

**Renshaw House,
Manchester**

Flood Risk Assessment

for

MIA JAMES
CONSTRUCTION & INTERIORS

Ref: 30094-BGL-XX-XX-RP-C-00001

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2	12.04.2024	DRAFT FOR COMMENT – UPDATED DEVELOPMENT INFORMATION
3	16.05.2024	UPDATED SITE LAYOUT
4	06.11.2024	UPDATED SITE LAYOUT

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1.0 - PROJECT BACKGROUND

1.1 - Appointment

Burrows Graham Limited have been commissioned by 'Mia James Construction & Interiors' (referred to as 'the applicant' hereafter) to undertake a flood risk assessment and drainage strategy of suitable scope to support a planning application for a proposed Student Residential building on the junction of Plymouth Grove and Hyde Grove, Manchester.

1.2 - Aim of study

This Flood Risk Assessment (FRA) has been developed in due cognisance of all relevant available policy information. It is anticipated that this report will satisfy the requirements of the National Planning Policy Framework (NPPF) and all relevant flood risk planning policies.

1.3 - Relevant policy and strategy documents

The following documents were reviewed as part of this Flood Risk Assessment:

- DEFRA Sustainable Drainage Systems Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015)
- Environment Agency Climate Change Guidance (February 2016)
- Flood and Water Management Act (April 2010)
- National Planning Policy Framework (Updated July 2022) and Planning Practice Guidance (March 2014)
- Sustainable Drainage Systems Written Statement HCWS161 (December 2014)
- Manchester City, Salford City and Trafford Councils Level 2 Hybrid SFRA – Level 1 SFRA

1.4 - Proposed development

A full planning application is being submitted on behalf of the applicant for the 0.14ha site at the junction of Hyde Grove and Plymouth Grove Street.

The development will be a re-purpose of the existing site for a Purpose Built Student Accommodation (PBSA) providing a high-quality development. Renshaw House is on the existing site which will need to be demolished and the PBSA erected in its place.

The proposed development comprises a 4-floor (5-storey) building with; en-suite bedrooms, kitchen and dining spaces, a communal social space, vehicular access, disabled access, bike storage, courtyard and public amenity areas, plant and servicing and a social space with frontage on to Hyde Grove.

There are 76 proposed studio units and each has a shower, toilet, and sink.

The proposed development will utilise green roofs, permeable paving and is surrounded on two sides by soft landscaping.

The development can be classed as:

- 'Very low risk' in accordance with the 'gov.uk' website for Flood risk from surface water and Flood risk from rivers of the sea.
- 'Less vulnerable' in accordance with guidance set out on the 'gov.uk' website, namely 'Table 2: Flood vulnerability classification'.
- 'Not within a Critical Drainage Catchment' as defined in the Manchester City, Salford City and Trafford Councils Level 2 Hybrid SFRA Critical Drainage Areas.



Figure 1 – Development Ground Floor Plans – P09 (APPENDIX A)

