

FERNBROOK



ISLAND APARTMENTS, APARTMENTS 4 & 6, 32 ROYAL QUAY, HAREFIELD

FLOOD RISK ASSESSMENT

REPORT NO. 25150-FCE-XX-XX-RP-D-0001

PROJECT NO. 25150

OCTOBER 2025

Prepared by
Fernbrook Consulting Engineers
40 Bowling Green Lane
London
EC1R 0NE

fernbrook.co

DOCUMENT CONTROL

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1.0 INTRODUCTION

1.1. Fernbrook Consulting Engineers (FCE) has been instructed by to prepare a Flood Risk Assessment (FRA) in support of the development proposals at Apartments 4 & 6, Island Apartments, 32 Royal Quay, Harefield.

Site Details

1.2. This application relates solely to a 3 storey block of apartments known as 1-6 Island Apartments, 32 Royal Quay, Harefield, UB9 6FG. The building is uniquely located to the rear of the development, constructed on an ‘island’ site between two channels of the Grand Union Canal. Refer to Table 1-1 below for the site characteristics and Figure 1-1 for the site location plan.

Table 1-1: Site Characteristics

Site Address	32 Royal Quay, Harefield, UB9 6FG
Grid reference	504083mE, 191251mN (TQ 04083 91251)
Site Access	Royal Quay
Local Planning Authority	LB Hillingdon
Lead Local Flood Authority	LB Hillingdon



Figure 1-1: Site Location Plan

Development Proposals

1.3. The development proposals are comprised of the erection of a modest 1.5m depth x 3.15m width external pillar balcony to provide the residents of Apartments 2, 4, 6 with access to private amenity space, while retaining the vernacular and character of the existing building and wider environment. Refer to **Figure 1-2** below for excerpt of the proposals and **Appendix A** for the proposed development plans.



Figure 1-2: Development Proposals

2.0 BASELINE CONDITIONS

Hydrology

2.1. The site is located between 2no. channels of the Grand Union Canal to the east and west and the River Colne is approximately 35m west of the site at the closest point, in addition to a number of lakes further west of the site. Refer to **Figure 2-1** below.

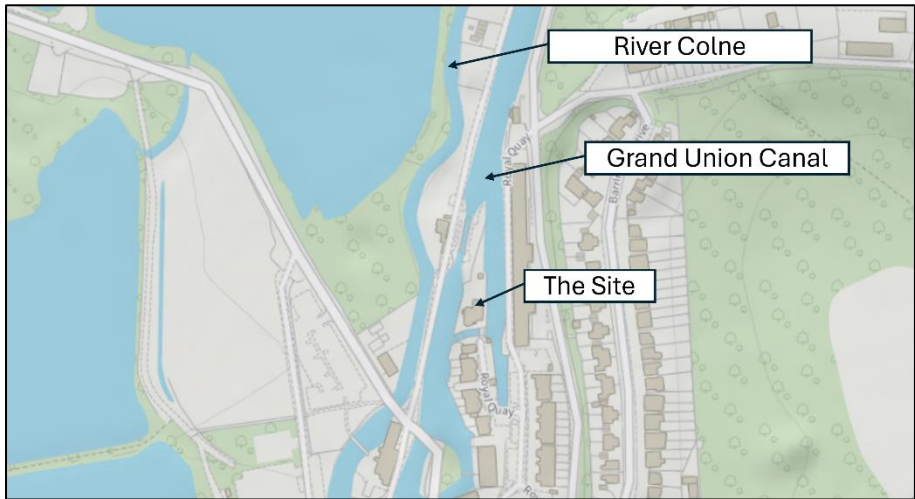


Figure 2-1 Hydrology

Geology

2.2. Based on the British Geological Survey (BGS) online dataset the site appears to be underlain by Seaford Chalk Formation with no superficial deposits. Refer to **Figure 2-2** below.



Figure 2-2 BGS Bedrock Geology

3.0 FLOOD RISK ASSESSMENT

Fluvial/Tidal Flooding

3.1. Based on the Environment Agency’s (EA) Flood map for planning the site appears to be located in Flood Zone 1. Refer to **Figure 3-1** below.

