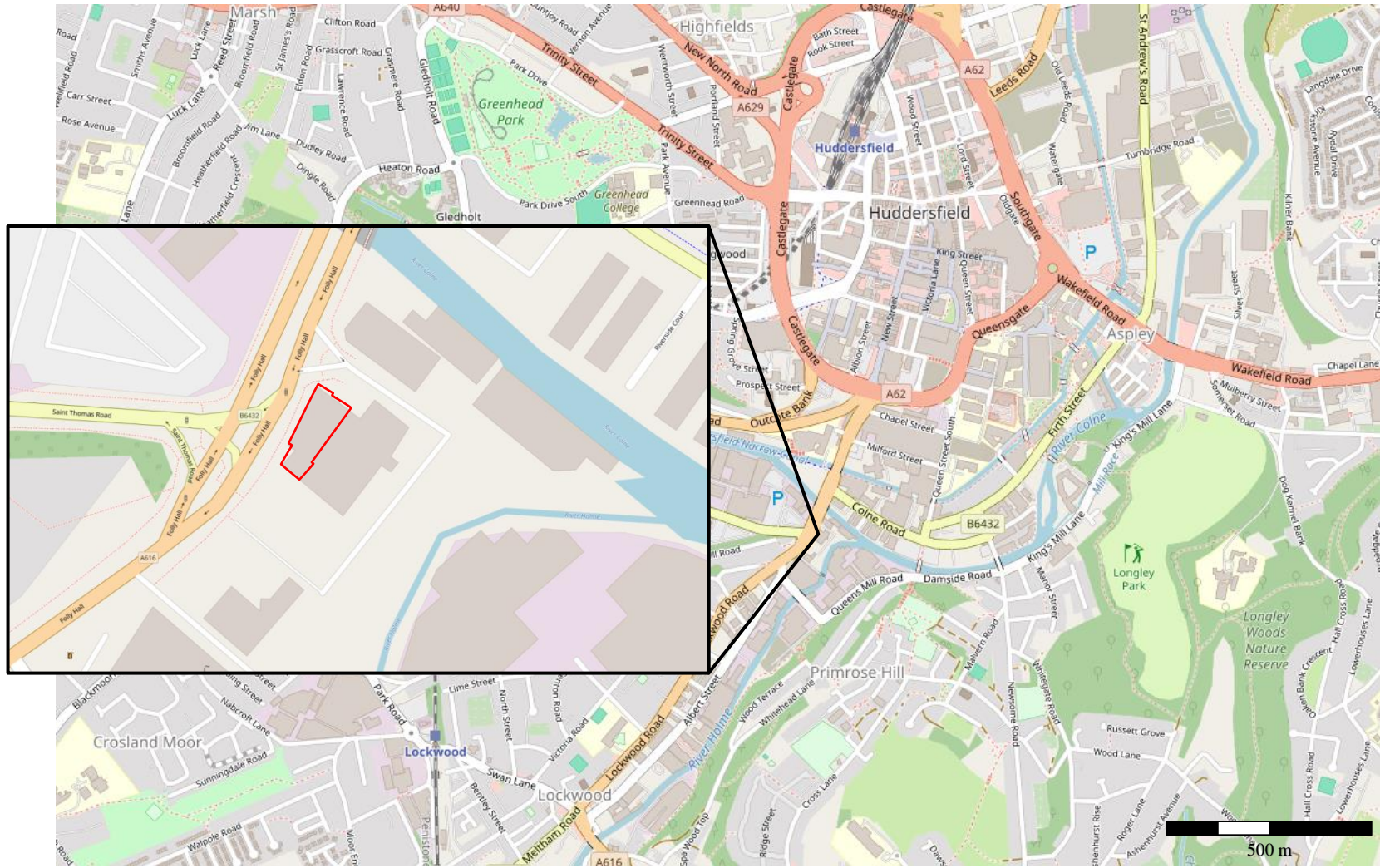
- 1 FWS Consultants, September 2023. Preliminary Contamination and Mining Risk Assessment on Land at Ridge Avenue, Burnley. 4296OR01.
- 2 GOV.UK Guidance: Flood Risk and Coastal Change. <https://www.gov.uk/guidance/flood-risk-and-coastal-change#para36>
- 3 JBA Consulting, April 2016. Calder Catchment Strategic Flood Risk Assessment – Volumes 1 and 2.

APPENDIX 1

DRAWINGS

APPENDIX 1.1

FWS DRAWINGS



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NOTES / KEY

SITE LOCATION █

DRAWING TITLE

SITE LOCATION PLAN

PROJECT TITLE

Preliminary Contamination and Mining Risk Assessment on Land at Folly Hall, Huddersfield

CLIENT

Folly Hall Residential

STATUS

FINAL

DRAWN BY

HD

SCALE

AS SHOWN

PROJECT NUMBER

4363

DATE

May 2024

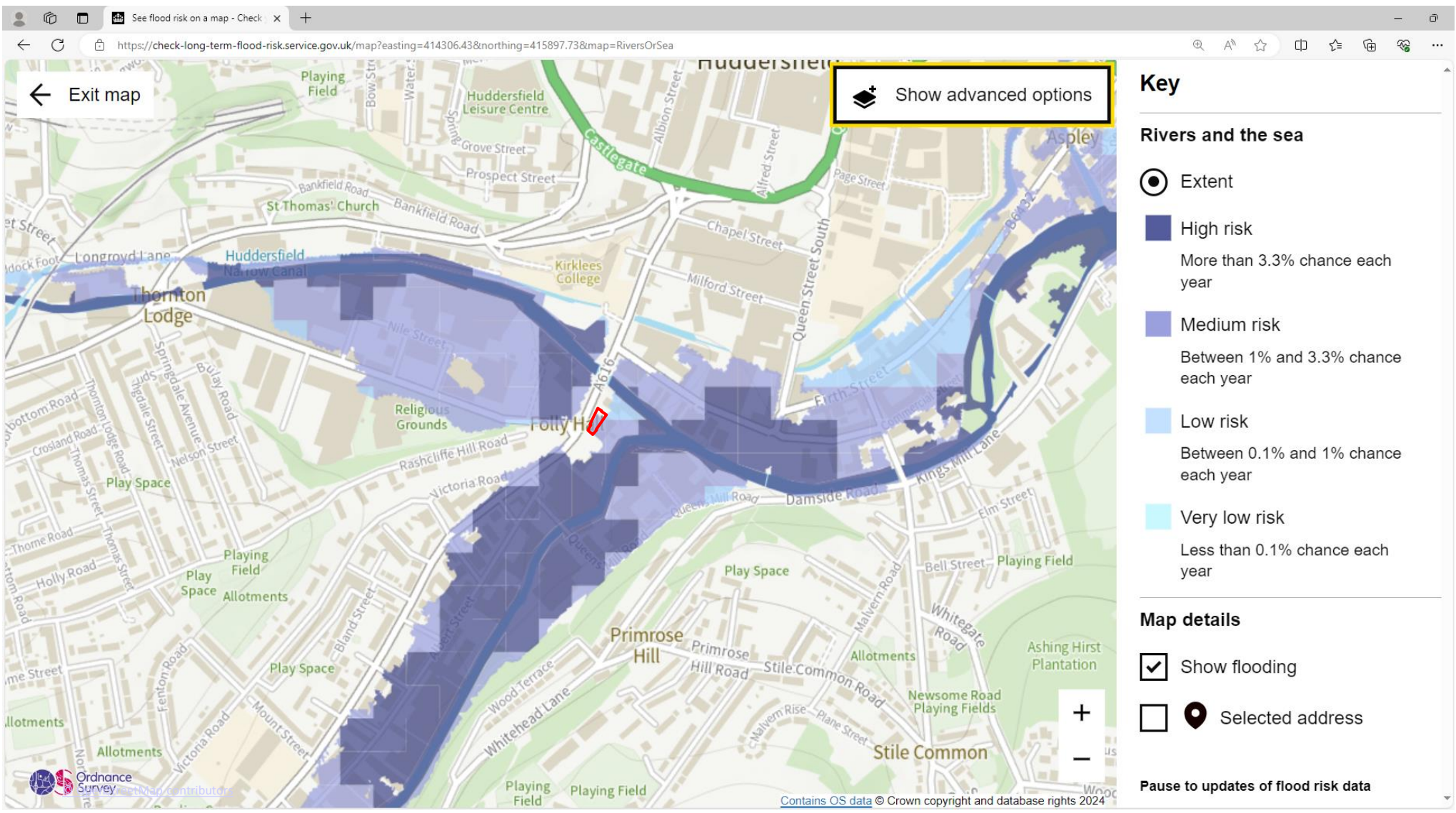
DRG. No.

43630D01 Plate 2



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NOTES / KEY

SITE LOCATION █

Data is from the Environment Agency, accessed 8th May 2024, showing map extract and web address.

