
Seqirus, Speke, Liverpool

Flood Risk Assessment and Drainage Strategy

784-B033528

William Tarr Construction

October 2022

Document prepared on behalf of Tetra Tech Limited. Registered in England number: 01959704



TETRA TECH

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1.0 INTRODUCTION

1.1 PURPOSE OF THIS REPORT

Tetra Tech Ltd have been appointed by William Tarr Construction ('the Client') to prepare a Flood Risk Assessment (FRA) & Drainage Strategy in support of a planning application for a proposed new incubator extension on brownfield land at Seqirus, Liverpool (the 'site').

1.2 PROPOSED DEVELOPMENT

The proposed development is a full planning application for a new incubator extension as part of the current Seqirus site in Liverpool, with all matters reserved apart from access. The site area is 1.3ha.

Appendix A includes the proposed site layout.

1.3 REQUIREMENT FOR THE REPORT

The application site is located in Flood Zone 1, however, as it is greater than 1 ha in area then in accordance with the National Planning Policy Framework (NPPF) (Chapter 14)¹ an FRA is required to support the planning application.

The NPPF aims to prevent inappropriate development in areas at risk of flooding and to ensure that, where development is necessary in areas at risk of flooding, it is safe from flooding, does not increase flood risk elsewhere and reduces flood risk where possible². Therefore, it is essential that the additional surface water runoff generated is managed appropriately.

The proposed development is classed a minor development, as the site is an extension to an existing site. The Parliamentary Written Statement requires applications for all major developments to be supported by a surface water strategy and where possible and reasonable, provide sustainable drainage systems (SuDS) in new developments, in order to protect people and property from flood risk. This is supported by Knowsley Borough Council as the Lead Local Flood Authority (LLFA).

¹ NPPF paragraph 163 note 50

² NPPF paragraph 155

1.4 SCOPE OF THIS REPORT

The FRA will consider all potential sources of flood risk including Main Rivers, Ordinary Watercourses (not shown on the Environment Agency's flood maps), surface water and overland flow routes, groundwater, sewers and reservoirs. It will identify the level of risk and, where necessary, propose mitigation to manage flood risk.

The FRA will be undertaken in accordance with the NPPF, Planning Practice Guidance (PPG) (Flood Risk and Coastal Change), Environment Agency guidance and Knowsley Local Plan.

The drainage strategy will identify a surface water drainage strategy for the site such that flood risk to the site and adjoining areas is not exacerbated, as required by the NPPF, and there will be a particular focus on the provision of SuDS on the site.

The drainage strategy will be produced in accordance with the NPPF, the Non-Statutory Technical Standards for Sustainable Drainage, The SuDS Manual (Ciria C753).

The drainage assessment will also identify a foul drainage strategy. A review will be undertaken of the existing foul water drainage systems in the locality, identify potential discharge points, and identify the viability of any proposed connections to public sewerage infrastructure. A pre-development enquiry will be submitted to United Utilities.

1.5 LIMITATIONS OF THE REPORT

This report has been prepared by Tetra Tech Ltd on behalf of William Tarr Construction in connection with the scope of the report as described in Section 1.3 above and taking into account the particular instructions and requirements set out in Tetra Tech's fee proposal and the Client's acceptance. It is not intended for and should not be relied on by any third party and no responsibility is undertaken to any third party.

Tetra Tech Ltd accepts no duty or responsibility (including in negligence) to any party other than William Tarr Construction and disclaims all liability of any nature whatsoever to any such party in respect of this report.

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2.0 SITE DESCRIPTION

2.1 EXISTING SITE

The site, as shown in Figure 1, is located north of Renaissance Way, located between the A562 and A561, in Speke, Knowsley. Central Liverpool is 11km away. The nearest postcode to the site is L24 9PL and the site's central grid reference is SJ 43892 84435.

The site covers 1.3ha, however the extension covers 0.11ha and it is currently covered by a car park. It is bounded by North Road to east, Renaissance Way to the south, Arriva bus depot to the west and a trainline to the north.

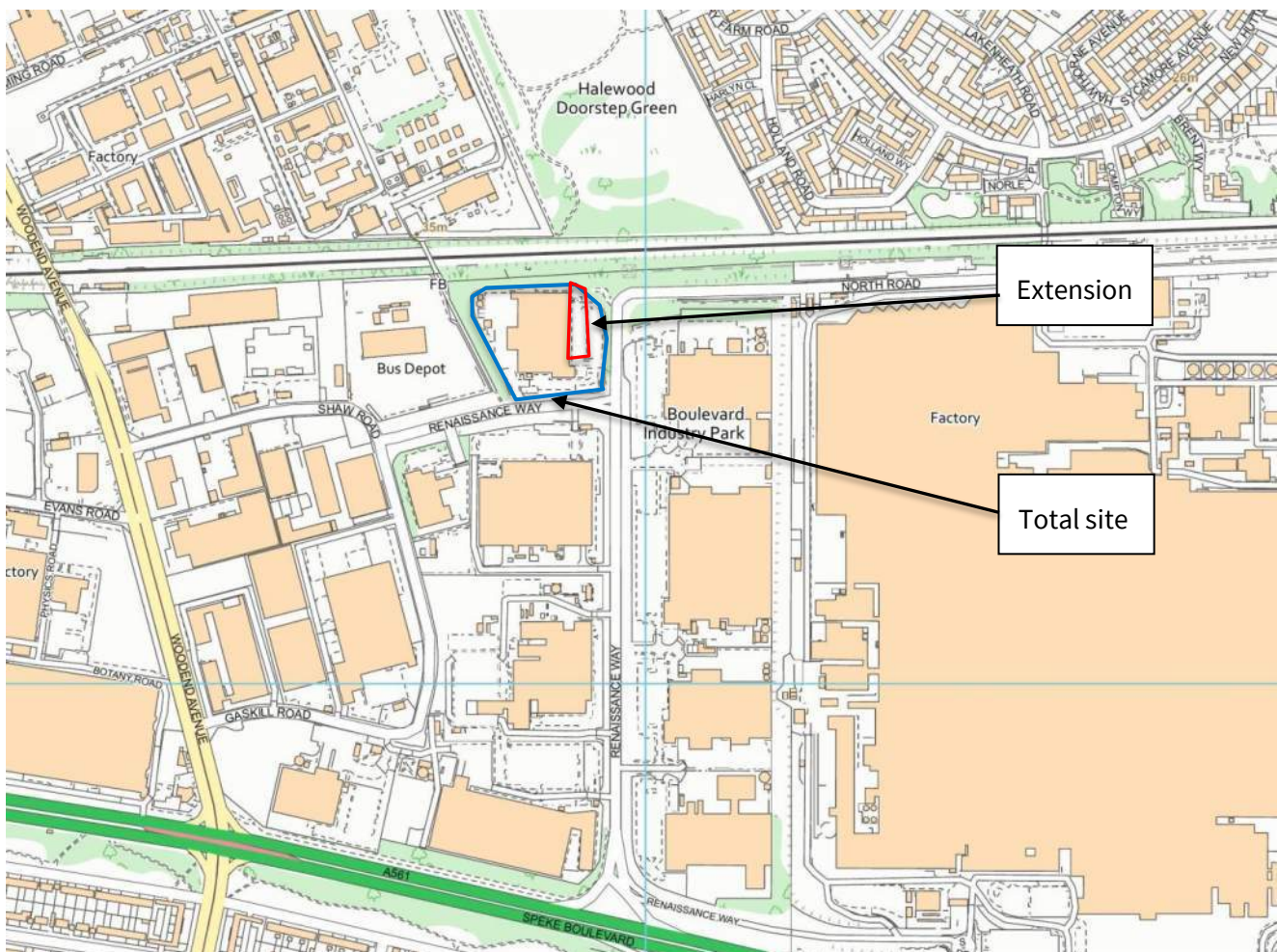


Figure 1. Site Location Plan³

³ © Crown copyright and database rights [2021] Ordnance Survey 0100031673

2.2 EXISTING DRAINAGE

2.2.1 Main Rivers

There are no main rivers near the site. The nearest watercourse to the site is an unnamed ordinary watercourse which runs 1.6km away from the site, which flows south into the River Mersey. River Mersey is a main river and it is tidal at this location.

2.3 SEWERS AND DRAINS

Sewer records obtained from United Utilities indicates that there is a combined sewer along Renaissance Way (the road south of the site). A copy of the United Utilities sewer records is contained within Appendix B.

2.4 GROUND CONDITIONS

2.4.1 Soil

Defra's online 'Magic' mapping indicates that the site is underlain by 'Slowly Permeable Seasonally Wet Slightly Acid But Base-Rich Loamy and Clayey Soils'.

2.4.2 Geology

Based on a review of British Geological Survey (BGS) online mapping, the site is underlain by Devensian Till. This is above Chester Formation (Sandstone).

The BGS boreholes nearby record brown clay, pebble, red sandstone and grey sandstone.

2.4.3 Hydrogeology

Defra's 'Magic' mapping indicates that the sandstone is classified as a Principal aquifer. These aquifers provide significant quantities of drinking water and water for business need and may also support rivers, lakes and wetlands.

The Till is classified as a Secondary (undifferentiated) aquifer. These are where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

This site is not located in a Source Protection Zone (SPZ).

3.0 FLOOD RISK

3.1 FLUVIAL RISK

A floodplain is the area that would naturally be affected by flooding if a river rises above its banks or is inundated by the sea (coastal or tidal flooding). In England, floodplains are divided into flood zones for planning purposes. These show the extent of the natural floodplain area at risk of inundation if there were no flood defences or certain other manmade structures and channel improvements. They are divided as follows:

- Flood Zone 1 is land assessed as having an annual probability of flooding of less than 1 in 1000 (0.1%).
- Flood Zone 2 is land assessed as having an annual probability of flooding of between a 1 in 1000 (0.1%) and 1 in 100 (1%).
- Flood Zone 3 is land assessed as having an annual probability of flooding of 1 in 100 or greater (1%).

The Environment Agency's Flood Map for Planning, shown as Figure 2, indicates that the site is located entirely within Flood Zone 1 and therefore at low risk of fluvial flooding from main rivers.

