

Water Environment Limited
 6 Coppergate Mews
 Brighton Road
 Surbiton
 London
 KT6 5NE

Tel: 020 8545 9720

www.WaterEnvironment.co.uk

PROJECT	Safestore Cheetham Hill Road Cheetham Hill, Manchester		CLIENT	Safestore Ltd			
TITLE	Sustainable Drainage Strategy		REFERENCE	23101-SWD-TN-01		C02	
AUTHOR		CHECKER		APPROVER			
Tashveer Madanjith MSc (Env) BTech (Civil)		Agnes Gannon B Eng, (Civil)		Tony Clothier PhD, BSc Eng, (Civil) CEng, CEnv, C.WEM			
REV	COMMENTS			DATE	AUTH	CHKR	APPR
C01	First issue			28/11/2023	TM	AG	TC
C02	Updated Strategy and Technical Note based on revised scheme			27/01/2025	TM	GE	TC

1 Introduction

- 1.1 Water Environment was commissioned by Safestore Ltd to develop a Surface Water Drainage Strategy for the proposed development at the Safestore Self Storage, Cheetham Hill Road, Cheetham Hill, Manchester M8 8LW. The site is located within the jurisdiction of Manchester City Council (MCC) in the Cheetham Hill Area.
- 1.2 The proposed development is for an extension of a storage facility by a total area of 0.15 ha, 643m² extension to the existing building and 842m² of new storage buildings, re-graded area and bin store to the south of the site, this amounts to less than 1000m² of proposed new floor space and therefore is not considered Major Development. The development also includes regrading of the associated hard-standing area around the proposed new storage buildings, 842m² (inclusive of the storage units and bin store), which will be drained as part of the proposed drainage strategy.
- 1.3 The site is situated within Flood Zone 1 of the Flood Map for Planning and not in a Critical Drainage Area (CDA). According to the Manchester City Council guidance, the proposed development does not fall within the criteria for submitting a surface water drainage strategy.
- 1.4 It is proposed to incorporate Sustainable Drainage Systems (SuDS) where practicable into the site drainage system, ensuring no increased risk of flooding locally and providing additional water quality, amenity, and biodiversity benefits.
- 1.5 In March 2024, the Greater Manchester Combined Authority (GMCA) adopted The Places for Everyone Joint Development Plan in which the Manchester City Council Policy EN14 is superseded by the Policy JP-S4. Point 5 of the Policy JP-S4 relates to SuDS and is defined in Section 4 of this document.

2 Site Description

- 2.1 The site is located southeast of the Cheetham Hill area, as shown in Figure 1.
- 2.2 The site is located on a 0.506 hectare plot, bordered by Stocks Street to the East, the A665 Cheetham Hill Road to the West, Broughton Street to the South, and Wash and Glow car wash to the North. The existing site comprises of an asphalt parking lot and existing storage facility which is to be extended. Access to the site is from the East on Stocks Street.

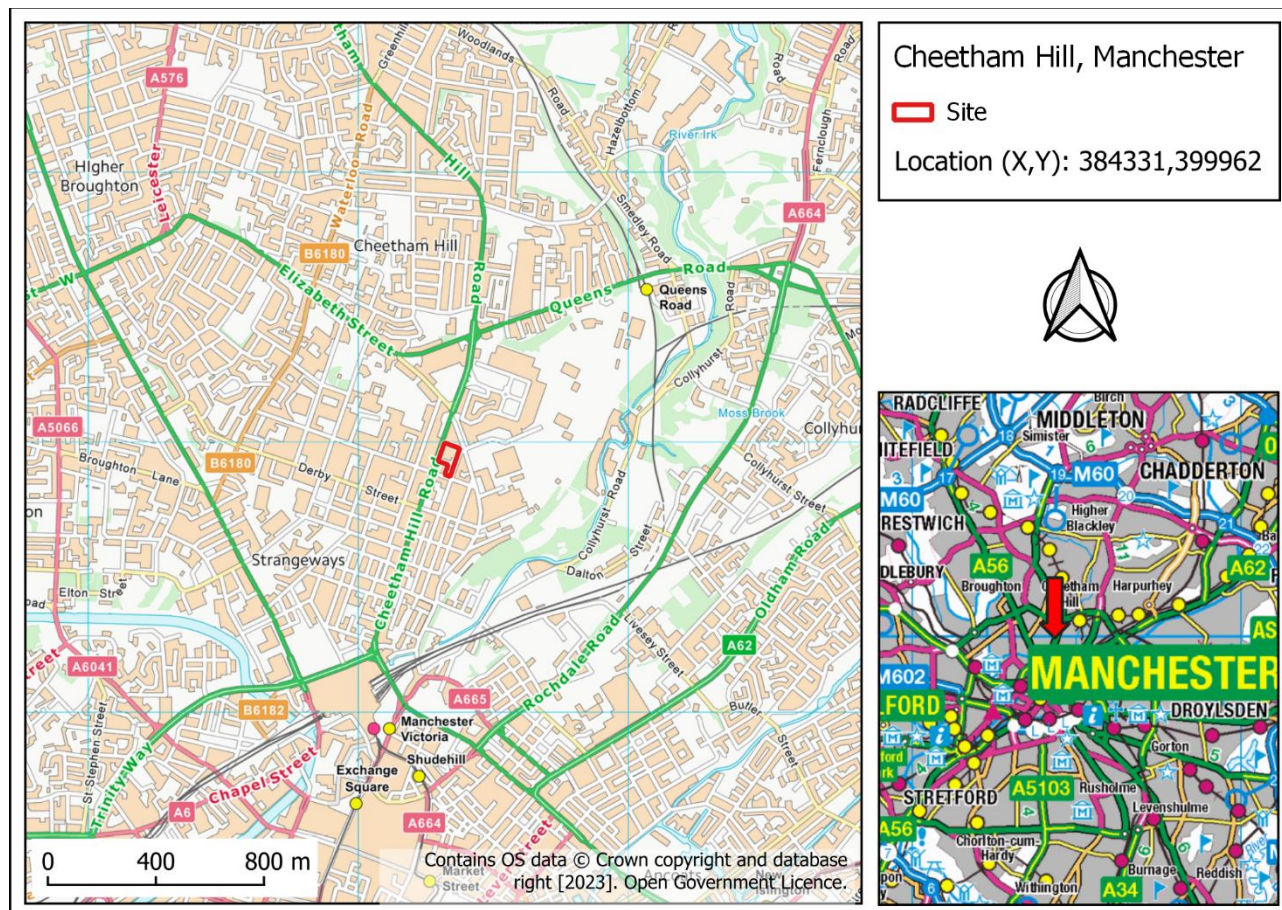


Figure 1: Site Location

- 2.3 The site slopes from northeast to southwest with levels ranging from approximately 50.140 mAOD to 48.45mAOD. The topographic survey of the site is also included in the Appendix.

3 **Geology and Hydrogeology**

- 3.1 According to the BGS 1:50k mapping¹, There are records of Superficial Deposits present beneath the site of Till, Devensian origin. The Bedrock geology is defined as Chester Formation – Sandstone. There are no BGS borehole records² on site, however, there is one present west of the site (BGS ID: 1045652 and BGS reference: SJ89NW3458) which has detailed records appended to this report. The borehole record shows silty and sandy clay with grey fissures and stone inclusions between 0.9 mBGL and 3.9 mBGL, over firm to stiff brown silty and sandy clay with stone and coal inclusions between 3.9 mBGL to 8.25 mBGL. No groundwater has been struck.
- 3.2 Magic maps³ indicates that the bedrock at the site is a Principal Aquifer and the superficial deposits at the site is Secondary (undifferentiated) Aquifer. The Groundwater Vulnerability Map indicates that it is in an area of medium / low vulnerability.

4 **Surface Water Drainage Strategy**

- 4.1 Although the proposed development is not considered to be Major Development a surface water drainage strategy has been developed and has been designed to comply with the GMCA requirements.
- 4.2 GMCA Policy JP-S4: Flood Risk and the Water Environment has replaced the MCC Policy EN14 in March 2024⁴. Point 5 of the policy refers to SuDS and states that:

Sustainable drainage systems:

- 1. Are designed to provide multifunctional benefits wherever possible, including for water quality, nature conservation and recreation;*
- 2. Avoid adverse impacts on water quality and any possibility of discharging hazardous substances to ground;*
- 3. Are delivered in a holistic and integrated manner, including on larger sites split into different phases; and*
- 4. Are managed and maintained appropriately to ensure their proper functioning over the lifetime of the development.*

- 4.3 The Flood Risk and Coastal Change PPG introduces the drainage discharge Hierarchy (paragraph 056) which prioritises discharge of surface water to ground and local watercourses prior to discharge to existing piped network. The PPG requires consideration for the arrangements for maintenance of drainage systems and refers ultimately to the Non-statutory Technical Standards (NSTS) for sustainable drainage systems⁵ in providing the framework for SuDS design.
- 4.4 The existing site (5060m²) is mostly impermeable (94%/ 4775m²) and the formally drained areas, including the roof and parking spaces are assumed to discharge directly into the sewer network.
- 4.5 All development must consider potential future impact of climate change over the lifetime of the development as per the guidelines published on the GOV.UK website⁶. The peak rainfall intensity allowances were updated in May 2022. The site lies within the Irwell Management Catchment⁷ and the

¹ BGS Geology Viewer (BETA)

² GeoIndex - British Geological Survey (bgs.ac.uk)

³ <https://magic.defra.gov.uk/magicmap.aspx>

⁴ Greater Manchester Combined Authority, Places for Everyone Joint Development Plan, Adopted 21 March 2024

⁵ Department for Environment, Food and Rural Affairs (March 2015), Revised (August 2022) Sustainable Drainage Systems, Non-statutory technical standards for sustainable drainage systems, accessed 25/01/2025.

⁶ Flood risk assessments: climate change allowances - GOV.UK (www.gov.uk)

⁷ Climate change allowances for peak rainfall in England (data.gov.uk)

peak rainfall allowances for the 1 in 100-year are presented in Table 1 and the allowances for the 1 in 30-year are presented in Table 2.

Table 1: Irwell Management Catchment climate change allowances - 1% annual exceedance rainfall event

	Central allowance	Upper end allowance
2050s	25%	40%
2070s	30%	45%

Table 2: Irwell Management Catchment climate change allowances - 3.3% annual exceedance rainfall event

	Central allowance	Upper end allowance
2050s	25%	35%
2070s	30%	40%

Existing Drainage System

- 4.6 United Utilities asset plans show the site is in the vicinity of a 330mm x 550mm combined public sewer within Stocks Street. There are no adopted surface water sewers in the vicinity of the site.
- 4.7 A CCTV survey was compiled by Warner Surveys in November 2023 and is appended to this report. The survey confirmed that surface water and foul water is combined within the site and discharges into the combined public sewer to the north-east of the site.
- 4.8 The proposed changes maintain the current site's impermeable area ratio at 94% (4775m²) and permeable surfaces at 6% (285m²). The primary alteration in runoff characteristics stems from the building extension's roof runoff, the new units to the south and the re-grading of the hard standing area around these new units, necessitating formal drainage for a total of 1491m².

Sustainable Drainage Principles

- 4.9 The aim of SuDS is to emulate natural drainage processes such that watercourses and storage areas receive the hydrological profiles under which they evolved, and that water quality in local ecosystems is protected or improved. The best practice guide states that SuDS will:
 - Reduce the impact of additional urbanisation on the frequency and size of floods;
 - Protect or enhance river and ground quality;
 - Be sympathetic to the needs of the local environment and community; and
- 4.10 Encourage natural groundwater recharge.
- 4.11 Table 3 shows the hierarchy of SuDS techniques that are proposed to manage surface water for the development will be discussed in relation to this hierarchy in Table 4.

