

Suffolk

Flood Risk
Management Partnership

**Protocol for Local Planning Authorities and
Developers on SuDS, Surface Water Drainage
and Local Flood Risk in Suffolk**

**Appendix C
to the Suffolk Flood Risk
Management Strategy**



May 2018

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1. Introduction

1.1 The Floods and Water Management Act 2010 made Suffolk County Council (SCC) the Lead Local Flood Authority (LLFA) and includes a duty for all parties to share data. From 15th April 2015 the LLFA became a Statutory Consultee in planning process for surface water drainage.

1.2 Scope – This protocol sets out how SCC’s Floods & Water team (SCC) will generally respond to planning applications for developments of:

- the number of dwellings to be provided is 10 or more; or the development is to be carried out on a site having an area of 0.5 hectares or more (and it is not known if 10 or more dwellings are to be provided)
- the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more.
- Development carried out on a site having an area of 1 hectare or more.
- or minor applications in areas at risk of SW flooding.

This will include providing advice on proposed arrangements including; ensuring ongoing maintenance of SuDs over the lifetime of the development, and on whether maintenance and operation requirements are economically

proportionate.

1.3 Purpose - To define a consistent approach by SCC, assist Local Planning Authorities (LPA) and Developers. To aid development of local plans/policies, Strategic Flood Risk Assessments (SFRA), site allocations, development briefs, site specific Flood Risk Assessments (FRA), responses to pre-application enquiries, outline, detailed and reserved matters planning applications.

1.4 The Aims are to ensure more effective provision of advice to LPAs, with regard to surface water matters, to reduce or manage flooding and pollution of watercourses, taking into account anticipated climate change and urban creep, and to ensure that sustainable drainage systems for the management of surface water runoff are put in place and have an operable and effective maintenance regime in place for the lifetime of the development.

1.5 This document should be read in conjunction with the National Planning Policy Framework, Planning Practice Guidance, House of Commons Written Statement HCWS161, DEFRA’s non-statutory technical standards, SCC Local SUDS Guidance, Suffolk Flood-Risk-Management-Strategy. CIRIA’s SUDS manual C697, BS EN 8582:2013, and if AWS adopt, AWS’s SuDS Manual.

2. Policy and Guidance

2.1 SCC will promote compliance with the following framework of national and local guidance:

2.2 Chapter 10 of the National Planning Policy Framework (NPPF) states Local plans should be supported by Strategic Flood Risk Assessments (SFRAs) and develop policies to manage flood risk from all sources, taking advices from the EA, Lead Local Flood Authorities and IDBs. Local Plans should apply a sequential, risk-based approach to the location of development to avoid where

possible flood risk to people and property and manage any residual risk, taking account of the impacts of climate change by:

- applying the Sequential Test;
- if necessary, applying the Exception Test;
- safeguarding land from development that is required for current and future flood management;
- using opportunities offered by new development to reduce the causes and impacts of flooding; and

- where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to facilitate the relocation of development, including housing, to more sustainable locations.

2.3 LPA Core Strategy Policies should therefore say something like: "Development will only be approved where it can be demonstrated that the proposal satisfies all the following criteria:

- a. It does not increase the overall risk of all forms of flooding in the area through the layout and form of the development and appropriate application of Sustainable Drainage Systems (SuDS);
- b. It will be adequately protected from flooding in accordance with adopted standards wherever practicable;
- c. It is and will remain safe for people for the lifetime of the development; and
- d. It includes water efficiency measures such as rainwater harvesting, or use of local land drainage water where practicable.

The Council will apply the following hierarchy for managing flood risk:

Assess: Strategic Flood Risk Assessment (SFRA produced by LPA) and site-specific Flood Risk Assessment (FRA) produced by developers.

Avoid: Layout should be designed so that the most vulnerable uses are restricted to higher ground at lower risk of flooding, with more flood-compatible development (parking, open space etc.) in the highest risk areas. Use Sustainable Drainage Systems (SuDS) at source.

Substitute: Apply the sequential approach to locate more vulnerable development in lowest risk areas.

Control: Use SuDS and implement Surface Water Management Plans (SWMP) to manage and reduce risk."

2.4 The guiding principles for SuDS in Suffolk – from the Suffolk Flood Risk Management Strategy will be:

- Early consideration of sustainable flood and coastal risk management in production of Local Plans and master planning – promoting and protecting 'blue and green corridors'.
- Wherever possible, the use of multifunctional, above ground SuDS that deliver drainage, enhancement of biodiversity, improvements in water quality and amenity benefits.
- Ensuring that land owners realise both the importance of reducing flood risk and how properly designed sustainable drainage systems can be an asset to their development.
- Ensuring no increase in flood risk from new development wherever possible and contributing to reducing existing risk if feasible.
- Ensuring water flows around properties when the design capacity of drainage systems is exceeded by extreme rainfall."

