



**TOPPING
ENGINEERS**

CONSULTING CIVIL &
STRUCTURAL ENGINEERS

FLOOD RISK ASSESSMENT

LOCATION:

ALBANY ROAD, CHORLTON

CLIENT:

BOWSALL DEVELOPMENTS

DOCUMENT REF:

21771-FRA-001

REVISION/DATE:

Revision A

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Revision	Description	Date	Author	Checked
A	First Issue	Jan 2023	A Dyson	R Thacker

1.0 INTRODUCTION

This Flood Risk Assessment (FRA) is compliant with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance. The FRA has been produced on behalf of the Bowsall Developments in respect of a planning application for the proposed residential development at Albany Road, Chorlton.

Site Name	Bacchus House
Location	Land Off Albany Road, Chorlton, M21 oAW
NGR (approx.)	381773, 394277
Application Site Area (ha)	0.2ha
Development Type	Residential
NPPF Vulnerability	Low
EA Flood Zone	Flood Zone 1 and 2
EA Office	Manchester
Local Planning Authority	Manchester

Table 1.1 - Site Summary

1.1 SOURCES OF DATA

The report is based on the following information:

- i. Topographical Survey Architects (Appendix A)
- ii. Proposed Site Layout (Appendix B)
- iii. Environment Agency information
- iv. Greater Manchester Strategic Flood Risk Assessment

1.2 EXISTING SITE

The site in question is located to the south west of the city of Manchester, approximately 4.5km away from the city centre. The site is approximately 0.2ha in size and is bounded by Albany Road to the west and other industrial business to the south, residential property to the north and railway east of the area.

From Appendix A it can be considered the site has a general fall from W to E. the NE corner is the highest point at 28.7m AOD and the NE corner the lowest point at 27.1m AOD. The SE corner is 27.3m AOD and SW corner 28.2m AOD.

There are no waterbodies in the vicinity of site, the closest noted on mapping is Chorlton Brook, located 1km south.