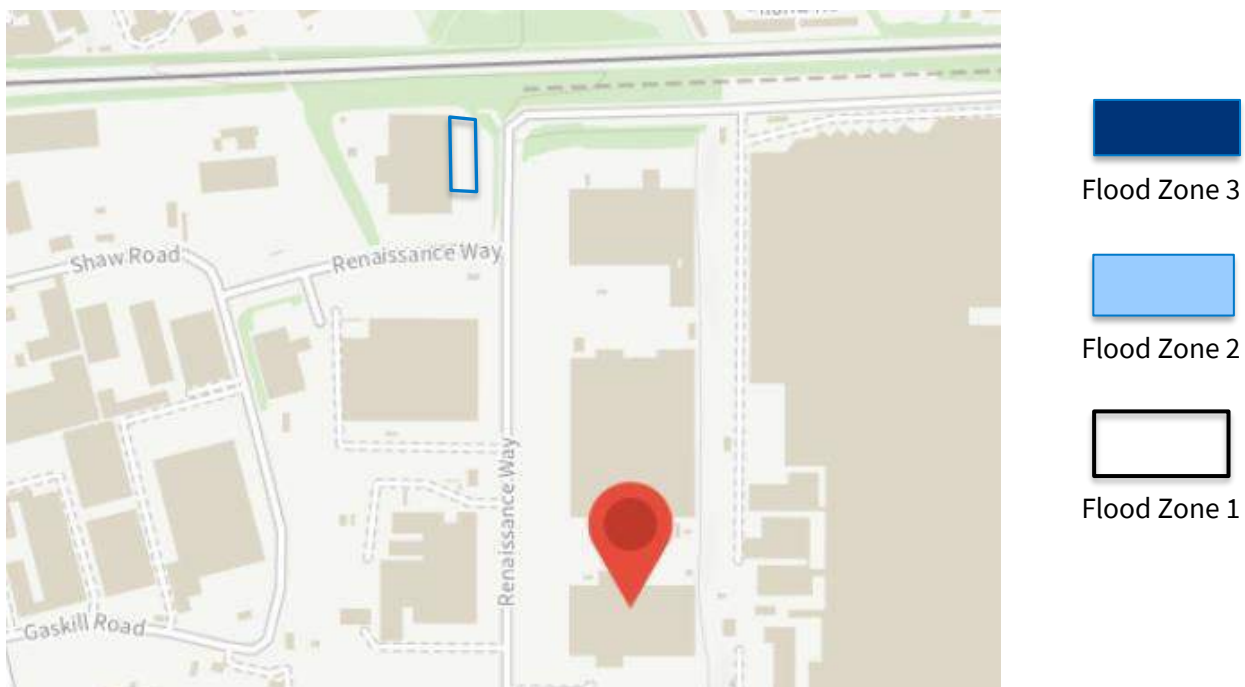


Figure 2. Environment Agency's Flood Map for Planning (August 2021)

The Knowsley and Sefton Metropolitan Borough Council SFRA (2009) states that there have been no incidents of fluvial flooding, therefore the risk is considered to be low.

3.2 SURFACE WATER AND OVERLAND FLOWS

Surface water flooding can occur during high intensity rainfall events as sheet runoff from fields or hard paved areas. It is particularly prevalent in areas with significant hard standing or poorly permeable soils (i.e., clay). This is because the grounds capacity for infiltration is reduced. In addition, the inability to enter local drainage systems also contributes to risk from this source. The risk of surface water flooding is divided as follows, as defined by the Environment Agency:

- Very low risk means that the annual probability of flooding is less than 1 in 1000 (<0.1%).
- Low risk means that the annual probability of flooding is between 1 in 1000 (0.1%) and 1 in 100 (1%).
- Medium risk means that the annual probability of flooding is between 1 in 100 (1%) and 1 in 30 (3.3%).
- High risk means that the annual probability of flooding is greater than 1 in 30 (3.3%).

The Environment Agency's Flood Risk from Surface Water Map, shown as Figure 3, indicates that there is a risk of surface water flooding toward the south part of the extension. The Knowsley and Sefton Metropolitan Borough Council SFRA (2009) notes that a number of properties reported surface water flooding relating to surface and foul water sewers; and surface water incidents are predominantly associated with highway flooding. However, this doesn't affect the site, therefore it is at low risk of surface water flooding.



Figure 3. Environment Agency Surface Water Flood Risk Map (April 2021)

3.3 GROUNDWATER FLOODING

Groundwater flooding occurs when groundwater emerges at the surface under conditions where the 'normal' range of groundwater levels and groundwater flows is exceeded.

The Knowsley and Sefton Metropolitan Borough Council SFRA (2009) states that there could be issues with groundwater levels, as the water table is rising. However, there has not been no incidents of groundwater flooding, therefore the risk is considered to be low.

3.4 SEWER FLOODING

Sewer flooding occurs when intense rainfall overloads the sewer system capacity and/or when sewers cannot discharge properly to watercourses due to high water levels. Sewer flooding can also be caused when problems such as blockages, collapses or equipment failure occur in the sewerage system.

The Knowsley and Sefton Metropolitan Borough Councils SFRA (2009) states that, due to the large number and age of culverts in Liverpool, the condition of culverts is a key issue, including exceptional storm rainfall due to climate change, and culvert becoming blocked which require regularly maintains. However, there is no culverts close to the site, therefore the risk is considered to be low.

3.5 RESERVOIR FLOODING

Although the probability of a catastrophic dam failure is considered to be extremely low, the consequence of such an event would be severe. The Environment Agency's Extent of Flooding from Reservoirs Map indicates that the site is not located within the reservoir flood extent.

3.6 SUMMARY OF FLOOD RISK

Based on the above assessment overall, the site is at low risk of all other types of flooding.

It will be essential to ensure that no increase in flood risk occurs downstream of the site or on adjacent areas as a result of this development. This is discussed in more detail in Section 4.

4.0 DEVELOPMENT PROPOSALS

4.1 PROPOSED DEVELOPMENT

The proposed development is a full planning application for a proposed new incubator extension at the Seqirus site in Liverpool with all matters reserved apart from access.

4.2 SEQUENTIAL AND EXCEPTION TESTS

One of the aims of the NPPF is to steer development away from zones of high flood risk towards Flood Zone 1. As a residential development, the proposed development is classified as 'Less Vulnerable' in accordance with Table 2 of the PPG (Flood Risk & Coastal Change). Given that the site is entirely in Flood Zone 1, the proposed development is considered sequentially acceptable in flood risk terms, as indicated in Table 3 of the PPG (Flood Risk & Coastal Change). The Exception Test is not required.

4.3 LOCAL PLANNING POLICY

In the Knowsley Local Plan (2016), it notes that climate change has the potential to increase the flood risk by raising sea levels and leading to a greater occurrence of extreme rainfall events. The local plan is required to take account of these risks and set out policies for managing surface water and promoting the use of SuDS. The below ensures that flood risk is managed properly:

- New development should be located in areas of low probability of flooding. New development in areas of medium or high flood risk will only be permitted if evidence has been submitted demonstrating that the development could not be practicably located in areas of lower flood risk; and the exception test has been complied with.
- New development should include flood mitigation measures to manage flood risk associated with, or caused by the development. These measures should be derived from the SFRA, relevant FRA or local strategy for flood management. These measures should contribute to the biodiversity of the borough unless it can be demonstrated that this would not be technically feasible; and incorporate sustainable drainage system.
- The drainage of new development should be designed to reduce surface water run-off rates to those associated with greenfield site by treating at its source. The chosen method of implementation should take into account site size, ground contamination or condition, and potential damage to adjacent buildings or sites.

4.4 DEVELOPMENT & FLOOD RISK

4.4.1 Flood Risk to The Development

As assessed in Section 3, the site is considered to be at low risk of all types of flooding

5.0 SURFACE WATER MANAGEMENT

5.1.1 Drainage Hierarchy

In order to ensure that surface water runoff from a developed site does not increase the risk of flooding, in accordance with national and local policy, the management of runoff should be considered via a sequential approach, in line with Building Regulations⁴ (Part H) (2010). The following options for the disposal of runoff have been considered at a high level, in order of preference:

1. Water reuse through (i.e., through rainwater harvesting);
2. Discharge to an adequate soakaway or some other adequate infiltration system (i.e. to ground);
3. Discharge to a watercourse; and
4. Discharge to a sewer (surface water before combined).

5.1.1.1 Water reuse

Rainwater harvesting would reduce water use from mains supply for the site and will minimise runoff volumes from the site. This option may be appropriate for the site and should be considered however, it must be used in conjunction with additional discharge points within the hierarchy. Rainwater harvesting is not an appropriate form of storm water attenuation as the discharge is dependent on use of water within the development which may result in exceeded capacity during multiple subsequent rainfall events.

5.1.1.2 Discharge to ground

Given the site's underlying geology, as described in Section 2.3 above is not feasible within the site.

5.1.1.3 Discharge to watercourse

Given that the nearest watercourse is over third party land, discharge to watercourse isn't feasible.

5.1.1.4 Discharge to sewer

There is a combined sewer south of the site, therefore discharge to sewer is feasible.

⁴ HM Government (2010), *The Building Regulations 2010, Approved Document H (Part H3)*

An existing surface water system exists within the red line boundary. Discharge to existing surface water network is the most feasible solution.

5.1.2 Impermeable Areas

The site can be identified as brownfield. The post-development area has been calculated using the proposed site layout.

5.1.3 Existing and Proposed Discharge Rates

As per clause 5.1.2 of this report the site is identified as brownfield. The existing peak run off rates from the site can be calculated with the help of Modified Ration Method.

The following discharge rate is calculated for the extension area only. Existing roof drainage that is affected by the works will be redirected to the existing network with the same discharge rate.

Modified Ration Method:

$$Q=2.78CiA$$

Where:

Q = design event peak rate of runoff(l/s)

C = non-dimensional runoff coefficient which is dependent on the catchment characteristics

$C = C_v \times C_r$

Where: C_v = volumetric runoff coefficient C_r = dimensionless routing coefficient

i = rainfall intensity for the design return period (in mm/hr) and for a duration equal to the 'time of concentration' of the network.

A = total catchment area being drained (ha),

2.78 is a conversion factor to address the rainfall unit being in mm/hr

$C = 1$ i = 50mm/Hr A = 0.11ha

$Q = 2.78 \times 1 \times 50 \times 0.11 = 15.29\text{l/s}$

As per clause 4.2 on page 9 of Knowsley Councils 'Sustainable Drainage & Surface Water Management - Technical Guidance for Developers', there will be minimum betterment of 50%.

$$Q = 15.29 \times 0.5 = 7.645\text{l/s}$$

The proposed discharge rate was agreed in the pre-app engagement session held with LLFA (Knowsley Council). Refer to Appendix C for LLFA response.

5.1.4 Proposed Surface Water Drainage Strategy

A gravity surface water network is proposed to collect the surface flows from the proposed extension.

Surface water flows will be collected via rainwater pipes which then will be discharged via carrier surface water pipes or directly to the proposed crates attenuation tank which is acting as attenuation feature in this development.

An orifice plate flow control will be introduced downstream of the attenuation feature to restrict the flows prior discharging to the existing on-site surface water network.

The surface water system will accommodate flows on-site up to and including the 1 in 100 year critical duration event, with an allowance for climate change.

The surface water network will be designed in accordance with BS EN 752 and Sewerage Sector Guidance v2.2.

Since the site is brownfield a 50% betterment has been applied of the existing peak run off rates. Site levels are not proposed to change nor are any other significant changes to the existing site layout proposed. Therefore, it is expected any overland exceedance routes to remain as existing.

The finish floor level of the extension should be designed to at minimum same level as the existing building.

Refer to Appendix D for the proposed drainage strategy.

The required surface water attenuation has been calculated via source control tool in Microdrainage. The Microdrainage output is presented in Appendix E.

5.1.5 Surface Water Management During Construction

Details of how surface water runoff and potential pollution will be managed during the construction phase will be provided by the appointed Contractor and outlined in their Construction Environmental Management Plan (CEMP) or similar.