2.5 Policies and guidance from relevant bodies include the Department for Communities and Local Government, Environment Agency, Construction Industry Research and Information Association (CIRIA), Anglian Water, Suffolk County Council and Ipswich Borough Council.

2.6 DEFRA's Non Statutory Technical Standards for SuDS are high level, and furthermore detailed standards and guidance on SuDS can be found in the SCC SUDS guide. This is intended to assist developers and includes text on how to develop efficient SuDS systems and key standards. Local more detailed standards are likely to depend on who adopts the SW drainage system. The following may also be relevant: CIRIA's C697 SuDS Manual, AW's SUDS Manual, or IBC's Drainage and Flood Defence Policy (first issued 2001) or BS8582 Code of Practice for SW Management for Development Sites.

2.7 Certain standards such as allowable water depth, side slopes and longitudinal slopes are major factors affecting the amount of space required for open SuDS.

3 Responsibilities – Summary

Developers

Early discussions with SCC Floods and Water team before housing layouts are drafted to identify the need for water management, the allocation of sufficient land area for effective water management and land form/topography and to agree on type of SuDS and maintenance/adoption option.

Ensure planning applications comply with validation list see section 10.1

SuDS measures to be shown on all relevant plans submitted as part of detailed planning applications, in order to demonstrate how SuDS integrate with planned public open spaces, landscaping, roads, trees and buildings.

Plans should identify multifunctional SUDs e.g. those which enhance biodiversity or improve water quality.

Details need to include soakage test results and calculations

DEFRA and DCLG

Sets National Policies and guidance e.g. NPPF & PPG

Environment Agency (EA)

Strategic Overview of all flood and coastal erosion risk management activities..

Develops regional river basin management and catchment flood management plans.

Operating authority for main rivers and some tidal defences and have permissive powers to maintain them.

Monitoring and controlling pollution of waterways and ground water.

Issues Flood Defence Consents for works in, under, over or within nine metres of a main river or a fluvial or tidal flood defence.

Statutory consultee for developments within Flood zone 2 or 3, or within 20 m of the top of the bank of a main river.

Provides information on main rivers, tidal defences and ground water (but not ground water flooding) to developers.

Suffolk County Council Highways

Highway drainage, including prevention of highway runoff entering homes or runoff from private driveways crossing footways.

Statutory consultee providing advice to LPA for all stages of planning process.

Adopts highways and associated drainage subject to s38 (Highways Act 1980) agreement.

Can adopt road side swales draining some private properties as well as highway

**For more details see Section 2 of the Suffolk Flood Risk Management Strategy
(www.suffolk.gov.uk/flooding)**

**Suffolk County Council
Floods and Water
(generally referred to as
SCC in this document)**

Lead Local Flood Authority (LLFA) for Surface Water Flood risk – not fluvial (main river) or tidal flooding.

Suffolk SW Flood Risk Management Strategy. www.suffolk.gov.uk/flooding

Helps everyone understand and manage flood risk within Suffolk. The strategy summarises the information available on the risk of flooding in Suffolk and ways to manage that risk. Includes guiding principles for SuDs.

Consents to alter or build structures in ordinary watercourses,

Maintains register of structures or features likely to have a significant affect on flood risk (The Asset Register).

Designation of assets.

Investigate, record and report local flooding.

Surface water management plans (SWMPs).

Provides information to Developers and LPAs.

Statutory consultee in planning process from 15 April 2015 –provides comments to LPAs.

**Suffolk County
Council Planning**

Determines planning applications for:

- mineral extraction;
 - waste management facilities; and
 - its own development, for example, new roads, schools (not academies) and fire stations
-

**Suffolk Resilience Forum
(SRF) – Police, Fire &
Rescue, Ambulance,
SCC and District Councils**

Emergency planning.

Provides LPAs with comments/information for Local Plan and SFRA.

The SRF will only comment on planning applications for developments that need to pass the NPPF exception test. (normally tidal or fluvial flooding).

Anglian Water

Foul, combined and surface water sewers. Responsibility now includes all lateral drains under highway and all ex private sewers serving >1 property.

Might adopt SuDs serving >1 property that comply with AW's SuDS manual.

