

Design Note

Project The Factory, Manchester
Subject Drainage Management and Maintenance
Project no 034933
Date 16 May 2023

Revision	Description	Issued by	Date	Approved (signature)
01	For Information	PB	16/05/2023	PT

1 Introduction

The Drainage Management and Maintenance Design Note has been prepared for MCC as supplementary documentation to support The Factory project. The Factory design drawing, specification and associated documentation should be read in conjunction with this design note.

2 Maintenance Plan

2.1 Details of the Party Responsible for Maintenance of Each Feature.

As part of the project, the United Utilities 250mm diameter sewer that runs down Grape Steet connecting to Water Street was replaced by a new 300mm diameter pipe. MCC entered into a build-over agreement with United Utilities and the replaced sewer is owned by United Utilities and all maintenance associate with the sewer should be carried out by United Utilities.

Existing drainage located within Water Street (public highway) 300mm diameter pipe will be maintained by MCC, there is prohibition of driving order the highway will be retained as public with access to drainage and utilities as required for any maintenance.

All other drainage features proposed on site are private and therefore remain within the ownership of the client. These features will be maintained by The St. John Management company.

2.2 Inspection and Maintenance

2.2.1 General

As part of the specification for works the contractor is required to provided CCTV survey footage of all components of the drainage networks before handing over to the client to verify the condition and ensuring that all failures are rectified. The contractor will also submit pressure testing for the network to confirm its working order. At the time of writing the design note this has been completed for all internal drainage on site.

2.2.2 Below Ground Pipes and Manholes

The Factory drainage strategy is mainly made up of below ground pipes and manholes. Regular maintenance for these items included lifting covers and inspecting manholes for evidence of debris and silt deposits while also checking for any blockages. A CCTV survey may be required if deemed necessary. Remedial action includes high pressure jetting to remove blockages and build up. Any broken access covers should be replaced and any defect to the pipework should be made good as appropriate.

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2.2.3 Linear Channel and Gullies

The Factory project has proposed channel drainage and gullies. Regular maintenance for these items included lifting access covers and inspecting for debris/silt accumulation. Remedial action includes high pressure jetting to remove blockages and build up. Any broken access covers/grating should be replaced as required.

2.2.4 Pervious Pavements

The Factory project includes pervious paving, which is located adjacent to the reinforced lawn section within the public realm. Regular inspection and maintenance is required to ensure the effectiveness of pervious pavements. Before handing over the pavement to the client, it should be inspected for clogging, litter, weeds and water ponding, and all failures should be rectified. After handover the pavement should be inspected regularly, especially during and after heavy rainfall to check effective operation. The activities associated with the maintenance of permeable paving can be found in figure 1 below. The table explains the type of maintenance, the actions or activities to be undertaken and the frequency required for each action. Details of each individual action can be found in CIRIA C753, The SuDS Manual (2015).

Operation and maintenance requirements for pervious pavements		
Maintenance schedule	Required action	Typical frequency
Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
Occasional maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required – once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three-monthly, 48 h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

Figure 1 Table excerpt from CIRIA C753, The SuDS Manual (2015) detailing the action and frequency required for pervious pavements

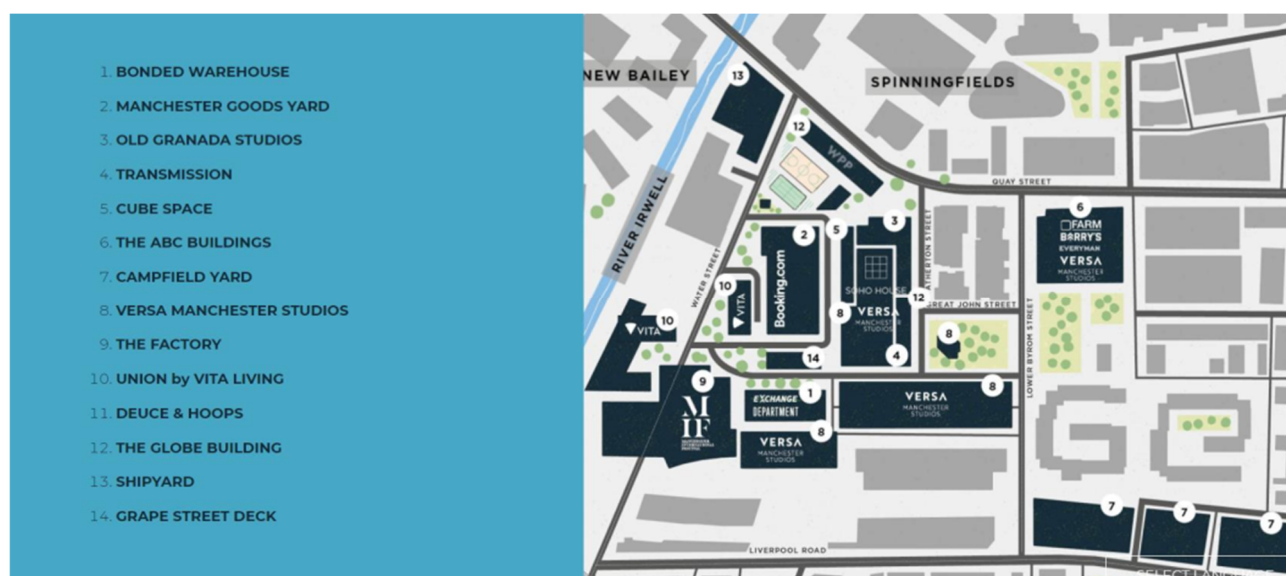
2.3 Safety and Access

Consideration has been given to safety in design and appropriate consideration of access during the design of the drainage features proposed on site.

CDM Regulations 2015 have been considered and applied to the planning, design and construction and long-term maintenance of the systems used.

2.4 Arrangement Concerning Funding Mechanisms

Factory International have entered into an agreement with a newly formed estate management company, St John's Management Estate Company (SJEMC). It will be the responsibility of Factory International to pay a service charge, and the responsibility of SJEMC to maintain all public realm areas within the Factory site boundary. This includes the drainage system which will be regularly inspected. SJEMC will have primary responsibility for the upkeep of the brand-new City Centre district, St John's. The location can be viewed in the area map below:



Please refer to the ST JOHNS ESTATE HANDBOOK which has been issued to Manchester City Council as part of the planning conditions discharge process.