



FLOOD RISK ASSESSMENT

Land off Whaley Road
Barugh Green
Barnsley

Reference

6709-JPG-XX-XX-RP-D-0620-S2-P02

Date

8 July 2026

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Confidentiality Statement

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CONFIDENTIALITY STATEMENT

This report is addressed to and may be relied upon by the following:

Wordsworth Properties
Unit 1 Wordsworth Business Park
Whaley Road
Barugh Green
BARNSLEY
South Yorkshire
S75 1FJ

This report has been prepared for the sole use and reliance of the above-named party. This report shall not be relied upon or transferred to any other parties without the express written authorisation of JPG (Leeds) Limited. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

DOCUMENT HISTORY

Revision	Date	Revision Details	Status	Author(s)	Approved
P01	08.07.2026	First Revision	Information	BT	BT
P02	31.07.2026	Second Issue	Information	BT	BT



1.0 INTRODUCTION

JPG (Leeds) Limited (JPG) has been instructed by Wordsworth Properties to prepare a Flood Risk Assessment for the proposed construction of a new vehicle maintenance unit and associated works at Whaley Road, Barnsley.

The report will review the flood risk issues associated with the proposed development and recommend any mitigation which should take place as part of the development.

A separate Drainage Impact Assessment Report will cover the detailed drainage strategy document reference 6709-JPG-XX-XX-RP-0621. This document should be read in conjunction with the Flood Risk Assessment Report.

This document is prepared in accordance with the requirements of the Planning Practice Guidance & National Planning Policy Framework (NPPF) which states that a site specific flood risk assessment should be carried out by (or on behalf of) the developer or those proposing development.

The assessment should demonstrate to the decision-maker how flood risk will be managed now and over the development's lifetime, taking climate change into account, and with regard to the vulnerability of its users.

The objectives of a site-specific flood risk assessment are to establish:

- Whether a proposed development is likely to be affected by current or future flooding from any source.
- Whether it will increase flood risk elsewhere.
- Whether the measures proposed to deal with these effects and risks are appropriate.
- The evidence for the local planning authority to apply (if necessary) the Sequential Test, and.
- Whether the development will be safe and pass the Exception Test, if applicable.
- Satisfying the local planning authority that any flood risk to the development or additional risk arising from the proposal will be successfully managed with the minimum environmental effect, to ensure that the site can be developed and occupied safely.

Note the Sequential and Exception Tests are not cover in this Flood Risk Assessment report and if required will be undertaken by other consultants.



The NPPF defines flood zones as follows:

- Zone 1 – Low Probability – Land having less than 1 in 1000-annual probability (< 0.1%) of river or sea flooding in any year.
- Zone 2 – Medium Probability – Land having between a 1 in 100 and 1 in 1000-annual probability (1% - 0.1%) of river flooding or land having between a 1 in 200 and 1 in 1000-annual probability of sea flooding (0.5% - 0.1%) in any year.
- Zone 3a – High Probability – Land having a 1 in 100 or greater annual probability (> 1%) of river flooding or land having a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
- Zone 3b – The Functional Floodplain – This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise:
 - Land having a 1 in 30 or greater annual probability of flooding (3.3%), with any existing flood risk management infrastructure operating effectively; or
 - land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 1 in 1000 (0.1%) annual probability of flooding).

The local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Note Zone 3b is not separately distinguished from Zone 3a on the Flood Map).

A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

The NPPF Annex 3 splits development into five "Flood Risk Vulnerability Classifications" as follows:

- Essential Infrastructure.
- Highly Vulnerable.
- More Vulnerable.
- Less Vulnerable.
- Water Compatible Development.

The Sequential Test should be applied first to guide development to the lowest flood risk areas.



Table 2 in the NPPF guidance document details which development vulnerability classifications are incompatible with the different flood zones.

Where developments contain different elements of vulnerability, the highest vulnerability category should be used for assessment, unless the development is considered in its component parts.

Table 2 is below:

Table 2: Flood risk vulnerability and flood zone 'incompatibility'					
Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	X	X	X	✓ *
Key: ✓ Exception test is not required X Development should not be permitted					

"†" In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

"*" In Flood Zone 3b (functional floodplain) essential infrastructure that has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- Remain operational and safe for users in times of flood;
- Result in no net loss of floodplain storage;
- Not impede water flows and not increase flood risk elsewhere.



2.0 THE SITE

2.1 Location

The site is located off Whaley Road in Barugh Green, approximately 3km to the northwest of Barnsley town centre. The approximate centre of the site is located at NGR 432136, 408281.

A site location plan is provided as Figure 1 in Appendix A.

2.2 Site Description and Topography

A site walkover was carried out by a JPG Engineer on 5 May 2026.

The site is irregular in shape and covers an area of approximately 2.22 hectares.

The landowner (Wordsworth Properties) occupies the land in the north, east and south of the site. Two tenants occupy the land in the centre and west of the site.