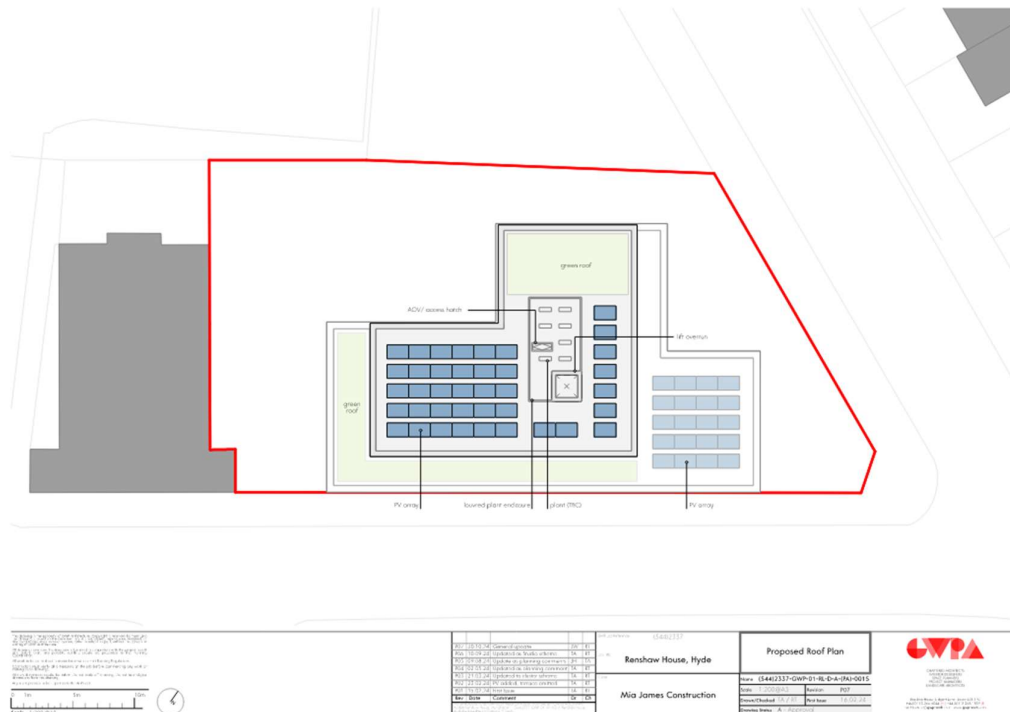


Figure 2 - Development Roof Plan – P07 (APPENDIX B)

2.0- SITE DETAILS

2.1 - Site description

Table 1 - Site characteristics

Site address	Renshaw House, Manchester, Hyde Grove, Brunswick, Chorlton-on-Medlock, Manchester M13 9LQ
Grid reference	SJ 85330 96380
Area (hectares)	The site boundary has been measured to be 0.14 hectares.
Usage	PBSA
Surroundings	The site is located in south-east Manchester. - To the north-east, the boundary is defined by Plymouth Grove, A5184 and beyond the A-road there is a number of residential plots for c. 400m. - To the south-east the boundary is defined by Hyde Grove where the development will be accessed. Beyond Hyde Grove there are a number of apartment blocks and Swinton Grove Park is c.120m away. - To the south-west, the boundary is defined by Hyde Grove Chapel 'The Old Church'. - To the west is Manchester Blood Donor Centre, beyond this is Upper Brook Street, A34 which leads north to Manchester Ring Road. - To the north-west is also Manchester Blood Donor Centre, Manchester Central Ambulance Centre and their ancillary carpark The wider landscape comprises of commercial and residential building, mainly hardstanding roads with scattered soft landscaping.
Topography	Site levels are generally flat, all the levels within the existing grass area to the north-east of the site are within the 42.00m to 42.40m AOD range. The site itself is slightly elevated from its surroundings as the footpaths to the north and south-east are around 42.90mAOD. A copy of the topographical survey has been included in APPENDIX B APPENDIX B of this report.



Figure 3 - Site Location Plan - Google Earth Image 2024

2.2 – Existing drainage

The United Utilities Sewer Records have been displayed in APPENDIX C of this report as part of this report. In proximity to the development there are only Combined Public Sewers, to the north, in Plymouth Grove and to the east in Hyde Grove.

The Combined Sewer in;

- Plymouth Grove, to the north, takes sewage from east to west under Plymouth Grove then north up Leigh Street to the wider UU network.
- Hyde Grove, to the east, takes sewage south away from Plymouth Grove, under Manchester NHS blood donor car park into the A34, Upper Brook Street to the wider UU network. The head of this run is west of the proposed development, set back from the junction of Hyde Grove and Plymouth Road.

From UU records there is no indication of invert levels however it is assumed these can be connected via gravity connections.

There is a trunk main under Plymouth Grove and the connecting distribution main in Hyde Grove which has a stub into the proposed development with a stop tap adjacent to the Old Church.

3.0 – FLOOD RISK STATEMENT

3.1 - Fluvial flood risk

The National Planning Policy Framework (NPPF) categorises flood risk as follows:

- Zone 1 (low probability) – Land assessed as having less than a 1 in 1,000 annual probability of river or sea flooding (<0.1%);
- Zone 2 (medium probability) – Land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year; and
- Zone 3a (high probability) - Land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
- Zone 3b The Functional Floodplain - This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the EA. (Not separately distinguished from Zone 3a on the Flood Map).

The EA flood zone maps for planning show the site to be located within flood zone 1.

