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| **Table B.13 Design assessment checklist: swale** |
| **General information** |
| Site ID |  |
| Asset ID(s) |  |
| Swale location(s) and co-ordinates |  | Drawing reference(s) |  |
| Date of assessment |  | Specification reference(s) |  |
| Primary function(s) of swale | Conveyance/attenuation/infiltration/treatment/other dual use (specify) |

| **Check** | **MDR** | **Summary details1** | **Acceptable (Y/N)** | **Comments/ remedial actions** |
| --- | --- | --- | --- | --- |
| **Dimensions (Section 17.2)** |
| Length (m) |  |  |  |  |
| Width – at top and at base (m) |  |  |  |  |
| Side slopes (1 in ?) |  |  |  |  |
| Depth – maximum and minimum (m) |  |  |  |  |
| Freeboard (m) |  |  |  |  |
| Longitudinal slope (1 in ?) |  |  |  |  |
| Distance between check dams (ifprovided) (m) |  |  |  |  |
| Dimensions of any underdrain (m) |  |  |  |  |
| Dimensions of any perforated pipe within underdrain (mm) |  |  |  |  |
| **Inflows (Section 17.8.1)** |
| Provide a description of the contributingcatchment land use and its size (m2) |  |  |  |  |
| Does the design include suitable silt Interception upstream of system, where required (usually if the system is designed to infiltrate runoff)? |  |  |  |  |
| Does the design include:* a suitable flow spreading device
* appropriate drops from the adjacent

surface into the swale* appropriate energy dissipation?
 |  |  |  |  |
| **Outfall arrangements (Section 17.8.2)** |
| Provide details of any flow control systems, overflow arrangements and limiting discharge rate from swale |  |  |  |  |
| Is the swale designed to allow infiltration? If yes, attach infiltration assessment |  |  |  |  |
| Is a geomembrane required to prevent infiltration? If yes, give reason |  |  |  |  |
| Depth to maximum likely groundwaterlevel (m) |  |  |  |  |
| Is topsoil sufficiently permeable to allow infiltration or underdrainage, if required? |  |  |  |  |
| **Conveyance (Section 17.4)** |
| Proposed vegetation, and assumedroughness criteria (Manning’s “n”)? |  |  |  |  |
| Maximum velocity in swale at full flowconditions |  |  |  |  |
| Maximum water depth at full flowconditions |  |  |  |  |
| Maximum flow rate (m3/s) or stored volume (m3) and design event return period (years) |  |  |  |  |
| **Water quality treatment (Section 17.5)** |
| For the 1 year 30 minute event confirm: |  |  |  |  |
| Average residence time in swale is |
| acceptable for effective treatment |  |
| Or |  |
| Flow height is acceptable for effective |  |
| treatment |  |
| Or |  |
| Maximum velocity is acceptable for |  |
| effective treatment |
| **Landscape/biodiversity (Sections 17.6, 17.7 and 17.10)** |
| Does the swale planting include:* grassed
* other native species
* other species or features?
 |  |  |  |  |
| Provide a planting schedule showing species and planting preferences.Is the planting demonstrated to be appropriate for the habitat specified? |  |  |  |  |
| Will plantings be established or rely on natural colonisation? |  |  |  |  |
| Have locally appropriate native plant species been used? |  |  |  |  |
| Indicate the number of different plant species used (not a monoculture) |  |  |  |  |
| Is the proposed swale planting appropriate to the location, 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? |  |  |  |  |

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| **Critical materials and product specifications (Section 17.9)** |
| Geomembrane |  |  |  |  |
| Geotextile (non-woven) |  |  |  |  |
| Topsoil |  |  |  |  |
| Other (including underdrain material): |  |  |  |  |
| **Constructability (Section 17.11)** |
| Are there any identifiable construction risks? If yes, state and confirm acceptable risk management measures are proposed |  |  |  |  |
| **Maintainability (Section 17.12)** |
| Confirm that access for maintenance isacceptable and summarise details |  |  |  |  |
| Are there specific features that are likely to pose maintenance difficulties? If yes, identify mitigation measures required |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Swale 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.