

23 RADIUM STREET MANCHESTER

SUSTAINABLE DRAINAGE STRATEGY

Job Number: FRA241066

Date: March 2025

Client: Shimla Enterprises Ltd



INCREASING LAND VALUE

LK
GROUP

LK Consult

Document Verification

Site Address	23 Radium Street, Manchester, M4 6AY		
Report Title	Sustainable Drainage Strategy		
Job Number	FRA241066	Document Ref.	FRA241066-SUD-R0
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Prepared By	Colin Crompton Shada Hasan	Reviewed By	Paul Quimby

Revision Record

Revision No.	Date	Nature of Revision	Approved By
R1	March 2025	Update following revision of development proposals	Colin Crompton

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EXECUTIVE SUMMARY

Scope and Background

This Sustainable Drainage (SuDS) Strategy has been undertaken by LK Consult Ltd (LKC) to support a planning application for the development of land at 23 Radium Street, Manchester. The development comprises the retention of the ground, first and second floors to its existing commercial use classes with the creation of a new ground floor entrance to the eastern elevation, the addition of a retractable glass rooftop extension as a covered outdoor terrace ancillary to the floor below, as well as other ancillary works.

LKC has prepared this SuDS Strategy in line with the NPPF and Technical Guidance where appropriate.

Consultations

Manchester City Council – Lead Local Flood Authority (LLFA) and United Utilities (UU) have been contacted during preparation of this report.

The Environment Agency (EA) website has been utilised to assess if there are any limitations that may affect the form of SuDS that may be appropriate to this site. The records show that the site is within Flood Zone 1 and the building footprint is shown at low risk of surface water flooding up to 0.3m depth.

Site Constraints and Drainage Strategy

The ground conditions beneath the site are recorded as Till superficial deposits (mainly comprising firm to stiff Clay) over Manchester Marl (mudstone) bedrock. This has been confirmed by British Geological Survey (BGS) borehole records.

The site and the adjacent areas slope downwards towards the southeast.

A review of the site setting and existing constraints has identified that there are existing downspouts from the building that pass directly into the ground (likely passing to the combined sewer network).

Based on a review of the site constraints and consideration of the drainage hierarchy it is considered that there is limited opportunity to provide SuDS within the development to control the flows of surface water. Therefore, effectively the existing drainage would be retained.

There may be opportunities within the development to include some SuDS features in the amenity space such as planters to provide some element of betterment from this area of the site. The proposed glass roof extension would preclude the use of a green or blue roof within the development.

There may be an opportunity to include permeable paving within the existing hardstanding yard area in the southern part of the site; however, this would only provide attenuation to the area which it drains directly, and based on the ground conditions, would need to be connected to the UU combined sewer.

All proposed outflow connections from the development should be agreed with the Lead Local Planning Authority and United Utilities.

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1 Introduction

1.1 Background

LK Consult Ltd (LKC) were commissioned to carry out a Sustainable Drainage Strategy for 23 Radium Street, Manchester. The report was undertaken in support of a planning application to refurbish and extend the existing building and retain a commercial end use.

The report will consider the impact of the development on surface water runoff accounting for climate change. The sustainable drainage assessment in Section 4 will provide an overview of the SuDS techniques which could be considered on the site.

This outline SuDS assessment is presented with reference to the hydrological and hydrogeological context of the development taking account of the Planning Practice Guidance¹ (PPG), updated August 2022.

The report findings are based upon professional judgement and are summarised below. The report includes baseline data from the Environment Agency (EA), rainfall data from the Wallingford Studies and Hydrogeological information from the British Geological Survey (BGS). The assessment will summarise and refer to these datasets in the text.

Drainage on the site has been assessed by considering the following key constraints:

- Topography of the site.
- Local water features and hydrological context.
- Underlying geology, soil types and permeability.
- Layout and geometry of the proposed development.

1.2 Site Details

A summary of the general site details is presented in Table 1-1. A site location plan and proposed layout plans are provided in Appendix A.

Site Details	
Location	East of Radium Street, to the northwest of School Court, M4 6AY. Centred at approximate National Grid Reference 385110E 398750N.
Area	Approximately 405m ² .
Topography	External ground levels are c. 51.63mAOD off Radium Street in the northwest corner to c. 49.57mAOD off the southeast corner.
Current Land Use	<u>Site</u> Majority of the site occupied by the existing building with a small concrete driveway to an existing roller shutter door on the southern boundary. Part of the ground floor is occupied by a bakery. <u>Surrounding Area/ Boundary Treatment</u> Northwest: Recently cleared site. East and south: Commercial properties and parking. West: Residential properties.
Proposed Development	'To retain the ground, first and second floors to its existing commercial use classes with the creation of a new ground floor entrance to the eastern elevation, the addition of a retractable glass rooftop extension as a covered outdoor terrace ancillary to the floor below, as well as other ancillary works.'

Table 1-1: Summary of site details.

¹ "Planning Practice Guidance" <https://www.gov.uk/guidance/flood-risk-and-coastal-change>. Ministry of Housing Communities and Local Government. August 2022.

2 Site Setting

2.1 Environmental Setting

LKC has undertaken a review of public domain information including British Geological Survey data, Environment Agency, historical mapping and aerial photography to provide a summary of the environmental setting of the site. This is summarised in Table 2-1 below.

Summary of the Environmental Setting			
Geology	Superficial		Till (Diamicton).
	Bedrock		Manchester Marl (Mudstone).
	BGS Boreholes (Appendix B)		BH Ref: SJ89NE703 c.120m SW: Made ground to 0.68m Firm to very stiff silty or silty sandy clay to >8.00mbgl. No groundwater.
	Defra Soilscape Mapping		Type 17: Slowly permeable, seasonally wet, acid, loamy and clayey soils. Natural Drainage Type: Impeded drainage.
Hydrogeology	Aquifer Designation	Superficial	Secondary Undifferentiated Aquifer.
		Bedrock	Secondary B Aquifer.
	Source Protection Zone (SPZ)		Site not within an SPZ.
Flood Zone	The site is within Fluvial Flood Zone 1.		
(Environment Agency Flood Map for Planning and Risk of Flooding from Surface Water [RoFSW] Map)	<p>Flood Zone 1: Very Low risk, with annual probability of flooding from rivers and the sea of less than 0.1% (1 in 1000).</p> <p>The RoFSW flood maps including climate change indicate a low chance of flooding up to 0.3m depth within the footprint of the existing building. LKC note that this is an artifact of the modelling where if there is a risk of flooding in greater than 50% of length of the external perimeter of the property or where the model shows 25% of the property footprint is flooded to a greater depth than 25 mm.</p>		
Hydrology	All adjacent and internal surface water		Rochdale Canal c. 95m SE.
Site History		<p>Early mapping shows a church school occupied the plot. The site and the adjacent area became part a works complex (possibly flint glass) and ironworks before the plot was cleared of buildings. The current building dates from 1964² and was labelled up to 1996 historical mapping as "works". Latterly the building has been used as a bakery, restaurant and creative media studio.</p>	

Table 2-1: Summary of the Environmental Setting.

2.2 Site Levels

External site levels are shown on the existing site layout plan in Appendix A.

To the eastern elevation a manhole cover is present with a cover level of 50.17mAOD. A further manhole cover is present adjacent southeast at 49.55mAOD.

External and building floor levels are not proposed to change. The existing access to Radium Street will remain.

² <https://www.loopnet.co.uk/Listing/23-Radium-St-Manchester/14554882/>

Radium street falls to the south alongside the building from 51.63mAOD to 50.33mAOD.

