

Surrey County Council SuDS Design Guidance



SURREY
COUNTY COUNCIL

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Version	Date	Changes made by	Notes
1.1	02/07/19	GW	

1. Introduction

Surrey County Council (SCC) as Lead Local Flood Authority (LLFA) is the risk management authority responsible for local flood risk defined as flooding from surface water, groundwater and ordinary watercourses.

The LLFA is required to provide consultation responses on the surface water drainage provisions associated with major development. This advice sets out the requirements that the LLFA has for drainage strategies and surface water management provisions associated with applications for development

Sustainable Drainage Systems (SuDS) are now required on all major planning applications in England. This document provides a summary of the information and a checklist (see [Section 6](#)) of the evidence needed to show that SuDS have been satisfactorily considered within the application, in accordance with national and local planning policy. Meeting the requirements of this document will assist the LLFA in assessing the application and lead to a more streamlined assessment process.

Where a site is significant in size, is hydrologically complex or where an approach which goes against the advice in this guidance is proposed, it is strongly advised that applicants seek pre-application advice from SCC as the LLFA prior to submission of their application (see [Section 10](#)).

This document represents advice from the LLFA relating to surface water drainage and sets out the minimum operating requirements as required in the National Planning Policy Framework (NPPF).

It does not cover in detail other considerations the LLFA may take into account such as works affecting Ordinary Watercourses or specific requirements of Flood Risk Assessments (FRAs). These can be found on either the SCC or Local Planning Authority (LPA) webpages.

For any queries relating to this advice or other SuDS matters please contact us at SuDS@surreycc.gov.uk

2. Our Vision for Surrey

SuDS are an approach to managing surface water runoff which seeks to mimic natural drainage systems and retain water on or near the site as opposed to traditional drainage approaches which involve piping water off site as quickly as possible. SuDS offer significant advantages over conventional piped drainage systems in reducing flood risk by attenuating the rate and quantity of surface water runoff from a site, promoting groundwater recharge and biodiversity benefits, as well as improving water quality and amenity value.

SCC's Vision as stated in its [Local Flood Risk Management Strategy](#) is to make Surrey more resilient to flooding on a long-term basis through a coordinated approach with residents and partners. Objective 6 of the strategy, which deals with Planning, states:

“We will reduce the risk of flooding to and from development through local planning policy and processes.”

To achieve this we will:

- a. Undertake a robust statutory consultee role on surface water drainage
- b. Influence policy and advise Local Planning Authorities on managing flood risk
- c. Take viable opportunities to utilise existing and new development to reduce flood risk
- d. Educate planning officers, Members and developers on flood risk and drainage, particularly SuDS and environmentally beneficial measures

3. Requirement for SuDS

In accordance with the Ministerial Statement HCWS161 and The Town and Country Planning (Development Management Procedure) (England) Order 2015, as the LLFA, SCC are a statutory consultee for surface water for all Major planning applications (10 or more properties or >1000m² or >1ha).

A surface water drainage assessment should be carried out to demonstrate that the proposed development makes use of SuDS and will not create an increased risk of flooding from surface water to the development site and the surrounding area. The Drainage Strategy should be carried out in accordance with the [NPPF](#) and the [Planning Practice Guide \(PPG\)](#) and the appropriate Local Authority Local Plan.