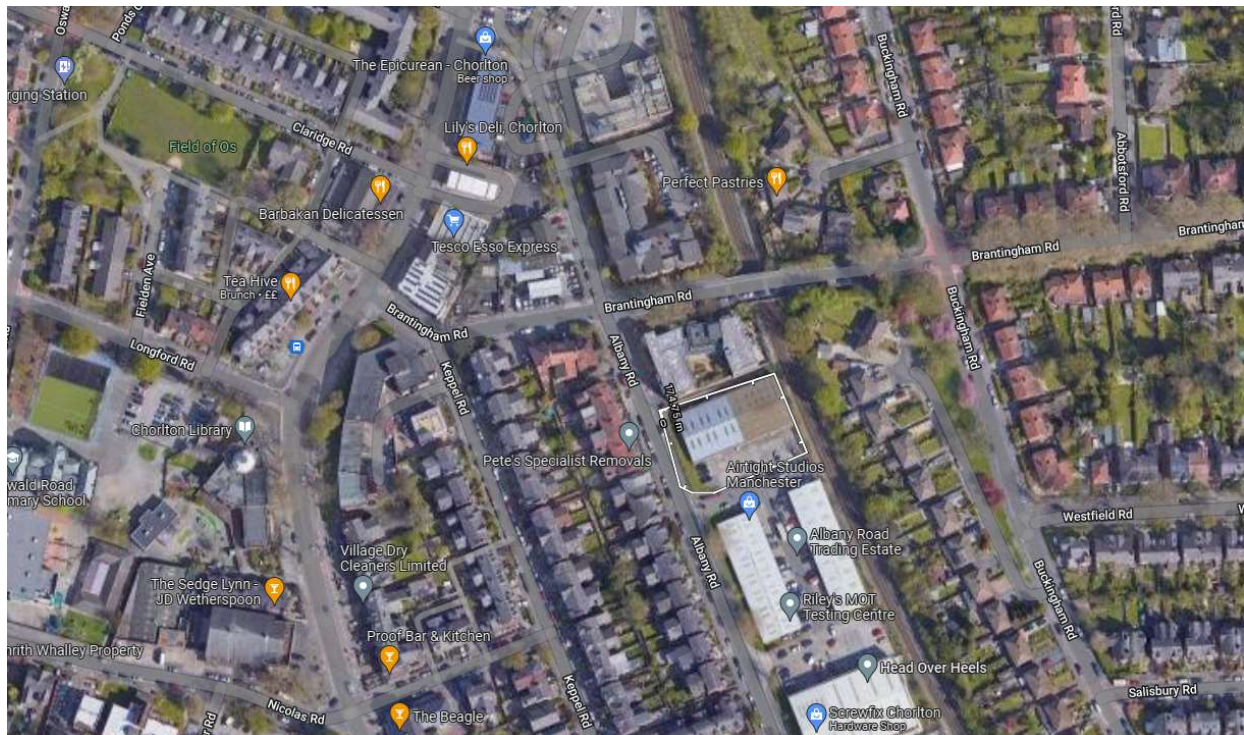


Figure 1.1 - Site Location

1.3 PROPOSED DEVELOPMENT

The proposed development is set to consist of the demolition of the existing industrial units and yard areas and construction of a new 40 no. apartment building with associated car parking and amenity space.

1.4 FLOOD RISK PLANNING POLICY

National Planning Policy Framework

The NPPF sets out the Government's national policies on different aspects of land use planning in England in relation to flood risk. Planning Practice Guidance is also available online.

The Planning Practice Guidance sets out the vulnerability to flooding of different land uses. It encourages development to be located in areas of lower flood risk where possible and stresses the importance of preventing increases in flood risk off site to the wider catchment area.

The Planning Practice Guidance also states that alternative sources of flooding, other than fluvial (river flooding), should also be considered when preparing a Flood Risk Assessment.

This Flood Risk Assessment is written in accordance with the NPPF and the Planning Practice Guidance.

Flood Zones

The Flood Zone Map for Planning has been prepared by the Environment Agency. This identifies areas potentially at risk of flooding from fluvial or tidal sources. An extract from the mapping is included as Figure 1.2.

