

# Sustainable Drainage (SuDS) and Flood Risk

## Information Note

**July 2018**



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## 1. Introduction and context

### Purpose

1.1 The aim of the Information Note is to provide clear guidance to developers, agents and others in relation to policy EQ8 'Flood risk and surface water' in the Sefton Local Plan<sup>1</sup> (2017). Both policy EQ8 and the Information Note are informed by national planning policy set out in the National Planning Policy Framework<sup>2</sup> and planning guidance<sup>3</sup>.

1.2 The Information Note was subject to public consultation in March / April 2018. The Information Note is a material consideration in planning decisions but is not part of the Development Plan. The more detailed technical guidance on sustainable drainage systems (SuDS) requirements in Sefton set out in the separate Sustainable Drainage Systems: Completing Your Pro-Forma<sup>4</sup> document and Pro Formas in the 'Validation Checklist are also material considerations.

### Flood risk in Sefton

1.3 Sefton is a low-lying, predominantly flat Borough. Flood risk from all sources and its management is an important local issue, especially surface water flood risk, which in any given year has a 1 in 100 (1%) chance of potentially affecting 30% of the properties (buildings and their curtilages) in Sefton. Parts of Sefton are also at risk from fluvial and tidal sources, from groundwater flooding and from failure of canal and reservoir infrastructure. Much of Sefton's agricultural land lies mainly within low-lying areas reliant on pumped drainage. This land is particularly vulnerable to changes in rainfall amounts and intensity, land drainage and how flood risk is managed.

1.4 The types of flood risk encountered in Sefton are:

- **Tidal and river flood risk:** Environment Agency information – see <https://flood-map-for-planning.service.gov.uk/>. (While the SFRA indicates whether this is tidal or river risk, its flood extents are out of date)
- **Surface water flood risk:** Environment Agency information – see <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map>
- **Sewer flood risk:** United Utilities website and SFRA (2013) – see <https://www.unitedutilities.com/> and document EN.3 at <https://www.sefton.gov.uk/planning-building-control/planning-policy-including-local-plan-and-neighbourhood-planning/local-plan-examination-library.aspx>
- **Critical Drainage Areas:** See [Appendix 1](#) of this document, which shows Sefton's Critical Drainage Areas for surface water (as defined in the SFRA)
- **Groundwater flood risk:** SFRA (2013) – see document EN.3 at <https://www.sefton.gov.uk/planning-building-control/planning-policy-including-local-plan-and-neighbourhood-planning/local-plan-examination-library.aspx>

<sup>1</sup> Sefton Local Plan – see [www.sefton.gov.uk/localplan](http://www.sefton.gov.uk/localplan)

<sup>2</sup> National Planning Policy Framework - see <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

<sup>3</sup> <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

<sup>4</sup> Sustainable Drainage Systems: Completing Your Pro-Forma' document & Pro Formas in the 'Validation Checklist –see [www.sefton.gov.uk/spd](http://www.sefton.gov.uk/spd)

**Reservoir flood risk:** Environment Agency information - see <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map>

- **Canal flood risk:** SFRA (2013) – see document EN.3 at <https://www.sefton.gov.uk/planning-building-control/planning-policy-including-local-plan-and-neighbourhood-planning/local-plan-examination-library.aspx>

1.5 Flooding has consequences people and property; for the economy, environment and for social, health and well-being. Climate change, especially increased rainfall intensity is likely to increase both the risk of surface water and other flooding in Sefton and the challenge of managing it effectively.

1.6 Management of flood risk means designing to control and where possible reduce the risk (and hence consequences) from any source of flooding. It is particularly important in Sefton that development proposals manage surface water drainage sustainably through use of sustainable drainage systems (SuDS).

## **2. Pre-application discussions with the Council and Flood & Water Management organisations in relation to flood risk and drainage**

### **Sefton Council**

#### **The value of early discussions with Sefton Council as Local Planning Authority**

2.1 Sefton Council's Planning Services offers a 'pre-application' service which enables applicants to obtain advice from Planning and other specialist officers before submitting their planning application, including technical planning advice from Flooding and Coastal Erosion Risk Management officers and Highways officers. Applicants should not contact these officers directly.

