

CRP LTD
TODMORDEN ROAD
LITTLEBOROUGH
OL15 9EG

DRAINAGE MAINTENANCE PLAN
Report 22090/MP001 – Rev 1 22.08.25

1. INTRODUCTION

This Drainage Maintenance Plan has been prepared to provide details of the maintenance schedule required for the drainage on this development to ensure the drainage system works satisfactorily for the lifetime of the development.

2. DRAINAGE OVERVIEW

This Maintenance Schedule should be read with Bright Young Consulting Engineering drawing 22090/100_2 - Drainage Strategy.

Foul Drainage

Foul drainage on this development is a separate piped system and connects to the existing foul system on site and then to the public sewerage system in Todmorden Road.

Surface Water

System 1. Serving the northern manufacturing building, access road and car parking areas. This systems drains rainwater from these areas and discharges to the adjacent watercourse (Town House Brook). The proposed drainage system is a SuDS system where external areas are permeable paving. The permeable paving with a permeable subbase providing some attenuation storage. The permeable paving subbase will be drained via filter drains. Additional storage is be provided by cellular storage. The flow rate to the watercourse is limited to 3l/s by a hydrobrake.

Additional rain gardens are installed adjacent to the car parking areas and hydro-planters are installed to each rainwater down pipe to the building.

System 2. Serving the southern storage building. This system is taking roof water only from the proposed building and is a storage system with restricted flow to the watercourse (River Roch). The storage is provided by a cellular storage system. The flow rate to the watercourse is limited to 3l/s by a hydrobrake.

Hydro-planters have been installed at each rainwater down pipe to the building.

The surface water storage systems allows for the attenuated flow to each system of 3l/s to the watercourses for all storms up to the 1 in 100 year storm plus an allowance for climate change of 40%.

3. OWNERSHIP DETAILS – MAINTENANCE

All surface water systems including all SuDS systems and foul drainage on site will remain private and will be maintained by the owner / operator of the development.

All maintenance of the on-site drainage will be by the owner / operator of the development.

It is recommended that a record of maintenance carried out is kept and included with this proposed maintenance schedule.

4. FOUL DRAINAGE ON SITE

Foul drainage on site will be maintained by the owner / operator of the site.

The foul system is a standard gravity system. The details below provide a maintenance regime to enable the foul system to operate satisfactorily for the lifetime of the development.

MAINTENANCE SCHEDULE

MAINTENANCE	FREQUENCY	DETAIL
REGULAR MAINTENANCE	YEARLY	- Visually inspect all foul water system at chambers. - Ensure all covers are secure. - Maintain records of servicing.
REGULAR CCTV	10 YEARLY	- As above inspections. - Full CCTV of gravity foul water system to identify any fault within the system.
CORRECTIVE MAINTENANCE	AS REQUIRED	If the above inspections identify problems with the foul water system, then remedial action should be carried out. This could include repair/replacement to any item on the foul water drainage system.

5. SURFACE WATER DRAINAGE SYSTEM ON SITE – MAINTENANCE

The surface water system on this site provides security against flooding both on and off-site. Therefore, it requires maintenance for the lifetime of the development to ensure the continued satisfactory operation. These schedules recommended for the SuDS elements have been taken from the SuDS manual.

Surface water system on site will be maintained by the owner / operator of the site.

The surface water system should be maintained as per the schedule below.

MAINTENANCE SCHEDULE

MAINTENANCE	FREQUENCY	DETAIL
REGULAR MAINTENANCE	YEARLY	• Visually inspect all surface water system at chambers. • All debris and silt to be removed from all main chambers and all linear drains. Including silt trap chambers adjacent to the surface water storage system, the outfalls from the linear drainage and the flow control manhole. • Ensure all covers are secure. • Visual inspect for any surface anomalies on the system. • Service and empty the oil / fuel interceptor as per the manufacturers guidelines. • Maintain records of servicing.
REGULAR CCTV	10 YEARLY	• As above inspections. • Full CCTV of surface water system to identify any fault within the system.
CORRECTIVE MAINTENANCE	AS REQUIRED	If the above inspections identify problems with the surface water system, then remedial action should be carried out. This could include repair/replacement to any item on the surface water drainage system.

6. FLOW CONTROL

Flow control on this development is provided by a Hydrobrake within the flow control chambers.

The Hydrobrake is a low maintenance item and so limited servicing is expected and a suitable maintenance schedule is shown below.

FLOW CONTROL

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Remove any surface litter and detritus.	Monthly
	Inspect manhole covers for damage.	Annually
	Clean sumps and remove silt.	Annually
	Inspect flow control device and seals.	Annually
Occasional Maintenance	Carry out CCTV of incoming and outgoing pipework to identify problems.	Ten yearly
Remedial Actions	Replace damaged manhole covers.	As required
	Repair any damage to flow control device.	As required
	Replace seals to flow control device.	As required
	Repair damaged manholes.	As required and as identified by CCTV
	Remove any root ingress or damage to pipework.	As required and as identified by CCTV

7. ATTENUATION STORAGE TANKS

This storage will be provided by the use of a cellular storage system tank. The design details from the manufacturer should also be kept with this maintenance schedule.

STORAGE TANKS

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 from above, check surface of filter for blockages by sediment, algae or other matter, remove and replace surface infiltration medium as necessary.	Annually
	Remove sediment from pre-treatment structures - silt trap manholes.	Annually , or as required

Remedial Actions	Repair / rehabilitate inlets, outlets, overflows and vents.	As required.
Monitoring	Inspect / check all inlets, outlets, overflows and vents to ensure they are in good condition and operating as designed.	Annually
	Survey inside of tank for sediment build-up and remove if necessary.	Ten yearly or as required.