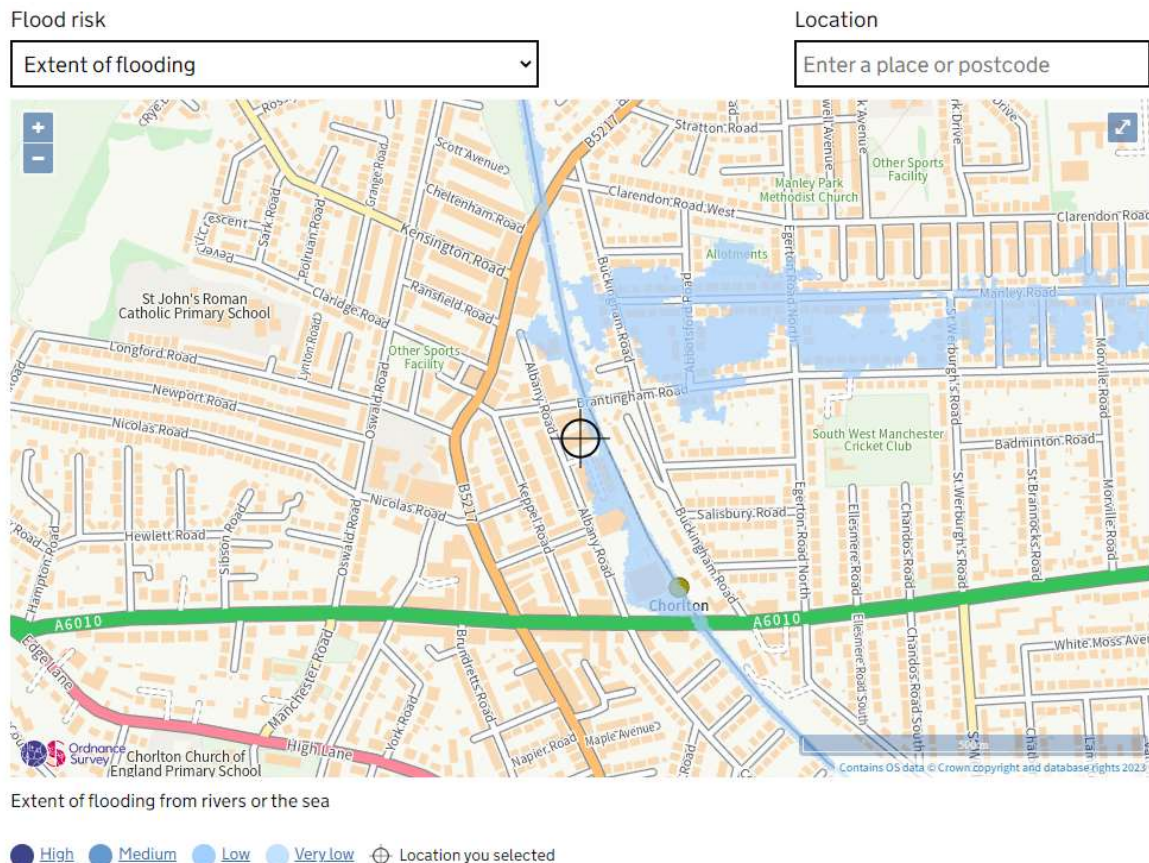


Figure 1.1 - Environment Agency Flood Zone Mapping

The site is shown to be located entirely within Flood Zone 1 and 2 (Low and Medium Probability) therefore the site is considered to be medium risk of flooding. Flood Zone 1 is defined as land assessed as having less than a 0.1% annual probability of flooding from fluvial and tidal sources. Flood Zone 2 is defined as land assessed as having less than a 0.1% - 1% annual probability of flooding from fluvial and tidal sources.

Table 2 of the Planning Practice Guidance classifies land use. Under these classifications the proposed residential development is considered to be 'More Vulnerable' to the potential impacts of flooding.

Table 3 of the Planning Practice Guidance identifies that any development is considered appropriate within Flood Zone 2.

Flood Risk Vulnerability Classification	Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable
Flood Zone 1	✓	✓	✓	✓
Flood Zone 2	✓	✓	Exception test required	✓
Flood Zone 3a	Exception test required	✓	x	Exception test required
Flood Zone 3b	Exception test required	✓	x	x

1.5 OTHER RELEVANT POLICY AND GUIDANCE

Strategic Flood Risk Assessment

The Greater Manchester Strategic Flood Risk Assessment (SFRA) was prepared to review flood risks on a much wider scale to assess the potential for new development within the study area. The SFRA was used as an evidence base for Local Development Frameworks for each Local Planning Authority.

The SFRA therefore aims to bring together all available flood risk information for a variety of sources to provide a robust assessment. The SFRA therefore is useful for this site-specific FRA by highlighting available data and instances of known flooding in the area. Although written under the guidance of Planning Policy Statement 25, the SFRA is still considered to include relevant information.

2.0 POTENTIAL SOURCES OF FLOOD RISK

The table below identifies the potential sources of flood risk to the site, and the impacts which the development could have in the wider catchment prior to mitigation. These are discussed in greater detail in the forthcoming section. The mitigation measures proposed to address flood risk issues and ensure the development is appropriate for its location are discussed within Section 3.0.

Flood Source	Potential Risk				Description
	High	Medium	Low	None	
Fluvial		X	X		The site is located in flood zone 1 and 2.
Tidal				X	There are no tidal influences effecting the site.
Canals				X	None present.
Groundwater			X		Ground conditions are not conducive to fluctuating groundwater levels.
Reservoirs and waterbodies				X	The site is shown to fall outside of the catchment for reservoir and waterbodies flooding.
Sewers			X		The site in question is higher than the surrounding sewers therefore there is a very low risk.
Pluvial runoff			X		An area of the site is within a low-risk area of surface water flooding.
Effect of Development on Wider Catchment				X	The impermeable area of the site is not being altered.

Table 2.1 - Pre-Mitigation Sources of Flood Risk

2.1 FLUVIAL FLOOD RISK

As previously mentioned, the site is shown to be within Flood Zone 1 and 2 and therefore poses a medium risk to the proposed development.

The risk of flooding posed to the proposed development is medium. The flooding shown is understood to be related to the adjacent railway and topography of the development.

Mitigation measures to address the residual risk posed by the watercourses surrounding the site are discussed within Section 3.0 of this report.

2.2 GROUNDWATER FLOOD RISK

Subject to completion of site investigation to confirm we would assume that natural ground water level is located well below the site surface and the nature of the strata means it is unlikely that there will be perched water above this level.

We therefore do not consider there is a risk of groundwater flooding affecting the development subject to final confirmation upon completion of suitable site investigation.

2.3 FLOOD RISK FROM RESERVOIRS & LARGE WATERBODIES

Reservoir failure flood risk mapping has been prepared by the Environment Agency, this shows the largest area that might be flooded if a reservoir were to fail and release the water it holds. The map displays a worst-case scenario and is only intended as a guide. An extract from the mapping is included as Figure 2.1.