2.3 Site Reconnaissance

LKC carried out a site reconnaissance March 2025. The site area comprises the building footprint and hardstanding and the manhole covers identified on the topographic survey were noted. The northern and eastern site boundaries were denoted by a fence. A three-storey fire escape was noted on the northeast corner.

Downpipes for roof drainage were noted on the southern and eastern elevations. The majority of the building footprint comprise the three-storey section, with a single storey garage section on the southeast corner.

Photographs are shown in Plate 2-1.



Plate 2-1: Site photographs (March 2025).

3 Consultation

Information from consultees is summarised in Table 3-1 below.

Relevant correspondence is provided in Appendix C.

Source	Details	
Lead Local Flood Authority	No response received from the LLFA.I	
United Utilities (UU)	Sewer Map	Manholes present along the eastern part of the site and 508x762mm public combined sewer along Radium Street.
	Likely conditions for connecting into their sewerage system	<p>In accordance with the hierarchy of drainage options within the National Planning Practice Guidance, both discharge to ground via infiltration and discharge to a waterbody should be discounted prior to consideration of discharging surface water to the public sewer system. Evidence should be provided to demonstrate how these have been discounted.</p> <p>Once evidence is provided United Utilities will consider a connection to the 508x762mm public combined sewer within Radium Street located west of the site at a pass forward flow to be agreed by the Lead Local Flood Authority. United Utilities request that any agreed rate does not exceed 5l/s.</p>

Table 3-1: Summary of Consultee Information.

4 Sustainable Drainage Strategy

4.1 Introduction

The NPPF recognises that flood risk and other environmental damage can be managed by minimising changes in the volume and rate of surface run-off from development sites through the use of Sustainable Drainage Systems (SuDS), this being complementary to the control of development within the floodplain.

SuDS will not alleviate flooding in an area prone to flooding; however, properly designed SuDS have the potential to prevent the surface water runoff from new development worsening the flood risk. The effective disposal of surface water from development is a material planning consideration in determining proposals for the development and use of land.

The accepted principles are that surface water arising from a developed area should, as far as practicable, be managed in a sustainable manner to mimic the surface water flows arising from the site prior to the proposed development, while reducing the flood risk to the site itself and elsewhere, taking climate change into account.

The Building Regulations Requirement H3³ stipulates that rainwater from roofs and paved areas is carried away from the surface to discharge to one of the following, listed in order of priority:

- an adequate soakaway or other adequate infiltration system,
- a watercourse or, where that is not practicable,
- a sewer.

The concept of a sustainable drainage system has been incorporated into the outline drainage strategy for the study area in order to comply with the Flood and Water Management Act 2010⁴.

Suitability of different SuDS will be governed by prevailing site conditions, such as the type and scale of development, topography, ground conditions (soil permeability, ground stability, depth to water table), local hydrogeology and risk of groundwater contamination (presence of sensitive aquifers and source protection zones) etc.

4.2 Sustainable Drainage Hierarchy

4.2.1 Infiltration

The Groundwater Source Protection Zone mapping from the EA website shows that the site is not within any identified protection zones.

Superficial and bedrock conditions as obtained from BGS mapping and historical borehole records and ground investigation works carried out by LKC in the area indicate a substantial thickness >8m of firm to stiff clay is present. The bedrock is mapped as mudstone below the site.

Soilscape classifies the site soils as “impeded drainage”.

This indicates that ground conditions are not conducive to soakaways on site. Notwithstanding the above, there is insufficient space to install a soakaway on site

³ Building Regulations part H3 2010: Approved Document, Drainage and Waste Disposal.

⁴ Flood and Water Management Act 2010: UK Government.

based on the existing building footprint, which will be maintained as part of the development, occupying almost 100% of the site area.

4.2.2 Watercourses

There are no observable watercourses within or near the boundary of the site. Currently surface water from the site runs overland to the south and east. The Rochdale Canal is not considered suitable given its distance from the site.

4.2.3 Public Sewer

A 508x762mm public combined sewer is present to the west of the site running along Radium Street.

4.2.4 Other Sewers

The manholes to the eastern elevation of the building are anticipated to comprise a private connection to the public sewer.

4.3 Surface Water Drainage Strategy

Following the assessment of the site settings and existing constraints to the development. The drainage options relating to the final discharge of surface water for this section of the site are listed in Table 4-1 in order of priority within the NPPF:

Option No:	Drainage Solution	Most feasible solution	Reasoning
a	Soakaway/Infiltration	N/A	Not feasible due to cohesive ground conditions and there is no physical room on site to construct a soakaway.
b	Connection to Watercourse	N/A	Not feasible as there are no known watercourses within or adjacent to the site.
c	Discharge into a sewer	1	A connection into the sewer in Radium Street would be possible – subject to approval from the LLFA and connection consent from UU.

Table 4-1: Drainage options.

4.4 Site Constraints and Opportunities

Whilst it is recognised that opportunities to utilise SuDS should be included within developments, the constraints posed by the development are also critical in assessing the options for disposal of surface water.

UU have indicated potential points of connection that have been discussed in Section 3, Table 3-1 of this report. A review of the drainage hierarchy has been undertaken and ruled out the opportunity for infiltration or discharge to surface watercourse. UU have identified a discharge rate of 5 l/s through a predevelopment enquiry.

As part of this enquiry the constraints within the site and the development proposals were not set out to UU and these are discussed below, in addition to this the proposed development has been updated since the predevelopment enquiry was completed.

The development proposal comprises the refurbishment of the existing building with an upwards extension of a glass roof top terrace.

Following a review of the site setting through site reconnaissance and a review of Streetview and aerial imagery, it is evident that the existing building is drained via

downspouts located on the eastern and southern elevations of the mill. These take the three storey section and the single storey section on the southeast corner.

The building also forms the entire site boundary up to the pavement on the western boundary of the site and to the northern planning boundary. A small area of hardstanding of approximately 45 m² is located at the southern end of the site and is currently utilised as outdoor seating for the existing bakery and access to the single storey garage.

The roof downspouts pass down the elevations of the building and directly into the ground.

4.5 Proposed Drainage in the Context of the Development Proposals

The existing drainage and site setting have been reviewed to consider the constraints and opportunities for the site in terms of the drainage. As noted above, the proposed development is to retain the ground, first and second floors to its existing commercial use classes with the creation of a new ground floor entrance to the eastern elevation, the addition of a retractable glass rooftop extension as a covered outdoor terrace ancillary to the floor below.

At this stage it is considered that there is limited opportunity to alter the existing drainage arrangements for the site given the locations of the existing roof drainage downspouts on the building and the limited space to provide attenuation, given that this development is effectively re-using the existing building.

There may be opportunities within the development to include some SuDS features around the downspouts on the eastern elevation such as planters to provide some element of betterment from this area of the site.

The upwards extension of a glass rooftop extensions and the covered outdoor terrace would preclude the use of a green or blue roof within the development.

There may be an opportunity to include porous paving within the open area to the south of the site; however, this would only provide attenuation to the area which it drains directly, and based on the ground conditions, would need to be connected to the UU combined sewer.

Given the scale and nature of the development there are no opportunities to provide other SuDS features such as infiltration features based on the geology and SuDS features such as ponds, swales, rills etc based on the limited space within the development.

5 Conclusion

The majority of the site occupied by the existing building with a small concrete driveway to an existing roller shutter door on the southern boundary. Part of the ground floor is occupied by a bakery.

The development proposals include the retention of the ground, first and second floors to its existing commercial use classes with the creation of a new ground floor entrance to the eastern elevation, the addition of a retractable glass rooftop extension as a covered outdoor terrace ancillary to the floor below, as well as other ancillary works.'

A review of the site setting and existing constraints has identified that there are existing downspouts from the building that pass directly into the ground (likely passing to the combined sewer network).

