FLOOD RISK ASSESSMENT

Proposed Minor Development at
41 Colne Avenue, West Drayton, UB7 7AL

19th Aug 2025

Contents

1. Development

The address of the development is 41 Colne Avenue, West Drayton, UB7 7ALThe development is a residential house shown in arial view in the **Figure 1-1**. The ground floor footprint of the extension is circa 51 m2.The site is in flood zone 2 as shown in the flood map of the environment agency in the **Appendix A**.

The location plan and site plan is included in the **Appendix C.** The report is compiled using standing advice of Environment Agency (EA) and using the criteria within the National Planning Policy Framework (NPPF).

Figure 1-1: Arial Photograph of the development

Based on the guidelines of NPPF the extension of the development is considered as a "**minor development**" as the footprint of the extension is less than **250m^2**.

According to the flood risk vulnerability classification guidelines of NPPF the development is categorised as "**More Vulnerable**" being a **dwelling house**.

The dwelling house has no records of being flooded based on the information from EA maps **(Appendix B)**

The Figure 1-2 shows the Flood risk Vulnerability classification criteria for various Flood Zones.

		Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Typical developments		Essential transport infrastructure Strategic utility infrastructure	Emergency service stations Basement dwellings Caravans mobile homes etc permanent residences Hazardous substances installations	Hospitals Residential institutions Dwellings, hotels, halls of residence etc Nightclubs, pubs etc Non residential healthcare, nurseries and education facilities. Landfill and waste sites Caravan, camping etc temporary residence (2)	Shops, offices, cafes and restaurants, general industry, storage and distribution Buildings and land for agriculture and forestry Waste treatment Mineral working and processing Water and sewage plants (3)	Flood control infrastructure Water supply infrastructure Sewage systems Sand and gravel workings Docks marinas and wharves Navigation facilities Mod defence Ship building and repairs Water based recreation (4) Lifeguard and coastguard stations Amenity, nature conservation, outdoor sports Essential sleeping facilities for the above (2)
Flood zones	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	Exception Test	✓	✓	✓
	Zone 3a	Exception Test	×	Exception Test	✓	✓
	Zone 3b	Exception Test	×	×	×	✓

Notes

✓ Development is appropriate, subject to satisfying the sequential test

× Development should not be permitted

1 Table based on Tables D1, D2 and D3 of PPS 25. Refer to original tables for full descriptions.

2 Subject to a specific warning and evacuation plan.

3 If adequate pollution control measures are in place.

4 Excluding sleeping accommodation.

Figure 1-2: Vulnerability classification (Source: CIRIA 2010 RP913 ISBN:978-086017-688-6)

2. Description and Geology of the development

The proposed development is an extension of a residential house. The extension will include a first-floor side extension over existing garage and ground floor rear extension. The plans for the proposed extension are attached in the **Appendix C**

The geology of the site is Alluvium-Clay, Silt, Sand and Gravel as shown in the **Figure 2-1**

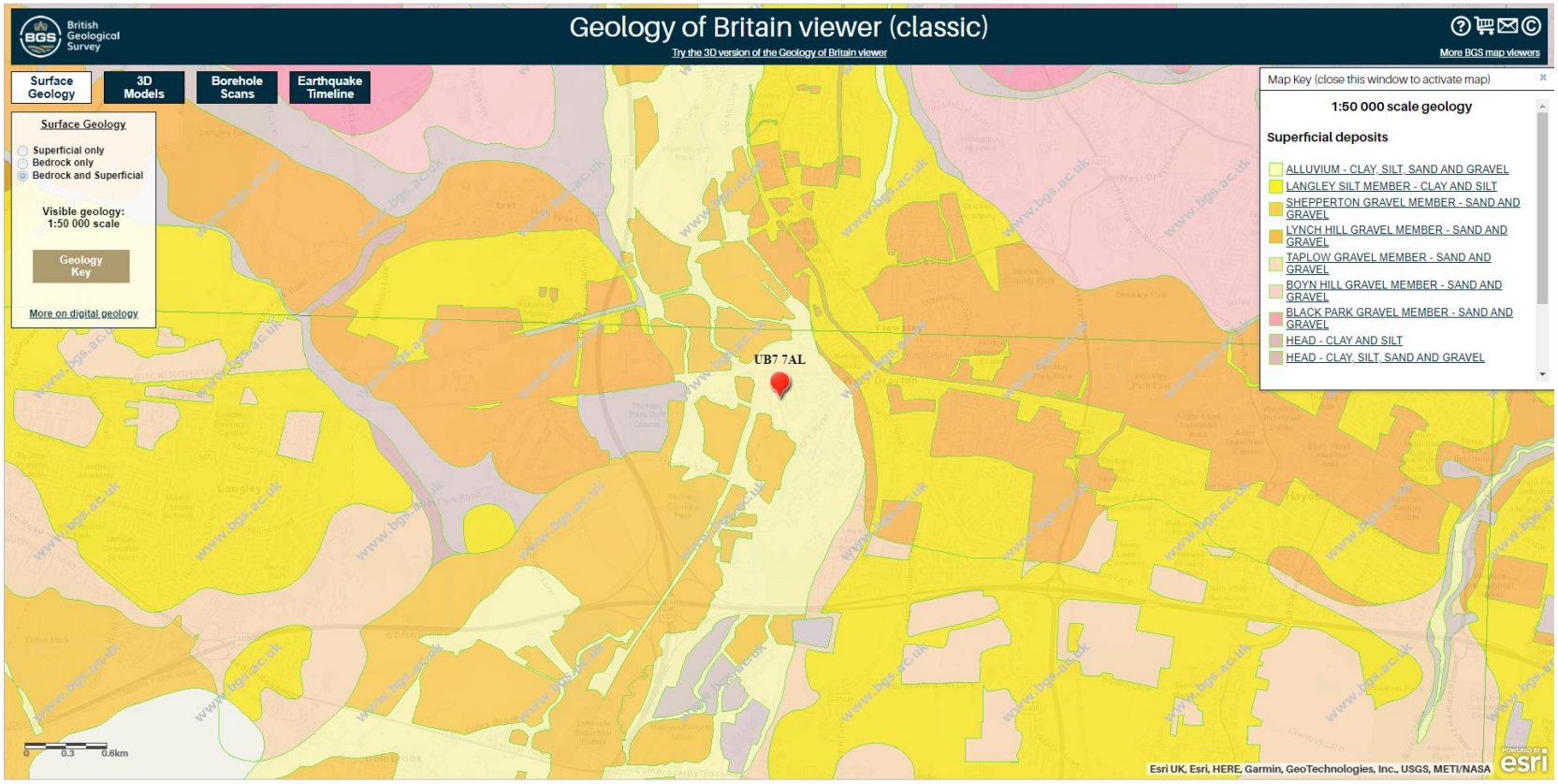


Figure 2-1: Geology at the site (Source: Contains British Geological Survey materials © UKRI 2022 and Base mapping is provided by ESRI)

3. Assessment of flood risk from different sources

3.1 River and the Sea

The estimated risk from river and sea flooding is Medium.

Medium risk means that each year this area has a chance of flooding of between 1% and 3.3%.

The Figure 3-1 shows the map with the dwelling house marked on the map to be in the Medium risk category.

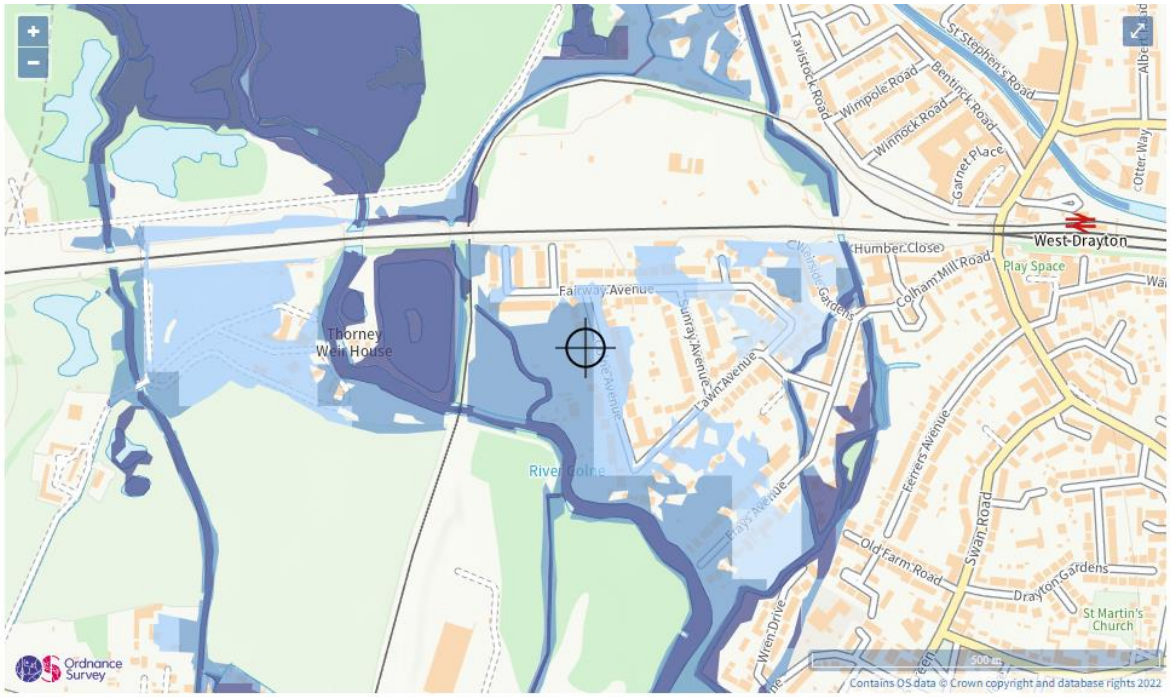


Figure 3-1: Map shows Extent of flooding from rivers or the sea (Source: http://watermaps.environmentagency.gov.uk/wiyby/wiyby.aspx?topic=ufmfsw#x=357683&y=355134&scale=2)

3.2 Surface Water

The estimated risk from surface water is **Very Low**.

Low risk means that each year this area has a chance of flooding of between 0.1% and 1%.

Surface water flooding, sometimes known as flash flooding:

- happens when heavy rain cannot drain away
- is difficult to predict as it depends on rainfall volume and location
- can happen up hills and away from rivers and other bodies of water
- is more widespread in areas with harder surfaces like concrete

Lead local flood authorities (LLFA) are responsible for managing the flood risk from surface water.

The Figure 3-2 shows the map with the dwelling house marked on the map to be in the very low risk category.

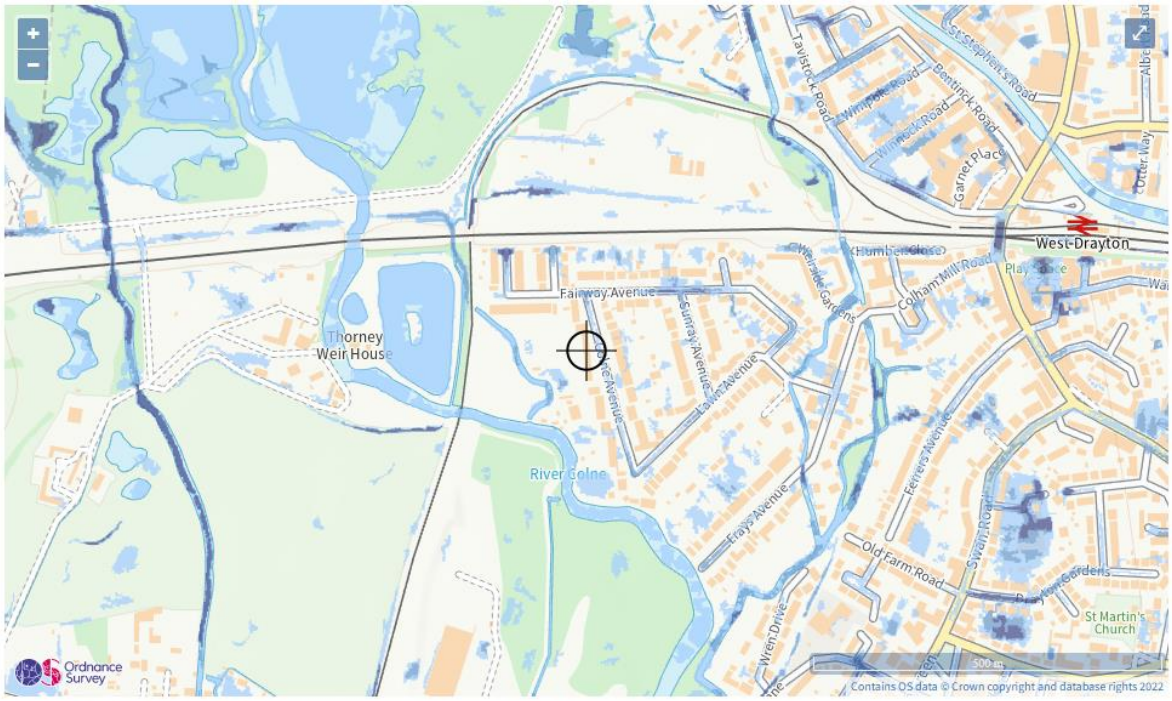


Figure 3-2: Map shows Extent of flooding from surface water (Source: http://watermaps.environmentagency.gov.uk/wiyby/wiyby.aspx?topic=ufmfsw#x=357683&y=355134&scale=2)

3.3 Other flood risks: 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

The failure of a reservoir has the potential to cause catastrophic damage due to the sudden release of large volumes of water. There is a risk of flooding from reservoirs in this area.