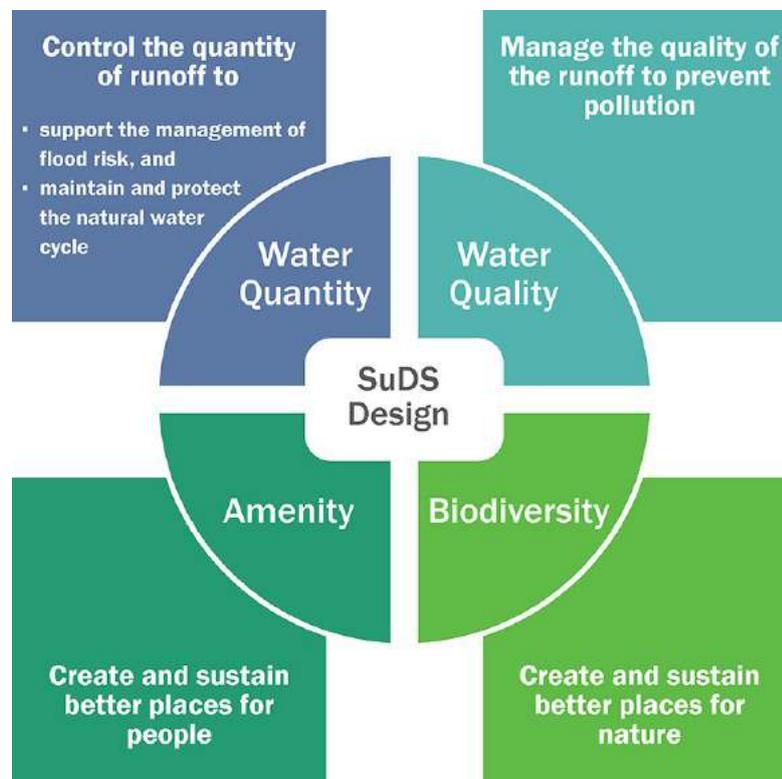
All development should make use of SuDS and the design of the proposed drainage system should adhere to the [Defra Non-Statutory Technical Standards \(NSTS\)](#).

NPPF paragraph 165 states:

Major developments should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate. The systems used should:

- a) take account of advice from the lead local flood authority;**
- b) have appropriate proposed minimum operational standards;**
- c) have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development; and**
- d) where possible, provide multifunctional benefits.**

Guidance on the preparation of surface water strategies can be found in the [Environment Agency R&D Technical Report W5-074/A/TR/1 Revision E "Preliminary rainfall runoff management for developments"](#).



The decision on whether a particular form or type of sustainable drainage system would be inappropriate in relation to a particular development proposal is a matter of judgement for the LPA, based on advice from the LLFA, including the type of drainage system they would consider to be reasonably practicable, by reference to the Defra NSTS and Paragraph 082 of the PPG.

4. SuDS Policy, Standards and Design Guidance Requirements

A Surface Water Drainage Strategy should be submitted to support all major planning applications. The strategy can either form part of the site's Flood Risk Assessment (FRA) or can be presented as a standalone document. The submitted document should set out the surface water drainage assessment and proposals for the site in accordance with the following policies:

- National Planning Policy Framework (NPPF)
- National Planning Policy Framework – Planning Practice Guidance
- The appropriate Local Plan Policy of the relevant LPA Local Policies and any neighbourhood plan
- Non-Statutory Technical Standards for Sustainable Drainage Systems
- Local Strategic Flood Risk Assessments and Surface Water Management Plans (if available)

To assist the applicant in ensuring that all relevant information has been submitted, the [Surrey County Council Surface Water Drainage Pro-Forma](#) should be completed and submitted as part of the planning application.

4.1 Other data, design guidance and codes of practice

The following other sources provide useful information on the level of surface water risk, national regulations and practical guidance on the design and implementation of sustainable drainage:

- Code of practice for surface water management for development sites BS 8585:2013
- The Updated Flood Map for Surface Water & Long term flood risk information <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map>
- Building Research Establishment, Soakaway Design – Digest 365 (BRE DG 365 (2016))
- The Building Regulations 2010 Drainage and Waste Disposal Approved Document H, HM Government, 2015 edition
- Non-Statutory Technical Standards for Sustainable Drainage Systems, Practice Guidance, LASOO, Sewers for Adoption 8th Edition, WRc plc, 2018
- SuDS Manual, C753, CIRIA, 2015
- Guidance on the Construction of SuDS, C768, CIRIA, 2017
- Water. People. Places: a guide for master planning sustainable drainage into developments, South East 7/AECOM, 2013



Swale at Upton. Credit @ Susdrain

5. Design Criteria

The following sections set out the design principles to be evidenced within the drainage strategy.