Based on a review the site constraints and consideration of the drainage hierarchy it is considered that there is limited opportunity to provide SuDS within the development to control the flows of surface water. Therefore, effectively the existing drainage would be retained.

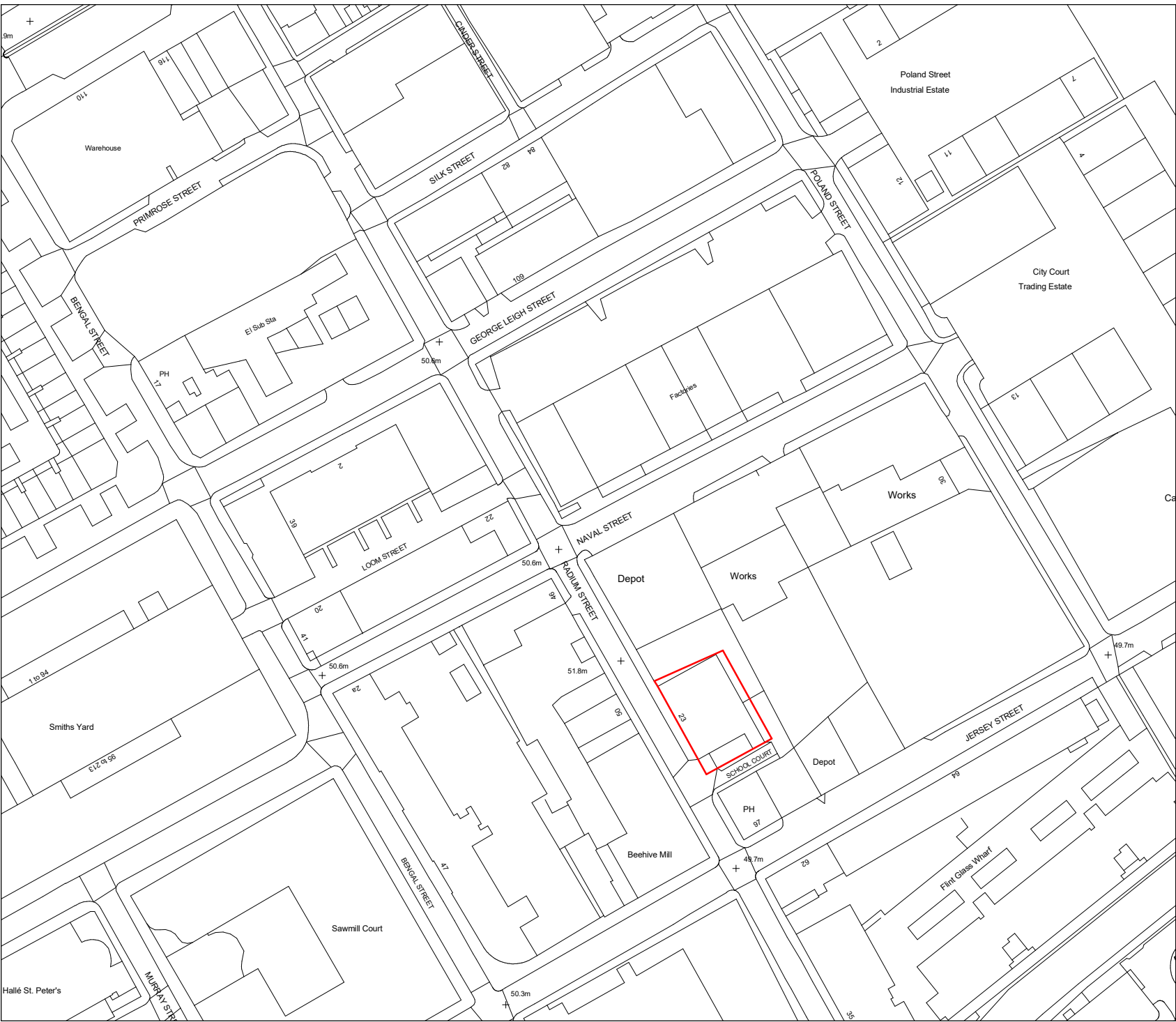
There may be opportunities within the development to include some SuDS features in the amenity space such as planters to provide some element of betterment from this area of the site. The proposed glass rooftop extension and cover outdoor terrace would preclude the use of a green or blue roof within the development.

There may be an opportunity to include permeable paving within the existing hardstanding yard area in the southern part of the site; however, this would only provide attenuation to the area which it drains directly, and based on the ground conditions, would need to be connected to the UU combined sewer.

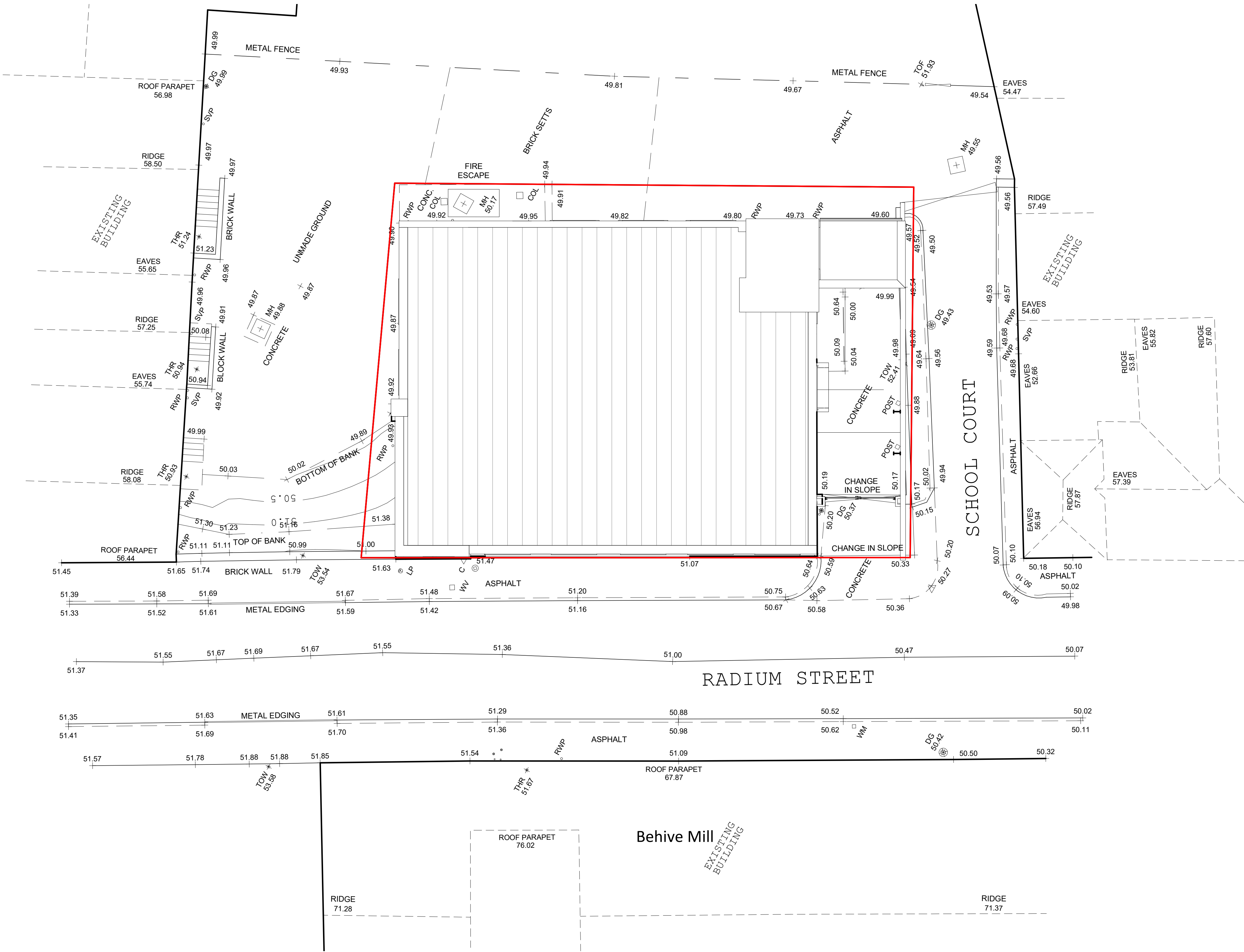
All proposed outflow connections from the development should be agreed with the Lead Local Planning Authority and United Utilities.