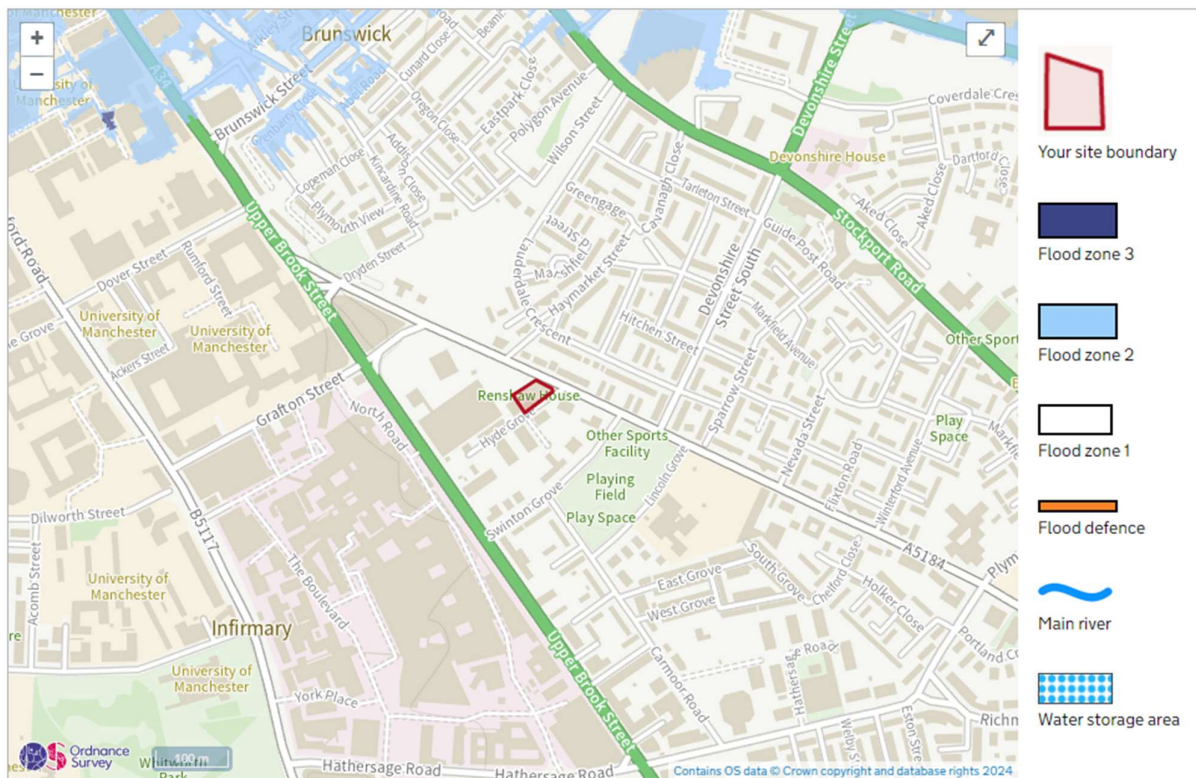


Figure 5 - EA Flood zone map

Based on the below, the site considered to be at very low risk of flooding from rivers or sea.

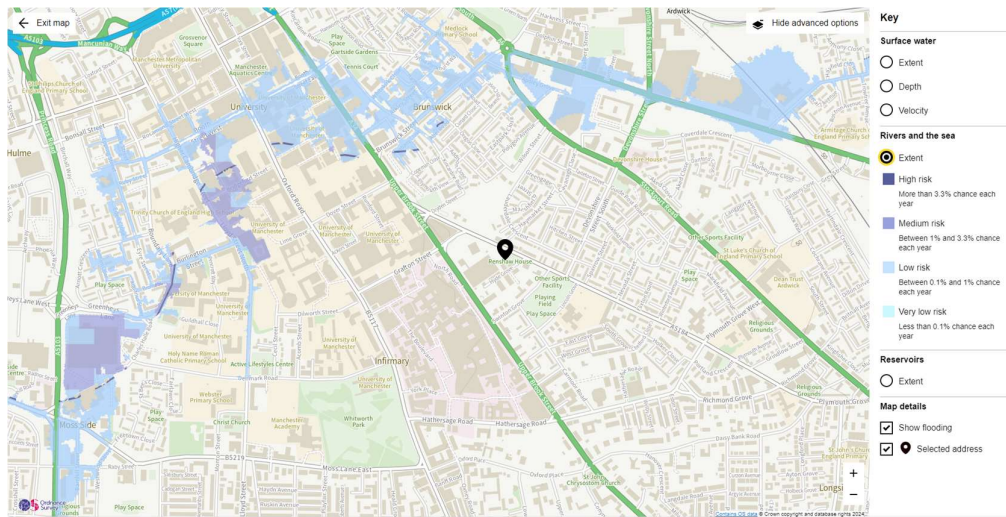


Figure 6 - EA Flood risk from rivers or the sea

3.2 - Surface water flooding

The EA descriptions for the High, Medium and Low risk scenarios for surface water flooding are as follows:

