# **Major Applications Sustainable Drainage Strategy checklist**

# **Site details**

|  |  |
| --- | --- |
| **Site name** |  |
| **Site location and coordinates** |  |
| **Site description** |  |
| **Total site area (ha)** |  |
| **Greenfield/previously developed?** |  |
| **Existing impermeable area** |  |
| **Proposed impermeable area** |  |
| **Type development** |  |

The checklist should be completed by the applicant and submitted as an appendix to the Sustainable Drainage Strategy for the relevant planning application. Failure to provide any of the requested information below may result in delays to the application, and the Lead Local Flood Authority (LLFA) making recommendation for refusal of the planning application on grounds of insufficient information.

# **Sustainable drainage strategy**

A sustainable drainage strategy will be required appropriate to the level of application and the size of the development. Requirements relate to the Somerset SuDS standards, which are available on our website.

| **Evidence required** | **Format of evidence** | | **Pre-application** | | **Outline** | **Full** | | | **Reserved Matters** | | **DoC** | | **Validated** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Documentation validation quick check** | | | | | | | | | | | | | |
| Water quantity statement | Report, calculations, drawings | | **✓ (prelim)** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Water quality assessment | Report, calculations | | **✓ (prelim)** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Biodiversity statement | Report | | **✓ (prelim)** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Climate change statement | Report | | **✓ (prelim)** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Amenity and Health and Safety statement | Report | | **✓ (prelim)** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Maintenance and operation plan | Report | |  | | **✓ (prelim)** | **✓** | | | **✓** | | **✓** | |  |
| Construction method statement | Report | |  | |  | **✓** | | | **✓** | | **✓** | |  |
| Layout drawing of the proposed surface water drainage system. To include locations of: SuDS features, manholes, external pipework, attenuation features, and discharge locations | Drawing | | **✓ (Proof of concept)** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Detailed drawings of proposed features. To include (where applicable): infiltration structures, attenuation features, pumping stations and outfall structures | Drawing | |  | | **✓ (prelim)** | **✓** | | | **✓** | | **✓** | |  |
| Map / detailed drawing identifying exceedance routes | Drawing | |  | | **✓ (map)** | **✓ (detailed drawing)** | | | **✓** | | **✓** | |  |
|  |  | |  | |  |  | | |  | |  | |  |
| **Sustainable Drainage Strategy detailed checklist** | | | | | | | | | | | | | |
| **Water quantity statement** | | | | | | | | | | | | | |
| **Standard L1** | | | | | | | | | | | | | |
| Discharge destination, and evidence that discharge from the site has been prioritised according to the drainage hierarchy | Report | | **✓** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Where infiltration is proposed, evidence of:   * Results of BRE Digest 365 infiltration testing/ground investigation report. * Assessment of contamination risks (and evidence of consent from Environment Agency, where required). | Report  Calculations | |  | |  | **✓** | | | **✓** | | **✓** | |  |
| * Desk-based assessment of ground conditions and proof of concept of alternative drainage proposal (if appropriate) |  | | **✓ (prelim)** | | **✓** |  | | |  | |  | |  |
| Evidence that the receiving waterbody or system has the necessary capacity and is in appropriate condition to accept discharge. | Report  Calculations | |  | |  | **✓** | | | **✓** | | **✓** | |  |
| Agreement from the relevant authority to make a connection to the proposed watercourse, sewer or local authority asset. | Report  Correspondence | |  | | **✓ (in principle)** | **✓ (in principle)** | | | **✓ (in principle)** | | **✓** | |  |
| Confirmation of consultation with the Somerset Consortium of Drainage Boards, where discharge to a watercourse is proposed within, or draining into, an IDB area. | Report  Correspondence | |  | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| **Standard L2: Runoff rate** | | | | | | | | | | | | | |
| Evidence that peak runoff rate from the development for the following events does not exceed peak greenfield runoff rate for the same event:   * 1 in 1-year * 1 in 30-year * 1 in 100-year | Report  Calculations | | **✓ (Prelim)** | | **✓ (Prelim)** | **✓** | | | **✓** | | **✓** | |  |
| If not feasible, a detailed justification statement demonstrating the maximum achievable betterment on runoff rates and quality | Report  Calculations | |  | | **✓ (Prelim)** | **✓** | | |  | |  | |  |