2.2 This service provides an opportunity for applicants to address potential issues before submitting planning applications reducing the risk of planning applications being refused or delayed due to the lack of required information. There is a charge for this service. **For further information visit the Planning Services website** <https://www.sefton.gov.uk/planning-building-control/apply-for-planning-permission/pre-application-advice-on-development-proposals.aspx>

#### **Lead Local Flood Authority (LLFA)**

2.3 Sefton Council is the Lead Local Flood Authority (LLFA) under the Flood and Water Management Act 2010 and is required to manage 'local' flood risk: from surface water, groundwater and/or from ordinary watercourses (watercourses which are not 'main rivers, managed by the Environment Agency). The LLFA is a statutory consultee for all major development proposals which have surface water drainage implications. The LLFA may also provide advice to planning officers on pre-applications and minor planning applications. Developers or applicants should contact the Local Planning Authority to speak to the LLFA unless otherwise agreed.

#### **Local Highway Authority**

2.4 Sefton Council is the Local Highway Authority and has responsibility for managing surface water from the adopted highway, including highway drains. They provide advice to planning officers on pre-applications and planning applications. Highways England is responsible for motorways and trunk roads in Sefton. Some development proposals could affect surface water flows onto adopted highways or will include roads and pavements which will be adopted. **For more information, see the Highways Developers' Pack** -<https://www.sefton.gov.uk/parking,-roads-travel/highway-development-and-design.aspx> .

#### **Building Control Service**

2.5 The Building Regulations approval process is entirely separate from the planning application process. The Building Regulations Approved Document H<sup>5</sup> – Drainage and Waste Disposal (2015) covers foul water from where it is generated (bathrooms, sinks etc) to where it meets the public sewer or private treatment plant and rainwater from the point where it is collected to where it discharges to a soakaway, watercourse, attenuation tank or public sewer etc. **For further information about Sefton Council's Building Control Service contact** [building@sefton.gov.uk](mailto:building@sefton.gov.uk).

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<sup>5</sup> Building Regulations Approved Document H – Drainage and Waste Disposal (2015) See [https://www.planningportal.co.uk/info/200135/approved\\_documents/71/part\\_h\\_-\\_drainage\\_and\\_waste\\_disposal](https://www.planningportal.co.uk/info/200135/approved_documents/71/part_h_-_drainage_and_waste_disposal)

2.6 Sefton Council has a Memorandum of Understanding with United Utilities which allows the Council to check and approve drain runs that have the status of 'public sewers'. New drainage work is routinely inspected on site (prior to trench back-filling) and on the larger sites (containing heavy plant etc) drainage is also tested after backfilling – in order to ensure it is in working order. Where Sefton Council Building Control are on site checking these drainage works, in future they may also be able to inspect Sustainable Drainage Systems (SuDS) including discharge of any SuDS condition attached to a planning application.

### The Environment Agency's advice service

2.7 The Environment Agency takes an overview of all flood and coastal erosion risk management in England, and is responsible for providing advice to Councils and applicants on flood risk from main rivers<sup>6</sup> and the sea, in relation to development. The Environment Agency has an advice service for applicants, for which it charges.

**For further information see the Environment Agency's website** (see <https://www.gov.uk/government/organisations/environment-agency>), **or contact:**

Sustainable Places team, *The Environment Agency*  
Richard Fairclough House  
Knutsford Road  
Latchford  
Warrington  
WA4 1HT  
Email. [SPPlanning.RFH@environment-agency.gov.uk](mailto:SPPlanning.RFH@environment-agency.gov.uk)  
Monday to Friday 8 a.m. to p.m. 03708 506 506

### United Utilities' services to developers

2.8 United Utilities are the statutory undertaker for water and wastewater (drinking water and foul sewerage) for Sefton. They provide a free pre-development service for applicants to discuss any communication between their proposed drainage design and United Utilities sewers. Developers should contact United Utilities as early as possible in the development process so that United Utilities can better understand the impact of development proposals on their network, including the approach to surface water drainage, points of connection, and the timing for the delivery of development. **For further information contact:**

- [WastewaterDeveloperServices@uuplc.co.uk](mailto:WastewaterDeveloperServices@uuplc.co.uk)
- [DeveloperServicesWater@uuplc.co.uk](mailto:DeveloperServicesWater@uuplc.co.uk) or
- **United Utilities website** (see <https://www.unitedutilities.com/services/builders-developers/planning/>)

### Additional consents, permissions and permits

2.9 Other separate consents, permissions or permits from other organisations under other legislation may be required before implementation of any planning permission, as indicated in [Appendix 2](#). Grants of planning permission does not necessarily mean these consents, permissions and permits would be granted.