APPENDIX A

FIGURES, PLANS AND DRAWINGS



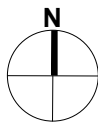
Site Location Plan
1 : 1250



Existing Site Plan
1 : 100

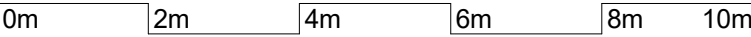
revision	date	drawn	description
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BARCX



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Site Location Existing Site Plan

OR
23 Radium St

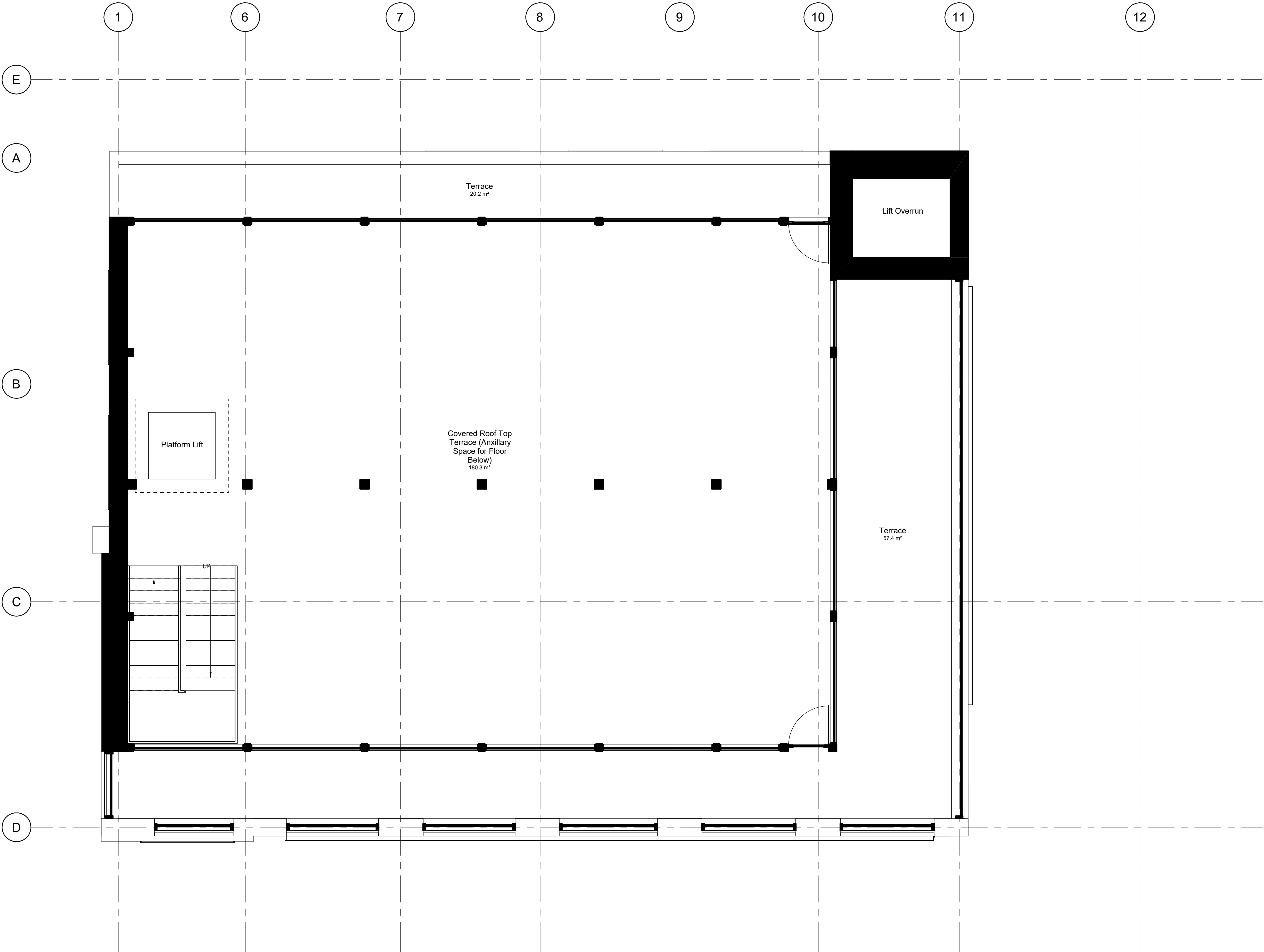
B-0257-1001-Site Location Existing
Site Plan

1:100 @ A1
scale

B-0257
job reference

revision
KH
drawn





Proposed Level 03 Plan
1 : 50

revision	date	drawn	description
P1	01.05.24	KH	Updated as per LA's Comments

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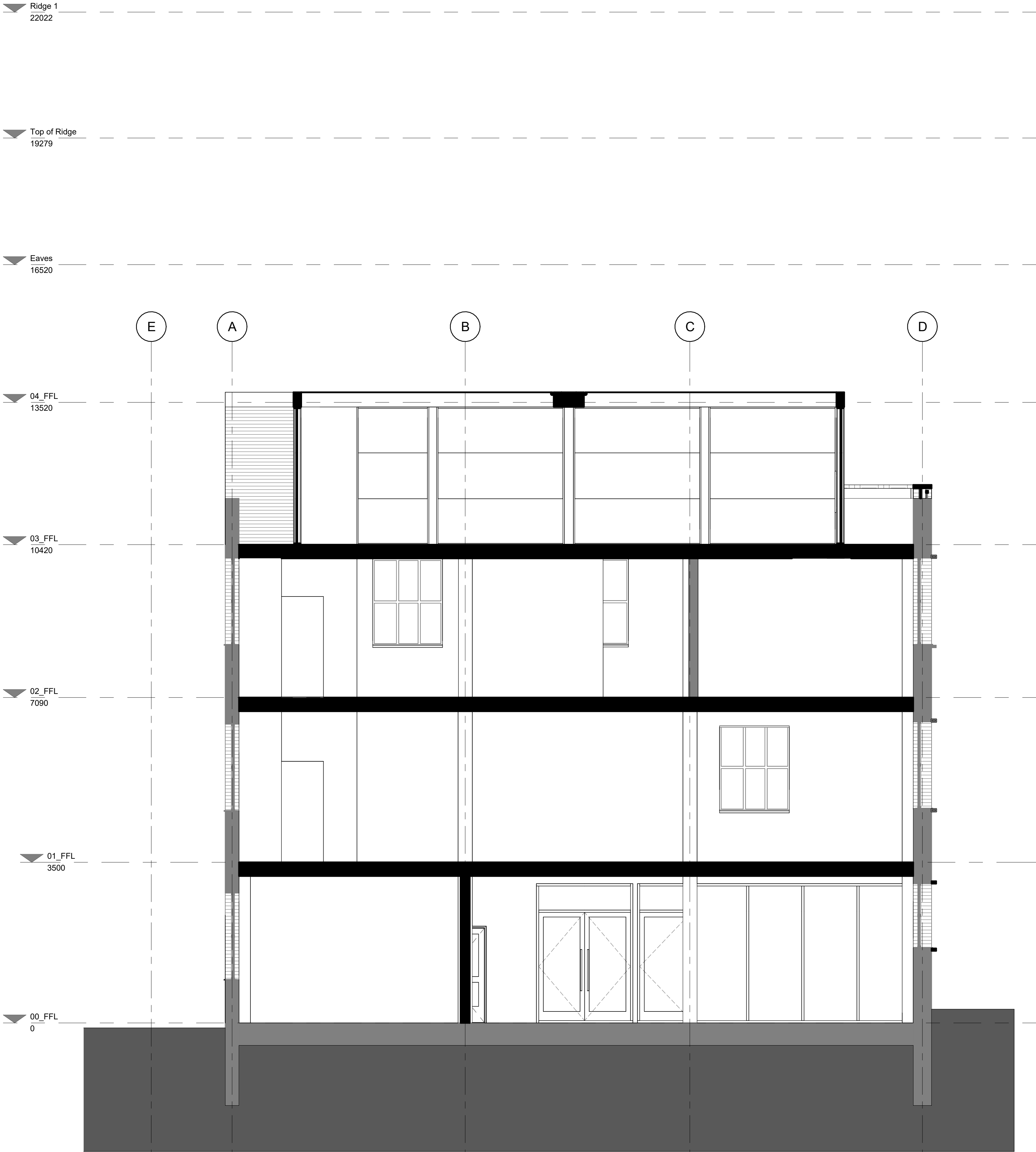
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Proposed GA Level 03