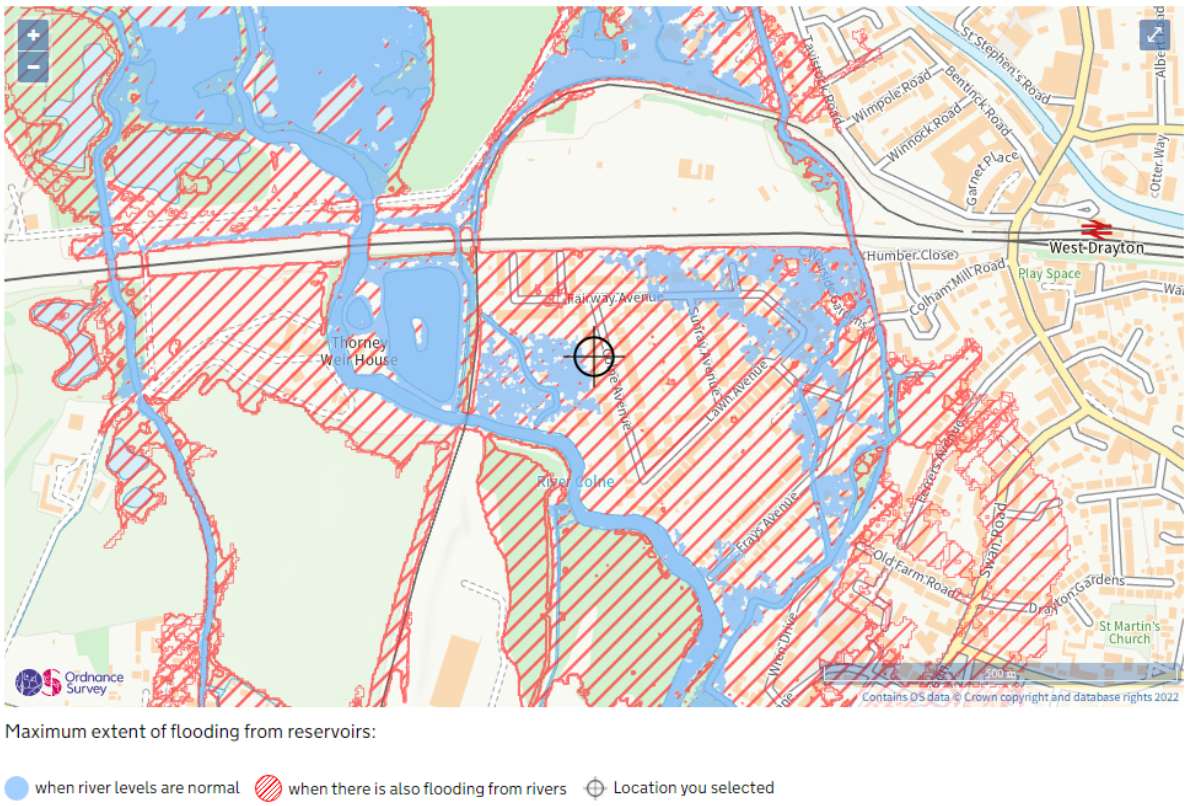


Figure 3-3: Maps shows Maximum extent of flooding from reservoirs (Source: http://watermaps.environmentagency.gov.uk/wiyby/wiyby.aspx?topic=ufmfsw#x=357683&y=355134&scale=2)

Reservoirs that could affect this area

- **George V FSA** (grid reference TQ1280090400)
- Owner: Environment Agency
- Lead Local Flood Authority: Harrow
- Comments: If you have questions about local emergency plans for this reservoir you should contact the named Local Authority

- **Ruislip Lido** (grid reference TQ0880089000)
- Owner: Hillingdon Council
- Lead Local Flood Authority: Hillingdon
- Comments: If you have questions about local emergency plans for this reservoir you should contact the named Local Authority

- **Wraysbury** (grid reference TQ0250074500)
- Owner: Thames Water Limited
- Lead Local Flood Authority: Surrey
- Comments: If you have questions about local emergency plans for this reservoir you should contact the named Local Authority

- **Hilfield Park** (grid reference TQ1570096000)
- Owner: Affinity Water Limited
- Lead Local Flood Authority: Hertfordshire
- Comments: If you have questions about local emergency plans for this reservoir you should contact the named Local Authority

4. Estimated Flood Level

The 100-year flood level was obtained from Environment Agency.

The 1 in 100+20% Climate change flood level for the site is **25.41 mAOD**.

Appendix B shows the results of models from Environment Agency.

There are no physical flood defences protecting this site.

5. Proposed Levels of Development

The ground level of the development from OS maps is **26m AOD** as shown in the map Ordinance Survey (OS) map in the **Figure 5-1**. This is above the estimated flood level of 25.41 m AOD.

The finished floor level will be in-line to the existing floor level of the development which is app 250 mm higher than the ground level.

Since the ground level is already higher than the estimated flood level and the finished floor level will be set no less than the existing floor level, this suffice the EA criteria for finished floor level to be set no lesser than 300mm above the predicted 100-year flood level plus climate changed allowance for river flooding.

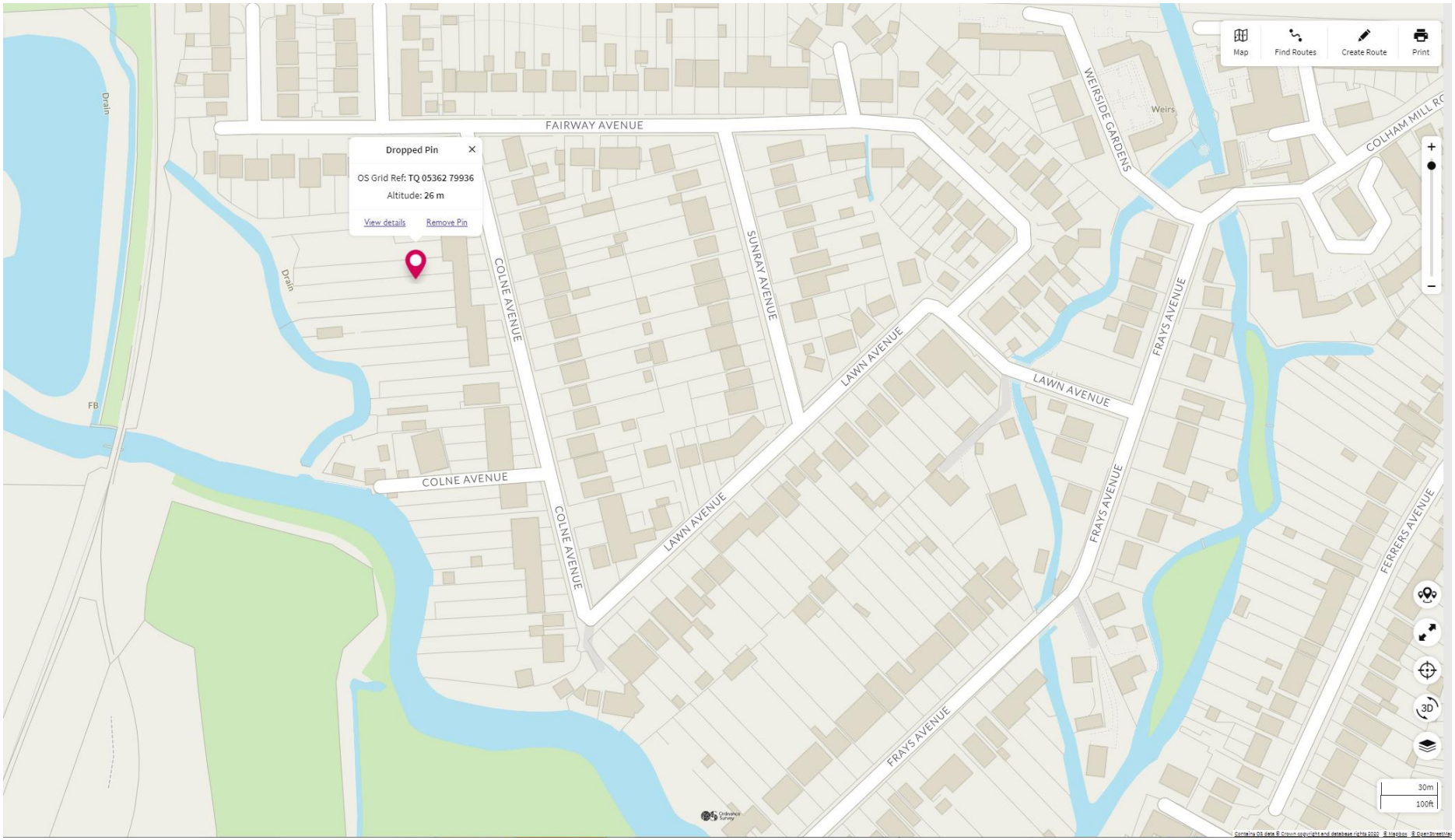


Figure 5-1 : Ground level in m AOD of the site (Source: *Crown copyright and database rights 2020 Ordnance Survey 1000+99+5 www.ordnancesurveyleisure.co.uk)*

6. Flood Evacuation Plan

It is recommended to subscribe to the EA to the flood warnings in England. Using first floor as an escape method from flood is not a good option as the services of electricity or water may not be functional and it could lead to people being stuck on the floor. The best flood plan is to follow nearest dry escape route shown in the Figure 6-1.

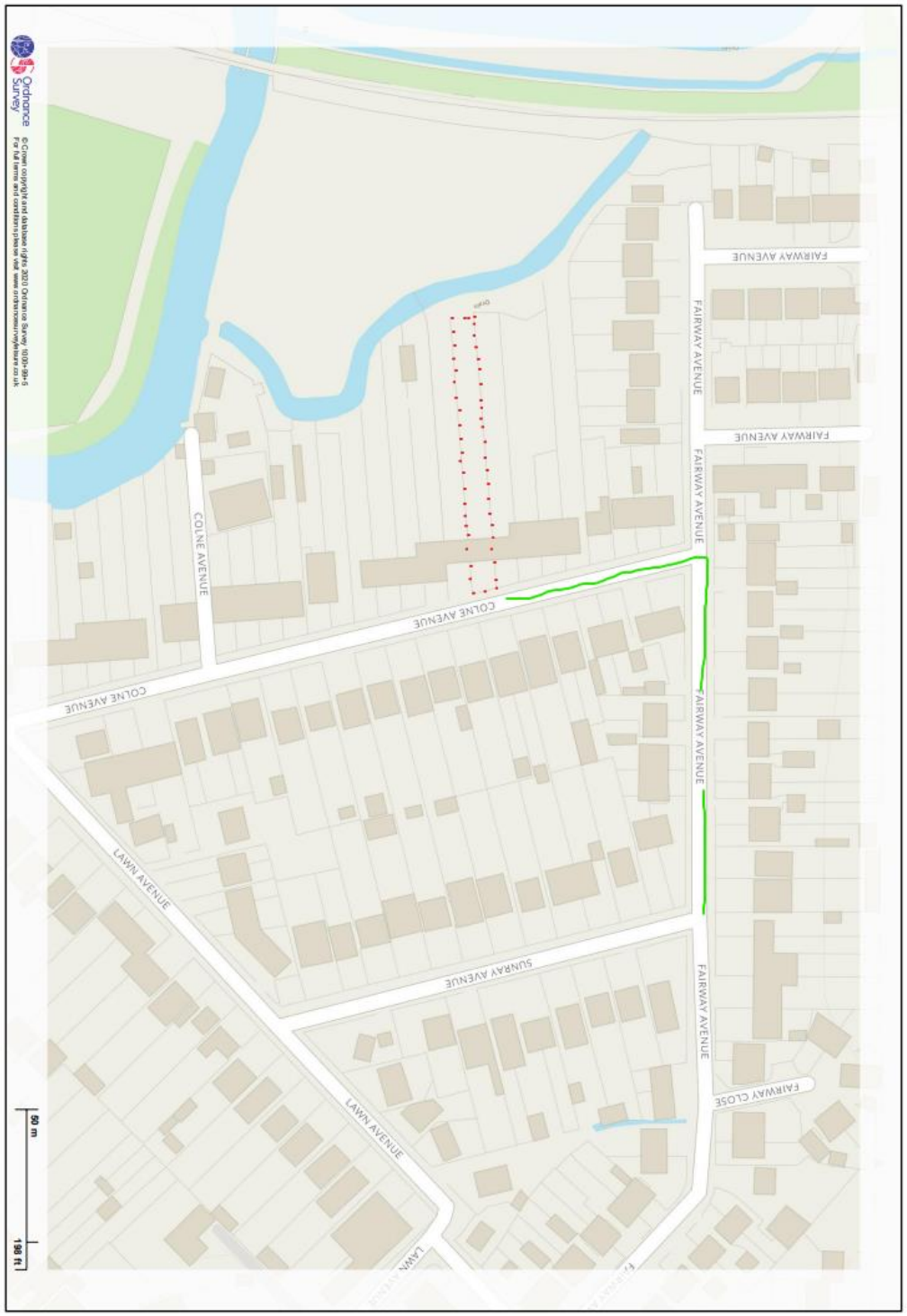


Figure 6-1: Evacuation route (highlighted in green) (Source: Crown copyright and database rights 2020 Ordnance Survey 1000+99+5www.ordnancesurveyleisure.co.uk)

7. Surface Water Drainage strategy

Sustainable drainage systems (SuDS) are designed to maximise the opportunities and benefits we can secure from surface water management. SuDS deliver high quality drainage system while supporting urban areas to cope better with severe rainfall both now and in future. The SuDS approach involves slowing down and reducing the quantity of surface water runoff from a developed area to manage downstream flood risk.

The SuDS hierarchy and management train has been discussed in the SuDS Manual (C753) which aims to mimic the natural catchment process as closely as possible. The

Table 1 shows the general hierarchy of the SuDs measures:

Measures	Definition
Preventive	The use of good site design and housekeeping measures to prevent runoff and pollution (e.g. rainwater harvesting/ reuse)
Source Control	Control of runoff at or very close to the surface where rainfall lands (e.g. soakaways, porous and previous surfaces, green roofs)
Site Control	Manage the surface water run-off from larger areas, such as part of a housing estate, major roads or business parks (e.g. routing water to large soakaways, infiltration or detention basins)
Regional Control	Management of runoff from a site or several sites (e.g. balancing ponds, wetlands)

Table 1: General Hierarchy of SuDS measures

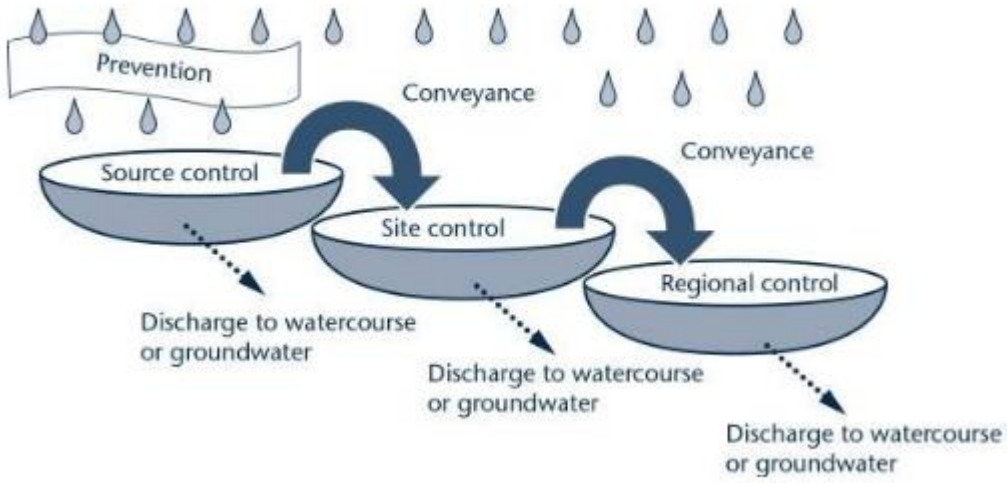


Figure 7-1: SuDS hierarchy (Source: [www.netregs.org.uk)](http://www.netregs.org.uk)

The Table 2 shows the feasibility assessment of the SuDS for the site

SuDS Measures	Description	Feasibility for the site
Prevention	Rainwater harvesting can be implemented to improve surface water runoff from the site by using rain water butt.	Yes
Source Control	Due to presence of London Clay in the bedrock geology, the infiltration measures such as soakaway may not be appropriate.	No
Site Control	Detention basins are not considered due to the small scale of the proposed extension.	No
Regional Control	Balancing ponds/wetlands are not considered due to limited space	No

Table 2: Feasibility assessment of SuDS

Based on the general assessment of the SuDS measures in the table above, it is proposed that a rainwater harvesting (water butt) will be implemented to improve the surface water run-off at the site. The collected water will be used for gardening, cleaning etc. The rain water butt will be installed above the ground near the rear extension.