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<sup>6</sup> Main rivers are designated by Defra as set out on the Environment Agency's 'Main River Map' - see <https://environment.maps.arcgis.com/apps/webappviewer/index.html?id=17cd53dfc524433980cc333726a56386>

### 3. The sequential approach to the location of development in relation to flood risk

#### The principle of the sequential approach

3.1 The box below sets out the key requirements of Part 1 of Local Plan policy EQ8 'Flood risk and surface water.

**Development should be located in areas at lowest risk of flooding from all sources - away from areas at greatest risk of flooding (whether existing or future flooding).**

**If your development needs to pass the sequential and exception tests you must provide information to show that your proposals pass these tests, otherwise your development should not proceed.** More information on when the sequential and exception tests are required is set out below.

**Within development sites, uses with the greater vulnerability to flooding must be located in areas within lower risk of flooding from all sources unless the applicant demonstrates that there are overriding reasons why this should not apply.**

Information on where to find out about Sefton's flood risk from all sources is set out in section 1 of this Information Note. Flood risk vulnerability for different types of development is defined in Planning Practice Guidance 'Table 2'<sup>7</sup>.

#### Do I need to pass the sequential test and exception test?

3.2 Most proposals for development in Sefton will **not** need to pass the sequential test or exception test for flood risk. However, new development on sites in Flood Zone 2 or Flood Zone 3 for river or tidal flooding<sup>8</sup> will need to pass the sequential test, and in some cases the exception test, as set out in the tables below. Many proposals which are solely for changes of use will not need to pass these tests.

#### Table 3.1 Is a sequential test required?

##### **You do not need to pass the sequential test if:**

- Your site for new development is in Flood Zone 1 for river and tidal flooding **OR**
- You are proposing to develop on a site allocated in the Local Plan for the use for which it has been allocated **OR**
- Your proposal is only for a change of use (*unless* it is for changes of use to a caravan, camping, chalet, mobile home or park home site, where the sequential test will be required)

<sup>7</sup> Planning Practice Guidance: Table 2 - Flood risk vulnerability classification – see

<https://www.gov.uk/guidance/flood-risk-and-coastal-change#Table-2-Flood-Risk-Vulnerability-Classification>

<sup>8</sup> Information about the Flood Zone your site is located in – see <https://flood-map-for-planning.service.gov.uk/>

<b><u>Table 3.1 Is a sequential test required?</u></b>
<b>You need to <u>pass</u> the sequential test if none of the above categories apply AND:</b>
<ul style="list-style-type: none"> <li>• Your site is in Flood Zone 2 or Flood Zone 3 for river or tidal flooding <b>OR</b></li> <li>• Your proposal is for a change of use to or new development of a caravan, camping or chalet site, or to a mobile home or park home site</li> </ul>
<b>You will <u>fail</u> the sequential test and development should not proceed if:</b>
<ul style="list-style-type: none"> <li>• Your site is in Flood Zone 3 and your proposal is for a ‘highly vulnerable’ use <b>OR</b></li> <li>• Your site is in Flood Zone 3b (the functional flood plain) and your proposal is for a: <ul style="list-style-type: none"> <li>• ‘Highly vulnerable’ use</li> <li>• ‘More vulnerable’ use</li> <li>• ‘Less vulnerable’ use.</li> </ul> </li> </ul>
<i>Flood risk vulnerability is defined in Planning Practice Guidance ‘Table 2’<sup>9</sup> and paragraph 3.3 below gives some common examples.</i>

<b><u>Table 3.2 Is an exception test required?</u></b>
<b>You do <u>not</u> need to pass the exception test if:</b>
<ul style="list-style-type: none"> <li>• Your site for new development is in Flood Zone 1 for river and tidal flooding</li> <li>• Your proposal is only for a change of use (<i>unless</i> it is for changes of use to a caravan, camping, chalet, mobile home or park home site).</li> </ul>
<b>You need to <u>pass</u> the exception test if none of the above categories apply AND:</b>
<ul style="list-style-type: none"> <li>• Your site is in Flood Zone 2 for river and tidal flooding and your development is for a ‘highly vulnerable’ use <b>OR</b></li> <li>• Your site is in Flood Zone 3 for river and tidal flooding and your development is for a ‘more vulnerable’ use or ‘essential infrastructure’.</li> </ul> <p>N.B. This includes sites allocated in the Local Plan which are being developed for the use for which it has been allocated.</p>
<i>Flood risk vulnerability is defined in Planning Practice Guidance (‘Table 2’)<sup>10</sup> and paragraph 3.3 below gives some common examples.</i>