DRAWING TITLE

Risk of Flooding from Rivers and Sea – Site-Specific

PROJECT TITLE

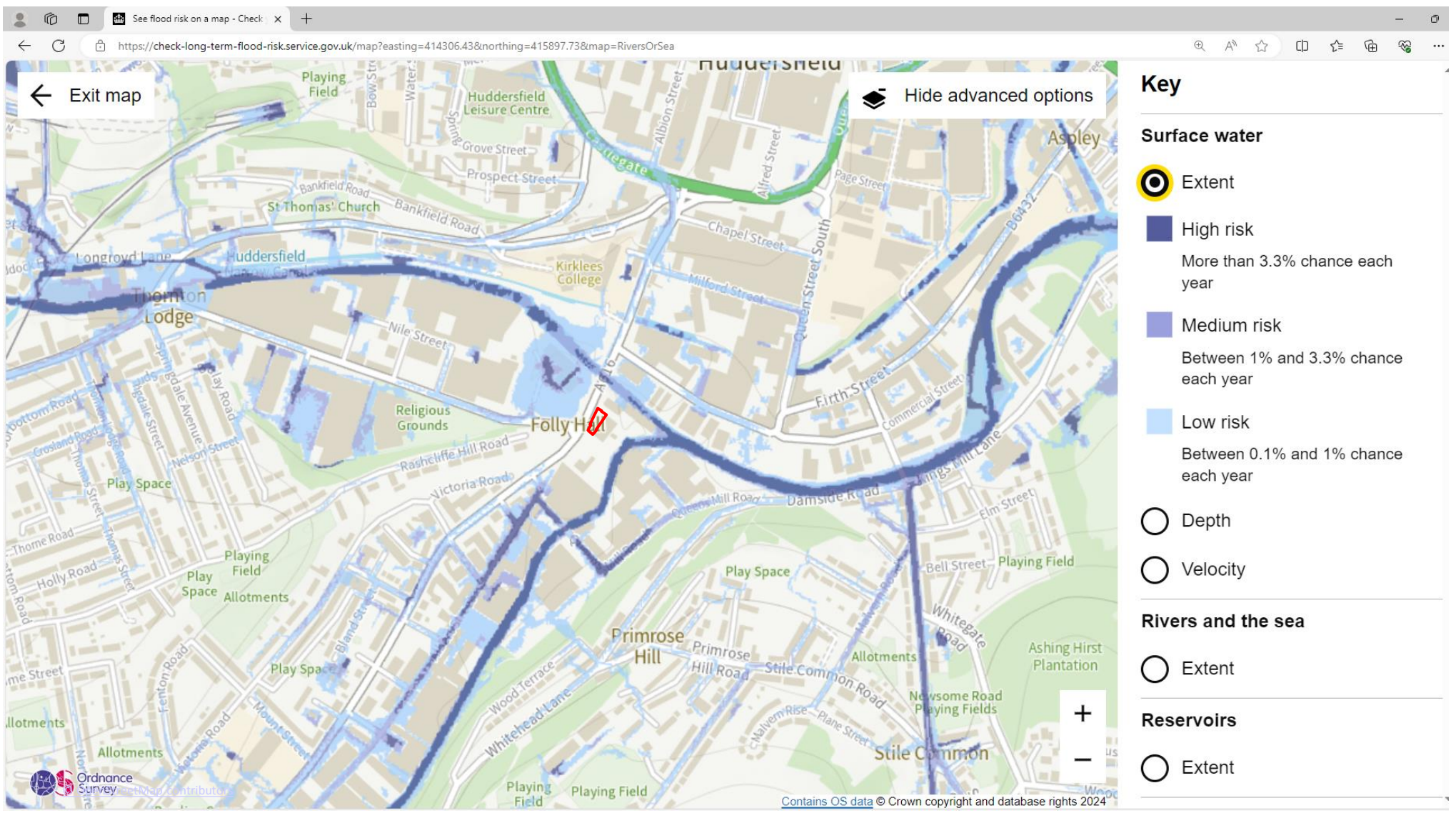
Level 1 Flood Risk Assessment for Proposed Development at Folly Hall, Huddersfield

CLIENT Folly Hall Residential	
STATUS	PROJECT NUMBER
FINAL	4363
DRAWN BY	DATE
JP	May 2024
SCALE	DRG. No.
AS SHOWN	43630D04

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NOTES / KEY

SITE LOCATION █

Data is from the Environment Agency, accessed 8th May 2024, showing map extract and web address.

DRAWING TITLE

Risk of Flooding from Surface Water – Site-Specific

PROJECT TITLE

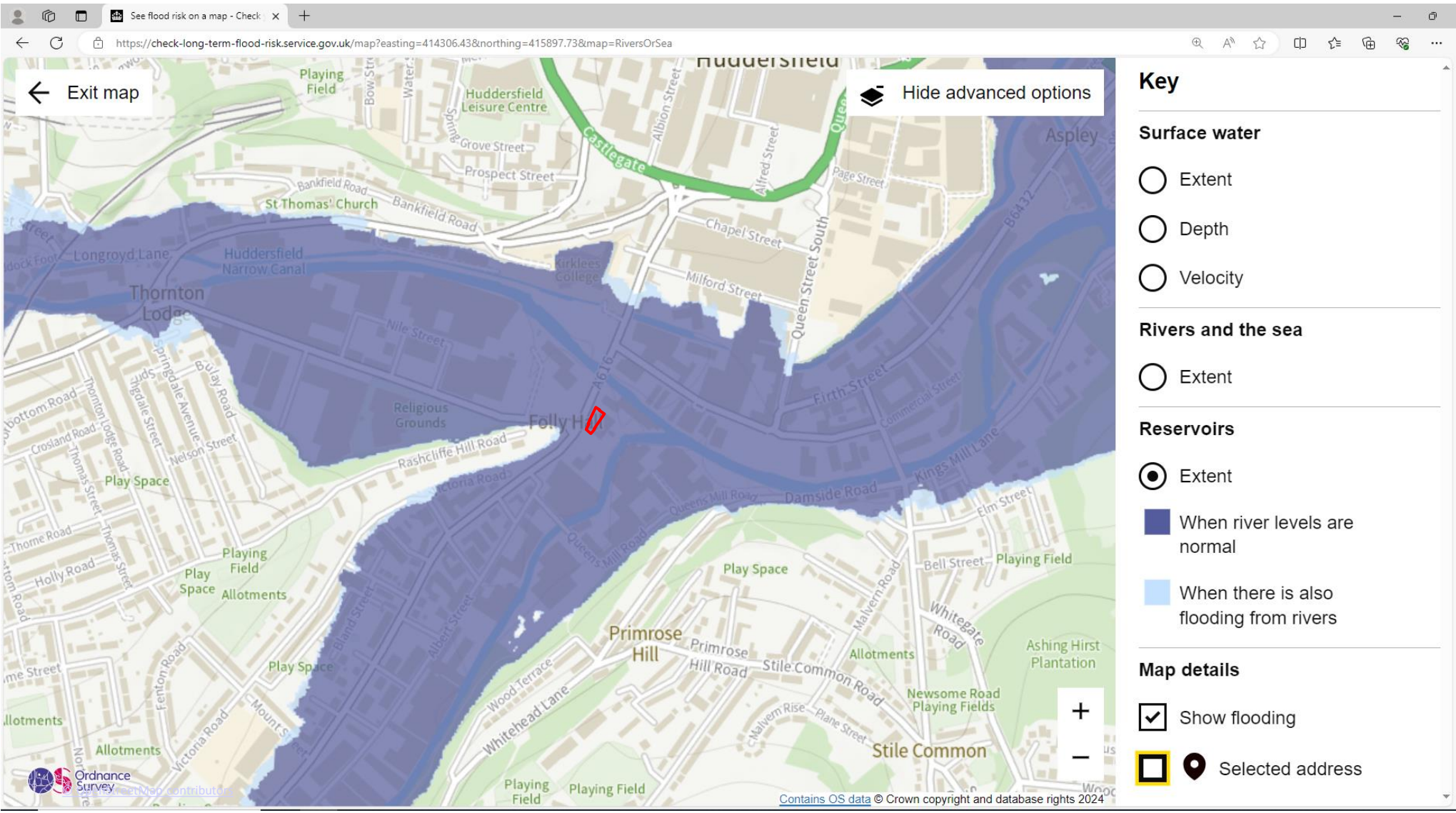
Level 1 Flood Risk Assessment for Proposed Development at Folly Hall, Huddersfield

CLIENT	
Folly Hall Residential	
STATUS	PROJECT NUMBER
FINAL	4363
DRAWN BY	DATE
JP	May 2024
SCALE	DRG. No.
AS SHOWN	43630D05

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NOTES / KEY

SITE LOCATION █

Data is from the Environment Agency, accessed 8th May 2024, showing map extract and web address.

DRAWING TITLE

Extent of Flooding from Reservoirs – Site-Specific

PROJECT TITLE

Level 1 Flood Risk Assessment for Proposed Development at Folly Hall, Huddersfield

CLIENT	
Folly Hall Residential	
STATUS	PROJECT NUMBER
FINAL	4363
DRAWN BY	DATE
JP	May 2024
SCALE	DRG. No.
AS SHOWN	4363OD06

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APPENDIX 1.2

THIRD PARTY DRAWINGS

All dimensions are to be checked on site, any discrepancies are to be reported to the Architect before work commences. Do not scale from this drawing.