The access to the bi-fold doors from the extension will be through a patio. The patio will be built using the permeable paving slabs which are stone tiles that have a porous surface which allows the water to pass through them more easily than other types of pavers.

7.1 Annual Rainwater Yield/ Surface water runoff

The annual rainwater yield/ surface water runoff calculated using the measured annual rainfall at the nearest Climate station at Heathrow. The annual rainfall for the site is app 615 mm. The annual rainfall has been derived from the average table and average map for the Climate Station at Heathrow as shown in the below Figures.

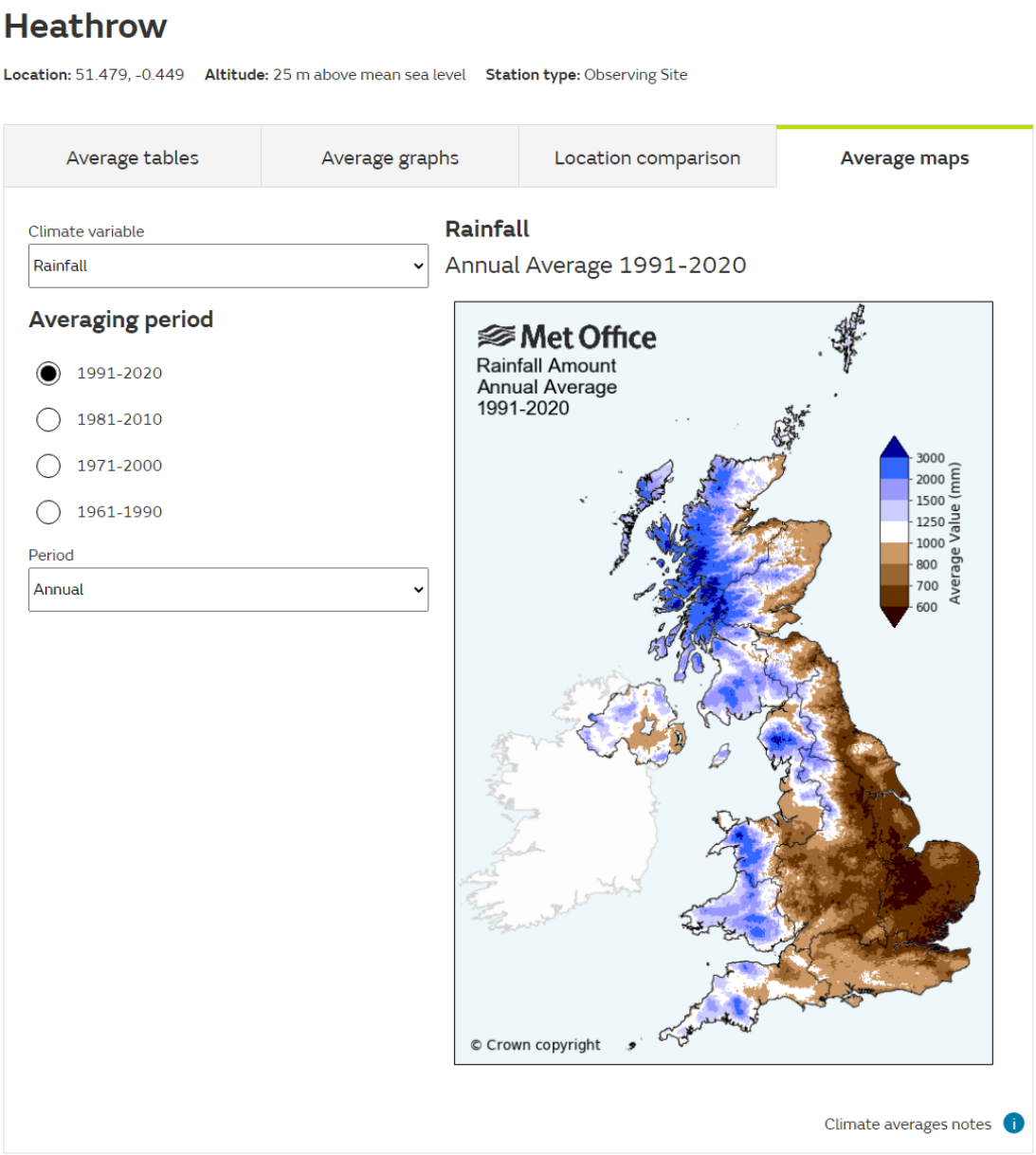


Figure 7-2: Annual rainfall Map of UK (Source: www.metoffice.gov.uk)

Nearest climate station:

Heathrow

Location: 51.479, -0.449 **Altitude:** 25 m above mean sea level **Station type:** Observing Site

Average tables | Average graphs | Location comparison | Average maps

Climate period: 1991-2020

Station: Heathrow

Month	Maximum temperature (°C)	Minimum temperature (°C)	Days of air frost (days)	Sunshine (hours)	Rainfall (mm)	Days of rainfall ≥1 mm (days)	Monthly mean wind speed at 10 m (knots)
January	8.42	2.68	6.80	61.09	58.83	11.53	8.15
February	8.98	2.65	6.20	78.81	44.96	9.50	7.81
March	11.73	4.14	2.93	124.45	38.78	8.47	7.67
April	15.00	6.03	0.80	176.67	42.31	8.80	7.05
May	18.37	9.08	0.03	207.49	45.91	8.00	7.26
June	21.57	12.03	0.00	208.39	47.25	8.33	7.08
July	23.89	14.18	0.00	217.81	45.80	7.90	7.19
August	23.40	14.06	0.00	202.12	52.78	8.43	6.91
September	20.22	11.62	0.00	157.11	49.61	7.90	6.73
October	15.81	8.78	0.33	115.17	65.07	10.80	7.13
November	11.47	5.26	2.73	70.74	66.63	11.23	7.01
December	8.79	3.08	7.17	54.96	57.05	10.77	7.77
Annual	15.67	7.83	26.99	1674.81	614.98	111.66	7.31

Figure 7-3: Annual rainfall table of Climate Location at Heathrow (Source: www.metoffice.gov.uk)

Annual surface water runoff/annual rainwater yield and tank size for the site calculated as below using the BS 8515:2009 Rainwater harvesting systems Code of practice.

$$Y = A * e * h * \eta$$

Where
Y is the annual rainwater yield (L)
A is the collecting area/Roof area ($m^{2)}$
e is the yield coefficient (%), generally used as 0.7 or 0.8
h is the depth of rainfall (mm)
η is the hydraulic filter efficiency, commonly used as 0.9

Existing roof area App 90 m^2

- Existing Annual surface water run-off= 90*0.8*615*0.9 =39852 L

Roof area with rear extension App 141 m^2

- Annual Surface water runoff with rear extension=141*0.8*615*0.9 =62434L

7.2 Tank size for rain water harvesting

Tank size calculated using the intermediate approach based on the BS 8515:2009 Rainwater harvesting systems Code of practice.

In this approach for non-potable domestic use, storage capacity should be lesser of the 5% of the annual rainwater yield or 5% of the annual non-potable water demand.

5% of the annual rainwater yield calculated using the equation below

$$Y = A * e * h * \eta * 0.05$$

Tank size in L= 62434*0.05= 3122 L

5% of the annual non-potable water demand calculated using the below equation

$$Dn = Pd * n * 365 * 0.05$$

Where

Dn is the annual non-potable water demand (L)

Pd is the daily requirement per person (L), usually set to 50L per person

n is the number of persons.

Tank size in L= 50*4*365*0.05= 3650 L

The tank suitable for the property would be based on the lesser of the two tank size calculated above. Therefore, a tank size closest to 3122 L will be most suitable for the property. The tank will sit on the patio (i.e. above the ground) near to the rear extension.

8. Flood resistance and resilience plans

The NPPF guidelines states that if the development is a minor development i.e. floor space not exceeding 250 m^2 then there is **no requirement for a sequential test**.

There are no physical flood defence mechanisms in place at the site. The records from EA shows that the site has not been flooded in past **(Appendix B).**

The flood level of the site is 25.41 m AOD and the ground level is 26 m AOD. The flood depth is **0.59 m AOD**.

Flood Depth= Flood Level-Ground Level

Based on the flood depth the resilience measure for the design water depth from 0.3m-0.6m will be used as shown in the Figure 8-1. This table has been derived from CLG May 2007 Improving Flood Performance of new buildings guidelines (www.communities.gov.uk)

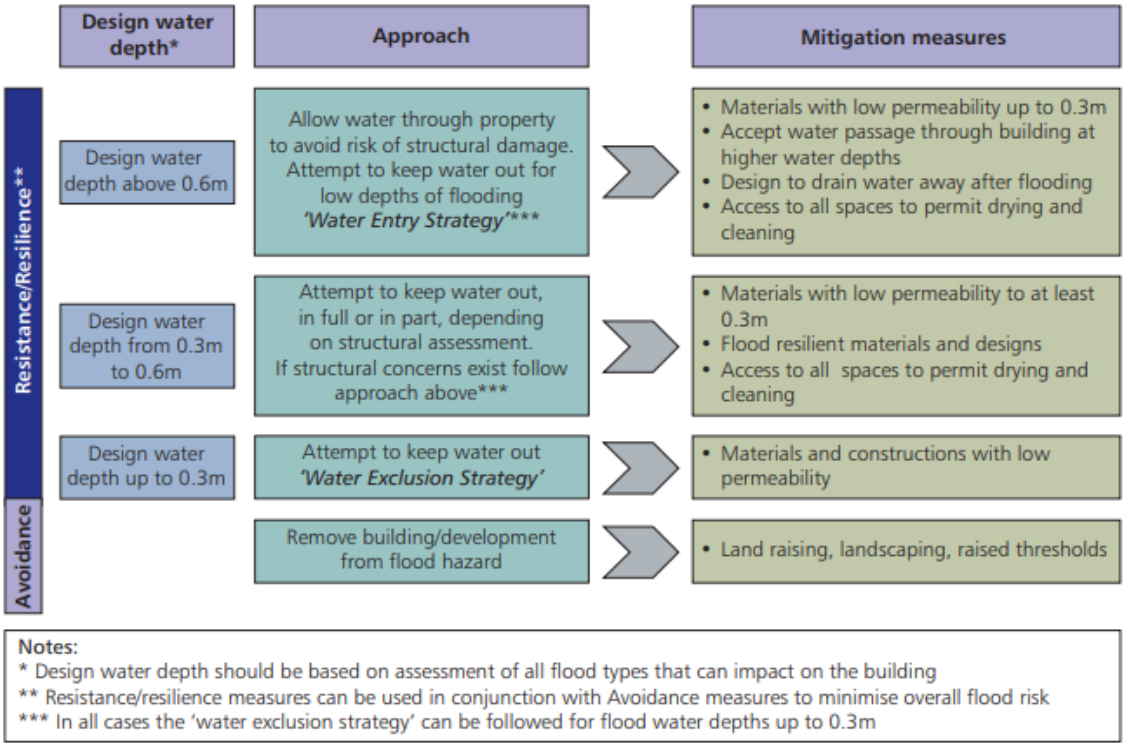


Figure 8-1: Resilience measures based on water depth (Source: CLG May 2007 Improving Flood Performance of new buildings guidelines (www.communities.gov.uk)

8.1 Building Material

In accordance with the CLG 2007 guidelines the building material classified as having good resilience shall be used in the construction of the development. The Figure 8-2 should be used which has laboratory-based evidence while choosing the building material. The building material shown as **Good** should be used during construction.

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			

Figure 8-2: Building Material guidance (Source: CLG May 2007 Improving Flood Performance of new buildings guidelines (www.communities.gov.uk)

8.2 Foundations

Foundations are designed to suit site conditions, namely the local geotechnical characteristics and the building design. In general, the choice of foundation type will be dictated by ground conditions, rather than resilience considerations. However, improvements can be made to increase the resilience

Preferred option for foundation is ground supported floor with at least100 mm hardcore thickness and at least 150 mm of concrete sla. Good compaction is necessary to reduce the risk of settlement and consequential cracking. Damp proof membranes should be included in the design to minimise the passage of water through ground floor. Floor insulation should be the close -cell type to minimise the impact of flood water. Ceramic or concrete-based floor tiles, stone and sand/cement screeds should be used for floor finishing. Under floor services using ferrous materials should be avoided.

The Figure 8-3 shows how the foundation should be completed during the construction phase.