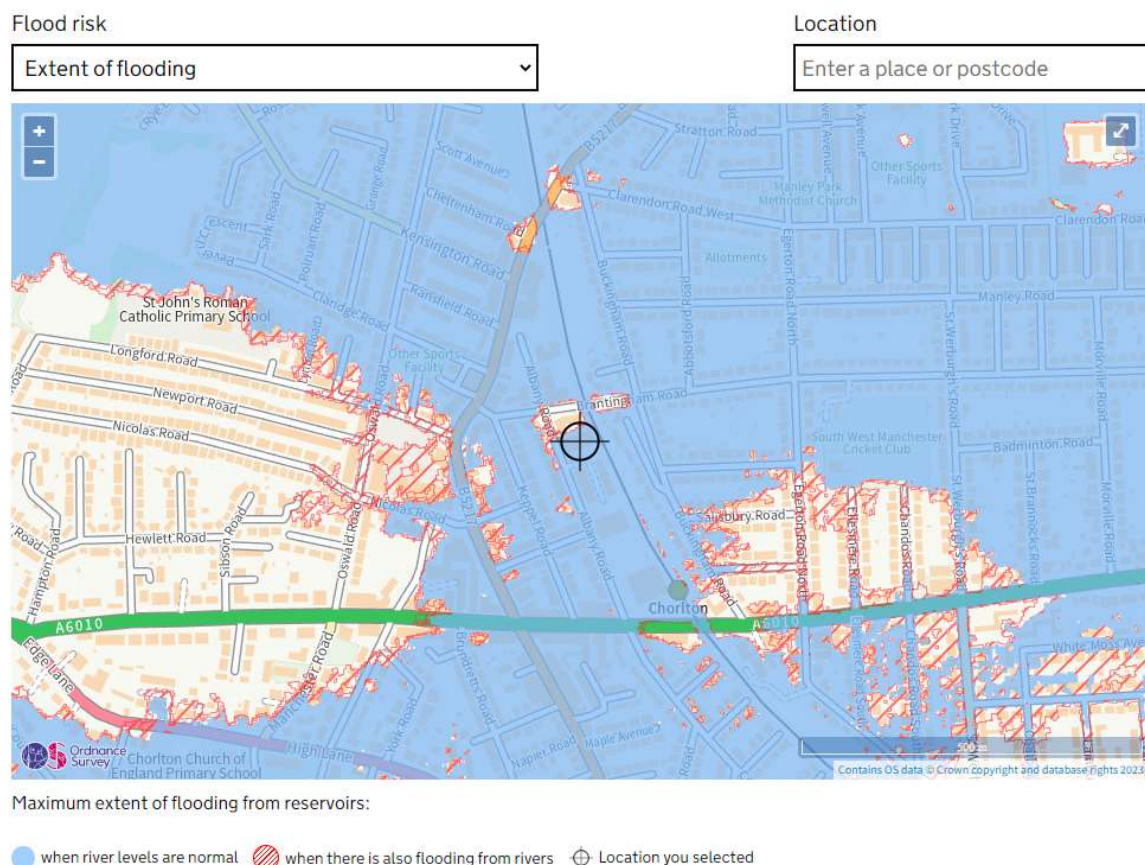


Figure 2.1 - Environment Agency Reservoir Failure Flood Risk Map

Mapping demonstrates the site and possible access routes is within area of flood extent associated with flooding from large reservoirs. However as reservoirs are managed by the relevant owners under the Reservoirs Act it is assumed that the risk to the site is low.

As such, there is considered to be low risk from reservoir flooding.

2.4 FLOOD RISK FROM SEWERS

The site in question lies away from any main roads which is potentially where any United Utilities sewers will lie.

As such, it is considered that there is no risk of flooding from sewers.

