FLOOD RISK ASSESSMENTS & DRAINAGE STRATEGIES

# Mead House, Mead House Lane, Hayes, UB4 8EW

**Reference: R0741 FRA-v1**

Nov-24

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FLOOD RISK ASSESSMENT

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DRAINAGE STRATEGIES

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# Introduction 1

## Purpose of this report

1.1 RIDA Reports Ltd has been appointed to undertake a Level 1 – Screening Study Flood Risk Assessment in support of an application for Prior Approval under Class MA of the General Permitted Development Order 2015 (GPDO) for a change of use from a day centre (Use Class E) to residential (Use Class C3), in relation to Mead House, Mead House Lane, Hayes End, Hayes, UB4 8EW ("the development").

## Objectives

1.2 The objectives of this FRA are to demonstrate the following:

- Whether the proposed development will likely be affected by current or future flooding.
- Whether the proposed development will increase flood risk elsewhere.
- Whether the flood risks associated with the proposed development can be satisfactorily managed.
- Whether the measures proposed to deal with the flood risk are sustainable.

## Documents Consulted

1.3 To achieve these objectives, the following documents have been consulted and referenced:

The National Planning Policy Framework (NPPF, 2023)
CIRIA C753 document The SuDS Manual, 2015
London Plan (2021)
Hillingdon Local Plan Policies (2023)
Local Flood Risk Management Strategy (LFRMS) for London Borough of Hillingdon (2024)
Level 1 Strategic Flood Risk Assessment (SFRA)
Aerial photographs and topographical survey of the site
British Geological Society Records
Local Council flood Maps
Environment Agency flood maps
The CIRIA publication 'C635 Designing for exceedance in urban drainage Good practice'

## Development Site and Location

2.1 The site is located at Mead House Lane, London. The nearest postcode is UB4 8EW. Refer to appendix A for site location plan.

2.2 The current use of the site is a building with multiple past uses, including most recently a day centre run by the council. Prior to this the current site was a GP Surgery (NHS). The current user vulnerability classification of the site is Less vulnerable . The site is located in the River Flood Zone 1. Refer to Appendix B for more details.

## Development Proposals

2.3 The proposed development under this prior approval application includes the conversion of the ground and first floor of the existing building into 14 residential apartments. Note that the second floor is to remain as existing. Refer to Appendix B for the layout of the proposed development.

2.4 The vulnerability classification of the proposed development is More vulnerable with an estimated lifetime between 50 and 100 years.

## Site Hydrology and Hydrogeology

**Hydrology**

2.5 The Yeading brook is located approximately 1370 m away from the development.

**Aquifer**

2.6 The development is located within a secondary aquifer type A. Aquifers type A consist of permeable layers capable of supporting water supplies at a local rather than strategic scale. They are generally aquifers formerly classified as minor aquifers.

**Source Protection Zone**

2.7 The site is not located within a Source Protection Zone.

**Groundwater Levels**

2.8 The ground water levels for this site are unknown.

## Site Geology

**Bedrock**

2.9 The British Geological Survey records of the site show that it is located within the London Clay Formation - Clay, Silt and Sand.

**Superficial Deposits**

2.10 The British Geological Survey records show that the superficial deposits are Boyn Hill Gravel Member - Sand and Gravel.

# National and Local Planning Policy 3

## National Planning Policy Framework (NPPF)

3.1 The NPPF and its technical guidance is a set of planning policies with the key objective of contributing to sustainable development. As part of it, they ensure that flood risk and sustainability are considered during the planning process, notably in paragraphs 159 to 169. This ensures that developments are not located in flood risk areas and directs developments to lower risk areas. The NPPF applies a sequential risk-based approach to determining land suitability for development in flood risk areas. The NPPF also encourages developers to seek opportunities to reduce the overall level of flood risk through the development layout and the application of Sustainable Drainage Systems (SuDS).

## The Flood and Water Management Act (2010)

3.2 The Flood and Water Management Act aims to reduce the flood risk associated with extreme weather events. It provides robust flood risk management for people, homes and businesses and encourages using SuDS for developments. A robust SuDS strategy should consider the recommendations in this Flood Risk Assessment.

## London Plan and Hillingdon Local Plan

3.3 This report has been produced in accordance with the London Plan Policies SI 12 and 13, and the Hillingdon Local Plan Policies EM1, EM6, DMEI 9 and DMEI 10.

## Strategic Flood Risk Assessment (SFRA)

3.4 Planning policy with regard to development and flood risk in the area is detailed in the Local Flood Risk Management Strategy (LFRMS) which was published in 2024. The development is located within the administrative boundary of the London Borough of Hillingdon.

3.5 The SFRA commits to direct new development to locations at the lowest flood risk. The SFRA provides information on the levels and flood hazards that could result from flooding. The Environment Agency flood zone maps and the SFRA ignore the presence of existing flood defences when defining the potential extent of flooding.

3.6 This report follows the guidance given in the Local Flood Risk Management Strategy by evaluating the flood risk and providing relevant flood mitigation.

# The Sequential and Exception Test 4

4.1 The NPPF guidance states that the sequential test "is designed to ensure that areas at little or no risk of flooding from any source are developed in preference to areas at higher risk. This means avoiding, so far as possible, development in current and future medium and high flood risk areas considering all sources of flooding including areas at risk of surface water flooding."

## Applicability of the Sequential Test

4.2 The flood risks were determined by identifying all the sources of flooding and assessing their possible impact and likelihood to development. It is confirmed that the development is:

- In Flood Zone 1, based on the Planning Flood Risk Map
- At Low risk of surface flooding
- At risk of groundwater flooding
- Outside of a critical drainage area
- Outside of an area with sewer flooding

4.3 This type of development is exempt from applying the sequential test as per the National Planning Policy Framework paragraph 174, footnote 60. The development has been made safe and has not increased the risk to other properties. See copy of note below "(60) This includes householder development, small non-residential extensions (with a footprint of less than 250m2) and changes of use; except for changes of use to a caravan, camping or chalet site, or to a mobile home or park home site, where the sequential and exception tests should be applied as appropriate."

## Exception Test

4.4 Fluvial flood risk for this change of use was assessed using the Environment Agency Flood Zone Maps and the standing advice approach recommended in the NPPF guidelines. The standing advice considers the development's size and the flood risk vulnerability of land use.

**Step 1**

Flood Zone categorisation

4.5 The proposed development is less than 1 ha and falls within the Environment Agency (EA) Flood Zone 1. Therefore, this Flood Risk Assessment Level 1-

Screening report should be sufficient under the NPPF. Flood Zone 1 is considered to have a low probability of flooding, with an annual probability of flooding of <0.1%. The chance of flooding is 1 in 1000 years or lower.

**Step 2**
The Exception Test

4.6 The Exception Test is not required for this development.

# Flood Hazard Assessment 5

5.1 The development has been assessed for the following potential flood risks, river and tidal flood risk, surface water flooding, flooding from groundwater, reservoir flood risk and drainage systems.

## Flood Defence and Historic Flooding

5.2 The Environment Agency records show that the site does not benefit from flood defences. They also show that the area around the site has not been flooded in the past. See Appendix C for details.

## Flooding from river and sea

5.3 The proposed development is less than 1 ha and falls within the Environment Agency (EA) Flood Zone 1. Therefore, this Flood Risk Assessment Level 1-Screening report should be sufficient under the NPPF. Flood Zone 1 is considered to have a low probability of flooding, with an annual probability of flooding of <0.1%. The chance of flooding is 1 in 1000 years or lower.

5.4 The climate change allowance is not applicable for this site.

5.5 The site is located in an area outside of fluvial flooding flood risk.

5.6 It is concluded that the site is not affected by fluvial/sea flood risk.

## Surface water (overland flows) flood risk

5.7 The Environment Agency maps show that the flood risk from surface water is low. A residual risk of localised shallow ponding remains likely. The Environment Agency surface water flood risk maps are defined by applying a specific procedure based on digital terrain models and assumptions regarding infiltration and urban drainage losses. The surface water flood maps are determined by the Environment Agency as follows:

5.8 *"The nationally produced surface water flood mapping only indicates where surface water flooding could occur due to local rainfall. It does not fully represent flooding that occurs from:*

*- Ordinary watercourses*
*- Drainage systems or public sewers caused by catchment-wide rainfall events*
*- Rivers*
*- Groundwater*

*Due to the modelling techniques, the mapping picks out depressions in the ground surface. It simulates some flow along natural drainage channels, rivers, low areas in floodplains, and flow paths between buildings. Although the maps appear to show flooding from ordinary watercourses, they should not be taken as definitive mapping of flood risk from these as the conveyance effect of ordinary watercourses or drainage channels is not explicitly modelled. Also, structures (such as bridges, culverts and weirs) and flood risk management infrastructure (such as defences) are not represented.*

*The nationally produced surface water flood mapping does not consider the effect of pumping stations in catchments with pumped drainage. No allowance is made for tide locking, high tidal or fluvial levels where sewers cannot discharge into rivers or the sea."*

5.9 The strategic flood risk for the London Borough of Hillingdon confirms that the flood risk for the site is Low. The surface water flood data has not been produced to determine the flood levels at individual properties. This data does not contain the climate change allowances for depth levels. Therefore, the Design flood level given below is an assumption. The new development may have greater or lower surface water flood depths.

5.10 Based on the Environment Agency and the Strategic flood risk assessment's surface water mapping, together with the presence of surface water drainage systems at the site and surrounding area, it is concluded that the site is at Low risk of flooding from surface water sources. The depth of water is potentially below 300mm. For this assessment, a depth of water of 0.15m with a climate change allowance of m has been taken as the most appropriate depth to the site. The average ground level at the site is 38.17m AOD. The surface water flood level on this site could be in the region of 38.32m AOD.

## Flooding from drainage systems in adjacent areas

5.11 The council records have been reviewed. The flooding from drainage incidents maps were not found in the Strategic Flood Risk Assessment. Therefore, for the purpose of this report, it has been assumed that the risk of flooding from drainage systems is low.

## Reservoirs Risks

5.12 The Reservoir Flood Map (RFM) produced by the Environment Agency does not show the risk to individual properties of dam breach flooding. The maps do not indicate or relate to any particular probability of dam breach flooding. The maps were prepared for emergency planning purposes. They can be used to help reservoir owners produce on-site plans, and the Local Resilience Forum produce off-site plans and to prioritise areas for evacuation/early warning in the event of a potential dam failure. The RFM shows that the development could be outside of the possible dam breach flooding path. See Appendix C.

## Groundwater flood risk

5.13 The British Geological Survey's flood risk susceptibility maps show that the development has the potential for groundwater flooding above ground level. Groundwater levels vary seasonally and are influenced by ground and meteorological conditions and proximity to water features. The groundwater flooding risk for this site is considered to be high. The groundwater flood depth could potentially be 0.15m. The average external level at the site is 38.17m AOD. The potential groundwater flood level is 38.32m AOD. This level has been given as a precautionary measure. It is recommended that monitoring of groundwater is undertaken should this measure be reviewed. Refer to Appendix C for record drawings.

## Critical Drainage Areas

5.14 The Strategic Flood Risk Assessment was reviewed as part of this assessment. However, it does not show the critical drainage areas within the council. For this report, it has been assumed that the site is outside of a notified critical drainage area.