5.1 Catchment Approach and Flood Risk

The drainage scheme must be designed to:

- a) protect people and property on the development site from flooding;
- b) prevent increases in flood risk outside of the development in any part of the catchment, either upstream or downstream;
- c) where possible mimic natural flow routes and maintain existing hydrological catchments; and
- d) provide a sustainable drainage systems approach, using, where possible, an above ground, gravity drained and multifunctional approach.

For large sites where development is to be phased, there will need to be a strategic site surface water management system that allows different parts of the site to be developed at different times while ensuring that each of the design criteria can be met.

Any drainage scheme must manage all sources of surface water, including exceedance flows and surface flows from offsite, provide for emergency access/egress and ensure adequate connectivity.

5.1.1 On-site Flood Management

The applicant must demonstrate that no above ground flooding will occur within the site, up to and including the 1 in 30 year rainfall event, outside of areas specifically designed to hold or convey water.

Surface water up to the 1 in 100 year event including an allowance for climate change, must be safely contained on site. There should be no flood risk to the development site users, third parties or to vital infrastructure up to this event.

5.2 Designing for Multi-functionality and Water Quality

Aside from the control of surface water flows, the SuDS approach also provides benefits in terms of water quality and multifunctional biodiversity and amenity improvements.

The drainage design should, from the outset, consider opportunities for inclusion of amenity and biodiversity objectives and thus provide multi-functional use of open space. Examples of this include;

- the use of recreational open space areas as temporary flood storage during rainfall events;
- wetlands being used to deliver amenity value and habitat as well as water treatment;
- use of open watercourses, permeable paving and tree pits to improve the design quality of the public realm, while improving permeability and connectivity with the water environment.

The best way to do this is to consider the drainage within the site at the masterplanning stage. More details of this approach can be found in the [Water. People. Places. guidance document](#).

Maximising the ecological value of drainage systems is consistent with Local Authority duties, national and local policies which aim to conserve and enhance biodiversity. The use of above ground open drainage features such as swales, ditches, ponds and attenuation or infiltration basins is therefore preferred to below ground, hard-engineered features such as pipes, tanks or other storage options.

Similarly, existing established above ground drainage features should be retained where possible in line with point c) in Section 5.1. Any alterations to existing watercourses will require separate consent under Section 23 of the Land Drainage Act. Please see [Section 8](#) for more details.

Drainage design should consider opportunities to contribute to the wider landscape and ensure proposals are coherent with the surrounding landscape character area. Details of the relevant character can be found within the Surrey Landscape Character Assessment found [here](#).

Some SuDS components provide water quality improvements by reducing sediment and contaminants from runoff either through settlement or biological breakdown of pollutants. When designing a surface water management scheme, full consideration should be given to the system's capacity to remove pollutants and to the cleanliness of the water being discharged. This is to ensure that the development does not adversely impact the quality of receiving water bodies, both during construction and once operational.

The design should provide sufficient treatment to deal with the level of risk posed by the development and the vulnerability of the receiving waterbody including groundwater (refer to SuDS Manual, C753, CIRIA, 2015 Chapter 4)

5.3 Surface Water Discharge Options

Surface runoff not collected for use must be discharged according to the following discharge hierarchy:

- Option 1: at source reductions and reuse;
- Option 2: infiltration to ground;
- Option 3: attenuated discharge to a surface water body;
- Option 4: to a public surface water sewer,
- Option 5: to highway drain, or other private drainage system; or
- Option 6: to a combined sewer where there are absolutely no other options, and only where agreed in advance with the relevant sewage undertaker.

Pumped systems will only be accepted where it can be evidenced that no other practical alternative exists.

Clear evidence that the drainage hierarchy has been followed should be provided. Details of the proposed outfall type should be provided; which could include: soakaway type, flow control device, orifice plates etc.

