



Port Street, Manchester

FLOOD RISK ASSESSMENT AND DRAINAGE STRATEGY REPORT

84548-PORT-WSP-RP-FRA-001





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TYPE OF DOCUMENT (VERSION) PUBLIC

PROJECT NO. 84548

OUR REF. NO. 84548-PORT-WSP-RP-FRA-001

DATE: NOVEMBER 2021

WSP

8 First Street

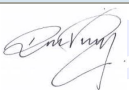
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QUALITY CONTROL

Issue/revision	Preliminary	Revision P01	Revision P02	Revision P03
Remarks	Issued for Planning			
Date	23/11/2021			
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Signature	Brimblecombe, Jack (UKJEB008) Digitally signed by Brimblecombe, Jack (UKJEB008) DN: cn=Brimblecombe, Jack (UKJEB008), o=WSP, email=Jack.Brimblecombe@wsp.com Date: 2021.11.23 16:05:23			
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Authorised by	R Verity			
Signature	 Verity, Richard (UKRMV002) 2021.11.23 16:18:09 Z			
Project number	70084548			
Report number	84548-PORT-WSP-RP-FRA-001			
File reference				

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EXECUTIVE SUMMARY

This Flood Risk Assessment and Drainage Strategy Report has been prepared by WSP Ltd in support of a detailed planning application for a proposed residential-led development at Port Street, Manchester.

The report has been written in due cognisance of the National Planning Policy Framework (NPPF) and the Manchester, Salford and Trafford Strategic Flood Risk Assessment as well as other relevant local and national planning policy and guidance documents.

The Environment Agency's Flood Map for Planning indicates that the site wholly located in EA Flood Zone 1 and therefore has a Low Risk of flooding from rivers or the sea. However, the risk of flooding from all other sources has also been considered in this report.

The Environment Agency Map of long-term flood risk from surface water indicates that there is a Low risk of surface water flooding of low-lying areas in the existing site. These low-level areas are to be redeveloped as part of this scheme and with new drainage systems therefore reducing the risk of surface water flooding on the site.

The provision of Sustainable Drainage Systems (SuDS) has been considered for the site and it is proposed to include permeable pavements, filter drains and potentially rain gardens along with below ground surface water attenuation systems as part of the surface water drainage proposals.

Presently, the site is known to have a series of drains that were picked up by a GPR survey. These drains were not traced completely and therefore their point of discharge is yet to be confirmed but is understood to be the combined sewers in Port Street and Tariff Street. This is to be clarified via a Drainage CCTV Survey.

A detailed review of proposed points of connection for surface water drainage from the site has been carried out in line with the drainage hierarchy set out in the building regulations. It is not considered to be feasible to dispose of surface water drainage from this development via soakaways, directly to a watercourse or the nearby Rochdale Canal or to a surface water sewer or a highway drain.

Therefore, it is proposed to discharge surface water from the site via 2no. connections: A new combined lateral connection to the existing 300mm / 300mm x 400mm combined sewer in Port Street at a maximum rate of 5 litres per second and a connection to an existing drain in the south of the site identified by GPR survey also at a maximum rate of 5 litres per second.

The attenuation volumes to be provided have been designed to ensure that surface water runoff for storm events up to and including the 100-year storm plus a 40% allowance for climate change, can be contained within the site safely without causing a risk of flooding to property.

It is proposed to discharge foul drainage from the site via a new combined lateral connection to the existing 300mm / 300mm x 400mm combined sewer in Port Street.

This Flood Risk Assessment and Drainage Strategy has concluded that a development of this type is appropriate in its proposed location, can be occupied safely for its lifetime, does not increase flood risk elsewhere in the local catchment and where possible seeks to reduce the risk of flooding overall. This is subject to implementation of the recommended flood risk management and mitigation measures being carried out.

1. PROJECT BACKGROUND

1.1. APPOINTMENT

- 1.1.1. WSP UK Ltd have been commissioned by Manchester (Port Street) Ltd (hereafter referred to as “the Client”), to undertake a Flood Risk Assessment (FRA) and Drainage Strategy Report for a proposed residential-led mixed use development at Port Street, Manchester.

1.2. AIM OF STUDY

- 1.2.1. The aim of this study is to carry out a Flood Risk Assessment and Drainage Strategy of suitable scope and detail to support a full planning application for the site.

1.3. PROPOSED DEVELOPMENT

- 1.3.1. Reference should be made to the extract of the proposed development masterplan shown below, which is included as Appendix A of this report.



Figure 1-1 - Development Masterplan

- 1.3.2. The proposed development comprises of a part ten, part thirty-two storey residential-led development on a prominent site on the corner of Port Street and Great Ancoats Street. The proposals include one hundred and fifty-eight (158) one-bed, three hundred and nine (309) two-bed and eighteen (18) three-bed apartments with four hundred and eighty-five (485) residential units in total.

- 1.3.3. The building footprint is irregular in plan with a partly enclosed courtyard area in the centre. The ground floor of the building contains an entrance lobby and management suite, retail units and amenity space including a gym. There is retail space along the north-eastern front of the ground floor along Great Ancoats Street is at a raised platform level relative to the remainder of the ground floor.
- 1.3.4. The development also includes a basement level which includes car parking, bin stores and plant rooms.

1.4. CONSULTATION

- 1.4.1. The following statutory consultees have been consulted in the preparation of this report:
- Manchester City Council (MCC) & Lead Local Flood Authority (LLFA)
 - The Environment Agency (EA);
 - United Utilities (UU); and
 - Canal and River Trust (CRT).

1.5. REFERENCE

- 1.5.1. This FRA and Drainage Strategy has been developed in due cognisance of all relevant local and national planning policy information as outlined in section 2 of this report, along with requirements outlined in consultation responses.

1.6. LIMITATIONS

- 1.6.1. This report has been written using data provided by third parties. Whilst every care has been taken to ensure this information is accurate and up to date, WSP cannot guarantee the accuracy of third-party data, and the findings of this report are subject to change if the data is amended or updated after consultation. The recommendations made within this report are subject to review on receipt of further consultation responses.

2. PLANNING POLICY AND CONSULTATION

2.1. RELEVANT NATIONAL AND LOCAL PLANNING POLICY AND STRATEGY DOCUMENTS

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

- National Planning Policy Framework (Updated July 2021) and Planning Practice Guidance (Updated June 2021)
- Defra Sustainable Drainage Systems Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015)
- Sustainable Drainage Systems Written Statement HCWS161 (December 2014)
- Environment Agency Climate Change Guidance (Updated October 2021)
- Manchester, Salford and Trafford Hybrid Strategic Flood Risk Assessment (March 2011)
- Manchester, Salford and Trafford Hybrid Strategic Flood Risk Assessment User Guide (March 2011)
- Flood and Water Management Act (April 2010)

2.2. NATIONAL PLANNING POLICY

NATIONAL PLANNING POLICY FRAMEWORK

- 2.2.1. The National Planning Policy Framework (NPPF) ensures that flood risk is considered at all stages in the planning process to avoid inappropriate development in areas at risk of flooding and to direct development away from areas of highest flood risk.
- 2.2.2. Where new development is exceptionally necessary in such areas, policy aims to make it safe without increasing flood risk elsewhere and, where possible, reducing flood risk overall.
- 2.2.3. On 6 March 2014 the Department for Communities and Local Government launched the Planning Practice Guidance web resource to supplement the framework. On this date, PPS 25 (Development and Flood Risk) Practice Guide was cancelled and replaced by the Flood Risk and Coastal Change Planning Practice Guidance.
- 2.2.4. The NPPF was updated on 20th July 2021. The changes relevant to this report are centred around the inclusion of Flood Risk Vulnerability Classification, which grades development vulnerability from essential infrastructure to water-compatible development, and how an exception test should be applied dependant on the vulnerability of the development.

DEFRA NON-STATUTORY TECHNICAL STANDARDS FOR SUSTAINABLE DRAINAGE SYSTEMS (MARCH 2015)

- 2.2.5. This document sets out non-statutory technical standards for sustainable drainage systems. It should be used in conjunction with the National Planning Policy Framework and Planning Practice Guidance.
- 2.2.6. For developments which were previously developed, the peak run-off rate from the development to any drain, sewer or surface water body for the 1 in 1 year rainfall event and the 1 in 100-year rainfall event must be as close as reasonably practicable to the greenfield run-off rate from the development for the same rainfall event but should never exceed the rate of discharge from the development prior to redevelopment for that event. Where reasonably practicable, for developments which have been previously developed, the run-off volume from the development to any highway drain, sewer or surface

water body in the 1 in 100-year, 6-hour rainfall event must be constrained to a value as close as is reasonably practicable to the greenfield run-off volume for the same event but should never exceed the run-off volume from the development site prior to redevelopment for that event.

- 2.2.7. The drainage system must be designed so that, unless an area is designated to hold and/or convey water as part of the design, flooding does not occur on any part of the site for a 1 in 30-year rainfall event.
- 2.2.8. The drainage system must be designed so that, unless an area is designated to hold and/or convey water as part of the design, flooding does not occur during a 1 in 100-year rainfall event in any part of a building (including a basement); or in any utility plant area susceptible to water, (e.g. Pumping Station or Electricity Substation) within the development.
- 2.2.9. The design of the site must ensure that, so far as is reasonably practicable, flows resulting from rainfall in excess of a 1 in 100-year rainfall event is managed in exceedance routes that minimise the risks to people and property.

SUSTAINABLE DRAINAGE SYSTEMS WRITTEN STATEMENT HCWS161 (DECEMBER 2014)

- 2.2.10. The Secretary of State for Communities and Local Government laid a Written Ministerial Statement in the House of Commons on 18th December 2014 setting out changes to planning that will apply for major development from 6th April 2015. This confirms that in considering planning applications, local planning authorities should consult the relevant Lead Local Flood Authority on the management of surface water; satisfy themselves that the proposed minimum standards of operation are appropriate and ensure through the use of planning conditions or obligations that there are clear arrangements in place for ongoing maintenance over the lifetime of the development.
- 2.2.11. Therefore, from 6 April 2015 local planning policies and decisions on planning applications relating to major development are required to ensure that sustainable drainage systems (SuDS) are used for the management of surface water.
- 2.2.12. Major development is development involving any one or more of the following:
 - The winning and working of minerals or the use of land for mineral-working deposits;
 - Waste development;
 - The provision of 10 dwellings or more;
 - The provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more; or
 - Development carried out on a site having an area of 1 hectare or more.

2.3. CONSIDERATION OF CLIMATE CHANGE

- 2.3.1. As explained in the Climate Change Adaptation Sub-Committee Progress Report 2014, increased flood risk is the greatest threat to the UK from climate change. Models of the climate system suggest floods of the type experienced in England and Wales in autumn 2000, and between December 2013 and February 2014, have become more likely as a consequence of increased concentrations of greenhouse gases in the atmosphere.
- 2.3.2. More frequent short-duration, high intensity rainfall and more frequent periods of long-duration rainfall could be expected. Sea levels are also expected to continue to rise.

- 2.3.3. This Environment Agency ‘Flood Risk Assessments: Climate Change Allowances’ guidance was updated on 20th July 2021. The change focussed on the peak river flow allowances, with them now being based on management catchments rather than river basin districts and also amendments being made to the values of these allowances using the UK Climate Projections 18 (UKCP18).
- 2.3.4. The updated guidance for peak river flows states that, ‘*You now use (a) the central allowance for all assessments except for essential infrastructure, where you use the higher central allowance, (b) the upper end for ‘credible maximum scenario’ assessments, and (c) the central allowance to calculate flood storage compensation, except for where essential infrastructure is affected, where you use the higher central allowance*”
- 2.3.5. For peak rainfall the EA Guidance provides an upper end and central allowance depending on epoch; the guidance recommends assessment of both the central and upper end allowances to understand the range of impact. These allowances are detailed in Table 2 (Peak Rainfall Intensity Allowance in Small and Urban Catchments) of the EA guidance.
- 2.3.6. Sea levels allowances reflect the previous guidance and vary on a regional basis and for each epoch as shown in Table 2 of the EA guidance.

DEVELOPMENT LIFESPAN AND APPLICABLE ALLOWANCES

- 2.3.7. Similarly to other residential developments it is anticipated that the lifespan of this development will be at least 60 years. The contingency allowances for climate change that are applicable to this site are:

River Basin District: North West; Management Catchment Name: Irwell

- Upper End – 75% for 2080’s
- Higher Central – 46% for 2080’s
- Central – 35% for 2080’s

Peak Rainfall;

- Upper End – 40% for 2070 to 2115
- Central – 20% for 2070 to 2115

Sea Level Rise;

- 1.01m by 2125

2.4. LOCAL PLANNING POLICY

MANCHESTER, SALFORD AND TRAFFORD STRATEGIC FLOOD RISK ASSESSMENT

- 2.4.1. The combined Manchester, Salford & Trafford Strategic Flood Risk Assessment (SFRA) and accompanying User Guide was prepared by JBA Consulting in March 2011, in accordance with PPS 25.
- 2.4.2. *“The SFRA was prepared to inform the preparation of the Local Development Framework and assist the Local Planning Authority in the allocation of sites for future development and general decision making. In addition, the SFRA provides detailed development control recommendations in order to achieve a positive reduction in flood risk within these council areas”.*

2.4.3. The site is shown to be located within the Conurbation Core Critical Drainage Area, “an area within Flood Zone 1 which has critical drainage problems, and which has been notified... [to]... The local planning authority by the Environment Agency”.

2.4.4. The SFRA gives the following guidance in relation to surface water runoff from development sites in the area:

“Development has the potential to cause an increase in impermeable area, an associated increase in surface water runoff rates and volumes, and a consequent potential increase in downstream flood risk due to overloading of sewers, watercourses, culverts and other drainage infrastructure. It should be borne in mind that the sewer network in places across the Greater Manchester area was designed to drain less development than exists today. Development (both planned for and urban creep such as windfall development and paving over gardens) has increased the coverage of impermeable surfaces and added flow over time and the network is known to be at capacity in many places.

Managing surface water discharges from new development is therefore crucial in managing and reducing flood risk to new and existing development downstream. Carefully planned development can also play a role in reducing the number of properties that are directly at risk from surface water flooding. The Planning System has a key role to play in setting standards for sustainable drainage from new developments and ensuring that developments are designed to take account of the risk from surface water flooding.

All development should seek to reduce existing local flooding problems and not add to them. The AGMA authorities are currently developing drainage standards for developments within Critical Drainage Areas and for all other areas. Over time, it is envisaged that local authorities will commission drainage strategies (see below) to determine in more detail, and establish the evidence base for, set reductions in surface water runoff from development sites. These will be used to inform the incorporation of targets and standards in Development Plan Documents, supported by Supplementary Planning Documents, as appropriate. With regard to this, the developer should liaise closely with the Environment Agency, United Utilities and the LPA as soon as possible to determine an appropriate reduction in runoff rate and volume with reference to discharge limits as laid down by any completed SWMP, drainage strategy or local development document for that area. Minimising surface water runoff rates within catchments should be the starting point for negotiations with Developers. In the interim, and based on the technical work undertaken for the SFRA, the following guidance is provided:

- *Development should aim for a minimum reduction in surface water runoff rates of 50% for Brownfield sites, with an aim of reducing runoff to Greenfield rates up to a 1 in 100-year storm event, considering climate change*
- *Development should be designed so that there is no flooding to the development in a 1 in 30-year event and so that there is no property flooding in a 1 in 100 year plus climate change event*

Wherever possible, this should be achieved through the implementation of SUDS. Source control should be considered first. There may be opportunities to deliver SUDS through integrated solutions for collections of strategic sites. The future ownership and maintenance of SUDS systems should be discussed at the planning application stage with the relevant sections of the LPA (including Highways and Drainage), United Utilities and the Environment Agency. This approach should be taken unless the developer can demonstrate that this is not feasible and that there will be no adverse impact caused by the development elsewhere.”3. Any exceedance flows within the site should be retained within the site boundaries for all events up to a 1 in 100-year event”.