6.1 The Flood hazard assessment has demonstrated that the site is:

- In Flood Zone 1, based on the Planning Flood Risk Map
- At Low risk of surface flooding
- At risk of groundwater flooding
- Outside of a critical drainage area
- Outside of an area with sewer flooding

6.2 Under the NPPF it is necessary to demonstrate that, for any new development on the site, it is possible to provide an adequate level of flood protection for personnel working or living at the development.

## Design Flood Level

6.3 The design flood level is the maximum estimated water level during the design storm event including an allowance for climate change in line with current best practice and the national planning policy guidance.

6.4 The Design Flood Level for this development has been determined by evaluating the levels from the Fluvial/Sea, Surface Water and Groundwater flood levels.

6.5 For this site, the Design Flood Level is 38.32m AOD. This is the highest level and corresponds to the Surface Water Flood Level.

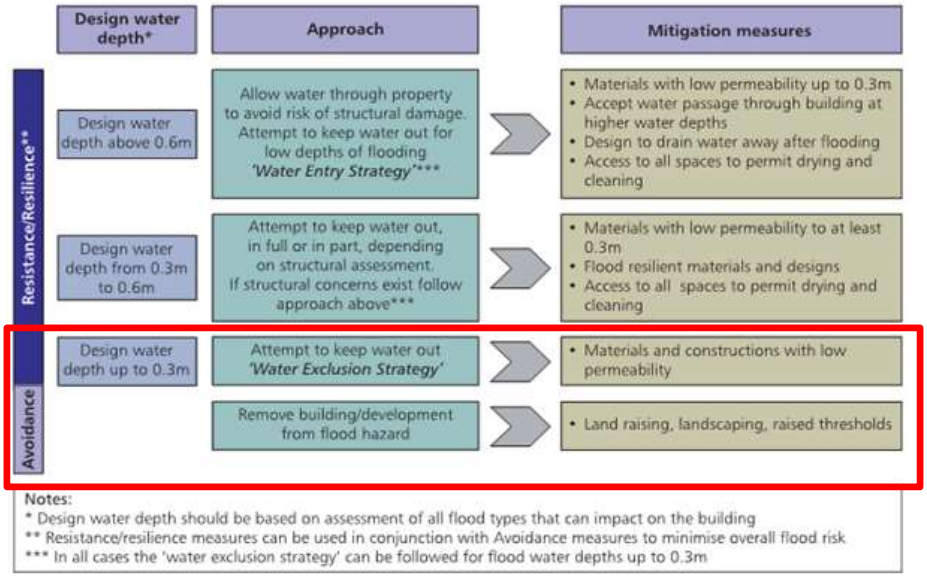
## Flood Protection

6.6 The National Planning Guidance standing advice and Environment Agency recommends that where possible, flood avoidance is provided by establishing the development's finished floor level 600mm above (freeboard) the design flood level. However, this level can be reduced if there is a high level of certainty about the estimated flood level. For this site the estimated free board has been determined to be 0.3m above the Design Flood Level due to the quality of the flood risk information available and the type of risk. The finished floor should be 38.62m AOD. It would involve a height differential of 0.62m. This is the distance between the average external level (38m AOD) and the potential Finished Floor Level.

6.7 As this proposal is for a change of use, the FFL is to remain as existing. The existing FFL according to the site topographical survey (refer to Appendix B) is 38.172 m AOD. As it is not possible to achieve the recommended design FFL of 38.62mAOD due to access and site constraints, the following flood mitigation interventions will need to be provided.

6.8 The flood mitigation strategies for the development has been based on the CLG 2007 Improving the Flood Performance of New Buildings. See the figure below for the strategy highlighted in red. The strategy is based on the water level within the proximity to the building.

**Rationale for flood resilient and/or resistant design strategies**




6.9 The design water depth for this site is 0.32m. The development should utilise building materials that are suitable for a 'water exclusion strategy'. Materials classified as "Good" (highlighted in red) in the Figure below shall be used for new construction up to 38.92m AOD.

**Flood resilience characteristics of building materials (based on laboratory testing)**

| Material | Resilience characteristics* | | |
|---|---|---|---|
| | Water penetration | Drying ability | Retention of pre-flood dimensions, integrity |
| **Bricks** | | | |
| Engineering bricks (Classes A and B) | Good | Good | Good |
| Facing bricks (pressed) | Medium | Medium | Good |
| Facing bricks (handmade) | Poor | Poor | Poor |
| **Blocks** | | | |
| Concrete (3.5N, 7N) | Poor | Medium | Good |
| Aircrete | Medium | Poor | Good |
| **Timber board** | | | |
| OSB2, 11mm thick | Medium | Poor | Poor |
| OSB3, 18mm thick | Medium | Poor | Poor |
| **Gypsum plasterboard** | | | |
| Gypsum Plasterboard, 9mm thick | Poor | Not assessed | Poor |
| **Mortars** | | | |
| Below d.p.c. 1:3(cement:sand) | Good | Good | Good |
| Above d.p.c. 1:6(cement:sand) | Good | Good | Good |

* Resilience characteristics are related to the testing carried out and exclude aspects such as ability to withstand freeze/thaw cycles, cleanability and mould growth

6.10 There are no changes to the fabric of the building. The new services and fittings (communications wiring, heating systems, electrical services, water, electricity and gas meters) should be placed at above the level of 38.92 m AOD. All service entries should be sealed (e.g. with expanding foam or similar closed cell material).

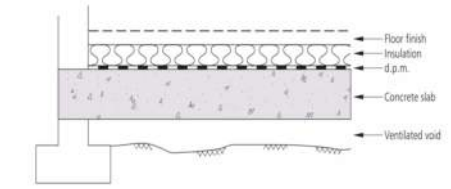
6.11 Closed-cell insulation should be used for pipes. Sealed PVC external framed doors or good fit and sealed wooden frames should be used. Hollow core timber internal doors should not be used unless sufficient flood warning is given, butt hinges, can be used to allow internal doors to be easily removed and stored. Carpets are to be avoided and use of tiles recommended in floor below the predicted design flood level.

6.12 Fittings should be designed to be replaced after a flood, it is advisable to specify durable fittings that are not appreciably affected by water and can be easily cleaned (e.g. use of plastic materials, or stainless steel). The cost of these units may need to be balanced against the predicted frequency of flooding. Avoid wood fiber based carcases and use easily removable solid wood doors and drawers.

6.13 On new foundations or where they are being replaced: Suspended concrete floor slab at least 150mm thick is preferred. Beam and Block slabs with geomembrane and 75mm min screed can also be used. There should be a

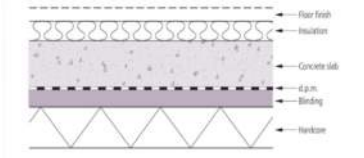
minimum space of 150mm ventilated void between the ground level and the bottom of the floor slab. Damp-proof membranes should be included in the design. Floor insulation should be of the closed-cell type. Underfloor services using ferrous materials should be avoided. Ceramic/concrete-based floor tiles, sitting on a bed of sand, cement render and water-resistant grout can be used. Ground bearing slabs are also an option. See the figures below.

**Suspended Concrete Slab detail**




- Reinforced concrete slab at least 150mm thick and complying with structural requirements for uplift forces
- Damp proof membrane of polythene at least 1200 gauge
- Insulation as rigid closed-cell material
- Ceramic tiles or stone floor finishes and including skirting boards.

**Ground bearing Concrete Slab detail**



- Hardcore bed at least 100mm thick of well compacted inert material, blended with fine inert material to provide a smooth base
- Damp proof membrane of polythene at least 1200 gauge
- Concrete slab at least 150mm thick
- Insulation as rigid closed-cell material
- Ceramic tiles or stone floor finishes and skirting boards.

6.14 In new walls use extended periscope subfloor ventilators or fit removable airbrick covers; fix plasterboard sheets horizontally rather than vertically, or split sheets mid-height with a dado rail, to reduce the extent of replacement; specify lime- or cement-based renovating plasters or renders rather than gypsum-based, with water-resistant paint finishes. The use of water-proof, water-resistant or micro-porous surface coatings on masonry should be avoided as they can inhibit the drying-out of the building fabric.

6.16 As it is not possible to increase the FFL to avoid potential groundwater intrusion fully, the following interventions are proposed.

- Flow paths are provided around the proposed development, which groundwater will take in the event of groundwater emergence.

- It is proposed to add a tanking membrane up to 300mm above the ground level.

- It is proposed that new slabs be made of concrete and fully sealed.

6.17 The Strategic Flood Risk Assessment shows that the site is outside of an area of sewer flooding, therefore no mitigation on sewer flood is required.

6.18 The Development Management Procedure Order (2015) requires that the Environment Agency is consulted on developments within Areas with Critical Drainage Problems (ACDPs). The Strategic Flood Risk Assessment does not show the development within a Critical Drainage Area.

# Off-Site Impacts 7

7.1 The NPPF specifically stipulates that consideration should be given to potential off-site flood impacts of any proposed development. These off-site impacts are in relation to the following:

- Surface water management
- Flood flow conveyance, storage and climate change

## Surface Water Management

7.2 The development is not increasing the surface water run-off as this is a change of use in which no extensions or changes to the external areas are proposed. It is concluded that the proposed development does not increase the off-site impact.

## Flood Flow conveyance and storage

7.5 Due to the size of the development and its location in the flood risk zone, flood compensation for this development is not required.

# Residual Risk 8

8.1 This flood risk assessment has identified the potential flooding mechanisms that could affect the site. As part of this, the following residual risks have been evaluated.

## Public safety and Site Access

8.2 This assessment has demonstrated that the proposed development will have no adverse impact on flood risk in the area surrounding the site. Available evidence indicates that the development would not change surface water generation. Therefore, there is no basis to indicate that, with respect to flood risk, the proposed development would adversely impact public safety.

8.3 It will be necessary to ensure that all building users are fully informed of procedures to be implemented during the threat of imminent flooding.

## Flood Warning and evacuation

8.4 The site is located outside an area covered by the Environment Agency Flood Alert service.

8.5 The occupants are encourage to familiarise with Table 4 below. It shows the actions that must be taken for each flood warning or in the event of an evacuation notice.

8.6 Action to be taken in the event of an Alarm being Raised or a Flood Warning Received:

a. Raise the alarm and evacuate the site following the established Fire Drill procedures. The main assembly is as per the main house fire drill assembly point.

b. Contact Emergency Fire Services (999) if necessary and Environment Agency Floodline: (0845 988 1188) if the event is unexpected.

c. If safe to do so, locate and turn off critical services, e.g. water, gas & electricity.

d. Follow the routes below to evacuate the site altogether.

**Actions that will be taken for each flood warning**

| Warning | Message | Timing | Action |
|---|---|---|---|
|  FLOOD ALERT | Flooding is possible.<br><br>Be prepared. | 2 hours to 2 days in advance of flooding. | - Be prepared for flooding.<br>- Prepare a flood kit. |
|  FLOOD WARNING | Flooding is expected.<br><br>Immediate action required. | Half an hour to 1 day in advance of flooding. | - Act now to protect your property.<br>- Block doors with flood boards or sandbags and cover airbricks and other ventilation holes.<br>- Move pets and valuables to a safe place.<br>- Keep a flood kit ready.<br>- Move any critical equipment and information to a safe location |
|  SEVERE FLOOD WARNING | Severe flooding.<br>Danger to life. | When flooding poses a significant threat to life and different actions are required. | - Be ready should you need to evacuate from the property.<br>- Co-operate with the emergency services and call 999 if you are in immediate danger. |
| **Warning Removed** | No further flooding is currently expected for your area. | Issued when a flood warning is no longer in force. | - Flood water may still be around and could be contaminated.<br>- If you've been flooded, ring your buildings and contents insurance company as soon as possible. |

## Useful local phone numbers

Please write your local phone numbers in the space provided below.
Make sure they are easy to find in the event of a flood.