Land use typically comprises storage, car parking and service yards with a number of temporary buildings and storage units.

The land occupied by the tenant in the western part of the site can be accessed from the southwest; the remainder of the site can be accessed from the south.

The site is traversed by several roads and tracks providing access across the site.

An electricity pylon is located in the south of the site in the centre of a car park used by Wordsworth Construction. The pylon has a gabion retaining wall at its base which will required to be maintained as part of any future development. Overhead electricity cables extend east to west, spanning the southern part of the site.

The land to the north, south and west comprises industrial land use. A railway track is located immediately to the northeast of the site with agricultural land beyond.

A topographic survey has been provided in Appendix B.

3.0 EXISTING DRAINAGE NETWORK

3.1 Watercourses and Land Drainage

There are no known or visible existing water courses or land drainage systems located within the site boundary or immediately outside the site adjacent to the boundary.

The River Dearne is located approximately 0.90km to the east.

There is no direct access to these watercourses from the site without passing through third party land and it is unlikely that a gravity connection would be possible.



3.2 Public Sewer Network

Public sewer records have been obtained from Yorkshire Water (YW) and indicate public sewer assets outside of the development boundary.

Based on the Yorkshire Water record drawing there are public surface, foul and combined water sewers located circa 250m south of site in Zenith Park, YW records to not confirm the size or material of these sewers.

The law regarding responsibility for drains and sewers changed on the 1 October 2011. From this date the Government transferred the majority of drainage pipes that are either outside a property's boundary or are shared with other buildings to the Sewage/Water companies. The sewer records may not show all of the transferred sewers.

An extract from Yorkshire Water sewer record plan is provided in Appendix C.

3.3 Private Drainage Systems/Network

There is an extensive existing private drainage system which serves the existing wider development, with foul water drainage that enters the development boundary.

As these sewers head east and south from site it is assumed this network has downstream connection to the existing adopted combined water sewer that crosses the Naylor Concrete site.

An existing drainage layout plan is located in Appendix C.

It is proposed to connect into the existing drainage system for the new development drainage at a restricted greenfield rate.

4.0 DEVELOPMENT PROPOSALS

A proposed site layout plan (AJA drawing 7628-010D) has been provided in Appendix A.

This shows the proposed Vehicle Maintenance Unit building in the west of the site, with extensive areas of hardstanding, comprising mostly vehicle parking across the remainder of the site.



5.0 FLOOD RISK ASSESSMENT

Flooding information was obtained from the Environment Agency (EA) website, which confirms the site lies within Flood Zone 1.

The Environment Agency Flood Mapping for surface water is in Appendix E.

Flood Zone 1 comprises land assessed as at a low risk of flooding from a watercourse and/or sea with less than a 1:1000 annual probability of river or sea flooding.

NPPF Technical Guidance states that all type of development is appropriate in Flood Zone 1.

NPPF Technical Guidance states that flood risk should be considered from all sources, including:

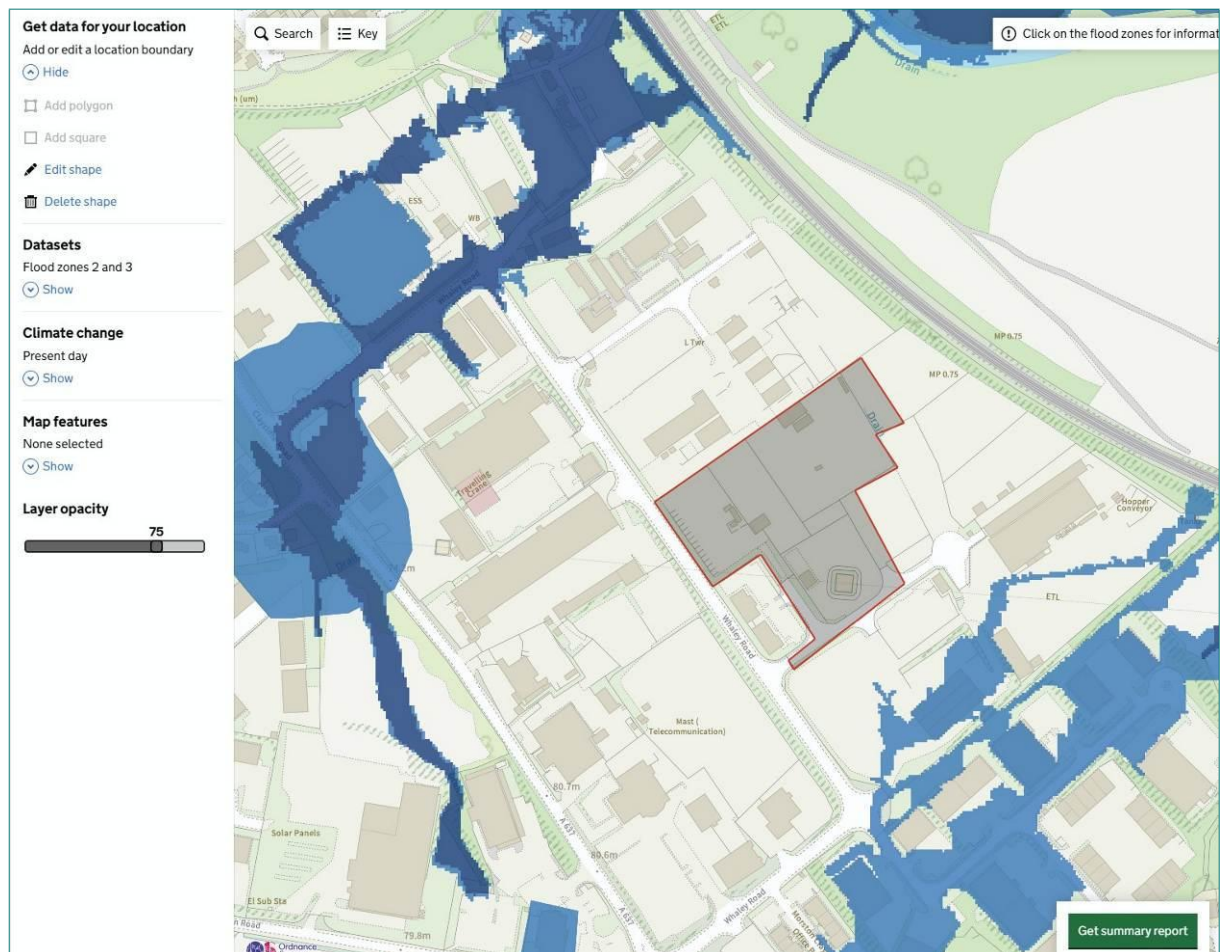
- Rivers and sea (Fluvial).
- Adjoining land (Pluvial).
- Groundwater.
- Flooding from sewers and drains.
- Flooding from reservoirs, canals and other artificial sources.