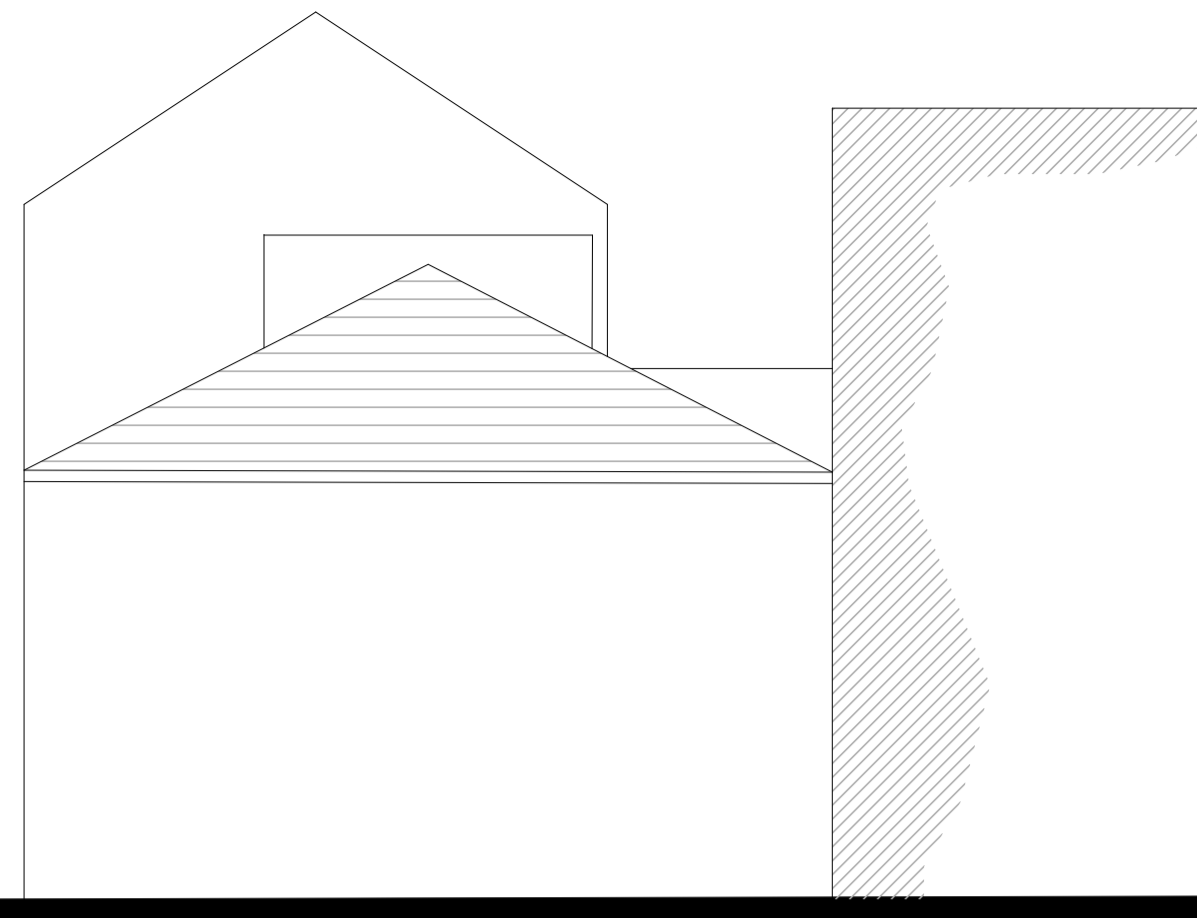
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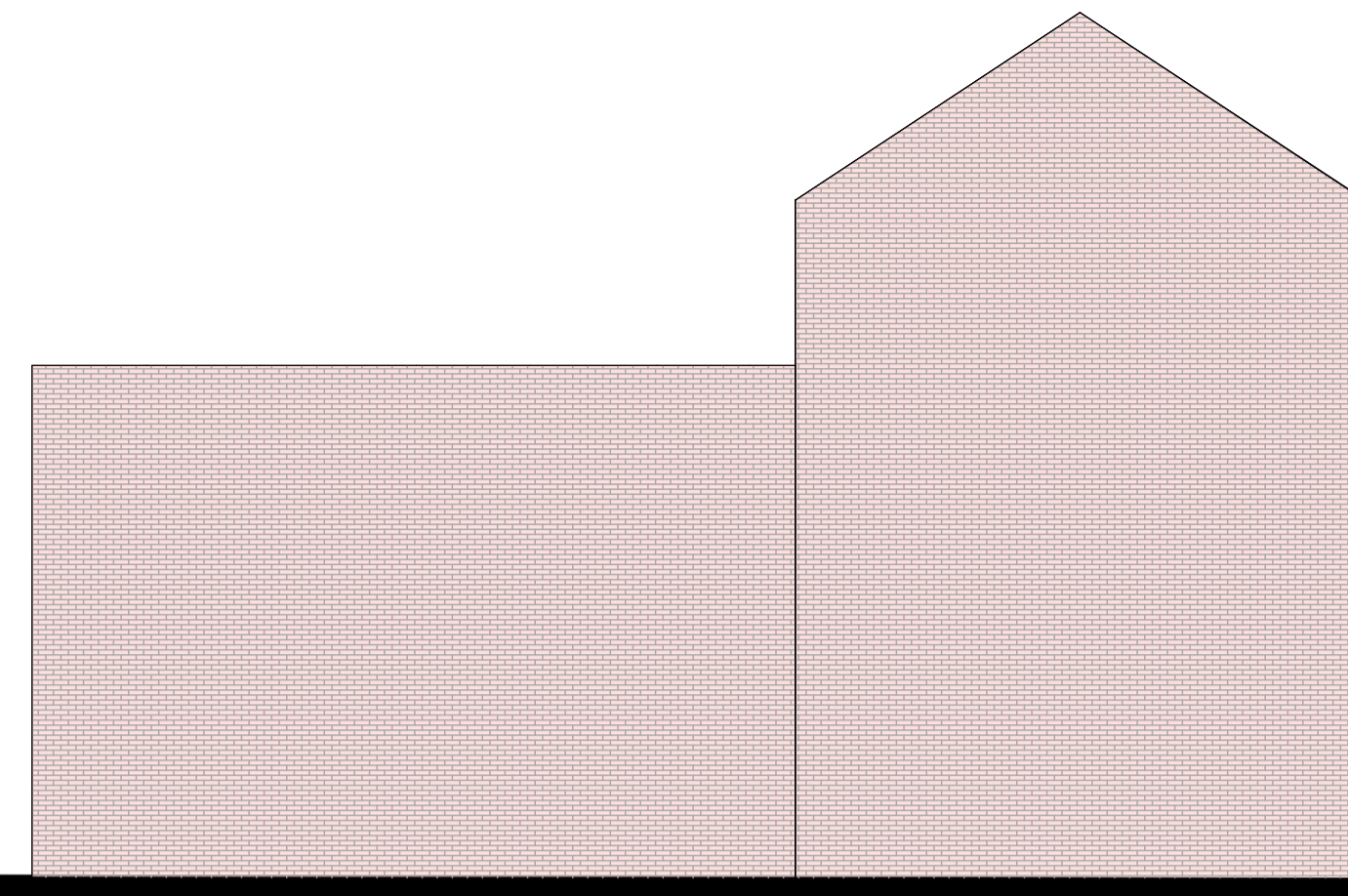
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REVISION	DATE	COMMENT