8.7 The proposed evacuation route below shows how the development could be evacuated before the 1 in 1000 or 0.1% annual probability of flooding extreme flood occurs. Safe egress is achievable by following Mead House Ln, up to beyond the extent of flooding. See figure below for details.

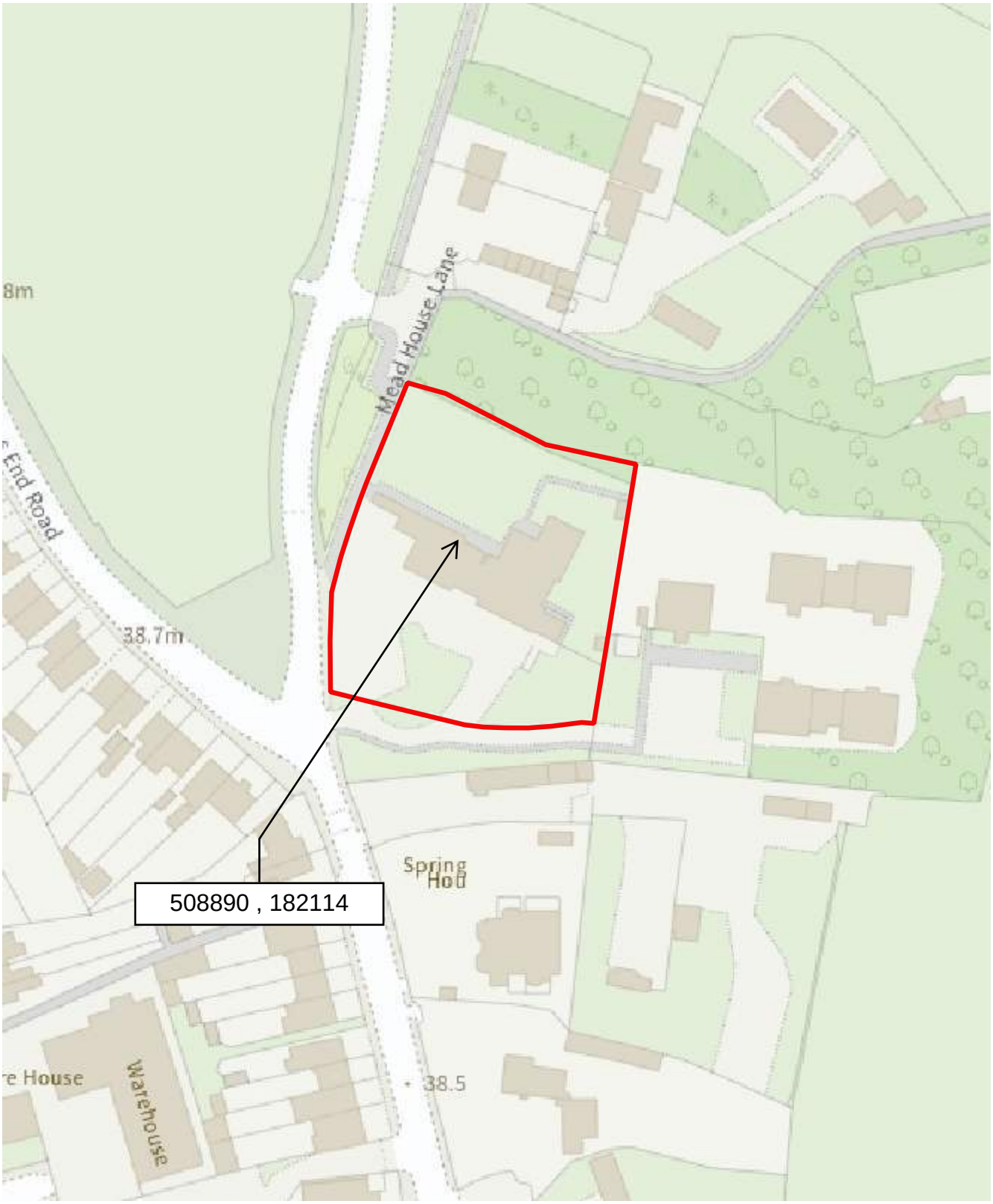
**Evacuation Route**

# Conclusions 9

9.1 It is concluded that subject to the proposed mitigation measures, the site can be developed in accordance with the provisions of the NPPF and the requirements of the Environment Agency and the local planning authority.

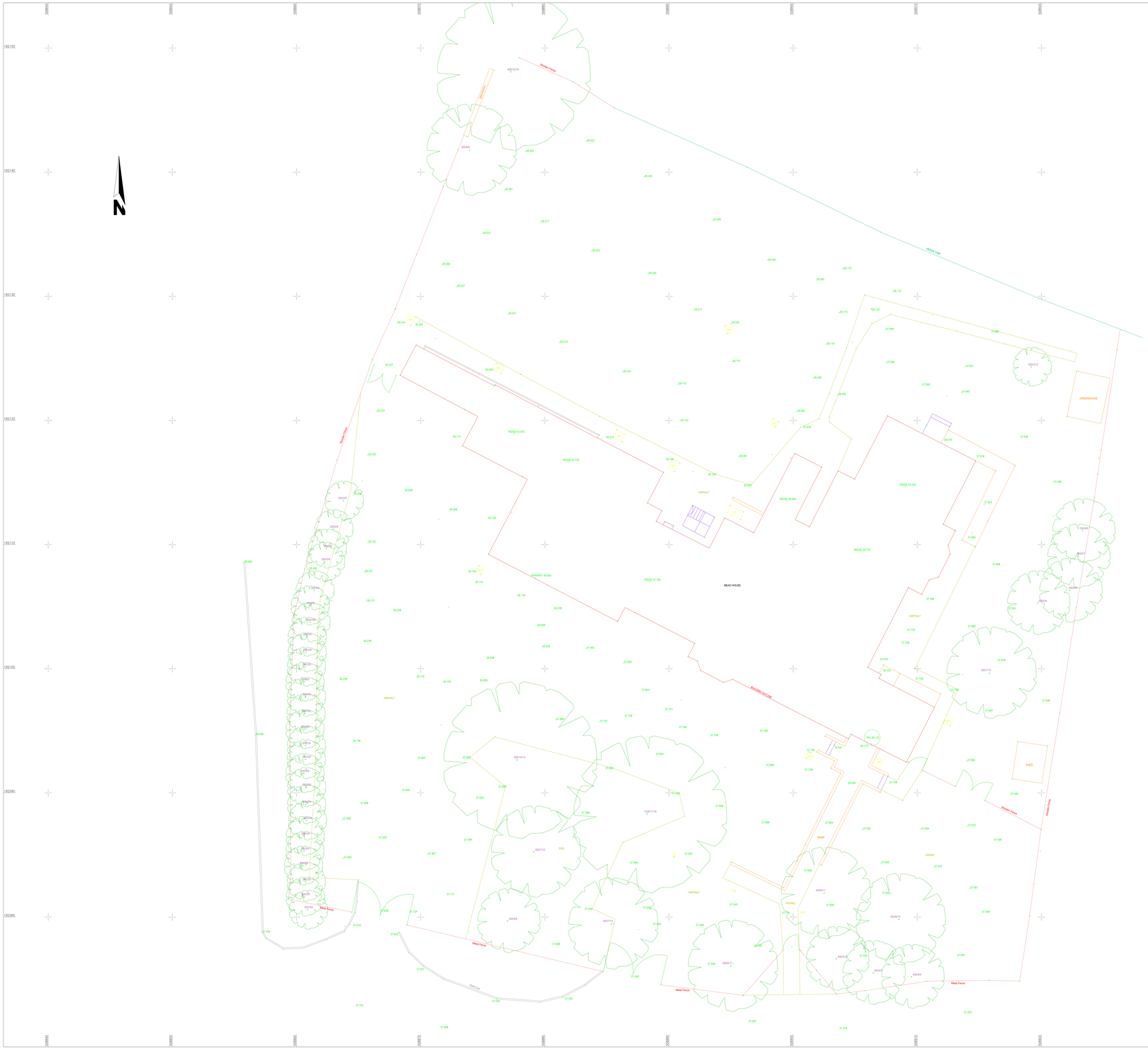
9.2 This report demonstrates that the proposal will be safe, in terms of flood risk, for its design life and will not increase the flood risk elsewhere.

# Appendix A


Mead House Lane
End Road
38.7m
508890 , 182114
Spring
Hou
38.5
Warehouse

1:1250

# Appendix B




NOTES

Pdf drawing not to be scaled.

DRAWING REFERENCE

Topographical Survey — 10600.01

ABBREVIATIONS

| | |
|---|---|
| B | Bollard |
| BC | Barrier Control |
| BT | British Telecom |
| ER | Earth Rod |
| FH | Fire Hydrant |
| FL | Flood Light |
| FP | Flag Pole |
| IB | Illuminated Bollard |
| IC | Inspection Cover |
| JB | Junction Box |
| LP | Lamp Post |
| RWP | Rain Water Pipe |
| SV | Stop Valve |
| WV | Water Valve |
| UP | Utility pole |
| Fr L. | Frame Level |
| G.L. | Gully Level |
| S.L. | Sill Level |
| H.L. | Head Level |
| A.V. | Air vent |

Tree bole diameter (mm)
Tree spread (m)
Tree Height (m)
150 / 6 / 6

LEGEND

- Services
- Step
- Surface change line
- Building
- Footpath
- Gate
- Handrail
- Kerb/upstand
- Landscape detail
- Plinth
- Ramp
- Roof detail
- Stairs
- Structure
- Trees

Topo M Surveys LTD
16 All Saints Mews
Stanmore
Harrow
HA3 6DY
Web : www.topomsurveys.co.uk
Tel: 07533568649