5.3.1 At Source Reductions and Water Reuse

Opportunities for at-source surface water reduction and water reuse should be considered. Appropriately-sized rainwater harvesting systems and associated downstream flow reductions can be considered if accompanied by corresponding calculations. Systems which reduce the rate at which surface water is conveyed into the drainage system, such as green roofs, rain gardens or rainwater harvesting are encouraged as they can increase the sustainability of a site.

5.3.2 Infiltration to Ground

Infiltration structures (to ground) replicate natural greenfield conditions and benefit local groundwater recharge. They include soakaways, basins, swales and permeable paving.

Infiltration rates for soakage structures are to be based on infiltration tests undertaken in the winter period at the location and depth of the proposed structures. The tests must be carried out in accordance with BRE Digest365, CIRIA R156 or a similar approved method.

If infiltration test results are not available to support a Full Planning Application, then full justification as to why these have not been provided should be included. Examples may include, issues with site access i.e. the site is a working brownfield site and as such it is not possible to dig trial pits. Such reasons will be reviewed on a case by case basis.

If infiltration is proposed and results are not available, the applicant should use a conservative infiltration rate such as 1×10^{-6} metres/second (or other appropriate rate with full justification) **and** provide an alternative drainage strategy should future test results show ground conditions are not suitable.

If infiltration is proposed, the drainage strategy should demonstrate

- that the base of the any infiltration feature is at least 1m above the peak groundwater level;
- the half drain times (in hours) of the infiltration feature are at least within 24 hours from the end of the 1 in 30 (3.3%) including Climate Change rainfall event;
- the factor of safety used in calculations. This should be at a minimum 2 or best practice figure;
- the minimum distance of the infiltration feature from buildings is greater than 5m, unless specifically designed to be closer; and,
- the measures proposed to prevent siltation of the infiltration device occurring.

Deep bore soakaways should only be considered after other forms of infiltration attenuation have been explored and in all cases, the applicant will be required to consult the Environment Agency (EA) hydrogeologist before their inclusion in a drainage strategy.

If infiltration has been discounted and infiltration tests are not available to disprove its suitability, intrusive ground investigations which conclusively show ground conditions are not suitable for infiltration are acceptable (e.g. due to clay, contamination, hazards etc).

Infiltration is not always appropriate, and the advice of the EA or LLFA should be sought for developments in or close to source protection zones (SPZs), in areas with a known history of land contamination, or in areas with known high seasonal groundwater levels

5.3.3 Attenuated Discharge to Surface Water Body

In areas where ground conditions are not suitable to infiltrate, surface water can be discharged to suitable nearby waterbodies. The discharge location should aim to mirror the greenfield hydrological situation. The ability of existing watercourses to convey water (and to function as an effective exceedance flow route, where appropriate) will always need to be maintained.

Acceptable discharge rates are discussed in [Section 5.4](#)

Evidence should be provided as to the suitability of the waterbody to receive flows. These could include a topographical survey showing banks and bed levels which confirm a gravity connection is achievable. Proposed use of existing ponds or lakes must be accompanied by calculations showing that the waterbody has appropriate capacity to receive the incoming flows without increasing flood risk and that a suitable outfall or infiltration rate is present or proposed.

Details confirming water can freely flow within a receiving watercourse without obstruction or confirmation that the channel will be cleared prior to development should be provided.

The applicant should confirm that they understand that any connection or alterations made to an Ordinary Watercourse (including channel clearance) may require consent under Section 23 of the Land Drainage Act 1991. See [Section 8.1](#)

Where appropriate third party permissions should be sought, in principle where required, and evidenced for connections crossing land outside the red line boundary of the application.

If watercourses are within or adjacent to the redline boundary of the site, future riparian access and maintenance should be considered within the design and detailed in the maintenance and management plan. See [Section 5.8](#)

5.3.4 Discharge to surface water sewer

Where no suitable waterbody is present, attenuated discharge to a Water and Sewerage Company maintained surface water sewer is acceptable.