Table 3: SuDS Hierarchy

	SuDS Technique	Flood Reduction	Pollution Reduction	Landscape & Wildlife
	Green Roofs	✓	✓	✓

	Basins and Ponds 1. Constructed wetlands 2. Balancing ponds 3. Detention basins 4. Retention ponds	✓	✓	✓
	Filter strips and Swales	✓	✓	✓
	Infiltration Devices 5. Soakaways 6. Infiltration trenches and basins	✓	✓	✓
	Permeable surfaces and filter drains 7. Gravelled areas 8. Solid paving blocks 9. Porous paviers	✓	✓	
	Tanked systems 10. Over-sized pipes/ tanks 11. Box storage systems	✓		

Table 4: Summary of proposed SuDS with reference to SuDS Hierarchy

SuDS Technique	Practicable	Proposed	Notes
Green roofs, Bioretention areas, Tree pits	×	×	The roofs of the proposed residential dwellings are sloped, and green roofs are not compatible with the architectural style. Raingardens/ water butts to be used at rainwater downpipes where possible, Rainwater harvesting to be considered. These are to be determined at detailed design stage.
Basins and ponds	×	×	Insufficient space available on site.
Filter strips and swales	×	×	Insufficient space available on site.
Infiltration devices	×	×	Infiltration is not a viable option for this site due to limited space, as constrained by and the specified 5m offset requirements.
Permeable surfaces and filter drains	✓	✓	Permeable paving with sub-base storage will be used as site control to attenuate and filter runoff in the re-graded area of the site, this storage will be additional attenuation to the crated tank system.
Tanked systems	✓	✓	Crated system to be wrapped in impermeable membrane to drain to the stormwater sewer to the south of the site. The crated system is to attenuate the 1-100-year + climate change event.

- 4.12 In accordance with the requirements of the “Non-statutory technical standards for sustainable drainage systems”, specifically Technical Standards S3 for developments which were previously developed, the peak runoff rate from the development for the 1-year, 30-year and 100-year return period rainfall events will be restricted to less than the pre-development greenfield runoff rate from the site for the same rainfall event.
- 4.13 Following the hierarchy for discharge destinations outlined in the PPG paragraph 56, the first solution (infiltration to ground) is not possible due to insufficient space on the site between the buildings to construct soakaways with the adequate offsets. This will be reviewed during detailed design on the basis of infiltration testing results.

Proposed Discharge Method

- 4.14 An outline of the proposed surface water drainage system has been developed and is presented in this section. The design is based on the principles of sustainable drainage as set out in the CIRIA SuDS Manual, PPG and the Manchester City Council Guidance.
- 4.15 As outlined in the Planning Practice Guidance (PPG), surface water should be discharged according to the following hierarchy:
- into the ground (infiltration);
 - to a surface water body;
 - to a surface water sewer, highway drain, or another drainage system;
 - to a combined sewer.
- 4.16 The SuDS strategy proposed for the development is based on the hierarchy outlined above.
- 4.17 Nearby borehole records indicate the presence of clay. There are no watercourses or surface water sewers in the vicinity of the site.
- 4.18 The proposed solution is therefore to discharge to the existing drainage network on the site, reducing the peak runoff as far as practicable, ensuring that, as a minimum, there is no increase in the peak runoff as a result of development. The onsite drainage network discharges to the 330mm x 550mm combined public sewer within Stocks Street.
- 4.19 Manchester City Council Core Strategy⁸ considers that all new development should minimise surface water runoff, including through SuDS and the appropriate use of Green Infrastructure.

Proposed Surface Water Drainage System

- 4.20 An outline of the proposed surface water drainage system has been developed to satisfy the SuDS requirements of the proposal and is presented in this section. The design is based on the principles of sustainable drainage as set out in the CIRIA SuDS Manual, PPG, GMCA and the MCC Guidance.
- 4.21 The proposed drainage strategy aims to attenuate site runoff to the equivalent greenfield runoff rate for the relevant rainfall event, factoring in climate change. Calculations based on HR Wallingford's online tools⁹ for the entire site (0.506 ha) yield rates of 2.86 l/s, 5.59 l/s, and 6.84 l/s for the 1-year, 30-year, and 100-year events. For the development area (0.15 ha), rates are 0.84 l/s, 1.65 l/s, and 2.0 l/s, respectively, calculated as a proportion of the entire site area.
- 4.22 An estimate of the existing runoff rates for the entire site (0.506 ha) are 84.7 l/s, 212.8 l/s and 268.8 l/s for the 1-year, 30-year and 100-year events respectively. For the development area (0.15 ha), rates are 24.96 l/s, 62.71 l/s and 79.22 l/s respectively, calculated as a proportion of the entire site area.
- 4.23 The proposed drainage strategy restricts the discharge rate to 2 l/s for up to and including the 100-year plus climate change event. The resulting discharge rate represents a 91%, 97% and 98% reduction in the discharge rates from the site for the 1-year, 30-year and 100-year rainfall events, respectively.
- 4.24 The design integrates Sustainable Drainage Systems (SuDS) with the development, following the discharge and SuDS hierarchies. The site is significantly constrained by urban development and therefore there are limited opportunities for surface level SuDS.

⁸ Manchester's Local Development Framework- Core Strategy Development Plan Document – Adopted 11th July 2012

⁹ Tools for SuDS design | UK SuDS

- 4.25 It involves using crated storage and connecting to the existing site drainage network to minimize peak runoff, ensuring a significant reduction in runoff post development.
- 4.26 The presence of clay to a depth of 8.25m below ground level in the boreholes on the adjacent site indicate that infiltration to ground is unlikely to be viable on-site. There are no watercourses in the vicinity of the site, therefore discharge to a surface water body is not possible.
- 4.27 There are no public surface water sewers in the vicinity of the site. Therefore, the drainage proposal for the site is to connect to the on-site drainage network, which ultimately discharges via a combined adopted lateral to the combined sewer in Stocks Street.
- 4.28 The proposed drainage strategy includes 467m² of permeable paving to drain the regraded area and the new storage buildings to the south of the site. This area will discharge to the 90.1m³ of tanked crated storage. The proposed building extension roof will also drain to the tanked crated system. The discharge rate is attenuated to 2 l/s and will discharge to the existing adopted combined lateral.
- 4.29 Attenuation of the proposed new developed area of the site to equivalent greenfield runoff rates for the 1 in 2 year, 1 in 30 year + CC and 1 in 10 year +CC events, would require the use of a dual flow control. The use of dual flow controls would result in an orifice size of less than 50mm, which is the minimum flow control orifice size (for protected upstream inlet), as per the Design and Construction Guidance: Appendix C, to limit the risk of blockages.
- 4.30 For this reason, the proposed discharge rate from site is 2 l/s, with all runoff being stored below ground for up to and including the 100-year plus 45% climate change event. Causeway Flow results for the drainage strategy are appended to this Technical Note.

5 Summary

- 5.1 A SuDS strategy has been prepared to attenuate the stormwater runoff from the proposed extension to the Safestore storage warehouse in Cheetham Hill Road, Cheetham Hill, Manchester M8 8LW. As such, SuDS have been proposed commensurate with the scale of development to ensure no resulting increase in surface water discharge rates from the site, complying with the MCC Policy JP-S4.
- 5.2 The presence of clay to a depth of 8.25m below ground level in the boreholes on the adjacent site indicate that infiltration to ground is unlikely to be possible on-site. With no nearby watercourse or existing surface water sewer, the remaining option is connecting to the combined sewer on Stocks Road to the northeast via the existing onsite drainage system.
- 5.3 The proposed drainage system involves 467m² of permeable paving to drain the regraded area and the new storage buildings to the south of the site. This area discharges to the proposed tanked crated storage, 155.52m² in area which equates to 90.1m³ in volume. The proposed building extension also discharges to the tanked crated system. The discharge rate from the tanked crated system is controlled to 2 l/s, discharging to the existing combined lateral on the site. It's designed to contain surface water runoff on site below ground, up to the 100 year plus 45% climate change rainfall event.
- 5.4 The proposed drainage strategy restricts the discharge rate to 2 l/s for up to and including the 100-year plus climate change event which represents a 91%, 97% and 98% reduction in the discharge rate from the site for the 1-year, 30-year and 100-year plus climate change events respectively.

Appendix

- 12076- Topographical Survey – Global Surveys
- 4664-SK01 PL Rev:C – Proposed Site Plan – Tew and Smith Architects and surveyors
- 23101-SWD-DNG-01-C02 – Stormwater Drainage Strategy – Water Environment Limited
- UUPS-ORD-528630 – United Utilities Asset Data
- Greenfield Runoff Rate calculations
- 23101-SWD-MH-04-P01.2 – Causeway Flow SuDS Design Calculations – Water Environment Limited
- 23101-SWD-MH-03 P01.1 – Causeway Flow Existing Runoff Calculations – Water Environment Limited

CON29DW Commercial Search

Responses to a drainage and water enquiry for commercial premises or development sites.

Client:

Client ref: 23101 Safestore Cheetham

Tashveer Madanjith

6 Coppergate Mews
Brighton Road,
Surbiton, London
KT6 5NE

Order number: UUPS-ORD-528630

Received date: 01/11/2023

Response date: 02/11/2023

FAO:

The following records were searched in compiling this report:

The map of public sewers
The map of waterworks
Water and sewerage billing records
Adoption of public sewers records
Building over public sewer records
Adoption of public water mains records
Water supply clarification

Property address: SAFESTORE 202-208 CHEETHAM HILL ROAD, MANCHESTER, M8 8LW

Please Note - We must make you aware that due to the introduction of the open market with effect from 1st April 2017 for commercial customers, Property Searches will no longer be able to resolve issues regarding some discrepancies within the report. Due to the change in the structure of the market the retailer is now responsible for taking ownership of certain issues, particularly relating to billing/tariff charges as well as, but not limited to change of usage of a property.

Enquiries and Responses

The records were searched by Joanne Jones for United Utilities who does not have, nor is likely to have, any personal or business relationship with any person involved in the sale of the property.

This search report was prepared by Joanne Jones for United Utilities who does not have, nor is likely to have, any personal or business relationship with any person involved in the sale of the property.

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

What is included:

1. Summary of findings and key
2. Detailed findings of the CON29DW
3. Guidance for interpretation
4. Terms and conditions
5. Complaints policy

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



To help understand the implications of the drainage and water enquiries report a summary guide to the content of the full report is provided below.

✓ This response represents the typical situation for a property.

⚠ The attention of the purchaser is drawn to this response. The purchaser may wish to make further investigations into this situation.

✗ This response represents an uncommon situation for a property and the purchaser should carefully consider its implications.