Mead House
Hayes
UB4 8EW

# Topographical Survey

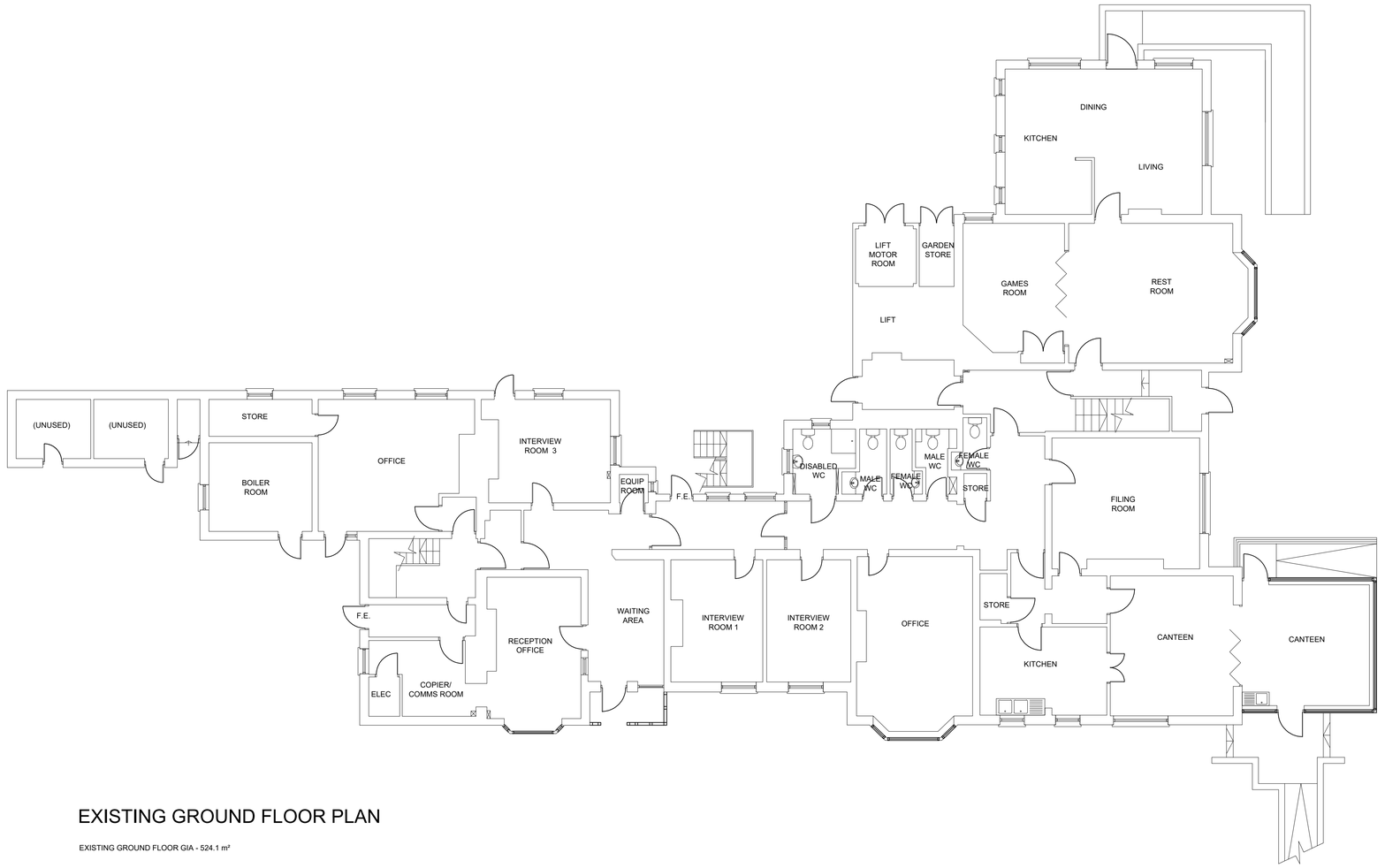
| surveyed | drawn | checked |
|---|---|---|
| MM | MM | MM |

| Scale | 1:100 | Date: | OCT 2024 |
|---|---|---|---|
| Revisions | | 10600.01 | |

**Note: All dimensions to be checked on site**

AMENDMENTS:

| **Revision** | **Date** |
|---|---|




# EXISTING GROUND FLOOR PLAN

EXISTING GROUND FLOOR GIA - 524.1 m²

0 5 10 15 20m

Scale 1:100

BUCKMASTERBATCUP
Architects Ltd.

CLIENT:
**Reliant Care Ltd**

PROJECT TITLE:
**Mead House, Hayes End Road, Hayes, UB4 8EW**
**Change of Use Class E to Class C3 Residential Studios**

DRAWING TITLE:
**Existing Ground Floor Plan**

SCALE: **1:100 @ A1** | DATE: **Octoberber 2024**

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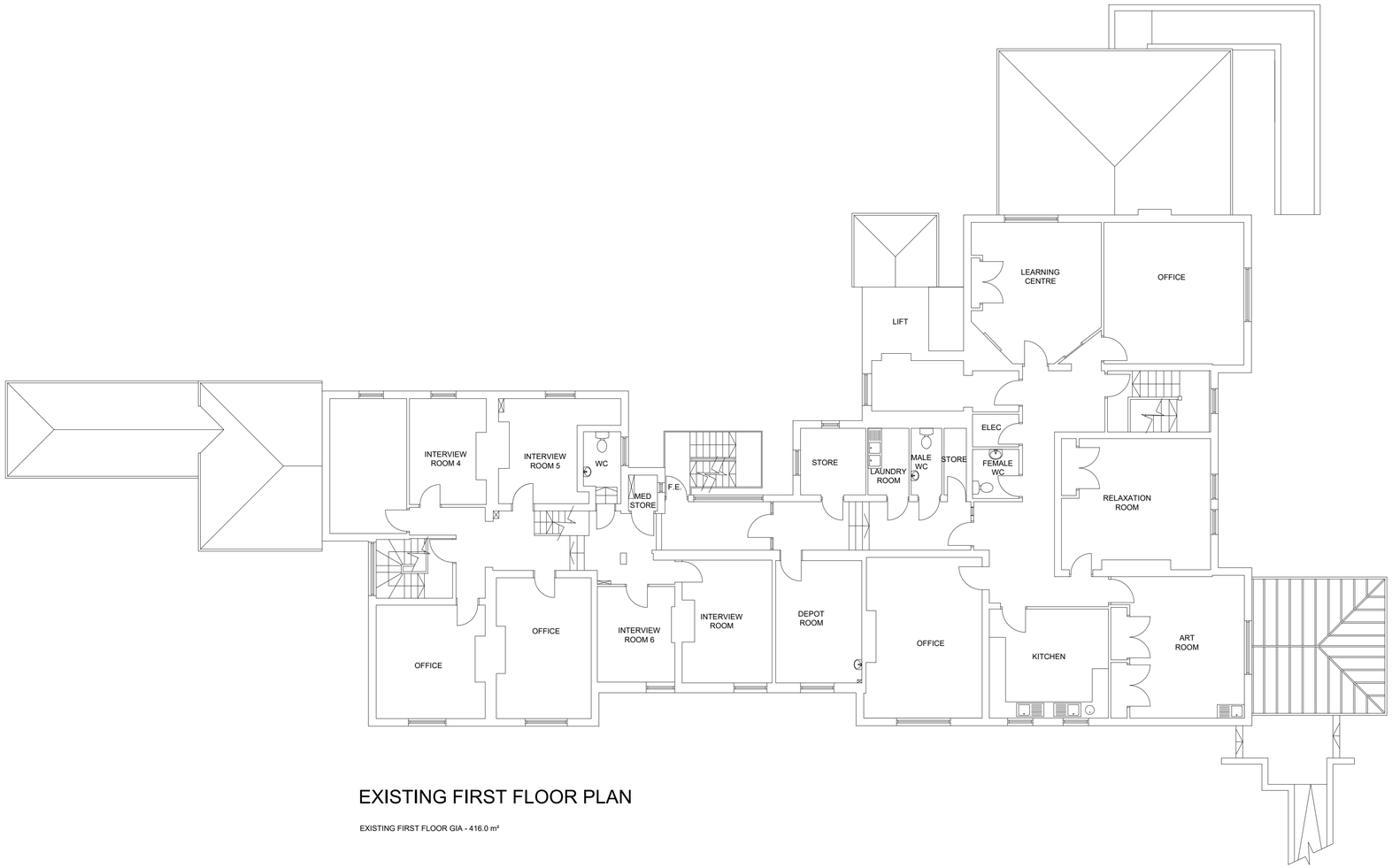


# EXISTING FIRST FLOOR PLAN

EXISTING FIRST FLOOR GIA - 416.0 m²

0 5 10 15 20m

Scale 1:100



**Note: All dimensions to be checked on site**

AMENDMENTS:

| Revision | Date |
|---|---|

BUCKMASTERBATCUP
Architects Ltd.

CLIENT:
**Reliant Care Ltd**

PROJECT TITLE:
**Mead House, Hayes End Road, Hayes, UB4 8EW**
**Change of Use Class E to Class C3 Residential Studios**

DRAWING TITLE:
**Existing First Floor Plan**

SCALE: **1:100 @ A1** DATE: **October 2024**

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One Kingdom Street
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London, W2 6BD

BBA**951.PA.11**


EXISTING SOUTH WEST ELEVATION


EXISTING NORTH EAST ELEVATION

0 5 10 15 20m

Scale 1:100



**Note: All dimensions to be checked on site**

AMENDMENTS:

| **Revision** | **Date** |
|---|---|

BUCKMASTERBATCUP
Architects Ltd.

CLIENT:
**Reliant Care Ltd**

PROJECT TITLE:
**Mead House, Hayes End Road, Hayes, UB4 8EW**
**Change of Use Class E to Class C3 Residential Studios**

DRAWING TITLE:
**Proposed SW and NE Elevations**

SCALE: **1:100 @ A1** | DATE: **October 2024**

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EXISTING SOUTH EAST ELEVATION


EXISTING NORTH WEST ELEVATION

0 5 10 15 20m

Scale 1:100



**Note: All dimensions to be checked on site**

AMENDMENTS:

| **Revision** | **Date** |
|---|---|

BUCKMASTERBATCUP
Architects Ltd.

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**Reliant Care Ltd**

PROJECT TITLE:
**Mead House, Hayes End Road, Hayes, UB4 8EW**
**Change of Use Class E to Class C3 Residential Studios**

