



Document name: 19238-EDGE-XX-XX-CO-C-0001_DRAINAGE MAINTENANCE PLAN[P01]

10 October 2023

Chris Fothergill

John Southworth

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10 Charles Street

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Dear Chris,

Re: Victoria Avenue, Blackley – Drainage maintenance plan

With reference to condition 13 of the planning approval this document represents a proposal for maintenance of the private drainage system at Victoria Avenue Blackley.

This maintenance plan has been produced in support of the developments planning permission and is delivered alongside the sites proposed drainage strategy, attached to this document, shown in EDGE Drawings 19238_C2002_DRAINAGE LAYOUT[P16] and 19238_C2004_PLOT DRAINAGE [C01].

One of the reports aims is to confirm that the designer has taken maintenance into account with the design and demonstrate the competence of the designer.

This document has been produced to ensure all parties involved in the ongoing operation and maintenance of the drainage infrastructure and SUDs systems understand their functionality as well as the maintenance requirements.

All required inspections and tasks listed in the Maintenance Specification should comply with all relevant health and safety legislation (Health and Safety at work regulations) including the development of risk assessments for working close to or in water.

The drainage proposals include provision of separate surface water and foul water sewers serving the development. Foul will connect to existing public infrastructure in Victoria Avenue to the North of the site with no restriction on flow rates.

Surface water will connect to existing public infrastructure to the North of the site in Victoria Avenue. A restriction to runoff via a flow control unit is proposed to discharge a maximum of 14.73 litres per second as agreed with the incumbent water authority United Utilities.

Storage is required and is provided within the upstream network using oversized storage pipes and chambers.

The proposed surface water network has been designed using Microdrainage flow simulation software to ensure:

- No surcharging of drainage network for design storm of 1 in 2 years.
- No flooding of drainage network for design storm of 1 in 30 years.
- The storage within the system is proposed to accommodate volumes up to the 1 in 100 year + climate change event. For the extreme events, the Micro drainage model has been reviewed and a flood routing/ exceedance plan is provided showing no buildings are at risk of flooding.

The main drainage infrastructure within public highway will be adopted by United Utilities and will be under their inspection and maintenance regime. Highway gullies will be adopted by Manchester City Council and will be inspected and maintained by the highways department.

This report covers the inspection requirements and maintenance of private sewers, chambers and gullies.

This plan is provided to support the long-term performance of the system to meet the design criteria to which they have been designed. Furthermore, this plan will provide a basis for costing the long-term maintenance budget and provide a working document for use on site.

The proposed drainage infrastructure outside the public road and public sewer system will be private and under a management companies' inspection and maintenance regime.

The Maintenance Specification will provide a guide to the management company as to what the maintenance requirements for each drainage component are and how to meet them efficiently. It will also detail the frequency of the required tasks whether that be planned maintenance or reactive repairs etc.

Preventative maintenance protects the investment of the drainage infrastructure. Furthermore, frequent and thorough maintenance will prevent long term problems, costly repairs and ensure efficient and optimum working order of the drainage system.

Each component of the foul and storm water sewer network should be inspected and cleaned dependent upon its maintenance needs. The cleaning and inspection program should include sewer cleaning, CCTV inspection of pipes, visual inspection of the manhole structure and flow channels and an evaluation of the manhole and pipe condition.

This maintenance program will help identify any required repairs and the assessments may help judge the future frequency of cleaning and inspections. Effective maintenance can have a significant impact on extending the effective life of the system.

Cleaning includes water jetting to remove silt build-up and other debris within the pipes. CCTV surveys of the sewers and manhole inspections will be required to ensure the infrastructure is performing efficiently.

CCTV surveillance of the sewers will be focused on indicating leaking pipe joints, obstructions or any excessive deposits as well as other pipe defects.

The newly constructed drainage infrastructure will be fully inspected/ surveyed prior to hand over to the management company to ensure there are no construction defects and they have been installed in accordance with the approved plans and specifications.

The inspections should ideally be carried out at the same time as other routine maintenance activities.