5.1 Flooding from Rivers and Sea (Fluvial)

Review of the Environment Agency flood risk mapping from Fluvial source shows that the site is not in an area at risk from flooding from this source.

A copy of the map produced by the Environment Agency showing the extent of flooding from fluvial sources is below.



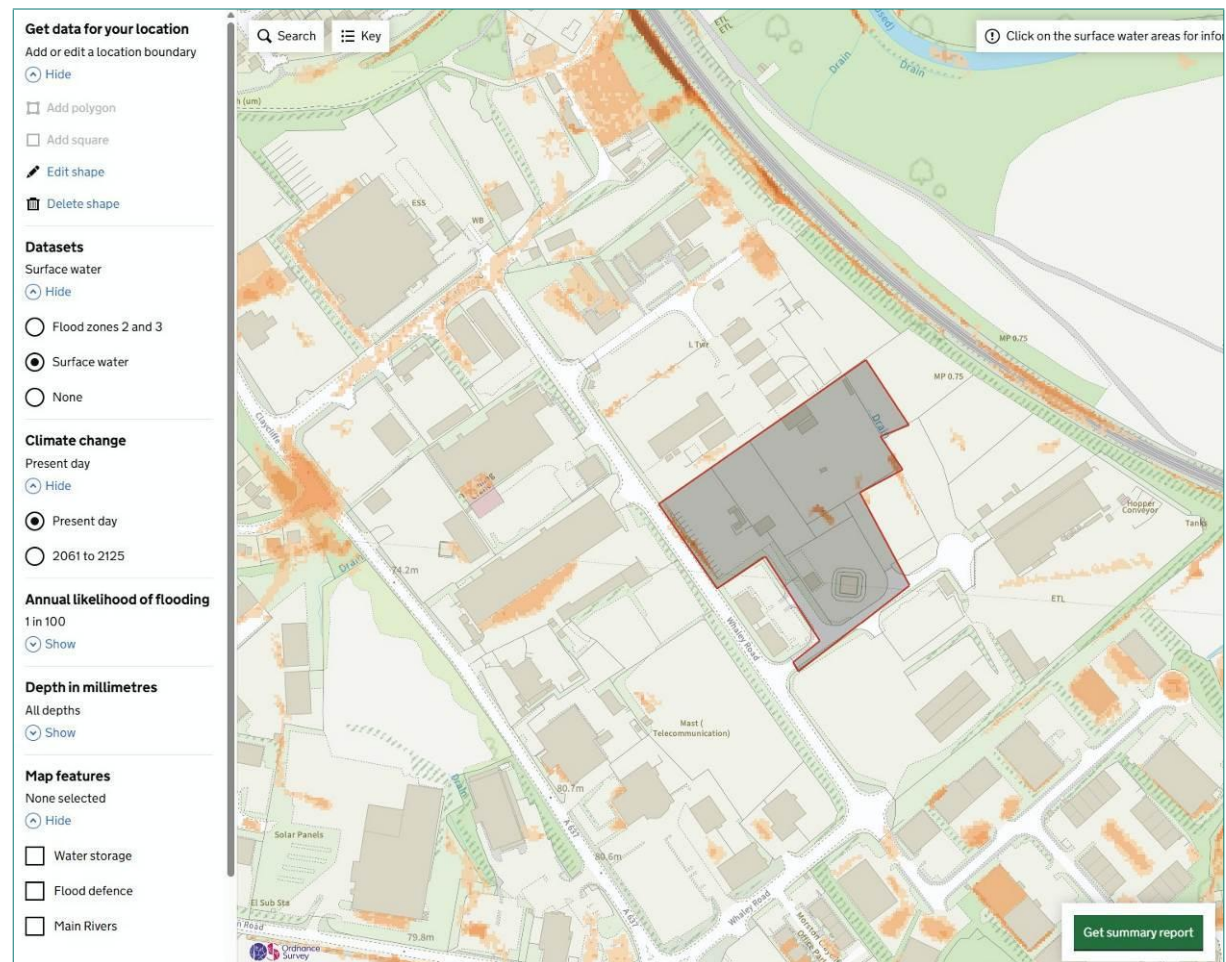
The risk to the development from this potential flooding source is considered to be low.