DRAWING TITLE:
**Existing SE and NW Elevations**

SCALE: **1:100 @ A1** | DATE: **October 2024**

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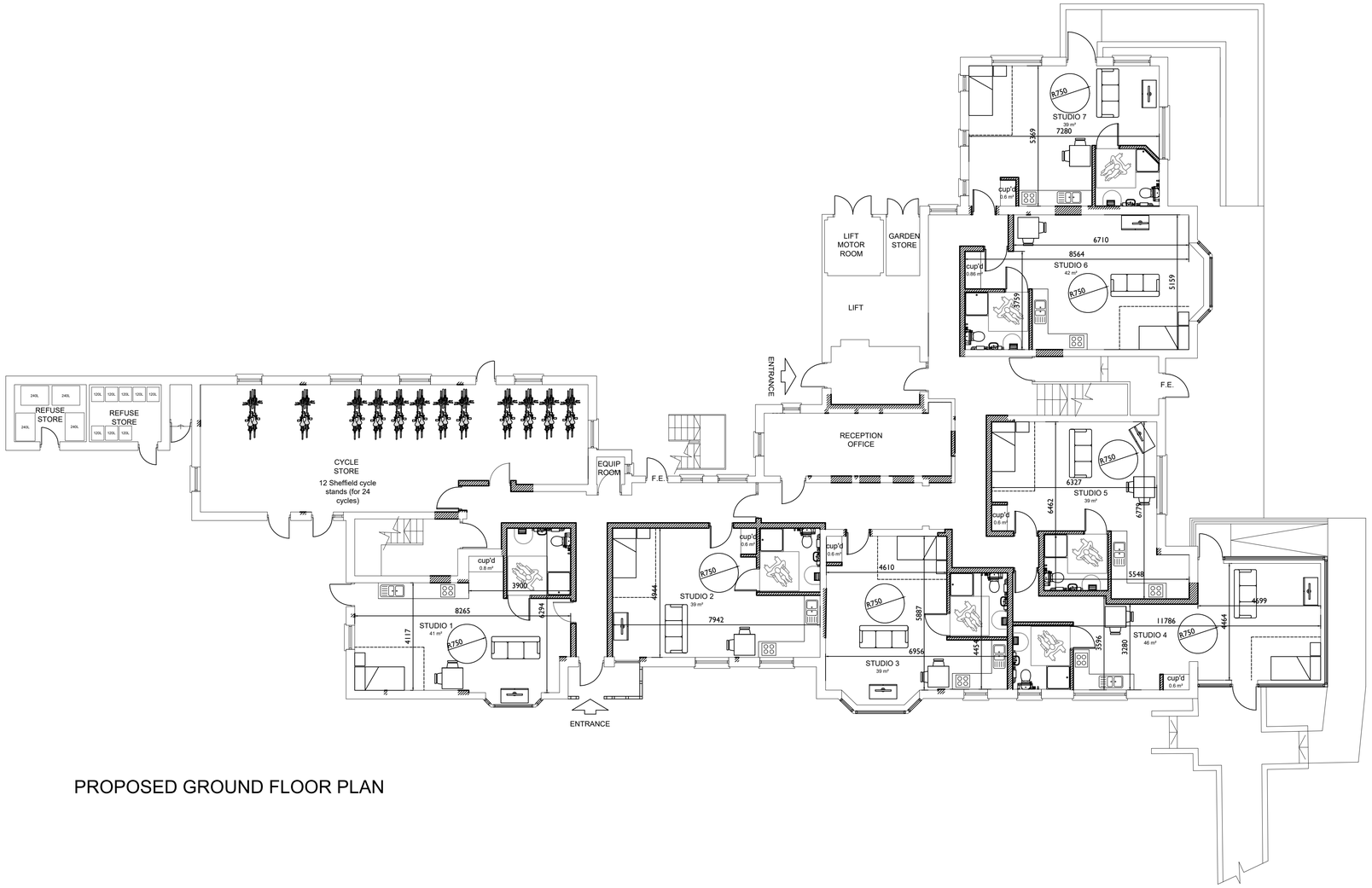
BBA**951.PA.13**

**Note: All dimensions to be checked on site**

AMENDMENTS:

| Revision | Date |
|---|---|




PROPOSED GROUND FLOOR PLAN

0 5 10 15 20m

Scale 1:100

| Schedule of Accommodation | |
|---|---|
| Ground Floor GIA | |
| Studio 1 | 41sqm |
| Studio 2 | 39sqm |
| Studio 3 | 39sqm |
| Studio 4 | 46sqm |
| Studio 5 | 39sqm |
| Studio 6 | 42sqm |
| Studio 7 | 39sqm |
| First Floor GIA | |
| Studio 8 | 47sqm |
| Studio 9 | 37sqm |
| Studio 10 | 43sqm |
| Studio 11 | 39sqm |
| Studio 12 | 41sqm |
| Studio 13 | 38sqm |
| Studio 14 | 52sqm |

BUCKMASTERBATCUP
Architects Ltd.

CLIENT:
**Reliant Care Ltd**

PROJECT TITLE:
**Mead House, Hayes End Road, Hayes, UB4 8EW**
**Change of Use Class E to Class C3 Residential Studios**

DRAWING TITLE:
**Proposed Ground Floor Plan**

SCALE: **1:100 @ A1** DATE: **October 2024**

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**Note: All dimensions to be checked on site**

AMENDMENTS:

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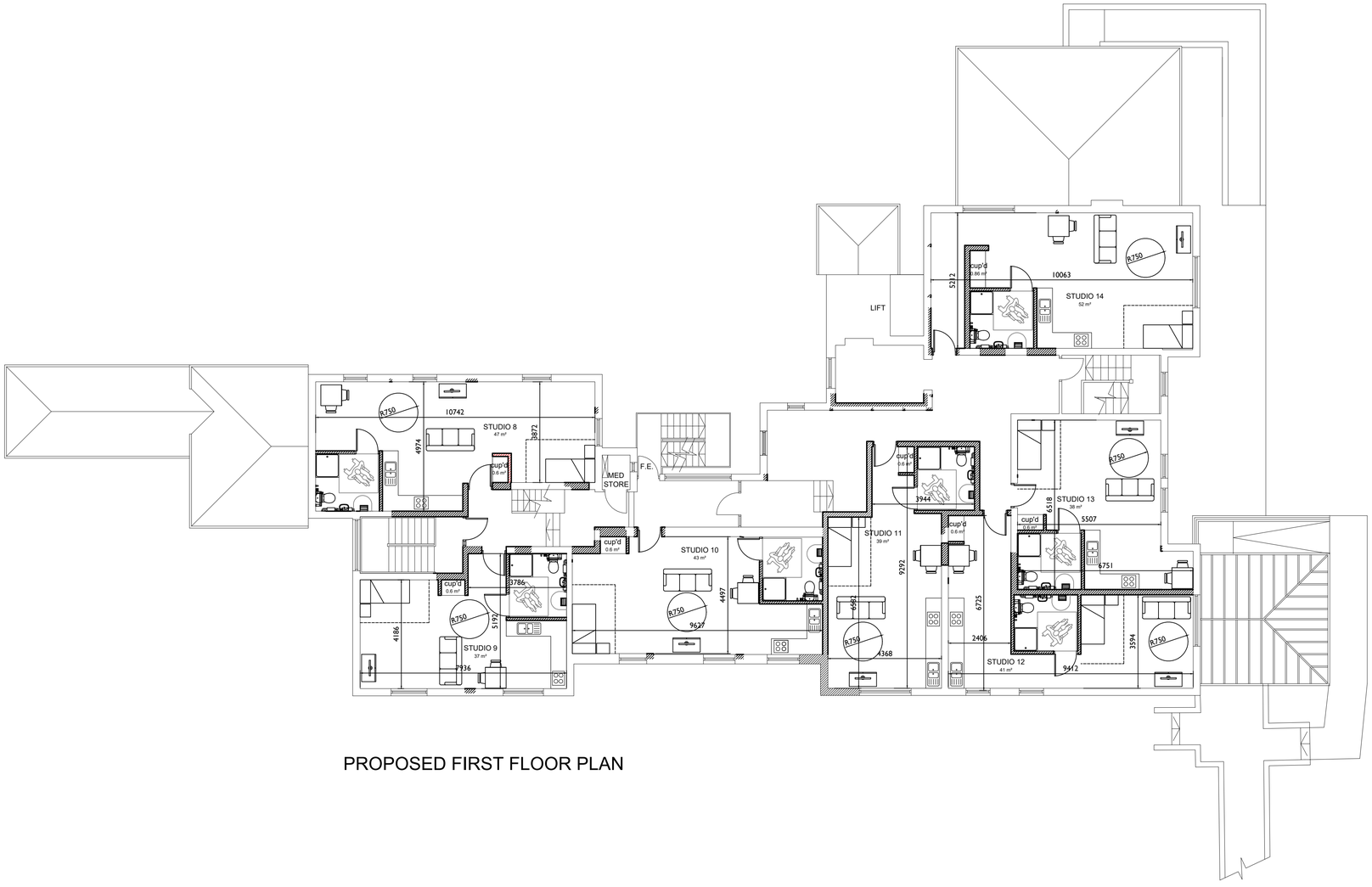
|---|---|




PROPOSED FIRST FLOOR PLAN

| Schedule of Accommodation | |
|---|---|
| Ground Floor GIA | |
| Studio 1 | 41sqm |
| Studio 2 | 39sqm |
| Studio 3 | 39sqm |
| Studio 4 | 46sqm |
| Studio 5 | 39sqm |
| Studio 6 | 42sqm |
| Studio 7 | 39sqm |
| First Floor GIA | |
| Studio 8 | 47sqm |
| Studio 9 | 37sqm |
| Studio 10 | 43sqm |
| Studio 11 | 39sqm |
| Studio 12 | 41sqm |
| Studio 13 | 38sqm |
| Studio 14 | 52sqm |

0 5 10 15 20m

Scale 1:100

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Architects Ltd.

CLIENT:
**Reliant Care Ltd**

PROJECT TITLE:
**Mead House, Hayes End Road, Hayes, UB4 8EW**
**Change of Use Class E to Class C3 Residential Studios**

DRAWING TITLE:
**Proposed First Floor Plan**

SCALE: **1:100 @ A1** DATE: **October 2024**

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AMENDMENTS:

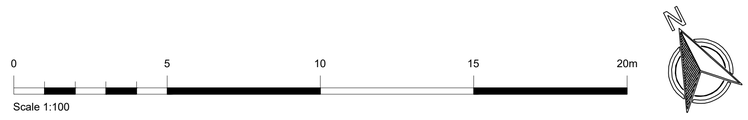
| **Revision** | **Date** |
|---|---|


## PROPOSED SOUTH WEST ELEVATION

NO CHANGE TO EXISTING


## PROPOSED NORTH EAST ELEVATION

NO CHANGE TO EXISTING







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Architects Ltd.

CLIENT:
**Reliant Care Ltd**

PROJECT TITLE:
**Mead House, Hayes End Road, Hayes, UB4 8EW**
**Change of Use Class E to Class C3 Residential Studios**

DRAWING TITLE:
**Proposed SW and NE Elevations**

SCALE: **1:100 @ A1** | DATE: **October 2024**

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## PROPOSED SOUTH EAST ELEVATION

NO CHANGE TO EXISTING


## PROPOSED NORTH WEST ELEVATION

NO CHANGE TO EXISTING

0 5 10 15 20m

Scale 1:100



**Note: All dimensions to be checked on site**

AMENDMENTS:

| Revision | Date |
|---|---|

BUCKMASTERBATCUP
Architects Ltd.

CLIENT:
**Reliant Care Ltd**

PROJECT TITLE:
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**Change of Use Class E to Class C3 Residential Studios**