Will currently only provide comments/advice related to SuDS if contacted by applicant see <http://www.anglianwater.co.uk/developers/suds.aspx>

Have powers to construct new sewers in private land. Developers may requisition AW to provide off site sewers

<http://www.anglianwater.co.uk/developers/new-sewer.aspx>

Expected to become Statutory Consultee for planning applications for shale oil and gas development

District Council

Local planning authority (LPA)

Develops Local Plan allocations and Planning policies following local consultation. Reviewed every 6 years.

Develops and provides on web:

- SFRA
- SPDs
- Development Briefs

Provides Pre application advice.

Determines most planning applications in accordance with Local plan/policies following consultation with statutory consultees.

Formal Pre application advice within 8 weeks.

Minor planning applications determined within 8 Weeks.

Major planning applications within 13 Weeks.

Might adopt SuDS serving > 1 property subject to S106 agreement and commuted sum (for 100 years for residential SuDs).

Planning enforcement –where breach of conditions or non-compliance with approved details is reported.

**District Council or
Approved Inspectors**

Check and enforce compliance with Building Regulations – includes surface water drainage associated with roofs and paved areas associated with buildings.

Network rail

Railways, including culverts carrying watercourses under railways.

Should be consulted by LPA's where proposed development e.g. soakaways may affect the stability of railways - eg: the side slopes of cuttings or above tunnels.

Internal Drainage Board

Watercourses in IDB areas- mainly within floodplains.

Might adopt SuDS serving > 1 property subject to S106 agreement and commuted sum, contributions or annual charges.