6.0 SUDS & DRAINAGE SYSTEMS MAINTENANCE

6.1 INTRODUCTION

The maintenance of drainage, SuDS, attenuation and separation features are vital in ensuring that they work as efficiently as intended. The maintenance of the assets will be undertaken in three phases as described below.

6.2 CONSTRUCTION

During construction, it is the responsibility of the Principal Contractor to ensure the relevant management and maintenance requirements outlined below are implemented. The Principal Contractor will retain responsibility during construction up to the handing over.

6.3 POST CONSTRUCTION

Once completed and handed over from the principal contractor, the client will employ a management company to routinely maintain the drainage infrastructure.

6.4 TYPICAL MAINTENANCE ACTIVITIES

Table 1 below illustrated the maintenance tasks and the recommended Frequency as per proposed SuDs element.

Table 1. Example Maintenance Tasks and Frequency

SuDS Feature	Maintenance Task	Recommended Frequency
Pipes	- Remove debris from catchment surface - Remove sediment from pre-treatment structures - Inspect inlets and outlets - Survey inside of the pipes	- Every 12 months - Every 12 months - Every 12 months - Every 5 years
Underground Attenuation Tank	- Remove debris from catchment surface - Remove sediment from pre-treatment structures - Inspect inlets and outlets	- Every 12 months - Every 12 months - Every 12 months

	• Survey inside of the tank	• Every 5 years
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7.0 FOUL DRAINAGE

7.1 PROPOSED FOUL STRATEGY

Foul flows from the proposed extension are proposed to discharge via a gravity pipe network to an existing private foul network that located along the southern side of the existing building. The exact foul flows were unknown at the time this report was written.

A pre-development has been submitted to United Utilities. There is a 450mm combined sewer system on Shaw Road, which located south of the site.

United Utilities has requested that any agreed flow rate should does not exceed 5.5 l/s.

United Utilities' response is contained in Appendix F.

8.0 CONSENTS REQUIRED

8.1 SECTION 106

A Section 106 Part 1 of the Water Industry Act 1991 application will be required to United Utilities for the new foul flows. It is anticipated that no works will take place direct to UU public sewer. The connection will be made on the private foul water network that is located on site.

8.2 SECTION 104

If any sewers on the development site are to be adopted an application will be required to United Utilities under Section 104 of the Water Industry Act 1991. The application should be made following completion of the detailed drainage design.

9.0 CONCLUSIONS & RECOMMENDATIONS

9.1 CONCLUSIONS

This report has identified the following conclusions:

- The application site is 1.3ha, with the proposed extension area is approximately 0.11ha.
- The site falls with Flood Zone 1 and is at low risk of flooding from all sources.
- The site can be identified as brownfield. The existing peak run off rates from the site were calculated with the help of Modified Ration Method.
- A betterment of 50% has been applied as well in accordance with Knowsley Councils.
- The agreed proposed discharge rate is $Q = 7.645 \text{ l/s}$.
- A gravity network is proposed to collect the surface flows from the proposed extension. Surface water flows will be collected via rainwater pipes which then will be discharged via carrier surface water pipes or directly to the proposed crates attenuation tank.
- An orifice plate flow control will be introduced downstream of the attenuation feature to restrict the flows prior discharging to the existing on-site surface water network.
- Site levels are not proposed to change nor are any other significant changes to the existing site layout proposed. Therefore, it is expected any overland exceedance routes to remain as existing.
- The finish floor level of the extension should be designed to at minimum same level as the existing building.
- The proposed SuDS measures will require future maintenance in order to ensure long term effective operation.
- Foul flows from the proposed extension are proposed to discharge via a gravity pipe network to an existing private foul network that located along the southern side of the existing building. The exact foul flows were unknown at the time this report was written.
- A Section 106 Part 1 of the Water Industry Act 1991 application will be required to United Utilities for the new foul flows. It is anticipated that no works will take place direct to UU public sewer. The connection will be made on the private foul water network.

9.2 RECOMMENDATIONS

Based on the above conclusions, the following recommendations are made:

- Further coordination is required with the appointed Architect and Structural Engineer regarding the existing building Rainwater pipes and surface water run that are located on the proposed extension footprint. Existing rainwater down pipes have to intercepted at the proposed extension roof level and redirected by a syphonic channel which will be discharge to its existing outfall.
- Further CCTV survey is required to identify unknown flows to the existing surface water system.
- A comprehensive inspection and maintenance schedule shall be provided and implemented to ensure that the drainage system is maintained in a good operational manner.
- A Section 106 Part 1 of the Water Industry Act 1991 application will be required to United Utilities for the new foul flows.

APPENDICES

APPENDIX A – PROPOSED SITE LAYOUT

DRAFT ISSUE

General Notes

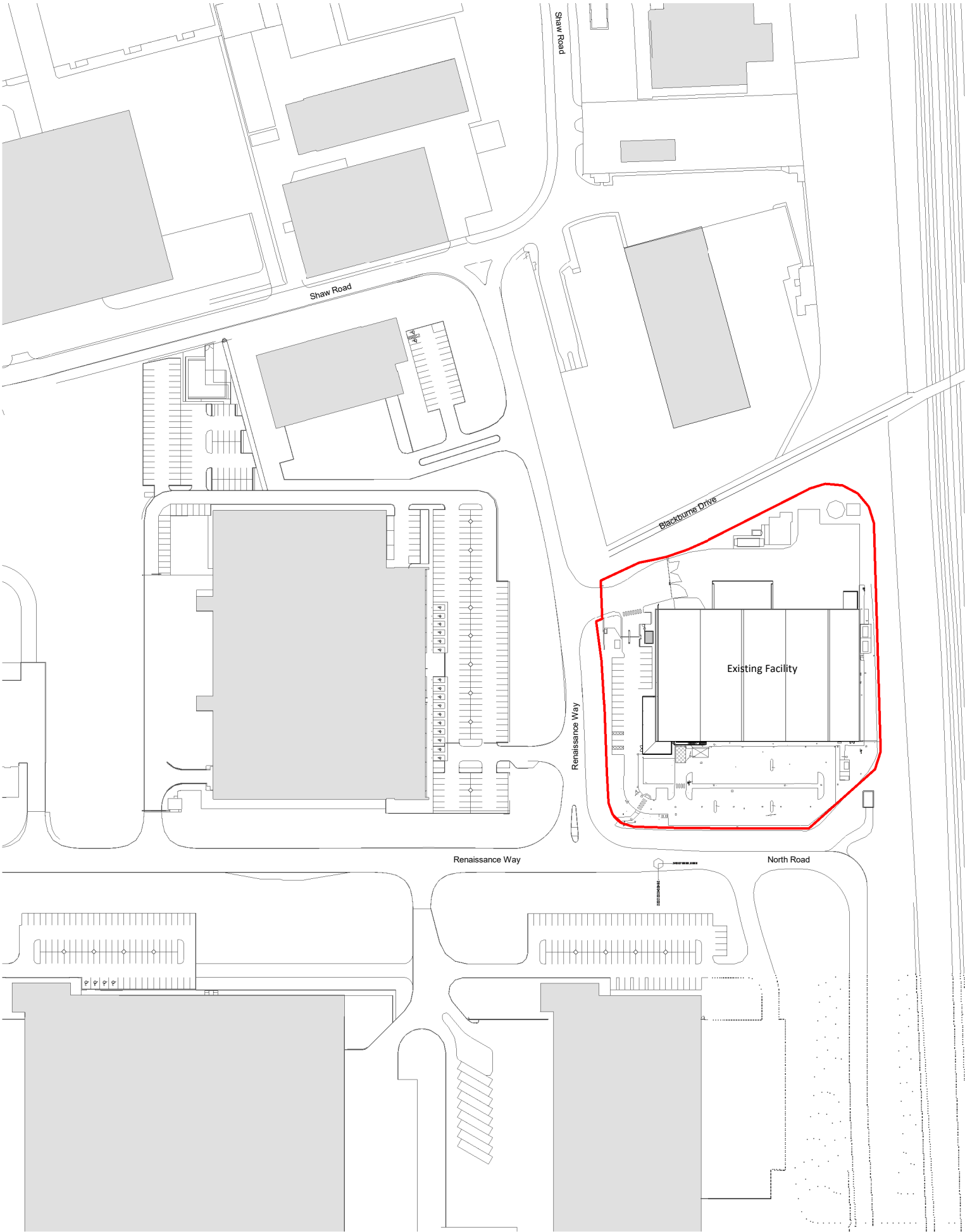
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LEGEND

Planning Application Boundary



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Status				
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Seqirus
Project:
Seqirus Site 6 - Incubator Extension
Sheet Name:
Site Location Plan

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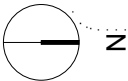
LEGEND

Planning Application Boundary



Site Plan as Proposed

Scale: 1:500



Rev.	Description	Date	ISS	APP
Scale	1:500 @ A1			
Status	S2 Information			
Drawn By	MC			
Checked By	RCT			
Date	2022.07.28			

Client:

Seqirus

Project:

Seqirus Site 6 - Incubator Extension

Sheet Name:

Proposed Site Plan

Project No. Orig. Zone Level Type Role CIs Dwg No. Rev
21027-FRA-XX-00-DR-A-PL-2100