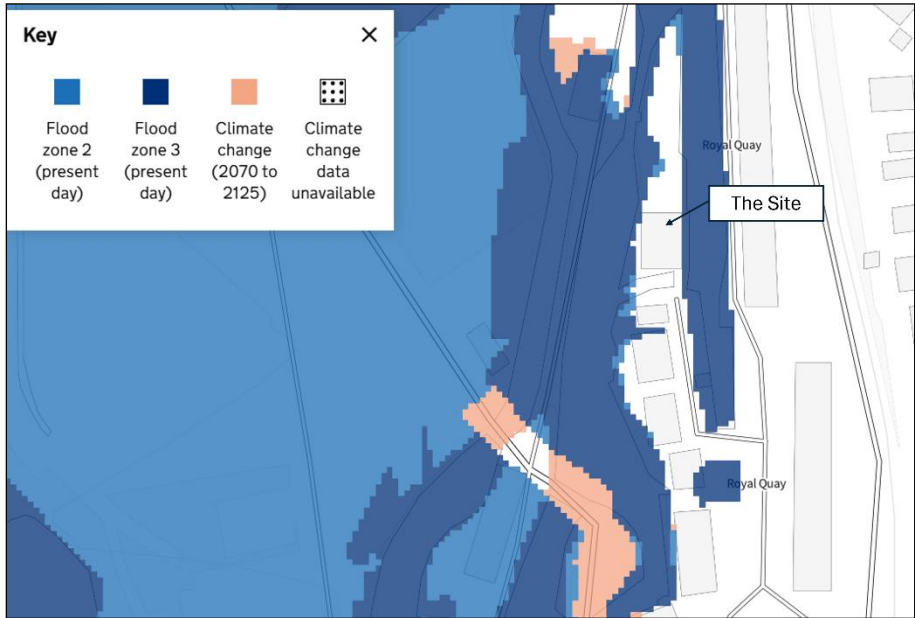


Figure 3-1: EA Flood map for planning

3.2. The proposed balcony will be located entirely within Flood Zone 1 and the columns at ground flood would have a minimal impact on floodplain storage during exceedance events. Refer to **Figure 3-2** below and **Appendix B** for the proposals in relation to the modelled flood extents.

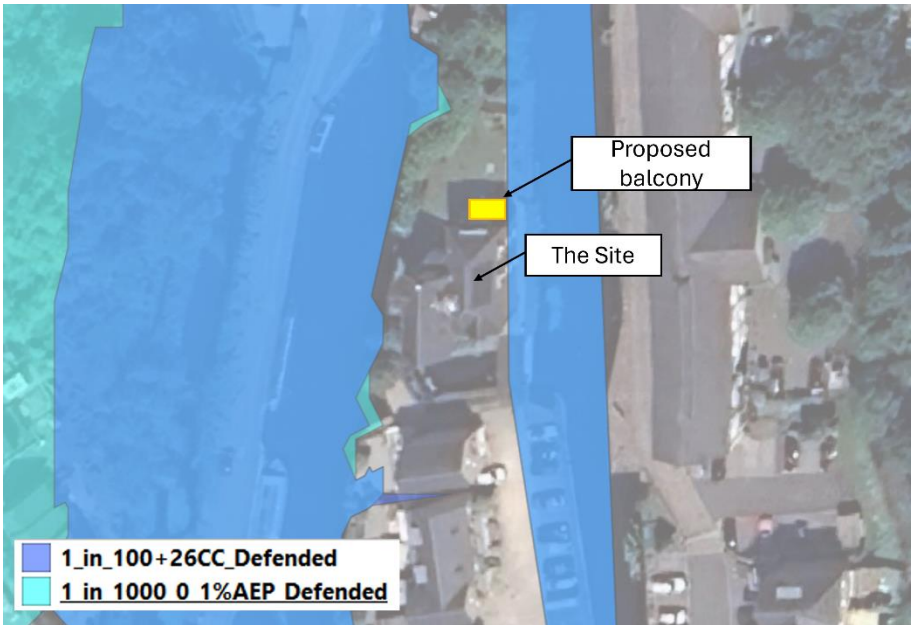


Figure 3-2: Fluvial Flood Risk

3.3. Areas within Flood Zone 1 are considered to have a less than 1 in 1,000 year annual probability of flooding (0.1%). Therefore, the risk of tidal/fluvi flooding is assessed as low.