5.2 Flooding from Adjoining Land (Pluvial)

Overland flow/surface water flooding typically arises because of intense rainfall, often for a short duration. This is unable to soak into the ground or enter drainage systems. It can run quickly off land and result in localised flooding.

A copy of the map produced by the Environment Agency showing the extent of flooding from surface sources is below.



As indicated on the above Environment Agency flood map the majority of the proposed site is at low risk.

There are small areas of low to medium risk surface flooding indicated on the mapping along the northern boundary. This are a result of low spots on site and as part of the earthworks to develop site will no longer be present post development.

Based on the above assessment the risk to the development from this potential flooding source is considered to be low.



5.3 Flooding from Groundwater

At the time of writing intrusive site investigation works are ongoing, as part of the ground water monitoring will be carried out, however, final data is not currently available.

Based on information from the engineering carrying out this investigation no shallow groundwater has been observed on site to date.

The GI report is highly likely to indicate that the risk of groundwater flooding occurring on the site is negligible. However, in the event findings do not align with the current observations, adequate mitigation measure would be implanted to ensure flood risk from the source is not exacerbated by the development.

The overall risk to the development from this potential flooding source is considered to be low.

5.4 Flooding from Sewers and Drains

There are existing foul and surface water private drains to the east and the south of the site.

They are maintained by the current owner. As part of the proposed development a "Drainage Maintenance and Management Plan" 6709-JPG-XX-XX-RP-D-0622 has been produced and will detail the ongoing maintenance for the site private drainage.

Public sewers in the locality are maintained by Yorkshire Water and will be subject to regular inspection and maintenance as part of their asset management programme, therefore, blockage of these sewers is unlikely.

Copies of the private plot drainage and public sewer record drawings are located in Appendix C.

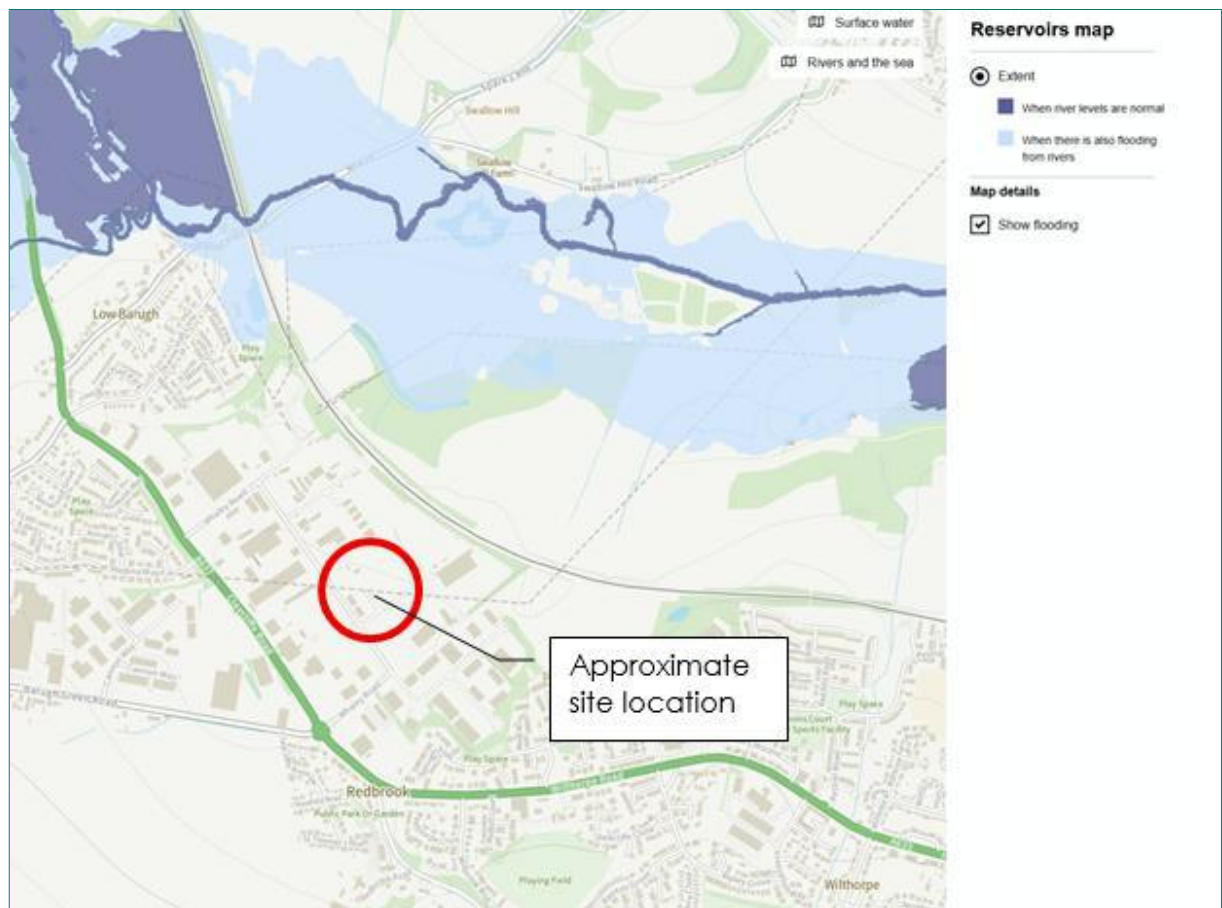
The overall risk to the development from this potential flooding source is considered to be low.