3.3 Examples of the most common ‘highly vulnerable’ uses include basement dwellings and caravans, mobile homes and park homes intended for permanent residential use. ‘More vulnerable’ uses include housing, ‘drinking establishments’, care homes, and non–residential health services, nurseries and education facilities. ‘Essential infrastructure’ includes essential transport infrastructure, some essential utility infrastructure and water treatment works, and wind turbines.

<sup>9</sup> Planning Practice Guidance: Table 2 - Flood risk vulnerability classification – see <https://www.gov.uk/guidance/flood-risk-and-coastal-change#Table-2-Flood-Risk-Vulnerability-Classification>

<sup>10</sup> Planning Practice Guidance: Table 2 - Flood risk vulnerability classification – see <https://www.gov.uk/guidance/flood-risk-and-coastal-change#Table-2-Flood-Risk-Vulnerability-Classification>



### What information do I need to pass the sequential test?

3.4 If you need to pass the sequential test, you must provide information to show that there are no other reasonably available alternative sites at lower risk of flooding, within an appropriate area of search.

3.5 The scope of your assessment of alternative sites should be proportionate and pragmatic and will depend on the type and scale of your development proposal, in line with national planning practice guidance. In general the area of search and assessment of what is 'reasonably available' will widen as the scale of development increases. Sefton Council considers 'reasonably available' sites to have a recent and clear owner commitment to developing the site.

### **3.6 The Council considers suitable areas of search for alternative sites to be:**

- **Residential developments of 1 – 10 dwellings:** within the same settlement area with a pragmatic approach being taken for sites near to settlement boundaries. Reasonably available sites would be those in the ownership of the applicant, sites included in the first 5 year period of the latest the Strategic Housing Land Availability Assessment (SHLAA)<sup>11</sup> or land currently being or very recently been marketed for development (either without a proposed use or for the relevant use), through local estate agents, the local press or via the internet.
- **Educational or health facilities** (excepting large-scale facilities such as hospitals): within the same settlement area, with a pragmatic approach being taken for sites near to the edge of a settlement.
- **Major<sup>12</sup> new retail development or 'town centre uses':** the catchment area considered in any retail / town centre uses sequential test.
- **Major<sup>11</sup> housing or employment development:** Sefton-wide or larger catchment area. Reasonably available sites could be those:-
  - Allocated in the Sefton Local Plan or identified in the Neighbourhood Plan for the area
  - For housing; which form part of the supply in the most recent SHLAA
  - Public sector land that has been declared surplus and/or is being marketed, e.g. land owned by Sefton Council, NHS Trusts
  - Land currently being or very recently been marketed for development (either without a proposed use, or for the relevant use), through local estate agents, the local press or via the internet
  - A current planning permission for a relevant or compatible use, or where such planning permission is subject to the signing of a s106 agreement
  - A pending planning application for a relevant or compatible use

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<sup>11</sup> The Strategic Housing Land Availability Assessment – see [www.sefton.gov.uk/shlaa](http://www.sefton.gov.uk/shlaa)

<sup>12</sup> Major development as defined in Statutory Instrument **2015 No. 595, the Town and Country Planning (Development Management Procedure) (England) Order 2015**; including 10 or more dwellinghouses, buildings of 1,000 square metres or more; or development on a site of 1 hectare or more

- Written confirmation from the owner of their intention to pursue development on the site.
- In a developer's or Housing Association's development programme for a relevant or compatible use.
- **Other developments not listed above:** on its merits having regard to the above.

3.7 **In assessing what is reasonably available** the Council may also consider additional factors such as:

- The size, importance within Sefton and character of the settlement area the site is within
- Whether the site is previously developed, allocated or similar
- The type of flood risk affecting the site and whether the site and area benefit from defences, and an overview assessment of these defences
- The relevance of parts of the Council's Flood Risk Technical Paper 2015 (TP2)<sup>13</sup>.