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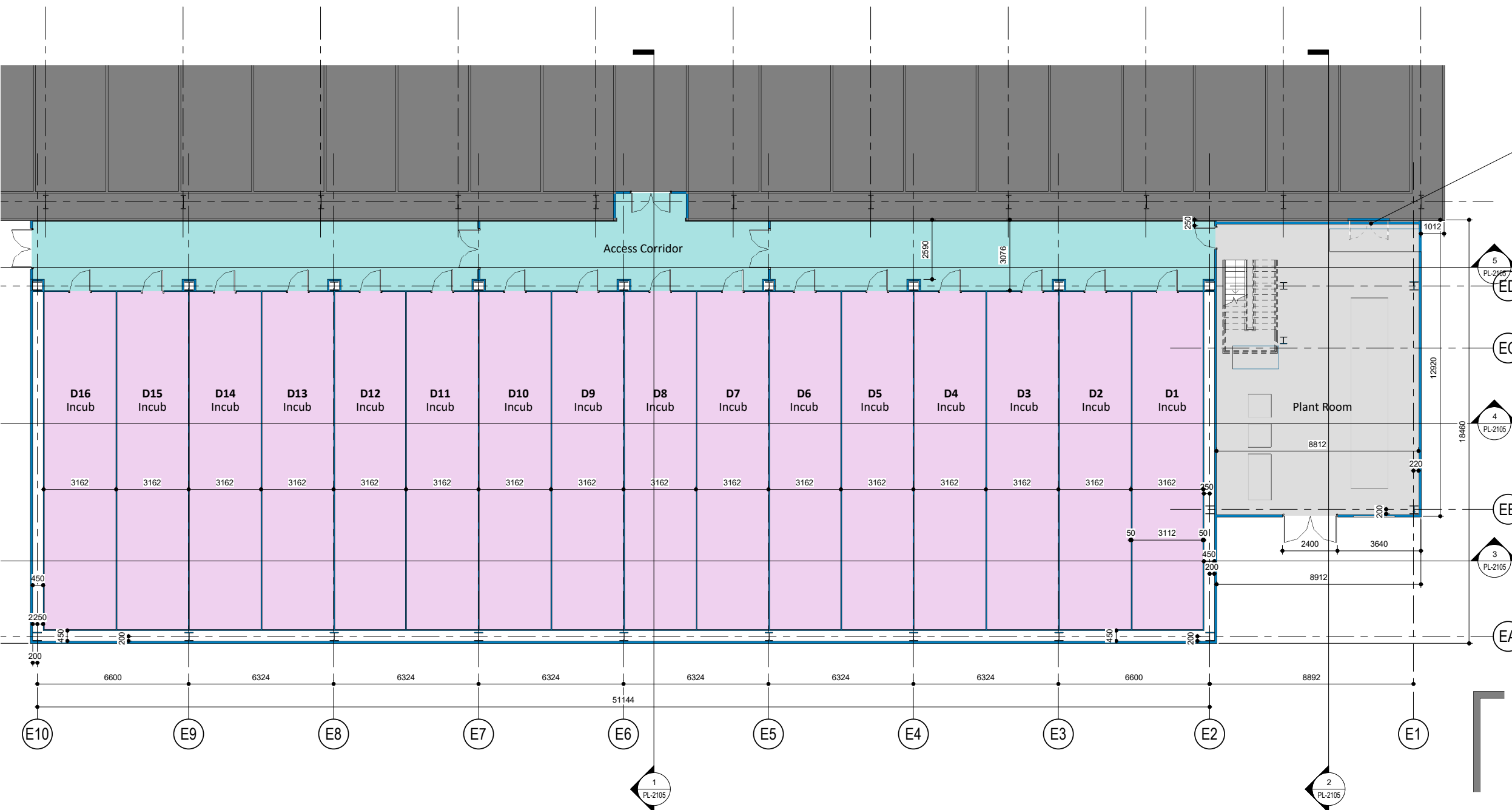
KEYS:

- | | |
|---|---|
|  | Existing walls |
|  | Walls to be demolished |
|  | Proposed walls |
|  | Doors / windows / stairs etc. to be demolished |
|  | existing structural joints in ground floor slab |

Areas Colour Key:

- Plant Room
- Incubators
- Access Corridor
- Services Distribution
- Existing Building

Existing escape door to be over clad. All internal signage and fire strategy to be reviewed accordingly.



Rev.	Description	Date	ISS	APP
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Scale	As indicated @ A1
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Client:	

Seqirus

Project:
Seqirus Site 6 - Incubator Extension

Sheet Name:
Proposed 00 Plan

Project No. Orig. Zone Level Type Role CIs Dwg No. Rev
21027-FRA-XX-00-DR-A-PL-2101

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Proposed Ground Floor Plan

Scale: 1 : 100

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KEYS:

- Existing walls
- Walls to be demolished
- Proposed walls
- Doors / windows / stairs etc. to be demolished
- existing structural joints in ground floor slab

Areas Colour Key:

- Plant Room
- Incubators
- Access Corridor
- Services Distribution
- Existing Building

Materials Key

Rev.	Description	Date	ISS	APP
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Scale	As indicated @ A1
Status	S2 Information
Drawn By:	MC
Checked By	RCT
Date	2022.07.28

Seqirus

Project: Seqirus Site 6 - Incubator Extension

Sheet Name:

Proposed 01 Plan

Project No.	Orig.	Zone	Level	Type	Role	Cls	Dwg No.	Rev
21027-FRA-XX-01-DR-A-PL-2102								

fletcher|rae
Architects | Master Planners | Designers
Hill Quays, 5 Jordan Street, Manchester, M15 4PY

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f +44 (0) 161 242 1141
w www.fletcher-rae.com
e info@fletcher-rae.com

Proposed Level 01 Plan

Scale: 1 : 100

DRAFT ISSUE

General Notes

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All site dimensions shall be verified by the Contractor on site prior to commencing any works.

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KEYS:

- Existing walls
- Walls to be demolished
- Proposed walls
- Doors / windows / stairs etc. to be demolished
- existing structural joints in ground floor slab

Areas Colour Key:

- Plant Room
 - Incubators
 - Access Corridor
 - Services Distribution
 - Existing Building
- Materials Key

Rev.	Description	Date	ISS	APP
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Scale
Status
Drawn By
Checked By
Date
Client:

As indicated @ A1
S2 Information
MC
RCT
2022.07.28

Seqirus

Project:
Seqirus Site 6 - Incubator Extension

Sheet Name:
Proposed Roof Plan

Project No. Orig. Zone Level Type Role CIs Dwg No. Rev
21027-FRA-XX-RL-DR-A-PL-2103
fletcher|rae
Architects | Master Planners | Designers
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e info@fletcher-rae.com

Proposed Roof Plan

Scale: 1 : 100

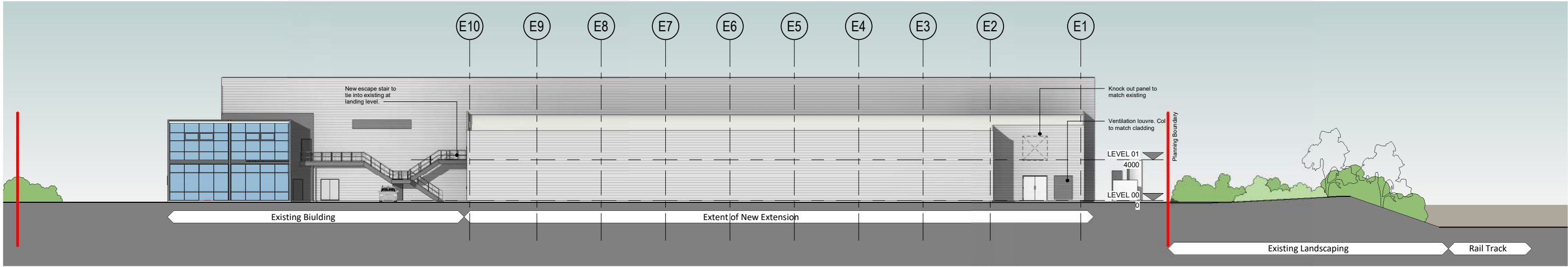
DRAFT ISSUE

General Notes

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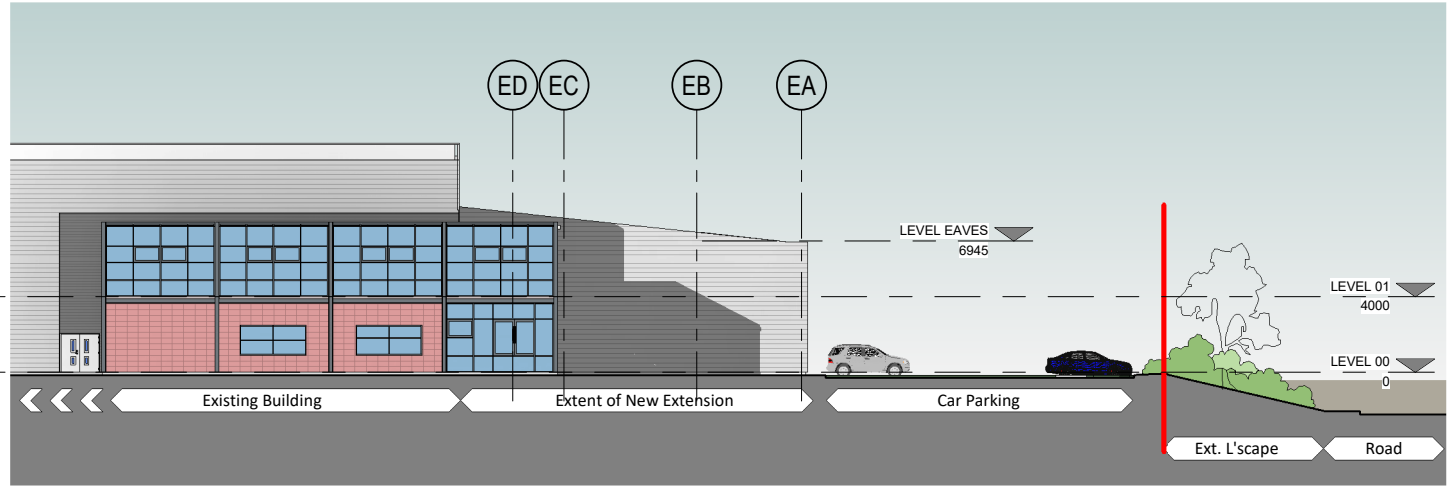
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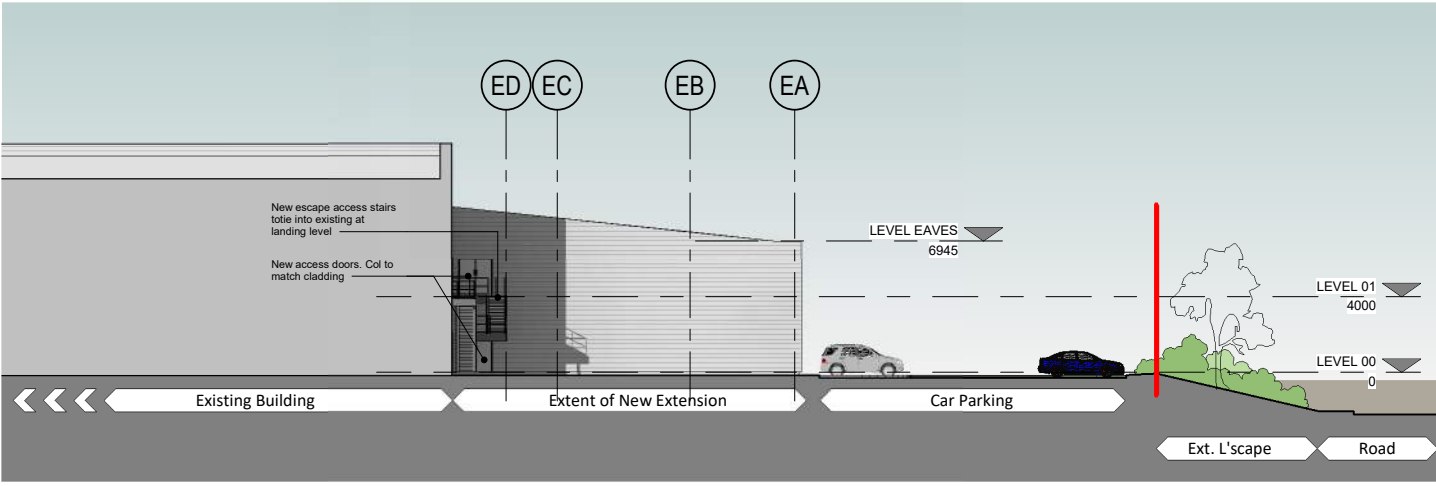
Proposed East Elevation

Scale: 1 : 200



Proposed South Elevation (viewed from site boundary)