Pluvial Flooding

3.4. Based on the EA long term flood risk information, the site appears to be at very low risk of surface water flooding, refer to **Figure 3-3** below. Therefore, the risk of surface water flooding is assessed as low.

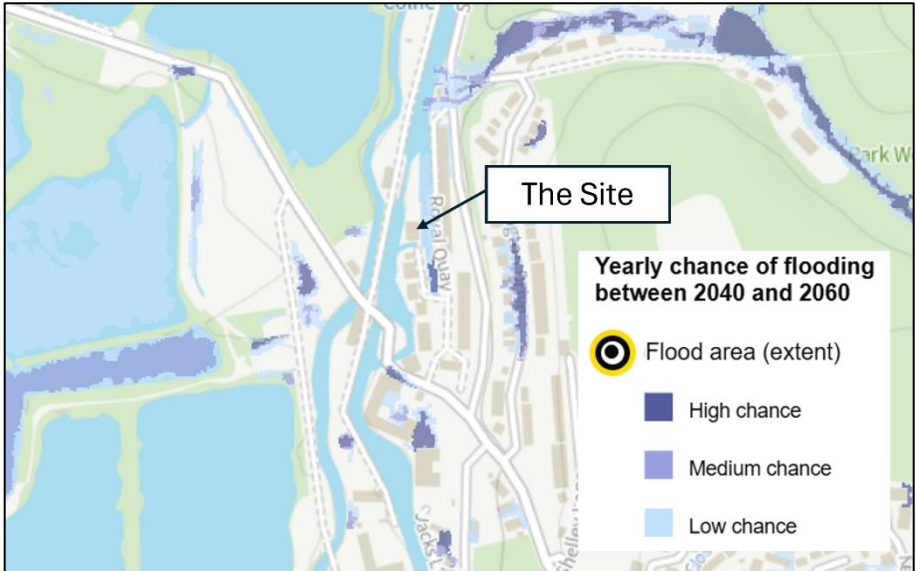


Figure 3-3: Environment Agency’s Flood risk from surface water

Groundwater Flooding

3.5. Based on Defra’s MAGIC Map application, the site appears to have a High vulnerability to groundwater, based on the permeable chalk bedrock. Refer to **Figure 3-4** below.



Figure 3-4: Groundwater Vulnerability Map

3.6. As part of this permitted development application, the proposals are comprised primarily of internal modifications, with no significant groundworks. Therefore, the risk of groundwater flooding is assessed as low.

Artificial Sources

3.7. Based on the EA Long term flood risk information the site is not at risk of flooding from reservoirs or artificial sources. Refer to **Figure 3-5** below. Therefore, the risk of flooding from reservoirs, canals and artificial sources is assessed as low.



Figure 3-5 Flood risk from artificial sources

4.0 CONCLUSIONS

- 4.1. Fernbrook Consulting Engineers (FCE) has been instructed by to prepare a Flood Risk Assessment (FRA) in support of the development proposals at Apartments 4 & 6, Island Apartments, 32 Royal Quay, Harefield, UB9 6FG.
- 4.2. The development proposals are comprised of the erection of a modest 1.5m depth x 3.15m width external pillar balcony to provide the residents of Apartments 2, 4, 6 with access to private amenity space, while retaining the vernacular and character of the existing building and wider environment.
- 4.3. Based on the Environment Agency’s (EA) Flood map for planning the site appears to be located in Flood Zone 1. Land in Flood Zone 1 is defined as having a 1 in 1000 or greater annual probability of river flooding ($\geq 1\%$) or having a 1 in 200 or greater annual probability of sea flooding ($\geq 0.5\%$).
- 4.4. The Site is assessed as being at “Low” risk of flooding from surface water, groundwater and artificial sources. Refer to **Table 4-1** below for a summary.

Table 4-1 Flood Risk Summary

Source	Source	Risk
Tidal / Fluvial	Grand Union Canal	Low
Pluvial	Surface water runoff	Low
Groundwater	Aquifer /Chalk bedrock	Low
Sewer surcharge	Thames Water sewers	Low
Artificial sources	Grand Union Canal / Lakes	Low

- 4.5. In conclusion, this FRA demonstrates that the proposals are consistent with the aims of the NPPF and the Planning Practice Guidance to the NPPF along with the aims of the Local Flood Risk Management Strategy. The Site will not be at significant risk of flooding or increase the flood risk to others.