OR
23 Radium St

number	revision
B-0257-1108-Proposed GA Level 03 P1	
1:50 @ A1	KH
scale	drawn
B-0257	job reference



Section 5
1 : 50

revision date drawn description

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BARCX

0m 1m 2m 3m 4m 5m

Proposed Section A-A

OR
23 Radium St

B-0257-1202-Proposed Section A-A

number revision

1:50 @ A1
scale

B-0257
job reference

KH
drawn



revision	date	drawn	description
P1	01.05.24	KH	Updated as per LA's Comments

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Proposed East Elevation		B-0257-1308-Proposed East Elevation	
number	OR	revision	1
scale	23 Radium St	scale	1:50 @ A1
job reference	B-0257	drawn	KH

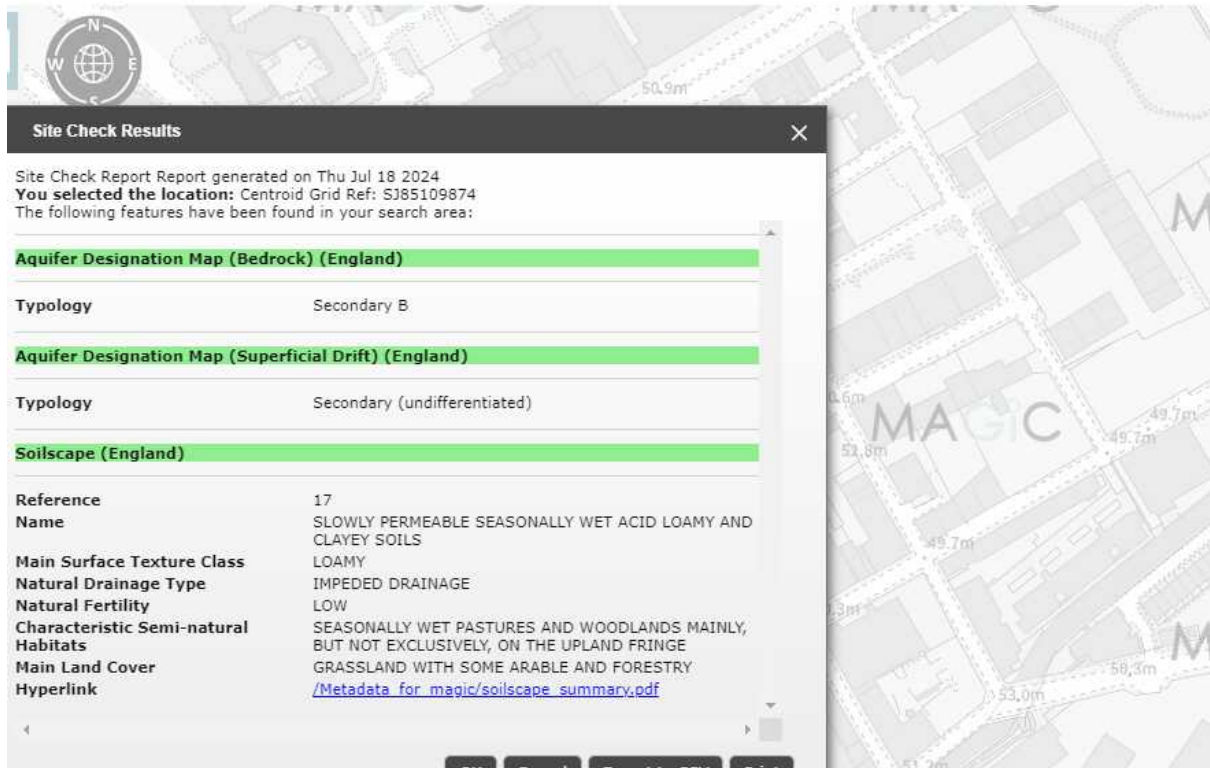
APPENDIX B

SITE INFORMATION

GEO - RESEARCH LTD.										B/H No. 12		SHEET No. 1																	
CONTRACT LOCATION							INNER RING ROAD, SECTION 2, PHASE I MANCHESTER						No. of sheets 1																
CLIENT							CASING						Ground Level 50.24m																
MANCHESTER CORPORATION							Size to. Size to. 0.150 6.100						Commenced 7/12/71 Completed 7/12/71																
Weather FINE							Percussion SPT D B						Rotary Corad runs O/H		M.C % Core Rec. %		Grading % Passing Sieve						TRIAXIAL TEST			WATER REMARKS			
STRATUM. (Scale: 20mm to 1 metre)																													
1. Thickness		Depth 2. m		Sample No.		Blow Count (N) LL/PL/PI																							
ASPHALT		0.07																											
SETTS		0.23																											
Stone, clay and cinder FILL (iii)		0.38		D1																									
Firm to very stiff grey/brown silty sandy CLAY with occasional pebbles (i)		1.21		D2																									
		1.52		U1*																									
1.45		2.13																											
Firm to very stiff grey/brown silty CLAY with laminations in places and occasional pebbles (Boulder Clay) (i)		2.28		D3																									
		2.59		U2																									
		3.35		D4																									
		4.11		U3*		48.17.31. (CI)																							
		4.87		D5																									
		5.63		U4																									
		6.40		D6																									
		7.16		U5		48.16.32. (CI)																							
5.87		8.00																											
BOREHOLE							COMPLETE																						
REMARKS:																													
* Consolidation Results - see separate sheet.																													
Copyright Reserved																													

Aquifer and Soilscape designation

(www.magic.defra.gov.uk)



Site Check Results

Site Check Report generated on Thu Jul 18 2024
You selected the location: Centroid Grid Ref: SJ85109874
The following features have been found in your search area:

Aquifer Designation Map (Bedrock) (England)

Typology	Secondary B
----------	-------------

Aquifer Designation Map (Superficial Drift) (England)