- High risk means that each year this area has a chance of flooding of greater than 3.3%.
- Medium risk means that each year this area has a chance of flooding of between 1% and 3.3%.
- Low risk means that each year this area has a chance of flooding of between 0.1% and 1%.
- Very Low risk means that each year this area has a chance of flooding of less than 0.1%.

The EA Map of long-term flood risk from surface water indicates that the site is very low risk of flooding.

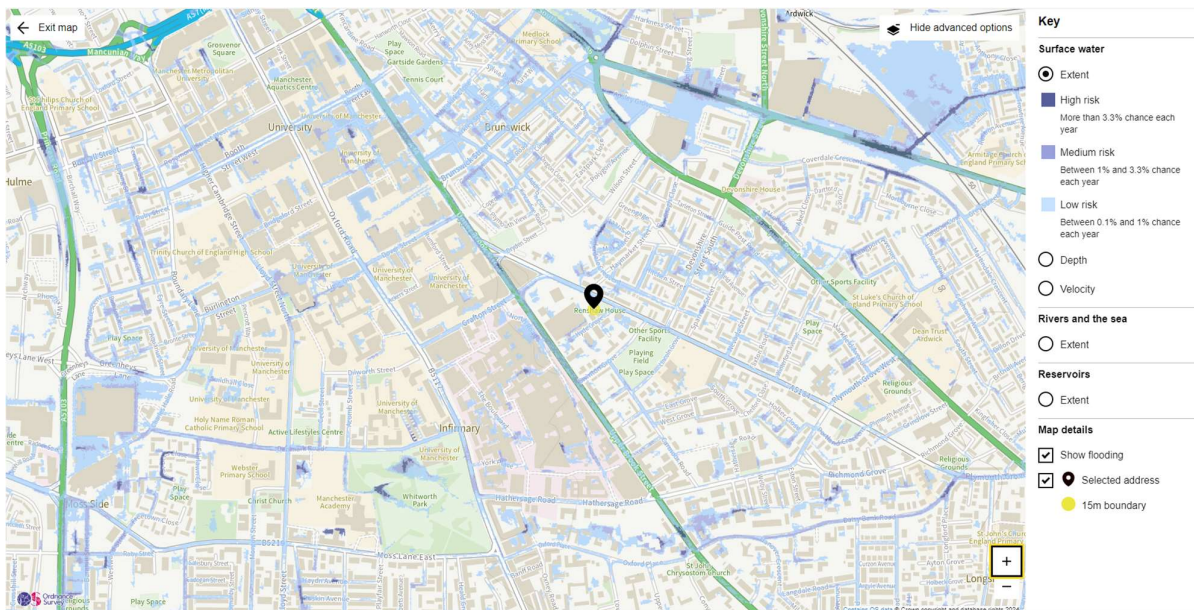


Figure 7 - EA Flood Map for Surface Water

The drainage strategy is not expected to inhibit the development proposals and similarly the development is not likely to increase this risk. A 50% run-off rate reduction for the site is proposed in accordance with the Local Flood Risk Manchester Strategy (LFRM) policy 6, for brownfield sites.

3.3 - Groundwater flood risk

Groundwater flooding occurs when the water table, the level of water below the ground, rises above the ground surface or into cellars and basements. Groundwater flooding is most likely to occur in low lying areas underlain by permeable rocks (aquifers). These may be extensive, regional aquifers, such as chalk or sandstone, or may be localised sands or river gravels in valley bottoms underlain by less permeable rocks.

Based on Manchester City, Salford City and Trafford Councils Level 2 Hybrid SFRA Groundwater Flooding map the development is not within an area at risk of; groundwater flooding, shallow groundwater or groundwater rebound.

The development will include a minimal amount of below ground development, primarily associated with the new drainage system and building foundations. A development of this scale is unlikely to disrupt local groundwater regimes.

Therefore, based on the limited information available, it is considered that groundwater flooding does not pose a considerable risk to the proposed development.

3.4 – Sewer flooding

There are no historical records of existing sewers flooding within the vicinity of the site. Therefore, the site is at low of risk of flooding from sewers.