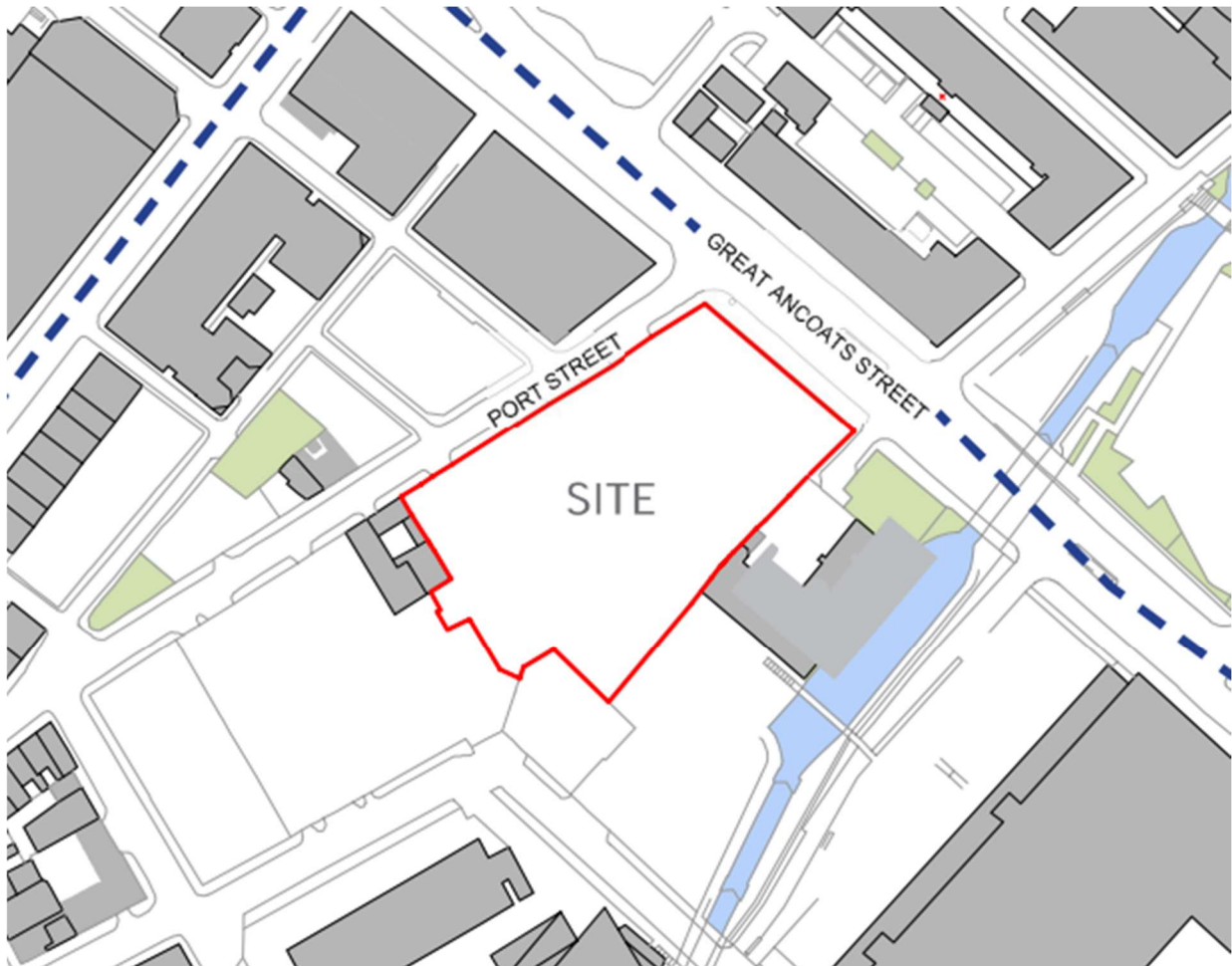
3. EXISTING SITE

3.1. SITE LOCATION

3.1.1. Reference should be made to

3.1.2. Figure 3-1 - Site Location Plan, which is also included as Appendix B.

Figure 3-1 - Site Location Plan



3.2. SITE DESCRIPTION

3.2.1. Table 3-1 summarises the general characteristics of the site as it currently exists.

Table 3-1 – General Site Characteristics

Characteristic	Description
Site address	Port Street, Manchester, M1 2EG
Grid reference	384,850 (Easting), 398,444 (Northing)

Characteristic	Description
Area (Ha)	0.488 Hectares
Existing / previous site usage	The site is currently being used as car parking. The surface of the site is mainly covered by existing concrete hardstanding with an area of rough ground to the north east of the site along its boundary with Great Ancoats Street.
Surroundings	The site is located in an urban environment in the Northern Quarter district of Manchester City Centre. The site is bounded by Port Street (northwest), Great Ancoats Street (northeast), Brownsfield Mill (southeast) and Car Parking (south and west). The Rochdale canal is located approximately 30 metres from the southern boundary.
Topography	The existing site consists of two separate platform levels with land along the Port Street and Great Ancoats Street frontages set at a higher level than the south western and central part of the site. The level difference between the two platforms is approximately 1.5m and the change in level is accommodated by an existing retaining wall and an associated ramp for vehicle movement between the two levels.

3.3. EXISTING DRAINAGE

PUBLIC SEWERS

- 3.3.1. The United Utilities Public Sewer Records, a full copy of which is included in Appendix D, indicate that there are several public sewers in the vicinity of the site.
- 3.3.2. The records show a 300mm / 300mm x 400mm combined public sewer heading in a south-westerly direction in Port Street.
- 3.3.3. Invert level information has been provided where available. The Port Street sewer has three manholes adjacent to site: 8490, 8491 & 8409 with levels provided for 8490 (46.70m AOD) and 8491 (46.30m AOD). The invert level for 8409 was interpolated to be 45.27m AOD, this level is to be confirmed following CCTV survey.
- 3.3.4. There are 2no. 100mm combined public sewers heading in opposite directions in Great Ancoats Street immediately to the east of site.

PRIVATE DRAINAGE

- 3.3.5. A GPR survey of the site identified a number of drains within the site boundary.
- 3.3.6. Two sections of drains are shown to be present in the raised area adjacent to Port Street suggesting an existing connection to Port Street. However, this is yet to be confirmed.

- 3.3.7. Two drains have also been identified within the lowered section of the site. Both appear to be heading in a southerly direction towards the combined sewer in Tariff Street. This is also yet to be confirmed.
- 3.3.8. It is recommended that a CCTV drainage survey is to be undertaken to confirm the location, connectivity and condition of all existing private drainage on site to its connection to the existing public sewer or other outfall and any off-site connections coming into the site from surrounding sites

Figure 3-2 - Public Sewer Records Extract



3.4. EXISTING WATERCOURSES

- 3.4.1. The closest identified watercourses to the site are as follows:
 - The Rochdale Canal (30 metres south-east)

3.5. EXISTING FLOOD DEFENCE INFRASTRUCTURE

- 3.5.1. The EA confirmed that the site is not within an area which benefits from the protection of nearby formal flood defences.

3.6. GEOLOGY AND HYDROGEOLOGY

- 3.6.1. The following information has been extracted from the Cundall Phase I Geotechnical & Environmental Assessment (Ref: 1030002.RPT.GL.001, February 2021) and the WSP Interpretative Ground Investigation Report (Ref: 70084785-WSP-GEO-IGR-001, June 2021).
- 3.6.2. Reference to the BGS GeoIndex indicates the site geology comprises Glacial Till underlain by bedrock of the Chester Sandstone Formation.
- 3.6.3. To gain insight into the likely nature and thickness of the superficial deposits and bedrock, a review of nearby BGS logs Geo Index Logs and available third-party ground investigation logs for adjacent developments has been completed.
- There is a single historic BGS borehole (SJ89NW31) within the site boundary in the far northeast of the site. The borehole records show the ground to be composed of Made Ground to 1.3mbgl; Glacial Till from 1.30mbgl to 24mbgl with Sandstone comprising the rest of the borehole to its extents at 29mbgl
 - Further to this, there are three publicly accessible borehole records (SJ89NW3987, SJ89NW30 & SJ89NW3986) within 100m of the site boundary that confirm the onsite borehole's findings in terms of downwards sequencing.
- 3.6.4. Based on the site history, Made Ground is anticipated to overlie natural strata across the site. Particular areas where a thick layer of Made Ground is likely to be present is within the infilled canal basin and as backfill for the retaining walls found on site.
- 3.6.5. The Cundall Report indicates the following aquifer designations:
- The superficial deposits are classed as a Secondary Aquifer
 - Bedrock is classed as a Principal Aquifer
- 3.6.6. There are no groundwater abstractions or groundwater discharge consents within 750m of the site.
- 3.6.7. Groundwater depths are not recorded on the nearest BGS logs (within 100m of the site).

4. CONSULTATION

4.1. THE ENVIRONMENT AGENCY (EA)

- 4.1.1. The Environment Agency were contacted and asked to provide details of any recorded historical flooding incidents at or in close proximity to the site and to confirm whether the site has a known risk of flooding from any source.
- 4.1.2. The EA confirmed that they have no record of flooding from any source which may impact the site.
- 4.1.3. A copy of the correspondence with the EA is included in Appendix E of this report.

4.2. MANCHESTER CITY COUNCIL (MCC)

- 4.2.1. Manchester City Council were contacted and asked to advise whether they held records of existing culverted or ordinary watercourse in close proximity to the site; they were also asked to comment on proposed surface water discharge rates from the site and whether they have any record of historical flooding incidents at or in close proximity to the site.
- 4.2.2. MCC confirmed that for sites discharging via Brownfield mechanisms they expect the following in line with LFRM Policy 6:
 - A 50% runoff rate reduction for Brownfield sites, with an aim of reducing runoff to Greenfield rates up to a 1 in 100-year storm event, including consideration of climate change.
- 4.2.3. MCC indicated that should discharge to an ordinary watercourse be considered, a reduction to greenfield runoff rates will be required.
- 4.2.4. In addition to the above, WSP received a screening report from MCC of the area local to site. This report detailed the locations of historic flooding incidents amongst other items. The relevant incidents are discussed further in section 5.
- 4.2.5. A copy of all correspondence with MCC to date, including the screening report, is included in Appendix E of this report.

4.3. UNITED UTILITIES (UU)

- 4.3.1. United Utilities were contacted and asked to advise on points of discharge, maximum discharge rates and whether they hold and records of any flooding incidents at or in close proximity to the site as a result of hydraulic sewer flooding from their sewers.
- 4.3.2. United Utilities advised the following:
 - Surface water runoff generated from this development should discharge to the ground via infiltration system where feasible.
 - If an evidence-based assessment has been carried out and confirms that infiltration is not feasible, A connection to the Rochdale Canal should be explored through engagement with third party landowners and the riparian owner.
 - If both infiltration and connection to the canal are found to be unfeasible through evidence-based assessments, UU recommend that the possibility of draining surface water to the highway drain where this ultimately discharges to a watercourse should be investigated by contacting the relevant Highway Authority.

- Once evidence is provided as outlined above, United Utilities will consider a connection to the public combined sewer.
- United Utilities agreed to two offsite discharges of 5l/s each. One to the public combined sewer in Port Street and the other to the public combined sewer in Tariff Street, subject to proof of the existing connection to Tariff Street via CCTV Survey.
- Foul flow from this site will be allowed to drain into the public foul water/combined sewer system. UU's preferred point of discharge would be to the 300mm x 400mm public combined sewer within Port Street located to the northwest of your proposed development at an unrestricted rate.

4.3.3. A copy of the correspondence with UU to date is included in Appendix E of this report.

4.4. CANAL AND RIVER TRUST

- 4.4.1. The Canal and River Trust (CRT) were contacted and asked to advise whether they held any records of historical flooding incidents from their assets and otherwise in the vicinity of the site. They were also asked to confirm whether a connection into the canal would be acceptable in principle and to inform of the requirements, including maximum discharge rates and preferred point of connection.
- 4.4.2. The CRT confirmed that they are not a statutory drainage authority and that they are not obliged to accept surface water discharge from new development.
- 4.4.3. The CRT informed us that there are no known canal breaches in the vicinity of site, however, the pound (lock-to-lock) that the development would be discharging into has been known to over top in the past.
- 4.4.4. The CRT also confirmed that the neighbouring Brownsfield Mill site which has direct frontage onto the canal has recently had a surface water discharge to the canal verified by CRT. However, the CRT ruled out the possibility of sharing the new outfall as the extra volume would increase the velocity of this existing outfall and therefore annul the Brownsfield Mill agreement.
- 4.4.5. With respect to the above reasoning, it was proposed to the CRT that alternatives to connection to the canal should be explored with which they agreed.
- 4.4.6. A copy of all correspondence with CRT is included in Appendix E of this report.

5. DEFINITION OF FLOOD RISK

- 5.1.1. The potential risk of flooding to the site from all current and future sources of flooding has been assessed in accordance with the National Planning Policy Framework.
- 5.1.2. Table 5-1 below summarises the findings of the assessment. It should be noted that the designation of risk outlined in Table 5-1 is prior to the inclusion of any mitigation measures, which may subsequently act to reduce the risk.
- 5.1.3. A detailed explanation of the flood risk issues on the site and determination of flood risk ratings are presented in Sections 5.2 to 5.6.

Table 5-1 – Degree of Risk from Each Source of Flooding

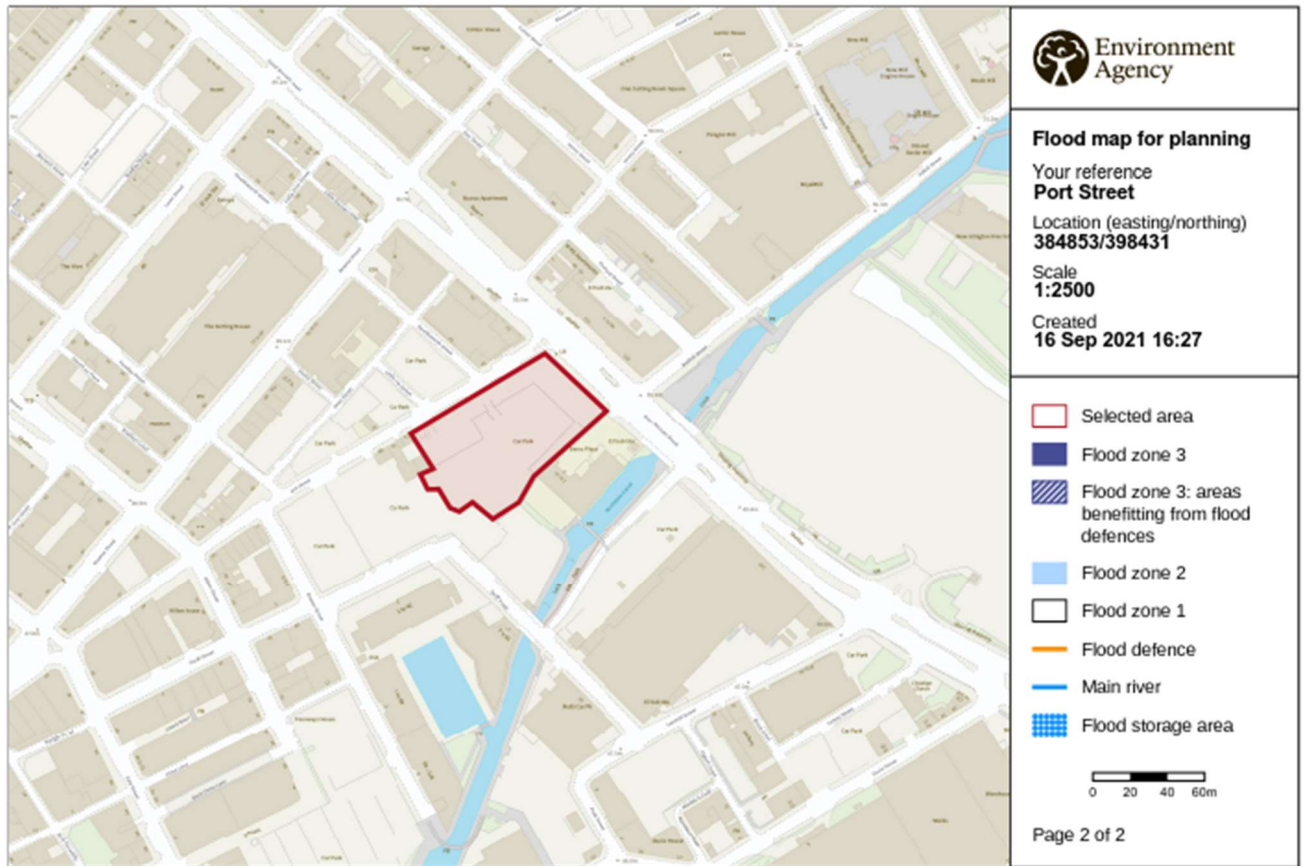
Source		Risk
Fluvial		Very Low
Surface Water		Low
Sewer		Low
Groundwater		Not at risk
Tidal		Not at risk
Artificial Sources	Reservoir	Not at risk
	Canal	Not at risk

5.2. FLUVIAL FLOOD RISK

FLOOD MAPS

- 5.2.1. 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 Environment Agency. Flood Zone 3b is not separately distinguished from Zone 3a on the EA Flood Map for Planning.