APPENDIX A – PROPOSED DEVELOPMENT PLANS

Notes:



Elevation 1



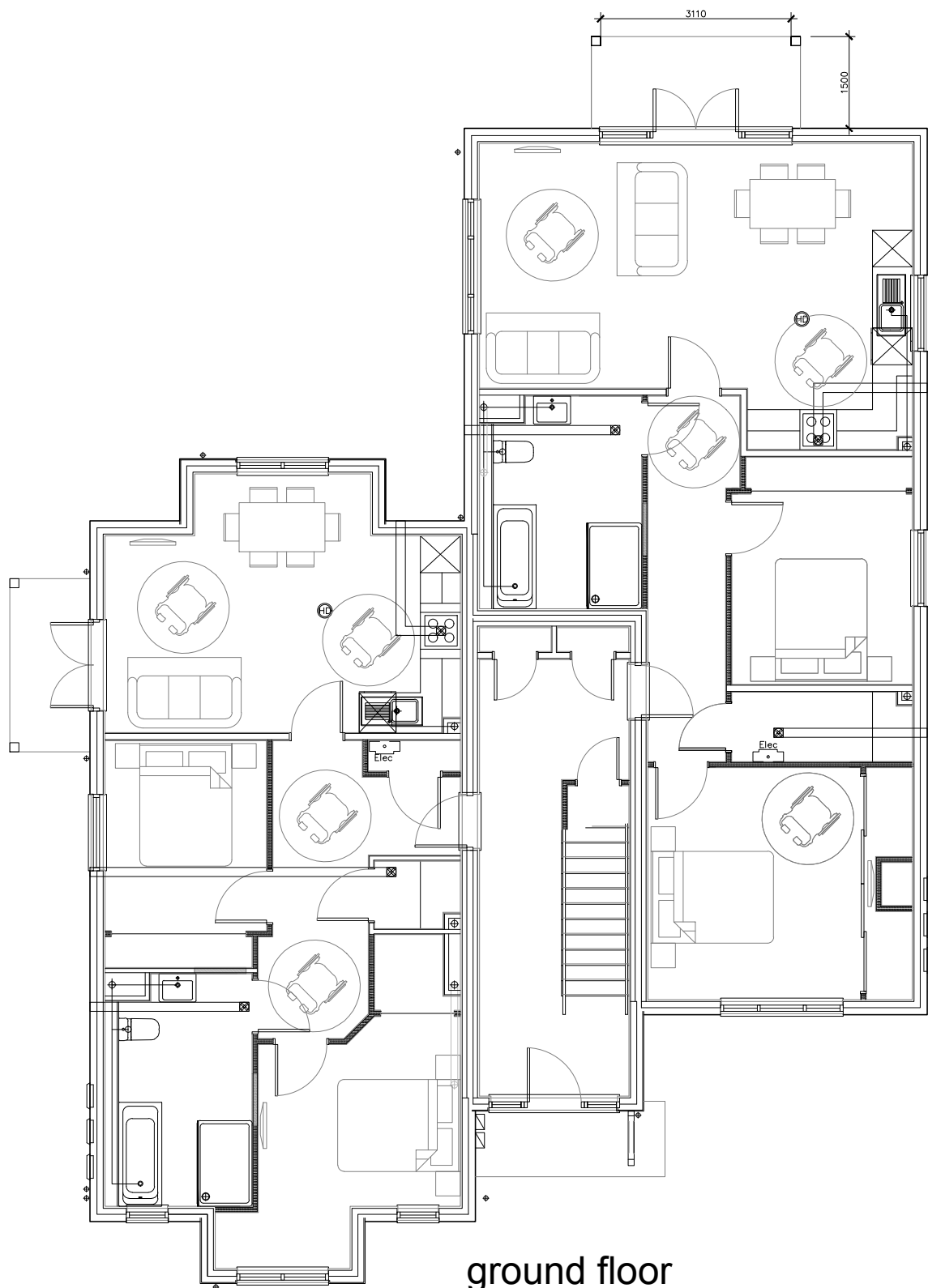
Elevation 2



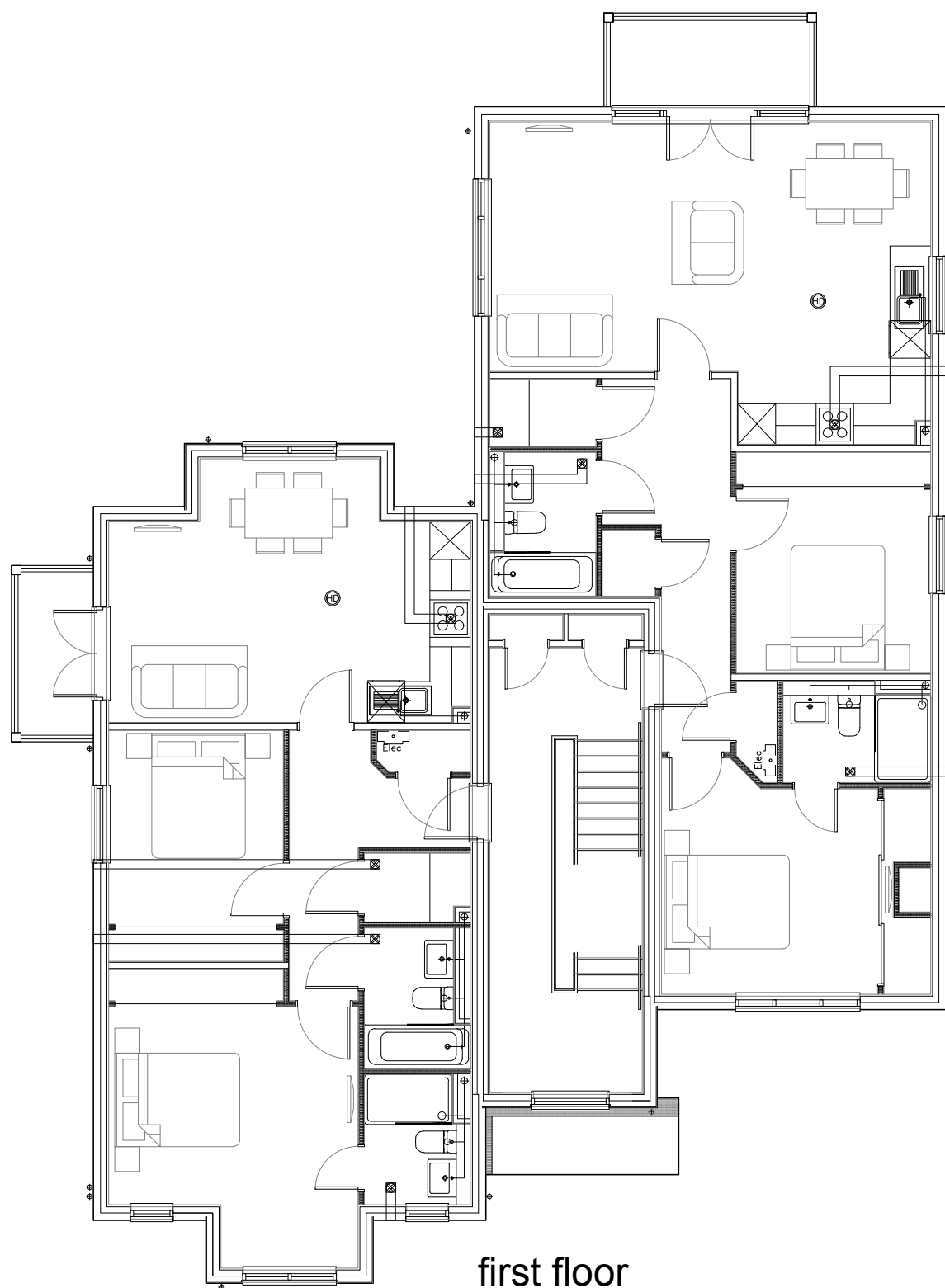
Elevation 3