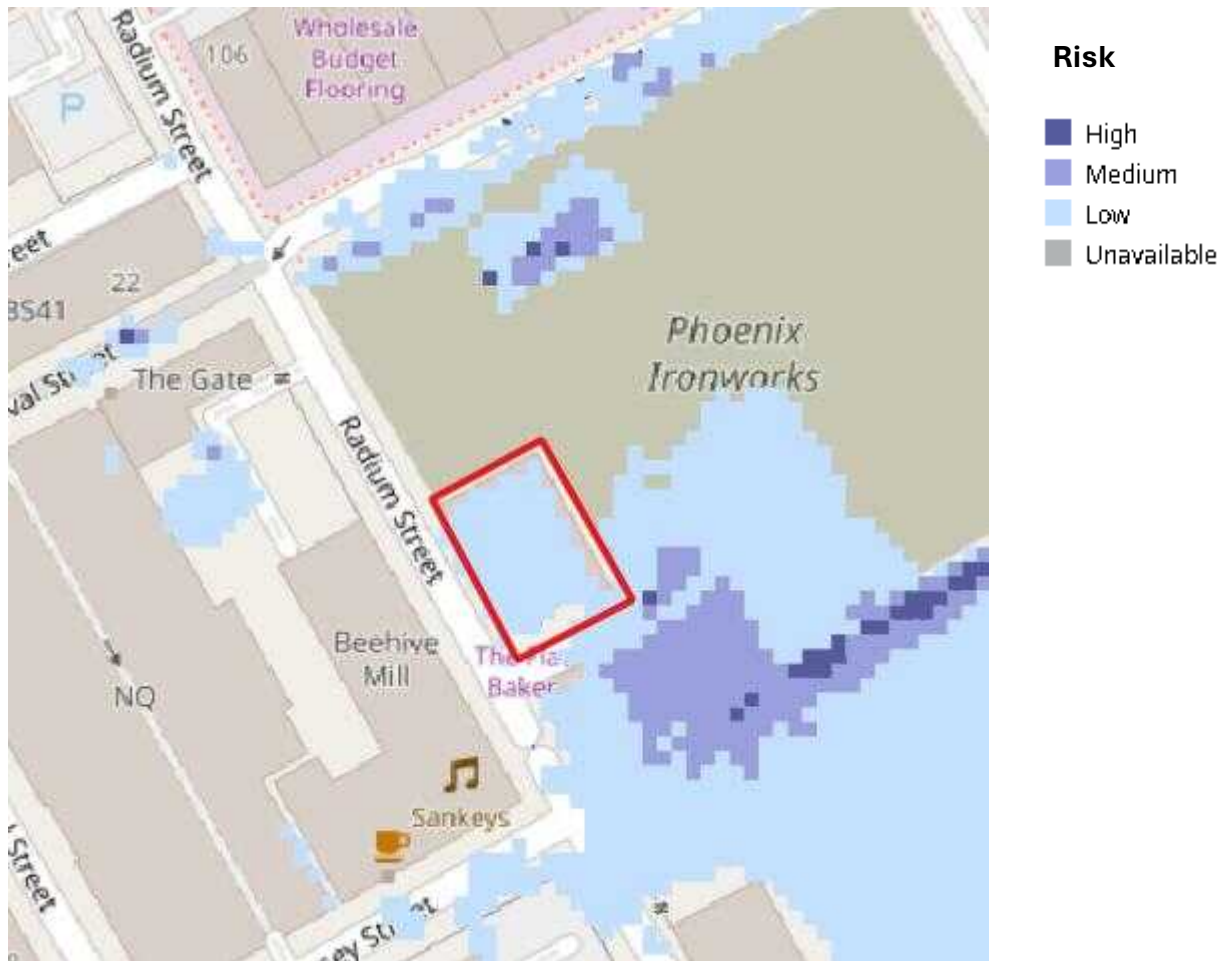
Typology	Secondary (undifferentiated)
----------	------------------------------

Soilscape (England)

Reference	17
Name	SLOWLY PERMEABLE SEASONALLY WET ACID LOAMY AND CLAYEY SOILS
Main Surface Texture Class	LOAMY
Natural Drainage Type	IMPEDED DRAINAGE
Natural Fertility	LOW
Characteristic Semi-natural Habitats	SEASONALLY WET PASTURES AND WOODLANDS MAINLY, BUT NOT EXCLUSIVELY, ON THE UPLAND FRINGE
Main Land Cover	GRASSLAND WITH SOME ARABLE AND FORESTRY
Hyperlink	/Metadata for magic/soilscape_summary.pdf

Extract from Risk of Flooding from Surface Water (RoFSW) Mapping

0.3m depth + Climate Change (2040 to 2060)



APPENDIX C

CONSULTEE CORRESPONDENCE

Colin Crompton

From: wastewaterdeveloperservices@uuplc.co.uk
Sent: 19 July 2024 10:25
To: Sam Shaw
Subject: Pre Development Enquiry for: 23 Radium Street, M4 6AY, Manchester UU Reference Number : 06013039

Good morning Sam,
Pre Development Enquiry for: 23 Radium Street, M4 6AY, Manchester UU Reference Number : 06013039

We have carried out an assessment of your application which is based on the information provided. This pre-development advice on your drainage strategy will be valid for 12 months. Your drainage strategy will need to be reviewed by other competent authorities as part of the planning process, and we advise that you carry out the necessary site investigations to confirm the viability of your proposals.

If your investigations require access to our public sewer network, we ask that you contact our network engineers with a request for an access certificate via our main contact telephone number 0345 6723 723 or refer to the link below:

<https://www.unitedutilities.com/builders-developers/working-near-our-assets/>

Foul Water

Foul flow from this site will be allowed to drain into the public foul water/combined sewer system.

Our preferred point of discharge would be to the 508x762mm diameter public combined sewer within Radium Street located to the West of your proposed development at an unrestricted rate.

If you are able to identify an alternative, more suitable point of discharge, we request that you contact us at your earliest convenience so that we can assess suitability.

In accordance with our infrastructure plans we may ask you to change your point of connection. Therefore please contact us when you are ready to formalise your drainage proposals, we would suggest before you submit for Full Planning.

Surface Water

All surface water flow from the proposed development should drain in-line with the drainage hierarchy, as outlined in Paragraph 80, (Reference ID: 7-080-20150323), of the National Planning Practice Guidance. We also recommend you prioritise the use of multi-functional sustainable drainage systems for the management of surface water in accordance with national planning policy.

Generally, the aim should be to discharge surface run off as high up the following hierarchy of drainage options as reasonably practicable.

This is outlined as follows, in order of priority:

- 1. into the ground (infiltration);**
- 2. to a surface waterbody;**
- 3. to a surface water sewer or highway drain;**
- 4. to a combined sewer.**

For guidance, The [North West SuDS Pro-Forma](#) provides information on the appropriate evidence required at each stage of the hierarchy, to demonstrate how each level has been discounted.

The Lead Local Flood Authority has responsibility for all surface water drainage concerns and their input to your proposal is critical. You should also consider whether it is necessary to discuss your proposal with the Environment Agency, or Internal Drainage Board (if operating in your area).

The Local Planning Authority are the determining authority for any application for planning permission and the appropriate authority for determining cost viability of a proposed drainage scheme, such assessments are

outside of the jurisdiction of United Utilities.

Infiltration

Surface water runoff generated from this development should discharge to the ground via infiltration system where feasible.

A detailed evidence based feasibility assessment must be carried out in line with Chapter 25 of the CIRIA SuDS Manual 2015 to determine whether infiltration is a suitable method of surface water disposal.