2.5 PLUVIAL FLOOD RISK

Risk of flooding from surface water mapping has been prepared by the Environment Agency, this shows the potential flooding which could occur when rainwater does not drain away through the normal drainage systems or soak into the ground but lies on or flows over the ground instead. An extract from the mapping is included as Figure 2.2

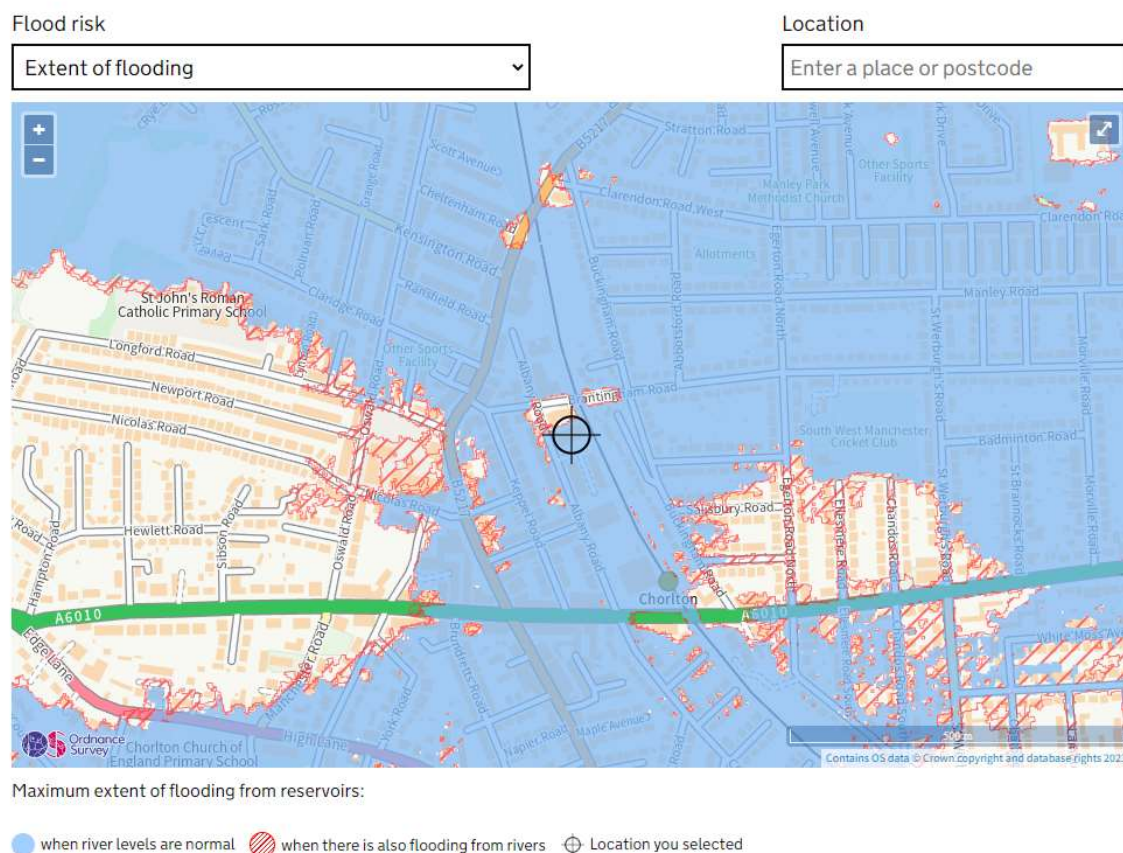


Figure 2.2 - Risk of Flooding from Surface Water Mapping

The mapping produced by the Environment Agency shows that there are several small areas of the site that are at risk of surface water flooding. These areas however outside the main development and proposed building and levels would be maintained as existing to allow the pluvial flood route to be maintained.

Therefore, the risk posed by this threat is considered low.

2.6 EFFECT OF DEVELOPMENT ON WIDER CATCHMENT

2.6.1 Development Drainage

The current site is considered to be brownfield. The amount of impermeable area will be altered. Therefore, a SW drainage strategy will be required, which has been prepared by Topping Engineers, please refer to drawing 21771-DR-C-0100.

3.0 FLOOD RISK MITIGATION

Section 2.0 has identified the sources of flooding which could potentially pose a risk to the site and the proposed development. This section of the FRA sets out the mitigation measures which are to be considered within the proposed development detail design to address and reduce the risk of flooding to within acceptable levels.

3.1 SITE ARRANGEMENTS

3.1.1 Sequential Arrangement

The Flood Zone mapping shows the site to be located within flood zone 1 and 2.

The site layout has been developed to ensure all proposed buildings are located in Flood Zone 1. The Flood Zone 2 area sits within landscaping and car parking and as such the existing levels here will be maintained to ensure no flood flows are passed downstream. In a flood event these areas would be subject to flooding but not enter the building or main car park area.