At the planning stage, confirmation from the sewerage undertaker should be provided confirming capacity is available within the existing system to receive flows from the site without increasing flood risk, and any maximum discharge rates. This should be a developer enquiry application or similar.

5.3.5 Alternative Options

Discharge to highway drainage or privately owned sewer

If no other option exists, then discharge of surface water to a private sewer or local authority maintained asset may be considered. However it is highly unlikely that approval to discharge into a highways drainage system will be given. These systems are usually designed to take a lower magnitude rainfall event (typically 1 in 5 year return period) and with capacity to drain the highway extent only. Therefore any additional connections may increase the risk of flooding and will not be approved.

Confirmation from the asset owner confirming capacity is available within the existing system to receive flows from the site should be provided.

Discharge to combined sewer

The discharge of surface water to a combined sewer should be considered as a last resort. Foul and

surface water flows within the site should remain separate prior to the final manhole leaving the site.

Confirmation from the sewerage undertaker should be provided confirming capacity is available within the existing system to receive flows from the site. This should be a developer enquiry application or similar.

5.3.6 Use of pumping within surface water drainage strategy

The pumping of surface water should only be used as a last resort. If the pumping of surface water is proposed, clear evidence and justification should be provided. A plan showing relevant above and below ground levels which clearly illustrates the need for a pumped connection should be submitted.

The maintenance and management plan should be clearly set out measures proposed to reduce the likelihood of and mitigate for pump failure. Exceedance routes in the event of pump failure should be presented and should not increase flood risk to properties or key infrastructure.

5.4 Catchment Area and Surface Water Runoff Rates

One of the primary aims of SuDS is to mimic the natural greenfield characteristics of a site. Drainage schemes should be designed to match greenfield discharge rates and follow natural drainage routes as far as possible.

The greenfield runoff should be calculated from IH124 or a similar approved method. SAAR and any other rainfall data used in runoff storage calculations should be based upon most recent FEH rainfall values.

The proposed change in impermeable area should be clearly detailed on a suitable drawing.

5.4.1 Discharge rates

Surface water should be discharged using a staged discharge approach with flows limited to the greenfield Q1, Q30 and Q100 year rates for the corresponding storm events. The Q100 rate should be used for the 1 in 100 year + climate change event.

The greenfield Q1 or QBar rural rate could also be used as the fixed discharge rate for the positively drained areas of the site. Alternatively the whole site can be evaluated and the total discharge pro-rata'd between the positively drained and retained green spaces.

Greenfield Sites

Post development rates must be limited to equivalent greenfield runoff rates. A staged approach or QBar rural as detailed above should be used.

Brownfield Sites

Brownfield sites should be limited as close to greenfield rates as is reasonably practicable. If greenfield rates cannot be achieved, clear written evidence must be submitted as to why a lower rate cannot be achieved. Information will be considered on a site by site basis. For brownfield sites robust justification could include; analysis of storage requirements required to achieve greenfield runoff rates in comparison to a site area, a cost analysis, spatial or level constraints.

Discharge rates should never exceed the rates prior to redevelopment for the corresponding Q1, Q30 and Q100 year storm rates.

Low Flow Rates

In meeting the above, discharge rates below 1.0 litre/sec may not be achievable, depending on self cleansing velocities. However low flow control devices are available on the market to achieve such discharge rates. Through proper design and maintenance such devices should not be prone to blockage, if proposed discharge rates are greater than the equivalent greenfield runoff rates based on there being a greater risk of blockage, full justification should be provided as to why blockage cannot be designed out and is considered to be a risk. Such sites will be considered on site by site basis.

5.4.2 Climate Change

EA climate change advice published in February 2016 indicates the allowance to be applied:

Applies across all of England	Total potential change anticipated for the '2020s' (2015 to 2039)	Total potential change anticipated for the '2050s' (2040 to 2069)	Total potential change anticipated for the '2080s' (2070 to 2115)
Upper end	10%	20%	40%
Central	5%	10%	20%

Residential Development

Applicants should design the attenuation on site to accommodate the 1:100 year +20% CC event and understand the flooding implications for the +40% CC event.

