|  |  |
| --- | --- |
| **Table B.20 Minimum design requirements: ponds/wetlands** | |
| **Parameter** | **Minimum design requirements (MDRs)** |
| Length to width ratio | > 3:1 |
| Maximum depth of permanent water | 2 m |
| Maximum side slopes | 1 in 3 |
| Maximum depth of aquatic bench below permanent water level | 400 mm |
| Size of permanent pool | ≥ treatment volume, V  t |

|  |  |  |  |
| --- | --- | --- | --- |
| **Table B.21 Minimum design requirements: ponds/wetlands** | | | |
| **General information** | | | |
| Site ID |  | | |
| Asset ID(s) |  | | |
| Pond/wetland location(s) and co-ordinates |  | Drawing reference(s) |  |
| Date of assessment |  | Specification reference(s) |  |
| Primary function(s) of pond/wetland | Attenuation/treatment | | |

| **Check** | **MDR** | **Summary details1** | **Acceptable (Y/N)** | **Comments/ remedial actions** |
| --- | --- | --- | --- | --- |
| **Dimensions (Section 23.2)** | | | | |
| Length (m) |  |  |  |  |
| Maximum and minimum width – at  permanent water level (m) |  |  |  |  |
| Length: maximum width ratio |  |  |  |  |
| Top surface area (m2) |  |  |  |  |
| Side slopes (1 in ?) |  |  |  |  |
| Depth of permanent water – maximum and minimum (m) |  |  |  |  |
| Freeboard (m) |  |  |  |  |
| Aquatic bench width and slope (m, 1 in ?) |  |  |  |  |
| Safety bench width and slope (m, 1 in ?) |  |  |  |  |
| **Inflows (Section 23.8.1)** | | | | |
| Provide a description of the contributing  catchment land use and its size (m2) |  |  |  |  |
| Does the design include suitable silt Interception upstream of system? |  |  |  |  |
| Does the design include:   * a suitable inlet design * appropriate energy dissipation? |  |  |  |  |
| **Outfall arrangements (Section 23.8.2)** | | | | |
| Provide details of any flow control systems, overflow arrangements and limiting discharge rate from pond/wetland |  |  |  |  |
| Is a geomembrane required to prevent infiltration? If yes, give reason |  |  |  |  |
| Depth to maximum likely groundwater  level (m) |  |  |  |  |
| **Storage (Section 23.4)** | | | | |
| Design event return period(s) (years) |  |  |  |  |
| Maximum rise in water level(s) for the design event(s) (mm) |  |  |  |  |
| Maximum water depth(s) at design event  conditions (m) |  |  |  |  |
| Maximum design storage volume(s) (m3) |  |  |  |  |
| Levels around the edge of the pond/ wetland appropriate to contain design depths of water? |  |  |  |  |
| **Water quality treatment (Section 23.5)** | | | | |
| For the 1 year, 30 min event confirm: |  |  |  |  |
| Permanent pool volume is sufficient for |  |  |  |  |
| effective treatment |  |
| Or |  |
| Flow velocity is acceptable for effective |  |
| treatment |
| **Landscape/biodiversity (Sections 23.6, 23.7 and 23.10)** | | | | |
| Is there sufficient treatment upstream of the pond to allow design amenity and biodiversity objectives to be delivered? |  |  |  |  |
| Does the variation in permanent water depth have the potential to create biodiverse habitats? |  |  |  |  |
| Does the design of the pond fulfil objectives of availability of different habitats including:   * deep water * marginal * dry/damp * other |  |  |  |  |
| A planting schedule is provided, showing species and planting preferences. Is the planting demonstrated 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 pond/wetland planting appropriate to the location, and with respect to access and maintenance? |  |  |  |  |
| Where relevant, confirm 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? |  |  |  |  |
| **Critical materials and product specifications (Section 23.9)** | | | | |
| Geomembrane |  |  |  |  |
| Geotextile (non-woven) |  |  |  |  |
| Topsoil |  |  |  |  |
| Other (including proprietary systems) |  |  |  |  |
| **Constructability (Section 23.11)** | | | | |
| Are there any identifiable construction risks? If yes, state and confirm acceptable risk management measures are proposed |  |  |  |  |
| **Maintainability (Section 23.12)** | | | | |
| 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 |  |  |  |  |
| **Pond/wetland 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.