Figure 5-1 - EA Flood Maps for Planning



5.2.2. The Environment Agency's Flood Map for Planning indicates that the site is wholly located in EA Flood Zone 1 and therefore has a Low risk of flooding from rivers or the sea.

5.3. SURFACE WATER FLOODING

5.3.1. 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%.

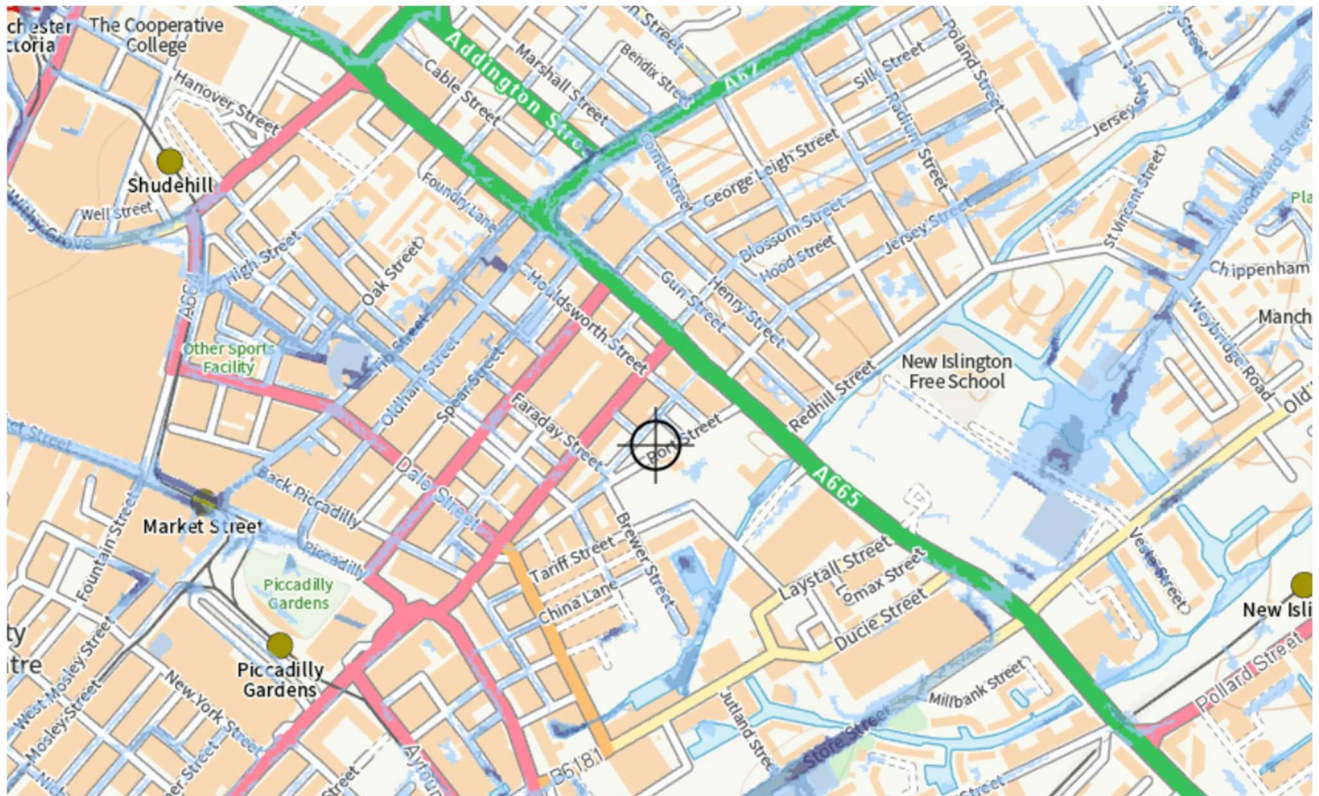
5.3.2. The Environment Agency Map of long-term flood risk from surface water indicates that the site is mostly at very low risk of surface water flooding (depths up to 300mm). However, there is a small area of the site at a low risk of surface water flooding; this is shown in Figure 5-2.

5.3.3. Manchester City Council's screening report indicates a number of Flooding Incident Points for the period 2011-2021 in Port Street and adjacent Houldsworth Street. These are described as *highways-related flooding incidents* in the screening report.

5.3.4. The topographical survey indicates that Port Street has a slope running southwest with no low points on the length of the frontage of the proposed development. This suggests any highways flood waters will flow along Port Street rather than accumulate close to the building and potentially impact the development.

- 5.3.5. Based on the above, the risk of flooding to the site from surface water is considered to be Low. However, mitigation measures for the avoidance of surface water flooding on the redeveloped site are discussed in section 9 of this report.

Figure 5-2 - EA Surface Water Flood Map



5.4. SEWER FLOODING

- 5.4.1. United Utilities were contacted to confirm whether they had any records of historical flooding but had not responded at the time of writing.
- 5.4.2. The MCC screening report did not disclose any incidents of sewer-related flooding in proximity of the development.
- 5.4.3. Based on the above, the risk of sewer flooding is considered to be Low.

5.5. GROUNDWATER FLOODING

- 5.5.1. 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.

- 5.5.2. The Manchester City, Salford City and Trafford Councils Level 2 SFRA Groundwater Flood Map (2011) indicates that the site is not at risk of groundwater flooding.
- 5.5.3. As described in Section 3.6 of this report, the site is underlain by impermeable Glacial Till from 1.3mbgl to 24mbgl. It is therefore unlikely that the natural groundwater table will impact this development. Therefore, it is anticipated that only localised perched groundwater may affect this development.
- 5.5.4. However, at this stage, there is no site-specific data regarding the natural groundwater level or the level of any perched water and given that the development does include a proposed basement, a more detailed assessment of the risk of flooding from groundwater will be carried out when the results of ground water monitoring are available.
- 5.5.5. Based on the above, it is considered that the risk of groundwater flooding to the site is Low.

5.6. TIDAL / COASTAL FLOOD RISK

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

5.7. ARTIFICIAL SOURCES FLOODING

- 5.7.1. Non-natural or artificial sources of flooding can include canals, reservoirs, lakes, etc. The potential effects of flood risk management infrastructure and other structures need to be considered.

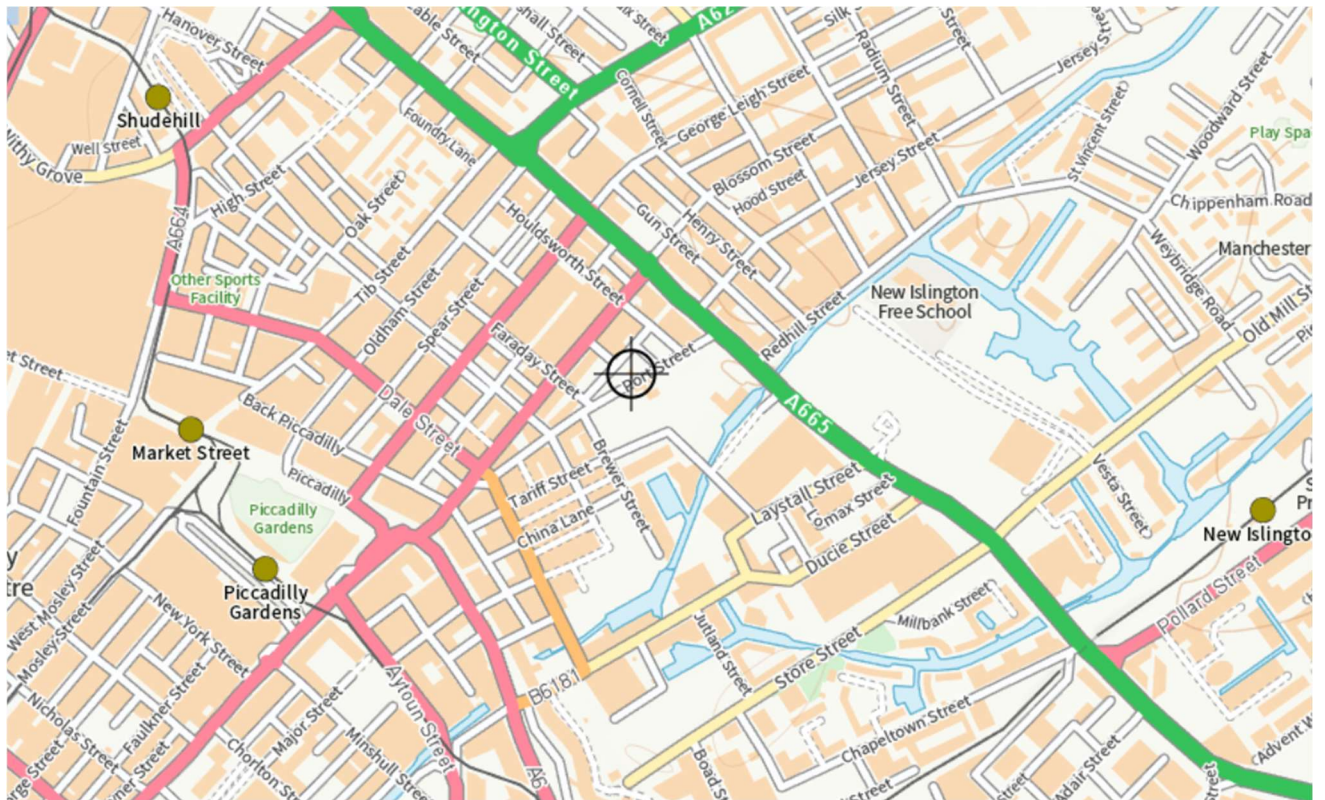
CANAL / RIVER INTERACTION

- 5.7.2. The closest Canal to the site is the Rochdale Canal which lies approximately 30 metres to the south east of the site. The Manchester, Salford and Trafford Level 2 SFRA Hydraulic interactions map indicates that the site is not affected by flooding caused by hydraulic interactions between rivers and the canal.
- 5.7.3. The Canal and Rivers Trust were contacted and confirmed that there are no records of the Rochdale Canal breaching in this area. However, the CRT did confirm that there have been recorded events of overtopping of the section of the canal closest to site.
- 5.7.4. The proposed ground floor level of the development is to be 49.5 m AOD at its lowest point. The tow path level of the Rochdale canal is 47.33m AOD. Therefore, it is extremely unlikely that the ground floor of the development will be affected by any overtopping event of the Rochdale Canal.
- 5.7.5. Therefore, it is considered that the site is Not at risk of flooding from the Rochdale Canal.

RESERVOIRS

- 5.7.6. The Environment Agency provided a copy of their Reservoir Flood Map which indicates that the site is not within an area that could be affected by flooding from reservoirs in the event of a reservoir failure.

Figure 5-3 - EA Reservoir Flood Map Extract



5.7.7. Based on the above, it is considered that the site is not at risk of flooding from reservoir failure.

6. NPPF SEQUENTIAL AND EXCEPTION TEST

6.1. THE SEQUENTIAL TEST

- 6.1.1. The Sequential Test, within the National Planning Policy Framework, aims to steer all new developments to areas at the lowest risk of flooding and to ensure that the development type proposed is appropriate by reference to the flood risk.
- 6.1.2. As the site is within Flood Zone 1, a sequential test is not required for this development.

6.2. THE EXCEPTION TEST

- 6.2.1. Table 3 of the Flood Risk and Coastal Change Chapter of the Planning Practice Guidance (2014) shows that all land uses are appropriate in Flood Zone 1 and therefore an Exception Test is not required for this site.

7. SURFACE WATER DRAINAGE STRATEGY

- 7.1.1. This outline drainage strategy has been carried out in due cognisance of the Defra Sustainable Drainage Systems Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) and all other relevant national and local planning policy and guidance documents.
- 7.1.2. Reference should be made to the WSP Concept Drainage Layout drawing (4548-WSP-DRA-001), which is included in Appendix F of this report.

7.2. DISPOSAL OF SURFACE WATER

- 7.2.1. The method for removal of surface water from the site has been selected in accordance with the hierarchy outlined in Building Regulations Part H as summarised below:

- Infiltration to the ground
- Discharge to a watercourse
- Connection to a surface water sewer
- Connection to a combined sewer

SOAKAWAYS

- 7.2.2. A detailed assessment of the feasibility of soakaways has been undertaken. A Phase 1 Geotechnical and Environmental Assessment from Cundall provides historical borehole records from the site that show a 1.3m deep layer of made ground and other local (within 100m) borehole records also reporting made ground layers up to 3m thick, which is identified as potentially containing heavy metal contaminants. This made ground is then underlain by Glacial Till up to 24mbgl. Definitive information on the level of groundwater on site is not provided, but the historical borehole data show the ground to be dry up to a depth of at least 4.20m below ground level.
- 7.2.3. Based on the above, it is anticipated soakaways and other means of infiltration will not be feasible as a means of disposing surface water runoff. This will be reviewed and confirmed upon completion of site-specific site investigations.

WATERCOURSE

- 7.2.4. There are no known watercourses in the vicinity of the site into which it is feasible to make a new surface water connection from the proposed development.

ROCHDALE CANAL

- 7.2.5. The Rochdale Canal lies approximately 30 metres to the south and east of site at its nearest point, although the proposed development has no direct frontage on to the canal, the possibility of a new surface water connection into the canal has been explored in detail as requested by United Utilities and Manchester LLFA.

The Canal and River Trust were consulted and in consideration of the below a new surface water connection into the Rochdale Canal from the site has been discounted:

- The site does not have direct frontage on to the canal;
- The canal is not a natural watercourse and that the CRT are not a drainage authority and have no specific obligation to accept surface water discharges.
- Any new connection would need to cross third-party land;

- It would not be acceptable to share a recently constructed outfall associated with the neighbouring Brownsfield Mill, and;
- The canal pound into which we would be connecting has been subject to overtopping in the past.

SURFACE WATER SEWER / HIGHWAY DRAIN

- 7.2.6. There are no known existing highway drains in the vicinity of the site. The public sewer records show that the closest surface water sewer to the site is an existing 1550mm brick sewer in Store Street. However, a connection to this sewer would require a significant length of new pipework being installed in the public highway along Great Ancoats Street and across third-party land.
- 7.2.7. Therefore, a new connection to an existing public surface water sewer is not considered to be feasible for this development.