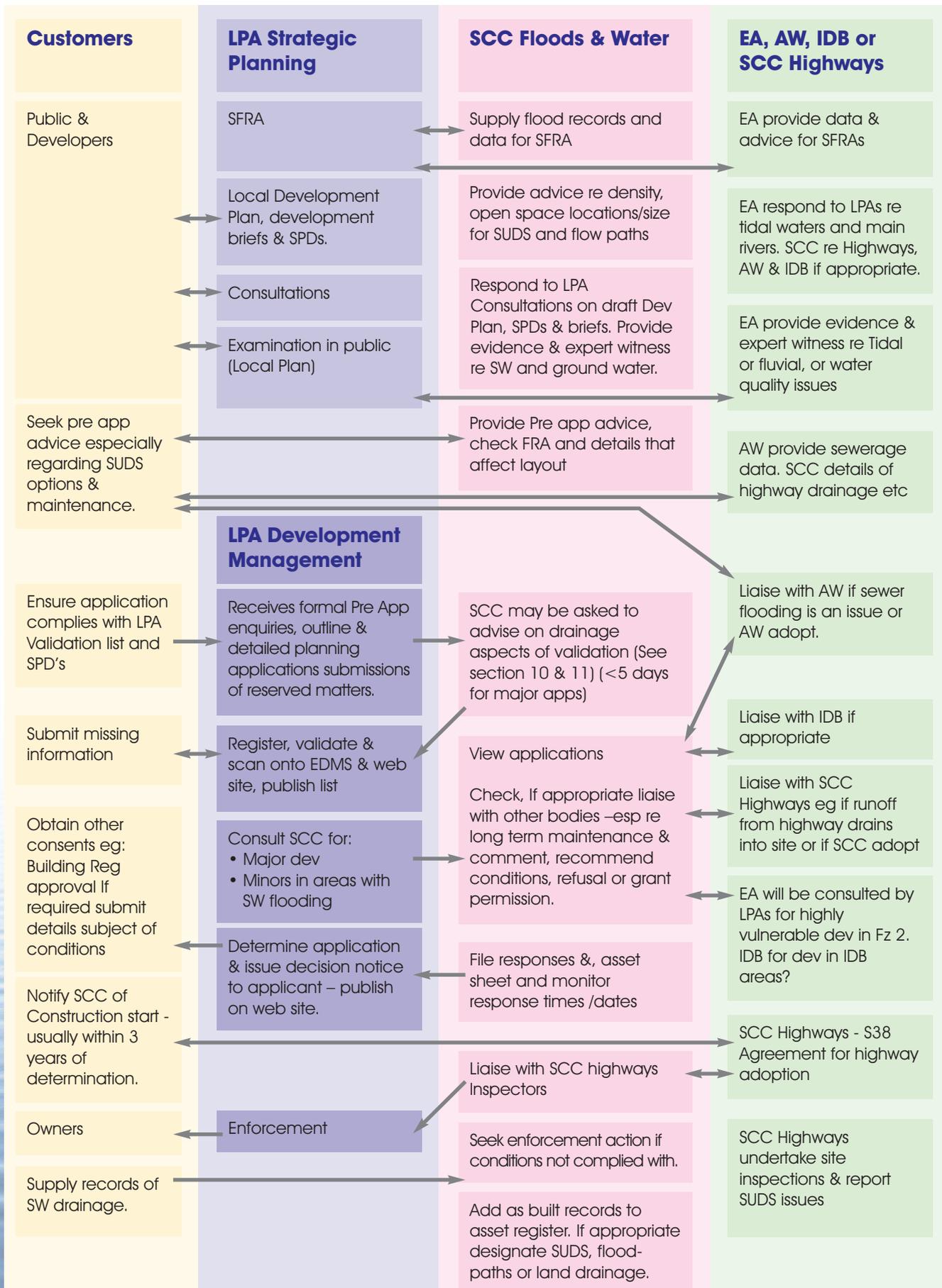
Highways Agency

Trunk roads – A14, A11 and parts of A12

Broads Authority

Conservation, promoting understanding and enjoyment of the national park area, looks after waterways for navigation and is a planning authority.

4 Process



5 Provision of Flood and Drainage Information by SCC

- 5.1** SCC as Lead Local Flood Authority collects and records Flood and Water related information, provides guidance, strategies **and** plans, as follows;
 - 5.2 A Protocol for Advising Local Planning Authorities exactly what is required from developers in terms of surface water drainage (this document); available on SCC website.
 - 5.3 A Local SUDS guide to assist developers in creating sustainable drainage systems on their proposed sites; available on SCC website.
 - 5.4 Flood Risk Asset Register containing information on all assets deemed to have significant effect on flood risk in Suffolk; available on SCC website.
 - 5.5 Reported flood event/incident records for Suffolk including relevant mapping of event and Section 19 (Flood and Water Management Act) investigations and recommendations; available on request, with the S19 investigations available on SCC website.
- 5.6** The Suffolk Flood Risk Management Strategy which can provide developers some context into flood management for Suffolk on a larger scale, including key links to and extracts from key national guidance documents; available on SCC website.
- 5.7** Flood map requests (Environment Agency mapping); available on request.
- 5.8** Surface Water Management Plans (SWMP's) which outline the preferred surface water management strategy in a given location; available on request.

6 Strategic Flood Risk Assessments (SFRAs)

- 6.1** SFRAs inform the development of LPA policies, site allocations and site specific FRAs. They are prepared by LPAs and updated when significant changes in site allocations or flood risk occur.
 - 6.2 SCC will provide available data to consultants or LPAs undertaking SFRAs but will not normally undertake SFRAs.
- 6.3** Guidance on preparation is outlined in NPPF and detailed in National Planning Practise Guidance:
<http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/>

7 LPA Planning Policy Development

- 7.1** SCC will seek to be involved prior to public consultation and will seek to ensure LPA policies reflect relevant National Planning policies, Planning Practise Guidance, the Suffolk Flood Risk Management Strategy and Suffolk surface water drainage (SuDS) Guidance.
 - 7.2 "Where possible", the preferred form of SuDS will be open SuDS close to source as set out in the Suffolk FRM Strategy.
 - 7.3 Local Plan Policies for open space, garden size, housing density, size and numbers of homes are likely to dictate whether open SuDS close to

source will be possible. SCC will therefore aim to ensure sufficient appropriate open spaces are allocated by LPAs for open SuDs at source. However the spatial requirement will vary from site to site and also depends on, steepness of the site and layout. As more experience is gained case studies will provide more evidence.

7.4 Where ground conditions are suitable (following consideration of contaminated land, soakage rates, ground conditions etc.) infiltration type drainage is preferred. Limited data is currently available for spatial requirements for open infiltration drainage close to source and achievable densities are likely to be lower than set out below.

7.5 To accommodate underground domestic soakaways, residential gardens usually need to be a minimum of 9m long to provide the normal 5m clearance between soakaways and buildings. Achievable densities depend greatly on the floor area and number of storeys. The Ipswich Strategic Housing Land Availability Assessment (SHLAA) based on case studies in Ipswich found:

- A low density of 30 homes per Ha may be achievable with 2 storey 3 bed room detached homes and with roads draining

to open infiltration basins sited in POS. Basins could occupy 50% of the highway area or about 10% of the site area.