5.5 Flooding from Reservoirs, Canals and Other Artificial Sources

Review of the Environment Agency flood risk mapping from reservoirs shows that the site is not in an area at risk from failure of a reservoir or other artificial source.

A copy of the map produced by the Environment Agency showing the extent of flooding from reservoirs and other artificial sources is below.



This risk to the development from this potential flooding source is considered to be low.

6.0 CONCLUSIONS

This assessment has looked at the flood risk issues to support a planning application for a new vehicle maintenance unit at Land off Whaley Road, Barugh Green, Barnsley.

This report shall be read in conjunction with the Drainage Impact Assessment report 6709-JPG-XX-XX-RP-D-0621 which contains the detailed drainage design and calculations.

This report shall also be read in conjunction with the Drainage Maintenance and Management Plan 6709-JPG-XX-XX-RP-D-0622 which recommend drainage maintenance activities and schedule.



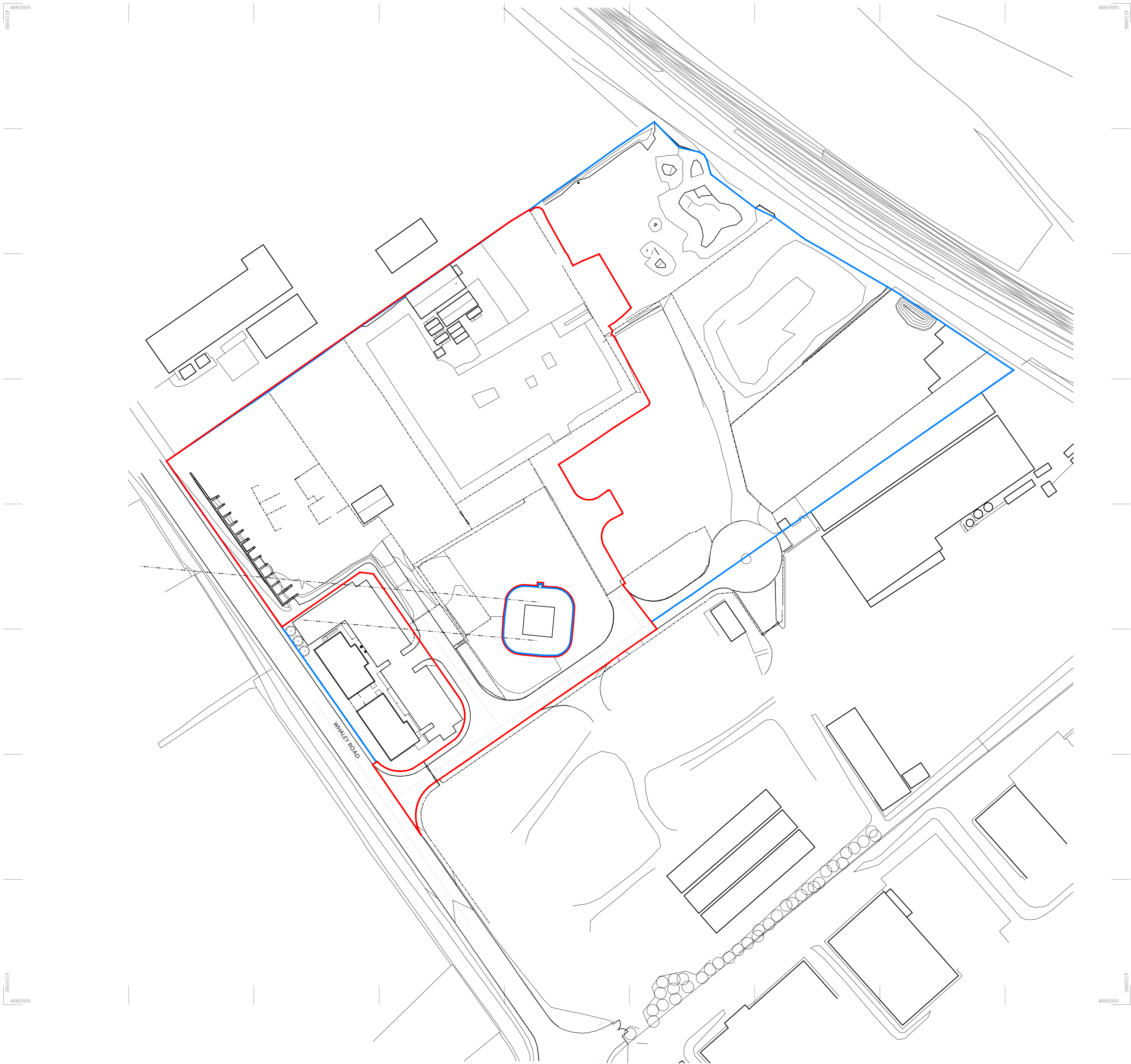
The site is located within Flood Zone 1 and NPPF Technical Guidance states that industrial/commercial uses are considered less vulnerable in terms of flood risk and are appropriate in Flood Zone 1.