COMBINED SEWER

- 7.2.8. Based on the above, it is proposed to discharge surface water drainage from the site to its existing point of discharge which is understood to be to the combined public sewerage systems in Port Street and Tariff Street. Existing outfalls will be confirmed by a drainage survey and this is currently in the process of being commissioned.
- 7.2.9. It should be noted that as described in Table 3-1, the existing site is set at two separate platform levels with a retaining wall accommodating an approximate difference in level between land along the Port Street and Great Ancoats Street frontages which is set at a higher level than land in the central and southern parts of the site.
- 7.2.10. Based on the GPR survey currently available it is considered that the existing site is served by at least two separate drainage systems which discharge to the existing public sewerage system at separate locations. It is considered that the higher-level areas of the site discharge to the existing 300mm / 300mm x 400mm combined sewer in Port Street and that land in the lower areas of the site drains southwards off the site towards the existing combined sewerage system in Tariff Street.
- 7.2.11. Given the level difference between the southern and central parts of the site which are to be proposed external areas and the northern and eastern parts of the site in which the future building will sit, plus the presence of a planned basement, it is suggested that separate drainage connections for these areas will be maintained.
- 7.2.12. Therefore, the proposed foul and surface water drainage from the building and the basement will be discharged into the existing combined public sewer in Port Street and surface water drainage from the external areas to the south of the site will drain via the existing drain which southwards off the site towards the existing combined public sewer in Tariff Street.
- 7.2.13. The type of connection and details of the connection to the sewer in Port Street will be agreed with United Utilities at detailed design stage and a section 106 sewer connection application will be submitted to UU for approval of the proposed connections.

7.3. SUDS

- 7.3.1. The provision of Sustainable Urban Drainage Systems (SUDS) has been considered and these will, where appropriate, be incorporated into the surface water drainage proposals.

- 7.3.2. There is limited scope to incorporate swales or a detention basin within the site due to the spatial constraints and rainwater harvesting has been discounted due to the cost of the initial installation, potential ownership and future maintenance issues and uncertainty around the overall sustainable benefits of this type of system due to the embodied carbon associated with the installation and long-term operation.
- 7.3.3. It is currently anticipated that SuDS will be provided in the form of filter drains and permeable paving to capture and treat runoff from external areas and an attenuation storage tank to temporarily store surface water from the building and frontage areas before controlled release to the public sewer in Port Street.
- 7.3.4. Furthermore, Green roof systems have been incorporated into the design on the roof level of the smaller blocks which will work to slow down runoff from the roof.

7.4. IMPERMEABLE AREAS

- 7.4.1. The total impermeable area within the existing site boundary has been measured to be approximately 4140 square metres which constitutes most of the site with the exception of a small area of rough ground or hardcore surfacing measured to be approximately 740 square metres.

7.5. DISCHARGE RATES

- 7.5.1. The site has been previously developed and is therefore considered to be a brownfield site for the drainage design purposes.
- 7.5.2. At present there is insufficient drainage survey information available to carry out a detailed assessment of the hydraulic characteristics of the existing drainage system.
- 7.5.3. However, based on a total impermeable area of 4140 square metres, the existing surface water runoff rate from the site has been calculated to be 57.6 litres per second (l/s) using the Rational Method with a rainfall intensity of 50 mm / hour.
- 7.5.4. MCC indicated that for Brownfield sites they expect the following in line with LFRM Policy 6:
- A 50% runoff rate reduction for Brownfield sites, with an aim of reducing runoff to Greenfield rates up to a 1 in 100-year storm event, including consideration of climate change.
- 7.5.5. When accounting the 50% reduction, the peak discharge from the developed site should be no more than 28.8 l/s.
- 7.5.6. However, it should be noted that United Utilities have indicated that in the absence of additional drainage survey information they would only consider a connection to the public combined sewer within Port Street at a maximum pass forward flow rate of 5 l/s.
- 7.5.7. Due to levels differences across site, it is impractical to discharge surface water from the external areas to the south of the proposed building to the public combined sewer in Port Street. It is therefore proposed to discharge runoff from these areas at a maximum discharge rate of 5 l/s to the existing drain on site identified by the GPR survey subject to further surveys confirming this drain's discharge point.
- 7.5.8. United Utilities have indicated that they are satisfied with the above approach which incorporates two separate 5 l/s discharges to different assets, subject to the confirmation of the discharge to Tariff

Street by means of CCTV survey, as well as a further 3 l/s discharge from the basement pumping station.

- 7.5.9. The 5 l/s discharge for the southern external areas is intended to be split into two discharges due to the levels difference across the site and the requirement for attenuation. These discharges are 1.7 l/s and 3.3 l/s for the permeable pavement at podium level and the filter drain to the south east border of site respectively.
- 7.5.10. In addition to the above, it should be noted that the proposed basement access ramp is to be uncovered and therefore surface water runoff from the ramp will be collected into a channel drain at the base and be conveyed to a packaged pump station at basement level from where it will be pumped to a proposed combined manhole at a maximum rate of 3 l/s prior to discharge to the public combined sewer in Port Street.
- 7.5.11. For completeness, the existing greenfield runoff rate (QBAR) from the site was also calculated and was confirmed to be 6.9 l/s using the ICP SUDS method in Micro-Drainage WinDes design software. The calculation included a factor for 'urbanisation' to reflect and more accurately mimic the existing runoff scenario from the existing site.

Reference should be made to the MicroDrainage calculations, included as Appendix G of this report.

7.6. ATTENUATION STORAGE

- 7.6.1. In order to achieve the restrictions in surface water runoff rates from the developed site as described above, onsite surface water attenuation storage will be required in order to temporarily store the residual volume of surface water for rainfall events resulting in a peak runoff rates over and above the restricted discharges.
- 7.6.2. The attenuation storage will be designed to ensure that surface water runoff for storm events up to and including the 100-year storm plus a 40% allowance for climate change, can be contained within the site safely without causing a risk of flooding to property or a risk of flooding elsewhere in the catchment.
- 7.6.3. Based on a 'source control' assessment using MicroDrainage software, it is anticipated that up to 152 cubic metres of storage will be required for the building drainage and 76 cubic metres for the rear external areas, breaking down to 39 cubic metres within the filter drain and 37 cubic metres provided by the permeable paving subbase. These values are subject to the detailed design of the proposed surface water drainage system.

7.7. WATER QUALITY

- 7.7.1. Water Quality has been considered and the following measures have been included within the surface water drainage proposals:
- The proposed filter drains, serving the external areas, will treat the runoff by facilitating filtration of sediment and heavy metals.

7.8. MAINTENANCE

- 7.8.1. Reference should be made to the Drainage Inspection and Maintenance Schedule, included as Appendix J of this report.

- 7.8.2. Maintenance activities include checking drainage infrastructure for debris and blockages on a regular basis and clearing as appropriate.
- 7.8.3. More periodic maintenance required on site comprises of replacing filter drain geotextile dependant on pollutant load to ensure effective filtration of contaminants and rehabilitation of the permeable paving's surface and upper substructure.

8. FOUL DRAINAGE

8.1. GENERAL STRATEGY

- 8.1.1. For details of the outline foul drainage proposals for the site, reference should be made to the WSP Drainage Strategy drawing (4548-WSP-DR-D001), which is included in Appendix F of this report.
- 8.1.2. It is currently proposed that all foul drainage from the development will discharge to the existing 300mm / 300mm x 400mm combined sewer in Port Street.
- 8.1.3. The type and details of the proposed connection will be agreed with United Utilities at detailed design stage and a section 106 sewer connection application will be submitted to UU for approval.
- 8.1.4. If a suitable existing connection is found when the proposed drainage survey is carried out, then this will be re-used subject to the necessary approvals from UU.

8.2. DISCHARGE RATES

- 8.2.1. United Utilities have confirmed that foul drainage from the proposed development can be discharged to the public sewer at an unrestricted discharge rate.
- 8.2.2. However, an assessment of the anticipated peak foul flow from residential dwellings has been calculated based on the probability / discharge unit method outlined in BS EN 16933:2-2017 and using the maximum typical values associated with each appliance and a typical frequency factor of 0.5 (for dwellings).
- 8.2.3. The number and type of appliances associated with 1, 2 and 3-bedroom dwellings has been assessed and is presented in Table 8-1 below.

Table 8-1 – Foul flows from building

Type of Appliance	1 bedroom – 158 no.		2 bedroom – 309 no.		3 bedroom – 18 no.	
	Number	Typical value (max)	Number	Typical value (max)	Number	Typical value (max)
W/C	1 no.	2.5	2 no.	2.5	3 no.	2.5
Bath	1 no.	1.3	1 no.	1.3	1 no.	1.3
Shower	0	0.6	1 no.	0.6	2 no.	0.6
Sink	2 no.	1.3	3 no.	1.3	4 no.	1.3
Dishwasher	1 no.	0.8	1 no.	0.8	1 no.	0.8
Washing machine	1 no.	1.5	1 no.	1.5	1 no.	1.5
	Sum	8.7	Sum	13.1	Sum	16.9
Foul design flow rate = $0.5 * (8.7*158 + 13.1*309 + 16.9*18)^{1/2} = 37.8 \text{ l/s}$						

- 8.2.4. A total peak foul flow of 37.8 l/s is anticipated to discharge from the development to the combined public sewer.

9. MITIGATION / MANAGEMENT OF FLOOD RISK

9.1. FINISHED FLOOR LEVELS / ACCESS AND EGRESS

- 9.1.1. The site is located in Environment Agency Flood Zone 1 and all access points will be set above the critical 1000-year event level. Therefore, a safe means of access / egress is always available to the site.
- 9.1.2. The Environment Agency Map of long-term flood risk from surface water indicates that there is a low risk of surface water flooding in the centre of the existing site. This area of the site is being developed and will either be part of the new roof area or ground floor courtyard. Both of these areas will be positively drained as part of the development proposals negating the risk of surface water flooding on site.
- 9.1.3. It is recommended that where possible all threshold levels at ground floor are set 150mm above the external ground level to ensure that any surface water to encourage runoff to be directed away from buildings.

9.2. DRAINAGE AND EXCEEDANCE FLOW ROUTES

- 9.2.1. The proposed surface water drainage system will be designed in accordance with the drainage strategy set out in section 7 of this report. This will ensure that there is no increase in flood risk to the site or elsewhere in the local catchment for all storm events up to and including the 100-year storm plus 40% climate change.
- 9.2.2. It should be noted that if storm events in excess of the 100-year storm plus 40% climate change or blockages occur, this will result in flood water arising from the site drainage system.
- 9.2.3. Reference should be made to the WSP Exceedance - Overland Flow Routes drawing that is appended to this report (Appendix H) and which identifies that overland flows would be safely routed away from buildings and towards Port Street to the north or, as existing, through third party land to the south before entering the Rochdale Canal in the event of failure or design exceedance of the proposed site drainage system. Any potential flows through third party land and into the Rochdale Canal have been reduced post development with the introduction of a new drainage system.
- 9.2.4. The proposed levels on the site suggest that runoff from some areas within the externals of the development will pond at a low point at the bottom of the steps adjacent to Brownsfield Mill. A gully had been included to encourage free drainage of this area, and measures to ensure that the neighbouring property is not affected by this ponding will be included in the detailed design.

9.3. FLOOD RISK POST MITIGATION

- 9.3.1. Table 9-1 below, summarises the risk of all sources of flooding post mitigation.

Table 9-1 - Degree of Risk from Each Source of Flooding Post Mitigation

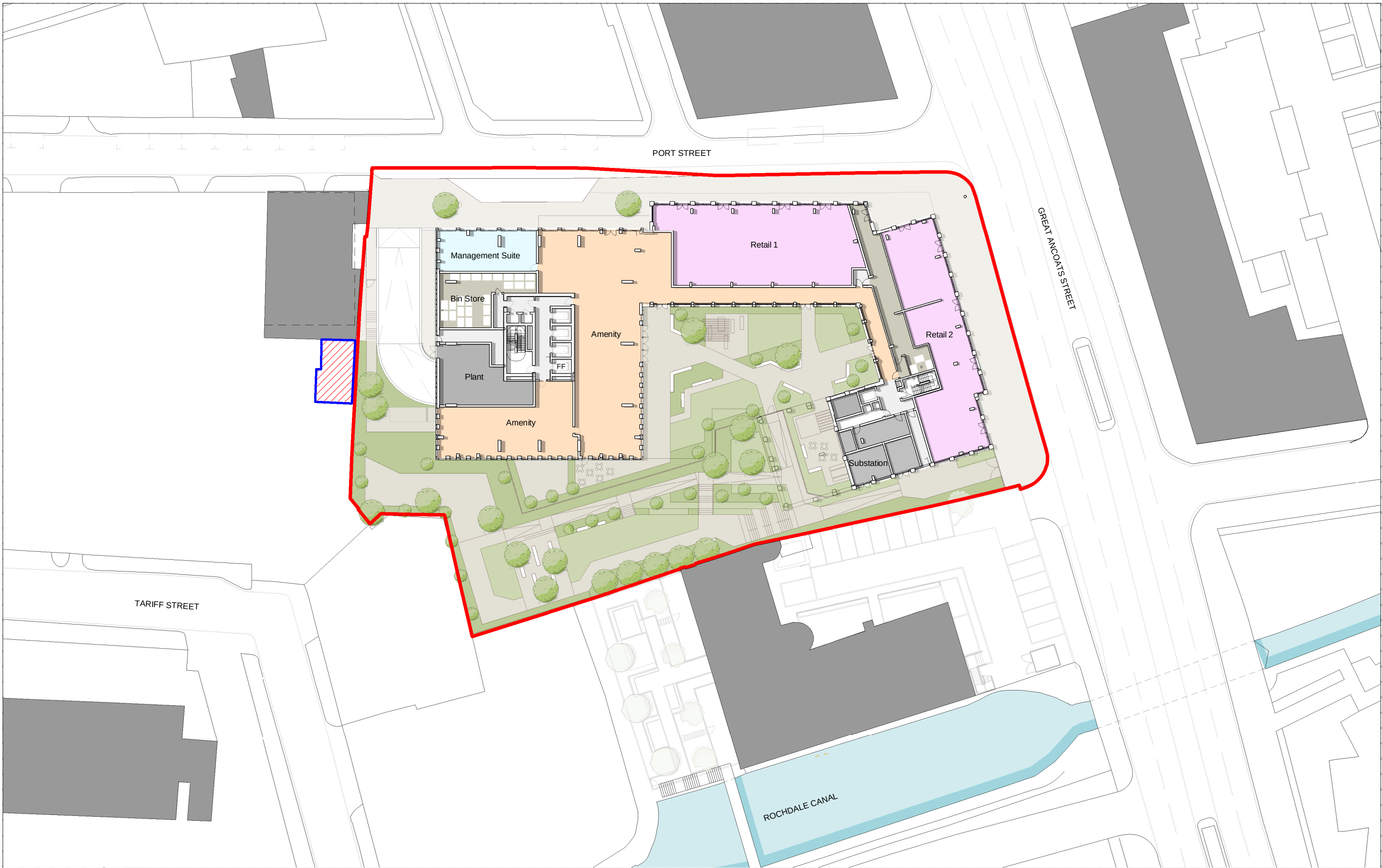
Source		Risk
Fluvial		Very Low
Surface Water		Low
Groundwater		Low
Sewer		Low
Tidal		Not at risk
Artificial Sources	Reservoir	Not at risk
	Canal	Not at risk

- 9.3.2. To mitigate the likelihood of groundwater ingress into the basement it is proposed to use watertight concrete for the basement slab and wall and achieve Type B waterproofing as defined in BS8102:2009 by designing the reinforced concrete structure to control water ingress using cement additives and waterbars at construction joints.
- 9.3.3. Where the above measures may not be sufficient, such as for the substation, a drained cavity may be introduced.
- 9.3.4. This Flood Risk Assessment and Drainage Strategy has concluded that a development of this type is appropriate in its proposed location, can be occupied safely for its lifetime, does not increase flood risk elsewhere in the local catchment and where possible seeks to reduce the risk of flooding overall. This is subject to implementation of the recommended flood risk management and mitigation measures being carried out.