- A medium density of 40 per Ha could be achievable with 2 storey 3 bedroom semi-detached homes.
- For dense developments 145 per Ha could be achievable with 2 bed flats in 4 storey blocks.

7.6 For attenuation type SuDs typically 10 - 12% of sites may be required for open SW drainage/SuDs close to source and this area should be multifunctional ie swales or ponds sited in verges, parks and gardens, informal open spaces and amenity areas. Spatial requirements will also depend on road layouts and steepness of the sites. Ideally roads and SuDS which store water should follow contours.

7.7 For high densities either buildings have to be higher or SuDS may need to be underground however for such development draining to watercourses water quality objectives would probably only be achieved through the use of some open SuDS.

7.8 SCC will, if required, provide Representation at Examinations in Public.

8 Site Specific Development Briefs, Masterplans

8.1 These are often described as Supplementary Planning Documents (SPD), written by LPA's.

8.2 SCC will provide advice to LPA's.

8.3 SCC may advise LPA's on the amount of open space likely to be required for open SUDS although SCC will not normally undertake masterplan design. See SCC SUDS Guide.

9 Pre Application advice

9.1 When requested, SCC will attend meetings at LPAs regarding major developments.

9.2 LPAs should encourage pre application discussion, enquires for advice or comment. LPAs may charge and consult with usual statutory consultees

9.3 Developers should discuss and provide a site specific FRA including proposals for SW drainage including adoption and maintenance at this stage.

9.4 SCC will provide Pre application comments to LPAs – or direct to developers/consultants (currently no charge).

10 Suffolk wide Validation List

10.1 LPA's have validation lists to provide guidance on planning submissions required. The full lists are available on LPA web pages and generally include requirements for layouts for

open space, roads, buildings, tree planting etc. A Suffolk wide list for flood risk assessment and surface water drainage details is proposed below.

<p>10.2. Flood Risk Assessment and Surface Water Drainage details</p>	<p>When and what is required?</p> <p>SuDS measures must normally be shown on all relevant plans submitted, in order to demonstrate how SuDS integrate with planned public open spaces, landscaping, roads, trees and buildings. Plans should identify multifunctional SuDS e.g. those which enhance biodiversity or improve water quality. Details need to include any soakage test results & calculations, drainage design layout & calculations (including summary on SCC SW Drainage Proforma), proposals for protection of SuDS and watercourses during construction, details of adoption & maintenance.</p> <p>A FRA will be required for the following proposals:</p> <ul style="list-style-type: none"> ● Development in a 'critical drainage area'* or Flood Zones 2 & 3; ● Development on sites of 1 ha or greater; ● Development or changes of use to a more vulnerable class (see Table 2 of the NPPF Technical Guidance) that may be subject to land, groundwater, sewer or canal flooding; ● Development in areas shown on surface water flood maps. See EA website. (for Ipswich see IBC Development and Flood Risk SPD); ● Development in basements and on lowered ground levels; ● Land raising where this impacts on surface water flood risk ● Sites adjacent to roads with no drainage – drainage and flooding of highway issues should be resolved as part of the planning application. ● Any other specific areas that may be listed in SFRA's <p>A Flood Risk Assessment should identify and assess the risks of all forms of flooding to and from the development and demonstrate how these flood risks will be managed, taking climate change into account. For most developments, this assessment should include existing and proposed surface water drainage arrangements, although for larger developments the requirements of a site-specific Sustainable Drainage Strategy should be agreed at pre-application stage.</p>	<p>Sources</p> <p>NPPF Section 10 & NPPG: Flood Risk and Coastal Change LPA SFRA's LPA Core Strategy policies & SPDs</p> <p>Guidance on preparation and contents of FRAs for various situations:</p> <p>https://www.gov.uk/flood-risk-assessment-for-planning-applications</p> <p>FRA checklist</p> <p>http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/site-specific-flood-risk-assessment-checklist/</p>
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11 Planning Applications

- 11.1** Guidance on the planning process including validation is available:
<http://www.planningportal.gov.uk/planning/applications/decisionmaking/process>
- 11.2** Contacts and links.

