
MAINTENANCE PLAN

for

LAND OFF GELLIGAER ROAD, TREHARRIS CF46 6DN

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1. Introduction

This document details the maintenance and management requirements for each of the proposed SuDS features on the residential development.

The 2015 CIRIA SuDS Manual (C753) has been used in drafting this document.

2. Site Description

The site is located on Gelligaer Road opposite Tyfil Close, adjacent to Cath's Farm Shop. The land is currently greenfield, overgrown with brambles and shrubs and there is no road access to the site off Gelligaer Road.



Figure 2-1 Proposed development plan

3. Details of the Surface Water Drainage Strategy

The following drainage features are proposed in order to effectively manage additional surface water runoff from the site.

- Rain gardens are located at the front and rear of the properties, into which the ACO across the low point of the drive and the rainwater pipes discharge.
- Underground pipe system links all rain gardens and connects to the existing headwall on site.
- A flow control chamber will be used to limit flows to 5.9 l/s

4. Responsibility for Maintenance

All SuDS asset serving more than 1 property are to be adopted by the SuDS Approving Body (SAB). The raingardens are contained within each property and will therefore remain private. The carrier drain at the rear of the properties will serve all 4 developments and will therefore be adopted by the SAB.

The householder will remain responsible for the maintenance of the raingardens to the front and rear of their properties. Merthyr Tydfil Council will carry out all maintenance of the carrier drain, this will require the SAB access to undertake asset inspections to ensure the upkeep of the site.

It is anticipated that provision for the ongoing maintenance will be in the form of commuted sums requested by the SAB.

If there are alterations made to the development site, where the layout of the surface water management system is affected, the maintenance plan will need to be reviewed, revised and approved by the SAB. The maintenance plan should also be updated if service companies need to undertake works on the site that would impact the SuDS systems.

5. Management and Maintenance General Requirements

The drainage components on the site form a key part of the site's landscape and will contribute to amenity and biodiversity as well as providing the core surface water attenuation and water quality treatment requirements. The ongoing effective maintenance of the scheme is essential to ensure that all SuDS components continue to function at optimal capacity for the lifetime of the development.

There are several factors that influence the type and frequency of maintenance required for each SuDS element:

- The type of SuDS element
- The size of the contributing catchment in relation to the area of the SUDS element
- The land-use associated with the contributing catchment
- The level of continuing construction within the contributing catchment
- The SuDS planting scheme
- The habitat types that have been developed as part of the scheme and how these will evolve
- The functionality, amenity and aesthetic requirements of the area.

Maintenance activities can be broadly categorised into:

- **Regular maintenance:** Basic tasks carried out on a frequent, predictable schedule (e.g. inspections, silt removal, vegetation management, surface sweeping and debris removal).
- **Occasional maintenance:** Required regularly, but on a much less frequent and predictable basis.
- **Remedial maintenance:** Intermittent tasks, usually to rectify faults associated with the SuDS components. This can be minimised by good design, construction and regular maintenance activities (e.g. repairs, erosion remediation, realignment, infiltration surface rehabilitation).

Information regarding SuDS operation and maintenance requirements is largely taken from the 2015 CIRIA SuDS Manual. Additional detail on each SuDS element and its maintenance can be found in Section 6.

6. SuDS/Drainage Management Strategy

This section contains specific details on the maintenance requirements for each of the SuDS assets which are to be found across the Land off Gelligaer Road site.

Underground Piped Systems

Description of drainage feature: The piped system will link the SAB features on the site.

Maintenance requirements: A maintenance schedule is shown below.

Maintenance Schedule	Required Action	Typical Frequency	Resources Required
Monitoring	Record areas of surface ponding/intake bypassing/ surcharging (photos, inundated areas, depths) during extreme storm events and investigate the reasoning for this post-storm.	As required	1 person no equipment
Regular Maintenance	Ensure drainage intakes are clear of debris/silt	Monthly (or as required)	1 person
	Jet clean sewer lines, gully tails and kerb channels to remove grease, grit, sediment and other debris to ensure conveyance capacity is not compromised	Every 2 years	2 people, CCTV company with jetting
Occasional Maintenance	CCTV survey of sewer lines to identify any defects/sign of performance degradation such as: Cracked/deteriorating pipes; Leaking joints/seals at manholes; High water line showing regular high stage in pipes (sign of lack of capacity or downstream constraint); and Suspected infiltration or exfiltration.	Every 2 – 5 years	2 people, CCTV company
Remedial Maintenance	Repair defects using suitable methods. Effective temporary repairs may be sufficient in short term until scheduled, capital improvements can be made.	As required	1 site visit with 2 persons assuming 1 lightvan, and ancillary equipment

Table 1-1 Typical Pipe System Operation and Maintenance Requirements

Raingarden

The proposed drainage scheme will utilise a raingarden as a mechanism for collection, treatment and attenuation of surface water run-off. The anticipated maintenance and management for raingardens associated with the surface water drainage system is outlined in Table 1-2.

Maintenance Schedule	Required Action	Minimum Frequency
Regular Inspection	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 blockage.	Quarterly
Regular Maintenance	Reseed area of poor vegetation growth, after plant types to better suit conditions, if required.	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 any holes or scour in the filter medium, improve erosion protection if required.	As required
	Repair minor accumulations of silt by raking away surface mulch, scarifying surface of medium and replacing mulch.	As required
Remedial Maintenance	Remove and replace filter medium and vegetation above.	As required but likely to be > 20 years

Table 1-2 Typical Raingarden Operation & Maintenance Requirements

Orifice Chamber

The products are designed to be installed by a competent contractor, experienced with these types of products.

The units are manufactured from stainless steel of a sufficient strength and thickness to ensure that the products remain fit for purpose throughout their design life.

Under normal operation, the units will deflect by no more than the thickness of the material used for manufacture. This ensures that the volume of the unit available for water flow is not compromised during operation and therefore the hydraulic operation of the unit is not adversely affected by deformation of the unit.

Maintenance of Orifice Chamber

Access should be provided for clearing debris from the chamber housing the flow control.

Regular inspections should be carried out to ensure that debris that may obstruct the inlet to the flow control is not present in the chamber. The frequency of inspection will depend on the location of the unit but must be at least once per year.

The unit can be jetted from downstream, in accordance with standard sewer jetting procedures without affecting the hydraulic performance of the system.

Health and Safety

In order to comply with the Construction (Design and Management) Regulations (CDM) 2015, SuDS designers must assess all the foreseeable risks during the construction phase and during the ongoing maintenance of the schemes. The design of the SuDS scheme must aim to reduce risk using the following principles:

- Avoid
- Reduce
- Identify and mitigate residual risks

Scheme designers should make contractors and those responsible for future maintenance aware of risks, keeping a record of the key health and safety factors that will need to be managed during future ongoing maintenance works. During construction, the residual risks should be identified, and an action plan developed to deal with them appropriately.

The above information will be provided in the following document; Construction (Design and Management) CDM Regulations 2015 Health & Safety File.

All those responsible for maintenance should also take the appropriate health and safety precautions for all maintenance activities, this should additionally include lone working when relevant, and risk assessments should be undertaken for all activities.