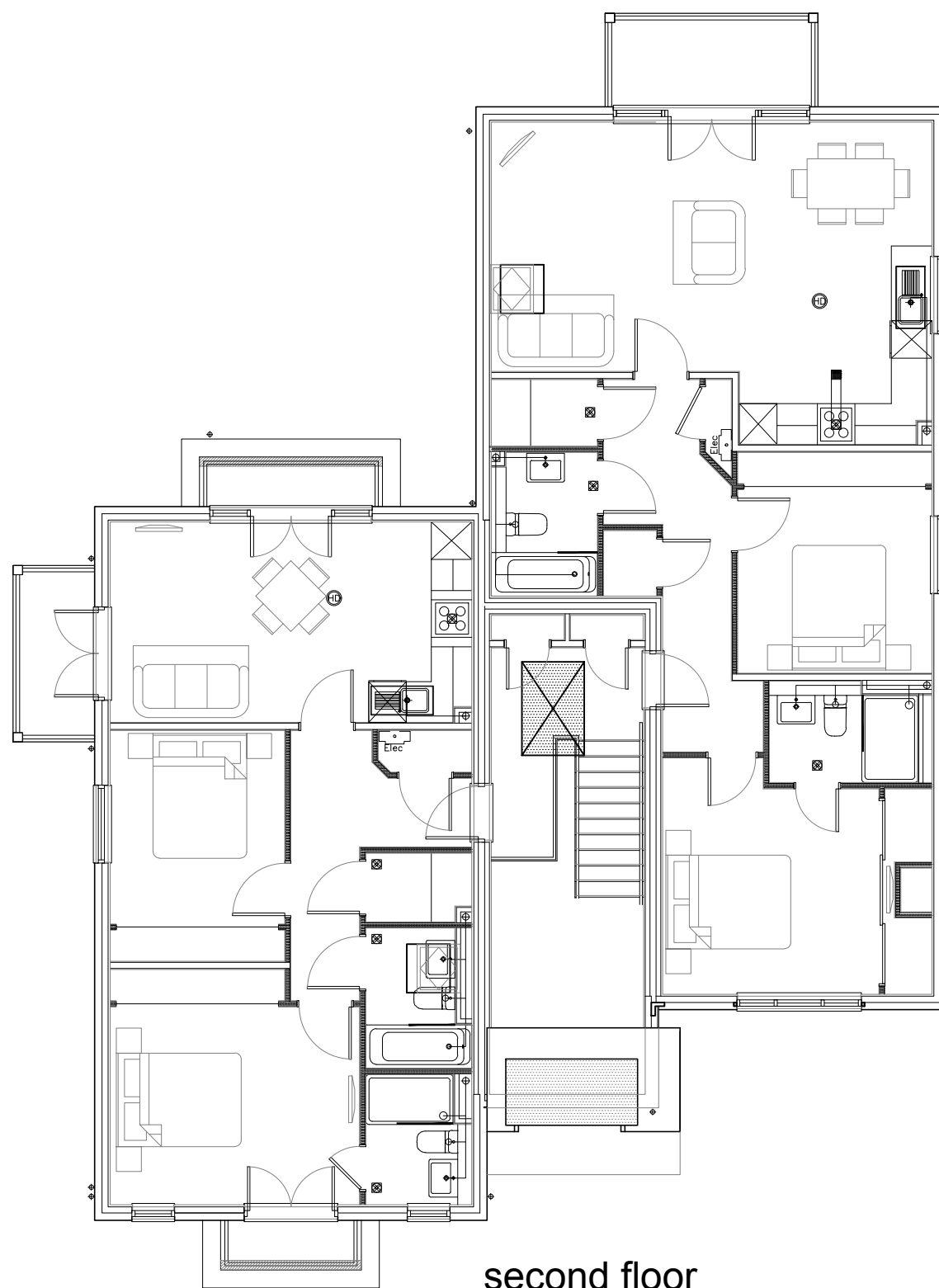
Elevation 4



ground floor



first floor



second floor

A 17.09.25 balconies reduced in width

Revision	Date	Description
Project:	Royal Quay, Island Apartments	Harefield
Client:	Matthew Hallchurch	
Drawing:	Proposed Floor plans and Elevations	Drawn by: SE
Drawing number:	3190.PLN.101	Revision: A Date: 31.10.2023