Question	Report Schedule	Answer	
1.1	Where relevant, please include a copy of an extract from the public sewer map.	Yes & in vicinity	✓
1.2	Where relevant, please include a copy of an extract from the map of waterworks.	Yes & in vicinity	✓
2.1	Does foul water from the property drain to a public sewer?	Connected	✓
2.2	Does surface water from the property drain to a public sewer?	Connected	✓
2.3	Is a surface water drainage charge payable?	Yes	✓
2.4	Does the public sewer map indicate any public sewer, disposal main or lateral drain within the boundaries of the property?	None	✓
2.4.1	Does the public sewer map indicate any pumping station or ancillary apparatus within the boundaries of the property?	None	✓
2.5	Does the public sewer map indicate any public sewer within 30.48 metres (100 feet) of any buildings within the property?	Public	✓
2.5.1	Does the public sewer map indicate any public pumping station or any other ancillary apparatus within 50 metres (164.04 feet) of any buildings within the property?	None	✓
2.6	Are any foul sewers or lateral drains serving or which are proposed to serve the property the subject of an existing adoption agreement or an application for such an agreement?	Not applicable (established)	✓
2.6.1	Are any surface water pipes or lateral drains serving, or which are proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?	Not applicable (established)	✓
2.7	Has a sewerage undertaker approved or been consulted about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain?	None	✓
2.8	Is the building which is or forms part of the property at risk of internal flooding due to overloaded public sewers?	No	✓
2.9	Please state the distance from the property to the nearest boundary of the nearest sewage treatment works.	Yes	✓
3.1	Is the property connected to mains water supply?	Connected	✓
3.2	Are there any water mains, resource mains or discharge pipes	Yes	✗

Question	Report Schedule	Answer	
3.3	Is any water main or service pipe serving or which is proposed to serve the property the subject of an existing adoption agreement or an application for such an agreement?	No	✓
3.4	Is this property at risk of receiving low water pressure or flow?	No	✓
3.5	What is the clarification of the water supply for the property?	Very soft	✓
3.6	Is there a meter installed at the property?	Yes	✓
3.7	Please include details of the location of any water meter serving the property.	External	✓
4.1.1	Who is responsible for providing the sewerage services for the property?	United Utilities	✓
4.1.2	Who is responsible for providing the water services for the property?	United Utilities	✓
4.2	Who bills the property for sewerage services?	Retailer Sewer	✓
4.3	Who bills the property for water services ?	Retailer Water	✓
5.1	Is there Consent, on this property, to discharge Trade Effluent under S118 of the Water Industry Act (1991) into the public sewerage system?	No	✓
6.1	Is there a wayleave/easement agreement giving the Water and/or Sewerage Undertaker the right to lay or maintain assets or right of access to pass through private land in order to reach the Company's assets?	No	✓
6.2	On the copy extract from the public sewer map, please show manhole cover, depth and invert levels where the information is available.	Included	✓

Question 1.1 **Where relevant, please include a copy of an extract from the public sewer map.**

Answer **A copy of an extract of the public sewer map within the vicinity of the property is included.**

Guidance

1. The Water Industry Act 1991 defines Public Sewers as those which (United Utilities) have responsibility for. Other assets and rivers, water courses, ponds, culverts or highway drains may be shown for information purposes only.
2. Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended these details be checked with the developer.
3. The Sewerage Undertaker has a statutory right of access to carry out work on its assets, subject to notice. This may result in employees of the Sewerage Undertaker or its contractors needing to enter the property to carry out work.

Question 1.2 **Where relevant, please include a copy of an extract from the map of waterworks.**

Answer **A copy of an extract of the map of waterworks is included, showing water mains, resource mains or discharge pipes in the vicinity of the property.**

Guidance

The "water mains" in this context are those which are vested in and maintainable by the Water Undertaker under statute.

Assets other than public water mains may be shown on the plan, for information only. Water Undertakers are not responsible for private supply pipes connecting the property to the public water main and do not hold details of these. These may pass through land outside of the control of the seller, or may be shared with adjacent properties. The buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal.

If an extract of the public water main record is enclosed, it will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

The presence of a public water main running within the boundary of the property may restrict further development within it. Water Undertakers have a statutory right of access to carry out work on their assets, subject to notice. This may result in employees of the Water Undertaker or its contractors needing to enter the property to carry out work.

Question 2.1 **Does foul water from the property drain to a public sewer?**

Answer **Records indicate that foul water from the property drains to a public sewer.**

Guidance

Sewerage Undertakers are not responsible for any private drains or sewers that connect the property to the public sewerage system, and do not hold details of these.

The property owner will normally have sole responsibility for private drains serving the property and may have shared responsibility, with other users, if the property is served by a private sewer which also serves other properties. These may pass through land outside of the control of the seller and the buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal.

If foul water does not drain to the public sewerage system the property may have private facilities in the form of a cesspit, septic tank or other type of treatment plant.

If an extract from the public sewer map is enclosed, this will show known public sewers in the vicinity of the property and it should be possible to estimate the likely length and route of any private drains and/or sewers connecting the property to the public sewerage system.

Question 2.2 **Does surface water from the property drain to a public sewer?**

Answer **Records indicate that surface water from the property does drain to a public sewer.**

Guidance Sewerage Undertakers are not responsible for any private drains or sewers that connect the property to the public sewerage system and do not hold details of these.

The property owner will normally have sole responsibility for private drains serving the property and may have shared responsibility with other users, if the property is served by a private sewer which also serves other properties. These may pass through land outside of the control of the seller and the buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal.

In some cases, Sewerage Undertakers' records do not distinguish between foul and surface water connections to the public sewerage system. If on inspection the buyer finds that the property is not connected for surface water drainage, the property may be eligible for a rebate of the surface water drainage charge. Details can be obtained from the Sewerage Undertaker.

If surface water does not drain to the public sewerage system the property may have private facilities in the form of a soakaway or private connection to a watercourse. If an extract from the public sewer map is enclosed, this will show known public sewers in the vicinity of the property and it should be possible to estimate the likely length and route of any private drains and/or sewers connecting the property to the public sewerage system.

Question 2.3 **Is a surface water drainage charge payable?**

Answer **Records indicate that a surface water drainage charge is applicable for the property.**

Guidance Since 1st April 2017 commercial customers can choose their retailer for clean, waste or both services. For more information on any applicable surface water charges you will need to contact the current owner of the property to find out who the current retailer is. Details of the retailer for a property can be found on the current occupiers bill. For a list of all potential retailers of water and waste water services for the property please visit www.open-water.org.uk.

Please note if the property was constructed after 6th April 2015 the Surface Water drainage may be served by a Sustainable Drainage System. Further information may be available from the Developer.

Question 2.4 **Does the public sewer map indicate any public sewer, disposal main or lateral drain within the boundaries of the property?**

Answer **The public sewer map included indicates that there are no public sewers, disposal mains or lateral drains within the boundary of the property. However from the 1st October 2011 there may be additional public sewers, disposal mains or lateral drains which are not recorded on the public sewer map which may further prevent or restrict development of the property. If you are considering any future development at this property which may require build over consent, please complete the enquiry form by accessing the following link <http://www.unitedutilities.com/planning-wastewater-guidance.aspx>.**

Guidance The approximate boundary of the property has been determined by reference to the Ordnance Survey record. A property of this type will normally be served by a shared sewer passing through the boundaries of several properties. It is therefore likely that a public sewer or lateral drain is present within the property boundary.

Please note that from 1st October 2011 the majority of private sewers and lateral drains connected to the public network as of 1st July 2011 transferred into public ownership and therefore it is possible there may be additional public assets which may not be shown on the public sewer plan.

The presence of public assets running within the boundary of the property may restrict further development. If there are any plans to develop the property further enquiries should be made to United Utilities Build Over department.

United Utilities Water has a legal right of access to carry out work on its assets, subject to notice. This may result in employees of the Company or its contractors needing to enter the property to carry out work.

Question 2.4.1	Does the public sewer map indicate any pumping station or ancillary apparatus within the boundaries of the property?
Answer	The public sewer map included indicates that there is no public pumping station or other ancillary apparatus within the boundaries of the property. However, from the 1st October 2016 private pumping stations which serve more than one property will be transferred into public ownership but may not be recorded on the public sewer map until that time
Guidance	From 1 October 2016 United Utilities will be responsible for private pumping stations (though we may take ownership of some stations before this date) that either: * serve a single property, and are outside the property boundary or * serves two or more properties Only private pumping stations installed before 1st July 2011 will be transferred into our ownership. United Utilities will be responsible for all associated costs, maintenance, repairs and any necessary upgrade work. Where the property is part of a very recent or ongoing development and the sewers/pumping station are not the subject of an adoption application, buyers should consult with the developer to ascertain the extent of private drains, sewers and pumping stations for which they will hold maintenance and renewal liabilities.
Question 2.5	Does the public sewer map indicate any public sewer within 30.48 metres (100 feet) of any buildings within the property?
Answer	The public sewer map included indicates that there are public sewers within 30.48 metres (100 feet) of a building within the boundary of the property. However from the 1st October 2011 there may be additional public sewers, disposal mains or lateral drains which are not recorded on the public sewer map which may further prevent or restrict development of the property. Please refer to Q2.4 sewer in boundary for further details.
Guidance	From 1st October 2011 there may be additional lateral drains and/or public sewers which are not recorded on the public sewer map but are also within 30.48 metres (100 feet) of a building within the property. The presence of a public sewer within 30.48 metres (100 feet) of the building(s) within the property can result in the Local Authority requiring a property to be connected to the public sewer. The measure is estimated from the Ordnance Survey record, between the building(s) within the boundary of the property and the nearest public sewer. Sewers indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended that these details are checked with the developer, if any. Assets other than public sewers may be shown on the copy extract for information only.
Question 2.5.1	Does the public sewer map indicate any public pumping station or any other ancillary apparatus within 50 metres (164.04 feet) of any buildings within the property?
Answer	The public sewer map included indicates that there is no public pumping station or other ancillary apparatus within 50 metres of any buildings within the property. However, from 1st October 2016 private pumping stations which serve more than one property will be transferred into public ownership but may not be recorded on the public sewer map until that time.
Guidance	From 1 October 2016 United Utilities will be responsible for private pumping stations (though we may take ownership of some stations before this date) that either: * serve a single property, and are outside the property boundary or

* serves two or more properties.

Only private pumping stations installed before 1st July 2011 will be transferred into our ownership. United Utilities will be responsible for all associated costs, maintenance, repairs and any necessary upgrade work.

If you think there might be a private pumping station on your land or near your business property, please let us know by completing this questionnaire with as much information as possible, please visit our website <http://www.unitedutilities.com/ppstransfer.aspx>.

Where the property is part of a very recent or ongoing development and the sewers/pumping station are not the subject of an adoption application, buyers should consult with the developer to ascertain the extent of private drains, sewers and pumping stations for which they will hold maintenance and renewal liabilities.

Question 2.6 **Are any foul sewers or lateral drains serving or which are proposed to serve the property the subject of an existing adoption agreement or an application for such an agreement?**

Answer **The property is part of an established development and is not subject to an adoption agreement**

Guidance This enquiry is of interest to purchasers of new property who will want to know whether or not the property will be linked to a public sewer.

Where the property is part of a very recent or ongoing development and the sewers are not the subject of an adoption application, buyers should consult with the developer to ascertain the extent of private drains and sewers for which they will hold maintenance and renewal liabilities.

Final adoption is subject to the developer complying with the terms of the adoption agreement under Section 104 of the Water Industry Act 1991.

Question 2.6.1 **Are any surface water pipes or lateral drains serving, or which are proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?**

Answer **The property is part of an established development and is not subject to an adoption agreement**

Guidance This enquiry is of interest to purchasers of new property who will want to know whether or not the property will be linked to a public sewer.

Where the property is part of a very recent or ongoing development and the sewers are not the subject of an adoption application, buyers should consult with the developer to ascertain the extent of private drains and sewers for which they will hold maintenance and renewal liabilities.

Final adoption is subject to the developer complying with the terms of the adoption agreement under Section 104 of the Water Industry Act 1991.