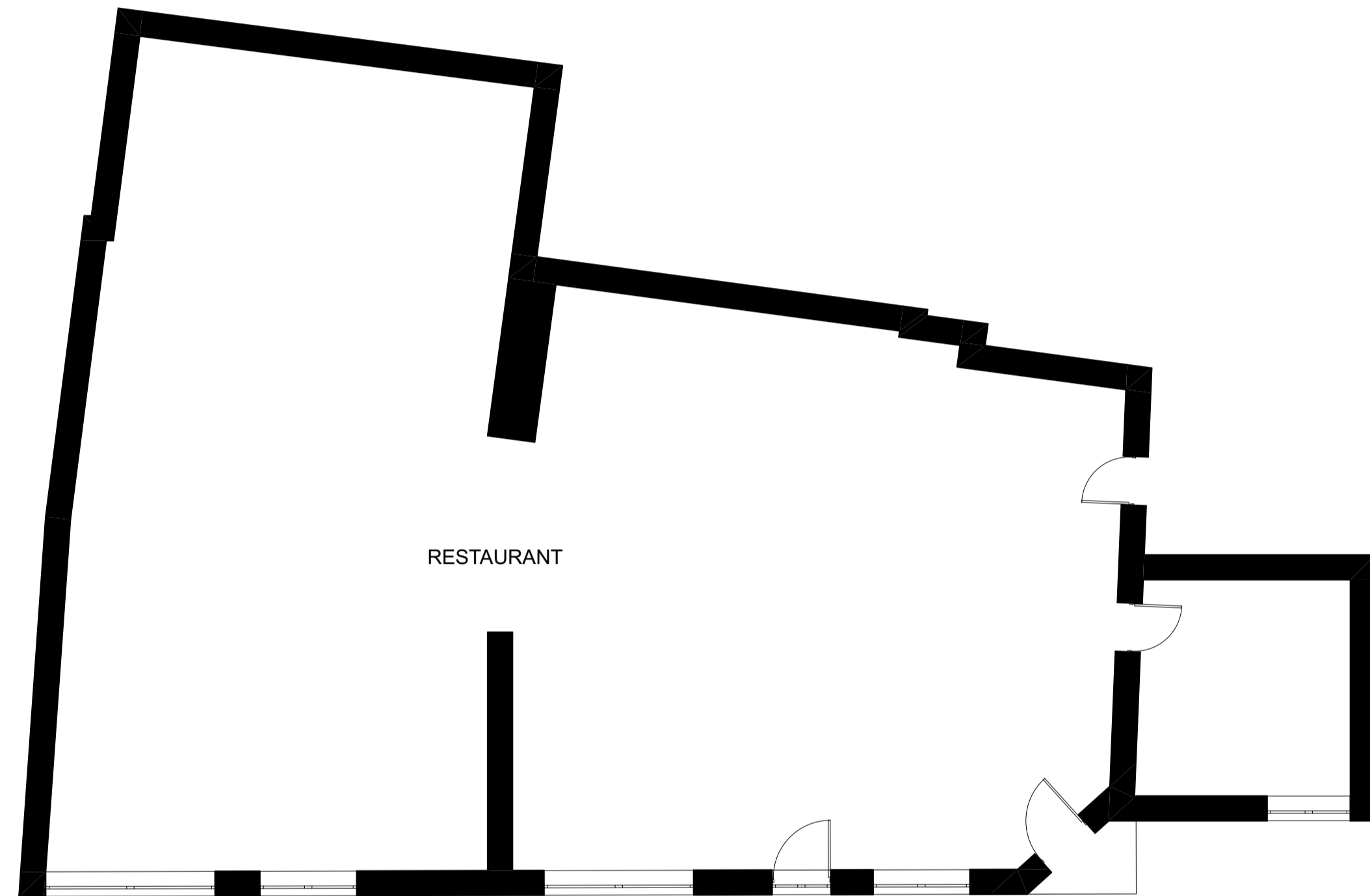
SIDE ELEVATION



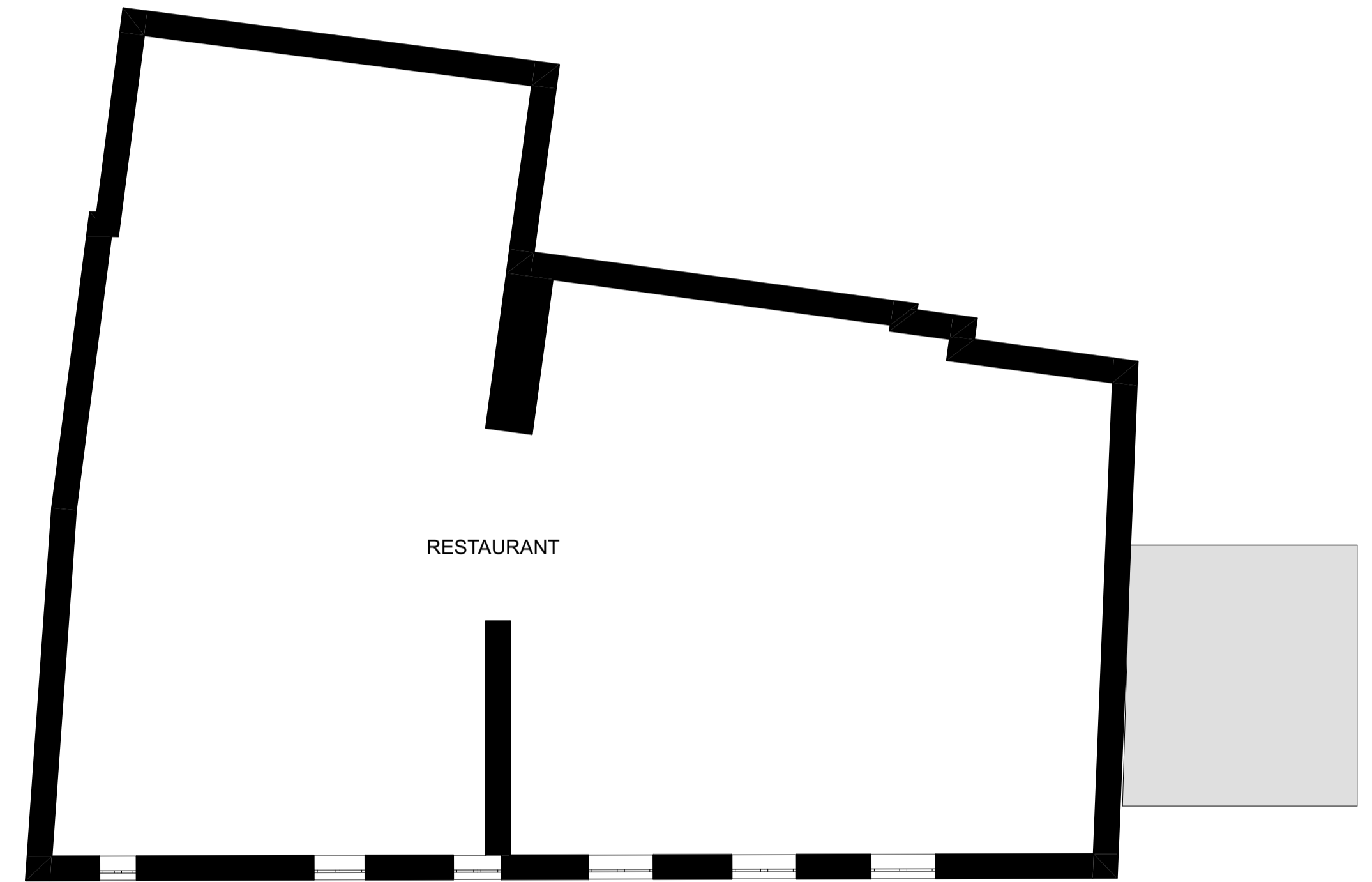
SIDE ELEVATION



FRONT ELEVATION



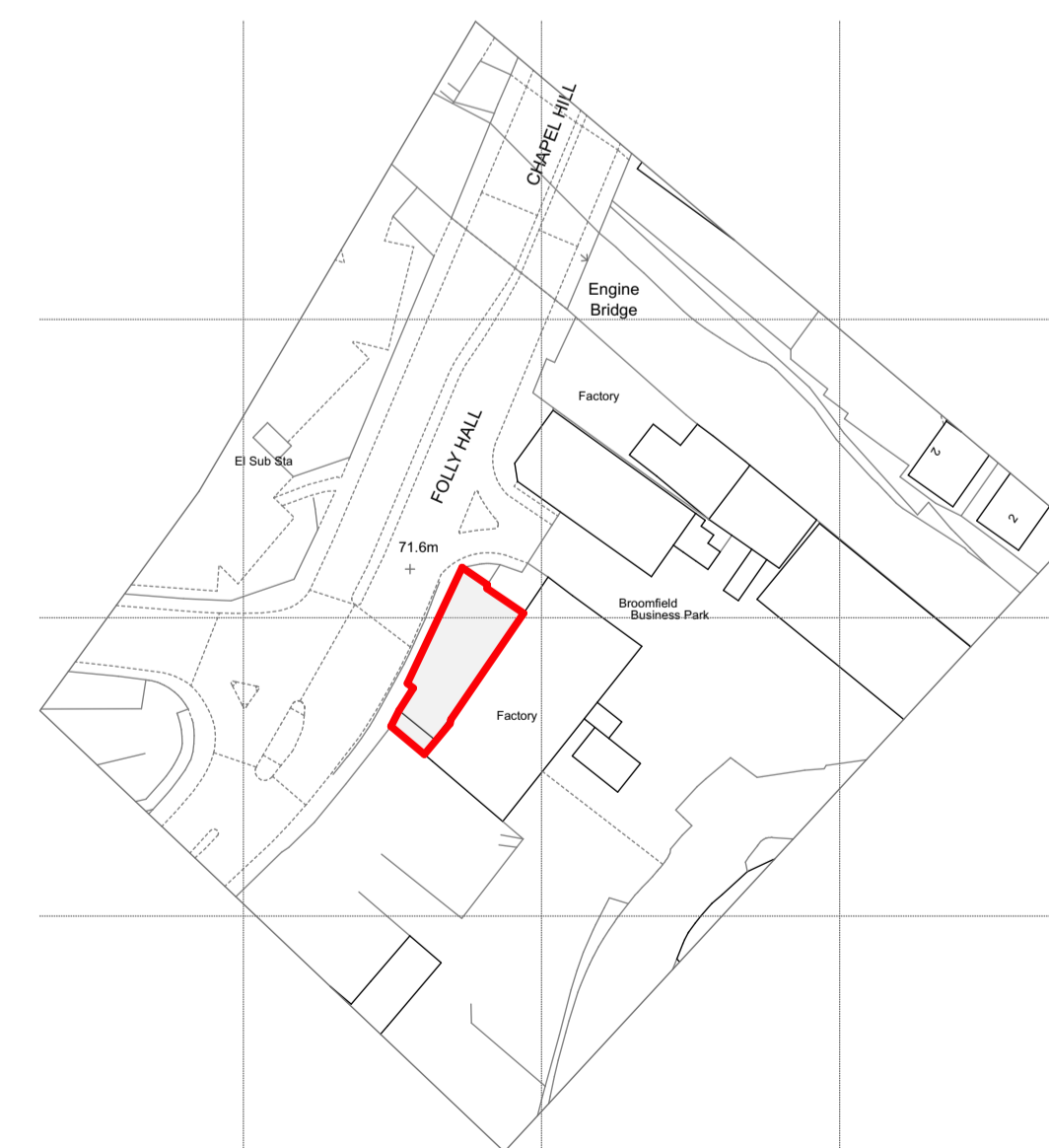
GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN



LOCATION PLAN 1:1250

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CLIENT DETAILS FOLLY HALL HUDDERSFIELD	DRAWING No FLH-PL-001	REVISION
DRAWING INFO Existing Plans and Elevations	SCALE 1:100	DATE 22/09/2023
		DRAWN BY JH

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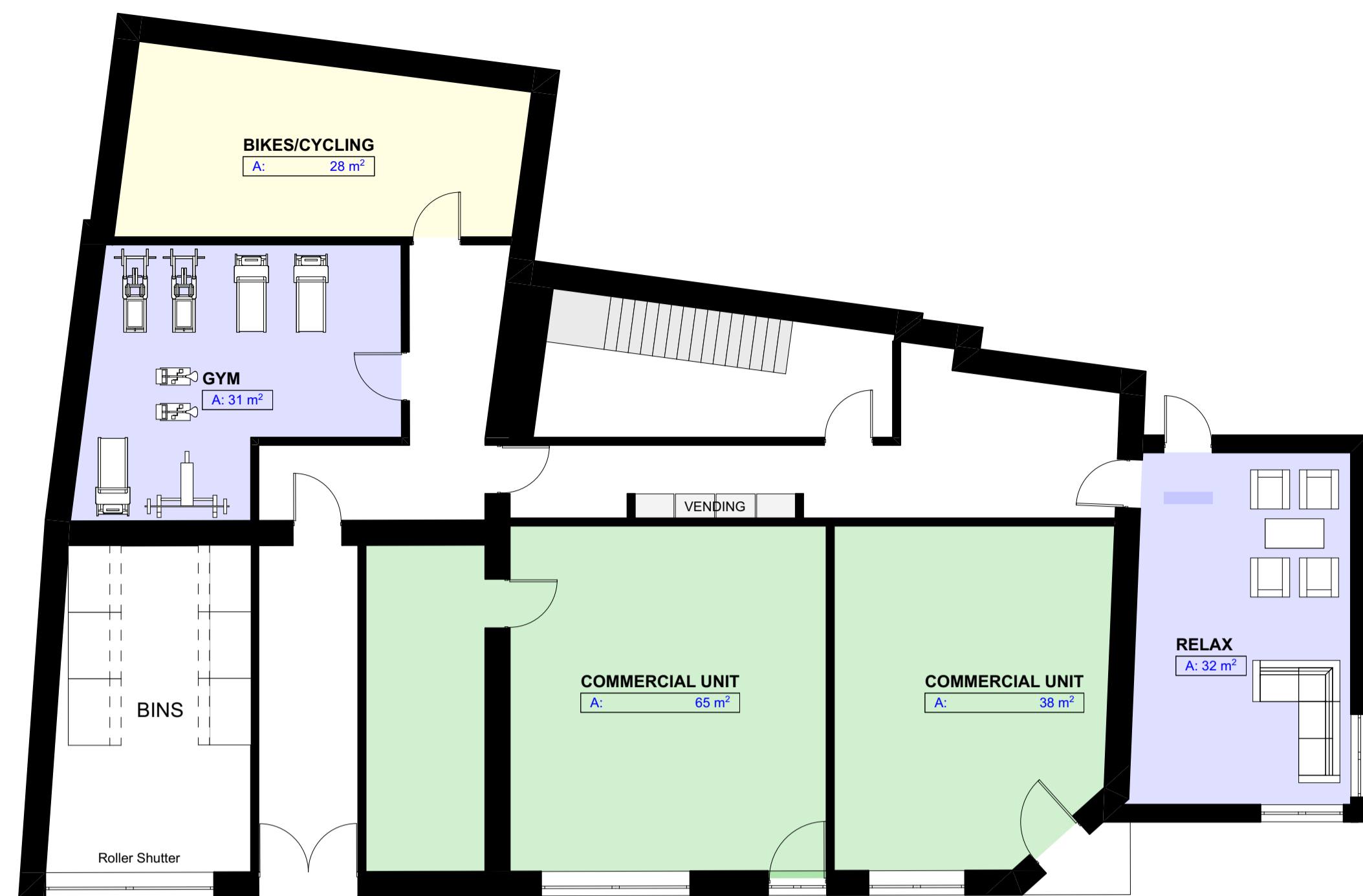
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REVISION	DATE	COMMENT



GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN

SCHEDULE OF ACCOMODATION

- First Floor x8 Units
- Second Floor x9 Units
- Third Floor x8 Units
- Fourth Floor x7 Units
- Total x32 Units



THIRD FLOOR PLAN



FOURTH FLOOR PLAN



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CLIENT DETAILS FOLLY HALL HUDDERSFIELD	DRAWING No FLH-PL-002		REVISION
	DRAWING INFO Proposed Plans		SCALE 1:100
DATE 22/09/2023		DRAWN BY JH	