Organisation

Babergh	http://www.babergh.gov.uk/planning-and-building/planning/
Mid Suffolk	http://www.midsuffolk.gov.uk/planning-and-building/planning/
Waveney	http://www.waveney.gov.uk/Planning/
Suffolk Coastal	http://www.suffolkcoastal.gov.uk/yourdistrict/planning/devcontrol/
West Suffolk – (Forest Heath & St Edmundsbury)	www.westsuffolk.gov.uk/planning/
Ipswich	https://ppc.ipswich.gov.uk/
Broads Authority	http://www.broads-authority.gov.uk/planning

- 11.3** LPA will formally consult SCC Floods Team for all major applications and others as set out in paragraph 1.2.
- 11.4** When requested by a LPA, SCC will check SW drainage aspects and recommend to the LPA whether applications should be validated in line with the local validation list in section 10. Such checks by SCC should normally take no more than 5 working days. The usual requirement for validation is to check whether the required SW drainage documentation has been submitted and whether it is consistent with other submissions.
- 11.5** SCC may therefore recommend an application is not validated in any of the following instances:
- Flood Risk Assessment (FRA) required but not included.
 - FRA contents missing e.g.: No existing or proposed SW drainage plans included, no calculations included etc.
 - No proposals for SW drainage, adoption and maintenance.
 - Submitted SW drainage proposal conflict with open spaces, landscaping, roads, trees or buildings. E.g. drainage proposals too close to trees or buildings or service corridors.
 - Proposed SW drainage not as agreed at pre app.
 - Soakaways proposed in an area likely to be unsuitable for soakaways, insufficient tests undertaken, no obvious alternative discharge point.
- 11.6** Individual LPAs may need to agree with SCC Floods team how to supply or allow access to planning applications prior to validation.
- 11.7** The amount of effort required for validation would be less if drainage designs, strategies etc. are agreed pre application. In general calculations and design details would not be checked for validation although it is possible many unchecked details may affect layout.
- 11.8** A check list is included in section 12. The checklist distinguishes details which should generally be checked at pre app and or validation stages from those details which could be checked later. Items which do not affect layouts or maintenance/replacement costs could be subject to planning conditions.
- 11.9** SCC may sometimes need to liaise with the EA, AW, IDB or Highways teams before providing comments to the LPA –e.g. Ground water protection issues (EA), Sewer flooding (AW), Highway runoff or drainage draining into development site SCC Highways etc. This will need to be done ASAP.

11.10 The following website provides advice on the contents of a Site Specific FRA for various situations:

<https://www.gov.uk/flood-risk-assessment-for-planning-applications>.

For a FRA checklist see

<http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/site-specific-flood-risk-assessment-checklist>

11.11 The key objective of a Flood Risk Assessment (FRA) is to identify and evaluate the risks and show how the development will remain safe over it's lifetime. In addition it will need to

show how SW flood risks beyond the site will be reduced or not increased.

11.12 The FRA should describe existing flood risk management (FRM) measures including drainage systems and proposals for SuDS and other FRM measures. These need to be consistent with other parts of the planning application such as design statements, artist impressions, details of landscaping, highways etc.

11.13 SCC will comment on SW aspects of site specific FRAs and details or lack for SW drainage proposals including building, road and altered ground levels.

- 11.15** SCC will provide no adverse comments when an application includes sufficient drainage details to demonstrate the development will be drained in accordance with policies and standards. This includes proposals for future maintenance.
- 11.16** SCC will recommend to the LPA, planning conditions that should be added to any permission if SCC is satisfied the development could be drained without worsening flood risk, following appropriate standards and without affecting the layout and scale of the development.
- 11.17** Generally soakage tests to BRE 365 will be required at pre app stages either to eliminate infiltration drainage (soakaways) as a means of disposal or provide design rate for drainage design. This is because infiltration type drainage normally needs to be at least 5m from buildings, 10m from railway boundaries, 5m from highway kerb-lines. However closer spacing may be acceptable subject to consideration and recommendations from a Geotechnical Adviser* or registered Ground Engineering professional (administered by the Institution of Civil Engineers).
- *A Geotechnical adviser is a Chartered Engineer or geologist with a minimum of 10 years post charter experience in geotechnical engineering (5 years as a geotechnical specialist).
- 11.18** If it is clear there is sufficient space for either attenuation or infiltration type SuDS, then SCC would seek a planning condition to prevent construction until soakage tests in accordance with BRE365 have been undertaken and details of tests and SW drainage are provided and approved by the LPA.
- 11.19** However if it is unclear whether the layout would be affected then soakage tests and SW drainage details would need to be included with the application and be checked at pre- application and at validation stages. In this situation failure to provide adequate information would lead to SCC recommending the application is not validated or should be refused (if LPA validates).
- 11.20** Details of future maintenance will be required pre-app and if acceptable details (including, where appropriate, heads of terms and agreed commuted sums for drainage related s106 agreements) are not provided with an application then SCC would recommend the application should not be validated or should be refused.
- 11.21** Where SuDS are proposed to be adopted by LPAs, a s106 Agreement must be in place – securing reasonable commuted sums for maintenance and replacement for the lifetime of the development (normally 100 years for residential development) before any planning permission is granted. This will include costs of supervision / inspection of SuDS construction and a bond to ensure completion. SCC will therefore maintain a holding objection to such applications until the agreement is signed.
- 11.22** Where SUDS are proposed to be adopted by AW then SCC will maintain a holding objection until AWS and the LPA confirm the SUDs design is acceptable and AW issue an “adoption approval” subject to construction assurance and inspection process”.
- 11.23** Where SuDs, or elements of SuDS, are proposed to be adopted by a management company then such a company would probably also be responsible for open space without SuDS or roads. SCC will therefore expect the LPA to check and confirm their views on acceptability of the proposals for setting up such a company. Applications should demonstrate that: SW drainage elements of costs to be borne by occupants would be “economically proportionate”, the company will be effective in perpetuity and will need to include details including whether the property owners are shareholders, whether title deeds will require owners to contribute costs etc. SCC would check and comment to the LPA on the acceptability of the management plan for SW drainage aspects. As above, SCC will maintain a holding objection until the LPA confirms the proposed arrangements for the