If the implications are significant then a view should be taken to provide attenuation to meet the 40% CC event, e.g. the site contains “highly vulnerable” or “critical infrastructure” receptors, exceedance flows could flood another development or put people at risk. See [Section 5.7](#).

A conservative approach would be to simply use +40% as the design event throughout.

Commercial or Time Limited Development

A lower % provision for climate change maybe appropriate for commercial development. The applicant should justify the % climate change allowance used based on the anticipated lifespan of the development.

5.4.3 Urban Creep

Urban creep (the conversion of permeable surfaces to impermeable over time) should be considered for all residential developments and other developments. An allowance of an additional 10% for urban creep should be included within the proposed impermeable areas unless a different development density is anticipated which may reduce the applicable allowance. Where the applicant does not consider an urban creep allowance to be appropriate clear supporting evidence and justification should be provided. Such information could include a site layout showing that the development is unlikely to result in additional areas of hardstanding over time such as an apartment block or commercial premises.

5.5 Discharge Volume

Greenfield and Brownfield Sites

The excess runoff generated by the proposed development (additional to the greenfield runoff) during the 1 in 100 year, 6 hour storm event should be attenuated onsite. Where insufficient space exists to accommodate long term storage, the applicant should provide clear and robust justification as to why long term storage cannot be accommodated.

Residential development density (Dwellings per hectare)	Urban Creep allowance (% of impermeable area)
<25	10
30	8
35	6
45	4
>50	2
Flats & Apartments	0

5.6 Attenuation

The attenuation device(s) required to achieve the proposed surface water restriction from the site should be clearly identified. Above ground storage devices that provide water quality, ecological and amenity benefits should be proposed where practicable. Robust justification should be provided if below ground attenuation devices such as crates, tanks or oversized pipes are proposed.

Attenuation device(s) should always be located in accessible areas such as areas of open space, under access roads or shared parking areas. Thought should be given to how maintenance and/or potential replacement of the attenuation devices would be carried out over the lifetime of the development. Devices serving developments in more than one ownership should not be located in areas such as private rear gardens where access and ownership arrangements are unclear.

5.7 Exceedance Planning

The design of the site must ensure that flows resulting from rainfall in excess of a 1 in 100 year (+CC allowance) rainfall event are managed in exceedance routes that minimise the risks to people and property, and do not increase flood risk off site. Any predicted and/or designed flow routes, or areas where water will pool, should be set out in a clear drawing and provided within the management plan to the future site owners.

Access and egress arrangements during flood events should be discussed with the relevant LPA.

5.8 Management and Maintenance

At the application stage basic information should be supplied to confirm how the entire drainage system will be maintained in perpetuity. How the SuDS will perform and develop over time should be considered. Any additional maintenance tasks that will be required to ensure the system continues to function should be stated and adequate access arrangements provided to enable maintenance to be carried out.

Full, more detailed information will be required at the discharge of planning conditions stage.

5.9 Surface Water Management During Construction

Evidence should be provided to show how surface water will be managed during construction including any temporary structures to convey, attenuate or treat surface water on the site. This information will be required at the discharge of planning conditions stage.

- Details of how surface water will be managed during construction
- Details of how the existing or proposed drainage system will be protected during construction
- Details of how surface water pollutants will be dealt with during construction
- Links to any relevant CEMP/CEMS?



Natural Watercourse

6.0 Evidence required

SuDS Pro-forma - SCC have created a pro-forma (available [here](#)) which acts as a summary of the information required. We recommend that this pro-forma is completed in full and accompanies the submitted drainage statement with additional evidence as set out below. The following table sets out the information required at each stage of planning to provide sufficient confidence that the development meets the national SuDS standards and this advice. If this information is not submitted full justification is required.