3.1.2 Finished Levels

Given the proposed buildings are within Flood Zone 1, there are no specific requirements for finished floor levels with regard to flood risk.

However, in order to maintain good practice, the following criteria should be considered:

- The floor levels of the properties to be set above the external level so they are elevated above any overland flows.
- The floor levels of the dwellings to be a min 150mm above surrounding levels.

4.0 CONCLUSIONS AND RECOMMENDATIONS

This Flood Risk Assessment (FRA) is compliant with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance. The FRA has been produced on behalf of Bowsall Developments.

This report demonstrates that the proposed development is not at significant flood risk, and simple mitigation measures have been recommended to address any residual risks that may remain. The identified risks and mitigation measures are summarised within Table 4.1.

Flood Source	Proposed Mitigation Measure
Fluvial	Site is shown to be in Flood Zone 1 and 2. However all proposed buildings for the development are located in Flood Zone 1 area.
Impact of the Development	Strategic surface water drainage strategy prepared for wider development will ensure a sustainable approach to surface water management.

Table 4.1 - Summary of Flood Risk Assessment

In compliance with the requirements of National Planning Policy Framework, and subject to the mitigation measures proposed, the development could proceed without being subject to significant flood risk. Moreover, the development will not increase flood risk to the wider catchment area as a result of suitable management of surface water runoff discharging from the site.

5.0 APPENDICES

Appendix A – Topographical Survey

Appendix B – Proposed Site Layout

Appendix A

Topographical Survey

[illegible]

P/C Post & Chain
 P/R Post & Rail
 P/W Post & Wire
 W/M Wire Mesh

50.00 Spot Level
 50.00 SSL1
 Survey Control Station (coordinated point)
 Tree

Topographical Surveys

Trees are drawn to scale showing the average canopy spread. Descriptions and heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type including roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including; sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to starting work.

Detail, services and features may not have been surveyed if obstructed or not reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary line.

Measurements to internal walls are taken to the wall finishes at approx 1m above the floor level and the wall assumed to be vertical.

General

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.

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Do not scale from this drawing

STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
0001	381745.07	394277.57	28.68	
0002	381758.65	394244.97	28.41	
0003	381791.51	394293.40	27.31	
0004	381799.63	394272.27	27.36	

Levels are related to **OSGB15**
Value **N/A**

Coordinates are related to **National Grid** (GPS)

Please note:

Any discrepancy found between an Ordnance Survey benchmark and an OSGB15 computed orthometric height is likely to be due to bench mark subsidence or uplift and, assuming precise GPS surveying has been carefully carried out, the orthometric height given by OSGB15 should be considered correct in preference to archive benchmark heights. OSGB15 converts GPS ellipsoid heights to orthometric heights above mean sea level.

REV	DESCRIPTION	DRAWN	APPR	DATE
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PROJECT TITLE
4b Albany Road, Chorlton, Manchester M21 0AW

