



Project Title

Drainage Management & Maintenance Plan

At

**Land off Whitworth Road & Grasmere Street
Syke,
Rochdale,
OL12**

For

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Appendix A: PG Consulting Drawing

1.0 Introduction

1.1 Overview

- 1.1.1 This plan has been prepared to set out the Maintenance and Management for the Sustainable Drainage Systems (SuDS) that form part of the drainage to the proposed development encompassing three residential housing schemes on three separate unmade sites with associated landscaping on land off Whitworth Road, Syke, Rochdale, OL12.

1.2 Purpose

- 1.2.1 The purpose of this plan is to set out the requirements of maintenance to the drainage in order to ensure the body responsible for maintenance is entrusted with a robust inspection and maintenance programme, ensuring the optimum operation of the surface water drainage network is continually maintained for the lifetime of the assets.
- 1.2.2 The activities listed in this plan are specific to this site and represent minimum maintenance and inspection requirements. However, additional tasks or varied maintenance frequency may be required. Specific maintenance needs of the drainage should be monitored, and maintenance schedules should be adjusted to suit requirements.
- 1.2.3 All those responsible for maintenance should follow relevant health and safety legislation for all activities and risk assessments and method statements should always be provided.

1.3 Drainage and SuDS at Whitworth Road

- 1.3.1 The surface water drainage utilises SuDS to manage rainfall and deal with surface water runoff.
- 1.3.2 The scheme comprises SuDS components including:
- Connecting pipe network, manholes, inspection chambers and flow controls.
 - Geocellular Infiltration Tank
- 1.3.3 Refer to drawings PGC388-C-100 and 101 for the Proposed Drainage Layout.

2.0 Management

2.1 Overview

2.1.1 There are two levels of inspection proposed in this plan:

- **Yearly inspection.** Consists of a site walkover and visual inspection of the drainage.
- **5 yearly inspection.** Consists of a site walkover and visual inspection, and review of a CCTV drainage survey.

2.1.2 There are three categories of maintenance activities referred to in this plan.

- **Regular maintenance** (including inspections and monitoring). Consists of basic tasks done on a frequent and predictable schedule.
- **Occasional maintenance.** Comprises tasks that are likely to be required periodically, but on a much less frequent and predictable basis than routine tasks.
- **Remedial maintenance.** Comprises intermittent tasks that may be required to rectify faults associated with the system, although the likelihood of faults can be minimised by good design. Where remedial work is found to be necessary, it is likely to be due to site-specific characteristics or unforeseen events.

2.2 Responsibilities

2.2.1 As all the drainage within the development will remain private, an appointed management and maintenance company will take on the responsibility for inspection and maintenance of all the proposed drainage and SuDS elements.

2.2.2 Any man-entry into the system and silt removal should be carried out by trained personnel with adequate personal protective equipment. Approved safety procedures must be followed in accordance with the Health and Safety Act.

2.3 Funding

2.3.1 Rochdale Council will take on the responsibility for the funding of the management and maintenance of the drainage and SuDS.

2.3.2 Full details of the Management and Maintenance company will be provided once appointed.

3.0 Inspection

3.1 Yearly

- 3.1.1 The below table provides recommendations to be included within the management and maintenance companies regular inspection regime for the structure.

	Yearly inspection
Y1	Manholes and inspection chambers. Annual visual inspection to check free flow from ground level.
Y2	Geocellular Infiltration tank and attenuation Annual visual inspection of all incoming pipes, outlets and vents.

3.2 5 yearly

- 3.2.1 In addition to the yearly inspection, all drainage should be surveyed by a specialist drainage CCTV company and a report should be provided to document the condition of the drainage and make any recommendations for remedial repair works.

4.0 Maintenance Strategy

4.1 Inspection, Manhole and Catchpit Chambers

- 4.1.1 Access points have been located at the head of each run, at a change in direction and at a change of pipe size in accordance with Building Regulations Part H.
- 4.1.2 The appropriate health and safety equipment must be used when accessing manholes. Confined space certificates must be held by any personnel entering a manhole and the appropriate permits should be obtained from the Maintenance Manager prior to any access.

4.2 Pipes

- 4.2.1 Pipes are proprietary products, and the materials can vary across the site and as such where used the manufacture's recommendations should be followed. Regardless of the product used, the pipes will be fully compliant with the drainage specification.
- 4.2.2 Pipes are intended to be the main conveyance across the development and where oversized they form the attenuation volume required by the limitation of the discharge rate. They are intended to be dry except for during rainfall events. These have been designed to be self-cleaning where possible for smaller diameter pipes, and for larger diameters the risk is reduced due to the overall pipe size.
- 4.2.3 Access for maintenance is provided through access chambers and manholes.
- 4.2.4 Regular inspection and maintenance are important to identify areas which may have been obstructed / clogged and may not be draining correctly thus exposing the development to a greater level of flood risk.