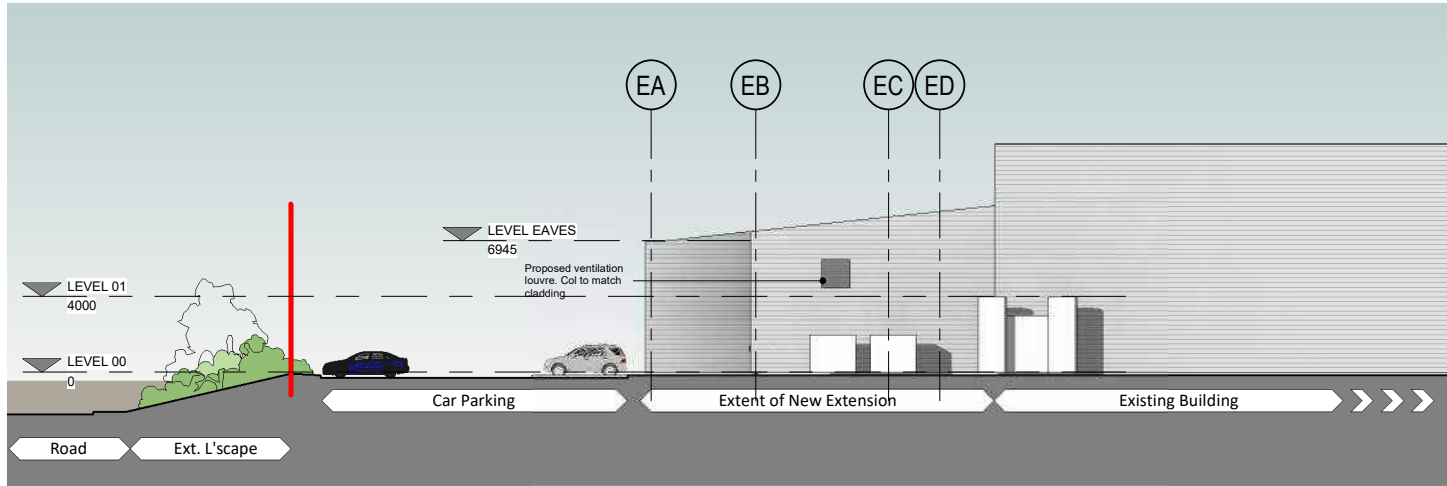
Scale: 1 : 200



Proposed South Elevation

Scale: 1 : 200

Materials Key



Proposed North Elevation

Scale: 1 : 200

Rev.	Description	Date	ISS	APP
Scale	1 : 200 @ A1			
Status	S2 Information			
Drawn By	MC			
Checked By	RCT			
Date	2022.07.28			
Client:	Seqirus			
Project:	Seqirus Site 6 - Incubator Extension			
Sheet Name:	Proposed Elevations			
Project No.	21027-FRA-XX-ZZ-DR-A-PL-2104			
Orig.				
Zone				
Level				
Type				
Role				
Cl				
Dwg No.				
Rev				
fletcher rae				
Architects Master Planners Designers				
Hill Quays, 5 Jordan Street, Manchester, M15 4PY				
t	+44 (0) 161 242 1140			
f	+44 (0) 161 242 1141			
w	www.fletcher-rae.com			
e	info@fletcher-rae.com			

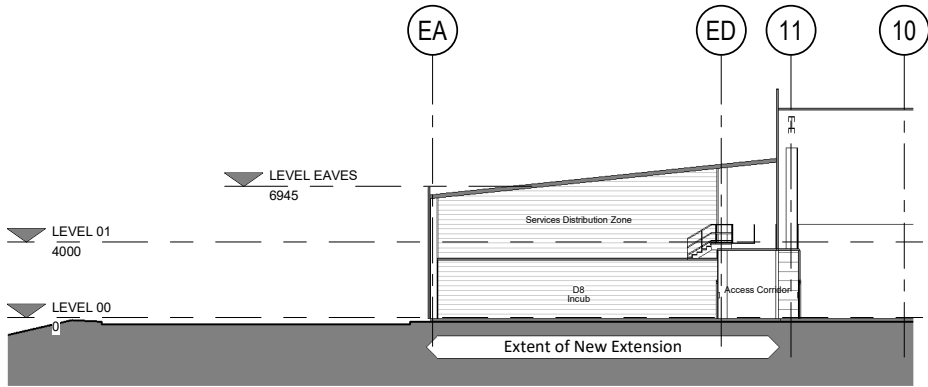
DRAFT ISSUE

General Notes

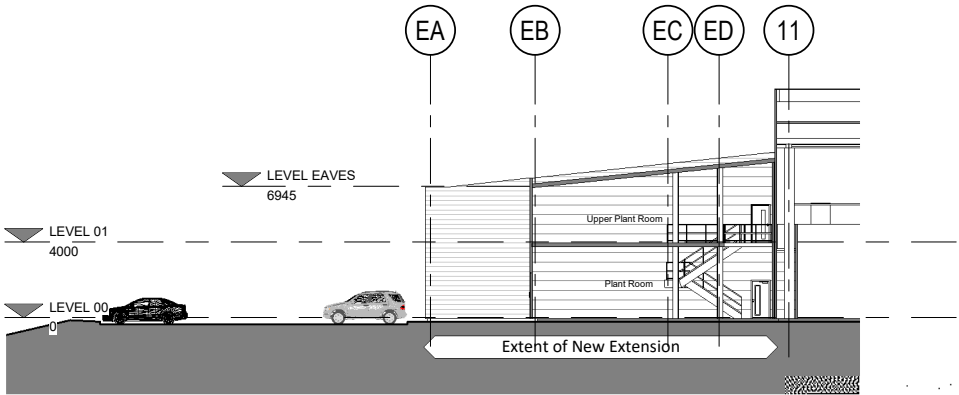
Do not scale from this drawing. Only work to written dimensions.

All site dimensions shall be verified by the Contractor on site prior to commencing any works.

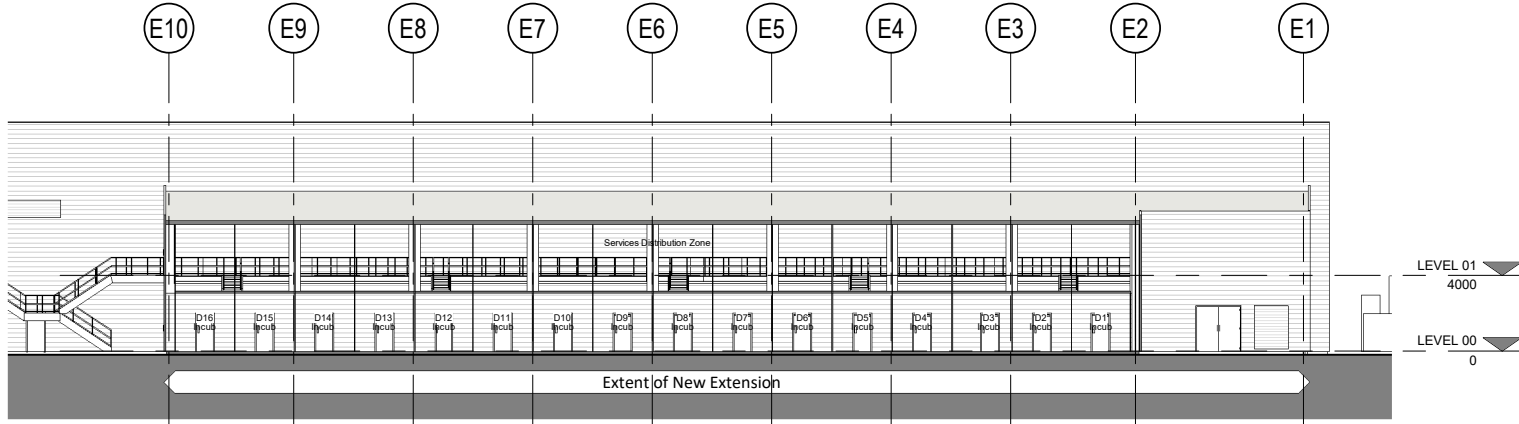
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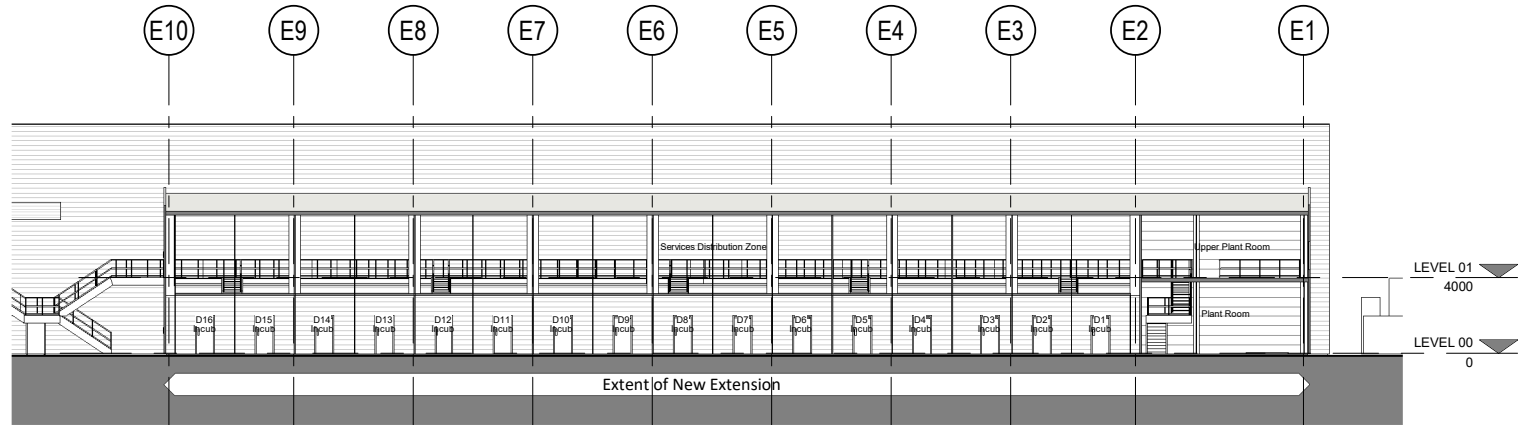
Section 1-1
Scale: 1 : 200