Pre-App	Outline	Full	Reserved Matters	Condition Discharge	Evidence Required	Further Details
✓	✓	✓			Flood Risk Assessment/ Statement	Assessment of risk from all sources of flooding and how this will be mitigated through the design.
✓	✓	✓			Drainage Strategy/ Statement layout plan	The proposed drainage for the site and how the design meets the National Standards and this advice. Outline sketch showing proposed impermeable areas, infiltration areas, outfalls and attenuation devices (as applicable) and design levels that function hydraulically.
	✓				Ground investigation report (for infiltration)	Evidence of ground conditions, groundwater levels and infiltration tests to BRE DG 365 or equivalent.
	✓				Preliminary "Outline" hydraulic calculations	Greenfield, brownfield (if appropriate) and post -development runoff rates, volumes of attenuation required.
	✓	✓			Evidence of 3rd party agreements if required.	Proof that any proposed modifications to watercourses and/or connections to third party infrastructure receiving water are viable and acceptable. This can be agreement in principle.
		✓	✓		Detailed development layout	Scaled plan showing where all drainage infrastructure is to be located with levels as appropriate.
		✓	✓	✓	Detailed flood & drainage designs drawings	Full drawings of the detailed design: showing levels, sizes of all features (including pipe network), inspection/maintenance features, cross sections and long sections as appropriate
		✓	✓	✓	Full hydraulic calculations	Surface water drainage modelling calculations (MicroDrainage or similar) which show the attenuation volumes provided on site for the 1 in 30 year and 1 in 100 year + CC events.
		✓	✓	✓	Geotechnical factual and interpretive reports, including infiltration results	Evidence of ground conditions, groundwater levels and infiltration tests to BRE DG 365 or equivalent if these had not been carried out previously.
		✓	✓	✓	Detailed landscaping details	Landscape proposals showing how these interact with drainage designs.
		✓	✓	✓	Discharge agreements (temporary and permanent)	Confirmation that any required discharge agreements with third parties are in place.
		✓	✓	✓	Flood exceedance plan *	Plan indicating where surface water would flow in exceedance events. If flooding is modelled to occur on site during 1 in 30 or 1 in 100yr +CC events, estimated volumes & depths should be included on the plan.
		✓		✓	Maintenance programme and ongoing maintenance responsibilities*	Full description of required maintenance activities or each drainage element and who is responsible for carrying this out. The site layout should include suitable space to enable these activities to take place.
		✓	✓	✓	Development Management & Construction Plan*	Details of surface water management plans through construction.

* These aspects can usually be conditioned and provided post planning approval

7.0 Standard Conditions

There are a number of areas where it is acceptable, and in some cases preferred, to use conditions to allow detailed information to be provided post full planning approval; our standard conditions are set out below. These will be applied unless this information is provided in full at submission stage. The wording of the conditions will be deemed acceptable by the applicant unless the LPA is notified otherwise.

- 1) *The development hereby permitted **shall not commence** until details of the design of a surface water drainage scheme have been submitted to and approved in writing by the planning authority. The design must satisfy the SuDS Hierarchy and be compliant with the national Non-Statutory Technical Standards for SuDS, NPPF and Ministerial Statement on SuDS. The required drainage details shall include:*
 - a) *The results of detailed infiltration testing completed in accordance with BRE DG Digest: 365 and confirmation of groundwater levels. (to be deleted if not appropriate).*
 - b) *Evidence that the proposed solution will effectively manage the 1 in 30 & 1 in 100 (+ % allowance for climate change) storm events and 10% allowance for urban creep during all stages of the development (Pre, Post and during), associated discharge rates and storage volumes shall be provided using a maximum discharge rate of **XX l/s** (to be deleted if not appropriate).*
 - c) *Detailed drainage design drawings and calculations to include: a finalised drainage layout detailing the location of drainage elements, pipe diameters, levels, and long and cross sections of each element including details of any flow restrictions and maintenance/risk reducing features (silt traps, inspection chambers etc.).*
 - d) *A plan showing exceedance flows (i.e. during rainfall greater than design events or during blockage) and how property on and off site will be protected from these flows.*
 - e) *Details of drainage management responsibilities and maintenance regimes for the drainage system.*
 - f) *Details of how the drainage system will be protected during construction and how runoff (including any pollutants) from the development site will be managed before the drainage system is operational.*