4.3 Channels & Gullies

- 4.3.1 Channels and gullies should be inspected and cleaned in accordance with the manufacturer's details. Channel units can be cleaned through the use of a high-pressure hose; this can be fed into the channel system through access units strategically placed along the channel run. The throat section of channel units should be kept clear at all times to ensure uninterrupted flow of surface water into the drainage channel and any debris within the throat should be removed.
- 4.3.2 Locking bolts should be replaced and sufficiently tightened, taking care that the bolt heads do not stand above the top surface of the cover or grate. If covers are allowed to move within their frame, this may cause damage to the frame or seating

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Remove manhole and chamber covers to sewers and flow control on network– inspect to ensure water is flowing freely and that the water flow route is unobstructed. Remove debris and silt as required.	Half Yearly Undertake one of these inspections after leaf fall in autumn
Occasional Maintenance	None required	
Remedial Actions	Re-line or replace pipework if unable to clear blockages by jetting.	As required
Monitoring	Inspect chambers for build-up of silt and debris	Half yearly

Table 1 – Operation & maintenance requirements for pipe network, manholes & inspection chambers, drainage channels & gullies.

4.4 Geocellular Attenuation Tanks

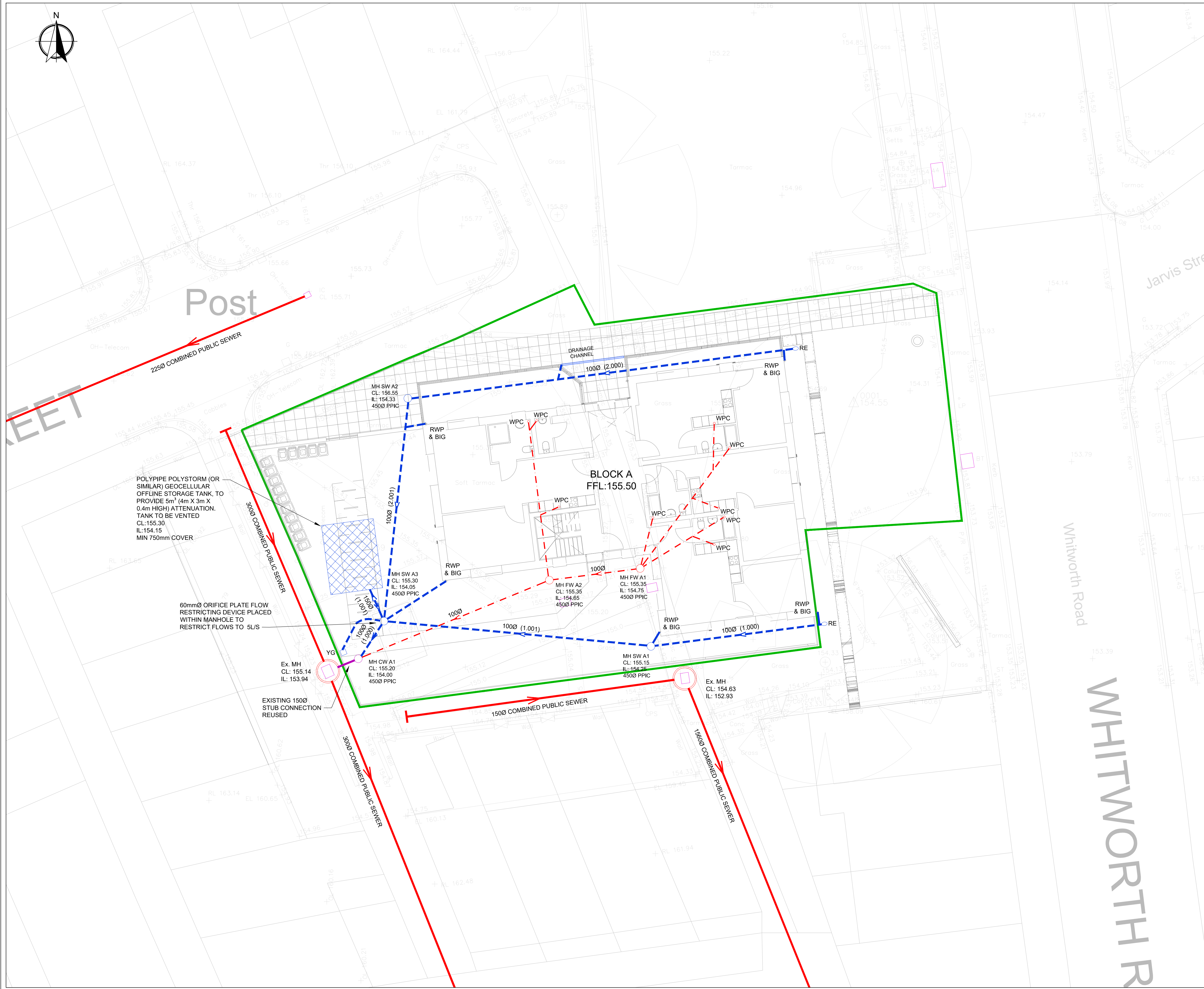
- 4.4.1 Geocellular tanks are modular storage systems made with plastic units. These units can be assembled to achieved re required volume and usually on multiple layers. Generally, the units have 95% of voids content and are used to create an efficient below ground structure to store surface water.
- 4.4.2 The geocellular units and geotextile are proprietary products and therefore manufacturer's recommendations should also be taken into consideration.
- 4.4.3 Access for maintenance should be provided by an access shaft located on the tank and from the manhole chambers downstream of the tank.
- 4.4.4 Regular inspection and maintenance are important for the effective operation of attenuation tanks as designed. As the feature is buried, a regular inspection regime is very important to ensure the correction functionality of the surface water drainage network.