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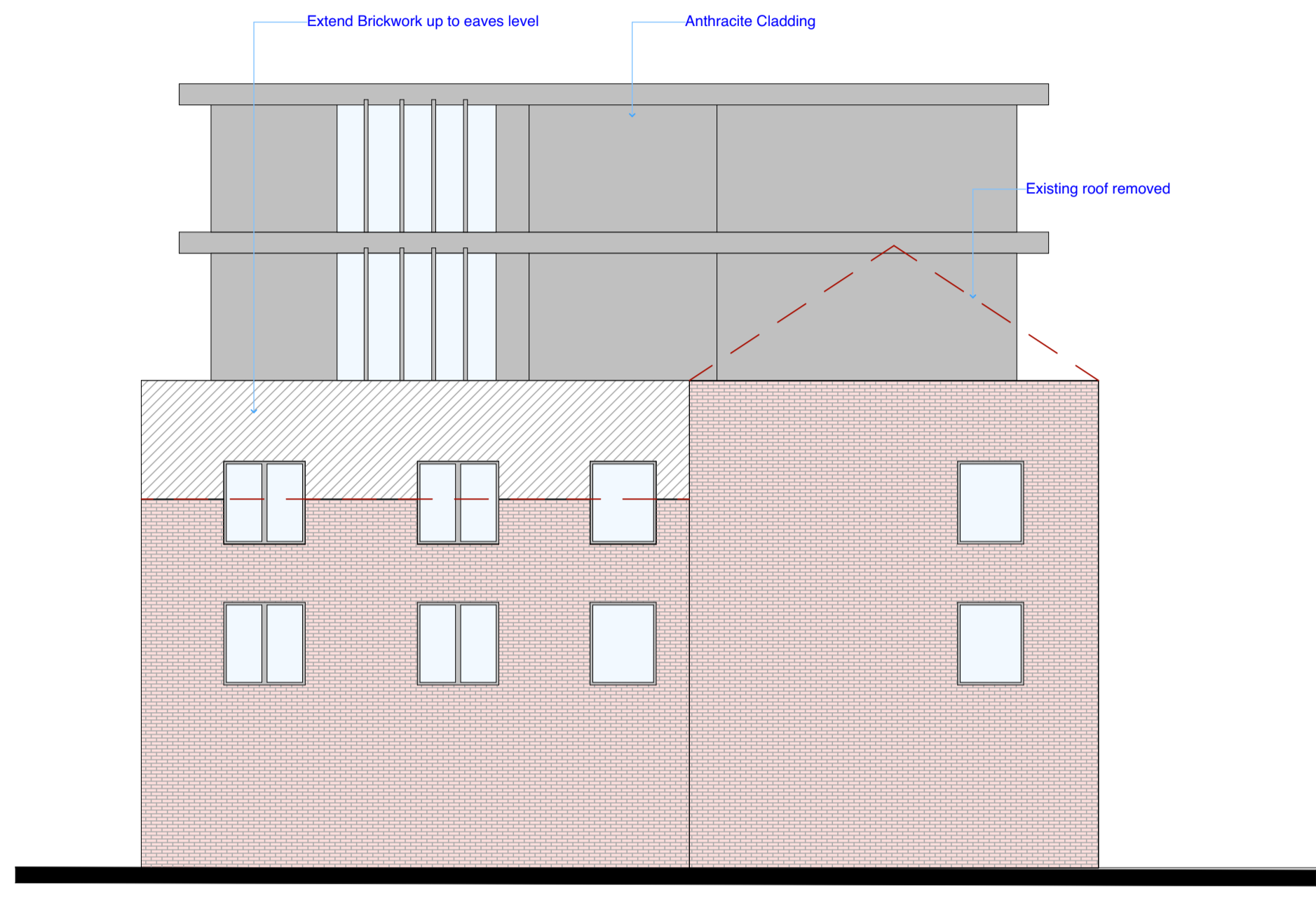
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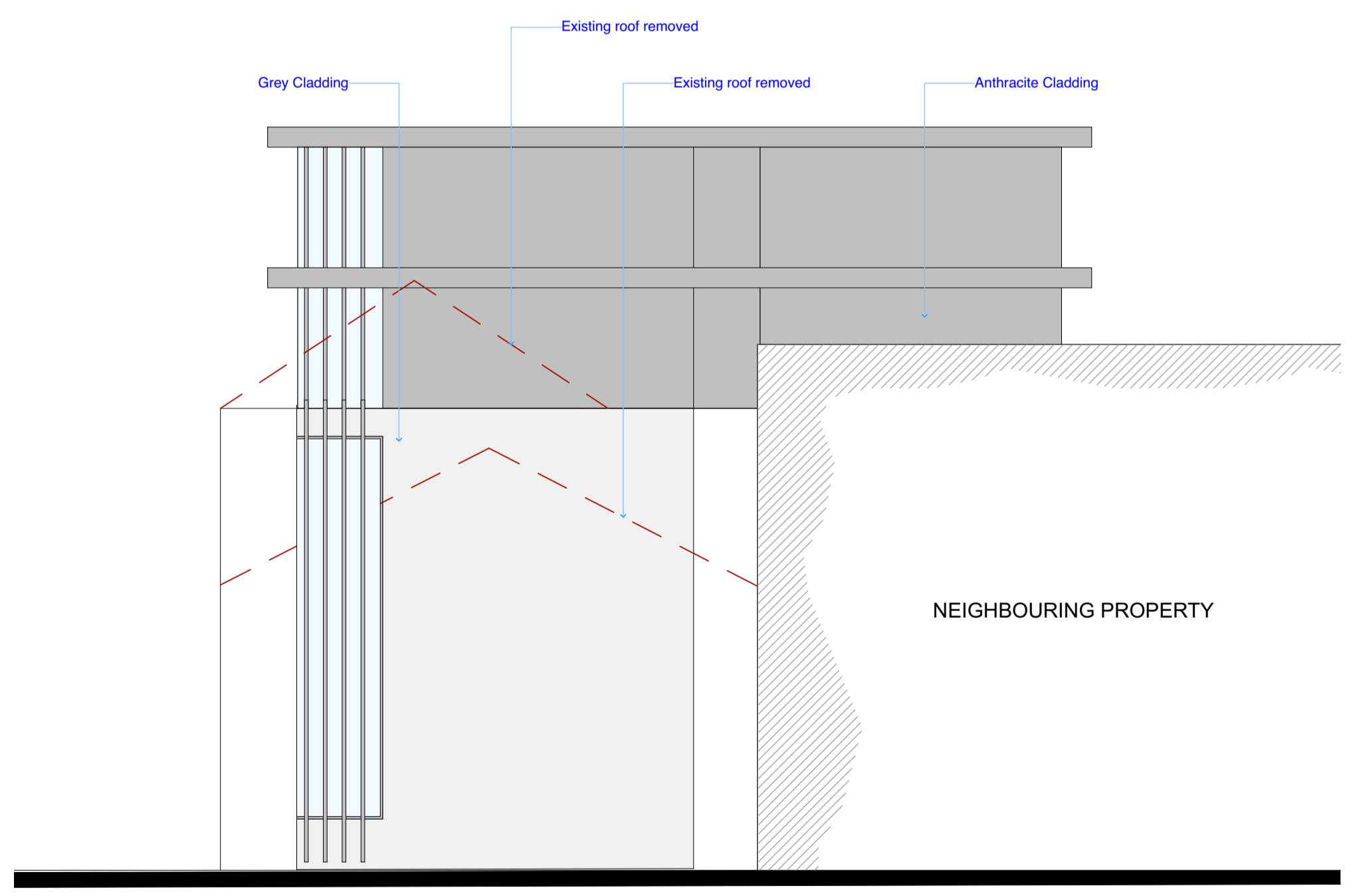
REVISION	DATE	COMMENT



SIDE ELEVATION



FRONT ELEVATION



SIDE ELEVATION



LOCATION PLAN 1:1250



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CLIENT DETAILS FOLLY HALL HUDDERSFIELD	DRAWING No FLH-PL-003	REVISION
DRAWING INFO Proposed Elevations	SCALE 1:100	DATE 22/09/2023
		DRAWN BY JH

APPENDIX 2

ENVIRONMENT AGENCY DATA

This location is in flood zone 2

What flood zone 2 means

Land within flood zone 2 has a medium probability of flooding from rivers and the sea.

You need to carry out a flood risk assessment (FRA) as part of the planning application for this development.

Flood zone 2

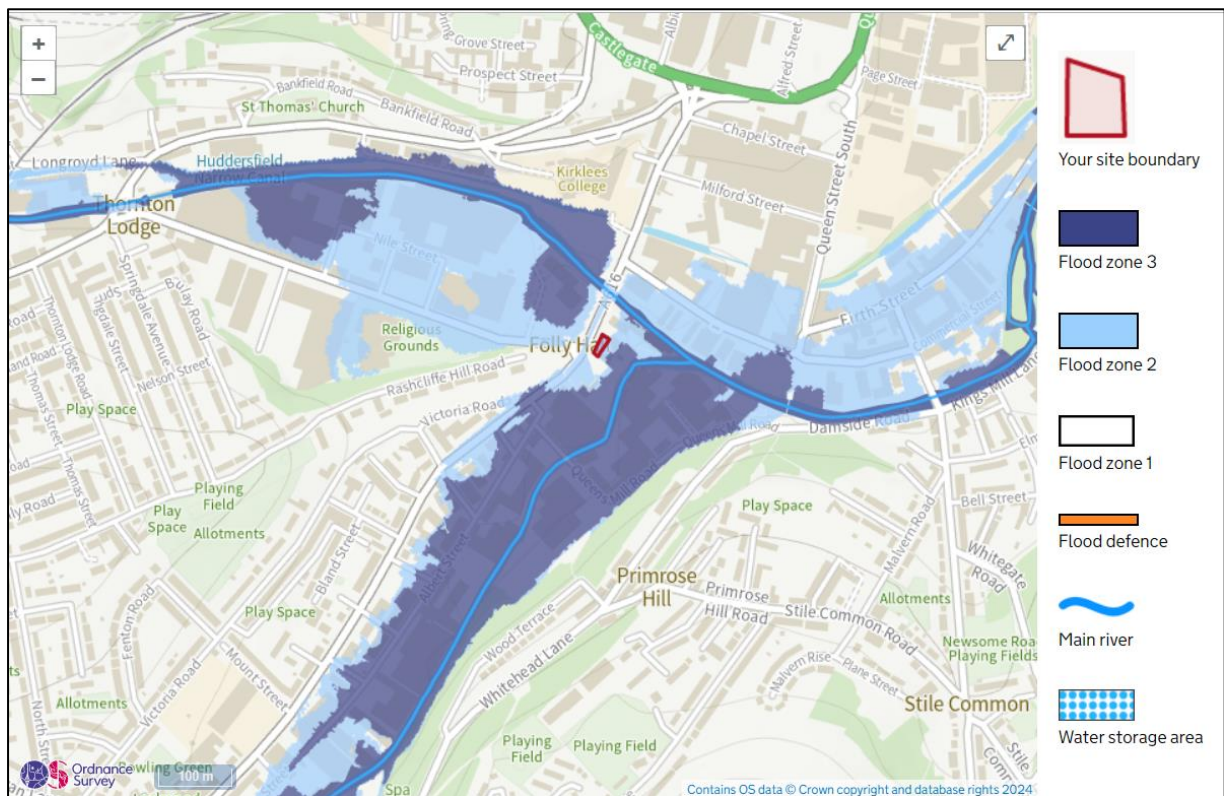
Locations in flood zone 2 have a medium probability of flooding. This means in any year land has between a 1% and 0.1% chance of flooding from rivers and between a 0.5% and 0.1% chance of flooding from the sea.

Flood zone 2 developments need a flood risk assessment as part of their planning application.