Reason: *To ensure the design meets the national Non-Statutory Technical Standards for SuDS and the final drainage design does not increase flood risk on or off site.*

- 2) *Prior to the **first occupation** of the development, a verification report carried out by a qualified drainage engineer must be submitted to and approved by the Local Planning Authority. This must demonstrate that the drainage system has been constructed as per the agreed scheme (or detail any minor variations), provide the details of any management company and state the national grid reference of any key drainage elements (surface water attenuation devices/areas, flow restriction devices and outfalls).*

Reason: *To ensure the Drainage System is constructed to the National Non-Statutory Technical Standards for SuDS.*

8.0 Other approvals required

8.1 Watercourse Regulation

If the site works propose to culvert, divert or create any other obstruction in a watercourse, the granting of planning permission, in itself, does not represent permission to carry out these works.

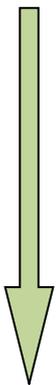
Prior to construction, written consent under Section 23 of the Land Drainage Act is required from SCC for Ordinary Watercourses, the EA for Main Rivers or the Internal Drainage Board (where one exists). Where these works would affect development viability or site layout, agreement in principle should be sought at pre-planning submission stage to ensure it is likely to be forthcoming.

Further details can be found here: <https://www.surreycc.gov.uk/people-and-community/emergency-planning-and-community-safety/flooding-advice/more-about-flooding/ordinary-watercourse-consents>

8.2 Groundwater Quality

If proposed works result in infiltration of surface water to ground within an Source Protection Zone, the EA will require proof of sufficient surface water treatment to achieve water quality standards.

9.0 Sustainability Hierarchy

Sustainability Level	SuDS Technique	Flood Reduction	Pollution Reduction	Wildlife & Landscape Benefit
<p style="text-align: center;">MOST SUSTAINABLE (PREFERRED)</p>  <p style="text-align: center;">LEAST SUSTAINABLE</p>	Green/Living Roofs & Walls	✓	✓	✓
	Infiltration: Infiltration trenches & basins Soakaways: (standard or crate system)	✓	✓	✓
	Filter strips and Swales	✓	✓	✓
	Basins and ponds: Wetlands Balancing Ponds Detention Basins Retention Basins Conveyance swales	✓	✓	✓
	Permeable Surfaces & filter drains: Gravelled areas Porous paving	✓	✓	
	Tanks & Piped Systems: Crated Attenuation Tanks Oversize pipes	✓		

10.0 Pre-application planning advice

SCC also provide three levels of pre-application advice. More information on the service and associated costs can be found [here](#) or by contacting SuDS@surreycc.gov.uk.

Level 1 15 minute FREE consultation

General guidance around what information to include, the statutory process, Surrey's policy / guidance or details around a specific element. At busy times, we may ask for these questions to be submitted by e-mail so we can prepare an answer and call you back. Please call 0300 200 1003 or use the email above

Level 2 Pre-application Service

Our pre-application service is designed to reduce the risk in achieving an agreed surface water drainage on your development. SCC provide bespoke advice regarding the development site, the best SuDS approaches and the required evidence to meet the surface water aspects of planning. The full service includes:

- A detailed Flood Risk Report (if required)
- A site assessment and guidance to the evidence requirements for any development application
- A pre-submission checking and review service for your proposed drainage strategy
- Pre- planning discussions of likely conditions and wording (if appropriate)
- Bespoke officer advice and guidance throughout the planning process from pre-application to discharge of conditions

Level 3 Bespoke Advice and Training

If full advice is not required, or you have already submitted an application and need at-cost advice on a specific element above our free 15 minute service, SCC can provide this.

SCC also provides general training on the SuDS requirements for planning.

This service is charged at an at-cost hourly rate as agreed.