### **What information do I need to pass the exception test?**

3.8 If you need to pass the exceptions test you must provide information to show that your proposal meets both parts a) and b) of the national exception test<sup>14</sup>. You must demonstrate that:

- a) The development provides wider sustainability benefits to the community that outweigh the flood risk. The Local Planning Authority determines whether this part of the exception test has been passed.
- b) The development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall. The Local Planning Authority seeks the views of the Environment Agency and the Lead Local Flood Authority regarding this part of the exception test.

### **Part a) of the exception test – wider sustainability benefits**

3.9 For first part of the exception test, wider sustainability benefits are those which both have a benefit to the wider community rather than solely to the occupier(s) for the lifetime of the development, and go beyond the requirements set out in the Local Plan. These include:

- a) Reducing greenhouse gas emissions (from energy, transport)
- b) Creating new habitat or enhancing existing habitat and continuing to manage this habitat to maintain this net gain for nature

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<sup>13</sup> **Flood Risk Technical Paper (TP2) 2015** – see <https://www.sefton.gov.uk/planning-building-control/planning-policy-including-local-plan-and-neighbourhood-planning/local-plan-examination-library.aspx>

<sup>14</sup> **National Planning Policy Framework** – see <https://www.gov.uk/guidance/national-planning-policy-framework>, **Planning Practice Guidance (on-line)** – see <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

- c) Providing new, or enhancements to existing public open space, accessible nature space or strategic paths
- d) Reducing flood risk in the wider area
- e) Provision of significant additional amounts of affordable housing or housing designed to meet Building Regulations Requirement M4(2) 'accessible and adaptable dwellings'

3.10 Wider sustainability benefits for a **single dwelling and small-scale residential developments** might include:

- grey water recycling
- installation of on-site renewable energy generation capacity (such as solar PV)
- habitat creation and management or similar
- providing 'accessible and adaptable' dwellings

3.11 For other types and scales of development the Council will take a proportionate approach. Information about what is required will be set out as part of our pre-application response.

3.12 As set out in paragraph 10.56 of the explanation to Local Plan policy EQ8, the Council will give only limited weight to housing need as a "wider sustainability benefit capable of outweighing flood risk". This is why an exception test is required for some sites allocated in the Local Plan.

**Part b) of the exception test - that the development is safe for its lifetime**

3.13 For part b) of the exception test, most information should be provided through the site-specific Flood Risk Assessment. Flood resistance and/or flood resilience design measures alone should not be used to justify development in areas at greater risk of flooding.

#### 4. Making sure that development does not increase flood risk outside the site

4.1 The box below sets out the key requirements of Part 2 of Local Plan policy EQ8 'Flood risk and surface water.

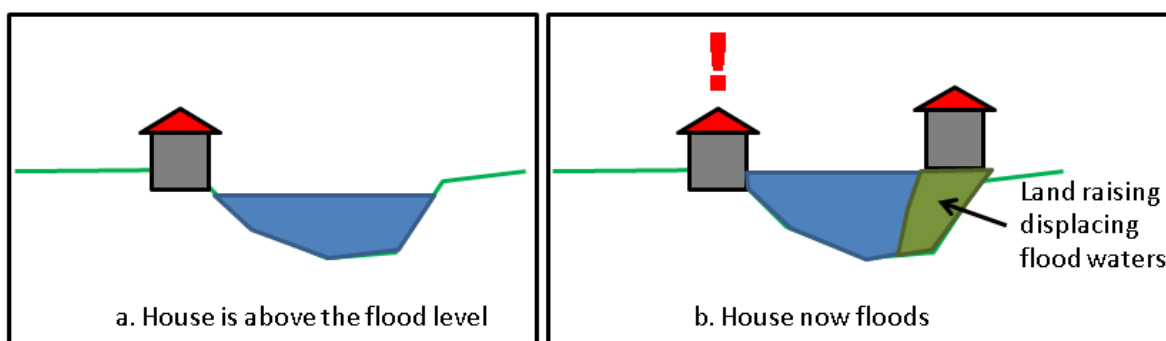
**Development proposals must not increase flood risk from any sources within the site or elsewhere, and where possible should reduce the causes and impacts of flooding.**

**Where development proposals include raising ground levels in areas where surface water or flood water flows or collects (including land in Flood Zone 3), compensatory reductions in ground levels within the site must also be included.**

**Where the infilling of the flood plain or an pre-existing sustainable drainage system is proposed, flood storage must be provided to compensate for this, including an allowance for climate change.** This is to make sure that areas next to the site or further away do not suffer from increased surface water or flood levels.