Drainage components should be inspected and maintained in accordance with the manufacturer's specifications.

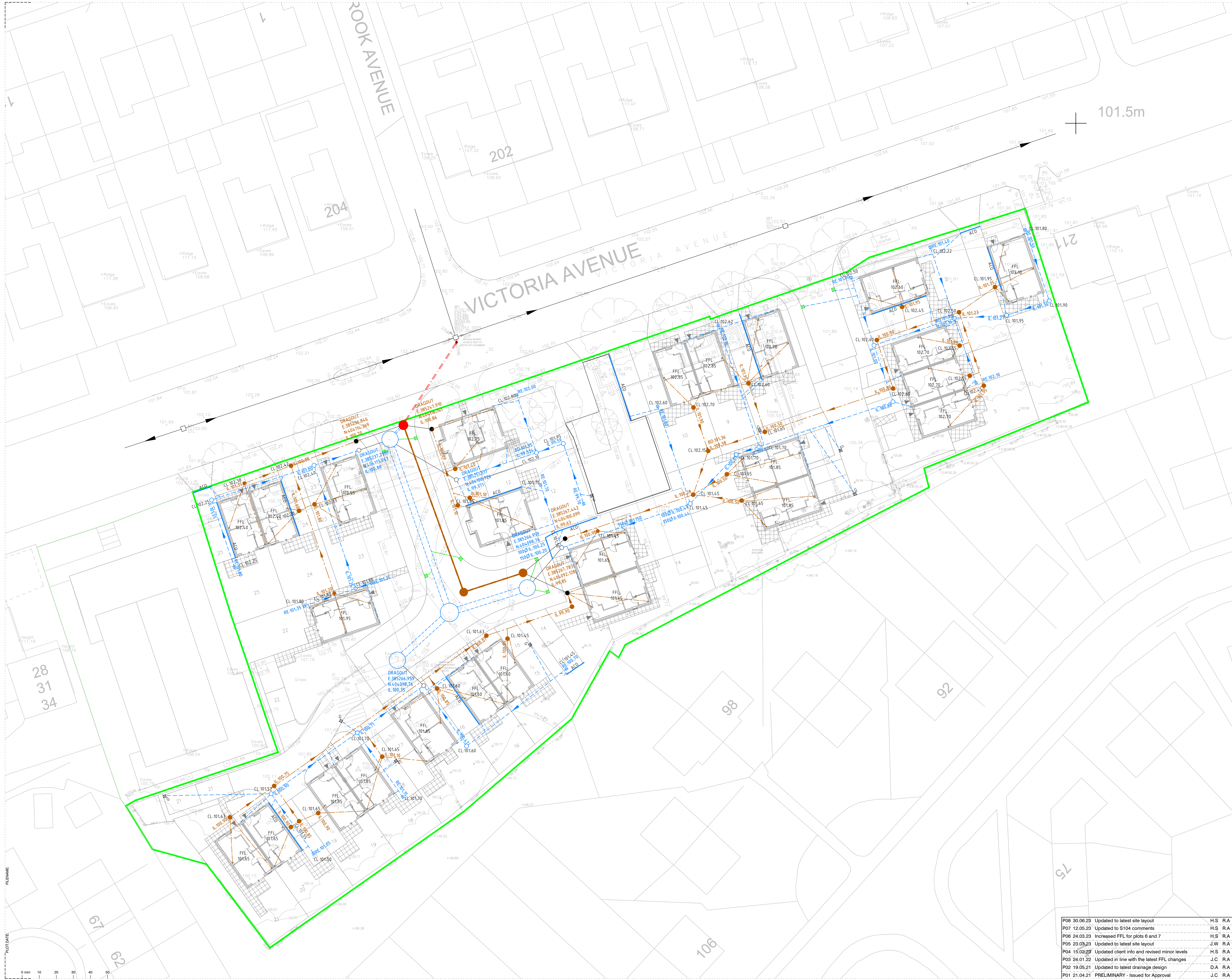
MAINTENANCE SPECIFICATION

Component	Maintenance Requirement	Frequency
Storm and foul manholes.	• Visual inspection to verify condition of manhole structure and flow channels. • Jetting/ cleaning of flow channels.	• Yearly • Yearly
Storm and foul water pipes.	• CCTV survey of pipes. • Jetting/ cleaning of pipes.	• Prior to handover and every 5 years thereafter • Yearly
Gullies, linear drains and sumps	• Visual inspection to verify condition. • Jetting/ cleaning and emptying sumps.	• Monthly for the first 3 months then every 6 months thereafter • Monthly for the first 3 months then every 6 months thereafter