Appendix A

PROPOSED SITE MASTERPLAN

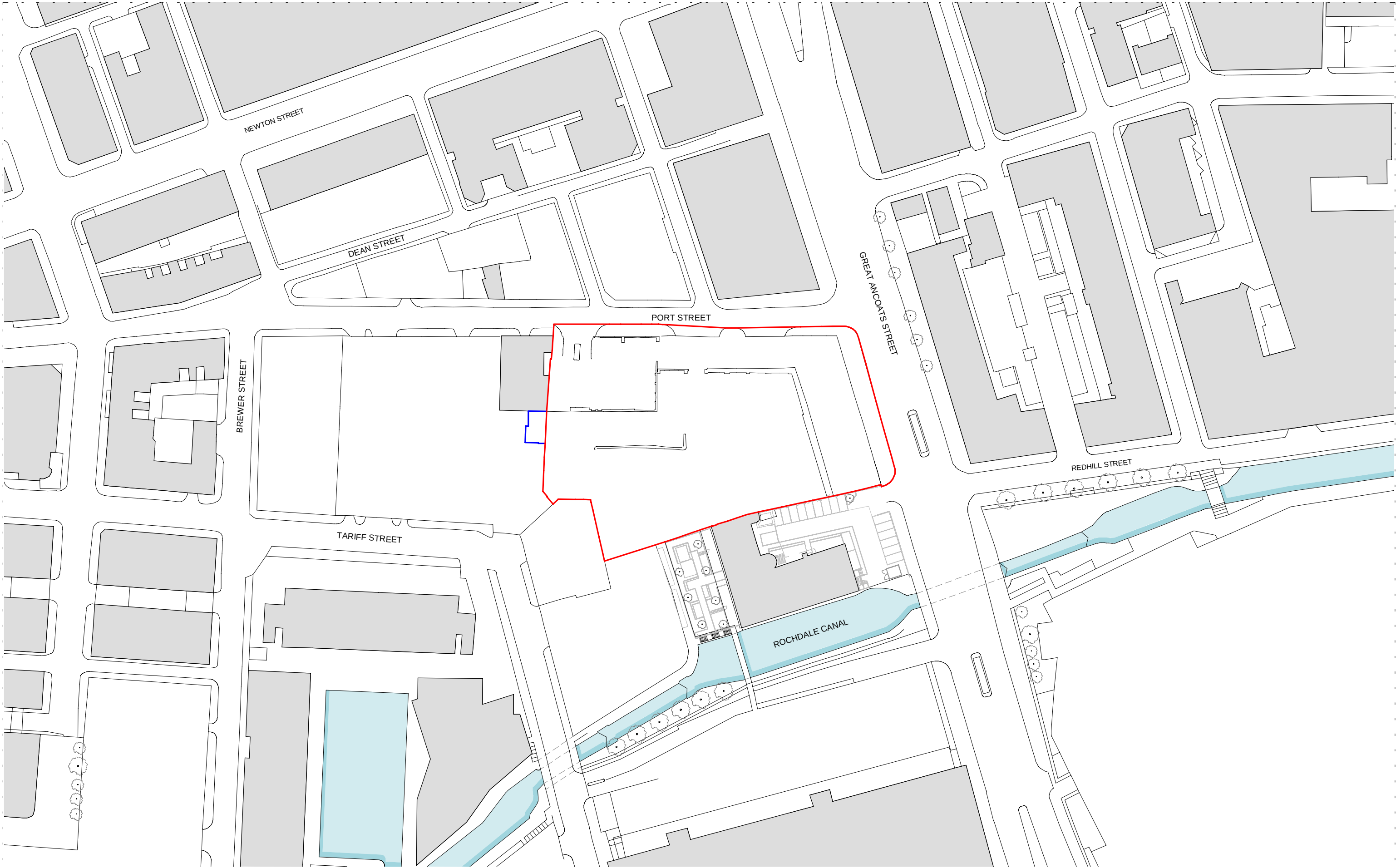
wsp

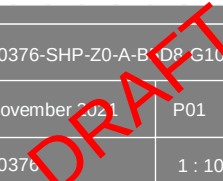


Appendix B

SITE LOCATION PLAN



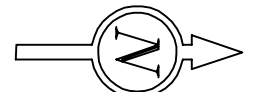
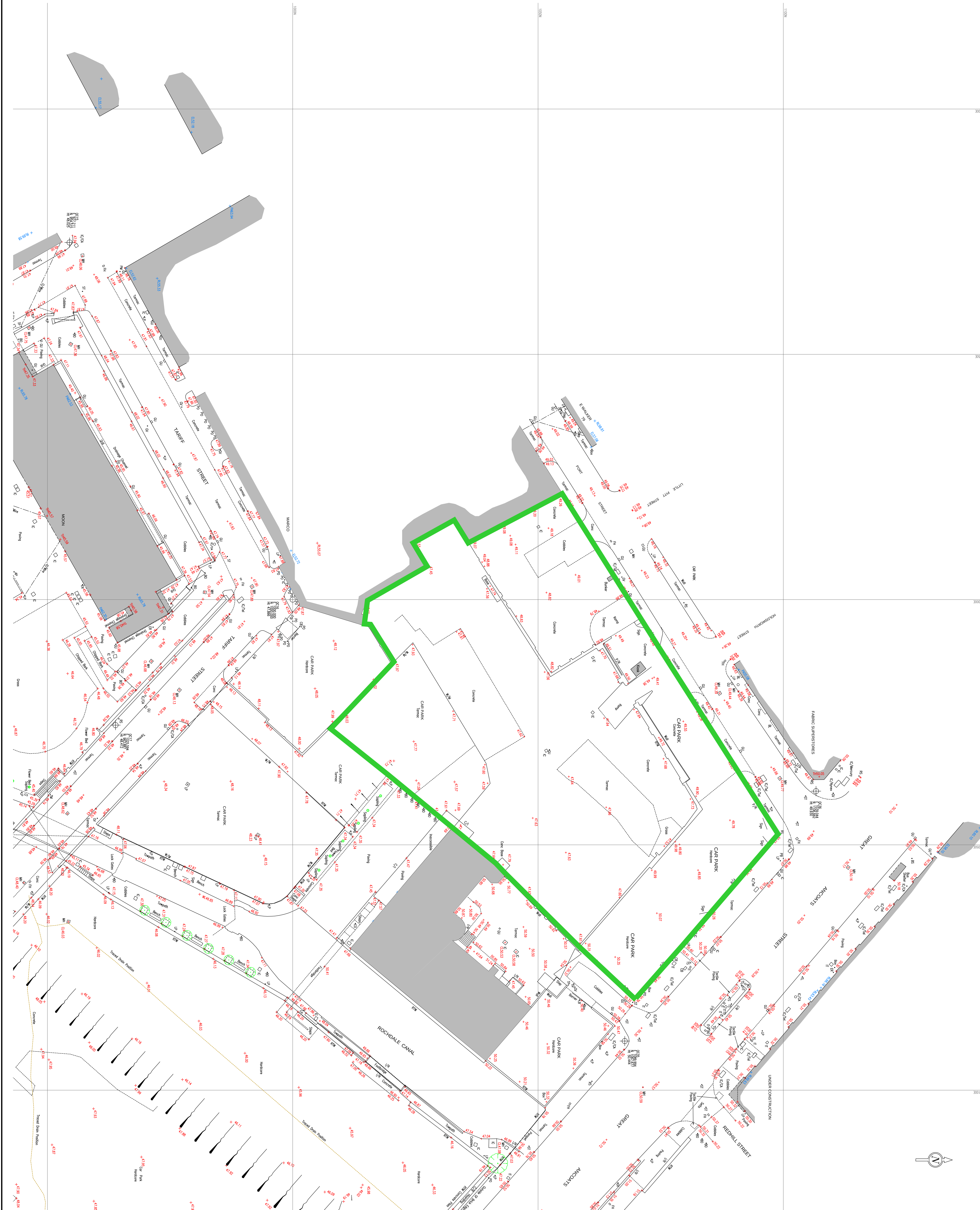


DO NOT SCALE OFF DRAWING REFER TO INDICATED DIMENSIONS ONLY. DRAWING TO BE READ IN CONJUNCTION WITH SHP SPECIFICATION. INDICATIVE DETAILS TO ILLUSTRATE VISUAL INTENT ONLY. ALL TO CONTRACTORS DESIGN. ALL DETAILS TO BE COORDINATED WITH ADJACENT TRADES AND SE AND M+E ENGINEER DETAILS. THE CONTRACTOR IS RESPONSIBLE FOR MEETING THE SPECIFIED PERFORMANCE CRITERIA.	— Planning Boundary — Adjacent land within applicant's ownership		Port Street	10376-SHP-Z0-A-B-08 G100-XP-XX-001	 simpsonhaugh Manchester +44 (0)161 835 2345 London +44 (0)20 7549 4000
			PLANNING ISSUE	November 2021 P01	
			Site Wide Existing Site Location Plan	10376 1 : 1000 @A3	

Appendix C

TOPOGRAPHICAL SURVEY

WSP



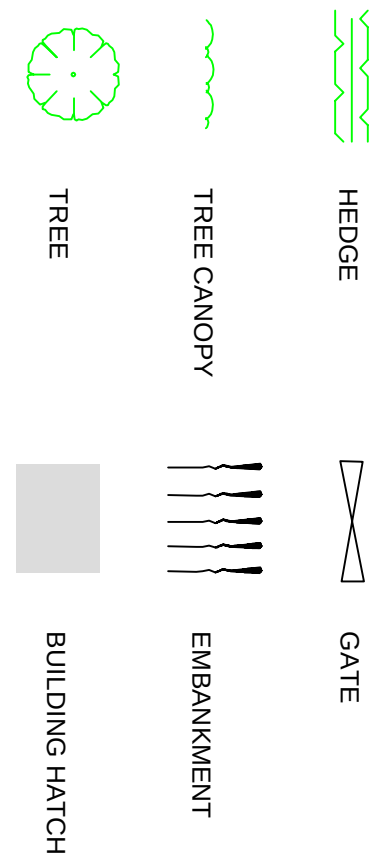
Note

Grid	-	Local Plane Metric
Datum	-	OSBM 50.62m (Arbitrary) Located on North Face of Wall With Junction of Murray St / Jersey St

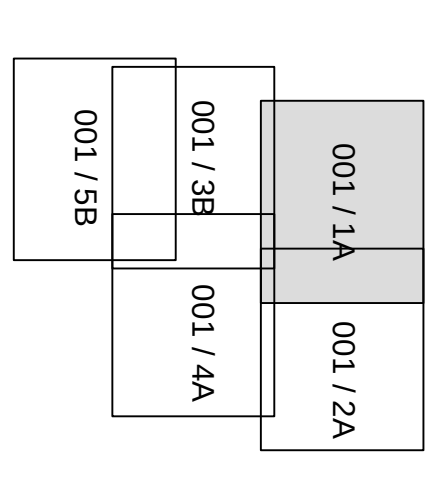
STANDARD ABBREVIATIONS

[illegible]

SYMBOLS



LAYOUT



Rev	Date	Drawn	Description	Chkd	App
0	04.11.04	KD	Original Drawing	AWP	NID
A	11.11.04		Additional Detail Added		

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RICS

TOWN CENTRE SECURITIES
THE MERRION CENTRE
LEEDS
LS2 8LY

PICCADILLY BASIN
MANCHESTER
TOPOGRAPHICAL SURVEY
SHEET 1 OF 5

Survived	JMR	JMR	Drawn	KD	KD
Dwg Chk.	AWP	AWP	Approved	NDO	NDO
Scale					Studs
1.250 @ A0					REV
CADD file					Project 5277

Drawing No. N5277 / S1072 - 2 / 001 / 1A Rev. A

Appendix D

PUBLIC SEWER RECORDS

wsp

Jack Brimblecombe

**8
First Street,
Manchester,
M15 4AX**

FAO:

How to contact us:

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Property Searches
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Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP**

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

**Your Ref: 70084548 Port Street Manchester
Our Ref: UUPS-ORD-324702
Date: 14/09/2021**

Dear Sirs

Location: 75 PORT STREET, MANCHESTER, M1 2EG

I acknowledge with thanks your request dated 09/09/2021 for information on the location of our services.

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

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

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

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

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

Yours Faithfully,



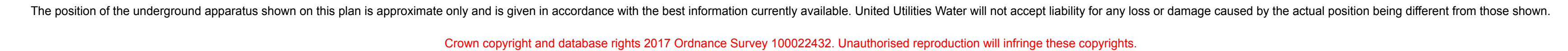
Karen McCormack
Property Searches Manager

TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

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

TERMS AND CONDITIONS:

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



Appendix E

STATUTORY CONSULTATIONS 

Mostyn, Stephen

From: GMMC Info Requests <InfoRequests.GMMC@environment-agency.gov.uk>
Sent: 24 August 2021 14:01
To: Mostyn, Stephen
Subject: GMMC229659AB Response attached from the Environment Agency
Attachments: 10376-SHP-RP-PA01 (Site Location).pdf; flood-map-planning-2021-08-12T12_38_44.900Z.pdf

Categories: Red Category
Filed: -1
Filed Location: \\uk.wspgroup.com\central data\Projects\70084xxx\70084548 - Port street Manchester\01 Comms\1A Emails\Development Infrastructure\210824 140120 - GMMC Info Requests - GMMC229659AB Response attached from the Environmen.....msg
Filed Location Folder: \\uk.wspgroup.com\central data\Projects\70084xxx\70084548 - Port street Manchester\01 Comms\1A Emails\Development Infrastructure

Dear Stephen,

Re: : 70084548 - Port Street, Manchester (Pre Development Consultation - EA)

Thank you for your enquiry which was received on 122/8/21.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

We have no records of flooding affecting the site. However, this does not mean flooding has not occurred in the past or that it will not flood in future. We recommend that you also contact United Utilities and Manchester Council who may hold additional information (the former especially in relation to sewer flooding) and also the Canals and Rivers Trust.

Please refer to the [Open Government Licence](#) which explains the permitted use of this information.

Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

Kind regards,

Anne Ball
Customer and Engagement Officer
Greater Manchester, Merseyside and Cheshire
Email: Inforequests.gmmc@environment-agency.gov.uk

From: Mostyn, Stephen [<mailto:Stephen.Mostyn@wsp.com>]
Sent: 12 August 2021 13:49
To: Enquiries, Unit <enquiries@environment-agency.gov.uk>
Cc: Brimblecombe, Jack <Jack.Brimblecombe@wsp.com>
Subject: FW: 70084548 - Port Street, Manchester (Pre Development Consultation - EA)

Dear Sirs,

We are presently preparing a flood risk assessment and drainage strategy report for a proposed new development at Port Street, Manchester M1 2FA (See attached location plan).

The extract from the EA flood map for planning (also attached) shows that the site is wholly located in EA Flood Zone 1 and therefore has a Low Risk of flooding from rivers or the sea.

However, as part of the flood risk assessment we are required to assess the risk of flooding from all sources. Therefore, can the EA confirm whether they hold any records of or are aware of any historical flooding problems at or in close proximity to the site? Or, are aware of any potential risk of flooding from any other source which may impact the site now or in the future?

Kind Regards,



Stephen Mostyn

Associate

Development Infrastructure

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Brimblecombe, Jack

From: Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Sent: 26 October 2021 10:41
To: Mostyn, Stephen
Cc: Brimblecombe, Jack
Subject: RE: 70084548 - Port Street, Manchester (Pre Development Consultation - MCC)
Attachments: MCC_010_08_2021 Port Street.pdf

Good morning Stephen,

Further to our correspondence, I enclose the data screen for Port Street (our ref: MCC010/08/2021).