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then annually.
	Remove debris from the catchment surface (where it may cause risks to performance).	Monthly.
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockages by sediment, algae or other matter; remove and replace surface infiltration medium as required.	Annually.
	Remove sediments from pre-treatment structures and/or internal forebays.	Annually, or as required.
Remedial Actions	Repair/rehabilitate inlets, outlets, overflows and vents.	As required.
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed.	Annually
	Survey inside of tank for sediment build-up and remove if necessary.	Every 5 years or as required.

Table 2 – Operation & maintenance requirements for attenuation storage tanks - Based on CIRIA SuDS Manual 2015

Appendix A – PG Consulting Drawing

PGC 388-C-001: Drainage GA



GENERAL NOTES

- 1. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, ENGINEERS, ARCHITECTS & SERVICES DRAWINGS, INCLUDING APPROVED BUILDERS WORK DRAWINGS. CONTRACTOR TO NOTIFY ENGINEER OF DISCREPANCIES BETWEEN STRUCTURAL DRAWINGS AND SPECIFICATIONS OR OTHER DRAWINGS.
- 2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- 3. DETAILS OF EXISTING SEWERS SHALL BE CONFIRMED BY THE CONTRACTOR ON SITE PRIOR TO THE COMMENCEMENT OF WORKS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHOULD CHECK THE LEVELS OF ALL NEW OUT FALLS IN RELATION TO EXISTING SEWERS PRIOR TO ANY CONSTRUCTION TO ENSURE THE PROPOSED DESIGN CAN BE ACHIEVED.
- 4. DO NOT SCALE FROM THIS DRAWN, WORK TO DIMENSIONS OR COORDINATES PROVIDED. ALL LEVELS ARE IN MILLIMETRES, UNLESS OTHERWISE NOTED. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

KEY

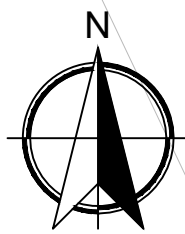
- EXISTING COMBINED WATER SEWER
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED SURFACE WATER DRAINAGE
- SITE BOUNDARY
- RWP RAINWATER PIPE
- WPC WASTE POINT CONNECTION
- YG YARD GULLY
- RE RODDING EYE
- SG SUMP GULLY FOR DRAINAGE CHANNEL

ALL FINISHED LEVELS TO BE
CONFIRMED TO SET COVER
AND INVERT LEVELS

NOTE ALL RWP AND SVP
LOCATIONS TO BE
CONFIRMED BY OTHERS

ALL PIPEWORK TO BE 100Ø
UNLESS NOTED
OTHERWISE

P2	16.08.22	PG	PG	FLOW CONTROL AMENDED
P1	02.03.22	PG	PG	PRELIMINARY ISSUE
REV	DATE	DRAWN	REV'D	NOTES
CLIENT				
CORNERSTONE PLACE				
PROJECT				
WHITWORTH ROAD, ROCHDALE				
DRAWING TITLE				
DRAINAGE STRATEGY PLAN (BLOCK A)				
DRAWING STATUS				
PRELIMINARY				
SCALE	DRAWN BY		ENGINEER	SHEET
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DRAWING No			REVISION	
PGC388-C-100				P2
 Civil & Infrastructure Engineers			108 Ack Lane West, Cheadle Hulme, Cheshire, SK8 7ES Tel: 07710 758971 Email: paul@pgcd.co.uk	



156.4m

BLOCK C
FFL:156.85

NEW JUNCTION CONNECTION TO
EXISTING COMBINED SEWER SUBJECT
TO S106 AGREEMENT WITH UU

NEW BACKDROP CONNECTION
TO EXISTING COMBINED
SEWER SUBJECT TO S106
AGREEMENT WITH UU

Ex. UU
MH 7307
CL: 156.17
IL: 153.61

BD IN @
154.87

BLOCK B
FFL:156.200

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DRAWING STATUS			
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