Yours sincerely,



Ryan Atherton
Team Leader – Civil



KEY

- IL 38.400 SURFACE WATER SEWER & INSPECTION CHAMBER
- RE 38.400 SURFACE WATER SEWER & RODDING EYE
- IL 38.200 FOUL WATER SEWER & INSPECTION CHAMBER

LEGEND

- IL INVERT LEVEL
- RE RODDING EYE
- BD BACKDROP

- NOTES:**
- WHERE THE DEPTH TO INVERT LEVEL IS A MAXIMUM OF 1.2M PRIVATE DRAINAGE CHAMBERS WILL BE A 475MM DIAMETER POLYPROPYLENE INSPECTION CHAMBER (PPIC).
 - WHERE THE DEPTH TO INVERT LEVEL IS A MAXIMUM OF 3M PRIVATE DRAINAGE CHAMBERS WILL BE A 475MM DIAMETER HEPWORTH REDUCED ACCESS TELESCOPIC POLYPROPYLENE INSPECTION CHAMBER (PPIC).
 - WHERE THE DEPTH TO INVERT LEVEL IS A MAXIMUM OF 5M PRIVATE DRAINAGE CHAMBERS WILL BE A 475MM DIAMETER HEPWORTH REDUCED ACCESS SEWER SYSTEM.
 - WHERE CHAMBERS ARE SITED IN TRAFFICKED AREAS (DRIVEWAYS ETC) A D400 GRADE COVER MUST BE USED.
 - PRIVATE DRAINAGE PIPES TO BE HEPWORTH 'SUPERSLEVE' OTHERWISE.
 - 100MM PRIVATE DRAINAGE PIPES TO BE HEPWORTH 'SUPERSLEVE' OTHERWISE.
 - 150MM PRIVATE DRAINAGE PIPES TO BE HEPWORTH 'SUPERSLEVE 150' OR SIMILAR APPROVED.
 - SVP, STACK, BIG AND RWP LOCATIONS ARE TO BE SET OUT FROM GWP ARCHITECTS HOUSE TYPE DRAWINGS. POSITIONS SHOWN ON EDGE PLOT DRAINAGE DESIGNS ARE TO BE CHECKED AND CONFIRMED PRIOR TO DRAINAGE WORKS COMMENCING.

C01 18.09.23 Drainage for plot 11 added		R.M.	R.A.	
P09 19.07.23 Cover levels added		H.S.	R.A.	
Rev	Date	Description	By	CHK
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DO NOT SCALE DRAWINGS. IF IN DOUBT, ASK!				
Project Name VICTORIA AVENUE BLACKLEY				
Client JOHN SOUTHWORTH				
Designed	Drawn	Checked	Scale @ A1	
R.A.	J.C.	R.A.	1:250	
Drawing Title PLOT DRAINAGE				
Project No. 19238				
Drawing No. C2004				
Revision C01				

P08 30.06.23	Updated to latest site layout	H.S.	R.A.
P07 12.05.23	Updated to S104 comments	H.S.	R.A.
P06 24.03.23	Increased FFL for plots 6 and 7	H.S.	R.A.
P05 23.03.23	Updated to latest site layout	J.W.	R.A.
P04 15.02.23	Updated client info and revised minor levels	H.S.	R.A.
P03 24.01.22	Updated in line with the latest FFL changes	J.C.	R.A.
P02 19.05.21	Updated to latest drainage design	D.A.	R.A.
P01 21.04.21	PRELIMINARY - Issued for Approval	J.C.	R.A.