Particular attention must be paid to Ground Water Source Protection Zones to ensure that the risk of pollution to these valuable resources is not compromised. Details can be obtained from the government website:

<https://www.gov.uk/guidance/groundwater-source-protection-zones-spzs#find-groundwater-spzs>

If your site is in a Groundwater Source Protection Zone, you should have regard to the Environment Agency's approach to Groundwater Protection. Information on this is available via the link below:

<https://www.gov.uk/government/publications/groundwater-protection-position-statements>

Please note that such a location could have implications for the principle of your development and the need for additional mitigating measures to protect the groundwater environment and public water supply in the detailed design of your site.

Highway Drainage

If an evidence based assessment has been carried out and confirms that infiltration is not feasible, we recommend that you investigate the possibility of draining surface water to the highway drain where this ultimately discharges to a watercourse, by contacting the relevant Highway Authority.

Public Sewer

In accordance with the hierarchy of drainage options within the National Planning Practice Guidance, both discharge to ground via infiltration and discharge to a waterbody should be discounted prior to consideration of discharging surface water to the public sewer system. Evidence should be provided to demonstrate how these have been discounted, as outlined in the North West SuDS pro-forma.

Once evidence is provided as outlined above, United Utilities will consider a connection to the 508x762mm diameter public combined sewer within Radium Street located West of the proposed site at a pass forward flow to be agreed by the Lead Local Flood Authority. United Utilities request that any agreed rate does not exceed 5l/s.

As a Water Company, we have no obligation to accept highway drainage into our public sewer network. However, should your proposals include runoff from highways, we would request that consideration is given to SuDS components that deliver source control are incorporated within the design of the scheme to reduce the volume and frequency of discharges of these flows to the public sewer.

Levels

For low-lying sites, (where the ground level of the site or the level of a basement is below the ground level at the point where the drainage connects to the public sewer), care should be taken to ensure that the property is not at increased risk of flooding. If these circumstances exist, we recommend that you contact us to discuss further. It could affect the detailed design of your site and result in the need to incorporate appropriate mitigating measures in your drainage scheme.

Land drainage / Overland flows / track drainage

United Utilities have no obligation, and furthermore we do not accept land drainage, overland flows or track drainage into the public sewerage network under any circumstances

Existing Wastewater Assets Crossing the Site

We have reviewed our records and can confirm that there does not appear to be any charted public sewers located within the boundary of proposed development. However, due to the accuracy of the records and the public sewer transfer legislation in 2011, not all public sewers are shown on our records so we would ask that you proceed with caution and carry out your own site investigation works. If any uncharted sewers are identified while carrying out your works we would ask that you contact United Utilities at the earliest opportunity so that we can offer guidance and update our records

Existing Water Assets Crossing the Site

It is the developer responsibility to identify utilities on-site. Where clean water assets are shown on our records, we recommend that you contact our Water Pre-Development Team, via the following email address: DeveloperServicesWater@uuplc.co.uk. Further information for this service can be found on our website via the link below:

<https://www.unitedutilities.com/builders-developers/larger-developments/pre-development/water-pre-dev/>

Connection Application

Although we may discuss and agree discharge points and rates in principle, please be aware that you will have to apply for a formal sewer connection. This is so that we can assess the method of construction, Health & Safety requirements and to ultimately inspect the connection when it is made. Details of the application process and the form itself can be obtained from our website by following the link below:

<https://www.unitedutilities.com/builders-developers/wastewater-services/sewer-connections/sewer-connection/>

We recommend that the detailed design should confirm the locations of all utilities in the area and ensure that any proposed drainage solution considers routing and clash checks where required.

If we can be of any further assistance please don't hesitate to contact us further.

I can confirm that we do not have modelled flood risk within the vicinity of the proposed development.

Please note that United Utilities Water Limited (UUV) can only record and check flooding events which are reported to us and we have to comply with our Regulators instructions on the qualification of flooding events.

Our response does not include:

- any sewer flooding events caused by blockages or collapses which are the result of third party actions, natural events or other actions over which UUV has no control and not a facet of sewer capacity; or*
- any historical sewer flooding events that have been resolved as a result of investment in our infrastructure.*

As with all development sites, we recommend you liaise with our water and wastewater engineers by contacting our Developer Services team so the details of your development proposal can be considered further. Details can be found at the following link.

<https://www.unitedutilities.com/services/builders-developers/>

Should you require any further information please do not hesitate to contact me.

Kind Regards



Lewis Barr

Assistant Developer Engineer
Developer Services & Metering
Customer Services
07827286541
unitedutilities.com

If you have received a great service today why not tell us?

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----- Original Message -----

From: wastewaterdeveloperservices@uuplc.co.uk [wastewaterdeveloperservices@uuplc.co.uk]

Sent: 15/07/2024 10:53

To: s.shaw@thelkgroup.com

Subject: RE: Request for Information - 23 Radium St, Manchester, M4 6AY - FRA 24 1066

Good Morning Sam,

Thank you for your application for a pre-development enquiry for the above site. This has now been logged with the engineer, Lewis who will respond on or before 24/07/24.

If you would like to speak to Lewis in the meantime, he can be contacted on 01925 429064.

Kind Regards
Suzanne

----- Original Message -----

From: Sam Shaw [s.shaw@thelkgroup.com]

Sent: 10/07/2024 11:49

To: wastewaterdeveloperservices@uuplc.co.uk

Subject: Request for Information - 23 Radium St, Manchester, M4 6AY - FRA 24 1066

To whom it may concern,

LK Consult Ltd. has been commissioned to undertake a Sustainable Drainage Systems (SuDS) Strategy, for a site located at 23 Radium St, Manchester, M4 6AY, centered at approximate National Grid Reference 385110, 398750.

The area of interest appears to be within Flood Zone 1.

The site location and Wastewater Pre-Development Enquiry form are attached to this email.

To complete the SuDS Strategy, we would be grateful if you could supply us with the following, if available, for the vicinity of the site:

1. Records of any historic flood events and potential sources of flooding from foul and surface water sewers on site and in the area.
2. Any restrictions to discharge into the sewers

If you have any queries, please do not hesitate to get in touch.

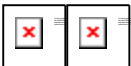
We are, of course, happy to pay your reasonable charge for this service. Please let me know by return what information is available, what the charge will be, and we will pay the relevant fees by debit card as soon as possible.

Any advice or recommendations you may have regarding the potential discharges from the development of this site would also be appreciated.

We will be in contact with all other relevant authorities to get a more complete understanding of the issues in the area.

Regards

Sam



The information contained in this e-mail is intended only for the individual to whom it is addressed. It may contain legally privileged or confidential information or otherwise be exempt from disclosure. If you have received this Message in error or there are any problems, please notify the sender immediately and delete the message from your computer. You must not use, disclose, copy or alter this message for any unauthorised purpose. Neither United Utilities Group PLC nor any of its subsidiaries will be liable for any direct, special, indirect or consequential damages as a result of any virus being passed on, or arising from the alteration of the contents of this message by a third party.

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LKGroup**Unit 29
Eton Hill Road,
Radcliffe,
m26 2zs****FAO:****How to contact us:****United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP****Telephone: 0370 7510101****E-mail: propertysearches@uuplc.co.uk****Your Ref: FRA 24 1066
Our Ref: UUPS-ORD-585286
Date: 11/07/2024****Dear Sirs****Location: 23 Radium Street Manchester**

I acknowledge with thanks your request dated 10/07/2024 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read United Utilities' access statement before you start work to check how it will affect our network. <http://www.unitedutilities.com/work-near-asset.aspx>.

I trust the above meets with your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please [contact us](#).

Yours Faithfully,



Karen McCormack
Property Searches Manager

TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

- This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
- The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
- The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
- This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
- No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
- If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.