To find out about other factors that might affect the flood risk of this location, you should also check:

- Kirklees planning authority's strategic flood risk assessment (SFRA), which includes future flood risk

The map shows the flood risk to your site and the surrounding area:-



<https://check-long-term-flood-risk.service.gov.uk/risk#>

Checked:- 29/04/2024

The area around:-

Leods Contracts Ltd, Unit 5, Broomfield Industrial Estate, Folly Hall, Huddersfield, HD1 3PA has a:-

- high risk of surface water flooding
- high risk of flooding from rivers and the sea

This information is not specific to a property.

Rivers and the sea has a High risk of flooding

How likely a flood is

High risk means that this area has a chance of flooding of greater than 3.3% each year.

Manage your flood risk from rivers and the sea

An area can still be at risk of flooding even if it has not flooded in the past.

Manage your flood risk from rivers and the sea

An area can still be at risk of flooding even if it has not flooded in the past.

You should check your long-term flood risk regularly because the information may change.

The information takes into account any flood defences. They can help reduce the chance of flooding but cannot completely prevent it because:-

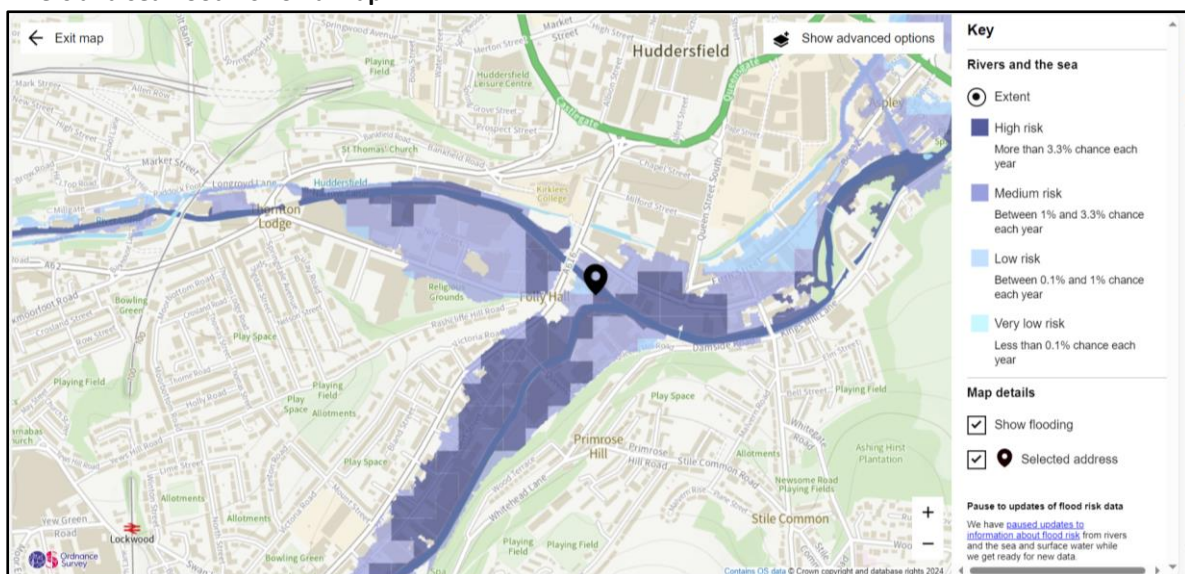
- they can fail
- water could spill over the top if it is deep enough

This information is suitable for identifying:

- which parts of countries or counties are at risk, or have the most risk
- the approximate extent and depth of flooding

It's unlikely to be reliable for a local area and very unlikely to be reliable for identifying individual properties at risk.

Rivers and sea flood risk on a map:



Surface water High risk of flooding

How likely a flood is

High risk means that this area has a chance of flooding of greater than 3.3% each year.

Manage your flood risk from surface water

An area can still be at risk of flooding even if it has not flooded in the past. You should check your long term flood risk regularly because the information may change.

Lead local flood authorities (LLFAs) are responsible for managing the flood risk from surface water. They may hold more detailed information.

Your LLFA is Kirklees council.

What this information covers

This information tells you the highest chance of flooding on the land 15 metres around a property. It is not specific to a property.

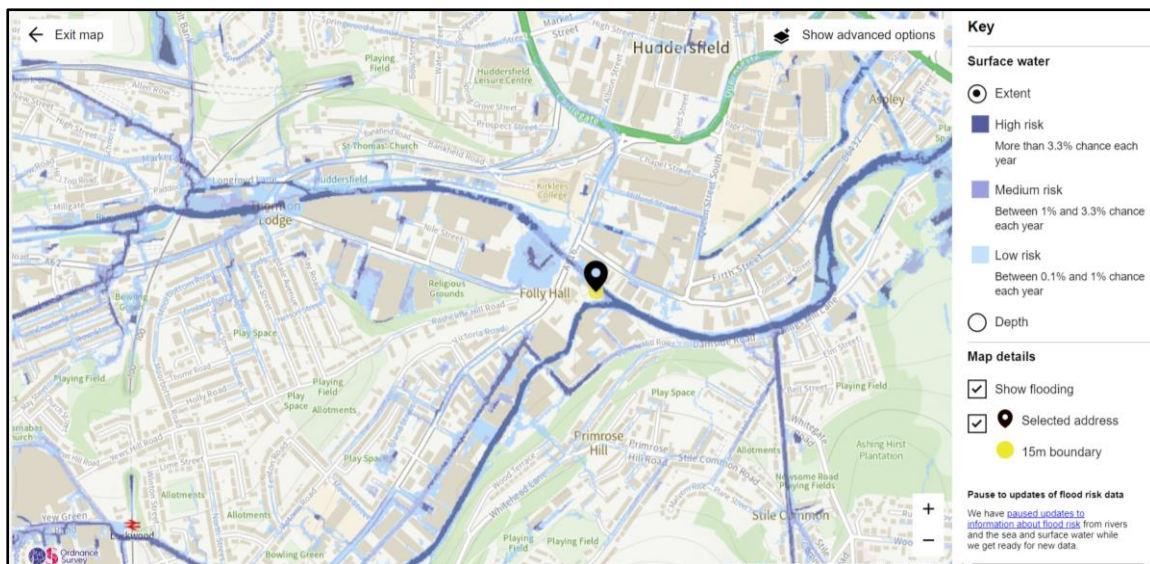
What this information can be used for:

The information is an estimate based on the best data we have available. It is suitable for identifying:

- which parts of towns or streets are at risk, or have the most risk
- the approximate extent and depth of flooding

It's likely to be reliable for a local area but not for identifying individual properties at risk.

Surface water flood risk on a map



Map on surface water flood risk:

- where any flood water might spread to (extent)
- how deep any flood water could be (depth)
- the speed and direction of any flood water (velocity)

Other flood risks:-

- **Reservoirs**

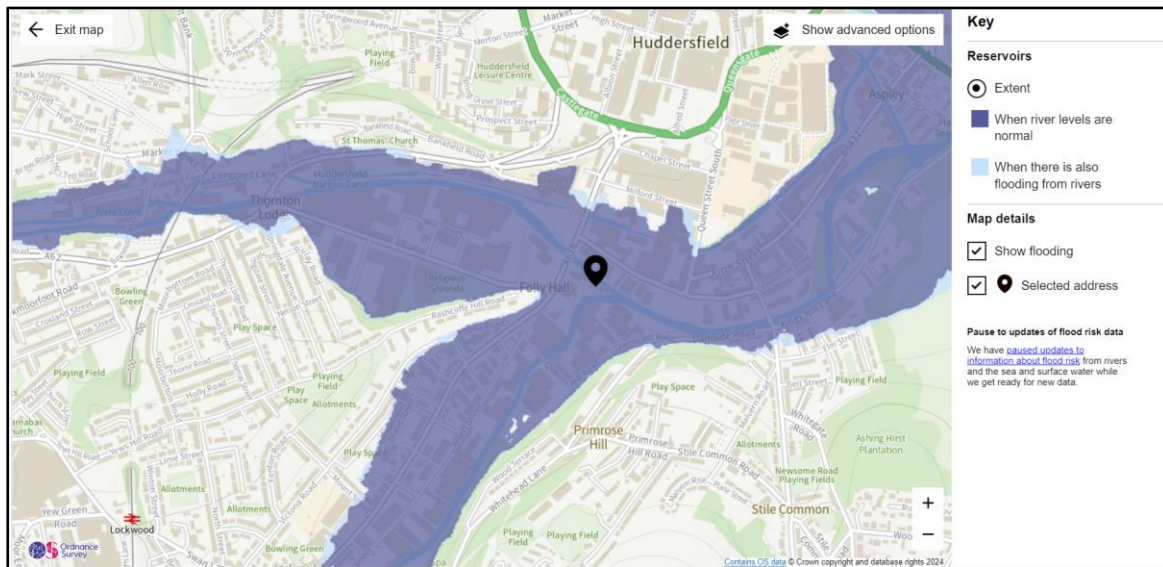
There is a risk of flooding from reservoirs in this area.

A reservoir is a large natural or artificial lake that is designed to collect and store water.