DRAWING TITLE:
**Proposed SE and NW Elevations**

SCALE: **1:100 @ A1** | DATE: **October 2024**

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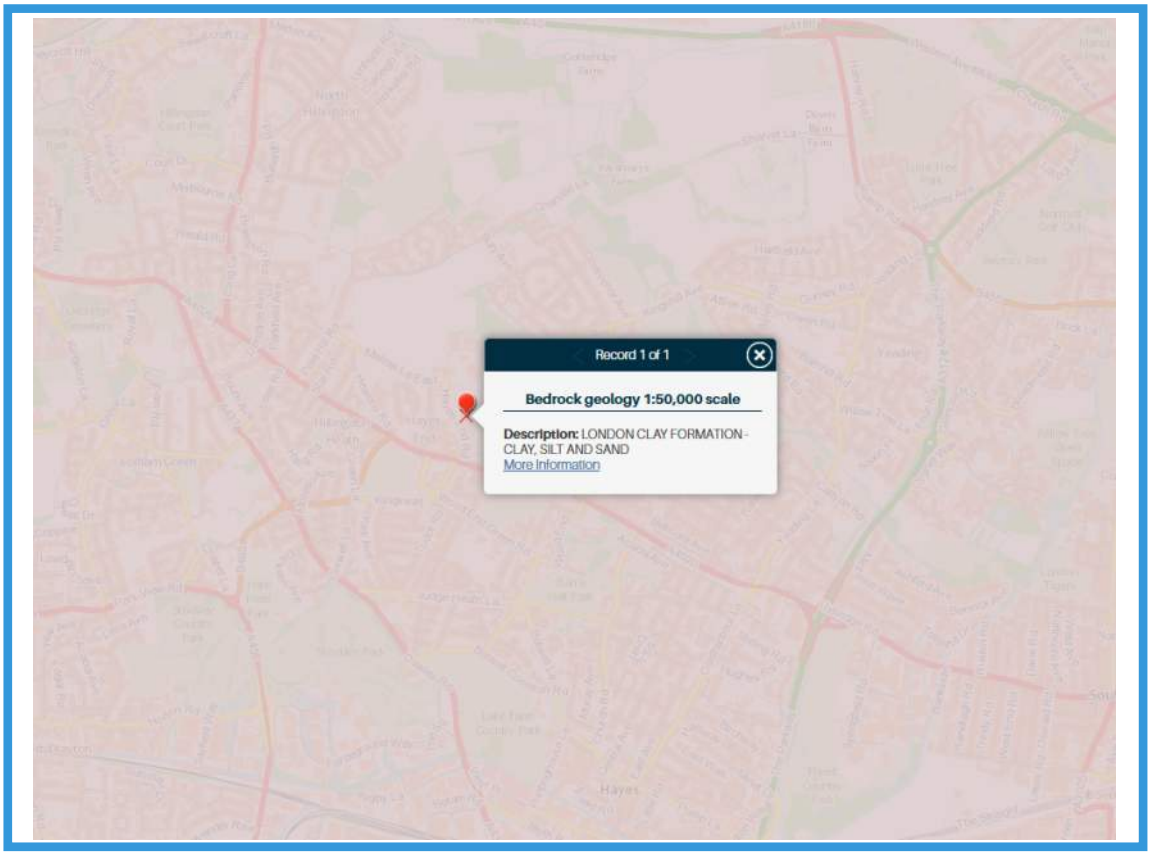
# Appendix C

# SITE GEOLOGY

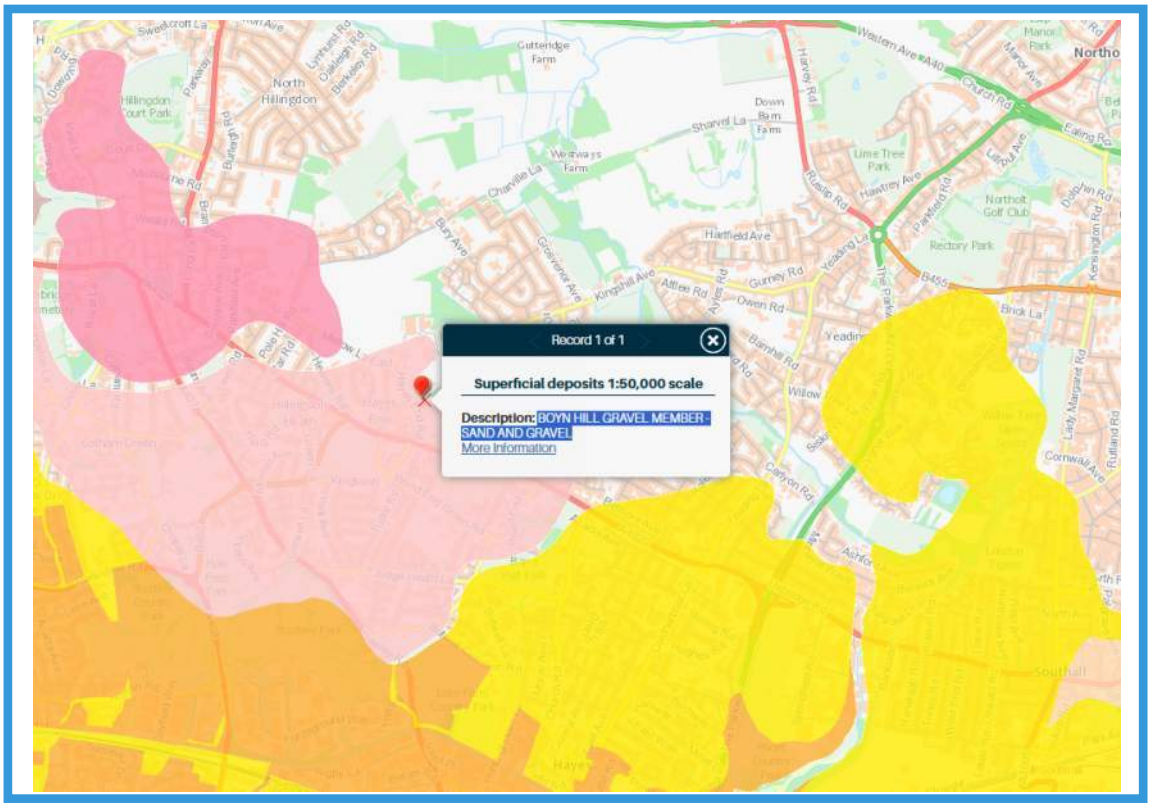
GEOINDEX ONSHORE

GEOLOGY - BEDROCK - LONDON CLAY FORMATION - CLAY, SILT AND SAND




GEOINDEX ONSHORE

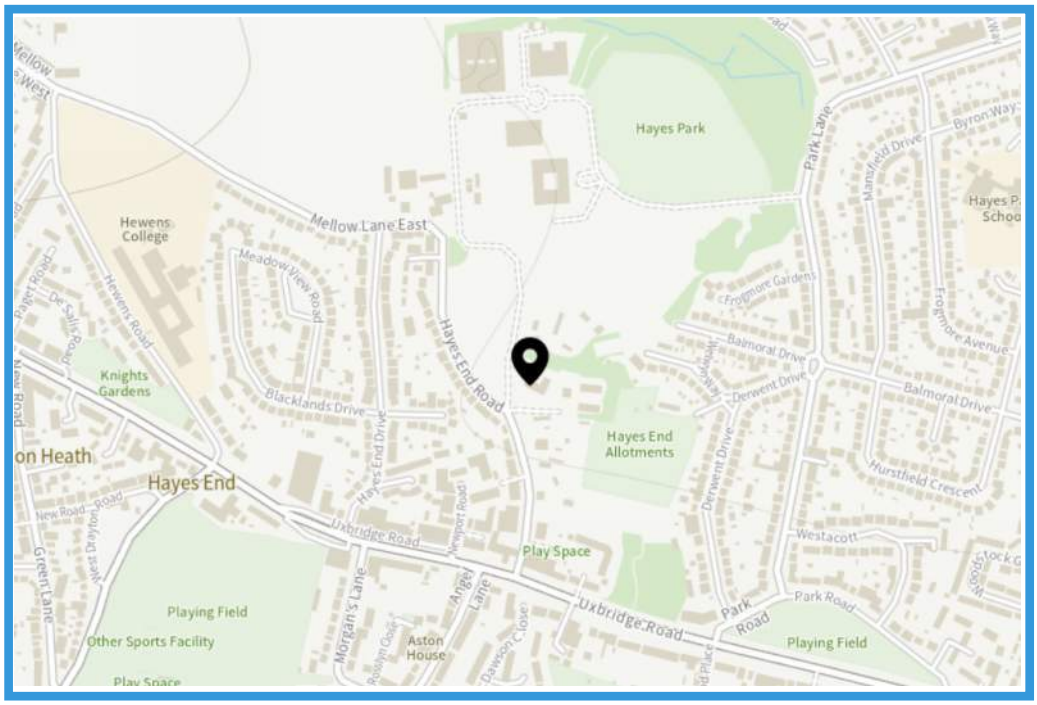
GEOLOGY - SUPERFICIAL DEPOSITS - BOYN HILL GRAVEL MEMBER - SAND AND GRAVEL



# SITE HYDROGEOLOGY

## Environment Agency Main River Map



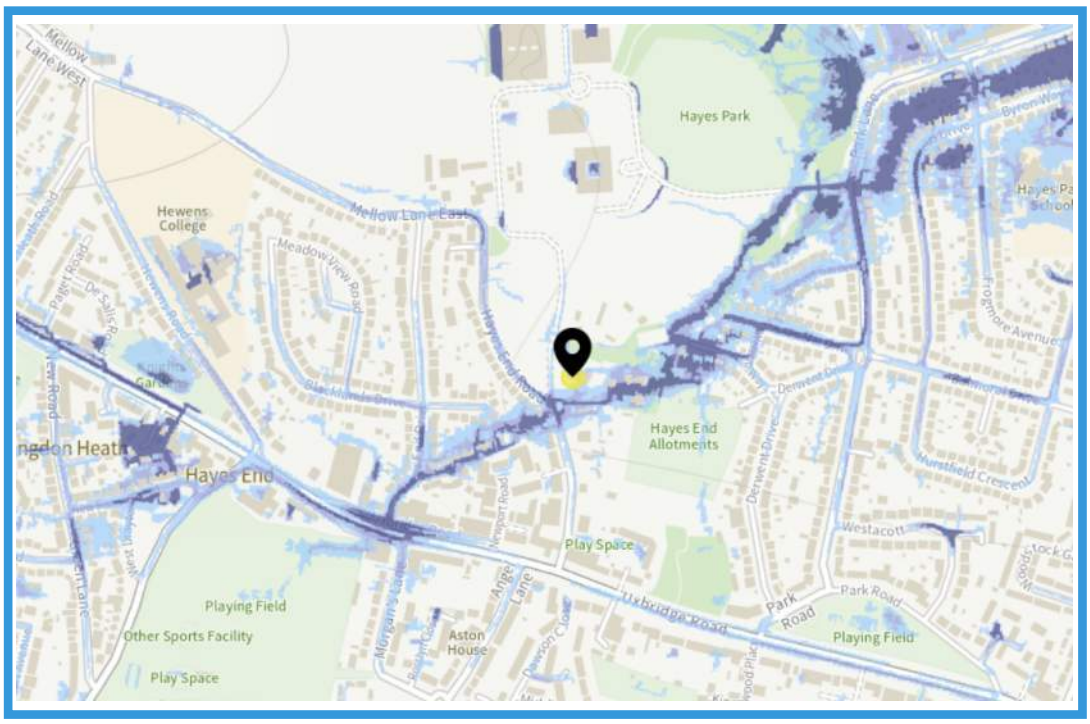


# SITE SURFACE WATER FLOOD RISK

High risk means a chance of flooding greater than 3.3% (1:30)
Medium risk means a chance of flooding of btw 1% (1:100) and 3.3%
Low risk means  a chance of flooding of btw 0.1% (1:1000) and 1%
Flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast. In addition, local features can greatly affect the chance and severity of flooding