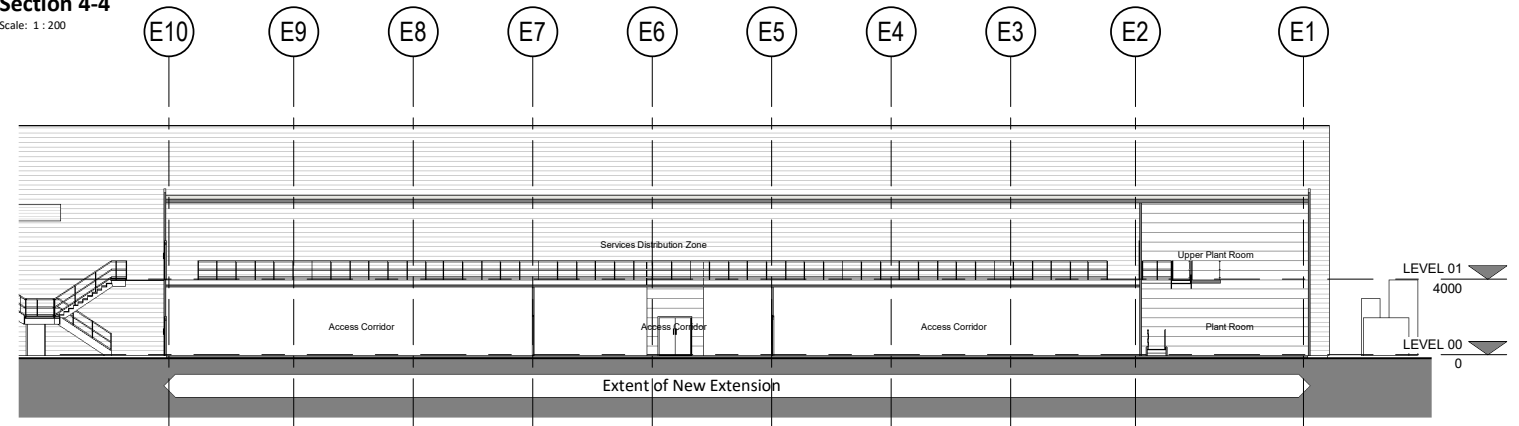
Section 2-2
Scale: 1 : 200



Section 3-3
Scale: 1 : 200



Section 4-4
Scale: 1 : 200



Section 5-5
Scale: 1 : 200

Rev.	Description	Date	ISS	APP
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Scale: 1 : 200 @ A1

Status: S2 Information

Drawn By: MC

Checked By: RCT

Date: 2021.07.28

Client: Seqirus

Project: Seqirus Site 6 - Incubator Extension

Sheet Name:

Proposed Sections

Project No. Orig. Zone Level Type Role CIs Dwg No. Rev
21027-FRA-XX-ZZ-DR-A-PL-2105

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APPENDIX B – UNITED UTILITES SEWER RECORDS

Katharina Cameron

3
Sovereign Square,
Leeds,
LS1 4ER

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: Seqirus
Our Ref: UUPS-ORD-421005
Date: 11/08/2022**

Dear Sirs

Location: Seqirus

I acknowledge with thanks your request dated 08/08/2022 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

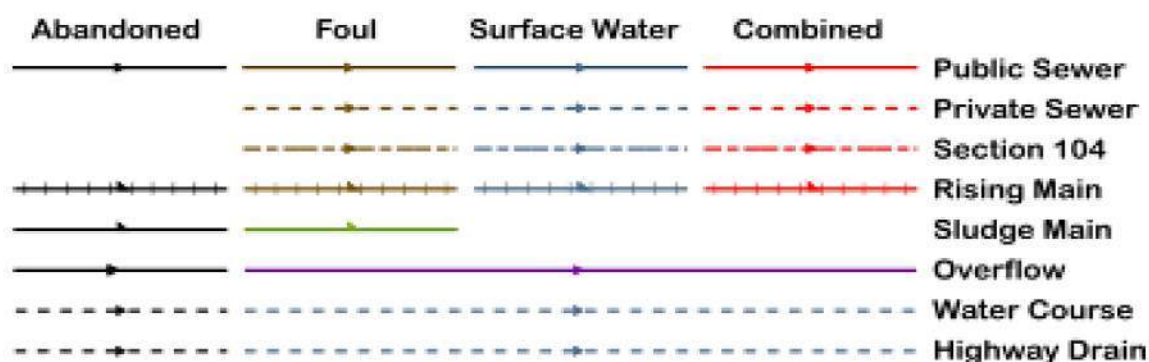
TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

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.

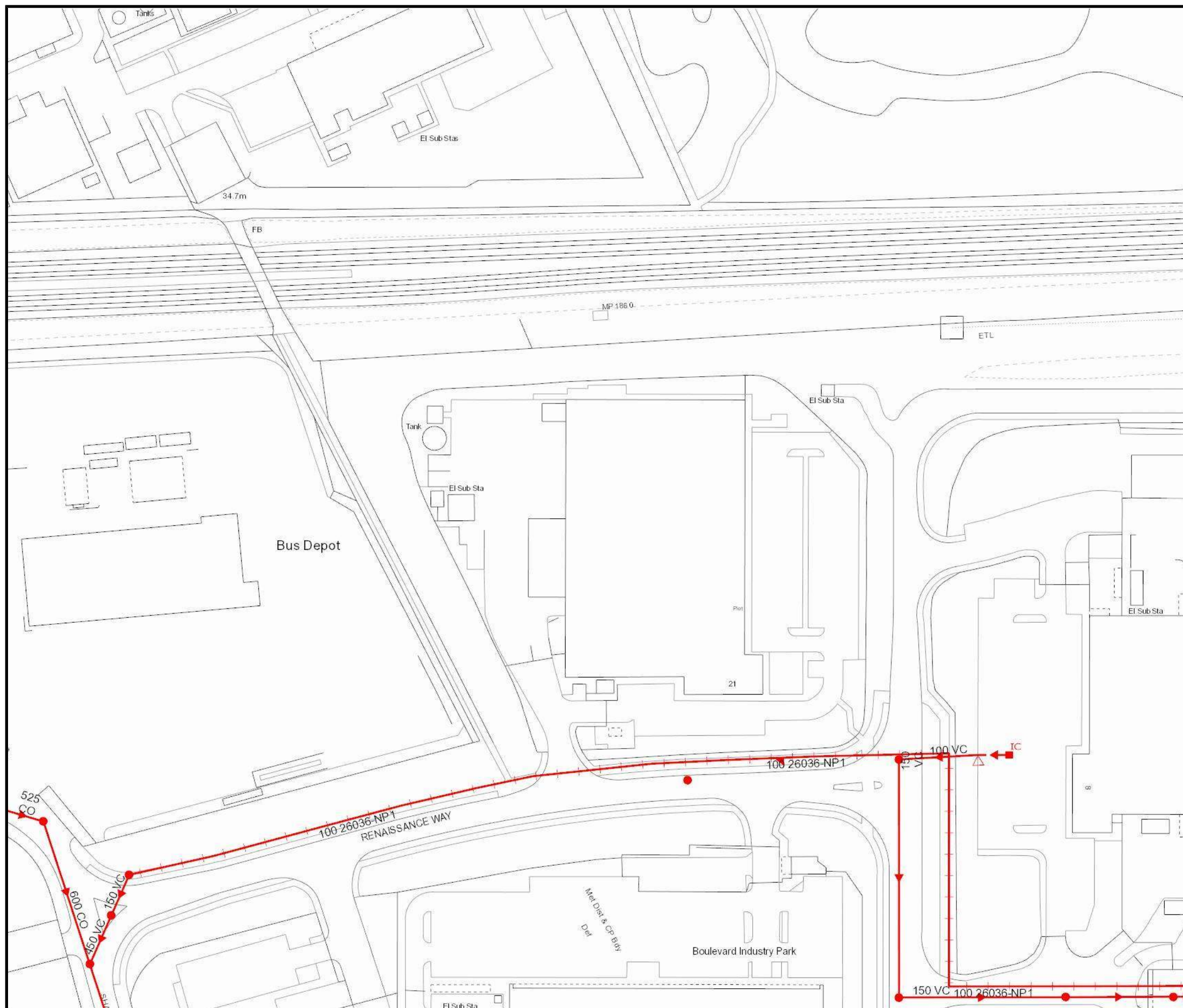
Wastewater Symbolology



All point assets follow the standard colour convention:

red – combined	brown - foul
blue – surface water	purple - overflow

Manhole	Side Entry Manhole
Head of System	Outfall
Extent of Survey	Screen Chamber
Rodding Eye	Inspection Chamber
Inlet	Bifurcation Chamber
Discharge Point	Lamp Hole
Vortex	T Junction / Saddle
Penstock	Catchpit
Washout Chamber	Valve Chamber
Valve	Vent Column
Air Valve	Vortex Chamber
Non Return Valve	Penstock Chamber
Soakaway	Network Storage Tank
Gully	Sewer Overflow
Cascade	Ww Treatment Works
Flow Meter	Ww Pumping Station
Hatch Box	Septic Tank
Oil Interceptor	Control Kiosk
Summit	
Drop Shaft	Change of Characteristic
Orifice Plate	



Water for the North West

SEWER RECORDS

Address or Site Reference

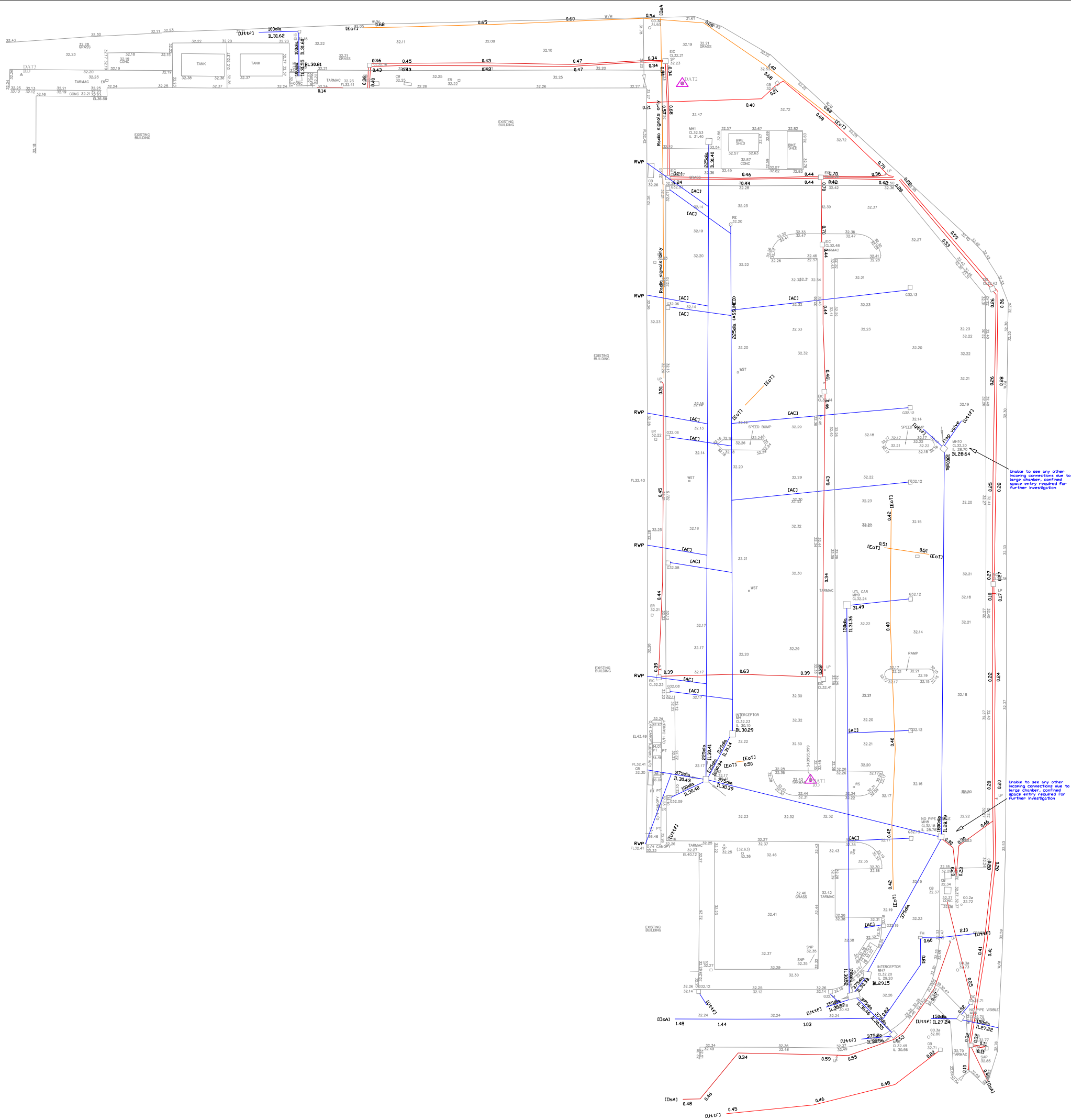
Seqirus,

Scale: 1:1250
Date: 11/08/2022

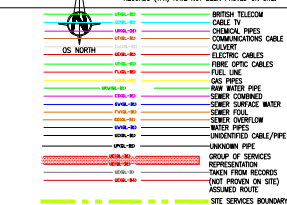
Printed by: Property Searches

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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Ordnance Survey 100022432. Unauthorised
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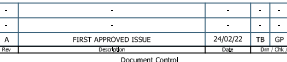