The design discharge rates are to be agreed with United Utilities and the intent is not to increase the risk of flooding subject to the development.

3.5 - Tidal flooding

The site is remote from tidal influences and is therefore not at risk of tidal or coastal flooding.

3.6 - Reservoir flooding

Gorton Lower Reservoir, 4km to the east is the nearest reservoir to the development. Based on the EA Flood Risk from Reservoirs Map, the site is at risk of flooding from reservoirs. However, this is not considered to be a significant risk, as United Utilities maintain the reservoirs in the area to a high standard, meaning a failure event is unlikely to occur.

3.7 – Summary of Flood Risks from the Development

Table 2 - Summary of Flood Risks from the Development

Flood Risk	Summary of Risk to Development Site	Notes	Mitigation Required
Fluvial	Low	The site is located in Flood Zone 1 and surface water run-off generated by the site will be attenuated within the red line planning boundary and discharged into the United Utilities (UU) combined sewer network a brownfield rate + 50% betterment. This rate has been assumed and is yet to be agreed with UU, MCC and the MCC LLFA.	No
Surface Water	Low	As discussed above, there will be no increase in run-off from the proposed development into other areas as all flows will be attenuated by the proposed drainage network, up to and including the 1 in 100 year plus 30% climate change event which is the local central allowance.	No
Groundwater	Low	The development will include a minimal amount of below ground development, primarily associated with the new drainage system and building foundations. A development of this scale is unlikely to disrupt local groundwater regimes.	No
Sewer and Water supply Infrastructure	Low	The development will include an appropriate drainage network which will capture and attenuate all generated flows up to and including the 1 in 100 plus 30% climate change event. There are no historical records of existing sewers flooding within the vicinity of the site. Therefore, the site is at low of risk of flooding from sewers.	No
Tidal	Low	The site is remote from tidal influences and is therefore not at risk of tidal or coastal flooding.	No
Reservoir	Low	Gorton Lower Reservoir, 4km to the east is the nearest reservoir to the development. However, this is not considered to be a significant risk, as United Utilities maintain the reservoirs in the area to a high standard, meaning a failure event is unlikely to occur.	No

APPENDIX A

DEVELOPMENT SITE, GROUND FLOOR AND ROOF PLANS



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All work to be carried out in accordance with current Building Regulations.

Contractors must verify all dimensions at the job before commencing any work or making shop drawings.

Written dimensions should be taken. Do not scale off drawing. Do not take digital dimensions from this drawing.

Any discrepancies to be reported to the Architect.

0 1m 5m 10m

Scale - 1:200 @A3



P09	30.10.24	General update	JW	RT
P08	10.09.24	Updated as Studio scheme	TA	RT
P07	09.08.24	Update as planning comments	JH	TA
P06	08.05.24	Update to suit tree survey	TA	RT
P05	02.05.24	Updated as planning comment	TA	RT
P04	27.03.24	Doors updated to suit levels	TA	RT
P03	21.03.24	Updated to cluster scheme	TA	RT
P02	23.02.24	Cycle parking updated	TA	RT
Rev	Date	Comment	Dr	Ch

GWP Job Reference	(544)2337
Job Title	Renshaw House, Hyde
Client	Mia James Construction

Proposed Ground Floor Plan	
Name	(544)2337-GWP-01-GF-D-A-(PA)-0009
Scale	1:200@A3
Revision	P09
Drawn/Checked	MH / TA
First Issue	23.02.24
Drawing Status	A - Approval

APPENDIX B

TOPOGRAPHICAL SURVEY

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS AND DRAWINGS ISSUED. FOR DISCREPANCIES OR OMISSIONS CONTACT MOBILE CAD SURVEYING SOLUTIONS LTD PRIOR TO WORK COMMENCING. THE CONTRACTOR IS TO CHECK AND VERIFY ALL BUILDING AND SITE DIMENSIONS AND LEVELS BEFORE WORK COMMENCES.