Question 2.7 **Has a sewerage undertaker approved or been consulted about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain?**

Answer **There are no records in relation to any approval or consultation about plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain. However, the sewerage undertaker might not be aware of a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain.**

Guidance From the 1st October 2011 private sewers, disposal mains and lateral drains were transferred into public ownership and the sewerage undertaker may not have granted approval or been consulted about any plans to erect a building or extension on the property over or in the vicinity of these assets.

Prior to 2003 United Utilities Water Limited had sewerage agency agreements with the local authorities therefore details of any agreements/consents or rejections may not have been forwarded on to our offices before this date.

Buildings or extensions erected over a sewer in contravention of building controls may have to be removed or altered.

Question 2.8 **Is the building which is or forms part of the property at risk of internal flooding due to overloaded public sewers?**

Answer **The building is not recorded as being at risk of internal flooding due to overloaded public sewers. From the 1st October 2011 private sewers, disposal mains and lateral drains were transferred into public ownership it is therefore possible that a property may be at risk of internal flooding due to an overloaded public sewer which the sewerage undertaker is not aware of. For further information it is recommended that enquiries are made of the vendor.**

Guidance

1. A sewer is "overloaded" when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.
2. "Internal flooding" from public sewers is defined as flooding, which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.
3. These are defined as properties that have suffered or are likely to suffer internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the Sewerage Undertaker's reporting procedure.
4. Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included.
5. Properties may be at risk of flooding but not included where flooding incidents have not been reported to the Sewerage Undertaker.
6. Public sewers are defined as those for which the Sewerage Undertaker holds statutory responsibility under the Water Industry Act 1991.
7. It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the Sewerage Undertaker.
8. This report excludes flooding from private sewers and drains and the Sewerage Undertaker makes no comment upon this matter. For reporting purposes buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.

Question 2.9 **Please state the distance from the property to the nearest boundary of the nearest sewage treatment works.**

Answer **The nearest Sewage Treatment Works is 3.14 miles (5.06 km), South West of the property. The name of the Sewage treatment works is Salford WwTW. The owner is United Utilities**

Guidance

The nearest sewage treatment works will not always be the sewage treatment works serving the catchment within which the property is situated i.e. the property may not necessarily drain to this works.

The Sewerage Undertaker's records were inspected to determine the nearest sewage treatment works.

It should be noted therefore that there may be a private sewage treatment works closer than the one detailed above that has not been identified. As a responsible utility operator, United Utilities Water Limited seeks to manage the impact of odour from operational sewage works on the surrounding area.

This is done in accordance with the "Code of Practice on Odour Nuisance from Sewage Treatment Works" issued via the Department of Environment, Food and Rural Affairs (DEFRA).

This Code recognises that odour from sewage treatment works can have a detrimental impact on the quality of the local environment for those living close to works.

However DEFRA also recognises that sewage treatment works provide important services to communities and are essential for maintaining standards in water quality and protecting aquatic based environments. For more information visit www.unitedutilities.com.

Question 3.1 **Is the property connected to mains water supply?**

Answer **Records indicate that the property is connected to mains water supply.**

Guidance If the property is supplied by private water mains please note that details of private supplies are not kept by the Water Undertaker. The situation should be checked with the current owner of the property.

Question 3.2 **Are there any water mains, resource mains or discharge pipes**

Answer **The map of waterworks indicates that there are water mains, resource mains or discharge pipes within the boundaries of the property.**

Guidance The boundary of the property has been determined by reference to the Ordnance Survey record.

The presence of a public water main within the boundary of the property may restrict further development within it. Water Undertakers have a statutory right of access to carry out work on their assets, subject to notice.

This may result in employees of the Water Undertaker or its contractors needing to enter the property to carry out work.

Question 3.3 **Is any water main or service pipe serving or which is proposed to serve the property the subject of an existing adoption agreement or an application for such an agreement?**

Answer **Records confirm that water mains or service pipes serving the property are not the subject of an existing adoption agreement or an application for such an agreement.**

Guidance This enquiry is of interest to purchasers of new premises who will want to know whether or not the property will be linked to the mains water supply.

Question 3.4 **Is this property at risk of receiving low water pressure or flow?**

Answer **Records confirm that the building is not recorded by the water undertaker as being at risk of receiving low water pressure or flow.**

Guidance The boundary of the property has been determined by reference to the Ordnance Survey record. "Low water pressure" means water pressure below the regulatory reference level which is the minimum pressure when demand on the system is not abnormal. Water undertakers report properties receiving pressure below the reference level, provided that allowable exclusions do not apply (i.e. events which can cause pressure to temporarily fall below the reference level). Reference level: The reference level of service is a flow of 9l/min at a pressure of 10m head on the customer's side of the main stop tap (mst). The reference level applies to a single property. The reference level of service must be applied on the customer's side of a meter or any other company fittings that are on the customer's side of the main stop tap. Where a common service pipe serves more than one property, the flow assumed in the reference level must be appropriately increased to take account of the total number of properties served. Surrogate for the reference level: Because of the difficulty in measuring pressure and flow at the mst, companies may measure against a surrogate reference level. Companies should use a surrogate of 15m head in the adjacent distribution main unless a different level can be shown to be suitable. In some circumstances companies may need to use a surrogate pressure greater than 15m to ensure that the reference level is supplied at the customer's side of the mst (for example in areas with small diameter or shared communication pipes).

There are a number of circumstances under which properties identified as receiving low pressure should be excluded from the reported figure. The aim of these exclusions is to exclude properties which receive a low pressure as a result

of a one-off event and which, under normal circumstances (including normal peaks in demand), will not receive pressure or flow below the reference level. Companies must maintain verifiable, auditable records of all the exclusions that they apply in order to confirm the accuracy and validity of their information. Allowable exclusions includes Abnormal demand, Planned maintenance, One off incidents, Low pressure incidents of short duration and common supply.

Abnormal demand:

This exclusion is intended to cover abnormal peaks in demand and not the daily, weekly or monthly peaks in demand, which are normally expected. Water undertakers exclude figures from properties which are affected by low pressure only on those days with the highest peak demands. During the yearly report water undertakers may exclude, for each property, up to five days of low pressure caused by peak demand.

Planned maintenance:

Water undertakers will not report low pressures caused by planned maintenance. It is not intended that water undertakers identify the number of properties affected in each instance. However, water undertakers must maintain sufficiently accurate records to verify that low-pressure incidents that are excluded because of planned maintenance, are actually caused by maintenance.

One-off incidents:

This exclusion covers a number of causes of low pressure; mains bursts; failures of company equipment (such as pressure reducing valves or booster pumps); fire fighting and action by a third party. However, if problems of this type affect a property frequently, they cannot be classed as one-off events and further investigation will be required before they can be excluded.

Low pressure incidents of short duration:

Properties affected by low pressures that only occur for a short period, and for which there is evidence that incidents of a longer duration would not occur during the course of the year, may be excluded.

A company must maintain a minimum pressure in the communication pipe of seven metres static head (0.7 bar). If pressure falls below this on two occasions, each occasion lasting more than one hour, within a 28-day period, the company must automatically make a GSS payment to the customer. There are exceptions to the requirement to make a GSS payment if the pressure standard is not met. These are: a payment has already been made to the same customer in respect of the same financial year; it is impractical for the company to have identified the particular customer as being affected, and the customer has not made a claim within three months of the date of the latter occasion; industrial action by the company's employees makes it not feasible to maintain the pressure standard; the act or default of a person other than the company's representative make it not feasible to maintain the pressure standard; or the pressure falls below the minimum standard due to necessary works taking place or due to a drought.

It should be noted that low water pressure can occur from private water mains, private supply pipes (the pipework from the external stop cock to the property) or internal plumbing which are not the responsibility of the Water Undertaker. This report excludes low water pressure from private water mains, supply pipes and internal plumbing and the Water Undertaker makes no comment upon this matter. For reporting purposes buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.

Question 3.5

What is the clarification of the water supply for the property?

Answer

The water supplied to the property has an average water hardness of 29mg/l calcium carbonate, which is defined as very soft by United Utilities

Guidance

The hardness of water is due to the presence of calcium and magnesium minerals that are naturally present in the water. The usual signs of a hard water supply are scaling inside kettles, poor lathering of soaps and scum.

What is water hardness?

Hard water is formed when water passes through or over limestone or chalk areas and calcium and magnesium ions dissolve into the water. The hardness is made up of two parts: temporary (carbonate) and permanent (non-carbonate) hardness. When water is boiled, calcium carbonate scale can form, which can deposit on things like kettle elements. The scale will not stick to kettles that have a plastic polypropylene lining but will float on the surface. The permanent hardness that comprises calcium and magnesium sulphate does not go on to form scale when heated or boiled.

How is water hardness measured?

Hardness is usually expressed in terms of the equivalent quantity of calcium carbonate (CaCO₃) in milligrams per litre or parts per million. You may also see hardness expressed as degrees of hardness in Clark (English) degrees, French or German degrees. Interconversion between the different measurements can be made by using the appropriate conversion factors below. There are no standard levels as to what constitutes a hard or a soft water. Table 1 gives an indication of the equivalents of calcium and calcium carbonate and the relative degree of hardness.

Water quality standards

There are no regulatory standards for water hardness in drinking water.

Water hardness in the North West

The majority of raw water in the United Utilities region comes from upland surface water reservoirs. The water in the reservoirs has little chance of passing through rocks and to dissolve the minerals that make water hard. Therefore, the majority of water in this region is soft or very soft. We supply water from a number of boreholes in the south of the region that are reasonably hard, but these tend to be blended with softer sources to meet demand. No water supply in the North West is artificially softened.

Can hard water be softened?

Yes, water can be softened artificially by the installation of a water softener or the use of 'jug type' filters. Medical experts recommend that a non-softened supply is maintained for drinking purposes because softened water may contain high levels of sodium. Softeners should be fitted after the drinking water tap and comply with the requirements of the Water Supply (Water Fittings) Regulations 1999. They should be maintained in accordance with manufacturers' instructions.

If you're interested in finding out more about the quality of your drinking water, please visit www.unitedutilities.com/waterquality and enter your postcode.

The Drinking Water Inspectorate is responsible for ensuring the quality of public water supplies. Visit their website at: www.dwi.defra.gov.uk.

Question 3.6

Is there a meter installed at the property?

Answer

Records indicate that the property is served by a water meter

Guidance

Not applicable

Question 3.7

Please include details of the location of any water meter serving the property.

Answer

Records indicate that the property is served by a water meter, which is located externally to the building within the property boundary. We have the location as oblong lid front of property next to light fitting.

Guidance

Where the property is not served by a meter the current occupier can contact the retailer directly to advise on the current charging method, details of the retailer can also be found on the current occupiers bill.

Question 4.1.1

Who is responsible for providing the sewerage services for the property?