| Within the River Tone catchment, evidence that discharge is limited to 2 l/s/ha. |  | |  | | **✓ (Prelim)** | **✓** | | | **✓** | | **✓** | |  |
| Attenuation/pipe full capacity calculations, where use of an existing drainage system within a site is proposed. | Calculations | |  | | **✓ (Prelim)** | **✓** | | | **✓** | | **✓** | |  |
| **Standard L3: Runoff volume** | | | | | | | | | | | | | |
| Calculation of attenuation volume required for the site, and the proposed discharge method, in line with the SuDS hierarchy. | Calculations | | **✓ (prelim)** | | **✓ (Prelim)** | **✓** | | | **✓** | | **✓** | |  |
| Evidence that runoff volume from the development for the 1 in 100-year, 6-hour rainfall event does not exceed the greenfield volume for the same event. | Report  Calculations | |  | | **✓ (Prelim)** | **✓** | | | **✓** | | **✓** | |  |
| If not feasible, a detailed justification statement demonstrating the maximum achievable betterment on runoff rates and quality | Report  Calculations | |  | | **✓ (Prelim)** | **✓** | | |  | |  | |  |
| Plan showing where attenuation and long-term storage will be located within the site | Drawing | |  | | **✓ (Prelim)** | **✓** | | | **✓** | | **✓** | |  |
| **Standard L4: Drain-down time** | | | | | | | | | | | | | |
| Evidence that components are designed to drain down within a suitable timescale (e.g. half-empty 24 hours after a storm event). | Report  Calculations | |  | |  | **✓** | | | **✓** | | **✓** | |  |
| **Standard L5: Climate change and urban creep** | | | | | | | | | | | | | |
| Evidence that the recommended climate change allowance has been applied to post-development runoff and volume calculations | Report  Calculations | |  | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Evidence that the recommended ‘urban creep’ allowance has been applied to post-development runoff and volume calculations | Report  Calculations | |  | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| **Standard L6 to L8: Flood risk within the development** | | | | | | | | | | | | | |
| Evidence that the SuDS system has been designed to:   * not flood any part of the site for a 1 in 30-year rainfall event; * not flood any building or utility plant within the development in a 1 in 100-year plus climate change event * retain any flooding within 1 in 100-year plus climate change rainfall event within the site boundary | Report  Calculations | |  | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Statement that safe exceedance routes are provided for rainfall in excess of a 1 in 100-year plus climate change event: | Report | | **✓** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Basic statement and map showing flow routes | Drawing | | **✓** | | **✓** |  | | |  | |  | |  |
| Map indicating key ground levels and flow routes, design cross sections and depths of exceedance storage areas, modelling of flow routes. | Drawings  Calculations | |  | |  | **✓** | | | **✓** | | **✓** | |  |
| If not feasible, a detailed justification statement outlining the reason why the standard cannot be met, and how the flood risk will be mitigated. | Report  Calculations | |  | | **✓ (Prelim)** | **✓** | | |  | |  | |  |
| Identification and mitigation of risks from failure of system components or surcharged / tide locked outfall on the drainage system. | Report | |  | |  | **✓** | | | **✓** | | **✓** | |  |
| Drawing to illustrate that attenuation structures are not located within an area at risk of fluvial flooding up to the 1 in 100 plus climate change annual probability event. | Drawing | |  | | **✓** **(prelim)** | **✓** | | | **✓** | | **✓** | |  |
| **Standard L9: Buffer for infiltration SuDS** | | | | | | | | | | | | | |
| Evidence of groundwater monitoring trial pit or borehole investigations showing highest groundwater level is more than 1.0m below the base of proposed infiltration SuDS feature e.g. ground investigation report | Report | |  | |  | **✓** | | | **✓** | | **✓** | |  |
| Desk-based assessment of ground conditions and proof of concept of alternative drainage proposal (if appropriate) | Report | | **✓ (prelim)** | | **✓** |  | | |  | |  | |  |
| **Water quality statement** | | | | | | | | | | | | | |
| **L10: Interception** | | | | | | | | | | | | | |
| Demonstration of how the first 5mm of rainfall will be intercepted and treated using source control methods. | Report  Calculations | | **✓ (prelim)** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| **L11: Treatment train approach** | | | | | | | | | | | | | |
| Evidence of two more treatment stages with different types of features, incorporating filtration to remove suspended matter. | Report | | **✓** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Appropriate water quality assessment: | Report | |  | |  |  | | |  | |  | |  |