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DO NOT SCALE THIS DRAWING - CHECK ALL DIMENSIONS ON SITE

Note:
Areas drawn indicatively noted and indicated by grey dashed line as line below

LEVEL DATUM & ORIENTATION

LEVELS & DRAWING ORIENTATION CO-ORDINATED TO WORLD CO-ORDINATES USING GPS EQUIPMENT. PERMANENT STATIONS LOCATED IN POSITIONS INDICATED ON PLAN AS FOLLOWS:-

STN 01-	E-385310.498,	N-396347.266,	HT - 41.674m
STN 02-	E-385317.650,	N-396351.638,	HT - 41.708m
STN 03-	E-385321.550,	N-396343.760,	HT - 41.673m
STN 04-	E-385314.500,	N-396335.221,	HT - 41.899m

ABBREVIATIONS & LEGEND:

LEVELS & HEIGHTS CL - COVER LEVEL IL - INVERT LEVEL HT - HEIGHT STN - SURVEY STATION BM - BEAM CE - CEILING J - JOISTS RA - RAFTERS E - EAVES F - FENCE UIS - UNDERSIDE OF RL - RIDGE LINE FR - FLAT ROOF HL - HIP LINE VL - VALLEY LINE PW - PARAPET WALL SL - SLAB SF - SOFFIT T - TREE THR - THRESHOLD To - TOP OF W - WALL HH - HEAD HEIGHT OH - OPENING HEIGHT SH - SILL HEIGHT	SERVICES BT - BRITISH TELECOMS CATV - CABLE TELEVISION ER - EARTHING ROD ES - ELECTRICAL SUPPLY PH - FIRE HYDRANT GAS - GAS SUPPLY PO - POST OFFICE TELEPHONE SV - STOP VALVE TSSU - TRAFFIC LIGHT SIGNALS DRAINAGE DC - DRAINAGE CHANNEL G - GULLY IC - INSPECTION CHAMBER MH - MANHOLE RE - RIDDING EYE RWP - RAIN WATER PIPE UTL - UNABLE TO LIFT SVP - SOL & VENT PIPE ST - STOP TAP WM - WATER METER	TYPICAL DRAWING SYMBOLS SPOT LEVEL SURVEY STATION MANHOLE / INSPECTION CHAMBER SURVEY HEIGHT WINDOW TAG DOOR TAG RADIATOR TAG TOP & BOTTOM OF KERB TOPOGRAPHICAL SYMBOLS OVERHEAD ELECTRICAL OVERHEAD TELEPHONE FENCE LINE VEGETATION OUTLINE SINGLE GATE DOUBLE GATE TREE CONTOURS SLOPING DIRECTION LINE
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TOPOGRAPHICAL SURVEY

1:200 Scale

REV DATE AMENDMENTS

PROJECT: TOPOGRAPHICAL SURVEY
ADDRESS: RENSHAW HOUSE,
HYDE GROVE,
MANCHESTER,
M13 9LG.

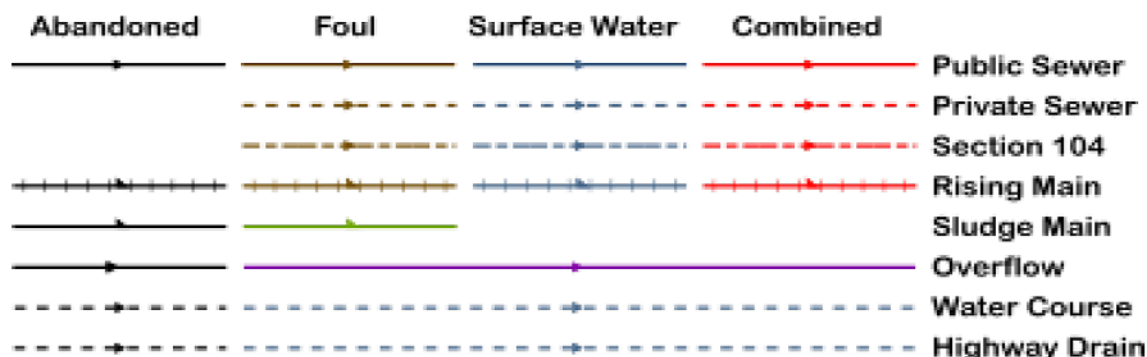
DWG NO.: 3967- 01
DWG TITLE: TOPOGRAPHICAL SURVEY
DWG DATE: SEPTEMBER 2023
DWG SIZE: 1:200 @ A1

DRAWN: MW
CHECKED: JH
ISSUE:

APPENDIX C

UNITED UTILITIES SEWER RECORDS

Wastewater Symbolology



All point assets follow the standard colour convention: **red** – combined **brown** - foul
blue – surface water **purple** - overflow

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



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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**