1. UNLESS NOTED OTHERWISE, ALL DIMENSIONS ON THIS DRAWING ARE IN METRES.
2. ALL LEVELS ARE IN METRES AND RELATED TO NEWLYN DATUM, ALL CO-ORDINATE ARE RELATED TO OS SITE GRID.
3. LOCAL PLANE METRIC GRID RELATED TO ORDNANCE SURVEY GRID AT 50:2

[illegible][illegible]

TYPICAL FEATURE DEPTH ANNOTATION		
ELECTRO-MAGNETIC DETECTION APPROX. DEPTH TO CENTRE  CABLE/FIBRE OPTIC	GRAVITY DRAIN (VISUAL OBSERVATION) APPROX. DEPTH TO INVERT 	GROUND PENETRATING RADAR APPROX. DEPTH TO EXTERNAL CROWN 

QL-0	SERVICE ROUTE ADDED FROM RECORDS
QL-C	SERVICE ROUTE ADDED FROM SITE RECONNAISSANCE
QL-B4	SERVICE ROUTE SHOWN AS AN ASSUMED ROUTE
QL-B3	SERVICE ROUTE LOCATED HORIZONTALLY BY ONE METHOD ONLY
QL-B2	SERVICE ROUTE LOCATED HORIZONTALLY AND VERTICALLY BY ONE METHOD ONLY
QL-B1	SERVICE ROUTE LOCATED HORIZONTALLY AND VERTICALLY BY MULTIPLE METHODS
QL-A	SERVICE ROUTE LOCATED BY PHYSICAL VERIFICATION



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www.tetratetecheurope.com

Project Name
SEQIRUS SITE 6

2D Utility Mapping Survey
Sheet 1 of 1

TTE Project Number	Drawn By	Date	Checked By	Date	Approved By	Date	Scale	By AD	Status
784-8033528	TB	23/02/22	GP	24/02/22	GP	24/02/22	HTS		
Serv Project Number	Originator	Volume/System	Level/Location	Type/Code	Role	Number			
- TTE -	-	-	-	-	-	- 00001			

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APPENDIX C – LLFA RESPONSE

Mazioti, Eleftheria

From: Tayefi, Vahid <Vahid.Tayefi@knowsley.gov.uk>
Sent: 22 September 2022 16:08
To: Awe, Malachi
Cc: Mazioti, Eleftheria; Cameron, Katharina; Lead Local Flood Authority
Subject: RE: External Mail: Seqirus Site 6 - Incubator Extension - LLFA Consultation

Hi Malachi,

We have received your enquiry dated 5 Sep as well as your follow-up email today.

The LLFA does not comment on the details of your design/ proposals unless they are submitted as part of an Outline/Full planning application.

However, I would like to advise you must first justify the surface water destination. As requested by National Planning Practice Guidance applications you should aim to discharge surface water runoff as high up the following hierarchy of drainage options as reasonably practicable:

- into the ground (infiltration)
- to a surface water body
- to a surface water sewer, highway drain, or another drainage system, and
- to a combined sewer.

Any drainage strategy proposal should clearly demonstrate how the movement down the hierarchy has been considered and that the selection of the most appropriate set of SuDS techniques has taken into account the site geological and topographical characteristics. To assess the feasibility of infiltration techniques as part of a proposed drainage strategy, evidence must be provided to show that a suitable number of soakaway tests have been completed across the whole site within different geology and to a suitable depth (i.e. a similar depth to the proposed infiltration devices). The tests should be completed according to the BRE 365 method and their results should be submitted with the full application.

Should the infiltrating-based drainage features are not feasible, then your approach for the calculation of surface water runoff seems to be correct.

Hope this is of any help.

Regards

Vahid Tayefi
Principal Drainage Engineer

Mobile: 07766 500208

Knowsley Council, , Knowsley,



From: Awe, Malachi <MALACHI.AWE@tetrattech.com>

Sent: 05 September 2022 16:55

To: Tayefi, Vahid <Vahid.Tayefi@knowsley.gov.uk>

Cc: Mazioti, Eleftheria <ELEFThERIA.MAZIOTI@tetrattech.com>; Cameron, Katharina <KATHARINA.CAMERON@tetrattech.com>; Lead Local Flood Authority <LLFA@knowsley.gov.uk>

Subject: External Mail: Seqirus Site 6 - Incubator Extension - LLFA Consultation

CAUTION: This email originated from an external source. If you suspect a potential phishing email, report it via the IT Self Service Portal which can be found within the Quick Links section on Bertha

Hello,

My name is Malachi and I'm from Tetra Tech, I'm currently working on a project for Seqirus in the Liverpool area L24. The Client is planning to have an extension added to the existing building on site. We would like to discuss the proposed discharge rate for the extension.

The site has been identified as a brownfield site. Hence, modified rational method has been used to calculate the proposed discharge rate.

A betterment has been applied to this value in accordance with clause 4.2 on page 9 of Knowsley Councils 'Sustainable Drainage & Surface Water Management - Technical Guidance for Developers'.

We have calculated the discharge rate in accordance with your guidance.

For your information we have included a calculation sheet and drawings of the Proposed Site Plan, Site Location Plan and Utilities Mapping Survey.

We are looking forward to your response.

Kind Regards,

Malachi Awe MSc (Hons)
Graduate Civil Engineer
Pronouns: He, Him, His

Tetra Tech

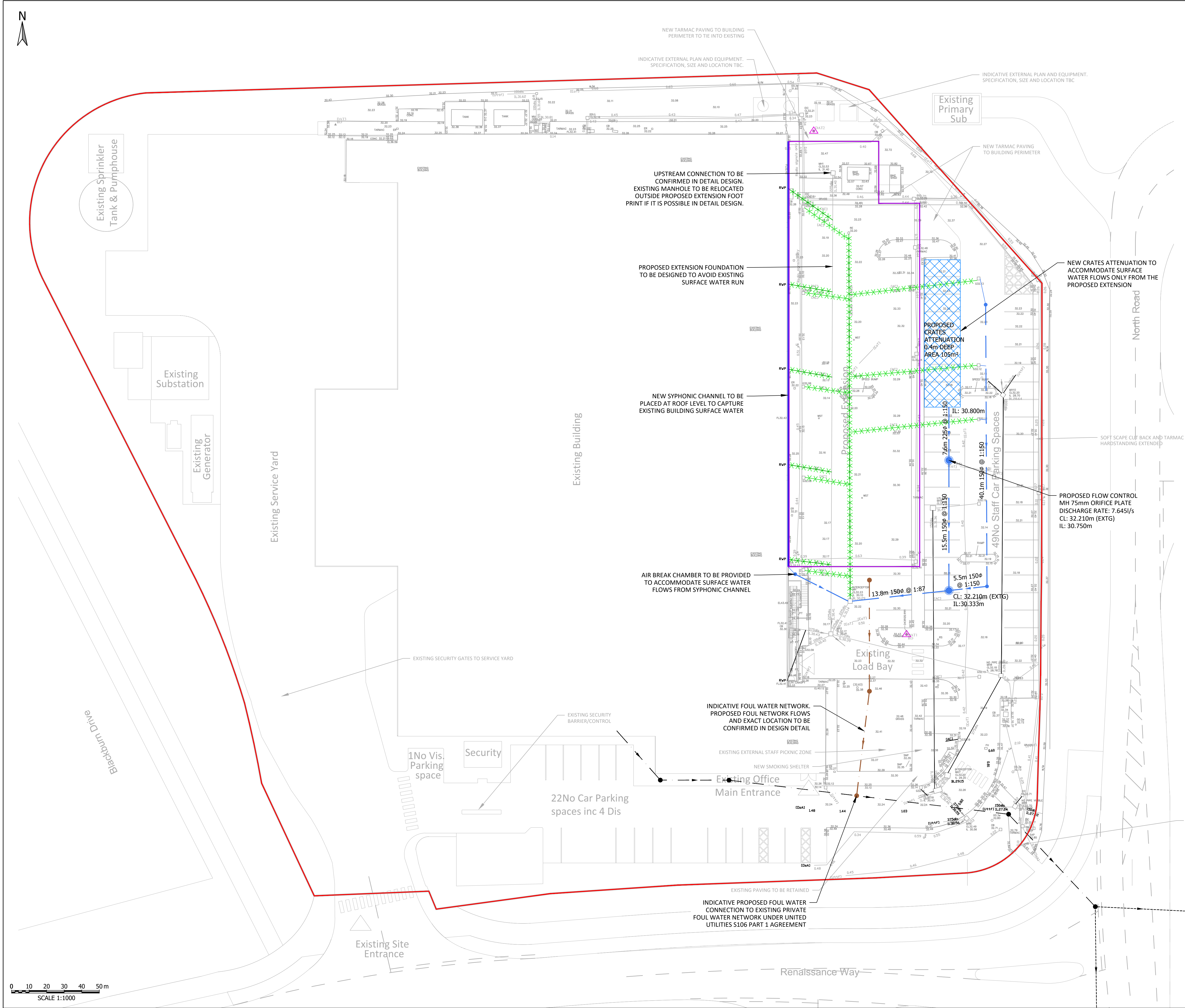
3 Sovereign Square, Sovereign Street, Leeds, West Yorkshire, LS1 4ER

Tel: +44 113 382 1088



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APPENDIX D – DRAINAGE STRAGETY



GENERAL NOTES:

- ALL DRAWINGS UNITS ARE IN METRES UNLESS STATED OTHERWISE.
- THIS DRAWING IS BASED ON PROPOSED LAYOUT, UTILITIES REF 'Existing Surface and Foul Drainage Layout 06-600-02-0011 B'
- THE SITE IS IDENTIFIED AS BROWN FIELD. THE EXISTING PEAK RUNN OFF RATES FROM THE SITE HAVE BEEN CALCULATED WITH THE HELP OF MODIFIED RATION METHOD.
- THIS DRAWING IS FOR INFORMATION USE ONLY.

