

Date 29th May 2025

Haydn Terrace – Drainage Strategy Statement

1. Drainage Overview Summary

This drainage strategy fully aligns with the Flood and Water Management Act 2010, Schedule 3, and the CIRIA SuDS Manual (C753). Designed to reflect site-specific contamination risks and complex stepped topography, the strategy provides a surface-led, fully lined SuDS network with high visibility, ecological value, and long-term resilience. The scheme integrates SuDS visibly into the streetscape, with highway surface water conveyed via crossfall to linear bioretention trenches, which feed into a centrally aligned hard-engineered cascading system.

2. Drainage Strategy Overview

Contaminated Ground – No Feasible Infiltration

Ground investigations confirm elevated levels of hazardous contaminants (PAHs, lead, arsenic), ruling out infiltration. As such, the entire SuDS network is impermeable and lined with an earlier considered basin being considered too large and prohibitive due to site topography.

Surface Water Strategy Features

- Tiered Central SuDS Cascade: Hard-engineered, fully lined bioretention areas across site levels, connected by overflow/outflow pipework to control flow and manage exceedance.
- Highway Drainage via Linear Bioretention Trenches: Crossfall roads drain into vegetated trenches between highway and footway, then into the cascade.
- Plot-Level Surface Rills and Reens: Lined, shallow channels convey water visibly through private spaces.
- Permeable Paving (Lined): Used for source control in driveways and private areas.
- Underground Attenuation: 35.5 m x 6 m x 2 m deep cellular tank sized for 1:100yr + 40% climate event.
- Flow Control and Discharge: Hydrobrake restricts to 16.5 l/s into public sewer (subject to DCWW agreement).

3. Adoption and Management

Element	Offered for Adoption / Maintained by
Central cascade and linear bioretention features	MTCBC SAB
Highway and drainage infrastructure	MTCBC Highways (Section 38)
Foul drainage network	DCWW (Section 104)
Private SuDS and paving	Merthyr Tydfil Housing Association (MTHA)

4. Schedule 3 National Standards – Compliance Assessment

Standard	Design Response
Surface water managed close to surface	Water conveyed visibly through rills, reens, highway crossfall and bioretention.
Runoff controlled at greenfield rate	Hydrobrake limits discharge to 16.5 l/s.
Climate resilience (1:100 + 40%)	Attenuation, cascade and outfalls sized for full compliance.
Multifunctionality	SuDS integrated into street and landscape design for visual, educational, and ecological value.
Maintenance certainty	Maintenance ownership defined: MTCBC SAB, Highways, DCWW, and MTHA.
Pollution prevention	Multiple SuDS stages: lined permeable paving → rills → vegetated trenches → cascade → attenuation.
Safe exceedance	Cascade and rill system engineered with overflow/outfall pipework for resilience and flow control.
Amenity & biodiversity	Bioretention areas and trenches planted with native species; continuous green corridors throughout the site.

5. Benefits to Community, Ecology, and Place-Making

Community Value

Surface water features are fully visible and engaging, turning water into a site-defining asset. SuDS corridors and green links support public realm quality and passive surveillance. Highway SuDS eliminate gully clutter, creating cleaner and more accessible street environments.

Ecological and Biodiversity Enhancements

Native and pollinator-friendly planting across the cascade, trenches, and plot rills. Features provide shelter, nectar, and nesting for urban wildlife. Connected SuDS network enhances ecological permeability across the development.

Water Quality and Environmental Safety

Full treatment train delivers sediment, nutrient, and hydrocarbon removal before final discharge. Lined SuDS system ensures no mobilisation of contaminated ground. Piped connections between levels protect the system from blockages and ensure exceedance flow control.

6. Summary

This scheme exemplifies best-practice SuDS design. It demonstrates:

- Compliance with Schedule 3 and National Standards,
- An integrated response to ground and topographical constraints,
- Integration of visible, multifunctional water features,
- And clear, robust arrangements for access, maintenance and long-term resilience.

Water is not hidden or engineered away but instead becomes a celebrated, enriching, and ecologically functional component of the development.