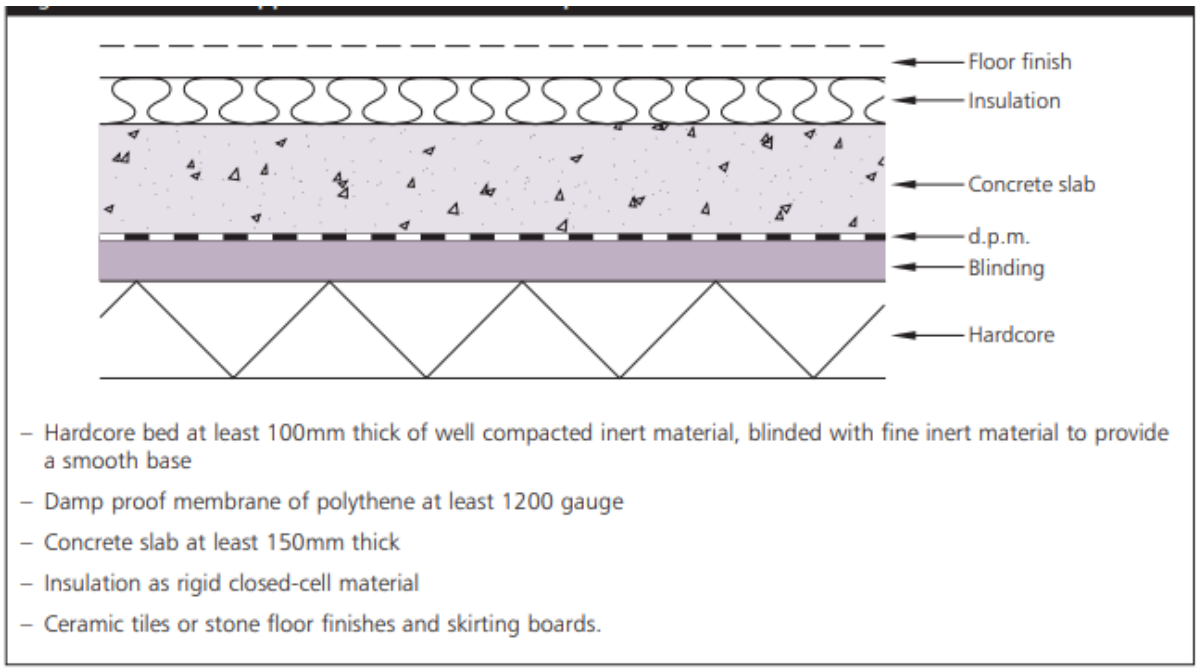


Figure 8-3: Foundation guidance (Source: CLG May 2007 Improving Flood Performance of new buildings guidelines (www.communities.gov.uk)

8.3 Walls

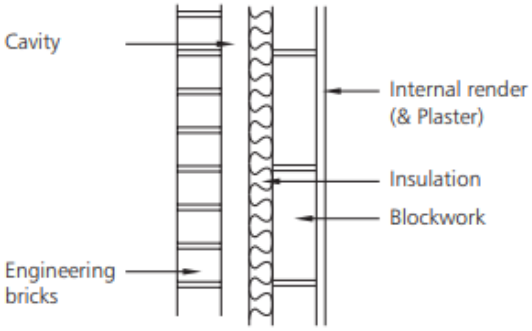
For construction of wall the components classified as good in the Figure 8-4 should be used. The table is based on laboratory evidence.

Engineering brick to be used up to predicted flood level plus one course of bricks to provide free board

Material	Resilience characteristics*		
	Water penetration	Drying Ability	Retention of pre-flood dimensions, integrity
External face			
Engineering bricks (Classes A and B)	Good	Good	Good
Facing bricks (pressed)	Medium	Medium	Good
Internal face			
Concrete blocks	Poor	Medium	Good
Aircrete	Medium	Poor	Good
Cavity insulation			
Mineral fibre	Poor	Poor	Poor
Blown-in expanded mica	Poor	Poor	Poor
Rigid PU foam	Medium	Medium	Good
Renders/Plaster			
Cement render – external	Good	Good	Good
Cement/lime render – external	Good	Good	Good
Gypsum Plasterboard	Poor	Not assessed	Poor
Lime plaster (young)	Poor	Not assessed	Poor
* Resilience characteristics are related to the testing carried out and exclude aspects such as ability to withstand freeze/thaw cycles, cleanability and mould growth			

Figure 8-4: Wall material guidance (Source: CLG May 2007 Improving Flood Performance of new buildings guidelines (www.communities.gov.uk)

For external walls good quality facing bricks should be used and rendering should be avoided. The Figure 8-5 shows options to be considered during the construction phase.

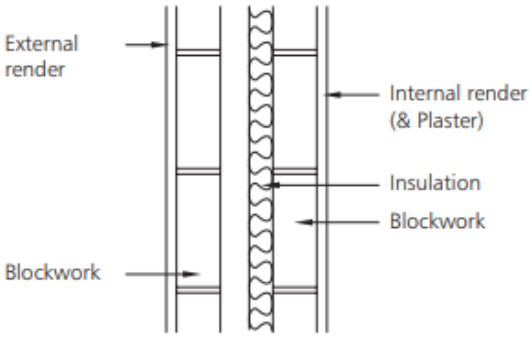


Option A Part-filled cavity

Part-filled cavity – Option A

- External face consisting of engineering bricks up to required level for flood protection (up to 0.6m maximum above floor level plus one course). Other external facing materials can be used above this level, but ensure interface is watertight.
- Rigid insulation.
- Internal face consisting of blocks.
- Internal cement based render, preferably with lime content. Composition depends on masonry; the following mix is effective:

  1 cement : 6 sand: 1 lime on Aircrete.
- Ensure stainless steel wall ties are used to minimise corrosion and consequent staining.
- Sacrificial plasterboard can be used, but it needs to be removed between ground floor and flood level. The board should be fitted horizontally to make removal easier. In some cases a dado rail can be used to cover the joints.



Option B

Part-filled cavity – Option B

- External cement based render, preferably with lime content. Composition depends on masonry; the following mixes are effective:

  1 cement : 4 sand: ½ lime on concrete blockwork

  1 cement : 6 sand: 1 lime on Aircrete.
- External face consisting of blocks.
- Rigid insulation.
- Internal face consisting of blocks.
- Internal cement based render, preferably with lime content. Composition depends on masonry; the following mix is effective for flood resilience:

  1 cement : 6 sand: 1 lime on Aircrete.
- Ensure stainless steel wall ties are used to minimise corrosion and consequent staining.

Figure 8-5: External Wall guidance (Source: CLG May 2007 Improving Flood Performance of new buildings guidelines (www.communities.gov.uk)

8.4 Doors and Windows

Doors: Raising the threshold as high as possible, while complying with level access requirements, should be considered as the primary measure. In addition, sealed PVC external framed doors should be used and, where the use of wooden doors is a preferred option, all effort should be made to ensure a good fit and seal to their frames

Special care should be taken to ensure adequate sealing of any PVC window/door sills to the fabric of the house

8.5 Fittings

Use durable fittings that are not significantly affected by water and can be easily cleaned (e.g. use of plastic materials or stainless steel for kitchen units). The cost of these units may need to be balanced against the predicted frequency of flooding. Place fittings (e.g. electrical appliances, gas oven) on plinths as high as practicable above floor so that they are out of reach of flood water. Ensure adequate sealing of joints between kitchen units and surfaces to prevent any penetration of water behind fittings. Ensure high quality workmanship in the application of fitting

The Electrical wiring should drop from the ceiling to sockets 300 mm above ground level.

9. Conclusions

The development which is a minor development falling in flood zone 2 require a Flood Risk Assessment (FRA).

The FRA report which has been prepared using the standing advice of EA complies guidelines of NPPF.

The finished floor level will be set in line to the existing floor levels which is higher than the recommended 300mm limit from the flood level.

The report delineates all the flooding risks. Flood resilience/mitigation measures have also been recommended.

An evacuation process has also been recommended in the report.

The surface water will be discharged using the rainwater harvesting mechanism.

All the measures mentioned in the report should be able keep the dwelling house and the occupants safe.

10. References

The below references have been used while preparing this report

The National Planning Policy Framework (NPPF)

BGS website: www.bgs.ac.uk

SuDs website: www.uksuds.com

BS 8515:2009 Rainwater harvesting systems- Code of Practice

OS websites: www.ordnancesurveyleisure.co.uk

Product 4 document from Environment Agency: HNL262057BC

Environment Agency Flood Maps

CLG May 2007 Improving Flood Performance of new buildings guidelines (www.communities.gov.uk

CIRIA C688 document 2010 RP913 ISBN:978-086017-688-6

CIRIA C753 document The SuDS Manual, 2015
CLG 2007 Improving the flood performance of new buildings

The CIRIA publication 'C635 Designing for exceedance in urban drainage— Good practice

BS 8515:2009 Rainwater harvesting systems Code of practice

Appendix A

Flood Map showing Flood zone of the dwelling house

Flood map for planning

Your reference	Location (easting/northing)	Created
UB7 7AL	**505388/179933**	**19 Aug 2025 17:00**

Your selected location is in flood zone 2, an area with a medium probability of flooding.

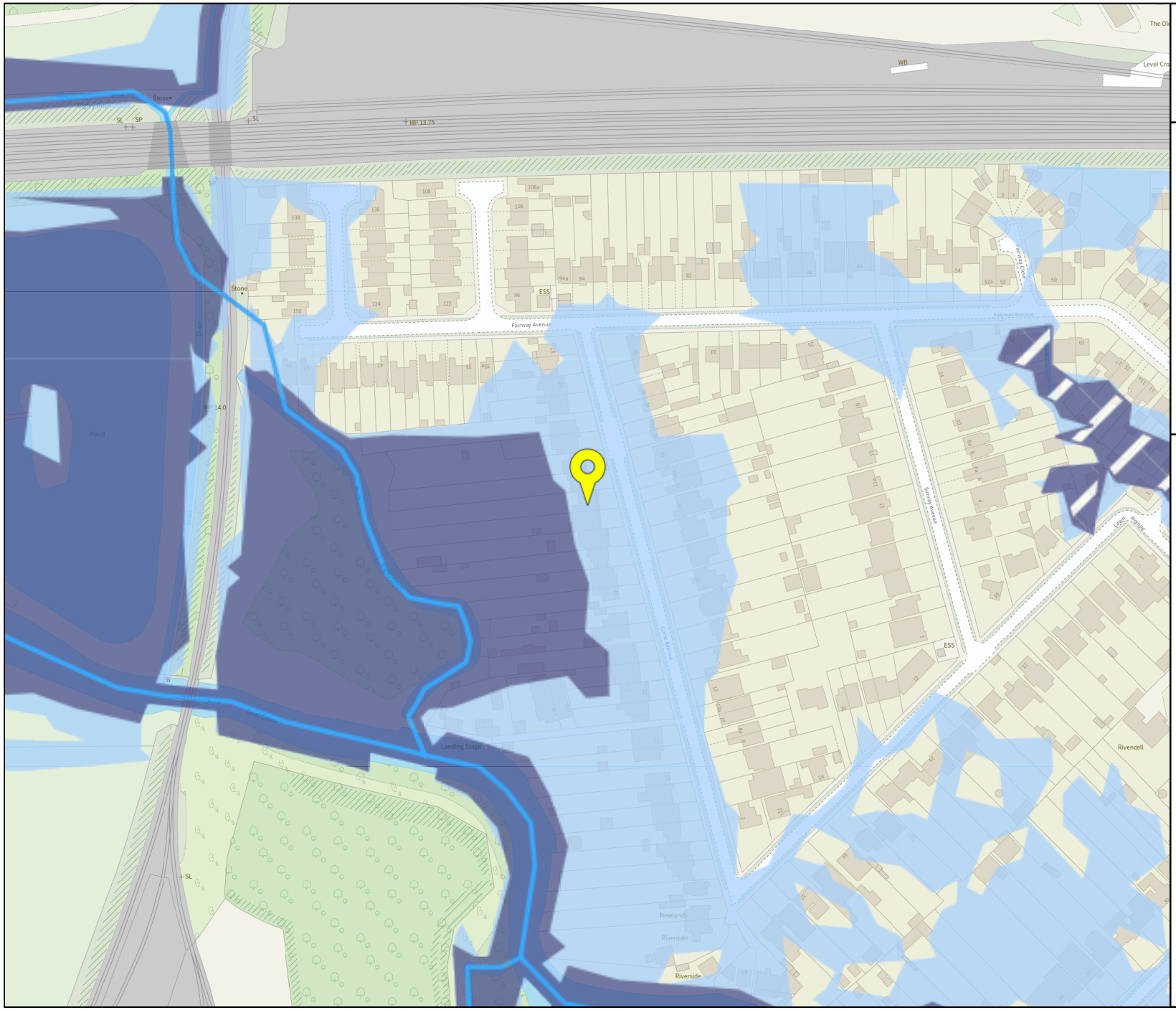
This means:

- you must complete a flood risk assessment for development in this area
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (see www.gov.uk/guidance/flood-risk-assessment-standing-advice)

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.



Environment Agency

Flood map for planning

Your reference
UB7 7AL

Location (easting/northing)
505388/179933

Scale
1:2500

Created
19 Aug 2025 17:00

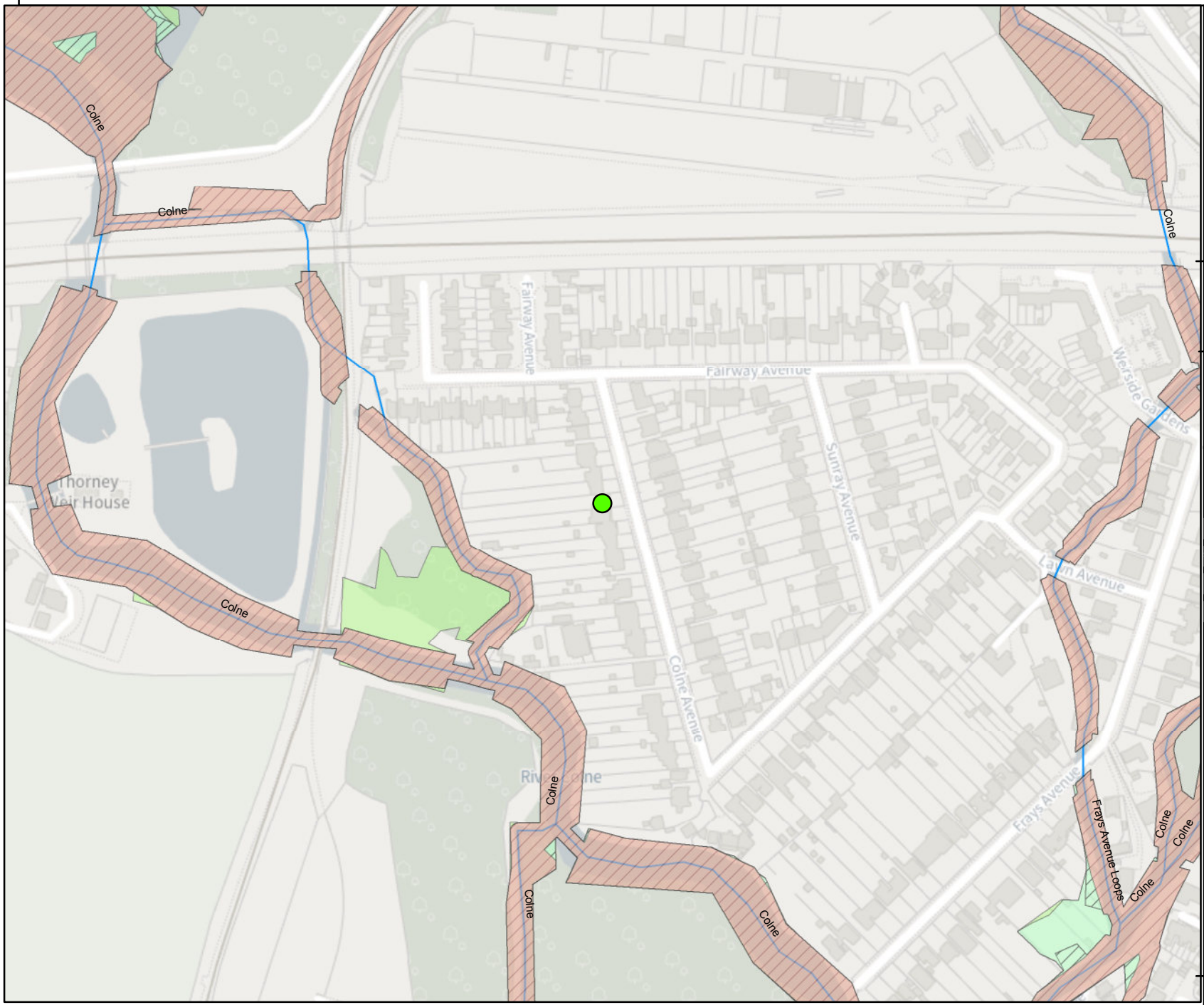
- Selected point
- Flood zone 3
- Flood zone 3: areas benefitting from flood defences
- Flood zone 2
- Flood zone 1
- Flood defence
- Main river
- Water storage area