Answer **United Utilities Water Limited, Haweswater House, Lingley Mere Business Park, Lingley Green Avenue, Great Sankey, Warrington, WA5 3LP**

Guidance Not Applicable

Question 4.1.2 **Who is responsible for providing the water services for the property?**

Answer **United Utilities Water Limited, Haweswater House, Lingley Mere Business Park, Lingley Green Avenue, Great Sankey, Warrington, WA5 3LP.**

Guidance Not Applicable

Question 4.2 **Who bills the property for sewerage services?**

Answer **Since 1st April 2017 commercial customers can choose their retailer. If you wish to know who currently bills the property for sewerage services you will need to contact the current owner of the property to find out who the current retailer is.**

Guidance Details of the retailer for a property can be found on the current occupiers bill. For a list of all potential retailers of waste water services for the property please visit www.open-water.org.uk

Question 4.3 **Who bills the property for water services ?**

Answer **Since 1st April 2017 commercial customers can choose their retailer. If you wish to know who currently bills the property for water services you will need to contact the owner of the property to find out who the retailer is.**

Guidance Details of the retailer for a property can be found on the current occupiers bill. For a list of all potential retailers of water services for the property please visit www.open-water.org.uk

Question 5.1 **Is there Consent, on this property, to discharge Trade Effluent under S118 of the Water Industry Act (1991) into the public sewerage system?**

Answer **There is no record of a Trade Effluent consent at this property. Applications for Trade Effluent consents should be submitted via your retailer for info please visit <https://www.unitedutilities.com/Business-services/trade-effluent/>**

Guidance The owner/occupiers of Trade Premises do not have the right to discharge Trade Effluent to the public wastewater network. Any Trade Effluent Discharge Consent will be issued under Section 118 of the Water Industry Act 1991 and will be subject to conditions set by the Sewerage Undertaker.

Generally these conditions are to ensure:

- a) The Health and Safety of staff working within the wastewater network and at wastewater treatment plants.
- b) The apparatus of the wastewater network is not damaged.
- c) The flow of the contents of the wastewater network is not restricted.
- d) Equipment, plant, and processes at treatment works are not disrupted or damaged.
- e) Treatment of sewage sludge is not impeded and sludges are disposed of in an environmentally friendly manner.
- f) Final effluent discharge from wastewater treatment plants has no impact on the environment or prevents the receiving waters from complying with EU Directives.

g) Potential damage to the environment via storm water overflows is minimised.

Disputes between an occupier of a Trade Premise and the Sewerage Undertaker can be referred to the Director General of Water Services (OFWAT).

Protecting Public Sewers - Discharges Section 111 of the Water Industry Act 1991, places prohibition on the discharge of the following into a public sewer, drain or a sewer that communicates with a public sewer.

i) Any matter likely to injure the sewer or drain, to interfere with the free flow of its contents or to affect prejudicially the treatment or disposal of its contents.

ii) Any chemical refuse or waste steam or any liquid of temperature higher than 43.3 degrees Celsius (110 degrees Fahrenheit).

iii) Any petroleum spirit or carbide of calcium. On summary conviction offences under this Section carry a fine not exceeding the statutory maximum or a term of imprisonment not exceeding two years, or both.

Please note any existing consent is dependant on the business being carried out at the property and will not transfer automatically upon change of ownership.

Question 6.1	Is there a wayleave/easement agreement giving the Water and/or Sewerage Undertaker the right to lay or maintain assets or right of access to pass through private land in order to reach the Company's assets?
Answer	There is no record of a formal easement affecting this property.
Guidance	Not Applicable.
Question 6.2	On the copy extract from the public sewer map, please show manhole cover, depth and invert levels where the information is available.
Answer	A copy of an extract from the public sewer map, showing manhole cover, depth and invert levels where the information is available, is included.
Guidance	Not applicable

Appendix 1- General interpretation

1. (1) In this Schedule-

"the 1991 Act" means the Water Industry Act 1991(a);

"the 2000 Regulations" means the Water Supply (Water Quality) Regulations 2000(b);

"the 2001 Regulations" means the Water Supply (Water Quality) Regulations 2001(c);

"adoption agreement" means an agreement made or to be made under Section 51A(1) or 104(1) of the 1991 Act (d);

"bond" means a surety granted by a developer who is a party to an adoption agreement;

"bond waiver" means an agreement with a developer for the provision of a form of financial security as a substitute for a bond;

"calendar year" means the twelve months ending with 31st December;

"discharge pipe" means a pipe from which discharges are made or are to be made under Section 165(1) of the 1991 Act;

"disposal main" means (subject to Section 219(2) of the 1991 Act) any outfall pipe or other pipe which-

- a) is a pipe for the conveyance of effluent to or from any sewage disposal works, whether of a sewerage undertaker or of any other person; and
- (b) is not a public sewer;

"drain" means (subject to Section 219(2) of the 1991 Act) a drain used for the drainage of one building or any buildings or yards appurtenant to buildings within the same curtilage;

"effluent" means any liquid, including particles of matter and other substances in suspension in the liquid; "financial year" means the twelve months ending with 31st March;

"lateral drain" means-

- (a) that part of a drain which runs from the curtilage of a building (or buildings or yards within the same curtilage) to the sewer with which the drain communicates or is to communicate; or
- b) (if different and the context so requires) the part of a drain identified in a declaration of vesting made under Section 102 of the 1991 Act or in an agreement made under Section 104 of that Act (e);

"licensed water supplier" means a company which is the holder for the time being of a water supply licence under Section 17A(1) of the 1991 Act(f);

"maintenance period" means the period so specified in an adoption agreement as a period of time-

- (a) from the date of issue of a certificate by a Sewerage Undertaker to the effect that a developer has built (or substantially built) a private sewer or lateral drain to that undertaker's satisfaction; and
- (b) until the date that private sewer or lateral drain is vested in the Sewerage Undertaker;

"map of waterworks" means the map made available under Section 198(3) of the 1991 Act (g) in relation to the information specified in subsection (1A);

"private sewer" means a pipe or pipes which drain foul or surface water, or both, from premises, and are not vested in a Sewerage Undertaker;

"public sewer" means, subject to Section 106(1A) of the 1991 Act(h), a sewer for the time being vested in a Sewerage Undertaker in its capacity as such, whether vested in that undertaker-

- (a) by virtue of a scheme under Schedule 2 to the Water Act 1989(i);
- (b) by virtue of a scheme under Schedule 2 to the 1991 Act (j);
- (c) under Section 179 of the 1991 Act (k); or
- (d) otherwise;

"public sewer map" means the map made available under Section 199(5) of the 1991 Act (l);

"resource main" means (subject to Section 219(2) of the 1991 Act) any pipe, not being a trunk main, which is or is to be used for the purpose of-

- (a) conveying water from one source of supply to another, from a source of supply to a regulating reservoir or from a regulating reservoir to a source of supply; or
- (b) giving or taking a supply of water in bulk;

"sewerage services" includes the collection and disposal of foul and surface water and any other services which are required to be provided by a Sewerage Undertaker for the purpose of carrying out its functions;

"Sewerage Undertaker" means the company appointed to be the Sewerage Undertaker under Section 6(1) of the 1991 Act for the area in which the property is or will be situated;

"surface water" includes water from roofs and other impermeable surfaces within the curtilage of the property;

"water main" means (subject to Section 219(2) of the 1991 Act) any pipe, not being a pipe for the time being vested in a person other than the water Undertaker, which is used or to be used by a Water Undertaker or licensed water supplier for the purpose of making a general supply of water available to customers or potential customers of the undertaker or supplier, as distinct from for the purpose of providing a supply to particular customers;

"water meter" means any apparatus for measuring or showing the volume of water supplied to, or of effluent discharged from any premises; "water supplier" means the company supplying water in the water supply zone, whether a water undertaker or licensed water supplier;

"water supply zone" means the names and areas designated by a Water Undertaker within its area of supply that are to be its water supply zones for that year; and

"Water Undertaker" means the company appointed to be the Water Undertaker under Section 6(1) of the 1991 Act for the area in which the property is or will be situated.

(2) In this Schedule, references to a pipe, including references to a main, a drain or a sewer, shall include references to a tunnel or conduit which serves or is to serve as the pipe in question and to any accessories for the pipe.

- (a) 1991 c. 56
- (b) S.I. 2000/3184. These Regulations apply in relation to England.
- (c) S.I. 2001/3911. These Regulations apply in relation to Wales.
- (d) Section 51A was inserted by Section 92(2) of the Water Act 2003 (c. 37). Section 104(1) was amended by Section 96(4) of that Act.
- (e) Various amendments have been made to Sections 102 and 104 by Section 96 of the Water Act 2003.
- (f) Inserted by Section 56 of and Schedule 4 to the Water Act 2003.
- (g) Subsection (1A) was inserted by Section 92(5) of the Water Act 2003.
- (h) Section 106(1A) was inserted by Section 99 of the Water Act 2003.
- (i) 1989 c. 15.
- (j) To which there are various amendments made by Section 101(1) of and Schedule 8 to the Water Act 2003.
- (k) To which there are various amendments made by Section 101(1) of and Schedule 8 to the Water Act 2003.
- (l) Section 199 was amended by Section 97(1) and (8) of the Water Act 2003.

Appendix 2 - DRAINAGE AND WATER ENQUIRY (COMMERCIAL) AGREEMENT

The Customer and the Client are asked to note the provisions of this Agreement, which govern the basis on which this drainage and water report is supplied.

Definitions

'Client' means the person, company or body who is the intended recipient of the Report with an actual or potential interest in the Property (including, where relevant, their mortgage lender).

'Company' means United Utilities Water Limited who produce the Report; its registered office being at Haweswater House, Lingley Mere Business Park, Lingley Green Avenue, Great Sankey, Warrington WA5 3LP, company number 2366678.

'Customer' means the person, company, firm or other legal body placing the Order, either on their own behalf as Client, or, as an agent for a Client. 'Order' means any request completed by the Customer requesting the Report.

'Property' means the address or location supplied by the Customer in the Order.

'Report' means the drainage and water report prepared by the Company in respect of the Property.

Agreement

1.1 The Company agrees to supply the Report to the Customer and the Client subject to this Agreement. The scope and limitations of the Report are described in clauses 2 and 3 of this Agreement. Where the Customer is acting as an agent for the Client, the Customer shall be responsible for bringing this Agreement (including, without limitation, any limitations and exclusions contained in it) to the attention of the Client and ensuring their acceptance of it pursuant to clause 1.2.

1.2 The Customer and the Client agree that the placing of an Order for a Report and the subsequent provision of a copy of the Report to the Customer and/or the Client indicates their acceptance of this Agreement and the Company shall be entitled to rely on this notwithstanding the Customer's failure to comply with clause 1.1.

1.3 The Company's cancellation policy in relation to an Order shall form part of this Agreement and is detailed at <https://propertysearches.unitedutilities.com/cancellation/>

Report

2.1 Whilst the Company will use reasonable care and skill in producing the Report, it is provided to the Customer and the Client on the basis that they acknowledge and agree to the following:-

2.2 The information contained in the Report can change on a regular basis so the Company cannot be responsible to the Customer and/or the Client for any change in the information contained in the Report after the date on which the Report was produced.

2.3 The Report does not give details about the actual state or condition of the Property nor should it be used or taken to indicate or exclude actual suitability or unsuitability of the Property for any particular purpose, or relied upon for determining saleability or value, or used as a substitute for any physical investigation or inspection. Further advice and information from appropriate experts and professionals should always be obtained.

2.4 The information contained in the Report is based upon the accuracy, completeness and legibility of the address, drawn boundaries and/or plans supplied by the Customer in the Order.

2.5 The Report provides information as to the indicative location and connection status of existing services and other information in relation to drainage and water enquiries and should not be used or relied on for any other purpose. The Report may contain opinions or general advice to the Customer and the Client. The Company, subject to clauses 3.4 and 3.7 and without prejudice to the other provisions of this Agreement, accepts no liability in relation to any such opinion or general advice or any other information contained in the Report (including, without limitation, any inaccuracies, errors or omissions) unless and only to the extent that such liability arises as a direct result of the Company's negligence (if relevant).