#### The risk of development increasing flood risk elsewhere

4.2 On sites with an existing flood risk, development which raises ground levels or changes the direction or steepness of slope and hence run-off might affect flood storage for surface water runoff or for fluvial overflows from rivers. This could impact on the flood risk elsewhere within the site and also has the potential to increase flood risk on neighbouring sites or downstream (see Figure 4.1). The detriment caused by a small encroachment may not be significant, or even measurable, when taken in isolation but the cumulative effect of many such encroachments will be significant.

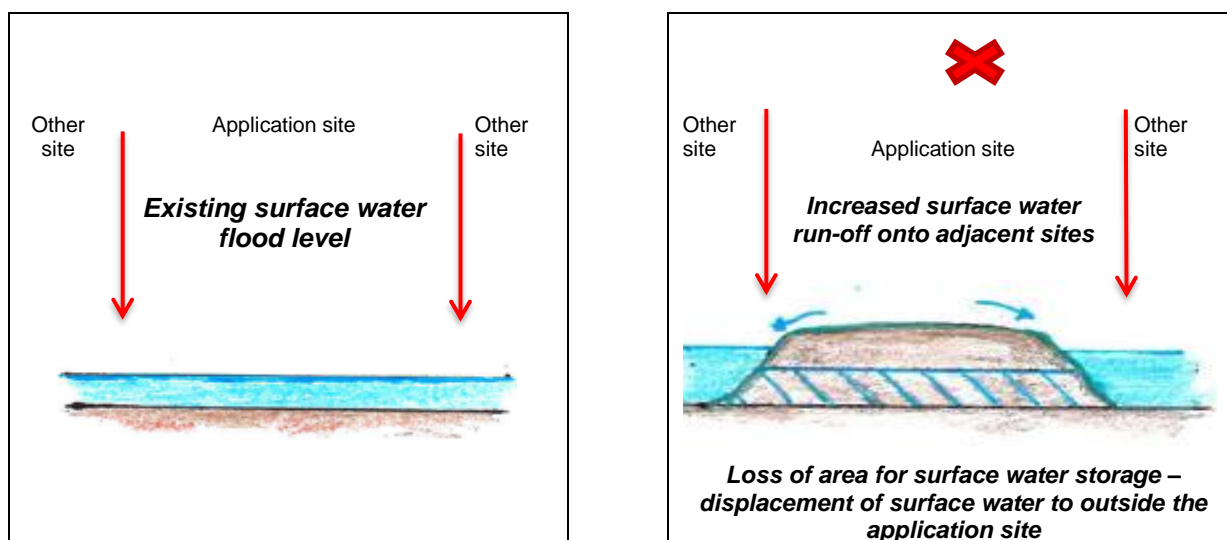


**Figure 4.1:** Effect of removal of flood storage area in a flood plain (Flood Zones 2 and 3)

4.3 In areas within the fluvial flood plain, developers must make sure that there is no loss of flood flow or flood storage capacity for floods up to the 1% annual probability fluvial flood as a result of their development, including the allowance for climate

change (40%) set out in Sefton’s technical requirements for SuDS<sup>15</sup> and should seek to create a net flood risk benefit wherever possible.

4.4 As surface water flooding is an existing risk to many sites in Sefton, development has the potential to displace surface water storage or run-off routes and to create new or increased flows off the site and onto neighbouring sites and developers must make sure that such displacement does not take place (see figure 4.2). This should be avoided.



**Figure 4.2:** Effect of removal of surface water storage area in any Flood Zone

### Compensatory flood storage in Flood Zones 2 and 3<sup>16</sup>

4.5 Developers must demonstrate there will be no loss of storage for floodwater, or that compensatory provision will be made. Developers are responsible for carrying out assessments including those requiring detailed river, flood or surface water modelling and subsequent ground investigations to identify infiltration rates.

4.6 The Environment Agency advises that compensatory flood storage (with an allowance for climate change) should be provided where development proposes to take up flood plain in fluvial Flood Zone 2 or 3, in order to mitigate residual risk of flooding. However, within Flood Zone areas benefitting from defences constructed to the appropriate standard, compensatory flood storage is not usually required. In such cases it is accepted that connectivity to the floodplain has been lost and flood water will no longer flow beyond the river channel.