management company are acceptable. SCC may request conditions to help ensure such arrangements are put in place by the developer as properties are sold.

- 11.24** Refusal should only be recommended if it is clear that the applicant does not intend to comply with National Planning Policy,

Planning Practise Guidance, DEFRA's non-statutory Technical Standards or LPA policy, or local Standards or provide appropriate information or if it is clear the proposals are deficient in these regards.

- 11.25** Comments should be passed to the LPA ASAP within 21 days of registration.

12 Checklist

- 12.1** The most important items, which potentially affect layout, are to be checked first at pre app or validation stages are listed below:

- FRA
- Proposals for adoption, management companies etc.
- Conflicts between SuDS proposals and housing, road, sewerage and landscaping proposals, service corridors etc
- Areas at risk of SW flooding, flood paths, exceedance paths and flows, inflows into or from the site.
- SCC's SW Drainage Proforma –obtainable from SCC.

- 12.2** The following should normally be checked in detail pre app or after validation:

- Site investigation –Is it adequate? Can infiltration type uDS be used? If so check soakage tests are sufficient and rates correctly calculated.
- Green field runoff and allowable discharges to watercourse /sewers
- Side slopes, depth of water and safety of SuDS -
- Flow controls – size of aperture > 100mm? Too many?
- SuDS volume calculations (usually supplied as Micro drainage simulation pdfs or printouts)-
- What is modelled/designed, does it match design drawings? ie SuDS proposals. Are ground levels at low points in catchment represented in model/calculations. Are proposed floor levels shown on

application documents and correctly included in model/calculations.

- Other input data - climate change allowance, catchment & impermeable areas, rain fall data, return period/ durations, areal reduction factor, factors of safety and correct infiltration rate, Cv, flow controls, Design water level at outfalls – e.g. do sewers surcharge, flood levels of watercourses, tide
- Output data - Is the critical duration correct? Was it used to size storage systems?
- Flood Performance, flood paths and exceedance.
- Have appropriate duration events been used to design conveyance systems to carry peak flows and control erosion?
- Erosion risk – velocities of flow in swales at inlets or outfalls, longitudinal gradients.
- Water Quality – interception, treatment storage, number of treatment stages .

- 12.3** If omitted from the application some less critical items could be checked later. It may be possible to apply conditions regarding the following:

- Details of structures, some planting & landscaping details,
- Specification, workmanship or materials
- Protection of SuDS against compaction, siltation, erosion etc during construction and permanently.
- CDM health and Safety management plan including risk assessments.