This report has considered all potential sources of flood risk at the site and can concluded that these are considered low from all sources.

Overall, this report demonstrates that flood risk to the development is considered to be low.



Appendix A Site Location Plan



notes

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N

0m

25m

50m

75m

Scale 1:1000

- Planning Boundary
- Ownership Boundary

B	27.07.26	Blue line updated	Zi
A	30.06.26	Red line updated	Zi
no.	date	revision	by



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client

Wordsworth Property Ltd

project

Proposed VMU
& External Works
Whaley Road
Barnsley

drawing

Site Location Plan

scale	1:1000 @ A1	drawn	Zi
checked	spp	date	26-06-2026

no

7628-008 B



Appendix B Topographic Survey

KEY/ LEGEND

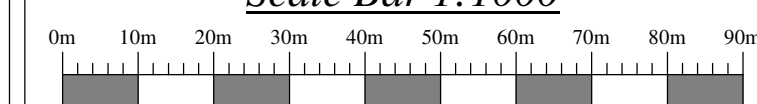
- | | |
|---|------------------|
| | Building |
| | Bottom of Batter |
|  | Building Detail |
|  | Edging |
| | Fence |
| | Kerb |
|  | Kerb Top |
| | General Detail |
| | Road Camber |
|  | Top of Batter |

- | | |
|---|----------------------|
| G | Gully |
| BT | British Telecoms |
| MH | Manhole/ Cover Level |
| CL | |
| LP | Lamp Post |
| IC | Inspection Cover |
| TOW | Top of Wall |
|  | Gate |
|  | Overhead Cable |

- | | |
|---|-----------------|
|  | ASPHALT |
|  | CONCRETE |
|  | EARTH |
|  | EARTH STOCKPILE |
|  | GRASS |
|  | GRAVEL |
|  | PAVING |
|  | UN-SURFACED |

Survey coordinated to OSGB36 (15)

Scale Bar 1:1000

[illegible]

A	Topographical Survey	02/02/20
Rev	Revisions/Descriptions	Date

Client/Project Name:	Wordsworth Excavations, Baugh Green, S75 1FJ
----------------------	--