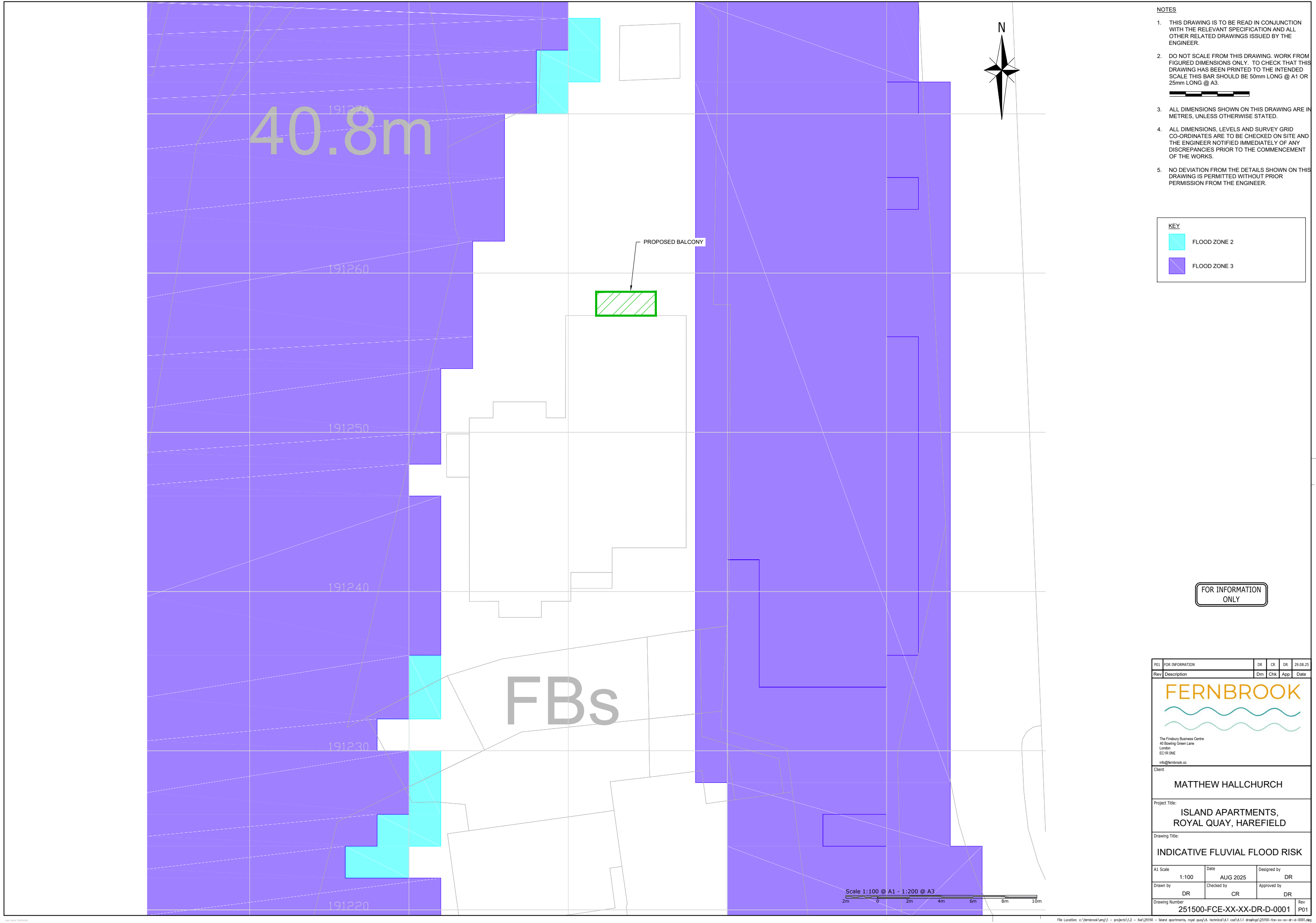


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Scale: 1:100 0 2m 4m 6m 8m

A0 A1 A2 A3 A4

APPENDIX B – FLUVIAL FLOOD DATA



NOTES

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KEY

FLOOD ZONE 2

FLOOD ZONE 3

FOR INFORMATION ONLY

P01	FOR INFORMATION	DR	CR	DR	29.08.25
Rev	Description	Dm	Chk	App	Date

FERNBROOK

The Finsbury Business Centre
40 Bowling Green Lane
London
EC1R 0NE
info@fembrook.co

Client

MATTHEW HALLCHURCH

Project Title:

ISLAND APARTMENTS,
ROYAL QUAY, HAREFIELD

Drawing Title:

INDICATIVE FLUVIAL FLOOD RISK

A1 Scale	1:100	Date	AUG 2025	Designed by	DR
Drawn by	DR	Checked by	CR	Approved by	DR
Drawing Number	251500-FCE-XX-XX-DR-D-0001				Rev
					P01