2.6 The position and depth of apparatus shown on any maps attached to the Report are approximate, and are furnished as a general guide only, and no warranty as to its correctness is given or implied. The exact positions and depths should be obtained by excavation trial holes and the maps must not be relied on in the event of excavation or other works made at the Property and/or in the vicinity of the Company's apparatus and, subject to clause 3.7, the Company accepts no liability in relation to any such reliance.

2.7 In providing the Report the Company will comply with the Drainage & Water Searches Network (DWSN) Standards, <https://www.con29dw.co.uk/about-dwsn/#standards>

Liability

3.1 The Company shall not be liable to the Customer and/or the Client for any failure defect or non-performance of its obligations arising from any failure to provide or delay in providing the Report to the extent that such failure or delay is due to an event or circumstance beyond the reasonable control of the Company including but not limited to any delay, failure of or defect in any machine, processing system or transmission link or any failure or default of a supplier or sub-contractor of the Company or any provider of any third party information except to the extent that such failure or delay is directly caused by the negligence of the Company.

3.2 Where a Report is requested for an address falling within a geographical area where two different entities separately provide Water and Sewerage Services, then any liability imposed on the Company pursuant to this Agreement for information contained in the Report which has been provided by the other entity shall be subject to the provisions of this Agreement and shall, without prejudice to the other provisions of this Agreement (including without limitation clauses 3.3 to 3.7), not exceed the liability that would have been imposed on the other entity had it supplied that information directly to the Customer.

3.3 The Report is produced only for use in relation to individual commercial property transactions (i.e. single commercial units, mixed sales of a building or area of land used for non-residential purposes, dual use of a dwelling house, farms sold with agricultural land and/or buildings, a group of holiday homes or an entire new development or a plot of land/additional area with a single or no building) and which requires the provision of drainage and water information and cannot be used for residential properties (i.e. a single dwelling house together with any associated land). Subject to clauses 3.4 to 3.7, the Company's entire liability to the Client howsoever arising under or in connection with the Report and/or this Agreement and whether in contract, negligence or any other tort or for breach of statutory duty or otherwise shall not exceed £10,000,000 (ten million pounds). The Company shall not in any circumstances (whether for breach of contract, negligence or any other tort, under statute or statutory duty, restitution or otherwise at all) be liable to the Client for any indirect or consequential loss or damage whatsoever caused and howsoever arising under or in connection with the Report and/or this Agreement

3.4. The plans attached to the Report are provided pursuant to the Company's statutory duty to make such plans available for inspection (notwithstanding the provisions of this clause) and your attention is drawn to the notice on the plan(s) attached to the Report which applies to the plan(s) and its/their contents. For the avoidance of doubt, nothing in this Agreement shall be interpreted as, or deemed to be, in any way an acknowledgement or acceptance by the Company that a common law duty of care exists between the Company, the Customer and/or the Client in relation to those plans (including, without limitation, the provision of such plans and the information contained within them) and/or any other information contained in the Report.

3.5 Subject to clause 3.7, the Company's entire liability to the Customer howsoever arising under or in connection with this Agreement and whether in contract, negligence or any other tort or for breach of statutory duty or otherwise shall not exceed £5,000 (five thousand pounds) and the Company shall not in any circumstances (whether for breach of contract, negligence or any other tort, under statute or statutory duty, restitution or otherwise at all) be liable to the Customer for any indirect or consequential loss or damage whatsoever caused and howsoever arising under or in connection with this Agreement .

3.6 The Customer and the Client shall ensure that the Report is not accessed by, made available to, used by and/or relied on (in whole or in part) in any way by any other third party, and, subject to clause 3.7, the Company shall not in any circumstances (whether for breach of contract, negligence or any other tort, under statute or statutory duty, restitution or otherwise at all) be liable to any third party for any loss (whether direct, indirect or consequential loss (all three of which terms include without limitation, pure economic loss, loss of profit, loss of business depletion of goodwill and like loss)) or damage whatsoever caused and howsoever arising under or in connection with this Agreement and/or the Report and/or any use of or reliance placed upon the Report. The Customer and the Client agree to indemnify the Company against any losses, costs, claims and damage suffered by the Company as a result of any breach by either of them of the provisions of this clause 3.6.

3.7 Nothing in this Agreement shall exclude the Company's liability for death or personal injury arising from its negligence or for fraud or any other matter to the extent that such liability cannot be excluded or limited by law.

Copyright and Confidentiality

4.1 The Customer and the Client acknowledge that the Report is confidential and is intended for the personal use of the Client only and shall not be used (in whole or in part) for any commercial gain in any circumstances. The Customer and the Client shall ensure that the Report is not accessed by, made available to, used by and/or relied on (in whole or in part) in any way by any other third party. The copyright and any other intellectual property rights in the Report shall remain the property of the Company and its licensors. No intellectual or other property rights are transferred or licensed to the Customer or the Client except to the extent expressly provided herein.

4.2 The Customer or the Client is entitled to make copies of the Report but may only copy Ordnance Survey mapping or data contained in or attached to the Report, if they have an appropriate licence from the originating source of that mapping or data

4.3 The Customer and, the Client agree (in respect of both the original and any copies made) to respect and not to alter any part of the Report including but not limited to altering, removing or obscuring the trademark, logo, copyright notice or other property marking which appears on the Report.

4.4 The maps contained in the Report are protected by Crown Copyright and must not be used for any purpose outside the context of the Report.

4.5 The enquiries contained in the Report are protected by copyright by the Law Society of 113 Chancery Lane, London, WC2A 1PL and must not be used for any purpose outside the context of the Report

4.6 The Customer and the Client agree to indemnify the Company against any losses, costs, claims and damage suffered by the Company as a result of any breach by either of them of the provisions of clauses 4.1 to 4.5 inclusive.

Payment

5.1 Unless otherwise stated all prices are inclusive of VAT. The Customer shall pay the price of the Report specified by the Company, without any set off, deduction or counterclaim.

5.2 Payment must be received in advance unless an account has been set up with the Company. In these cases, payment terms will be as agreed with the Company, but in any event any invoice must be paid within 30 days of the date of its issue.

5.3 The Company reserves the right to increase fees on reasonable prior written notice at any time.

Data Protection

6.1 We will process any personal data you provide to us in accordance with applicable data protection laws and our Data Protection and Privacy Notice (<https://www.unitedutilities.com/privacy/>). In addition we will use your personal data to manage and administer the provision of the Report under this Agreement and to develop and improve the business and services we provide to our customers. We may also disclose it to other companies in the United Utilities group (being United Utilities Water Limited, its holding companies (and their subsidiary companies) and its subsidiary companies) and their sub-contractors in connection with those purposes, but it will not be processed for other purposes or disclosed to other third parties without your express permission or without lawful purpose under data protection law.

General

7.1 If any provision of this Agreement is or becomes invalid or unenforceable, it will be taken to be removed from the rest of this Agreement to the extent that it is invalid or unenforceable. No other provision of this Agreement shall be affected.

7.2 This Agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts.

7.3 Nothing in this Agreement and conditions shall in any way restrict the Company's or the Customer's or the Client's statutory or any other rights in relation to the provision of and/or access to the information contained in the Report.

7.4 This Agreement and conditions may be enforced by the Customer and the Client but not by any other third party.

7.5 Before you agree to this Agreement, please note that where you are the Customer it is your responsibility to ensure your client/customer is aware of them and that any objections are raised accordingly.

Property Searches complaints procedure

In the event of any queries relating to this Report please e-mail, write or phone our customer team quoting the United Utilities reference detailed on the Report, We will endeavor to resolve any telephone contact or complaint at the time of the call.

Whilst we always try to resolve all complaints straight away, if this is not possible and you are not happy with the course of action taken by us you can ask us to escalate the issues internally via the complaints process detailed below.

We will listen to your complaint and do our best to deal with it immediately.

If we fail to give you a written substantive response within 5 working days the Company will compensate the Customer or the Client (as applicable) the amount of the original fee paid to the Company for the Report, regardless of the outcome of your complaint.

If it is a complex issue requiring more time, we will still get back to you within 5 working days and notify you of progress and update you with the new timescales.

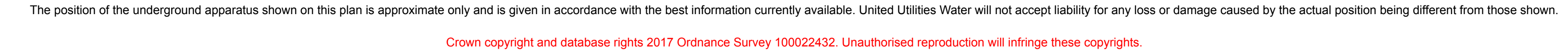
If we consider your complaint to be justified or we have made any errors that substantially change the outcome of the search we will:

- Refund your Report fee
- Provide you with a revised Report (if requested)
- Take the necessary action within our power to put things right which may (where appropriate) include, at our complete discretion, financial compensation or the relocation/removal/installation of our affected water or sewerage assets.
- Keep you informed of any action required

If your complaint has gone through our full internal complaints procedure and you are not satisfied with the response or you believe that we have failed to comply with our internal complaints procedure you may be able to refer your complaint for consideration under The Property Ombudsman Scheme (TPOs). The maximum award available to TPO through their redress scheme is £25k. In addition to TPO's redress scheme covering consumers, TPO will also provide redress for small businesses (including charities and trusts) that meet the following criteria:

- a small business (or group of companies) with an annual turnover of less than £3 million;
- a charity with an annual income of less than £3 million; or
- a trust with a net asset value of less than £3 million.

You can obtain further information by visiting www.tpos.co.uk or email admin@tpos.co.uk



All point assets follow the standard colour convention:

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

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

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE			
CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL	
AC	Asbestos Cement
BR	Brick
PE	Polyethylene
RP	Reinforced Plastic Matrix
CO	Concrete
CSB	Concrete Segment Bolted
CSU	Concrete Segment Unbolted
CC	Concrete Box Culverted
PSC	Plastic / Steel Composite
GRC	Glass Reinforced Plastic
DI	Ductile Iron
PVC	Polyvinyl Chloride
CI	Cast Iron
SI	Spun Iron
ST	Steel
VC	Vitrified Clay
PP	Polypropylene
PF	Pitch Fibre
MAC	Masonry, Coursed
MAR	Masonry, Random
U	Unspecified

Address or Site Reference:
SAFESTORE 202-208 CHEETHAM HILL ROAD,
MANCHESTER,
M8 8LW

Scale: 1:1250 **Date:** 02/11/2023
Nodes: 79
Sheet: 1 of 1

Printed by: Property Searches

**SEWER
RECORDS**

 **United
Utilities**
Water for the North West

Clean Water Symbolology

Proposed	Abandoned	Live	
			Distribution Main
			Trunk Main
			Comms Pipe
			Private Pipe
			Concessionary Service
			Raw Water
			LDTM Raw Water
			LDTM Treated Water
			Air Valve
			AC Valve, open
			AC Valve, closed
			CC Valve, open
			CC Valve, closed
			Non Return Valve
			Pressure Management Valve
			OMS Valve
			Stop Tap
			Flow Meter
			Domestic Meter
			Commercial Meter
			Pump
			Hydrant
			Fire Hydrant
			Anode
			Chlorination Point
			De-chlorination Point
			Strainer Point
			Access Point
			Hatch Box
			IP Point
			Sampling Station
			Logger Box
			Bore Hole
			Inlet Point
			Bulk Supply Point
			End Cap
			Site Termination
			Change of Characteristic
			Condition Report
			<u>Property Types</u>
			Water Tower
			Valve House
			Booster Pumping Station
			Intake Pumping Station
			Water Treatment Works
			Supply Reservoir
			Service Reservoir
			Impounding Reservoir
			Pipe Bridge