Drawing Title:	
Topographical Survey	

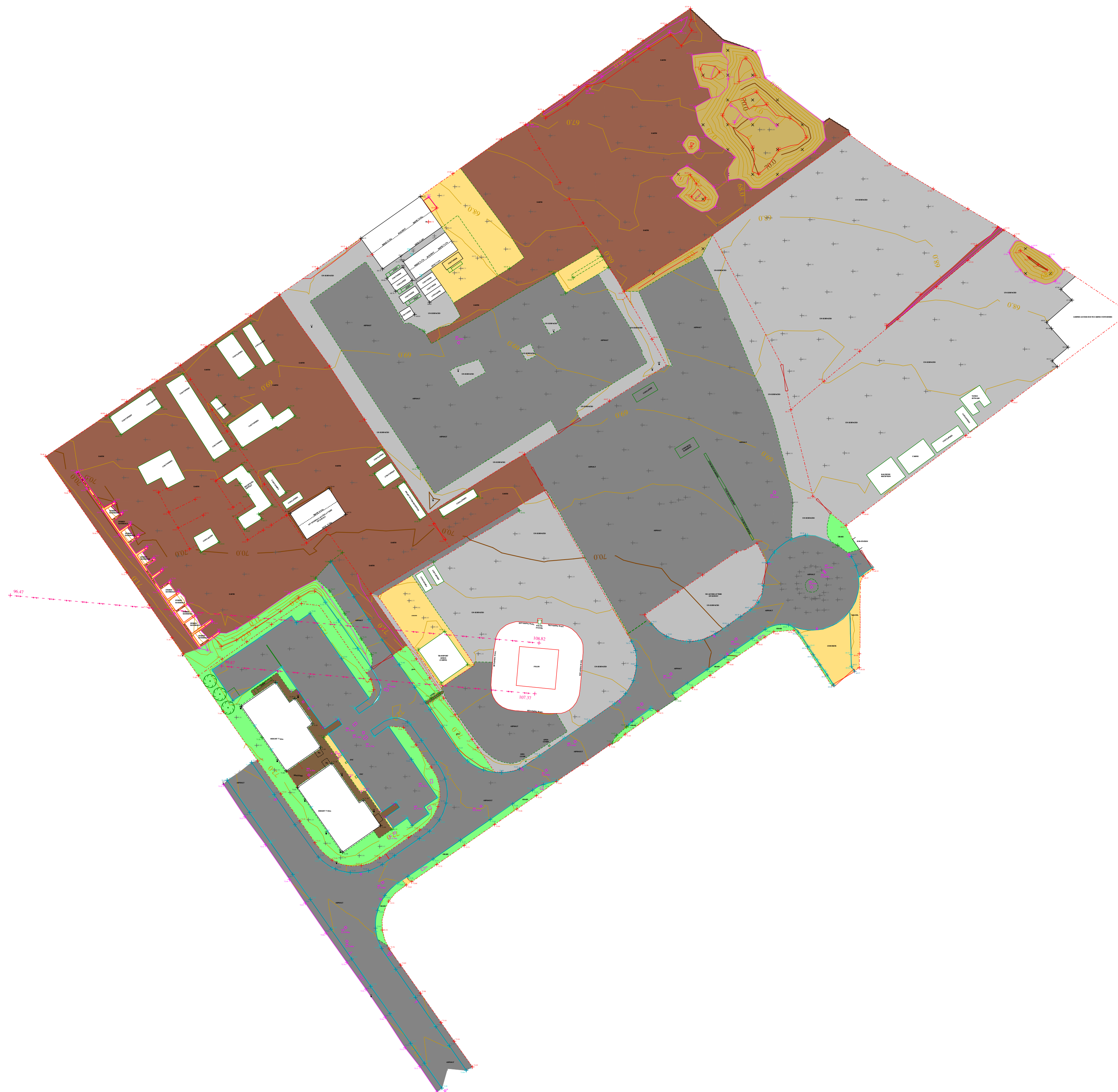
Date: 02nd February 2026	Scale: 1:500 @ A1 (Do Not Scale)
---------------------------------	--

Wordsworth Excavations Ltd Project/Drawing No.: WEL-Yard-001	Rev: A	Drawn by: JT
Drawing Status: INFORMATION	Survey by: RIS	Checked by: JT