Thank you for your order. Should you have any queries regarding the result of your data screen, please do not hesitate to contact us.

Kind Regards,
Laura

From: Mostyn, Stephen <Stephen.Mostyn@wsp.com>
Sent: 25 October 2021 16:28
To: Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Cc: Brimblecombe, Jack <Jack.Brimblecombe@wsp.com>
Subject: RE: 70084548 - Port Street, Manchester (Pre Development Consultation - MCC)

Hi Laura,

Thanks for the update. The planning submission for this has been delayed until end of November I think so there is plenty of time to incorporate the findings of the screening report.

Kind Regards



Stephen Mostyn
Associate
Development Infrastructure

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From: Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Sent: 25 October 2021 16:23
To: Mostyn, Stephen <Stephen.Mostyn@wsp.com>
Subject: RE: 70084548 - Port Street, Manchester (Pre Development Consultation - MCC)

Stephen,

Further to my email below, I am advised that the payment has been located and as such, the data screen will be undertaken and issued to you tomorrow.

Kind Regards,
Laura

From: Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Sent: 25 October 2021 13:36
To: Mostyn, Stephen <Stephen.Mostyn@wsp.com>
Subject: RE: 70084548 - Port Street, Manchester (Pre Development Consultation - MCC)

Stephen,

Thank you for your email below.

As I'm sure you are aware, colleagues are liaising between us to resolve the payment issue. Hopefully this will reach swift resolution upon which we will issue the service.

Kind Regards,
Laura

From: Mostyn, Stephen <Stephen.Mostyn@wsp.com>
Sent: 18 October 2021 13:06
To: Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Cc: Brimblecombe, Jack <Jack.Brimblecombe@wsp.com>
Subject: RE: 70084548 - Port Street, Manchester (Pre Development Consultation - MCC)

Hi Laura,

I understand from our accounts department that the invoice for the screening report for Port Street, Manchester was paid for on 11th October.

On that basis, would it be possible for you to organise for the report to be sent over to us for review and incorporation of the findings in our flood risk assessment?

Kind Regards,



Stephen Mostyn
Associate
Development Infrastructure

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From: Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Sent: 28 September 2021 13:25
To: Mostyn, Stephen <Stephen.Mostyn@wsp.com>
Subject: RE: 70084548 - Port Street, Manchester (Pre Development Consultation - MCC)

Stephen,

Thank you for your email. I have asked for the invoice to be reissued with P/O 20133789.

Kind Regards,

Laura

From: Mostyn, Stephen <Stephen.Mostyn@wsp.com>
Sent: 28 September 2021 12:59
To: Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Subject: RE: 70084548 - Port Street, Manchester (Pre Development Consultation - MCC)

Hi Laura,

Apologies for the delay in this but our accounts department were unable to sort payment for the screening service for Port Street as there was no purchase order number.

Please could you re-issue the invoice with the attached purchase order number included on the invoice? Our accounts team will then be able to finalise the payment.

Let me know if any issues.

Kind Regards,



Stephen Mostyn

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From: Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Sent: 16 September 2021 10:58
To: Mostyn, Stephen <Stephen.Mostyn@wsp.com>
Subject: RE: 70084548 - Port Street, Manchester (Pre Development Consultation - MCC)

Dear Stephen,

With regards to your data screen order, please be advised that no payment has been received as of 13 Sep; the screening will be processed upon receipt of payment.

Kind Regards,
Laura

From: Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Sent: 25 August 2021 08:57
To: Mostyn, Stephen <Stephen.Mostyn@wsp.com>
Subject: RE: 70084548 - Port Street, Manchester (Pre Development Consultation - MCC)

Stephen,

I am informed an invoice has been raised with WSP for the below data screening request,

The data screening will be issued to you once we have received confirmation of received payment.

If I am on annual leave during this time, it will be actioned for you by my colleague Oliver Timmins.

Kind Regards,
Laura

Laura Peacock MESci(Geol) MCIWEM
Flood Risk Engineer – LLFA

Upcoming leave: 30 August to 13 September inclusive.

Internal Tel: TBC
External Tel: TBC
Mobile: 07814 082198
Email: laura.peacock@manchester.gov.uk

Highways Service,
Growth and Neighbourhoods Directorate
Manchester City Council
PO Box 532
Town Hall
Manchester
M60 2LA
Web: <http://www.manchester.gov.uk>

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From: Mostyn, Stephen <Stephen.Mostyn@wsp.com>

Sent: 10 August 2021 16:43

To: Flood Risk Management <floodriskmanagement@manchester.gov.uk>

Cc: Brimblecombe, Jack <Jack.Brimblecombe@wsp.com>; UK - Billing Support <UKBillingSupport@wsp.com>

Subject: RE: 70084548 - Port Street, Manchester (Pre Development Consultation - MCC)

Hi Laura,

Further to your email below, please could you proceed with the flood risk screening service (£150-00) as per your attached letter. Also attached is a pdf showing the site boundary. Site location details – 384,862 (E) 398,437 (N), Post Code M1 2FA.

Planning reports are due to be submitted for this site at the end of September so if you could try to get the information over to us as soon as you can following payment that would be greatly appreciated.

Please bill the invoice to WSP UK Ltd Three White Rose Office Park, Millshaw Park Lane, Leeds LS11 0DL, and mark it for the attention of myself – I will then pass on to our internal finance department for payment.

Kind Regards,



Stephen Mostyn
Associate
Development Infrastructure

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From: Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Sent: 09 August 2021 16:42
To: Mostyn, Stephen <Stephen.Mostyn@wsp.com>
Cc: Broadhurst, Joseph <Joseph.Broadhurst@wsp.com>
Subject: RE: 70084548 - Port Street, Manchester (Pre Development Consultation - MCC)

Dear Stephen,

Thank you for your enquiry.

Data screening service

- Please be advised the LLFA now offer a data screening service. I have attached a letter detailing the service offered. Please follow the procurement route should you wish to engage us.

Regarding your proposal:

- We will require evidence-based adherence to the Drainage Hierarchy to be presented within your drainage strategy. Only when a discharge mechanism is provable infeasible will we allow progression through the Drainage Hierarchy.
- Where surface water is connected to the public sewer, agreement in principle from United Utilities is required that there is adequate spare capacity in the existing system taking future development requirements into account. An email of acceptance of proposed flows and/or new connection will suffice.
- For sites demonstrated to be discharging via brownfield mechanisms, we require details of surface water attenuation that offers a reduction in surface water runoff rate in line with the Manchester Trafford and Salford Strategic Flood Risk Assessment, i.e. at least a 50% reduction in runoff rate compared to the existing rates. Should discharge to an ordinary watercourse be considered, a reduction to greenfield rates will be required.
- We require maximised integration of green SuDS components.

Further guidance and advice:

- I have attached our SuDS guidance for major developments.
- We welcome enquiries. Should you wish to discuss your proposals further please do not hesitate to contact us.

Kind Regards,

Laura Peacock MESci(Geol) MCIWEM
Flood Risk Engineer – LLFA

Upcoming leave: 31 August to 13 September inclusive.

Email: laura.peacock@manchester.gov.uk

Highways Service,
Growth and Neighbourhoods Directorate
Manchester City Council
PO Box 532
Town Hall
Manchester
M60 2LA

Web: <http://www.manchester.gov.uk>

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From: Mostyn, Stephen <Stephen.Mostyn@wsp.com>

Sent: 03 August 2021 16:33

To: Flood Risk Management <floodriskmanagement@manchester.gov.uk>

Cc: Broadhurst, Joseph <Joseph.Broadhurst@wsp.com>

Subject: 70084548 - Port Street, Manchester (Pre Development Consultation - MCC)

Dear Sirs,

We are presently preparing a flood risk assessment and drainage strategy report for a proposed new development at Port Street, Manchester M1 2FA (See attached location plan).

The development is mixed use but residential lead and the total site area is approximately 4880 m². The site is currently fully impermeable apart from an area of hardcore (740m²) which is currently used as car parking along the sites boundary with Great Ancoats Street – therefore the total existing drained impermeable area of the site is 4140 m². It is understood that the site currently drains to the existing combined public sewer system in Port Street or other combined sewers around the site - this is to be confirmed by drainage survey.

The maximum peak runoff rate from the existing site has been calculated using the Rational Method (50 mm/hr rainfall intensity) to be 57.6 l/s. It is therefore proposed that when taking into account the 50% reduction required by the Manchester SFRA the maximum surface water discharge rate to the existing combined public sewer will be 28.8 l/s.

A detailed assessment of whether soakaways will be carried out once more information is available on anticipated ground conditions but given spatial constraints and likely presence of made ground in this city centre location it is currently considered that soakaways are unlikely to be a feasible means for the disposal of surface water drainage from the site. The Rochdale Canal is located approximately 40 metres from the southern boundary of the site, but there is also no known existing natural water course, culverted watercourse main river or surface water public sewer in close proximity to the site.

It is therefore proposed to connect foul and surface water from the proposed development into the existing combined public sewer systems in the immediate vicinity of the site.

The site does have some significant external areas at ground level and this will provide a significant opportunity to incorporate SuDS features into the development proposals which may include permeable pavements, filter drains and rain gardens among others.

Can the Manchester LLFA confirm whether they hold on records of existing culverted or ordinary watercourses in close proximity to the site and whether the approach set out above for maximum discharge rates and points of connection for surface water drainage are acceptable in principle subject to further evidence being provided for soakaways etc.

Can Manchester LLFA also confirm whether they hold any records of or are aware of any historical flooding problems (including highways flooding) at or in close proximity to the site or are aware of any potential risk of flooding from any other source which may impact the site now or in the future?

Kind Regards,



Stephen Mostyn
Associate
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Brimblecombe, Jack

From: Brimblecombe, Jack
Sent: 26 October 2021 15:16
To: Flood Risk Management
Cc: Mostyn, Stephen
Subject: RE: Port Street, Manchester M1 2FA - Drainage Strategy
Attachments: 4548-WSP-DRA-003 P01.pdf

Good Afternoon Laura,

See attached impermeable area mark up for Port Street. Please note that this scheme has a basement ramp which is uncovered and therefore runoff from the ramp will be collected via an ACO drain at the base of the ramp.

The level of the basement (46.70 floor level) means it is not possible to connect this drain into the attenuation tank and a connection direct to the combined sewer in port street risks flooding of the basement in the event of the sewer being surcharged. The floor level of the basement is also still under review and could be dropped further.

On the basis of the above, it is currently proposed to install a packaged pump station at basement level to pump the run-off from the ramp (peak rate of 2.53l/s) to the proposed private combined manhole on the Port Street frontage of the development. This will mean that this intermittent pumped discharge (3 l/s tbc) will be separate and additional to the agreed 2no. 5l/s discharges.

Can Manchester City Council confirm whether the above proposals for drainage from the basement ramp are acceptable in principle and provide any comments?

Kind Regards,

Jack Brimblecombe MEng (Hons)

Graduate Engineer



T +44 (0) 161 200 5177

WSP
No 8 First Street
Manchester
M15 4RP

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From: Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Sent: 18 October 2021 13:57
To: Brimblecombe, Jack <Jack.Brimblecombe@wsp.com>
Cc: Perry, Graham <Graham.Perry@uuplc.co.uk>
Subject: RE: Port Street, Manchester M1 2FA - Drainage Strategy

Good Morning Jack,

Thank you for your enquiry below received 07 October 2021.

We take account of Mr. Perry's United Utilities response dated 15 October 2021.

- Regarding the 10 l/s proposed discharge rate, we would where feasible expect existing drainage survey to be undertaken to determine the existing discharge rate and derive the 50% betterment. We note Mr. Perry's acceptance of the proposed 10 l/s however your submission will need to satisfy us that any derived figure provides at least 50% betterment on existing rate as per our Local Flood Risk Management Strategy. You have noted in your attached drainage strategy that the 10 l/s will be reviewed following survey. The existing drainage survey should also demonstrate it is fit for proposed purpose & clarify connectivity; for the proposed southern site it is not yet clear where the existing drain outfalls, this cannot be assumed to be to the public sewer.
- Regarding the drainage hierarchy, we will require evidence-based progression to be included in your submission. This should address the higher levels of the hierarchy including infiltration and waterbody (canal). No evidence to support your progression down-hierarchy has yet been presented, and therefore at this stage I cannot confirm that we would approve of discharge to the combined public sewer.

We trust this will be of use to you in developing your proposals. Should you have any further queries please do not hesitate to contact us.

Kind Regards,
Laura

From: Brimblecombe, Jack <Jack.Brimblecombe@wsp.com>
Sent: 07 October 2021 11:45
To: Graham.Perry@uuplc.co.uk
Cc: Mostyn, Stephen <Stephen.Mostyn@wsp.com>; Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Subject: Port Street, Manchester M1 2FA - Drainage Strategy

Dear Graham,

Please find attached the drainage strategy for Port Street, Manchester M1 2FA for review and comment.

The strategy involves:

- Connection to public sewers as connection to the Rochdale Canal was deemed unfeasible;
- Rear external areas to connect to existing southern drain as connection to port street unworkable due to levels difference and proposed basement;
- Attenuation tank located in external area to northwest of the site.

Can United Utilities and Manchester City Council please confirm whether they accept the approach taken regarding two offsite discharges limited to 5l/s each?

Can United Utilities also confirm that they accept the proposed foul water discharge solution of connection into the public sewer in Port Street.

Further to this, can MCC confirm whether they approve of the decision to discharge to public combined sewer having explored the drainage hierarchy and found other methods to be unfeasible.

Kind Regards,

Jack Brimblecombe MEng (Hons)
Graduate Engineer



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-LAEmHhHzdJzBITWfa4Hgs7pbKI

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This footnote also confirms that this email message has been swept for the presence of computer viruses.



**MANCHESTER
CITY COUNCIL**

Lead Local Flood Authority

Highways Service
Growth and Neighbourhoods Directorate
Manchester City Council
PO Box 532
Town Hall
Manchester
M60 2LA

Email: floodriskmanagement@manchester.gov.uk

DATE 26/10/2021

Dear Sir,

RE: Our Ref: MCC010/08/2021

We acknowledge with thanks your payment received on 11/10/2021 for our LLFA data screen service.

Please find enclosed plan showing the results of the data screen. The position of features shown on this plan is approximate only and is given in accordance with the best information currently available.

The enclosed plan cannot be used to substitute a competent site investigation.

The enclosed plan is being provided to you subject to Manchester City Council's terms and conditions which are shown attached.

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

If you have any queries regarding this matter, please do not hesitate to contact us.

Yours Faithfully,

A handwritten signature in black ink, appearing to read 'N. A. Bayliss-Rowe'.

Neil Bayliss-Rowe, Highways Development Control & Flood Risk Manager, Lead Local Flood Authority

TERMS AND CONDITIONS – LLFA DATA SCREEN

These provisions apply to LLFA data supplied by Manchester City Council (“MCC”).

TERMS AND CONDITIONS:

- This data Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- MCC has taken all reasonable care to compile this data Map. This data Map and any information supplied with it is provided for general guidance only and MCC makes no representation, undertaking or warranty of any kind as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position of any culverted assets shown on the data Map are approximate only. MCC strongly recommends that a comprehensive site investigation is undertaken in addition to reviewing this data Map to determine and ensure the precise location of any assets. The exact location, positions and depths should be obtained by an appropriate survey which may include but shall not be limited to GPR and CCTV.
- The data screened may be modified over time without notice and therefore this data Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the data Map have been made subsequent to issue and prior to any works being carried out.
- This data Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) or for the purpose of determining the suitability of a point of connection to discharge.
- No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising from damages of any kind caused to assets by reason of the actual position and/or existence of assets being different from those shown on the data Map and any information supplied with it.
- If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent MCC from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.