The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

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Reho	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
8801	50.45	CO	47.52	225		VC	30.33021	1 in 127	
0503	49	CO	41.32	800		VC	128.4562	1 in 51	
8807	50.07	CO	48.55	225		VC	73.92554	1 in 68	
3800	51.18	CO	47.07	450		CO	71.46572	1 in 103	
8411		BR		150		VC	7.432788		
8701	50.48	CO	44.21	375		BR	40.46651		
0700	50.39	CO	44.9	375		VC	15.26434	1 in 7	
0500	50.22	CO	43.23	600		CO	6.087803		
1701	49.49	CO	46	300		VC	8.944272		
0701		BR		300		VC	31.38471		
8701	50.19	CO	48.6	250		BR	62.45642	1 in 60	
2610	47.54	CO	44.47	450		PVC	1.067193		
1804		BR		470		BR	46.8774		
3608	46.96	CO	43.18	600		CO	39.81206		
2704		CO		400		CO	40.16472		
1400	47	CO	38.81	800		BR	32.24903	1 in 47	
0805		BR		407		BR	9.442676		
2900	51.28	CO	47.88	375		CO	62.76942		
1803		CO		425		BR	9.960375	1 in 117	
9801	50.67	CO	43.33	600		BR	53.7122	1 in 68	
9702	50.32	CO	45.23	450		BR	21.0238		
8604	50.02	CO	44.14	675		BR	6		
0705		CO		508		BR	9.442676		
3605	45.98	UN	37.46088	1500		UN	37.46088		
8605	50.01	CO	44.64	540		BR	7.830952		
3603	47.41	CO	39.86	1350		BR	36.44084	1 in 373	
1001	53.21	CO	46.38	450		BR	41.54875		
8619		VC		150		VC	1.990396	1 in 224	
0503	51.19	CO	48.17	225		BR	26.18145	1 in 19	
3604	46.58	CO	40.14	225		VC	26.25187		
2902	51.78	CO	40.93	600		BR	22.2036		
8806	50.14	CO	45.8	470		BR	37.89899		
3001	52.04	CO	46.2	580		BR	11.40175	1 in 62	
1800	50.45	CO	47.61	500		BR	8.124181	1 in 61	
3602	46.34	CO	43.75	300		BR	27.01851		
3005		VC		100		VC	50.6484		
0710	50.46	CO	45.94	600		BR	15.24757		
9801	51.21	CO	45.93	400		BR	62.26556		
0910		FO		150		GRC	2.286455		
3615	47.4	CO	40.63	1500		VC	16.0003	1 in 102	
3801	51.08	CO	47.14	450		CO	7.112387	1 in 20	
3607	50.94	CO	47.49	150		VC	7.043519		
8511		VC		13		VC	13.18922		
0810		GO		457		UN	0.4877745		
3606	50.94	SW		100		BR	9.942722	1 in 35	
0800	50.65	CO	47.34	525		GRC	3.723262		
3800	50.37	CO	46.46	525		CO	25.63201		
2000	52.34	CO	48.31	880		BR	66.62786		
0711	50.53	CO	46.85	375		CO	2.877241	1 in 41	
0501	50.18	CO	44.29	600		BR	21.47091	1 in 144	
8713	50.3	CO	47.28	225		VC	5.754272		
8602	50.73	CO	43.78	370		VC	24.59675		
0917		GRC		100		GRC	7.847798		
0916		FO		100		GRC	6.639525	1 in 412	
3601	46.68	CO	42.87	800		CO	32.5611	1 in 106	
9402	50.14	CO	46.35	300		VC	21.26029		
9703	50.23	CO	45.28	410		BR	14.74482		
9705	50.24	CO	45.51	600		BR	34.84028	1 in 258	
3903	51.55	CO	48.78	375		VC	3.605551	1 in 15	
8604		VC		410		VC	3.162278		
3609	47.07	CO	44.65	225		VC	20	1 in 26	
0502	50.2	CO	42.32	800		CO	50.58972	1 in 50	
0905	51.32	CO	48.82	470		BR	2.037355		
3611	46.55	CO	40.28	225		VC	13.41841	1 in 103	
3704	46.23	CO	43.83	675		CO	18.62775	1 in 258	
3801	50.45	CO	46.18	525		BR	17.24482	1 in 49	
8703	50.25	CO	44.57	460		BR	42.84182	1 in 88	
0912		VC		100		GRC	3.318789		
8702	50.11	CO	46.68	225		VC	75.26276	1 in 55	
9616		VC		300		VC	5.466758		
3603	46.49	CO	43.09	400		CO	25.83092		
3703	46.41	CO	43.75	675		CO	35.56077	1 in 59	
8491	49.45	CO	46.3	300		CO	22.36068		
8490	46.89	CO	46.7	300		VC	7.283383		
9503	50.2	CO	46.84	300		VC	2.11434		
8619		VC		100		CO	4.24264	1 in 73	
9401	50.58	CO	45.66	800		BR	28.3196	1 in 116	
8801	50.23	CO	46.44	560		BR	96.22354		
2404	45.87	CO	37.7	1500		BR	35.94758		
3804		VC		450		VC	8.953719	1 in 122	
8614		VC		300		VC	31.63168		
1700	50.44	CO	47.11	300		BR	22.86968	1 in 64	
3803	50.52	CO	47.84	550		CO	11.94022		
3622	47.88	CO		450		BR	19.79959		
8607	50.34	CO	44.8	580		VC	3.548394	1 in 28	
8628		VC		100		VC	55.95925	1 in 221	
3701	46.86	CO	44.33	510		VC	61.79727		
1802	50.41	FO	47.46	225		VC	3.028749		
8620		VC		100		BR	39.82323	1 in 32	
0911		GRC		100		CO	69.17107	1 in 151	
8504	50.01	CO	45.46	460		VC	53.85165		
3902	51.78	CO	49.32	375		CO	15.3275	1 in 538	
2901	51.78	CO	49.85	225		VC	9.219544	1 in 79	
0701	50.45	CO	46.42	375		BR	27.79489		
0900	51.43	CO	46.76	500		BR	2.495739	1 in 190	
3702	49.49	CO	44.03	525		VC	18.97587	1 in 120	
3002	52.82	CO	49.92	525		CO	64.53024		
8613		VC		150		VC	41.62712		
3603	52.01	CO	49.01	525		VC	1.958096		
3602	50.78	CO	46.7	525		BR	21.82803	1 in 63	
3403		CO		800		BR	172.3875	1 in 24	
0904		CO		100		BR	59.8625		
1900	51.32	CO	46.27	225		BR	14.81191		
1000	51.1	CO	49.25	225		BR	7.587045		
0902	51.15	CO	44.38	525		VC	45.80343		
3610	47.44	CO		300		VC	16.17017		
8403		VC		100		VC	8.802044		
9621		VC		150		VC	5.703558		
3811		VC		150		VC			
8514		FO		225		VC			
3604		VC		150		VC			
9604		VC		150		VC			
3700	47.03		41.1	300		VC			
9620				150		VC			
8718				150		VC			
9603				150		VC			

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1804		BR		470		BR	46.8774		
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1400	47	CO	38.81	800		BR	32.24903	1 in 47	
0805		BR		407		BR	9.442676		
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9801	50.67	CO	43.33	600		BR	53.7122	1 in 68	
9702	50.32	CO	45.23	450		BR	21.0238		
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1800	50.45	CO	47.61	500		BR	8.124181	1 in 61	
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3005		VC		100		VC	50.6484		
0710	50.46	CO	45.94	600		BR	15.24757		
9801	51.21	CO	45.93	400		BR	62.26556		
0910		FO		150		GRC	2.286455		
3615	47.4	CO	40.63	1500		VC	16.0003	1 in 102	
3801	51.08	CO	47.14	450		CO	7.112387	1 in 20	