| Low to medium hazard level sites (e.g. residential, commercial)   * CIRIA SuDS Manual Simple Index Approach calculations. | Calculations | |  | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| High hazard level sites (e.g. industrial):   * detailed risk assessment (may be as part of Water Framework Directive compliance assessment) * Evidence of environmental permits, where required. | Report  Calculations | |  | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Evidence of consultation with the appropriate regulator, for sites draining to sensitive water bodies (e.g. SSSIs, SDBC). | Report  Correspondence | | **✓** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| **Biodiversity statement** | | | | | | | | | | | | | |
| **L12: Vegetated SuDS** | | | | | | | | | | | | | |
| Evidence that maximum use has been made of vegetated SuDS in the design and use of piped networks, underground tanks and end-of-pipe storage solutions has been minimised. | Report  Drawings | | **✓ (prelim)** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| If not feasible, a detailed justification statement outlining an alternative proposal which still delivers benefits. | Report  Drawings | | **✓ (prelim)** | | **✓** | **✓** | | |  | |  | |  |
| **L13: Contribute to meeting local and national policy on biodiversity** | | | | | | | | | | | | | |
| Statement demonstrating how SuDS contribute to national and local policy on biodiversity | Report  Calculations | | **✓ (prelim)** | | **✓ (prelim)** | **✓** | | | **✓** | | **✓** | |  |
| **Climate change statement** | | | | | | | | | | | | | |
| **L14: Climate change resilience** | | | | | | | | | | | | | |
| Evidence that SuDS will contribute to   * Carbon sequestration (e.g. trees) * Moderation of temperatures through evaporative cooling, reflection and shading through use of water and vegetation in the built environment. | Report | | **✓ (prelim)** | | **✓ (prelim)** | **✓** | | | **✓** | | **✓** | |  |
| Statement of how the operation and maintenance of the SuDS system will be impacted by climate change over the lifetime of the development and how any impacts will be minimised. | Report | |  | |  | **✓** | | | **✓** | | **✓** | |  |
| **Amenity and health and safety statement** | | | | | | | | | | | | | |
| **L15: Multifunctional use of space** | | | | | | | | | | | | | |
| Evidence that the proposed SuDS are integrated into the landscape design, and are accessible to future residents. | Report Drawings | | **✓ (prelim)** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Evidence that opportunities have been taken to provide recreation and promote education, health and wellbeing. | Report | | **✓ (prelim)** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| **L16: Safety** | | | | | | | | | | | | | |
| Evidence that the proposed drainage components are designed for safety following CIRIA SuDS Manual design criteria | Report Drawings | | **✓ (prelim)** | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| Designer’s Risk Assessment under CDM regulations | Report | |  | | **✓** | **✓** | | | **✓** | | **✓** | |  |
| **Maintenance and Operation Plan** | | | | | | | | | | | | | |
| **L17: Easy/passive maintenance** | | | | | | | | | | | | | |
| Maintenance and Operation Plan (See the Maintenance pages of our website for more detail) covering the proposed drainage system over its lifetime | | Report | |  | **✓ (Prelim)** | | **✓** | **✓** | | **✓** | |  | |
| Whole life maintenance costs provided for the proposed drainage system | | Report | |  |  | | **✓** | **✓** | | **✓** | |  | |
| Agreement from potential adopting body of adoption of the proposed system and acceptance of operation and maintenance costs.  OR | | Report, letter/email correspondence | | **✓ (consider-ation)** | **✓ (in principle)** | | **✓ (in principle)** | **✓ (in principle)** | | **✓ (written confirmation)** | |  | |
| **L18: Pumping** | | | | | | | | | | | | | |
| If it is not possible to design a solution without using pumping, a detailed justification statement explaining why pumping is required, detailed plans for maintenance of the pump, and how the risk of pump failure will be mitigated. | | Report | | **✓ (prelim)** | **✓** | | **✓** | **✓** | | **✓** | |  | |
| **Construction Method Statement** | | | | | | | | | | | | | |
| **L19: Manage surface water runoff and pollution** | | | | | | | | | | | | | |
| Construction method statement outlining consideration of ecological and water quality impacts, phasing of development, the proposed strategy for sediment control and site drainage during construction, and any remedial works before the system becomes operational | | Report | |  |  | | **✓** | **✓** | | **✓** | |  | |
| Agreed temporary measures to prevent flooding to the site and surrounding area prior to completion of the drainage system. | | Report | |  |  | | **✓** | **✓** | | **✓** | |  | |
| Record of all necessary consents obtained for on or off-site works. | | Certificate or letter/email correspondence | |  |  | | **✓** | **✓** | | **✓** | |  | |