DATA SCREEN SYMBOLOGY

Bridge

-  Good
-  Fair
-  Poor
-  Very Poor
-  Unknown

Trash Screen

-  Good
-  Fair
-  Poor
-  Very Poor
-  Unknown

Culvert Orifice

-  Very Good
-  Good
-  Fair
-  Poor
-  Very Poor
-  Unknown

Culvert Conduit

-  CCTV surveyed
-  Not CCTV surveyed
-  Ordinary Watercourse Conduit
-  MCC SuDS
-  MCC Flood Incident Points
-  MCC Section 19 Report
-  MCC Flood Incident Polygons
-  MCC Local Authority Boundary

Supplementary Information where available:

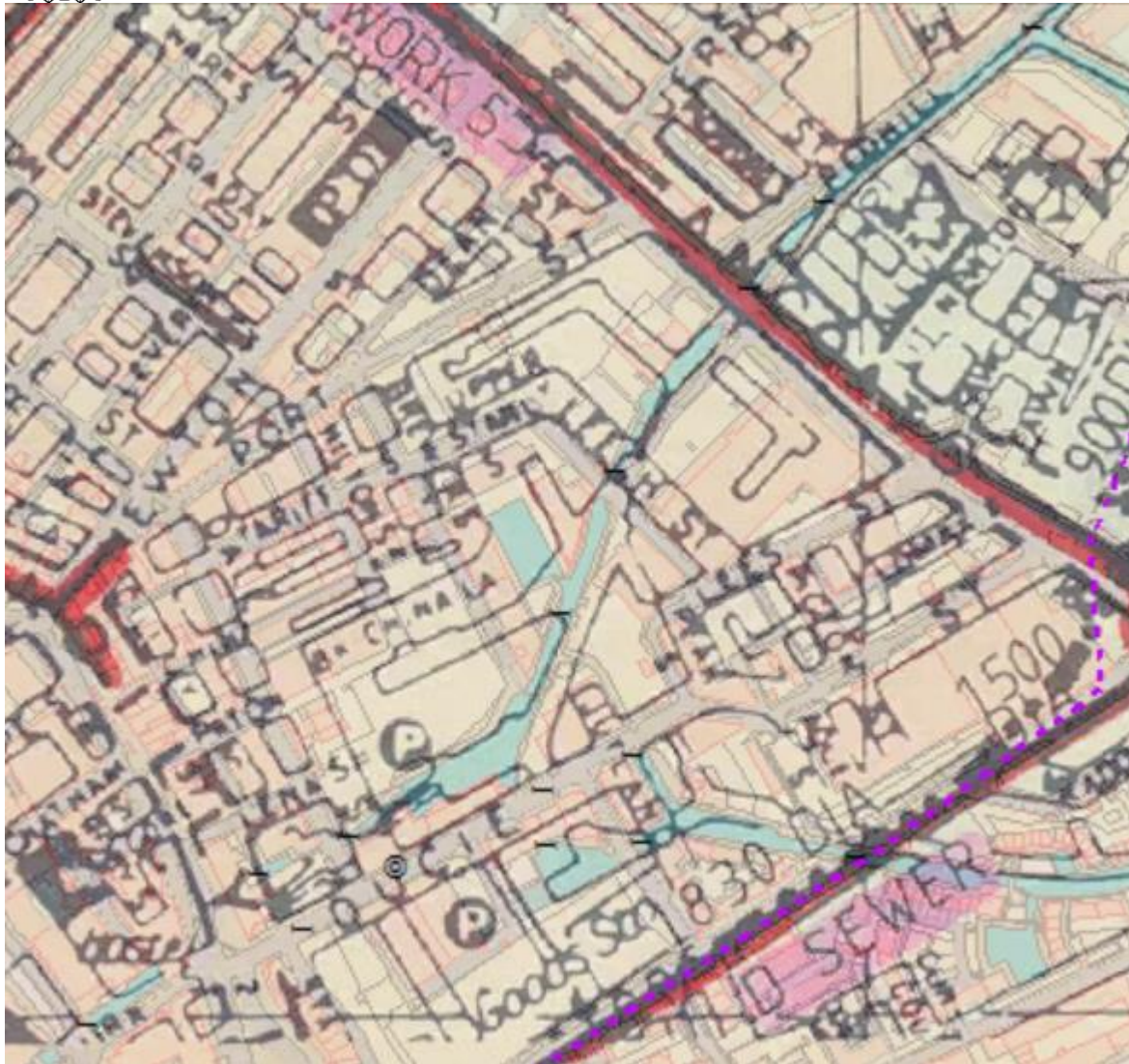
Critical Drainage Area – the Site is within the Conurbation Core Critical Drainage Area (CDA).

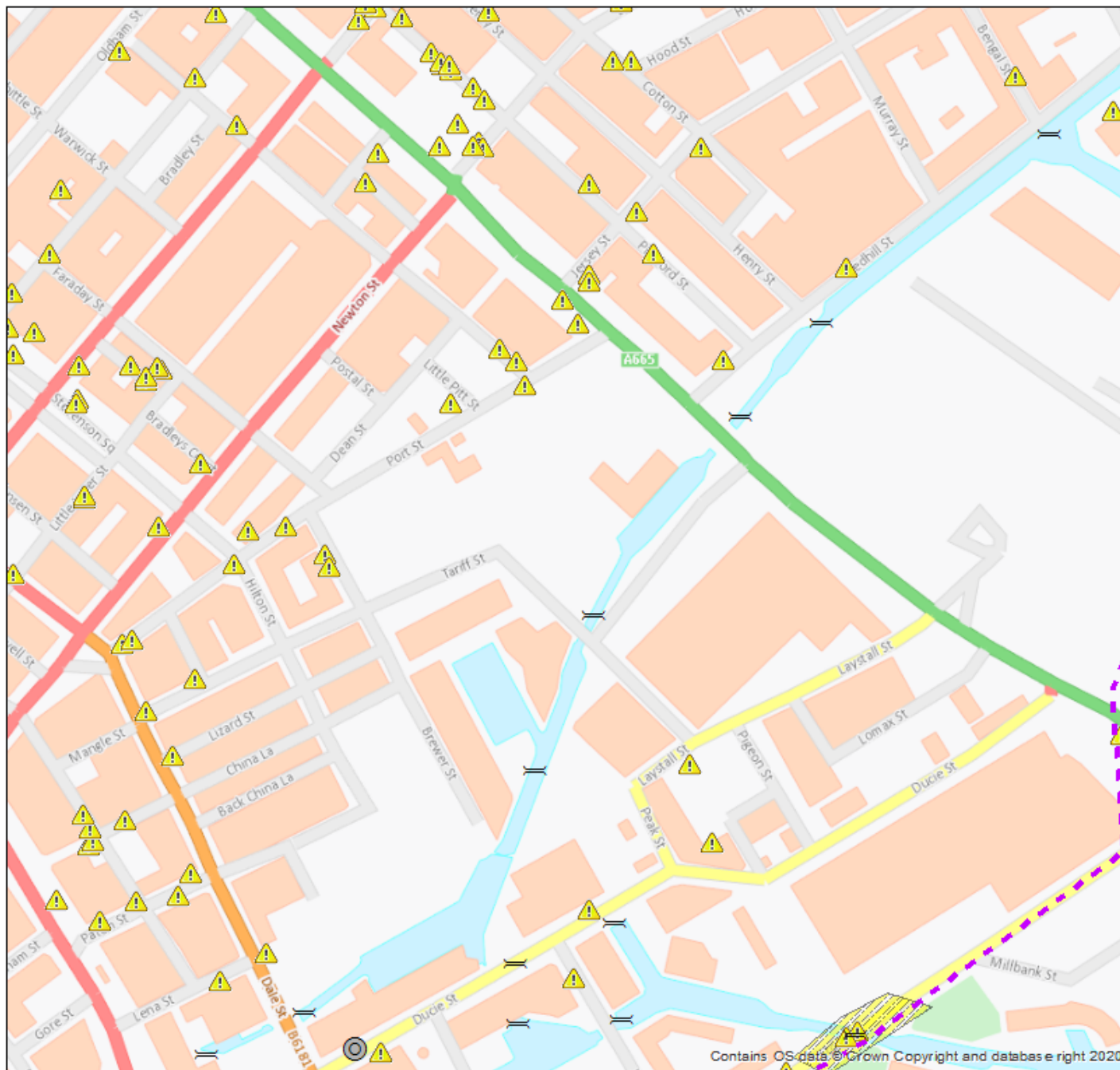
Flood Incidents – The concentration of Flood Incident Points within 50m of the northern Site boundary relate to highways flooding and span 2011 – 2021. The Flood Incident Polygon approximately 300m south-east of the Site relates to the Store Street aqueduct where ‘seepage from banks running down highway and footway’ was reported 21/03/2017.

Culvert Conduits – The nearest indicative culvert (Shooters Brook) is approximately 300m to the south-east of the Site.

Survey and Design Archive – an extract from Manchester City Council’s 1984 major drainage survey is included.

Any other information – the Site would benefit from an assessment of flood risk posed by the Rochdale Canal. Considering the concentration of highways-related flooding incidents, the drainage strategy would benefit from considering how to prevent exacerbating localised flooding.





**MANCHESTER
CITY COUNCIL**

LLFA DATA SCREEN

Address/Site Ref:

Port Street

Our Ref:

MCC010/08/2021

Author: Manchester City Council LLFA

Date: 26/10/2021

Scale: 1:2,788

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

0 20 40 80
Meters



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Mostyn, Stephen

From: Perry, Graham <Graham.Perry@uuplc.co.uk>
Sent: 11 August 2021 17:36
To: Mostyn, Stephen
Cc: Wastewater Developer Services
Subject: RE: Pre Development Enquiry for : Port Street, Manchester M1 2FA UU reference Number : 4200042330

Filed: -1
Filed Location: \\uk.wspgroup.com\central data\Projects\70084xxx\70084548 - Port street Manchester\01 Comms\1A Emails\Development Infrastructure\210811 173605 - Perry, Graham - RE Pre Development Enquiry for Port Street, Man....msg
Filed Location Folder: \\uk.wspgroup.com\central data\Projects\70084xxx\70084548 - Port street Manchester\01 Comms\1A Emails\Development Infrastructure

Pre Development Enquiry for: Port Street, Manchester M1 2FA UU reference Number : 4200042330

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

If your investigations require access to our public sewer network, we ask that you contact our network engineers with a request for an access certificate via our main contact telephone number 0345 3723223 or refer to the link below:

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

Foul Water

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

Our preferred point of discharge would be to the 300mm x 400mm diameter public combined sewer within Port Street located to the north of your proposed development at an unrestricted rate.

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

Surface Water

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

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

This is outlined as follows, in order of priority:

1. into the ground (infiltration);
2. to a surface waterbody;

3. to a surface water sewer or highway drain;
4. to a combined sewer.

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

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

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

Infiltration

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

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

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

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

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

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

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

Waterbody

If an evidence based assessment has been carried out and confirms that infiltration is not feasible, we recommend that you contact the Lead Local Flood Authority and/or Environment Agency to discuss a point of discharge to the canal located south of the proposed site.

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

Highway Drainage

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

Public Sewer

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

Once evidence is provided as outlined above, United Utilities will consider a connection to the 300mm x 400mm diameter public combined sewer within Port Street located north of the proposed site at a pass forward flow to be agreed by the Lead Local Flood Authority. United Utilities request that any agreed rate does not exceed 5 l/s.

I am afraid that I have had to restrict surface water runoff to 5 l/s because no evidence has been provided to confirm the existing drainage arrangements and as a consequence I have been unable to determine the head to flow relationship. If you are able to carry out detailed survey work and confirm the existing drainage system then I would be willing to review my position. As a minimum I would expect to see a drainage layout plan confirming existing cover & invert levels at each manhole, lengths of sewers with pipe diameters and gradients accompanied by photographic evidence, CCTV survey data confirming performance of sewers, Topo survey data, contributing area plan and calculations confirming discharge rates for the 1 in 2 year event (design storm)

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

Levels

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

Land drainage / Overland flows / track drainage

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

Existing Wastewater Assets Crossing the Site

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

Existing Water Assets Crossing the Site

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

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

Connection Application

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

<https://www.unitedutilities.com/builders-developers/larger-developments/wastewater/sewer-connections/>

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

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

Kind regards,

Graham Perry



Graham Perry
Development Engineer
Developer Services
M: 07557 577548
T: 01925 679405
unitedutilities.com

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Brimblecombe, Jack

From: Perry, Graham <Graham.Perry@uuplc.co.uk>
Sent: 15 October 2021 15:57
To: Brimblecombe, Jack; Mostyn, Stephen; floodriskmanagement@manchester.gov.uk
Cc: Wastewater Developer Services
Subject: FW: Port Street, Manchester M1 2FA - Drainage Strategy
Attachments: 4548-WSP-DRA-001 P01.pdf

Hello Jack

I have reviewed the proposed drainage strategy and I am happy with the principle of draining part to the combined sewer on Port Street at 5 l/s and part to the south at 5 l/s but I am concerned that we do not know where the existing drain serving the southern part of the site outfalls without CCTV or dye testing. Can this be confirmed please?

Foul discharges are not an issue and can drain to the sewer in Port Street without restriction

Thanks

Graham Perry



Graham Perry
Development Engineer
Developer Services
M: 07557 577548
T: 01925 679405
unitedutilities.com

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From: Perry, Graham
Sent: 07 October 2021 14:28
To: Wastewater Developer Services <WastewaterDeveloperServices@uuplc.co.uk>
Subject: FW: Port Street, Manchester M1 2FA - Drainage Strategy

Please book in – you may have to ask for a pre dev form on this

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

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From: Brimblecombe, Jack [<mailto:Jack.Brimblecombe@wsp.com>]

Sent: 07 October 2021 11:45

To: Perry, Graham <Graham.Perry@uuplc.co.uk>

Cc: Mostyn, Stephen <Stephen.Mostyn@wsp.com>; floodriskmanagement@manchester.gov.uk

Subject: Port Street, Manchester M1 2FA - Drainage Strategy

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Dear Graham,

Please find attached the drainage strategy for Port Street, Manchester M1 2FA for review and comment.

The strategy involves:

- Connection to public sewers as connection to the Rochdale Canal was deemed unfeasible;
- Rear external areas to connect to existing southern drain as connection to port street unworkable due to levels difference and proposed basement;
- Attenuation tank located in external area to northwest of the site.

Can United Utilities and Manchester City Council please confirm whether they accept the approach taken regarding two offsite discharges limited to 5l/s each?

Can United Utilities also confirm that they accept the proposed foul water discharge solution of connection into the public sewer in Port Street.

Further to this, can MCC confirm whether they approve of the decision to discharge to public combined sewer having explored the drainage hierarchy and found other methods to be unfeasible.

Kind Regards,

Jack Brimblecombe MEng (Hons)

Graduate Engineer



T +44 (0) 161 200 5177

WSP

No 8 First Street
Manchester
M15 4RP

wsp.com

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Brimblecombe, Jack

From: Brimblecombe, Jack
Sent: 26 October 2021 15:16
To: Wastewater Developer Services
Cc: Mostyn, Stephen
Subject: Port Street, Manchester M1 2FA - Drainage Strategy - UU Ref. 4200042330
Attachments: 4548-WSP-DRA-003 P01.pdf

Good Afternoon Graham,

See attached impermeable area mark up for Port Street. Please note that this scheme has a basement ramp which is uncovered and therefore runoff from the ramp will be collected via an ACO drain at the base of the ramp.

The level of the basement (46.70 floor level) means it is not possible to connect this drain into the attenuation tank and a connection direct to the combined sewer in port street risks flooding of the basement in the event of the sewer being surcharged. The floor level of the basement is also still under review and could be dropped further.

On the basis of the above, it is currently proposed to install a packaged pump station at basement level to pump the run-off from the ramp (peak rate of 2.53l/s) to the proposed private combined manhole on the Port Street frontage of the development. This will mean that this intermittent pumped discharge (3 l/s tbc) will be separate and additional to the agreed 2no. 5l/s discharges.

