

Abermorlais Solar Car Park

SuDS Rain Garden – Biodiversity Enhancement and Establishment Note

Planning Application PP-14867447 | September 2026

Purpose. This note provides the additional information requested by the Planning Officer on the location and size of the proposed rain garden, indicative plant species and the management measures required to achieve good establishment and ongoing biodiversity value.

1. Rain garden location and size

The latest Council SuDS layout (Drawing P5001266_02, Rev P03) identifies a bioretention / rain-garden feature along the western side of the single-row solar carport. **The feature is approximately 21.0 m long × 1.65 m wide, giving a plan area of approximately 34.7 m², and is shown as approximately 0.8 m deep.** It is designed to collect and treat runoff from approximately 168 m² of solar-panel area before controlled discharge through the wider SuDS system. The associated construction detail provides an engineered bioretention soil layer, mulch, drainage aggregate and perforated underdrain. The final setting-out and planting layout will be coordinated with the Council Drainage/SAB team and the approved SuDS construction details.

2. Proposed planting and biodiversity enhancement

CIRIA C753 does not prescribe a single mandatory species list for rain gardens. Its approach is to use a diverse planting mix of known wildlife value, favouring native/local-provenance plants where appropriate, and to select species that tolerate the alternating wet and dry conditions characteristic of bioretention systems. In accordance with that approach, the following native species are proposed as a suitable planting palette for this scheme:

Common name	Scientific name	Role / rationale
Tufted hair-grass	<i>Deschampsia cespitosa</i>	Structural grass; tolerates fluctuating wet/dry conditions and provides winter cover.
Soft rush	<i>Juncus effusus</i>	Robust native rush for the wetter parts of the feature; good root mass and habitat value.
Water avens	<i>Geum rivale</i>	Native flowering perennial for damp ground; useful nectar/pollen source.
Marsh marigold	<i>Caltha palustris</i>	Early-season native flower suited to periodically wet areas; strong pollinator value.
Meadowsweet	<i>Filipendula ulmaria</i>	Native, nectar-rich perennial for moist ground; provides seasonal structure and flowers.
Purple loosestrife	<i>Lythrum salicaria</i>	Native wet-ground perennial with high value for pollinating insects; to be used in limited groups.

Planting arrangement. Plants should be set out in informal drifts, with the more moisture-tolerant species concentrated towards the lower/wetter parts of the rain garden and the more drought-tolerant species towards the margins. A mixed planting density of approximately 5–7 plants/m² is appropriate for rapid cover and weed suppression. The emphasis should be on native stock of UK/local provenance where practicable. No invasive non-native species will be used.

Biodiversity benefit. The planting will replace a simple grassed area with a more structurally and floristically diverse habitat, providing nectar, pollen, shelter and seasonal interest for invertebrates while also contributing to interception, filtration and treatment of surface-water runoff.

3. Establishment and management plan

Timing	Action
At planting	Plant in suitable conditions (preferably autumn or spring); water thoroughly; mulch the surface where compatible with the engineered soil specification; ensure inlets, overflow and underdrain are unobstructed.
First 12–24 months	Inspect at least quarterly and additionally during prolonged dry weather. Water during dry periods until plants are well established; remove weeds and litter; replace failed plants; check for disease, invasive species, erosion/scour and sediment accumulation around inlets.

Ongoing – quarterly	Inspect vegetation condition and planting density; remove litter, debris and unwanted weeds; inspect inlets/outlets and erosion-control measures; remove local sediment build-up where required.
Ongoing – annually	Check underdrain/outlet performance after rainfall; replace plants where necessary to maintain good cover; review mulch/soil surface condition; carry out selective late-winter cut-back of herbaceous growth, removing arisings while retaining some winter structure where practicable.
As required	Repair erosion or scour; reinstate disturbed filter media; replace plants lost through drought, waterlogging, accidental damage or disease. If persistent ponding or poor drainage occurs, investigate the inlet, outlet, underdrain and filter medium.

4. Summary

The proposed rain garden therefore provides a clear biodiversity enhancement as part of the SAB-led drainage design.

The approximately 34.7 m² planted bioretention feature will use a varied native planting mix suited to intermittent inundation and summer dry periods, and will be managed to secure establishment, maintain plant cover and preserve the hydraulic function of the SuDS feature. This approach is consistent with the principles of CIRIA C753 and the Welsh SuDS biodiversity guidance.

References

CIRIA (2015), The SuDS Manual, C753 – in particular guidance on biodiversity, bioretention systems and maintenance.

Merthyr Tydfil CBC, Drawing P5001266_02 Rev P03 – SuDS Layout, dated 26/08/2026.

Merthyr Tydfil CBC, Drawing P5001266-05 Rev P01 – Typical Construction Details, dated 12/08/2026.

Natural Resources Wales / Welsh Government SuDS guidance – plant selection should favour native aquatic/riparian species where appropriate and species suited to local soil, water and site conditions.

Royal Horticultural Society guidance on rain gardens and planting for fluctuating wet/dry soils.