0 20 40 60m

Appendix B

Product 4 from Environment Agency which includes flood defence maps, flood levels and historic flood map

Detailed FRA centred on: 41 Colne Avenue, West Drayton, UB7 7AL - 11/05/2022 - HNL262057BC



Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 50 100 200
Metres

Legend

Main Rivers

Site location

Defended Flood Outlines

1 in 2 (50%) Defended

1 in 5 (20%) Defended

1 in 10 (10%) Defended

1 in 20 (5%) Defended

The data in this map has been extracted from the Lower Colne Modelling and Mapping Study (Mott MacDonald 2012).
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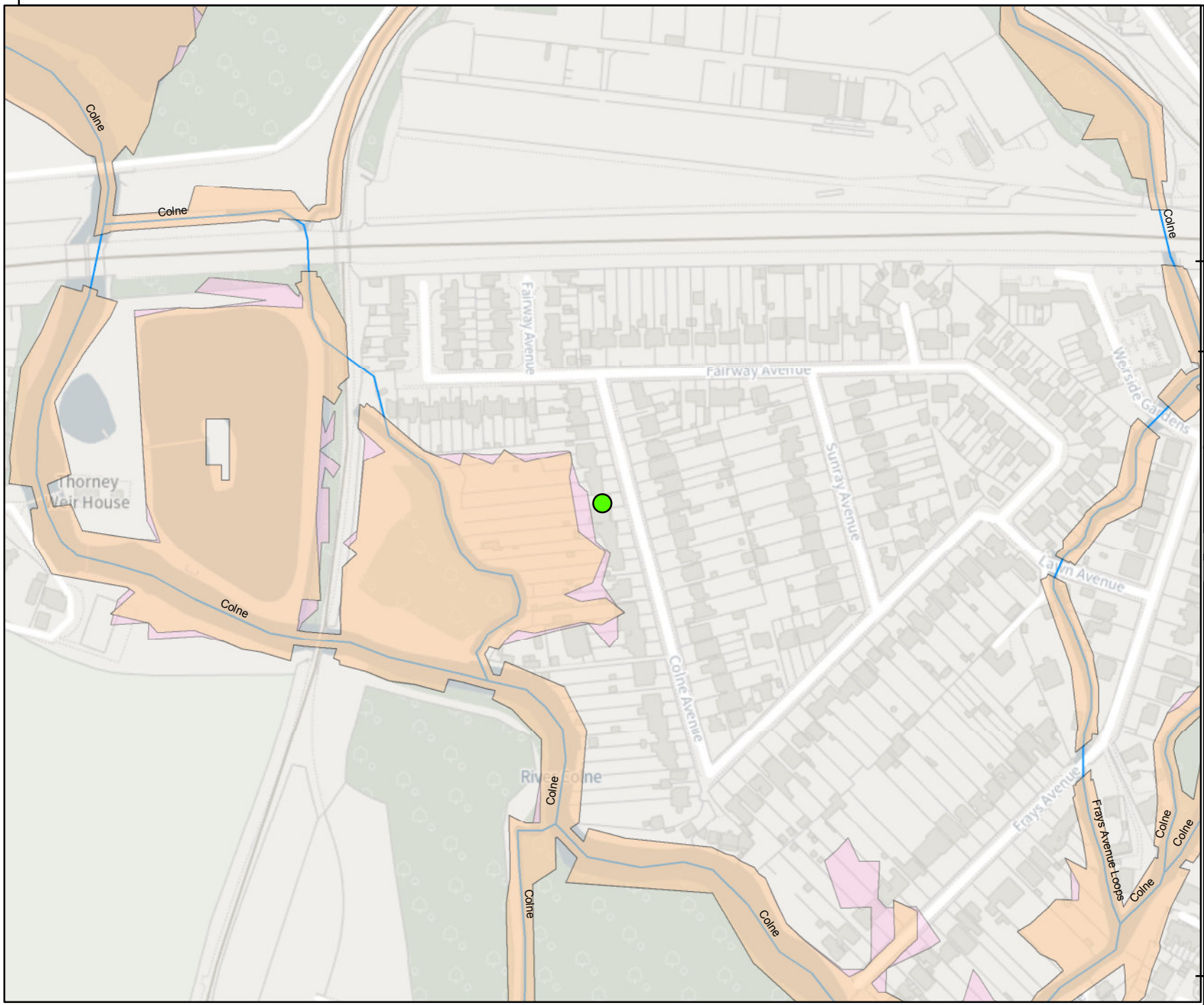
https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances

Produced by:
Partnerships & Strategic Overview,
Hertfordshire & North London

Detailed FRA centred on: 41 Colne Avenue, West Drayton, UB7 7AL - 11/05/2022 - HNL262057BC



Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 50 100 200
Metres

Legend

Main Rivers

Site location

Defended Flood Outlines

1 in 50 (2%) Defended

1 in 100 (1%) Defended

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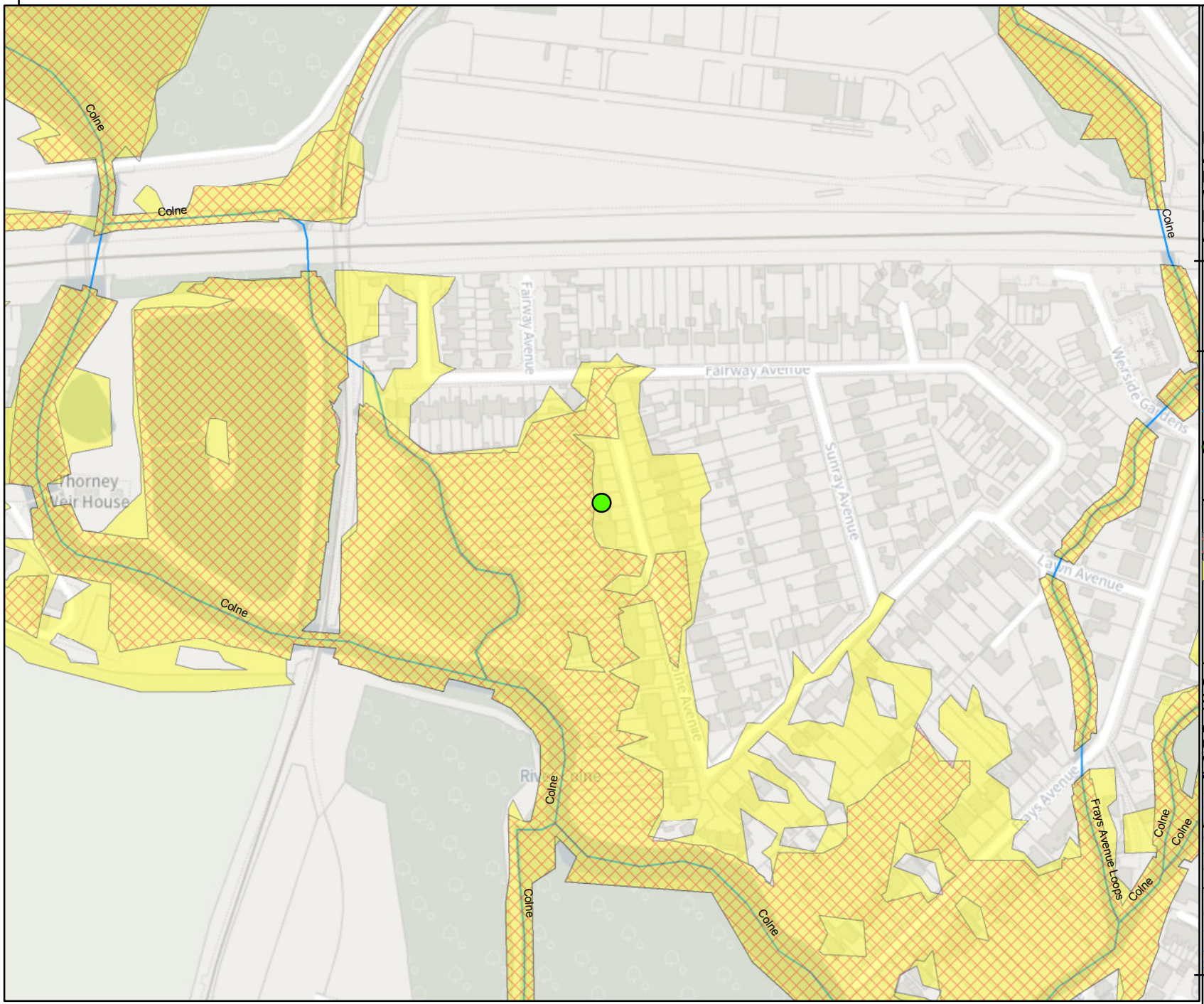
Detailed FRA centred on: 41 Colne Avenue, West Drayton, UB7 7AL - 11/05/2022 - HNL262057BC



Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 50 100 200
Metres

Legend

Main Rivers

Site location

Defended Flood Outlines

1 in 100+20% (*CC) Defended

1 in 1000 (0.1%) Defended

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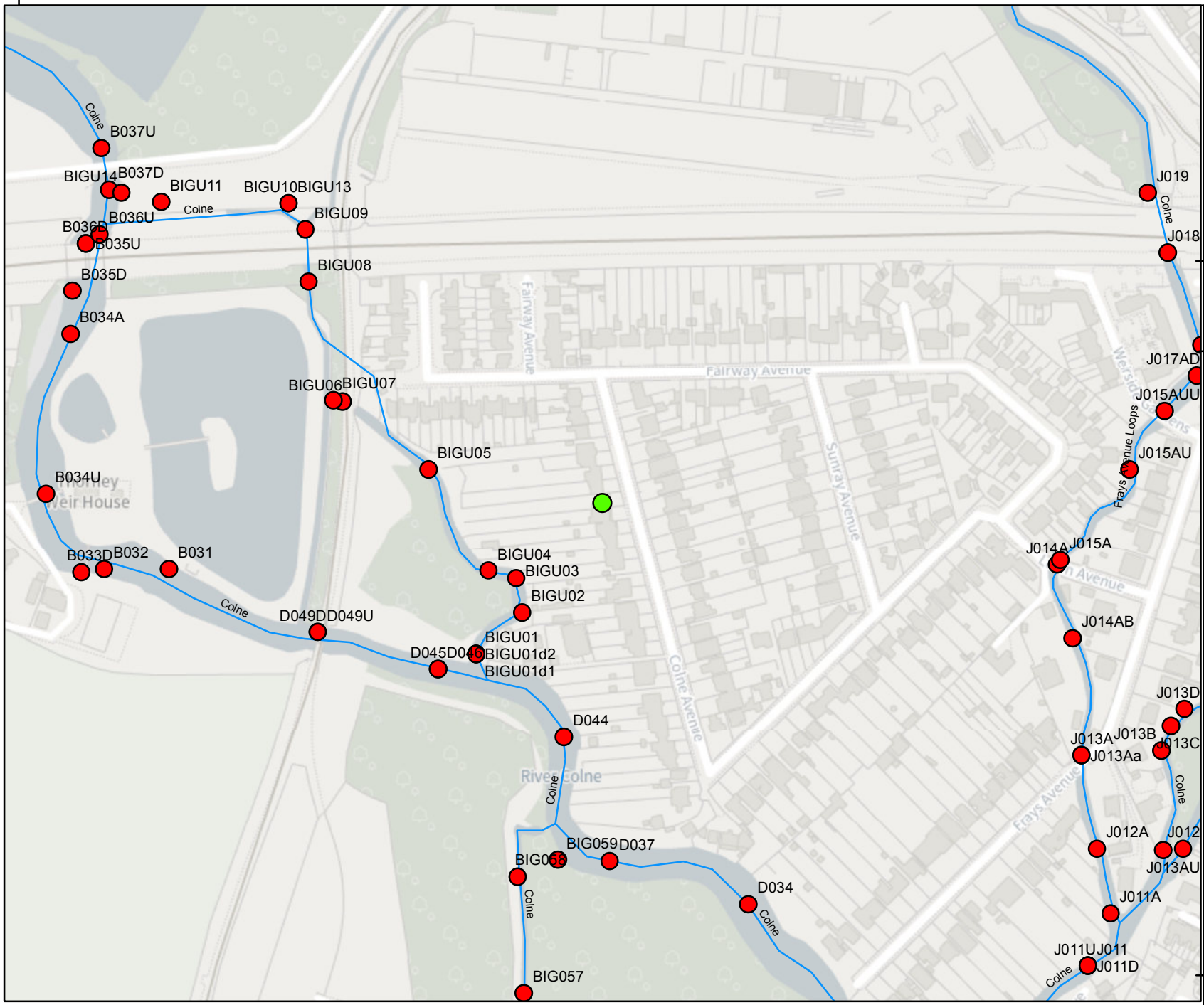
Detailed FRA centred on: 41 Colne Avenue, West Drayton, UB7 7AL - 11/05/2022 - HNL262057BC



Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 50 100 200
Metres

Legend

Main Rivers

Site location

1D Node Results

Node Results

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https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances

Produced by:
Partnerships & Strategic Overview,
Hertfordshire & North London

Environment Agency ref: HNL262057BC

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All flood levels are given in metres Above Ordnance Datum (mAOD)
All flows are given in cubic metres per second (cumecs)

MODELLED FLOOD LEVEL

			Return Period							
Node Label	**Easting**	**Northing**	**2 yr**	**5 yr**	**10 yr**	**20 yr**	**50 yr**	**100 yr**	**100 yr + 20%**	**1000 yr**
B031	505106	179890	25.14	25.25	25.32	25.40	25.46	25.52	25.61	25.77
B032	505064	179890	25.15	25.26	25.33	25.41	25.47	25.53	25.62	25.77
B033D	505049	179888	25.28	25.36	25.41	25.47	25.52	25.56	25.64	25.77
B034A	505042	180043	25.54	25.61	25.67	25.72	25.78	25.82	25.90	26.01
B034U	505026	179939	25.44	25.50	25.54	25.60	25.65	25.69	25.77	25.89
B035D	505043	180071	25.58	25.66	25.72	25.78	25.84	25.89	25.97	26.08
B035U	505052	180102	25.59	25.68	25.73	25.80	25.85	25.91	25.98	26.10
B036D	505052	180102	25.59	25.68	25.74	25.81	25.86	25.91	25.99	26.11
B036U	505061	180108	25.60	25.70	25.76	25.82	25.88	25.94	26.02	26.14
B037D	505067	180137	25.62	25.73	25.79	25.86	25.93	25.98	26.06	26.19
B037U	505062	180164	25.63	25.74	25.81	25.88	25.95	26.01	26.10	26.23
BIG057	505337	179614	24.52	24.62	24.69	24.77	24.84	24.89	24.97	25.07
BIG058	505333	179690	24.71	24.82	24.90	24.98	25.05	25.10	25.18	25.29
BIG059	505359	179701	24.73	24.84	24.92	25.00	25.07	25.13	25.20	25.31
BIGU01	505306	179835	24.78	24.91	25.01	25.11	25.20	25.27	25.37	25.50
BIGU01d1	505306	179835	24.78	24.91	25.00	25.10	25.18	25.25	25.35	25.48
BIGU01d2	505306	179835	24.78	24.91	25.00	25.10	25.18	25.25	25.35	25.48

MODELLED FLOOD LEVEL

			Return Period							
Node Label	**Easting**	**Northing**	**2 yr**	**5 yr**	**10 yr**	**20 yr**	**50 yr**	**100 yr**	**100 yr + 20%**	**1000 yr**
BIGU02	505336	179862	24.78	24.92	25.02	25.13	25.22	25.30	25.41	25.53
BIGU03	505332	179884	24.78	24.92	25.02	25.13	25.23	25.30	25.41	25.53
BIGU04	505314	179889	24.78	24.92	25.02	25.13	25.23	25.30	25.41	25.53
BIGU05	505275	179955	24.78	24.93	25.04	25.15	25.25	25.32	25.42	25.55
BIGU06	505219	179999	24.79	24.94	25.05	25.17	25.28	25.35	25.45	25.58
BIGU07	505213	180000	24.79	24.94	25.07	25.19	25.31	25.40	25.52	25.68
BIGU08	505197	180077	24.79	24.95	25.08	25.22	25.35	25.45	25.61	25.78
BIGU09	505195	180111	24.79	24.96	25.09	25.23	25.36	25.46	25.62	25.80
BIGU10	505184	180128	24.79	24.98	25.11	25.26	25.40	25.51	25.70	25.92
BIGU11	505101	180129	24.81	25.02	25.18	25.33	25.46	25.57	25.73	25.92
BIGU13	505184	180128	24.81	25.03	25.18	25.34	25.47	25.58	25.75	25.94
BIGU14	505075	180135	24.82	25.04	25.19	25.35	25.48	25.59	25.75	25.95
D034	505483	179672	24.71	24.82	24.89	24.97	25.04	25.09	25.17	25.26
D037	505393	179700	24.73	24.84	24.92	25.00	25.07	25.13	25.20	25.31
D044	505363	179781	24.73	24.84	24.92	25.00	25.07	25.13	25.20	25.31
D045	505281	179825	24.78	24.91	25.00	25.10	25.18	25.25	25.35	25.48
D046	505281	179825	24.78	24.91	25.00	25.10	25.18	25.25	25.35	25.48
D049D	505203	179849	24.89	25.01	25.09	25.18	25.26	25.32	25.42	25.56

MODELLED FLOOD LEVEL

			Return Period							
Node Label	**Easting**	**Northing**	**2 yr**	**5 yr**	**10 yr**	**20 yr**	**50 yr**	**100 yr**	**100 yr + 20%**	**1000 yr**
D049U	505203	179849	24.89	25.01	25.09	25.18	25.26	25.32	25.43	25.57
J011	505704	179632	24.86	24.91	24.93	24.94	24.95	24.97	25.01	25.09
J011A	505719	179666	24.81	24.86	24.88	24.89	24.91	24.92	24.97	25.06
J011D	505704	179632	24.81	24.86	24.88	24.89	24.91	24.92	24.97	25.06
J011U	505704	179632	24.81	24.86	24.88	24.89	24.91	24.92	24.97	25.06
J012	505766	179708	24.86	24.91	24.93	24.94	24.95	24.97	25.01	25.09
J012A	505710	179708	24.82	24.87	24.89	24.90	24.92	24.93	24.97	25.06
J013A	505700	179769	24.85	24.90	24.92	24.93	24.95	24.96	25.00	25.09
J013Aa	505700	179769	24.85	24.90	24.92	24.93	24.95	24.96	25.00	25.08
J013AU	505753	179707	24.86	24.91	24.93	24.94	24.95	24.97	25.01	25.09
J013B	505752	179772	24.87	24.92	24.94	24.95	24.96	24.98	25.02	25.10
J013C	505758	179788	24.88	24.92	24.94	24.95	24.97	24.98	25.02	25.10
J013D	505767	179799	24.88	24.93	24.95	24.96	24.97	24.98	25.02	25.10
J014A	505684	179893	24.94	24.99	25.00	25.02	25.03	25.04	25.07	25.14
J014AB	505694	179845	24.90	24.94	24.96	24.98	24.99	25.00	25.04	25.11
J015A	505686	179896	24.94	24.99	25.00	25.02	25.03	25.04	25.07	25.14
J015AU	505731	179955	25.09	25.13	25.14	25.15	25.16	25.17	25.19	25.24
J015AUU	505754	179993	25.25	25.29	25.30	25.31	25.32	25.32	25.34	25.36
J017AD	505775	180016	25.26	25.29	25.31	25.32	25.32	25.33	25.34	25.37
J018	505756	180096	26.41	26.45	26.46	26.47	26.48	26.48	26.50	26.50
J019	505743	180135	26.45	26.49	26.51	26.52	26.53	26.53	26.55	26.56

MODELLED FLOWS

			Return Period							
Node Label	**Easting**	**Northing**	**2 yr**	**5 yr**	**10 yr**	**20 yr**	**50 yr**	**100 yr**	**100 yr + 20%**	**1000 yr**
B031	505106	179890	8.04	10.03	11.40	12.74	13.95	14.83	15.32	15.57
B032	505064	179890	8.04	10.03	11.40	12.74	13.97	15.07	16.78	19.13
B033D	505049	179888	8.04	10.03	11.40	12.73	13.97	15.06	16.78	19.06
B034A	505042	180043	8.04	10.03	11.40	12.74	13.96	15.07	16.78	19.07
B034U	505026	179939	8.04	10.03	11.40	12.73	13.97	15.06	16.78	19.06
B035D	505043	180071	8.04	10.03	11.40	12.73	13.97	15.07	16.78	19.07
B035U	505052	180102	8.04	10.03	11.40	12.73	13.97	15.07	16.78	19.07
B036D	505052	180102	8.04	10.03	11.40	12.74	13.97	15.06	16.78	19.06
B036U	505061	180108	8.58	11.60	13.84	16.20	18.47	20.56	23.94	28.93
B037D	505067	180137	8.58	11.60	13.84	16.19	18.46	20.56	23.95	28.95
B037U	505062	180164	8.58	11.60	13.84	16.19	18.46	20.56	23.95	28.95
BIG057	505337	179614	0.47	0.65	0.82	1.00	1.18	1.32	1.57	1.93
BIG058	505333	179690	0.47	0.65	0.82	1.00	1.18	1.33	1.57	1.95
BIG059	505359	179701	0.47	0.65	0.82	1.00	1.18	1.33	1.57	1.94
BIGU01	505306	179835	0.54	1.57	2.44	3.50	4.45	4.97	5.46	5.57
BIGU01d1	505306	179835	0.54	1.57	2.44	3.50	4.45	4.97	5.46	5.57
BIGU01d2	505306	179835	0.54	1.57	2.44	3.50	4.45	4.97	5.46	5.57

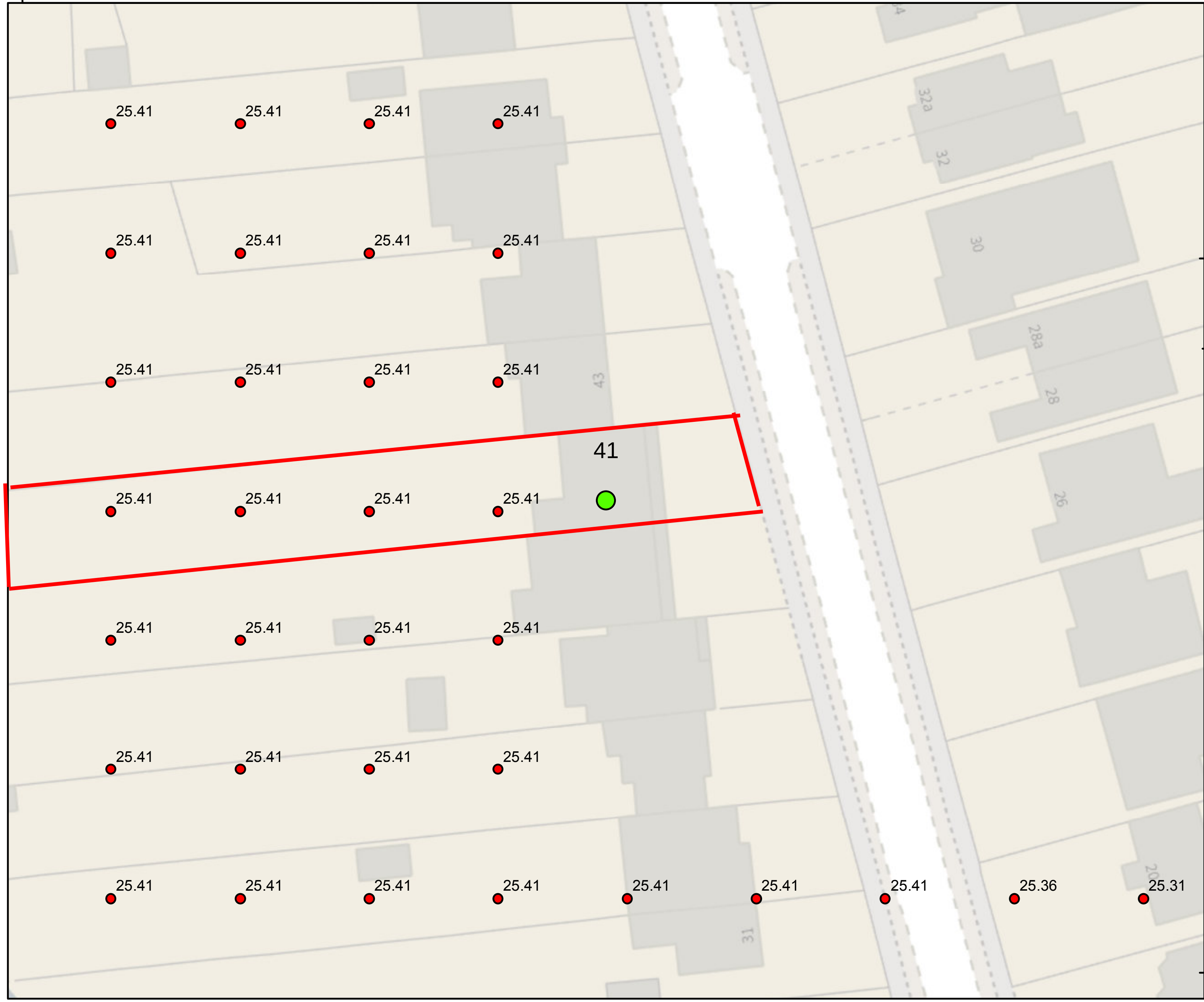
MODELLED FLOWS

			Return Period							
Node Label	**Easting**	**Northing**	**2 yr**	**5 yr**	**10 yr**	**20 yr**	**50 yr**	**100 yr**	**100 yr + 20%**	**1000 yr**
BIGU02	505336	179862	0.54	1.57	2.44	3.46	4.19	4.45	4.52	4.50
BIGU03	505332	179884	0.54	1.57	2.44	3.46	4.15	4.35	4.41	4.70
BIGU04	505314	179889	0.54	1.57	2.44	3.46	4.22	4.50	4.60	4.99
BIGU05	505275	179955	0.54	1.57	2.44	3.46	4.49	5.24	6.06	6.46
BIGU06	505219	179999	0.54	1.57	2.44	3.46	4.50	5.51	7.22	9.08
BIGU07	505213	180000	0.54	1.57	2.44	3.46	4.50	5.51	7.23	9.08
BIGU08	505197	180077	0.54	1.57	2.44	3.46	4.50	5.51	7.29	9.67
BIGU09	505195	180111	0.54	1.57	2.44	3.46	4.50	5.51	7.29	9.67
BIGU10	505184	180128	0.54	1.57	2.44	3.46	4.42	5.05	5.31	5.37
BIGU11	505101	180129	0.54	1.57	2.44	3.46	4.50	5.50	7.17	9.70
BIGU13	505184	180128	0.54	1.57	2.44	3.46	4.50	5.50	7.17	9.88
BIGU14	505075	180135	0.54	1.57	2.44	3.46	4.50	5.50	7.17	9.88
D034	505483	179672	8.11	10.94	13.02	15.19	17.26	19.22	22.44	27.71
D037	505393	179700	8.11	10.95	13.02	15.19	17.26	19.21	22.44	26.52
D044	505363	179781	8.58	11.60	13.84	16.18	18.44	20.54	24.01	28.45
D045	505281	179825	8.58	11.60	13.84	16.18	18.44	20.54	24.00	27.71
D046	505281	179825	8.04	10.03	11.40	12.69	13.99	15.56	18.55	22.18
D049D	505203	179849	8.04	10.03	11.40	12.73	13.96	15.03	16.77	20.59