Symbology for proposed assets is the same as above, but shown in **green**
 Symbology for abandoned assets is the same as above, but shown in **black**



WATER MAIN RECORDS

Address or Site Reference

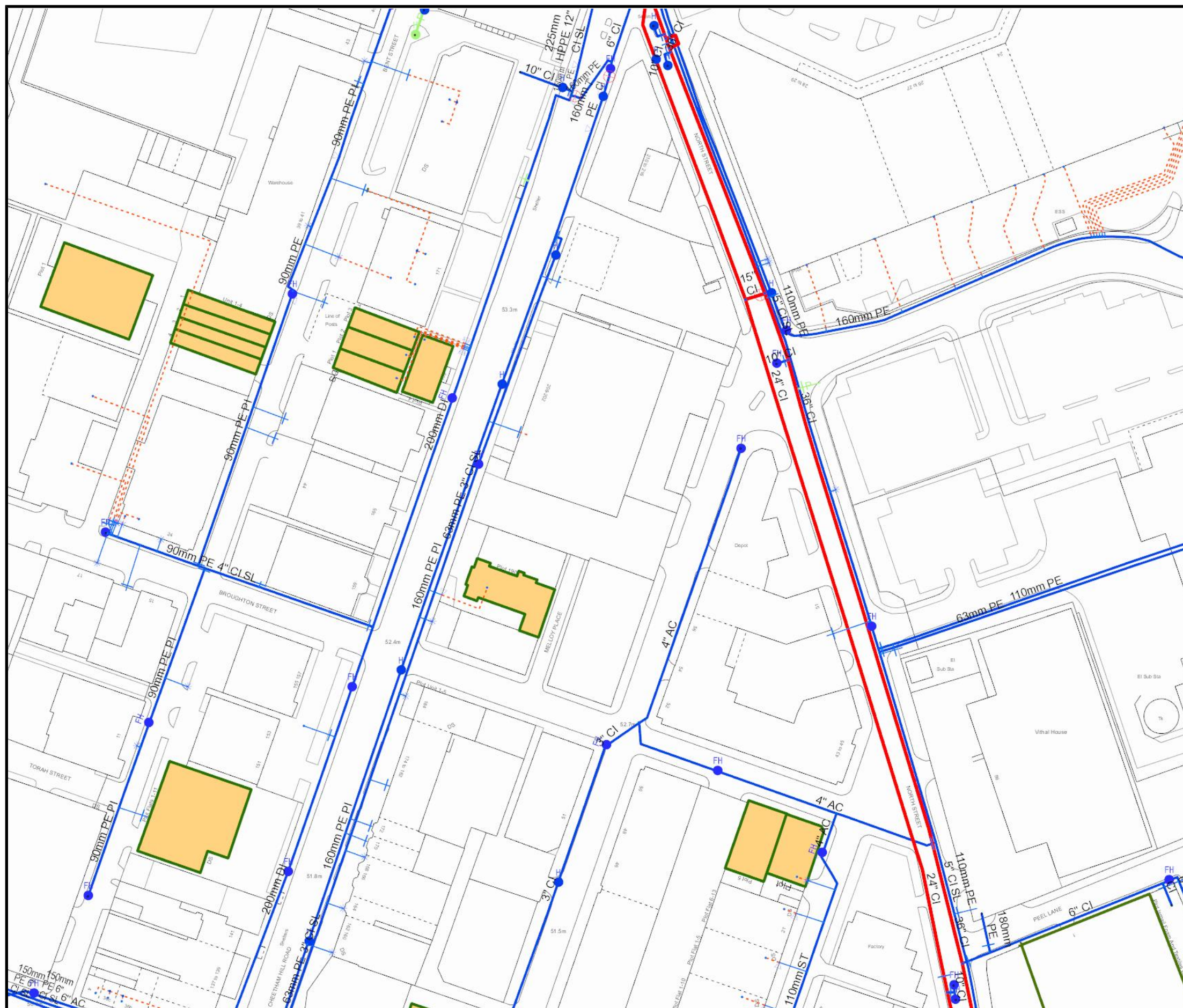
SAFESTORE 202-208
CHEETHAM HILL ROAD,
MANCHESTER,
M8 8LW

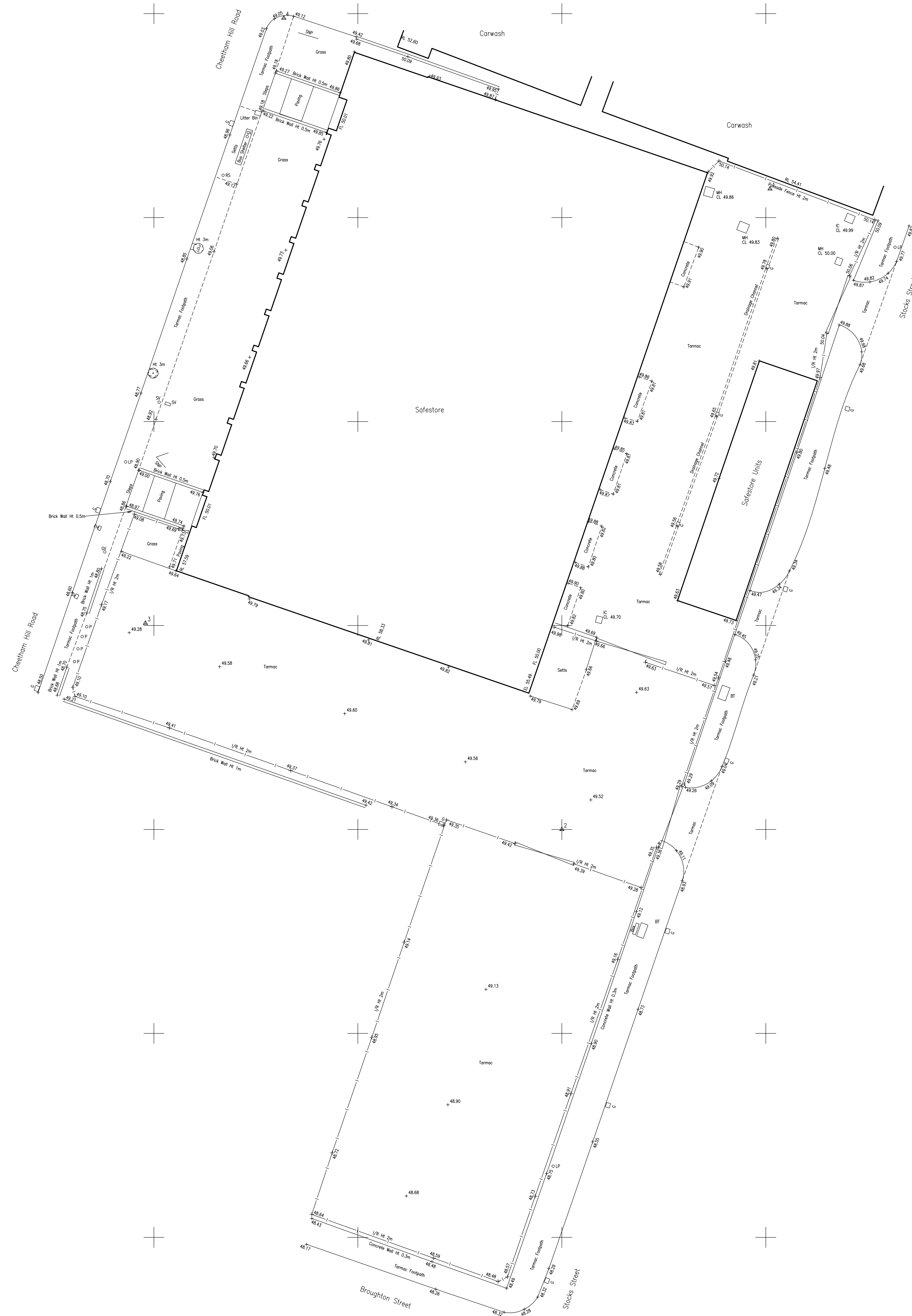
Scale: 1:1250
Date: 02/11/2023

Printed by: Property Searches

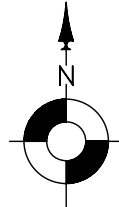
The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

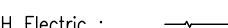
Crown copyright and database rights 2017
Ordnance Survey 100022432. Unauthorised
reproduction will infringe these copyrights.





CONTROL				
Name	Easting	Northing	Height	Remark
1	2520.411	7562.817	49.930	Pk. Nail
2	2560.000	7500.000	42.454	Pk. Nail
3	2459.170	7520.225	49.359	Pk. Nail
4	2472.738	7579.566	49.104	Pk. Nail

[illegible]

Symbols	Lines
Control Station : 	Wall : 
Manhole/Inspection Chamber : 	Verge : 
Inlet Pipe 	Boundary : 
Out Flow Pipe 	Edge of Spread : 
Bush : 	Hedge : 
Tree : 	Embankment : 
Spread & Catch Drains to Side 	OH Telecom : 
Gate : 	OH Electric : 
Wet/Marsh Land : 	Foul Water : 
Spot Level : 32.65	Surface Water : 
Bore Hole : 	Contours : 
Trinl Hole : 	Hatching
Change in Boundary Type : 	Building : 
Open Sided Building : 	Open Sided Building : 
Gross House : 	Gross House : 

General Notes:

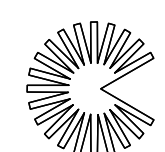
1. Man entry to sewers has not been undertaken. Depths, pipe sizes and quantity of pipes are measured from the surface. We therefore cannot guarantee the completeness or accuracy of the sewer data which should be checked with the local authority and/or on site.
2. All tree heights and spreads are approximate. The plan position of trunks are taken at ground level. All measurements are taken at a 1.5m height. We have attempted to identify tree species, however if tree species are critical specific advice should be sought.
3. Survey information is as a result of measurement to existing features and does not imply legal ownership of boundaries or land divisions. Where boundary alignment lines are added to the survey drawing and are taken from legal documents or other information supplied they are done so with the constraints of drawing quality and scale. They are provided on the basis of opinion and do not imply legal contract.