Flood risk from surface water

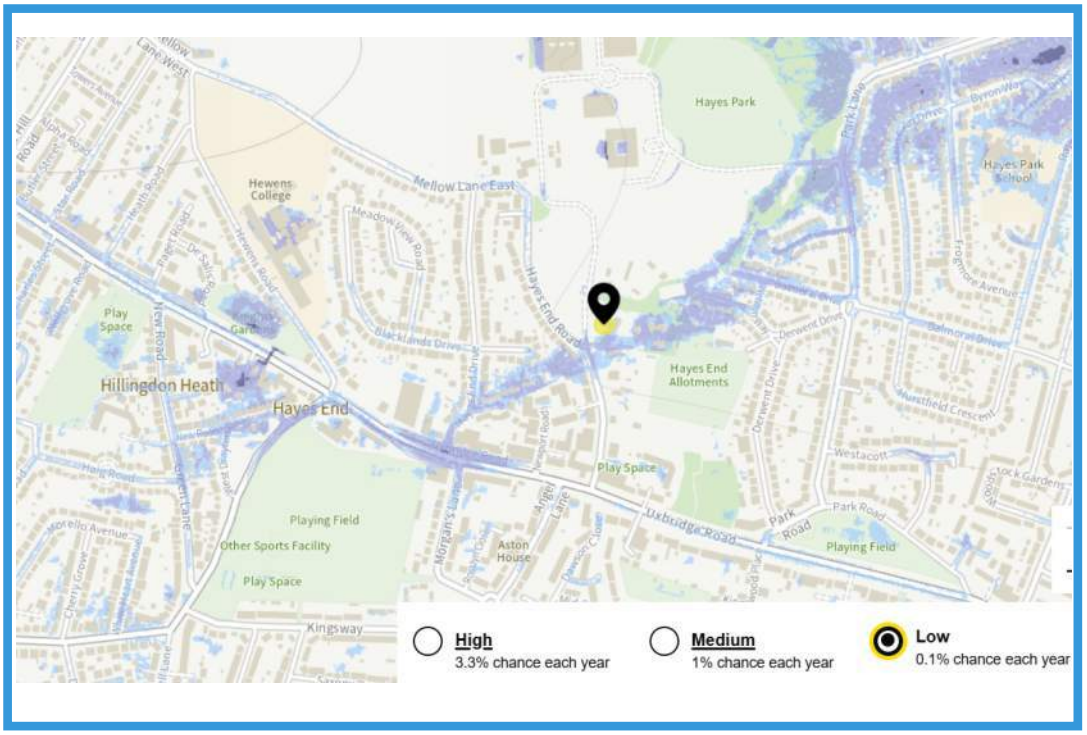
Extent of flooding




High risk
More than 3.3% chance each year

Medium risk
Between 1% and 3.3% chance each year

Low risk
Between 0.1% and 1% chance each year

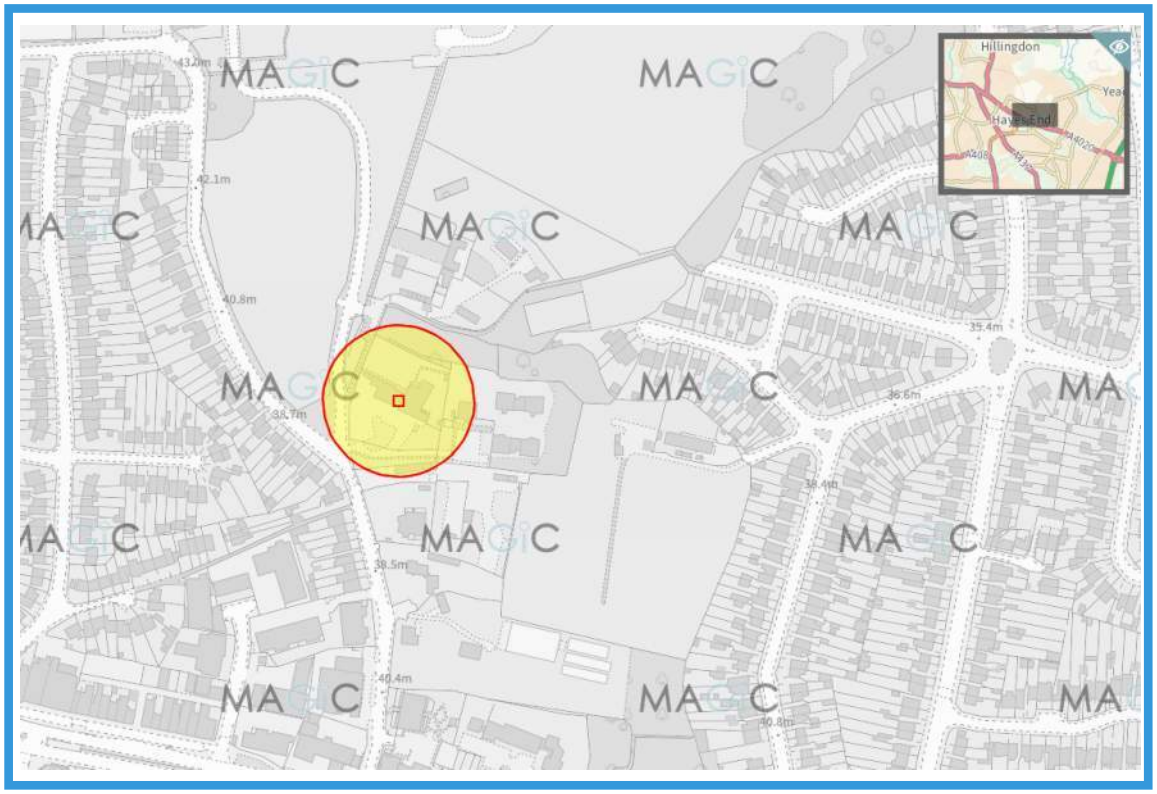



Above 90cm

30cm to 90cm

Below 30cm

# MAGIC RESULTS




**Site Check Results**

Site Check Report Report generated on Fri Oct 11 2024
**You selected the location:** Centroid Grid Ref: TQ08898210
The following features have been found in your search area:

**Aquifer Designation Map (Bedrock) (England)**

| | |
|---|---|
| **Typology** | Unproductive |

**Aquifer Designation Map (Superficial Drift) (England)**

| | |
|---|---|
| **Typology** | Secondary A |

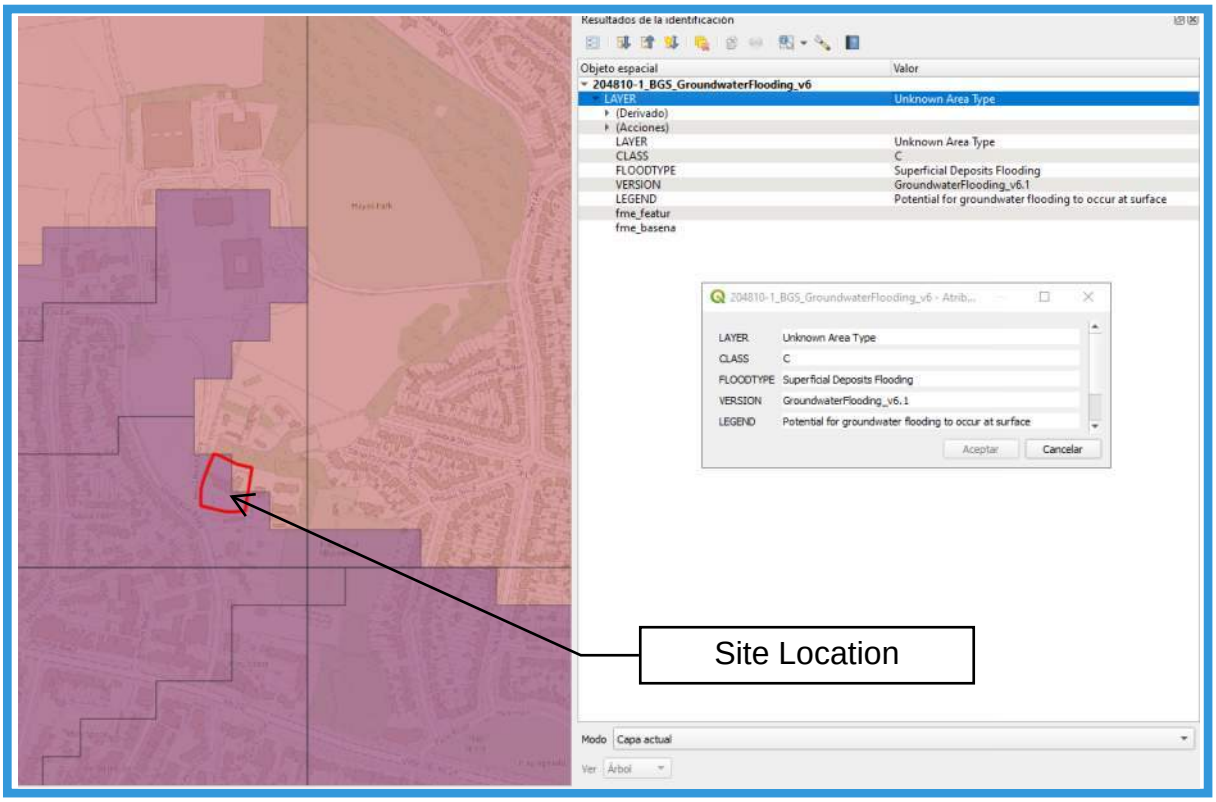
**Source Protection Zones merged (England)**
No Features found

