|  |  |  |  |
| --- | --- | --- | --- |
| **Table B.15 Design assessment checklist: bioretention systems** | | | |
| **General information** |  | | |
| Site ID |  | | |
| Asset ID(s) |  | | |
| Bioretention system location(s) and co-ordinates |  | Drawing reference(s) |  |
| Date of assessment |  | Specification reference(s) |  |
| Primary function of bioretention system | Treatment | | |

| **Check** | | **MDR** | **Summary details1** | **Acceptable (Y/N)** | **Comments/ remedial actions** |
| --- | --- | --- | --- | --- | --- |
| **Dimensions (Section 18.2)** | | | | | |
| Length (m) | |  |  |  |  |
| Width (m) | |  |  |  |  |
| Top surface area (m2) | |  |  |  |  |
| Side slopes (1 in ?) | |  |  |  |  |
| Depth (m) | |  |  |  |  |
| Freeboard (m) | |  |  |  |  |
| Longitudinal slope (1 in ?) | |  |  |  |  |
| **Inflows (Section 18.8.1)** | | | | | |
| Provide a description of the contributing catchment  land use and its size (m2) | |  |  |  |  |
| Does the design include:   * a suitable flow spreading device * appropriate drops from the runoff surface into the bioretention system * appropriate energy dissipation? | |  |  |  |  |
| **Outfall arrangements (Section 18.8.2)** | | | | | |
| Provide details of any flow control systems, overflow arrangements (for events greater than the treatment capacity) and limiting discharge rate from bioretention system |  | |  |  |  |
| Is the bioretention system designed to allow infiltration? If yes, attach infiltration assessment |  | |  |  |  |
| Is a geomembrane required to prevent infiltration? If yes, give reason |  | |  |  |  |
| Depth to maximum likely groundwater level (m) |  | |  |  |  |
| **Water quality treatment (Section 18.5)** | | | | | |
| For the 1 year 30 minute event or water quality treatment volume confirm: | |  |  |  |  |
| Maximum depth of surface ponding is 150 mm | |  |  |  |  |
| Surface ponding is fully drained down in 40–48h | |  |  |  |  |
| Depth of filter bed (m) | |  |  |  |  |
| **Storage (Section 18.4)** | | | | | |
| Design return period(s) (years) | |  |  |  |  |
| Maximum design water depth(s) and level(s) | |  |  |  |  |
| Maximum design storage volume(s) (m3) | |  |  |  |  |
| **Landscape/biodiversity (Sections 18.6, 18.7 and 18.10)** | | | | | |
| Does the proposed planting have potential to create biodiverse habitats? | |  |  |  |  |
| Have native plant species been used? (Note: if ornamental species are proposed, give reasons and describe measures that prevent their migration to natural water bodies) | |  |  |  |  |
| Is the proposed planting appropriate to the location, visually, relative to gradient, water depths etc and with respect to access and maintenance? | |  |  |  |  |
| Where relevant, confirm that planting design does not adversely impact highway visibility and safety requirements (check with highway authority) | |  |  |  |  |
| Is the proposed topsoil profile suitable to sustain the proposed plant species and as permeable as the filter bed? | |  |  |  |  |
| **Critical materials and product specifications (Section 18.9)** | | | | | |
| Geomembrane | |  |  |  |  |
| Geotextile (non-woven) | |  |  |  |  |
| Mulch layer | |  |  |  |  |
| Filter medium | |  |  |  |  |
| Transition layer | |  |  |  |  |
| Drainage layer | |  |  |  |  |
| Other (including proprietary systems): | |  |  |  |  |
| **Constructability (Section 18.11)** | | | | | |
| Are there any identifiable construction risks? If yes, state and confirm acceptable risk management measures are proposed | |  |  |  |  |
| **Maintainability (Section 18.12)** | | | | | |
| Confirm that access for maintenance is acceptable and summarise details | |  |  |  |  |
| Are there specific features that are likely to pose maintenance difficulties? If yes, identify mitigation measures required | |  |  |  |  |
| **Bioretention design acceptability** | | **Summary details including any changes required** | | **Acceptable (Y/N)** | **Date changes made** |
| Acceptable:  Minor changes required:  Major changes required/redesign: | |  | |  |  |

**Note**

1 If there is an MDR (as indicated) confirm whether or not this is met and provide details of any variations.