13 Example Planning Conditions & Informatives

- 13.1** No development shall commence until details of a scheme for the disposal of surface water has been submitted to and agreed in writing by the local planning authority. The scheme shall be implemented in accordance with the approved details prior to the [x] use of the development and retained in perpetuity.
- 13.2** The sustainable drainage system for the site shall be completed in accordance with the [approved details / details submitted to and agreed in writing by the local planning authority] prior to occupation of the X the unit
- 13.3** No development shall take place until details of the implementation, maintenance and management of the sustainable drainage scheme have been submitted to and approved in writing by the local planning authority. The scheme shall be implemented and thereafter managed and maintained in accordance with the approved details. Those details shall include:
- i) a programme for its implementation, and
 - ii) a management and maintenance plan for the lifetime of the development which shall include the arrangements for adoption by any public body or statutory undertaker, or any other arrangements to secure the operation of the sustainable drainage system throughout its lifetime.
 - [(iii)] arrangements to enable SuDS within in private properties to be accessed and maintained including information and advice on responsibilities to be supplied to future owners.
- 13.4** No development shall take place until Suffolk County Council have received and approved a completed copy of the asset register template (blank copy at back of this guidance). Information supplied to include location, ownership and maintenance agreement details of SW drainage including SuDS basins, swales, soakaways, pipes carrying surface water or ground water, and exceedance paths.
- 13.5** Reasons for conditions should be added. These could include:
- To prevent the development from causing increased flood risk off site over the lifetime of the development.
 - To ensure the development is adequately protected from flooding.
 - To ensure the development does not cause increased pollution of watercourse (specify) in line with the River Basin Management Plan
 - A list of missing or unacceptable details.
 - To ensure clear arrangements are in place for ongoing operation and maintenance.
- 13.6** Relevant policies should also be quoted: eg National Planning Policy Framework paras **XX** etc., LPA policies YY etc , Planning Practice Guidance, House of Commons Written Statement HCWS161, DEFRA's non-statutory technical standards, Suffolk local surface water drainage (SuDS) Guidance, Suffolk Flood Risk Management Strategy.

14 Example Comments passed to LPA

- 14.1** The application is essentially replacement (or a minor application at low risk of flooding) and therefore there are no significant drainage implications and so I have no formal comment and would rely on Building Regulations. Soakaways are proposed for SW drainage but no further details are included. I would advise soakage tests to BRE365 are undertaken and the soakaways are designed to **XXXX** standards.
- 14.2** The application should not be validated until results of soakage tests, undertaken in accordance with BRE365, together with an appropriate design (including calculations, catchment plans layout and proposed floor, driveway and ground levels) have been submitted and approved. Soakaways normally need to be positioned at least 5m from buildings. Design standards can be found in the National SuDS standards, SCC SuDS Guide.
- 14.3** SCC object to the planning application {ref} as the FRA is inadequate as it does not provide {list xxx}.
- 14.4** SCC object to the planning application {ref} Soakaways are proposed but no soakage test results or design calculations or details (such as size and depth) have been provided.} Our comments made on XXXXX stated "the site is within an area where infiltration type SuDS are unlikely to be suitable. Soakage tests in accordance with BRE Digest 365 must be carried out at relevant depths, and soakaways / attenuation should be designed for the appropriate soakage rate. Standards for soakaways / SuDS are laid out in the National SUDS Standards and SCC Local SUDS Guide. Measures must be taken to ensure that all floodwater from storms of up to 100 year return period are retained on the Developer's site and do not flood onto adjacent land or roads."
- 14.5** If the FRA is not acceptable, the application should not be validated. The key objective of a Flood Risk Assessment (FRA) is to identify and evaluate the risks and show how the development will remain safe over its lifetime. In addition it will need to show how SW flood risks beyond the site will be reduced or not increased. The FRA should describe existing flood risk management (FRM) measures including drainage systems and proposals for SuDS and other FRM measures. These need to be consistent with other parts of the planning application such as design statements, artist impressions, details of landscaping, highways etc. The following provides advice on the contents of a Site Specific FRA for many situations:
<https://www.gov.uk/planning-applications-assessing-flood-risk>

15 Useful Publications

See list in Suffolk Surface Water Drainage (SuDS) Guidance.

Asset Collection Form DEVELOPERS

Site Name

Site full address _____

Drainage Asset Type

Subtype

OS Grid Reference (full six figure)

Asset Owner

Date of Installation (MM/YYYY)

Asset Condition _____ _____ _____ _____

Has a Design Statement and Detailed Plan been sent to Flood and Water Management? (floods@suffolk.gov.uk RE: Asset Collection Documents) Yes <input type="checkbox"/> No <input type="checkbox"/>

Any other notes or comments? _____ _____ _____ _____ _____ _____

FOR INTERNAL USE ONLY

Is the asset information stored in the appropriate location? Yes <input type="checkbox"/> No <input type="checkbox"/>



Upon completion please email this document to Flood and Water Management at Suffolk County Council (floods@suffolk.gov.uk)

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Portuguese

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Lithuanian

Jeżeli potrzebujesz pomocy w zrozumieniu tych informacji w swoim języku zadzwoń na podany poniżej numer. 03456 066 067

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Romanian

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Bengali

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Russian

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