OK | Cancel | Export to CSV | Print

# FLOOD WARNING AREA


Flood Warning areas

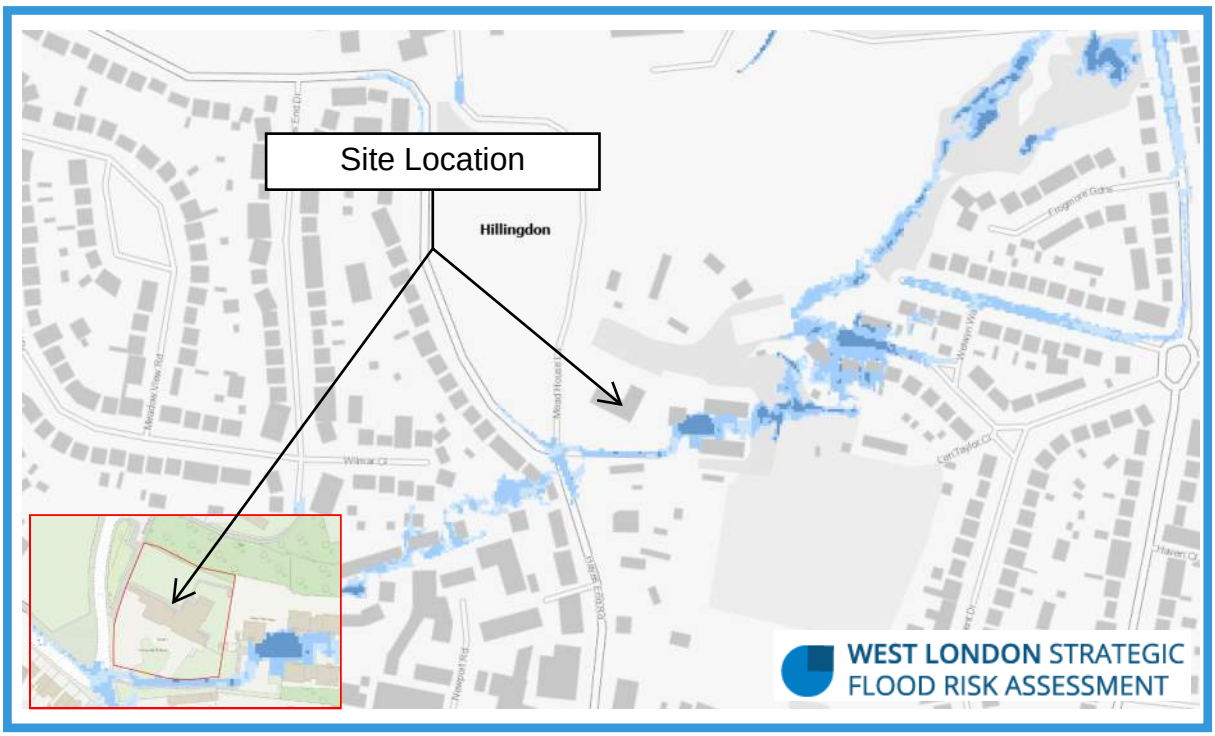
# GROUND WATER FLOOD RISK



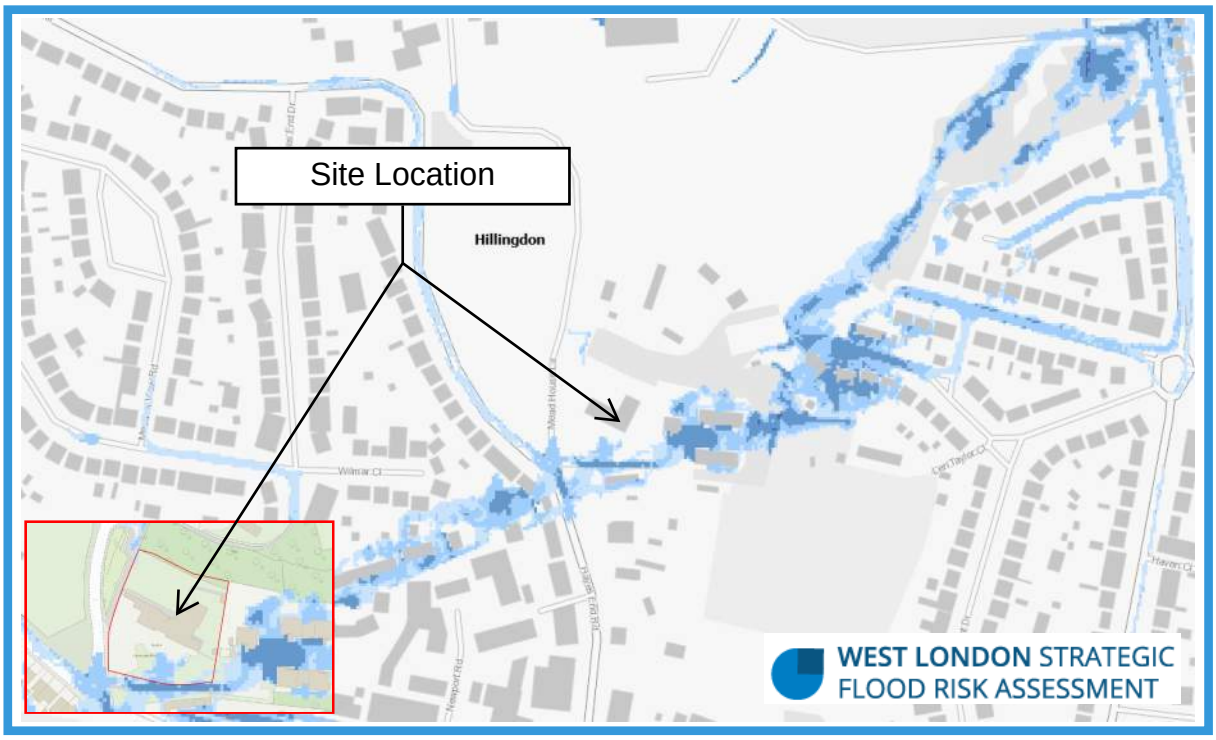
# HISTORIC FLOOD MAP


Historic Flood Outline

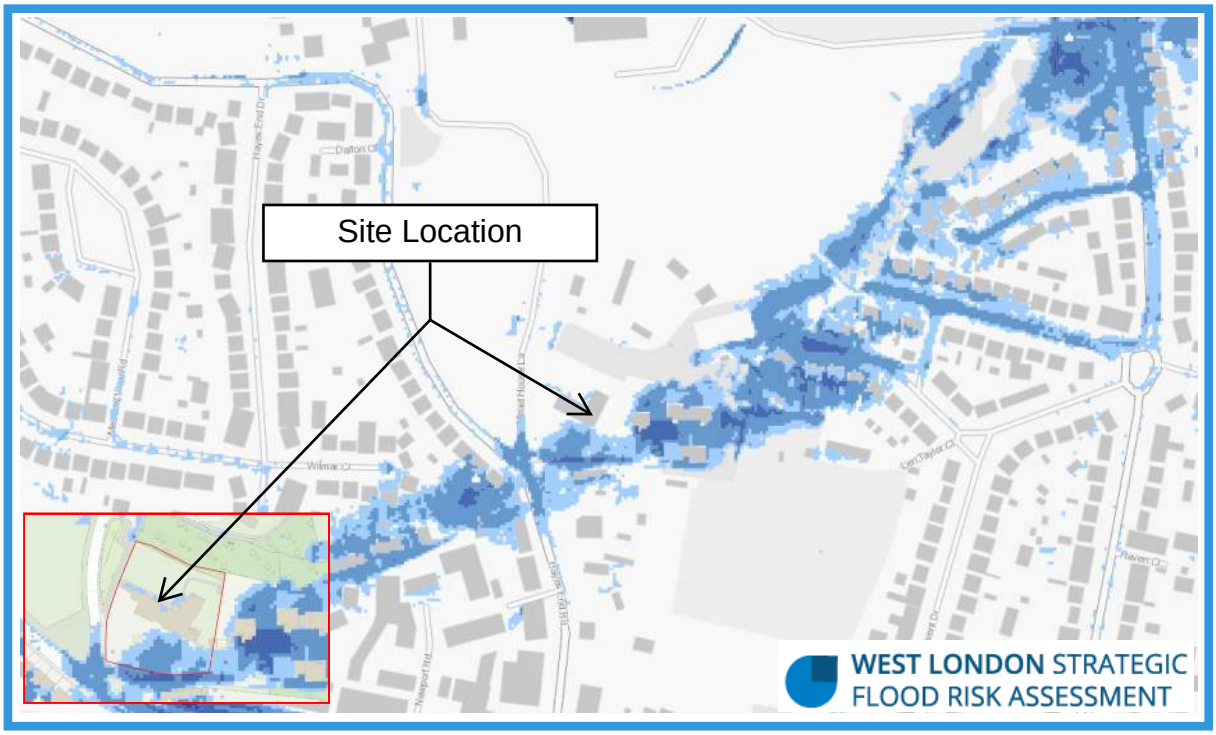
# EA - RISK OF FLOODING FROM SURFACE WATER DEPTH: 3.3 PERCENT ANNUAL CHANCE



## EA - RISK OF FLOODING FROM SURFACE WATER DEPTH: 1.0 PERCENT ANNUAL CHANCE




## EA - RISK OF FLOODING FROM SURFACE WATER DEPTH: 0.1 PERCENT ANNUAL CHANCE



# Flood map for planning

| Your reference | Location (easting/northing) | Created |
|---|---|---|
| **<Unspecified>** | **508893/182112** | **11 Oct 2024 10:26** |

**Your selected location is in flood zone 1, an area with a low probability of flooding.**

You will need to do a flood risk assessment if your site is **any of the following:**

- bigger that 1 hectare (ha)
- In an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

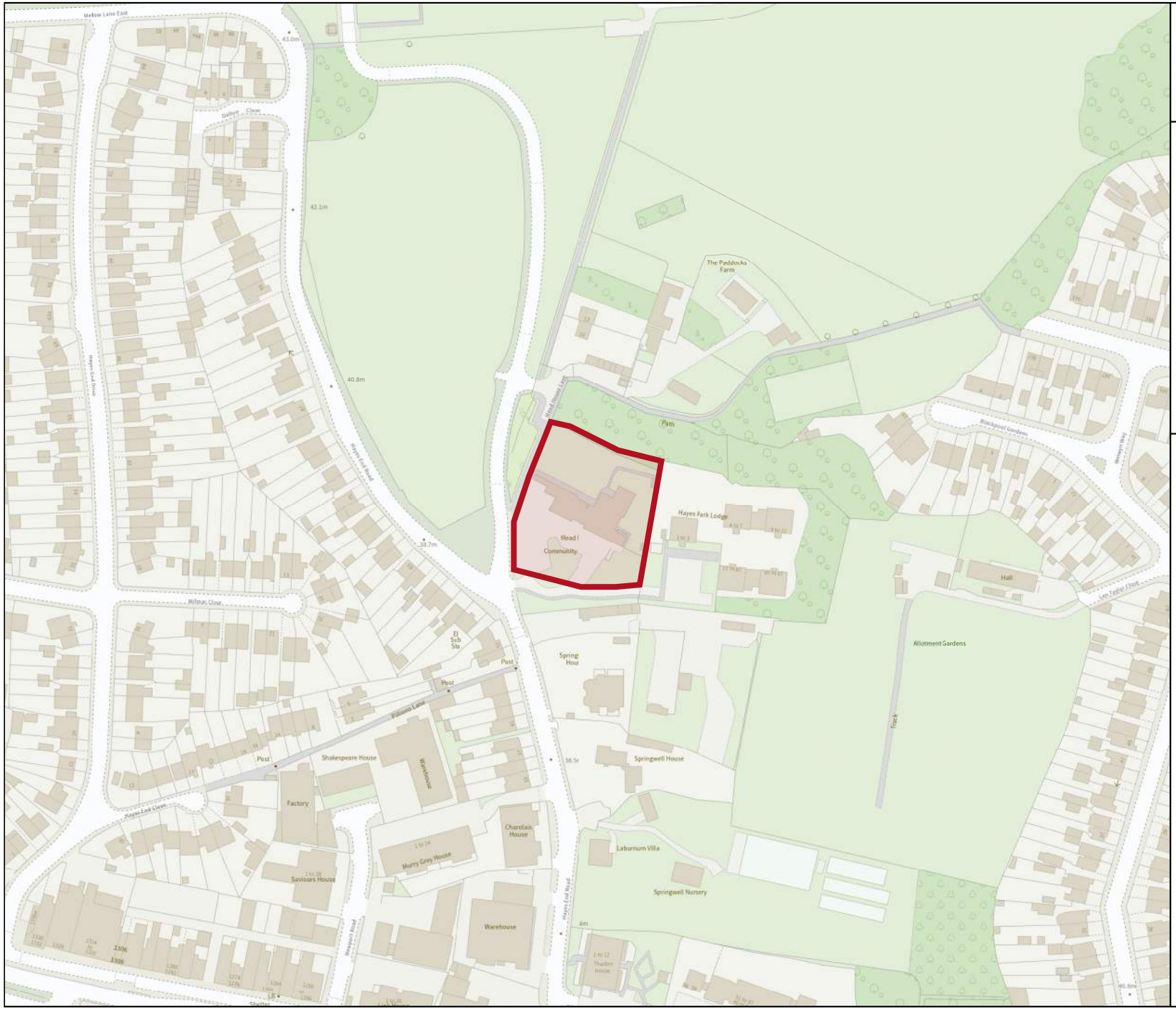
**Notes**

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence **which** sets out the terms and conditions for using government data. https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2024 OS AC0000807064. https://flood-map-for-planning.service.gov.uk/os-terms




Environment Agency

## Flood map for planning

Your reference
**<Unspecified>**

Location (easting/northing)
**508893/182112**

Scale
**1:2500**

Created
**11 Oct 2024 10:26**

- Selected area
- Flood zone 3
- Flood zone 2
- Flood zone 1
- Flood defence
- Main river
- Water storage area

0 20 40 60m