We are in the process of organising a drainage survey to confirm the outfall for drainage from the southern areas of the site as requested on your latest correspondence. We hope to have this done prior to planning submission but this is dependent on the availability / timescales of the survey contractor.

Can United Utilities confirm whether the above proposals for drainage from the basement ramp are acceptable in principle and provide any comments?

Kind Regards,

Jack Brimblecombe MEng (Hons)
Graduate Engineer



T +44 (0) 161 200 5177

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Manchester
M15 4RP

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Appendix F

DRAINAGE STRATEGY

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File name: \\uk.vspgroup.com\projects\70084548-WSP-DR-001\DWG - PORT STREET MANCHESTER\WSP-DR-001.DWG, printed on 19 November 2021, 10:05:56, by: Bimblecombe, Jark

DRAINAGE STRATEGY:

TOTAL SITE AREA - 4886m²
TOTAL EXISTING IMP AREA - 4140m²
TOTAL PROPOSED IMPERMEABLE AREA - 740m²
BUILDING AND PORT STREET EXTERNAL AREA - 2433m²
SOUTHERN PORTION OF SITE EXTERNAL AREA - 2453m²

IT HAS BEEN AGREED WITH THE CANAL AND RIVERS TRUST THAT A SURFACE WATER CONNECTION INTO THE ROCSDALE CANAL IS NOT FEASIBLE AND IT IS THEREFORE PROPOSED TO CONNECT SURFACE WATER RUNOFF FROM THE SITE TO THE EXISTING PUBLIC SEWERS WHICH IT IS UNDERSTOOD (SUBJECT TO COMPLETION OF SURVEY THAT IT CURRENTLY CONNECTS INTO).

EXISTING SURFACE WATER RUNOFF RATE (RATIONAL METHOD) - 57.6 l/s

PROPOSED SURFACE WATER DISCHARGE WHEN TAKING INTO ACCOUNT 50% REDUCTION REQUIRED BY MANCHESTER CITY COUNCIL LOCAL PLANNING POLICY - 28.8 l/s

UNITED UTILITIES INDICATED AS PART OF THEIR PRE DEVELOPMENT ENQUIRY RESPONSE THAT A MAXIMUM DISCHARGE RATE OF 5 L/S PER SECOND INTO THE EXISTING PUBLIC SEWER IN PORT STREET SHOULD BE CONSIDERED IN THE ABSENCE OF A FINALISED DRAINAGE SURVEY TO CONFIRM THE RATE OF SURFACE WATER DISCHARGE FROM THE EXISTING SITE.

HOWEVER, GIVEN THE TOPOGRAPHY OF THE SITE WHICH HAS A SIGNIFICANT LEVEL DIFFERENCE FROM NORTH TO SOUTH WHICH WILL BE ACCOMMODATED BY RETAINING WALLS AND STEPS / RAMPS ALONG WITH THE PRESENCE OF A PROPOSED BASEMENT, IT IS NOT POSSIBLE TO DRAIN THE SOUTHERN EXTERNAL AREA OF THE SITE TO THE COMBINED SEWER IN PORT STREET. IT IS THEREFORE PROPOSED THAT THE SOUTHERN AREA OF THE SITE WILL DRAIN TO AN EXISTING PRIVATE DRAIN WHICH IT IS UNDERSTOOD DRAINS TO THE SOUTH OF THE SITE TOWARDS EXISTING PUBLIC SEWERS IN TARIFF STREET BUT WILL BE CONFIRMED BY SURVEY.

IT IS PROPOSED THAT THE SOUTHERN PART OF THE SITE WILL DISCHARGE INTO THIS EXISTING SEWER ALSO AT A RATE OF 5 L/S SUBJECT TO AGREEMENT WITH UU AND MANCHESTER LLFA.

THEREFORE, TOTAL PROPOSED OFF SITE DISCHARGE RATE WILL BE 10 L/S (THIS WILL BE REVIEWED WHEN A FULL DRAINAGE SURVEY HAS BEEN CARRIED OUT):

BUILDING (DRAINS TO EXISTING COMBINED PUBLIC SEWER IN PORT STREET VIA EXISTING OUTFALL IF POSSIBLE) - 5 L/S

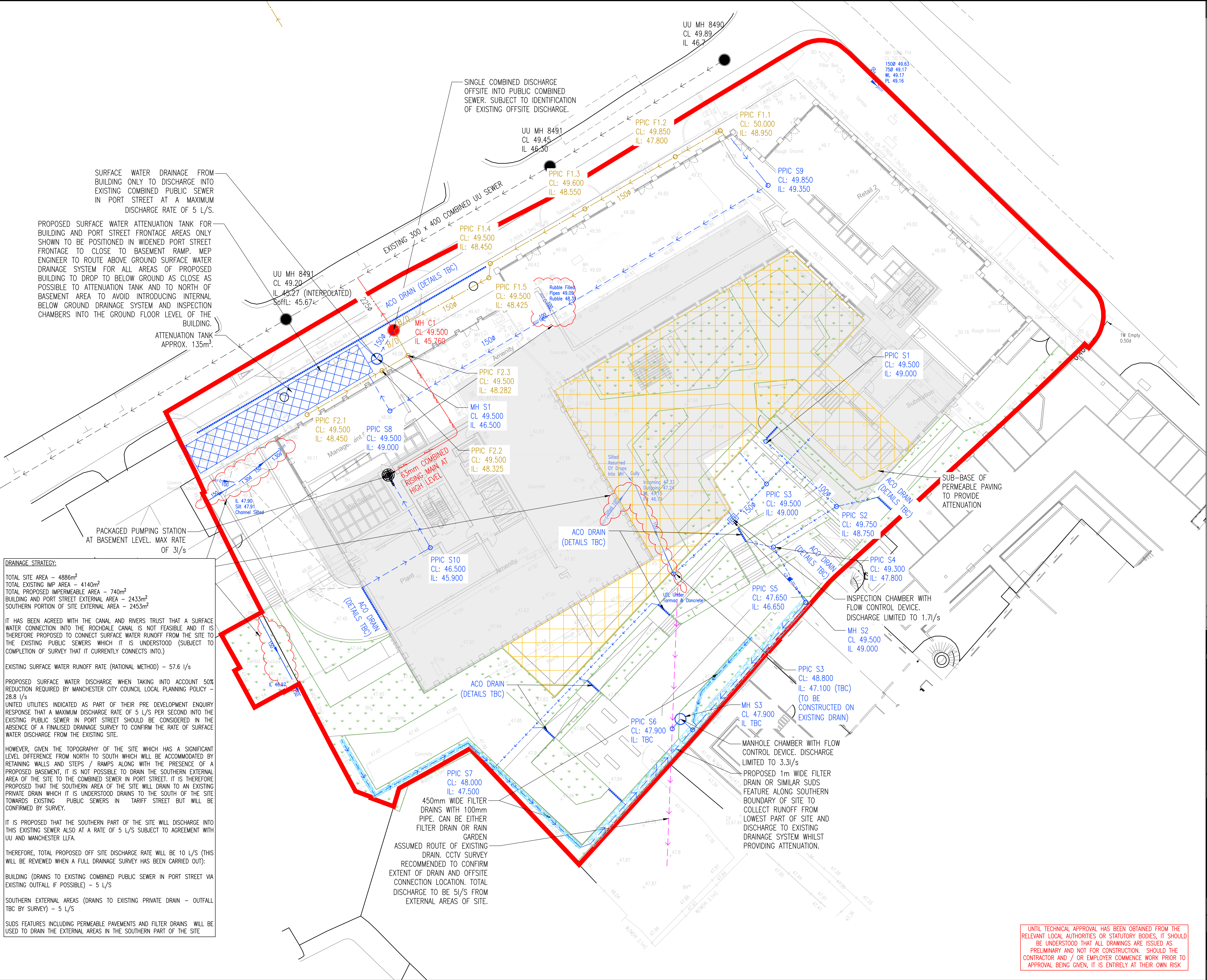
SOUTHERN EXTERNAL AREAS (DRAINS TO EXISTING PRIVATE DRAIN - OUTFALL TBC BY SURVEY) - 5 L/S

SUDS FEATURES INCLUDING PERMEABLE PAVEMENTS AND FILTER DRAINS WILL BE USED TO DRAIN THE EXTERNAL AREAS IN THE SOUTHERN PART OF THE SITE.

DO NOT SCALE

KEY:

- FILTER DRAIN
- ACO DRAIN
- GULLY
- PROPOSED SURFACE WATER PIPE + MH
- ASSUMED EXISTING DRAIN
- PROPOSED FOUL PIPE
- PROPOSED COMBINED PIPE + MH
- EXISTING UU COMBINED SEWER + MH
- RISING MAIN
- AREA OF PERMEABLE PAVING
- ATTENUATION TANK
- EXTENTS OF BASEMENT
- AREA OF LANDSCAPING
- 450mm INSPECTION CHAMBER
- EXISTING DRAIN IDENTIFIED BY GPR SURVEY



UNTIL TECHNICAL APPROVAL HAS BEEN OBTAINED FROM THE RELEVANT LOCAL AUTHORITIES OR STATUTORY BODIES, IT SHOULD BE UNDERSTOOD THAT ALL DRAWINGS ARE ISSUED AS PRELIMINARY AND NOT FOR CONSTRUCTION. SHOULD THE CONTRACTOR AND / OR EMPLOYER COMMENCE WORK PRIOR TO APPROVAL BEING GIVEN, IT IS ENTIRELY AT THEIR OWN RISK

REV	DATE	BY	DESCRIPTION	CHK	APP
P01	19/11/2021	JEB	FIRST ISSUE	SM	SM

DRAWING STATUS:	S3 - FOR REVIEW
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wsp

8 First Street, Manchester, M15 4GU, UK
T+ 44 (0) 161 200 5000
wsp.com

CLIENT:	VITA GROUP
---------	------------

ARCHITECT:	SIMPSON HAUGH
------------	---------------

SITE/PROJECT:	PORT STREET, MANCHESTER
---------------	-------------------------

TITLE:	CONCEPT DRAINAGE LAYOUT
--------	-------------------------

SCALE @ A1:	1:200	CHECKED:	SM	APPROVED:	SM
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PROJECT NO:	70084548	DESIGNED:	JEB	DRAWN:	JEB	DATE:	November 21
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DRAWING NO:	4548-WSP-DR-001	REV:	P01
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Appendix G

STORAGE CALCULATIONS

wsp

WSP Group Ltd		Page 1
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Date 03/08/2021 12:47	Designed by UKSMM003	
File	Checked by	
XP Solutions	Source Control 2018.1	
ICP SUDS Mean Annual Flood Input Return Period (years) 100 Soil 0.450 Area (ha) 0.488 Urban 0.750 SAAR (mm) 872 Region Number Region 10 Results l/s QBAR Rural 2.8 QBAR Urban 6.9 Q100 years 10.9 Q1 year 6.0 Q30 years 10.0 Q100 years 10.9		
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WSP Group Ltd		Page 3
		Micro Drainage
Date 28/10/2021 16:19	Designed by UKJEB008	
File	Checked by	
XP Solutions	Source Control 2019.1	
Model Details Storage is Online Cover Level (m) 49.500 Porous Car Park Structure Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 26.2 Membrane Percolation (mm/hr) 1000 Length (m) 26.1 Max Percolation (l/s) 190.0 Slope (1:X) 0.0 Safety Factor 2.0 Depression Storage (mm) 5 Porosity 0.30 Evaporation (mm/day) 3 Invert Level (m) 49.050 Cap Volume Depth (m) 0.320 Orifice Outflow Control Diameter (m) 0.045 Discharge Coefficient 0.600 Invert Level (m) 49.000		
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Appendix H

WSP
OVERLAND FLOW ROUTEING PLAN

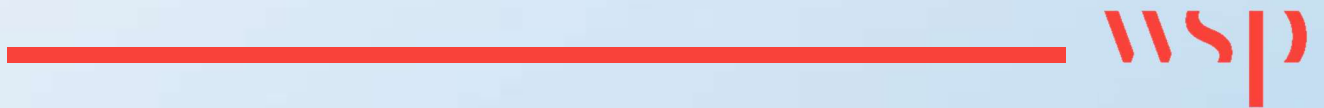
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EXCEEDANCE – OVERLAND FLOW ROUTES

IN THE EVENT OF STORMS THAT EXCEED THE 1 IN 100 YEAR PLUS 40% (CLIMATE CHANGE), THE ARROWS SHOW THE DIRECTION OF OVERLAND FLOWS WHICH WILL BE ROUTED AWAY FROM BUILDINGS TOWARDS PORT STREET TO THE NORTH AND 3rd PARTY LAND TO THE SOUTH EAST. SOME RUNOFF IS EXPECTED TO COLLECT IN THE LOWEST POINT OF THE EXTERNAL AREAS TO THE SOUTH.

Appendix I

DRAINAGE INSPECTION AND MAINTENANCE SCHEDULE





PORT STREET - DRAINAGE INSPECTION & MAINTENANCE SCHEDULE

Maintenance Schedule	Required Action	Typical Frequency
Below Ground Drainage Pipes, Manholes, etc		
Regular maintenance	Lift covers and inspect manholes for evidence of debris and silt deposits and evidence of blockages (standing water). Carry out CCTV survey if required	Quarterly
Remedial actions	High pressure jetting and/or remove minor blockages and silt build up	As required – 20% loss of pipe cross-section
	Replace broken access covers, remove major blockages, repair structurally defective pipework	As required
Flow Control Chamber		
Regular maintenance	Lift covers and inspect chamber for evidence of debris and silt deposits and evidence of blockages. Test bypass door operating correctly.	Quarterly
Remedial actions	Replace broken access covers, remove major blockages, repair/replace defective flow control devices	As required
	High pressure jetting and/or remove minor blockages and silt build up	As required
Linear Channel Drains and Gullies		
Regular maintenance	Lift access covers and inspect for silt/debris accumulation	Quarterly
Remedial actions	High pressure jetting and or remove minor blockages and silt build up	As required
	Replace broken access covers, gratings	As required
Rainwater Pipes		
Regular maintenance	Inspect rainwater goods for evidence of leaking pipework	Quarterly
Occasional maintenance	Remove rodding eyes and carry out high pressure jetting to remove any debris	Annually
Remedial actions	Replace cracked/leaking pipework	As required
Filter Drains		
Regular maintenance	Remove litter and debris from filter drain surface, access chambers and pre-treatment devices	Monthly (or as required)
	Inspect filter drain surface, inlet/outlet pipework and control systems for blockages, clogging, standing water and structural damage	Monthly
	Inspect pre-treatment systems, inlets and perforated pipework for silt accumulation, and establish appropriate silt removal frequencies	Six monthly
	Remove sediment from pre-treatment devices	Six monthly
Occasional maintenance	Remove or control tree roots where they are encroaching the sides of the filter drain using recommended methods (e.g. NJUG, 2007 or BS 3998:2010)	As required
	At locations with high pollution loads, remove surface geotextile and replace, and wash or replace overlying filter medium	Five yearly, or as required
	Clear perforated pipework of blockage	As required
Permeable Paving		
Regular Maintenance	Remove litter and debris from filter drain surface and access chambers	Monthly (or as required)
	Inspect silt accumulation rates	Annually
Occasional Maintenance	Removal of weeds through applying killer directly on to weeds rather than spraying	As required
Remedial Actions	Remedial work to any depression or cracked/broken blocks deemed structurally detrimental or a hazard to users. Replace lost jointing material.	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	10 to 15 yearly (dependent on infiltration performance)



Attenuation tank

Regular maintenance	The majority of inspection and maintenance requirements are in the flow control downstream of the system.	See above
	Internal inspection and debris removal can be achieved via entry into the attenuation structure via manhole in northwestern frontage .	As required



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