MODELLED FLOWS

			Return Period							
Node Label	**Easting**	**Northing**	**2 yr**	**5 yr**	**10 yr**	**20 yr**	**50 yr**	**100 yr**	**100 yr + 20%**	**1000 yr**
D049U	505203	179849	8.04	10.03	11.40	12.73	13.96	15.03	16.77	20.59
J011	505704	179632	4.35	4.66	4.81	4.86	4.93	4.99	5.08	5.17
J011A	505719	179666	1.86	2.02	2.08	2.10	2.14	2.16	2.17	2.18
J011D	505704	179632	6.21	6.67	6.87	6.97	7.07	7.14	7.25	7.31
J011U	505704	179632	4.35	4.66	4.80	4.87	4.93	4.99	5.09	5.17
J012	505766	179708	3.05	3.25	3.33	3.37	3.41	3.44	3.50	3.55
J012A	505710	179708	1.86	2.01	2.08	2.12	2.16	2.19	2.24	2.28
J013A	505700	179769	1.86	2.01	2.08	2.12	2.16	2.19	2.24	2.28
J013Aa	505700	179769	1.86	2.01	2.08	2.12	2.16	2.19	2.24	2.28
J013AU	505753	179707	1.31	1.42	1.47	1.50	1.52	1.54	1.58	1.62
J013B	505752	179772	1.30	1.42	1.47	1.50	1.52	1.54	1.59	1.62
J013C	505758	179788	1.31	1.42	1.47	1.50	1.52	1.54	1.58	1.62
J013D	505767	179799	1.30	1.42	1.47	1.50	1.52	1.54	1.58	1.62
J014A	505684	179893	1.85	2.02	2.09	2.12	2.16	2.19	2.24	2.28
J014AB	505694	179845	1.86	2.02	2.09	2.12	2.16	2.19	2.24	2.28
J015A	505686	179896	1.85	2.02	2.09	2.12	2.16	2.19	2.24	2.28
J015AU	505731	179955	1.86	2.02	2.09	2.12	2.16	2.19	2.24	2.29
J015AUU	505754	179993	1.86	2.02	2.09	2.12	2.16	2.19	2.24	2.29
J017AD	505775	180016	1.86	2.02	2.09	2.12	2.16	2.19	2.24	2.29
J018	505756	180096	6.20	6.69	6.91	7.00	7.09	7.18	7.33	7.46
J019	505743	180135	6.20	6.70	6.94	7.00	7.09	7.17	7.33	7.46

Detailed FRA centred on: 41 Colne Avenue, West Drayton, UB7 7AL - 11/05/2022 - HNL262057BC



Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 5 10 20
Metres

Legend

Main Rivers

Site location

2D Node Results: Heights

1 in 100+20% (*CC) Defended

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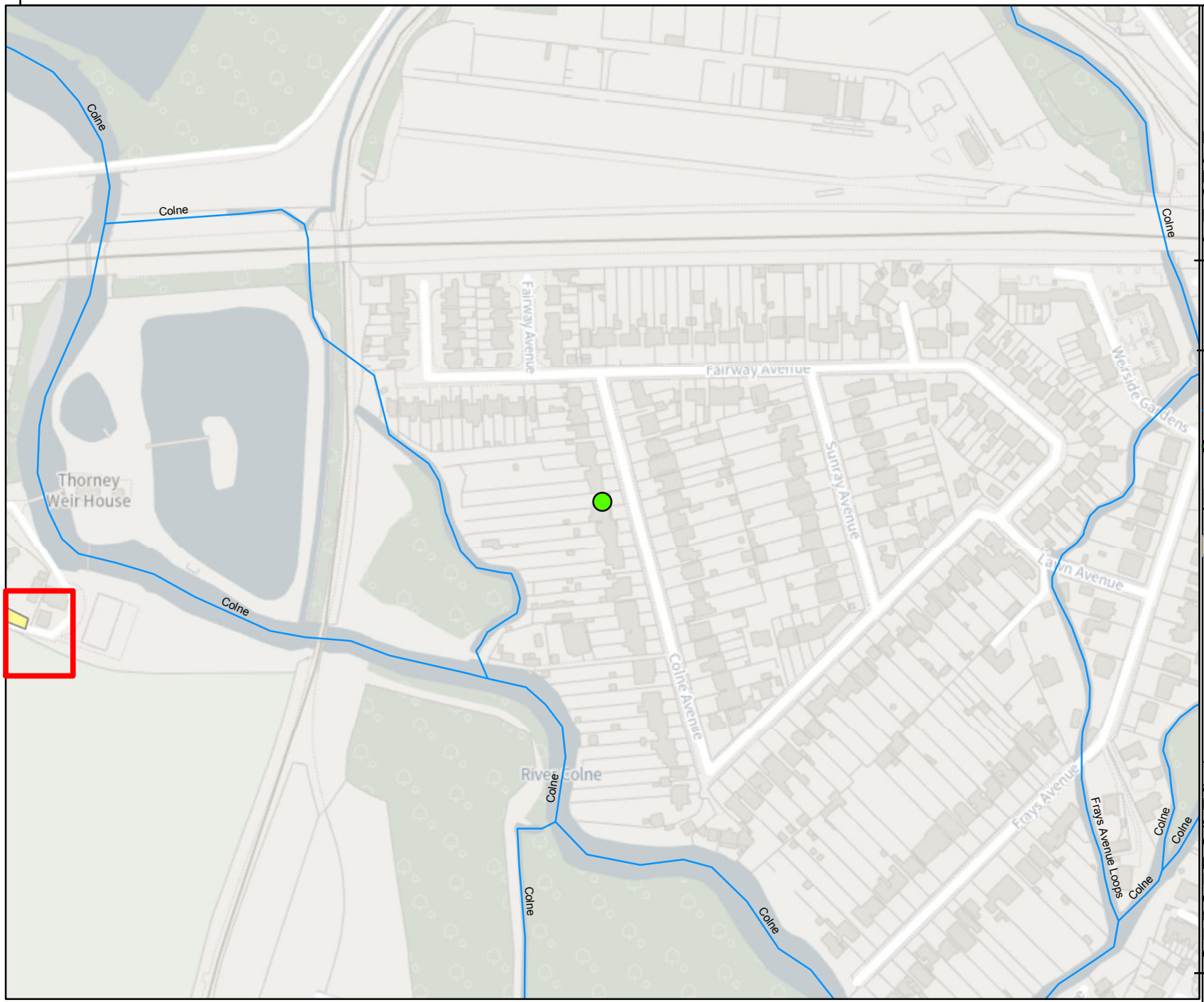
Produced by:
Partnerships & Strategic Overview,
Hertfordshire & North London

Historic Flood Map centred on: 41 Colne Avenue, West Drayton, UB7 7AL - 11/05/2022 - HNL262057BC



Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 50 100 200

Metres

Legend

Main Rivers

Site location

Flood Event Outlines

1987

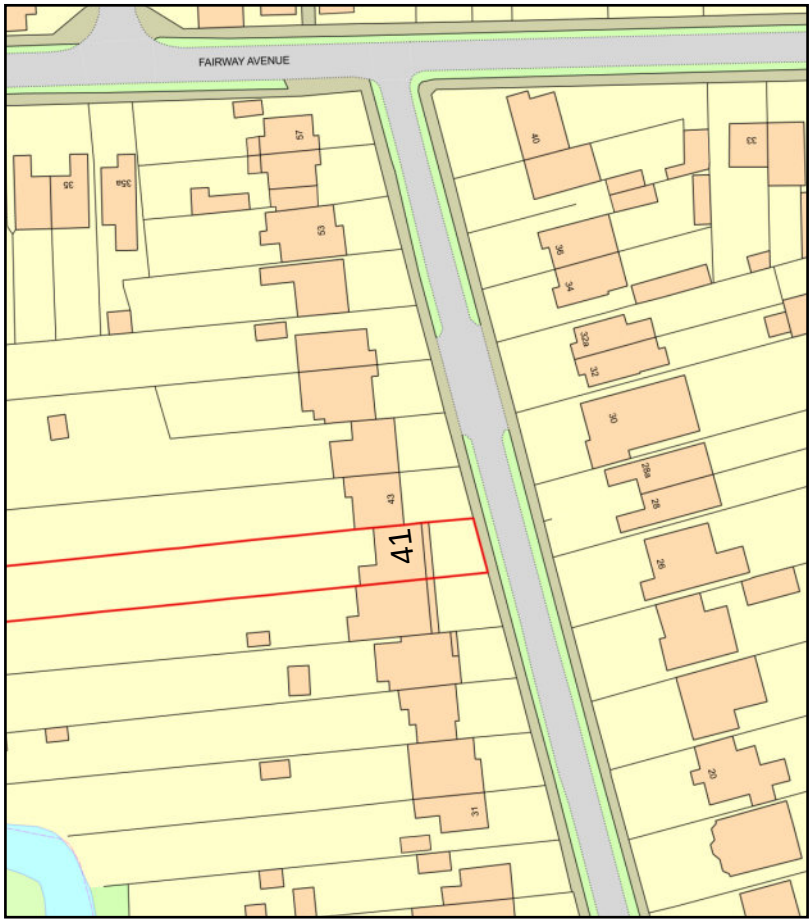
The historic flood event outlines are based on a combination of anecdotal evidence, Environment Agency staff observations and survey.
Our historic flood event outlines do not provide a definitive record of flooding.
It is possible that there will be an absence of datain places where we have not been able to record the extent of flooding.
It is also possible for errors occur in the digitisation of historic records of flooding.

Produced by:
Partnerships & Strategic Overview,
Hertfordshire & North London

Appendix C

Location Plan, Site Plan, Floor plans & Elevation Plans of the dwelling house

41 Colne Avenue UB7 7AL_Location Plan



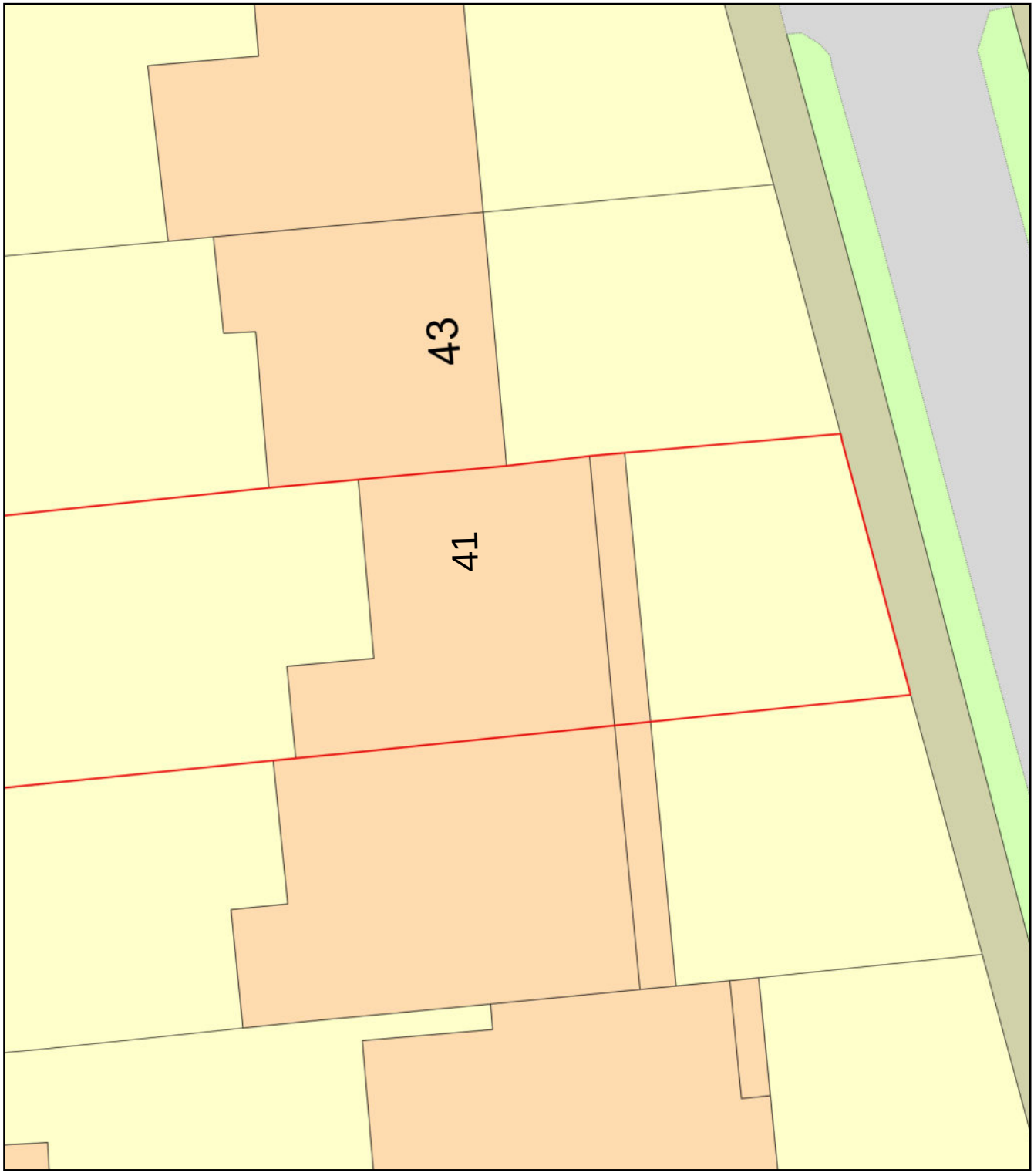
0 50
Metres

N

ReQuestaPlan

Plan Produced for:	Ambuj Tyagi
Date Produced:	19 Aug 2025
Plan Reference Number:	TQRQM21187162839791
Scale:	1:1250 @ A4

41 Colne Avenue UB7 7AL_Site Plan



0 10

Metres

N

ReQuestaPlan

Plan Produced for: Ambuj Tyagi

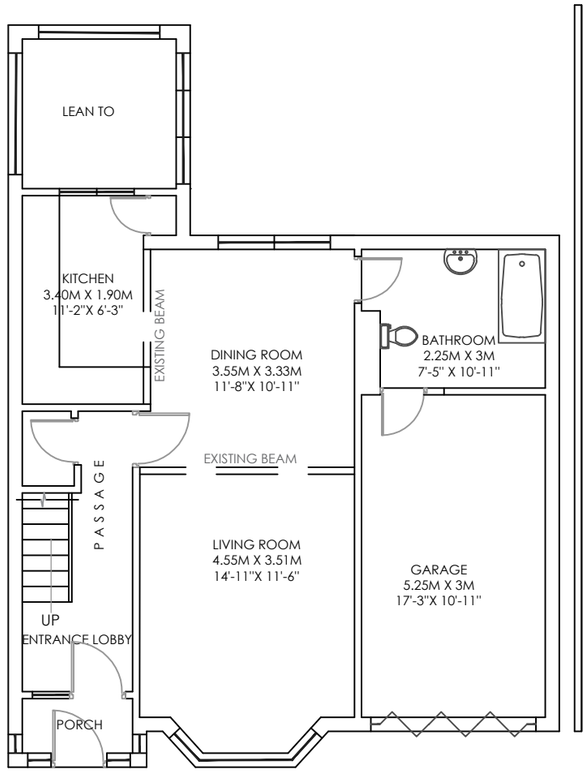
Date Produced: 19 Aug 2025

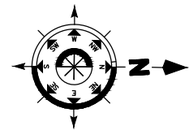
Plan Reference Number: TQRQM21187163806372

Scale: 1:200 @ A4

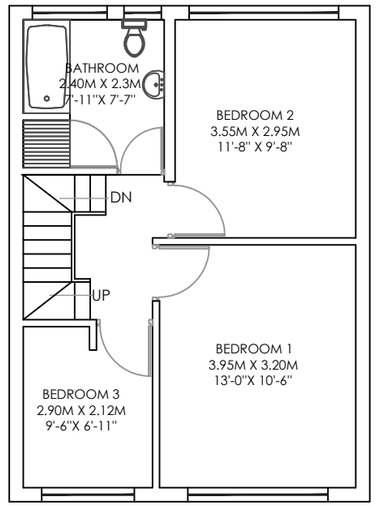
Do not scale from this drawing. All dimensions to be confirmed on site before commencing work.