KEY:

- REDLINE BOUNDARY
- PROPOSED BUILDING FOOT PRINT
- PROPOSED SW NETWORK
- PROPOSED SW PPIC
- PROPOSED CELLULAR STORAGE
- PROPOSED SYPHONIC CHANNEL
- PROPOSED FW NETWORK
- EXISTING SW NETWORK
- EXISTING FW NETWORK
- EXISTING UU COMBINED NETWORK
- EXISTING SW SEWER TO BE ABANDONED

IMPORTANT CDM / H&S NOTE

THE DESIGNERS WOULD DRAW THE READERS ATTENTION TO KEY RESIDUAL CONSTRUCTION HEALTH AND SAFETY HAZARDS THAT HAVE NOT BEEN ELIMINATED FROM THE DESIGNS SHOWN ON THE DRAWINGS BY THE DESIGN PROCESS. THESE HAZARDS ARE IDENTIFIED BELOW:

1	LIVE SERVICES, PROPOSED, EXISTING, UNKNOWN
2	INTERFACE WITH PUBLIC. EXISTING PERMISSIVE PATHS AND SHARED SURFACE ROUTES WITHIN SITE BOUNDARY
3	ADJACENT CONTRACTORS WORKING ON SITE AND ACCESS TO SITE COMPOUND

ANY CONSTRUCTION PERSONNEL INCLUDING OPERATIVES INTENDING TO CONSTRUCT THE DESIGNS SHOWN ON THIS DRAWING SHOULD ENSURE THAT THEY HAVE BEEN THOROUGHLY BRIEFED BY THE PRINCIPAL CONTRACTOR ON ALL HEALTH AND SAFETY MATTERS AND HAVE SIGHT OF:

- THE FULL DESIGNERS AND CONTRACTORS HAZARD AND RISK ASSESSMENTS AND RISK REGISTERS.
- THE DEVELOPED CONSTRUCTION PHASE HEALTH AND SAFETY PLAN
- THE CONTRACTORS CONSTRUCTION METHOD STATEMENTS.

PRELIMINARY ISSUE

P01	PRELIMINARY FIRST ISSUE	31.10.2022	AW	EM	NM
Rev	Description	Date	Rev	Rev	Rev
	Document Control				

Issuing Office

Tetra Tech Leeds
3 Sovereign Square, Sovereign Street,
Leeds, United Kingdom, LS1 4ER
Tel: +44 (0)11 3278 7111
www.tetrateteurope.com

Client

SEQIRUS

Project Name

SEQIRUS SITE 6 - INCUBATOR EXTENSION

Sheet Title

DRAINAGE GENERAL ARRANGEMENT

TTE Project Number	Drawn By	Date	Checked By	Date	Approved By	Date	Scale @ A1	Subsidiary
B033528	MA	OCT 22	EM	OCT 22	NM	OCT 22	As Shown	S2
Client Project Number	Originator	Volume/System	Level/Location	Type/Code	Role	Number	Revision	
B033528	- TTE	- 00	- ZZ	- DR	- C	- 0500		

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TTE_MT_v1

APPENDIX E – MICRODRAINAGE OUTPUT

[illegible]

Tetra Tech Group Limited

3 Sovereign Square
Sovereign Street
Leeds LS1 4ER

Date 31/10/2022
File 221027 SW EM.SRCX

Innovyze

784-B033528
Seqirus, Speke
Liverpool

Designed by EM
Checked by NM

Source Control 2020.1

Page 2



Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E (l/s)	Max Outflow Volume (m³)	Status
10080 min Summer	30.847	0.047	0.0	0.9	0.9	4.7	O K
15 min Winter	31.087	0.287	0.0	5.9	5.9	28.7	O K
30 min Winter	31.152	0.352	0.0	6.6	6.6	35.1	O K
60 min Winter	31.186	0.386	0.0	6.9	6.9	38.5	O K
120 min Winter	31.187	0.387	0.0	6.9	6.9	38.6	O K
180 min Winter	31.163	0.363	0.0	6.7	6.7	36.2	O K
240 min Winter	31.135	0.335	0.0	6.4	6.4	33.4	O K
360 min Winter	31.083	0.283	0.0	5.8	5.8	28.3	O K
480 min Winter	31.042	0.242	0.0	5.3	5.3	24.1	O K
600 min Winter	31.009	0.209	0.0	4.9	4.9	20.8	O K
720 min Winter	30.983	0.183	0.0	4.5	4.5	18.2	O K
960 min Winter	30.945	0.145	0.0	3.9	3.9	14.5	O K
1440 min Winter	30.906	0.106	0.0	3.0	3.0	10.5	O K
2160 min Winter	30.885	0.085	0.0	2.2	2.2	8.5	O K
2880 min Winter	30.874	0.074	0.0	1.8	1.8	7.4	O K
4320 min Winter	30.861	0.061	0.0	1.3	1.3	6.1	O K
5760 min Winter	30.852	0.052	0.0	1.0	1.0	5.1	O K
7200 min Winter	30.846	0.046	0.0	0.9	0.9	4.5	O K
8640 min Winter	30.842	0.042	0.0	0.7	0.7	4.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
10080 min Summer	0.994	0.0	137.6	5128
15 min Winter	138.153	0.0	31.6	17
30 min Winter	90.705	0.0	41.6	30
60 min Winter	56.713	0.0	52.3	50
120 min Winter	34.246	0.0	63.2	88
180 min Winter	25.149	0.0	69.6	126
240 min Winter	20.078	0.0	74.1	160
360 min Winter	14.585	0.0	80.7	228
480 min Winter	11.622	0.0	85.8	292
600 min Winter	9.738	0.0	89.8	356
720 min Winter	8.424	0.0	93.3	416
960 min Winter	6.697	0.0	98.8	532
1440 min Winter	4.839	0.0	107.1	754
2160 min Winter	3.490	0.0	116.0	1124
2880 min Winter	2.766	0.0	122.6	1472
4320 min Winter	1.989	0.0	132.1	2204
5760 min Winter	1.573	0.0	139.5	2944
7200 min Winter	1.311	0.0	145.3	3656
8640 min Winter	1.129	0.0	150.1	4328

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Tetra Tech Group Limited		Page 4																																	
3 Sovereign Square Sovereign Street Leeds LS1 4ER	784-B033528 Seqirus, Speke Liverpool																																		
Date 31/10/2022	Designed by EM																																		
File 221027 SW EM.SRCX	Checked by NM																																		
Innovyze		Source Control 2020.1																																	
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Tetra Tech Group Limited		Page 5
3 Sovereign Square Sovereign Street Leeds LS1 4ER	784-B033528 Seqirus, Speke Liverpool	
Date 31/10/2022 File 221027 SW EM.SRCX	Designed by EM Checked by NM	
Innovyze Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 32.200

Cellular Storage Structure

Invert Level (m) 30.800 Safety Factor 5.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	105.0	105.0	0.401	0.0	121.4
0.400	105.0	121.4			

Orifice Outflow Control

Diameter (m) 0.075 Discharge Coefficient 0.600 Invert Level (m) 30.800

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APPENDIX F – UNITED UTILITIES PRE-DEVELOPMENT ENQUIRY RESPONSE

Cameron, Katharina

From: wastewaterdeveloperservices@uuplc.co.uk
Sent: 23 August 2022 08:37
To: Cameron, Katharina
Subject: RE: Our reference - 02620576

Good morning, Katharina

Pre Development Enquiry for: Seqirus, L24 9PL
UU Reference Number : 02620576

For future reference we now have a new wastewater pre-development enquiry form designed to be easier and more user friendly which is available on our website via the following link:

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

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 450mm diameter public foul water/combined sewer within Shaw Road located to the west of your proposed development.

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.

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.

Waterbody

If an evidence based assessment has been carried out and confirms that infiltration is not feasible, we recommend that you contact the Lead Local Flood Authority and/or Environment Agency to discuss a point of discharge to the culverted/open ordinary watercourse/main river/canal/waterbody/pond (with onward flow) located to the north of the proposed site.

We would encourage you to identify and engage with any third party landowner and riparian owner to agree access and discharge rights to the water body if this is not in your ownership.

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 450mm diameter public combined sewer within Shaw Road located to the 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 5.5l/s.

Please note the given discharge rate is based on the full site area as the specifics of the area being developed are not yet clear. If there are significant areas of the site that will not be developed, the discharge rate should be reduced accordingly.

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

A rising main crosses this site and it must not be built over. We will require unrestricted access to the sewer for maintenance purposes, we would ask that you maintain a minimum clearance of 6m which is measured 3m from the centre line of the pipe unless there happens to be a formal easement agreement in place, in which case the specified easement width would apply. If you cannot achieve this then you may wish to consider to change the site layout to meet the above requirement.

<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.

Many thanks.

Kind regards,



Josephine Wong
Wastewater Developer Engineer
Developer Services & Metering
Customer Services
M: 07880308880 (from 7am to 1pm)
unitedutilities.com

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Did you know we now have a live chat facility available to you Mon to Friday 8 -5pm. You just click on the orange live chat box on our webpage and one of our advisors will be ready to chat to you and help you with your enquiry <https://www.unitedutilities.com/builders-developers/> or you can email us at WastewaterDeveloperServices@uuplc.co.uk

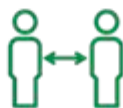
Coronavirus | Prevent the spread



Wash your
hands



Disinfect
common surfaces



Practise social
distancing



FEVER +
COUGH

Stay home if you
have symptoms

[Click for our message to customers](#)

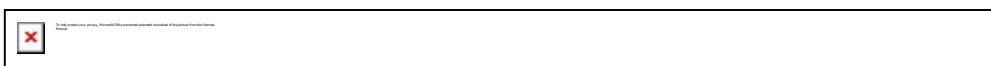
----- Original Message -----

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

Sent: 10/08/2022 16:12

To: katharina.cameron@tetrattech.com

Subject: Our reference - 02620576



Dear Katharina

PRE DEVELOPMENT APPLICATION AT: – Seqirus Site, Speke, Liverpool, L24 9PL

Please accept this email as receipt of your application received on 10/08/22 for the above development. This has now been logged on our system and the job

reference is 02620576 we would ask that you quote this reference in all future correspondence.

I have reviewed your application (and attachments) and can confirm this is suitable to be passed to an engineer for technical assessment. You will receive their response within 8 working days.

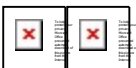
Kind regards,
Casey



Casey Dand
Customer Advisor Advanced
Developer Services & Metering
Customer Services
T: 03450726076
unitedutilities.com

If you have received a great service today why not tell us?
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Did you know we now have a live chat facility available to you Mon to Friday 8 -5pm. You just click on the orange live chat box on our webpage and one of our advisors will be ready to chat to you and help you with your enquiry <https://www.unitedutilities.com/builders-developers/> or you can email us at WastewaterDeveloperServices@uuplc.co.uk



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