8. PERMEABLE PAVING

The access road and car parking areas are drained using permeable paving and a recommended maintenance schedule is shown below.

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface). Remove debris rubbish etc from pervious pavements surface. Pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this is the area most likely to collect sediment.	One a year after autumn leaf fall, or frequency as required, based on site specific observations of clogging or manufacturers recommendation.
	Mow adjacent areas and ensure no soil etc enters pervious pavements	As required.
	Remove weeds mechanically or by the application of a suitable weedkiller applied directly to the weeds by an applicator rather than spraying.	As required – at least once a year.
Remedial Actions	Remediate any surrounding landscaping which has raised to within 50mm of the pavements.	As required.
	Fill any depressions, rutted areas or other areas that might constitute a hazard and remediate	As required.
	Rehabilitate surface and upper substructure by remedial sweeping.	Every 10-15 years or as required (if infiltration performance is reduced due to significant clogging).
Monitoring	Initial Inspection.	Monthly and then 3 months after installation.

	Inspect for poor operation and weed growth and take remedial action if necessary.	Three monthly and 48hrs after severe storms in first 6 months.
	Inspect silt build up and establish appropriate brushing frequencies.	Annually
	Inspect any chambers.	Annually

9. BIORETENTION AREAS (RAIN GARDENS AND HYDRO-PLANTERS)

Raingardens are installed adjacent to the car parking areas and hydro-planters have been installed to all rainwater down pipes. A recommended maintenance schedule is provided below.

Maintenance Schedule	Required Action	Typical frequency
Regular Inspections	Inspect infiltration surfaces for silting and ponding, record de-watering time of the facility and assess standing water levels in underdrain (if appropriate) to determine if maintenance is necessary.	Quarterly
	Check operation of underdrains by inspection of flows after rain.	Annually
	Assess plants for disease infection, poor growth, invasive species etc and replace as necessary.	Quarterly
	Inspect inlets and outlets for blockages.	Quarterly
Regular Maintenance	Remove litter and surface debris and weeds.	Quarterly (or more frequently for tidiness or aesthetic reasons)
	Replace any plants to maintain planting density.	As required.
	Remove sediment, litter and debris build up from around inlets or from forebays.	Quarterly to biannually.
Occasional Maintenance	Infill and holes or scour in the filter material, improve corrosion protection if required.	As required.
	Repair minor accumulations of silt by raking away surface mulch, scarifying surface and replacing mulch.	As required.
Remedial Actions	Remove and replace filter material and vegetation.	As required but likely to be >20 years.

Schedule prepared by

A handwritten signature in blue ink, appearing to read 'Hugh Morris', with a long horizontal stroke extending to the right.

Hugh Morris
BSc CEng MICE
Bright Young Consulting
21st August 2025

APPENDICES

- Drainage Layout.
- Cellular Storage Details – General Details.

Polystorm Xtra Modular Cell

Data Sheet

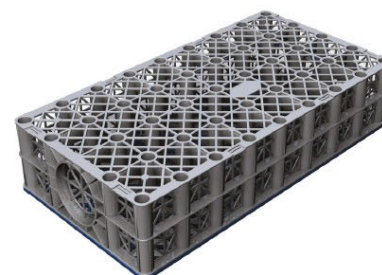
PRODUCT INFORMATION

P1

ISSUE 5 - DEC 2018

Product code: PSM3

Polystorm Xtra has been designed for use in heavily trafficked, shallow, non-sub-base applications such as lorry parks and industrial access roads where reduced cover is required. It has a vertical compressive strength of 83 tonnes/m².



Applications

The Polystorm Xtra modular cells are combined to form a structure that receives rainwater collected from roofs or surface drains. The rainwater is then either attenuated by the structure, when wrapped in an impermeable membrane, or infiltrated by the structure, when wrapped in a permeable geotextile.

Key Benefits

- Vertical compressive strength of 83 tonnes/m²
- Ideal for retention, attenuation and infiltration applications with a suitable geomembrane or geotextile
- Designed for heavily trafficked conditions with shallow cover depths
- Allows flexibility of shape – ideal for shallow excavation systems, narrow strips or use in restricted areas
- Can be used as part of a value engineered hybrid system in trafficked applications with Polystorm-R and Polystorm Deep
- Installed with blue lid facing down for increased strength
- Undergone testing in accordance to BBA certification
- Integrated inlet and outlet
- 3D flow throughout the structure
- 94% void ratio
- Light in weight yet robust – excellent Health & Safety and installation benefits
- 100% recyclable
- 50 years creep limited life expectancy

Technical Support

Detailed guidance and assistance is available.

For further information, please contact our Technical Team on **+44 (0) 1509 615100** or email civils@polypipe.com or visit www.polypipe.com/civils-technical-hub

ELEMENT	VALUE
PHYSICAL PROPERTIES	
Length	1m
Width	0.5m
Depth	0.21m
Total volume	0.105m ³
Unit weight	6kg
Unit storage volume	0.0986m ³ (98 litres)
Void ratio	94%
SHORT TERM COMPRESSIVE STRENGTH	
Vertical	Maximum 834kN/m ² *
Lateral	Maximum 93kN/m ² *
SHORT TERM DEFLECTION	
Vertical	97.8kN/m ² per mm
Lateral	7.1kN/m ² per mm
OTHER PROPERTIES	
Maximum burial depths:	
Heavy trafficked	4.8m**
Light trafficked	5.3m**
Non-trafficked	5.45m**

Each unit includes 4 Clips and 2 Shear Connectors.

* Compressive strength at yield, maximum recommended value for design purposes.

** Based on ground conditions being dense sand and gravel with no groundwater present using the calculation methodology detailed within CIRIA C680 (2008). Where ground conditions differ please consult our water management solutions technical department on +44 (0) 1509 615100.