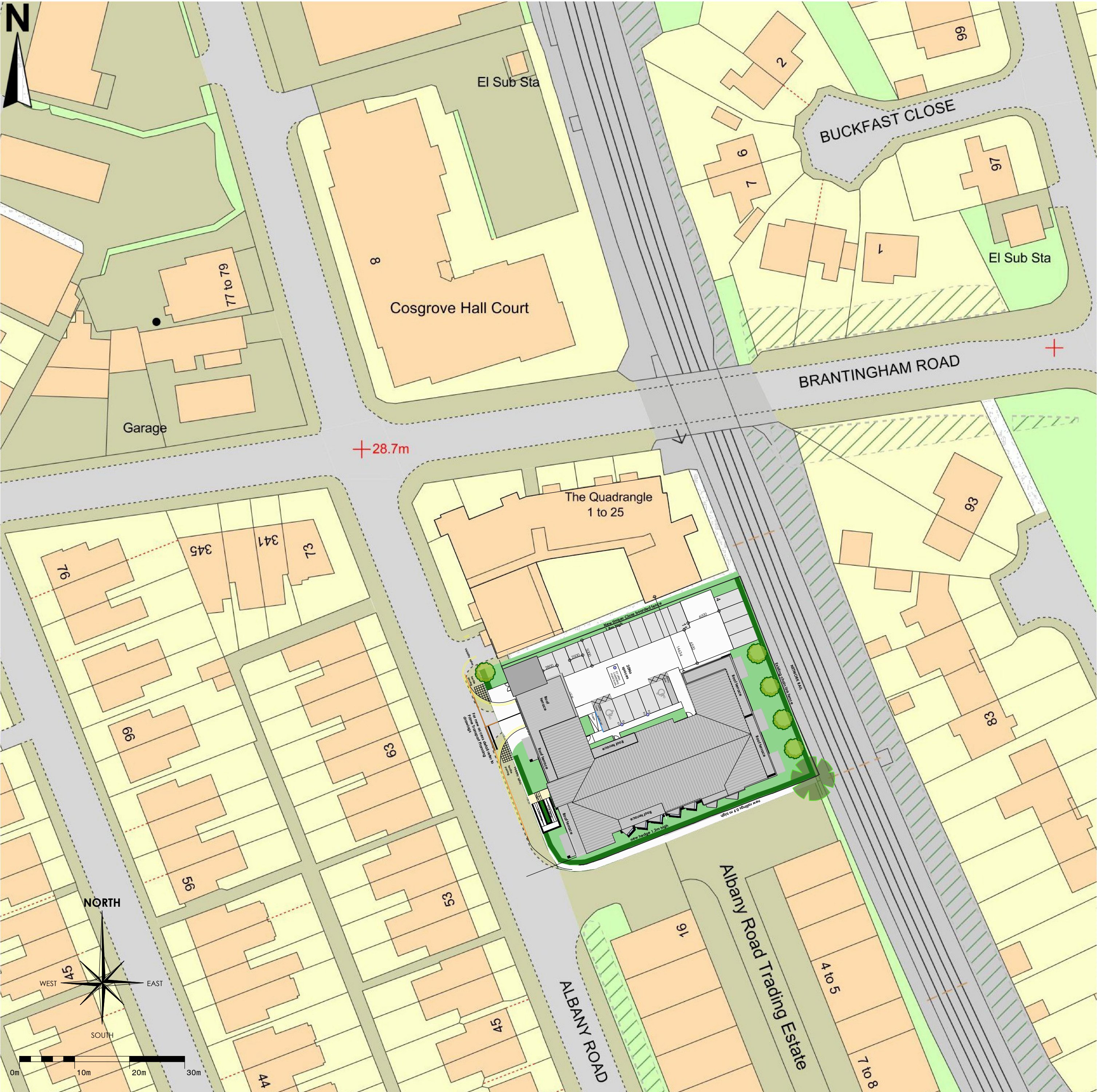
DRAWING DETAIL
TOPOGRAPHICAL SURVEY
Sheet 1 of 1

CLIENT Bowsall Developments Ltd				SCALE 1:200
SURVEYOR JL KC	SURVEY DATE Mar 22	CHECKED BY AG JL	APPROVED BY AG	DWG STATUS FINAL
DRAWING NUMBER 40602MCLS-01			REVISION	ISSUE DATE 11/04/22



Appendix B

Proposed Site Layout



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SITE AREA
GROSS- 2000sqm - 0.20 Hectares 0.49 Acres

MIX
21 x 1B2P @ 50%
19 x 2B3P @ 50%
40 No TOTAL

SCHEDULE

12No x 1B2P - 538 sqft - 50.0 sqm
01No x 1B2P - 523 sqft - 51.7 sqm
08No x 1B2P - 538 sqft - 53.0 sqm
21No x 1bed

06 No x 2B3P - 656 sqft - 61.4 sqm
12No x 2B3P - 656 sqft - 61.7 sqm
01No x 2B3P - 700 sqft - 65.0 sqm
19No x 2 bed

40No Total
Total - 24213 sqft -2249.5 sqm

GIFA

GROUND	786 sqm
FIRST	799 sqm
SECOND	799 sqm
THIRD	608 sqm
TOTAL GIFA	2992 sqm

NET AREAS

flats	2249.5sqm
circulation/ stores	422.2 sqm@14.5%
ancillary/ refuse	87 sqm
TOTAL NIA	2758.7 sqm

PARKING SCHEDULE

1B2P @ 50%	10
2b3p @ 50%	10
TOTAL	20 No spaces @50%



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Contract
**PROPOSED APARTMENT DEVELOPMENT
ALBANY ROAD CHORLTON**

Sheet Title
SITE LAYOUT- APPRAISAL

Client
BOWSALL

Scale
1:250@A2

Date
08.08.22

Drawn By
JDW

Checked By

Drawing Number
2210- P- 01G