Level Datum:-
All Levels relate to an Arbitrary FFL of 50.00m located at the Reception

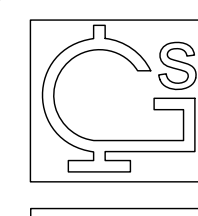
Sheet Location Diagram:

Notes:

✓	REV NOTE	DATE	SIGN
---	----------	------	------



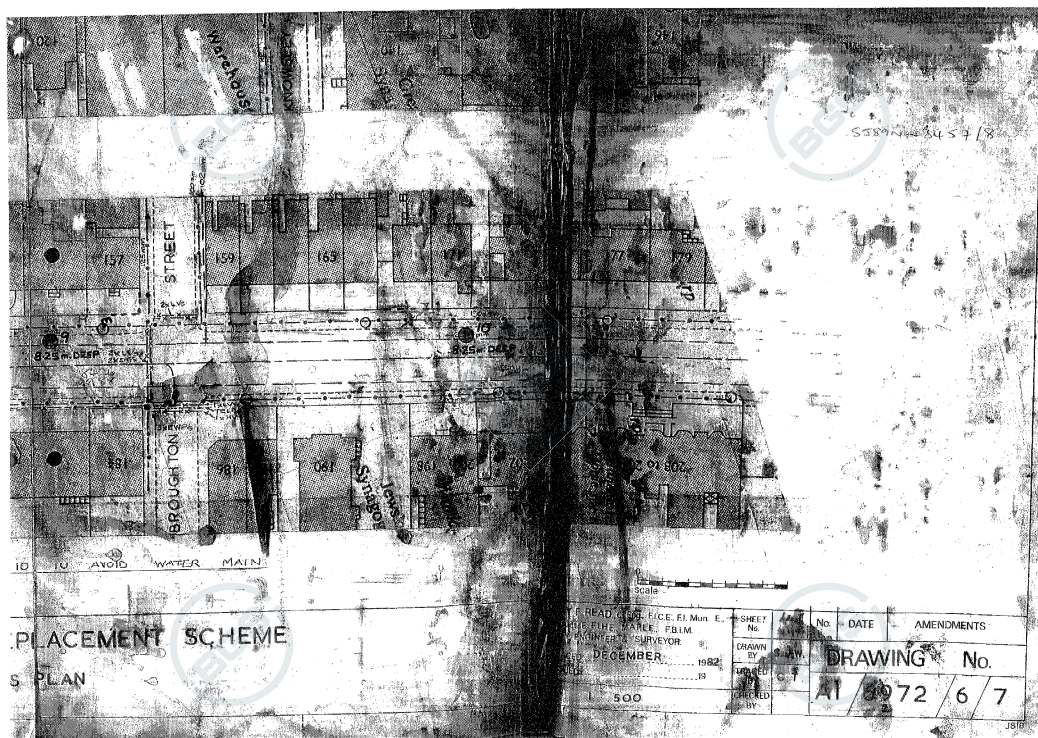
A MEMBER OF
THE
SURVEY
ASSOCIATION

GLOBAL
SURVEYS

7 Park View, Northampton, NN3 7TP
Tel: 01604 491543
Email: info@globalsurveys.co.uk

Site:	Safestore 202-208 Cheetham Hill Road Manchester, M8 8LW
Client:	Tew & Smith
Survey Description:	Topographical Survey

Date	Feb 2012	Scale	1/200 @ A0
Job No.	12076	Surveyor	SH
Sheet	1 of 1	Checked	KPW





MANCHESTER CITY COUNCIL
CITY ENGINEER AND SURVEYORS DEPARTMENT

5589 NW 3458
8428 9994

SITE INVESTIGATION FOR Main Drainage				DATE COMMENCED 2.3.83			
LOCATION Cheetham Hill Road		REF. 83/2		BORING METHOD Cable Percussive			
BOREHOLE N° 10				BORING DIAMETER 150mm			
GRID REFERENCE SJ 99946 84367				SCALE:			

DATE	CASING DEPTH (m)	WATER LEVEL MORNING & EVENING	DEPTH OF STRATA BELOW GL	REDUCED LEVEL	DESCRIPTION	N° AND TYPE OF SAMPLE	SAMPLE DEPTH / PENETRATION		N° OF BLOWS	LEGEND		
							FROM	TO				
2.3.83			0.05		H.R.A.					x x		
			0.15		Setts							
			0.40		Concrete							
			0.90		Ashes, bricks, stones etc.	D1	0.5					
					Very stiff brown silty and sandy CLAY with grey fissures and stone inclusions.	D2	1.0					
						U1	1.5	1.95				
						D3	2.5					
						U2	3.0	3.45				
					3.90		Firm to stiff brown silty and sandy CLAY with stone and coal inclusions.					
						D4		4.0				
			U3	4.5	4.95							
			D5	5.50								
			U4	6.0	6.45							
			D6	7.0								
			U5	7.5	7.95							
				D7	8.25							
2.3.82	6.00	Dry	8.25									

WATER OBSERVATIONS DURING BORING				WATER LEVEL IN CASED / UNCASD BOREHOLE ON COMPLETION		
DEPTH OF WATER ENTRY (m)	ESTIMATED SEE PAGE	STANDING LEVEL (m)	DEPTH OF CASING WHEN SEALED (m)	DATE	WATER LEVEL	DEPTH OF CASING
None						
REMARKS:-						
SAMPLE TEST KEY		D - DISTURBED SAMPLE S - SPT SAMPLE		B - BULK SAMPLE W - WATER SAMPLE		U - UNDISTURBED SAMPLE
NOTE: WHERE FULL 0.3 PENETRATION HAS NOT BEEN ACHIEVED, THE NUMBER OF BLOWS FOR THE QUOTED PENETRATION IS GIVEN (NOT N-VALUE)						
ALL DEPTHS AND REDUCED LEVELS IN (m) UNLESS OTHERWISE STATED.						
REMARKS						
Trial hole excavated to 1.0m b.g.l. Borehole backfilled on completion, no final overnight water level observed.						

Calculated by:	Tashveer Madanjith
Site name:	Safestore Cheetham Hill Road
Site location:	Manchester

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Site Details

Latitude:	53.49612° N
Longitude:	2.23769° W
Reference:	81134476
Date:	Jan 22 2025 10:34

Runoff estimation approach

IH124

Site characteristics

Total site area (ha):	0.149
-----------------------	-------

Methodology

Q _{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Notes

(1) Is Q_{BAR} < 2.0 l/s/ha?

When Q_{BAR} is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

Soil characteristics

	Default	Edited
SOIL type:	4	4
HOST class:	N/A	N/A
SPR/SPRHOST:	0.47	0.47

(2) Are flow rates < 5.0 l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

Hydrological characteristics

	Default	Edited
SAAR (mm):	902	902
Hydrological region:	10	10
Growth curve factor 1 year:	0.87	0.87
Growth curve factor 30 years:	1.7	1.7
Growth curve factor 100 years:	2.08	2.08
Growth curve factor 200 years:	2.37	2.37

(3) Is SPR/SPRHOST ≤ 0.3?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

Greenfield runoff rates

Default

Edited

Q_{BAR} (l/s):	0.97	0.97
1 in 1 year (l/s):	0.84	0.84
1 in 30 years (l/s):	1.65	1.65
1 in 100 year (l/s):	2.01	2.01
1 in 200 years (l/s):	2.29	2.29

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement , which can both be found at www.uksuds.com/terms-and-conditions.htm. The outputs from this tool are estimates of greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.

Design Settings

Rainfall Methodology	FEH-22	Maximum Time of Concentration (mins)	30.00	Preferred Cover Depth (m)	1.200
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0	Include Intermediate Ground	✓
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00	Enforce best practice design rules	x
CV	1.000	Connection Type	Level Soffits		
Time of Entry (mins)	5.00	Minimum Backdrop Height (m)	0.200		

Simulation Settings

Rainfall Methodology	FEH-22	Skip Steady State	x	2 year (l/s)	0.9	100 year 360 minute (m³)	46
Summer CV	1.000	Drain Down Time (mins)	60	30 year (l/s)	1.9		
Winter CV	1.000	Additional Storage (m³/ha)	0.0	100 year (l/s)	2.4		
Analysis Speed	Normal	Check Discharge Rate(s)	✓	Check Discharge Volume	✓		

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0	100	45	0	0
30	40	0	0				

Pre-development Discharge Rate

Site Makeup	Greenfield	Soil Index	4	Growth Factor 30 year	1.95	Q 2 year (l/s)	0.9
Greenfield Method	IH124	SPR	0.47	Growth Factor 100 year	2.48	Q 30 year (l/s)	1.9
Positively Drained Area (ha)	0.149	Region	1	Betterment (%)	0	Q 100 year (l/s)	2.4
SAAR (mm)	902	Growth Factor 2 year	0.90	QBar	1.0		

Pre-development Discharge Volume

Site Makeup	Greenfield	Soil Index	4	Return Period (years)	100	Betterment (%)	0
Greenfield Method	FSR/FEH	SPR	0.47	Climate Change (%)	0	PR	0.508
Positively Drained Area (ha)	0.149	CWI	124.755	Storm Duration (mins)	360	Runoff Volume (m³)	46

Node FCMH Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	48.200	Product Number	CTL-SHE-0072-2000-0660-2000
Design Depth (m)	0.660	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	2.0	Min Node Diameter (mm)	1200

Node Storage_MH Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	48.250
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	155.5	0.0	0.610	155.5	0.0	0.611	0.1	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.54%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	SWMH02	8	48.411	0.141	14.2	0.0400	0.0000	OK
15 minute summer	SWMH01	10	48.566	0.066	10.9	0.0949	0.0000	OK
240 minute summer	Storage_MH	160	48.353	0.103	8.8	15.3792	0.0000	OK
240 minute summer	FCMH	152	48.359	0.159	5.7	0.2279	0.0000	SURCHARGED
15 minute summer	MH3	1	47.880	0.000	1.9	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	SWMH02	1.000	Storage_MH	14.4	0.987	0.627	0.7396	
15 minute summer	SWMH01	2.000	Storage_MH	10.8	1.152	0.171	0.1113	
240 minute summer	Storage_MH	1.001	FCMH	5.7	0.526	0.205	0.0314	
240 minute summer	FCMH	Hydro-Brake®	MH3	2.0				25.7

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.54%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	SWMH02	236	48.679	0.409	9.0	0.1158	0.0000	SURCHARGED
240 minute winter	SWMH01	236	48.679	0.179	6.9	0.2566	0.0000	OK
240 minute winter	Storage_MH	236	48.679	0.429	15.3	63.9031	0.0000	SURCHARGED
240 minute winter	FCMH	236	48.679	0.479	4.9	0.6852	0.0000	SURCHARGED
15 minute summer	MH3	1	47.880	0.000	2.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	SWMH02	1.000	Storage_MH	8.4	0.485	0.366	3.1132	
240 minute winter	SWMH01	2.000	Storage_MH	6.9	0.933	0.109	0.4375	
240 minute winter	Storage_MH	1.001	FCMH	4.9	0.473	0.177	0.0362	
240 minute winter	FCMH	Hydro-Brake®	MH3	2.0				28.5

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.54%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	SWMH02	344	48.854	0.584	8.7	0.1651	0.0000	SURCHARGED
360 minute winter	SWMH01	344	48.854	0.354	6.7	0.5059	0.0000	SURCHARGED
360 minute winter	Storage_MH	344	48.853	0.603	14.7	89.8289	0.0000	SURCHARGED
360 minute winter	FCMH	344	48.853	0.653	4.8	0.9342	0.0000	SURCHARGED
15 minute summer	MH3	1	47.880	0.000	2.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	SWMH02	1.000	Storage_MH	8.4	0.379	0.366	3.1132	
360 minute winter	SWMH01	2.000	Storage_MH	6.5	0.872	0.103	0.4721	
360 minute winter	Storage_MH	1.001	FCMH	4.8	0.461	0.172	0.0362	
360 minute winter	FCMH	Hydro-Brake®	MH3	2.0				44.0

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
Storage_MH	0.506	5.00	49.660	1200	2496.525	7541.623	1.460
MH3			50.000	1350	2536.083	7552.942	2.120

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Storage_MH	10	48.375	0.175	85.4	0.1982	0.0000	OK
15 minute summer	MH3	10	48.045	0.165	84.7	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	Storage_MH	1.000	MH3	84.7	1.543	0.297	2.2586	36.9

Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Storage_MH	10	48.513	0.313	214.7	0.3539	0.0000	OK
15 minute summer	MH3	10	48.163	0.283	212.8	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	Storage_MH	1.000	MH3	212.8	1.914	0.747	4.5817	92.8

Results for 100 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Storage_MH	10	48.583	0.383	271.2	0.4327	0.0000	OK
15 minute summer	MH3	10	48.217	0.337	268.8	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	Storage_MH	1.000	MH3	268.8	1.988	0.944	5.5761	117.3