Wordsworth
EXCAVATIONS

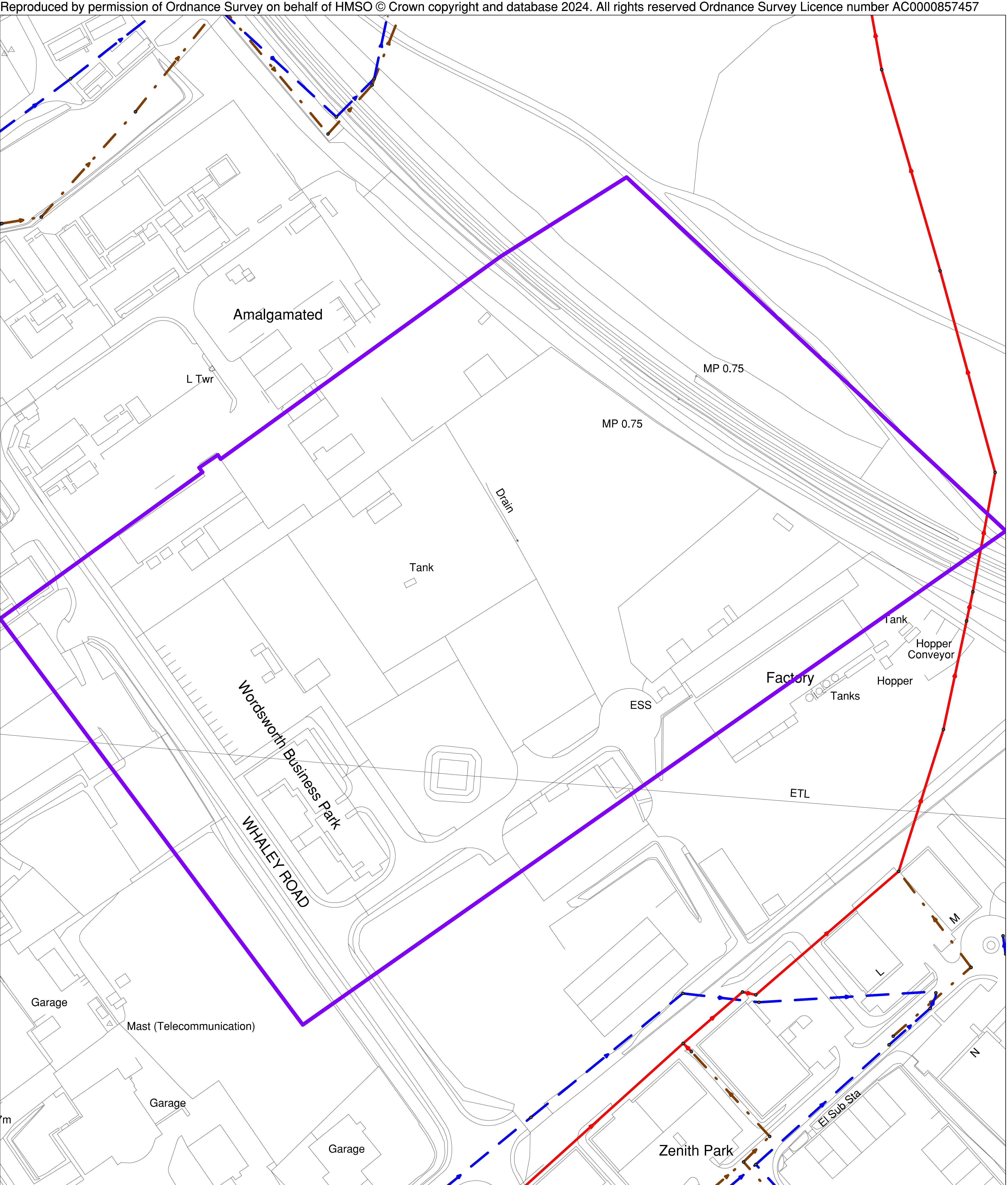
www.wordsworthexcavations.co.uk

Wordsworth Excavations Ltd
Unit 1
Wordsworth Business Park
Whaley Road
Barugh Green
Barnsley, S75 1FJ.
Tel. (01226) 244478





Appendix C Existing Private Drainage & Public Sewer Record Plans



Public Waste Water Network 19/02/2026 14:03:23 OS Grid Coordinates: 431951 : 408010 Map Name : SE3108SE svcGISSafeMovePD



1 Existing Drainage Layout
1 : 500

P1	Initial Issue	LW	MH	01.12.21
Rev	Revision Description	By	Chk	Date
SCALE @ A1	ISSUING OFFICE	MSJ PROJECT NUMBER		
1 : 500	Leeds	221062		
STATUS	PURPOSE OF ISSUE			
S0	WORK IN PROGRESS			

MSJ
Melia Smith & Jones

Melia Smith & Jones
Consulting Civil & Structural Engineers
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58 Cardigan Lane
Leeds LS1 2LD
0113 2306080
www.msj.co.uk

PROJECT

Wordsworth Properties Ltd.
Vehicle Maintenance Building

TITLE

Existing Drainage Layout

CLIENT

Martin Walsh Architectural

DRAWING NUMBER	REV
221062-MSJ-XX-XX-DR-D-4002	P1



Appendix D Proposed Site Layout Plan



notes

N

0m25m50m

Scale 1:500

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Schedule of Areas (GIA)		
VMU	13,100 sq.ft.	1,217 sq.m.
Single Storey Offices	2,030 sq.ft.	189 sq.m.
(Area includes blockwork perimeter)		
Total	15,130 sq.ft.	1,406 sq.m.
Car Parking (inc. 2No. EV Spaces)	20 spaces	
Ancilliary Parking (Indicative only)	114 spaces	
Vehicle Parking (16x4m spaces)		
Total	55 spaces	
Planning Boundary	5.48 acres	2.22 ha.

D	30.07.26	Minor update	Zi
C	30.07.26	Minor update	Zi
B	27.07.26	Landscaping updated	Zi
A	30.06.26	Red line updated	Zi
no.	date	revision	by



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client

Wordsworth Property Ltd

project

Proposed VMU
& External Works
Whaley Road
Barnsley

drawing

Proposed Site Plan

scale	1:500 @ A1	drawn	Zi
checked	spp	date	26-06-2026
no			

7628-010 D



Appendix E Environment Agency Flood Mapping

Flood map for planning

Your reference
Unspecified

Location (easting/northing)
432129/408263

Created
6 July 2026 13:55

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 than 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>

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Flood map for planning

Your reference

Unspecified

Location (easting/northing)

432129/408263

Scale

1:2,500

Created

6 Jul 2026 13:55

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



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