We use predicted scenarios to understand the risk of flooding from reservoirs.

Flooding from reservoirs is extremely unlikely. An area is considered at risk if people's lives could be threatened in the event of a dam or reservoir failure.

Flooding from reservoirs



Reservoirs that could affect the area:

- **Blackmoorfoot** (grid reference SE0986312762)
 - Owner: Yorkshire Water Services Ltd
 - Lead Local Flood Authority: Kirklees
- **Brownhill** (grid reference SE1157006270)
 - Owner: Yorkshire Water Services Ltd
 - Lead Local Flood Authority: Kirklees
- **Butterley** (Canal & River Trust) (grid reference SK4000051900)
 - Owner: Canal & River Trust
 - Lead Local Flood Authority: Kirklees
- **Deerhill** (grid reference SE0704911523)
 - Owner: Yorkshire Water Services Ltd
 - Lead Local Flood Authority: Kirklees
- **Digley** (grid reference SE1100007000)
 - Owner: Yorkshire Water Services Ltd
 - Lead Local Flood Authority: Kirklees
- **Longwood Compensation** (grid reference SE1000017300)
 - Owner: Yorkshire Water Services Ltd
 - Lead Local Flood Authority: Kirklees

- **Longwood Upper** (grid reference SE0970017000)
- Owner: Yorkshire Water Services Ltd
- Lead Local Flood Authority: Kirklees

- **Ramsden** (grid reference SE1140005600)
- Owner: Yorkshire Water Services Ltd
- Lead Local Flood Authority: Kirklees

- **Riding Wood** (grid reference SE1170005100)
- Owner: Yorkshire Water Services Ltd
- Lead Local Flood Authority: Kirklees

- **Slaithwaite** (grid reference SE0745014150)
- Owner: Canal & River Trust
- Lead Local Flood Authority: Kirklees

- **Wessenden Head** (grid reference SE0700007550)
- Owner: Yorkshire Water Services Ltd
- Lead Local Flood Authority: Kirklees

- **Yateholme** (grid reference SE1116504565)
- Owner: Yorkshire Water Services Ltd
- Lead Local Flood Authority: Kirklees

- **Bilberry** (grid reference SE1024207024)
- Owner: Yorkshire Water Services Ltd
- Lead Local Flood Authority: Kirklees

- **Black Moss** (grid reference SE0330008800)
- Owner: Canal & River Trust
- Lead Local Flood Authority: Kirklees

- **Blakeley** (grid reference SE0540009600)
- Owner: Yorkshire Water Services Ltd
- Lead Local Flood Authority: Kirklees

- **Boshaw Whams** (grid reference SE1510005700)
- Owner: Yorkshire Water Services Ltd
- Lead Local Flood Authority: Kirklees

- **Holmestyes** (grid reference SE1400005600)
- Owner: Yorkshire Water Services Ltd
- Lead Local Flood Authority: Kirklees

- **March Haigh** (grid reference SE0160013000)
- Owner: Canal & River Trust
- Lead Local Flood Authority: Kirklees

- **Meltham Mills** (grid reference SE1149110416)
- Owner: Towndoor Limited
- Lead Local Flood Authority: Kirklees

- **Redbrook** (grid reference SE0270009800)
- Owner: Canal & River Trust

- Lead Local Flood Authority: Kirklees
- **Sparth** (grid reference SE0550012500)
- Owner: Canal & River Trust
- Lead Local Flood Authority: Kirklees
- **Swellands** (grid reference SE0383809047)
- Owner: Canal & River Trust
- Lead Local Flood Authority: Kirklees
- **Wessenden Old** (grid reference SE0580008700)
- Owner: Yorkshire Water Services Ltd
- Lead Local Flood Authority: Kirklees

Groundwater:

Flooding from groundwater is unlikely in this area.

What groundwater is and how to check an area's risk:

Groundwater is the water that is usually held in rocks and soil underground.

Groundwater flooding happens when this water rises and flows above the surface.

We use flood alert data to check the risk of flooding from groundwater.

APPENDIX 3

LOCAL AUTHORITY CORRESPONDENCE

Jennifer Paterson

From: Martin Stephenson <Martin.Stephenson@kirklees.gov.uk>
Sent: 01 May 2024 11:03
To: Andrew Robinson
Cc: Jennifer Paterson
Subject: RE: 4363 Folly Hall, Huddersfield

This email originated from outside of FWS Consultants. Please be vigilant.

Good Morning Andrew

Kirklees Council do not hold any modelling data (the SFRA was carried out by an external consultant) and our records show only one reported flood incident in the last 25 years in the vicinity of the development (which was due only to a blocked road gully). The Council has a highway drain on the opposite side of Folly Hall running from the junction with St Thomas to the river Colne at Engine Bridge. As you may be aware, the property is within FZ2, however our records do not indicate any surface water flooding on the road outside the property itself.

Regards

Martin Stephenson
Principal Flood Risk Officer
Flood Risk and Drainage Management
Civic Centre 1
Huddersfield
High Steet
HD1 2NF

T: 01484 22 1000 (Ext. 75870)
E: martin.stephenson@kirklees.gov.uk

From: Andrew Robinson <andrewr@fwsconsultants.com>
Sent: Tuesday, April 30, 2024 10:40 AM
To: Martin Stephenson <Martin.Stephenson@kirklees.gov.uk>
Cc: Jennifer Paterson <jennifer@fwsconsultants.com>
Subject: 4363 Folly Hall, Huddersfield

CAUTION: External email. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Martin

Further to our telephone conversation, we are undertaking a flood risk assessment for a site at Folly Hall in Huddersfield (nearest postcode HD1 3PA) – see attached location plan. I am writing to enquire as to whether there is any historical information that you could send us regarding flooding at the site or existing modelling data from the areas Strategic flood risk Assessment that would assist in our assessment. We have also contacted the Environment Agency.

Any assistance you could give would be greatly appreciated.'

Kind Regards

Andy Robinson
Principal Consultant



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APPENDIX 4

NOTES ON LIMITATIONS

NOTES ON LIMITATIONS

- 1 FWS Consultants Ltd (“FWS”) has prepared this report solely for the use of the client and/or his agent (the “Client”) on the basis of exchange(s) of written proposals and instructions, and FWS accepts no responsibility or liability:-
 - a) for use of this report by any party other than the person for whom it was commissioned, or;
 - b) for the consequences of the report being used for any purpose other than that for which FWS was instructed to prepare it.

Should any third party wish to use or rely upon the contents of the report, written approval from FWS must be sought.

- 2 All information supplied by the Client, the Client’s staff and professional advisers, local authorities, other statutory bodies, investigation agencies and publicly accessible databases, shall be provided to FWS in writing, and is accepted as being correct unless otherwise specified in writing by the discloser of the information.
- 3 The conclusions and recommendations in this report represent the professional opinions of FWS derived from currently accepted industry practices, and through the exercising of reasonable skill and care to be expected of a professional geosciences and environmental consultancy of similar size and experience. The assessments and judgments given in this report are directed by and limited to both the finite data on which they are based and the proposed works to which they are addressed.
- 4 Environmental and geotechnical desk studies comprise a study of available information obtained from various identified sources, authorities and parties. The information reviewed cannot be exhaustive and has been accepted in good faith as providing representative and true data pertaining to site conditions. For clarity, no independent verification of this data is carried out by FWS and it is accepted at face value. Any identified risks in desk study reports are perceived risks based on the information available at the time. Actual risks can only be assessed after carrying out a thorough physical investigation of the site that serves to validate such identified risks.
- 5 Data acquisition during site investigations is subject to the limitations of the methods of investigation used, site conditions and access constraints. Exploratory holes undertaken during fieldwork, particularly boreholes and/or trial pits, investigate a small volume of ground in relation to the size of the site and thus can only provide an indication of site conditions. The opinions provided and recommendations given in this report are based on the desk study information and ground conditions apparent at the site of each of the exploratory holes. There may be ground conditions elsewhere onsite that have not been disclosed by the investigation and which therefore have not been taken into account in this report. FWS will take all due care and make commentary on the adequacy of data collection and therefore the ability to highlight the presence or otherwise of exceptional conditions.
- 6 Owing to the natural variation of the systems that are being investigated, and the anthropological impact similarly changing through time, the findings and opinions in this report are relevant to the dates of the site works and should not be relied upon to represent conditions after a reasonable passing of time. Site conditions will change over time due to natural variations and human activities. The comments made on groundwater, surface water and soil gas conditions are based on observations made at the time that the site work was carried out. It should be noted that these conditions will vary owing to seasonal, tidal and meteorological effects. Variation in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, or subsequent developments or activities on the site or adjacent area.
- 7 The scope of the investigation, as agreed between FWS and the Client, was undertaken based on the specific development proposals of the Client and may be inappropriate to another form of development or scheme.
- 8 The opinions expressed in this report regarding contamination, geotechnical and/or waste assessments are based on simple statistical analysis and comparison with available guidance values. No liability can be accepted for the retrospective effects of any changes or amendments to these values.