Existing Floor Plans

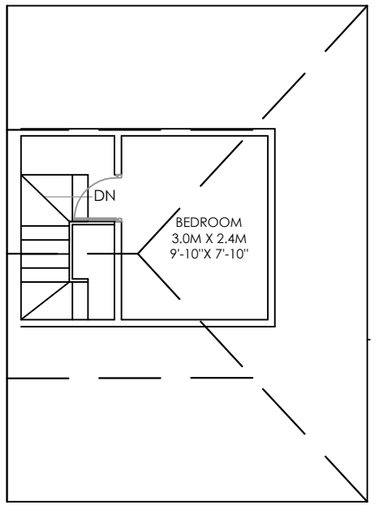




GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN

0 0.5M 1M 2M 4M

Client	MR. AMBUJ TYAGI
Job	RESIDENCE (SINGLE STOREY REAR & GARAGE CONVERSION TO BEDROOM)
Drawing	Existing Plans
Dwg No.	P01
Date	19.08.25
Size	1:100 @A3
Revision	
Drawn	XX
Engineer	XX
Approved	XX

REV	DESCRIPTION	DATE	ENG

NOTES

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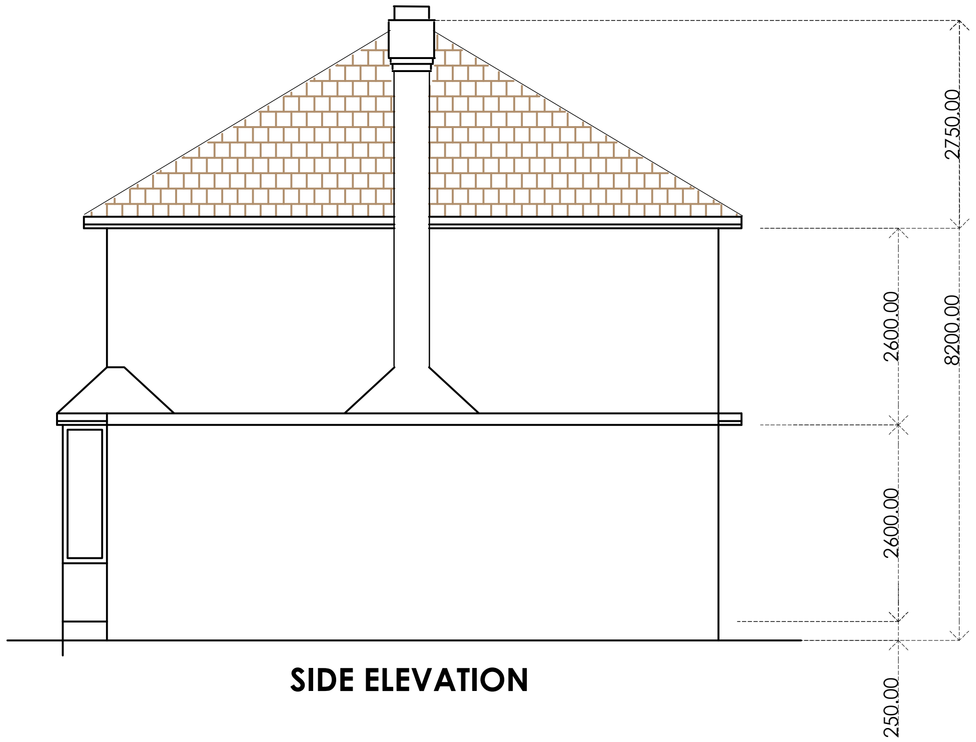
- DO NOT SCALE FROM THIS DRAWING.
- ALL DIMENSIONS UNLESS STATED OTHERWISE ARE IN mm

Do not scale from this drawing. All dimensions to be confirmed on site before commencing work.

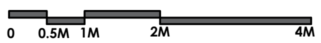
Existing Elevations

FRONT ELEVATION

REAR ELEVATION



SIDE ELEVATION



Client	MR. AMBUJ TYAGI
Job	RESIDENCE (SINGLE STOREY REAR & GARAGE CONVERSION TO BEDROOM)
Drawing	Existing Elevations
Drg. No.	E01
Date	19.08.25
Scale	1:100 @A3
Revision	
Drawn	XX
Engineer	XX
Approved	XX

REV	DESCRIPTION	DATE	ENG

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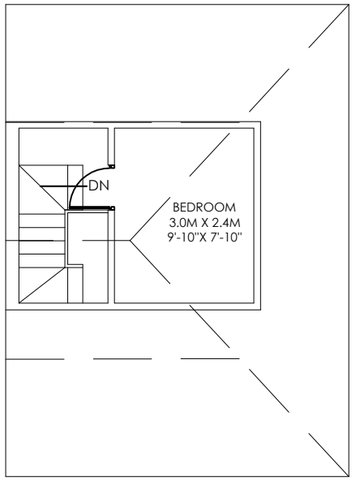
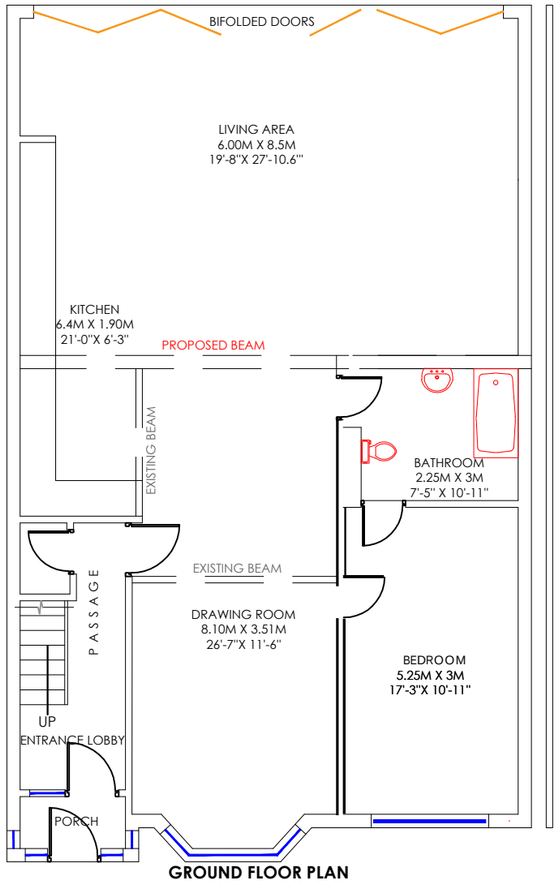
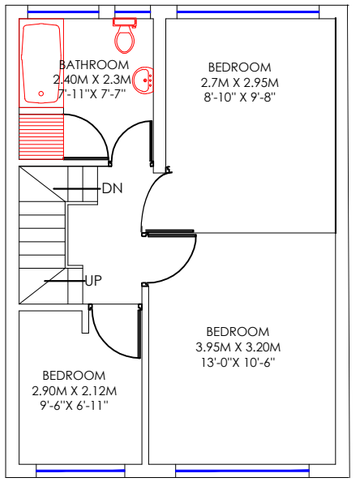


SECOND FLOOR PLAN



GROUND FLOOR PLAN



FIRST FLOOR PLAN

Proposed Floor Plans

0 0.5M 1M 2M 4M

Client	MR. AMBUJ TYAGI
Job	RESIDENCE (SINGLE STOREY REAR & GARAGE CONVERSION INTO BEDROOM)
Drwng.	Proposed Plans
Dr. N.	P 02
Date	19.08.25
Scale	1:100@A3
Revisn	
Drwn	XX
Chkd	XX
Approvd	XX

REV	DESCRIPTION	DATE	ENG

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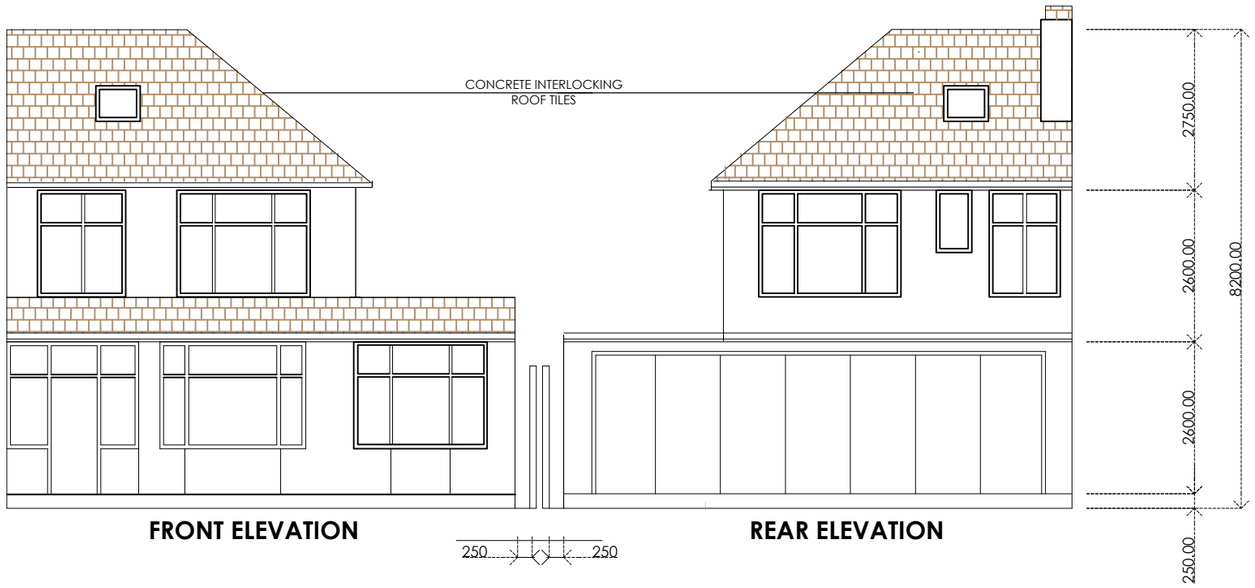
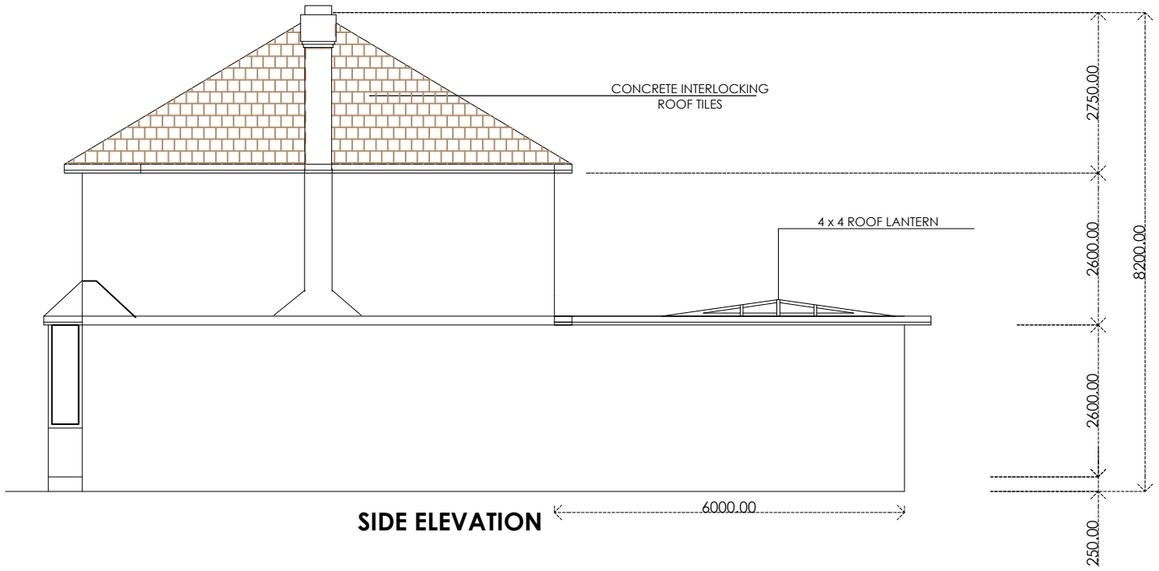
Proposed Elevations



FRONT ELEVATION **REAR ELEVATION**



SIDE ELEVATION

0 0.5M 1M 2M 4M

Client	MR. AMBUJ TYAGI
Job	RESIDENCE SINGLE STOREY REAR & GARAGE CONVERSION TO BEDROOM
Drawing	Proposed Elevations
Dg No	E02
Date	19.08.25
Scale	1:100 @A3
Revision	
Drawn	XX
Checked	XX
Approved	XX

REV	DESCRIPTION	DATE	ENG

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