4.7 Direct (or ‘level for level’ and ‘volume for volume’) compensation works should be used, to provide a direct replacement for the lost storage volume. Indirect schemes which rely on water entering a storage area which then releases water at a slower rate are not generally acceptable.

<sup>15</sup> Sustainable Drainage Systems: Completing Your Pro-Forma’ document & Pro Formas in the ‘Validation Checklist - see [www.sefton.gov.uk/spd](http://www.sefton.gov.uk/spd)

<sup>16</sup> Information about Flood Zones and area benefitting from defences – see <https://flood-map-for-planning.service.gov.uk/>. The Sefton Strategic Flood Risk Assessment (2013) indicates whether the risk is of tidal or river flooding – see [https://www.sefton.gov.uk/planning-building-control/planning-policy-including-local-plan-and-neighbourhood-planning/evidence-and-studies/environmental-\(local-plan\).aspx](https://www.sefton.gov.uk/planning-building-control/planning-policy-including-local-plan-and-neighbourhood-planning/evidence-and-studies/environmental-(local-plan).aspx)

### General principles of floodplain storage

4.8 Development proposals should follow the principles set out below:

- a) **Volumes of proposed storage should not be any less than that of existing storage.** Any loss of flood storage must be compensated for by the reduction in level of nearby ground, and storage areas must be able to freely fill and drain.
- b) **Volume of storage should be sufficient at different flood level intervals.** To mirror the existing situation for a particular flood event, each stage or level (or 'slice') - typically 0.2 metre vertical intervals - must be provided with the same storage volume. Normally this is calculated by comparing volumes taken by the development and the volume offered by the compensatory storage for a number of horizontal slices through the range defined above. Compensatory storage must be provided equal to or exceeding the development for each of these slices to ensure there will be no net loss of flood storage.
- c) **Timing of compensatory provision.** Provision of compensatory flood storage must be completed before infilling commences so that flood plain capacity is maintained during construction of the development as well as for its lifetime.
- d) **Provision of compensatory flood storage is in addition to storage requirements needed to drain the development site.** In general, level for level compensation should only be applied in areas where flood water is stored. Flood flow routes should be protected from development. There may be benefit in altering routes or increasing flood flow capacity, however this should only be considered after careful assessment of downstream and upstream impacts. The benefits and assessment must be justified and included in the developer's site-specific Flood Risk Assessment.
- e) **Compensatory storage should not impact on river channels.** Where changes are proposed to the river flow and velocity due to storage, suitable bed and bank erosion protection may be needed. This will need to be maintained in perpetuity to make sure a stable hydraulic system is upheld. The need for changes to the river channel must be justified and included in the developer's site-specific Flood Risk Assessment.

4.9 The following are not generally considered to provide adequate compensation:

- Excavation of holes in the floodplain
- Creation of landlocked areas of lower ground, even if connected to the main floodplain by channels or culverts
- Provision of low level volumes to replace high level floodplain and vice-versa
- Creation of attenuation where volume is reduced either permanently or seasonally due to a high water table and therefore creates insufficient storage.

## **5. Site-specific Flood Risk Assessments (site-specific FRAs)**

### **When is a site-specific Flood Risk Assessment required?**

5.1 Site-specific Flood Risk Assessments (FRAs) are required where the development may be at risk of flooding or may increase flood risk elsewhere. Part 6 of Local Plan policy EQ8 'Flood risk and surface water' sets out Sefton's local requirement for site-specific FRAs, which is additional to national requirements.

5.2 The circumstances where site-specific FRAs are required are summarised below.

#### **A Site-specific Flood Risk Assessment is not needed if:**

**Your site is in Flood Zone 1 for river and tidal flooding AND:**

- Your site is in a Critical Drainage Area and is less than 0.5 hectares in size **OR**
- Your site is not in a Critical Drainage Area and is less than 1 hectare in size

#### **A Site-specific Flood Risk Assessment is needed if:**

**Your site is in Flood Zone 2 or Flood Zone 3 for river or tidal flooding. This includes proposals for some changes of use.** The Environment Agency provides 'Standing Advice'<sup>17</sup> on the need for and content of site-specific FRAs for certain change of use in Flood Zone 2, and you should check whether this applies to your proposal.

**Your site is in Flood Zone 1 for river and tidal flooding (and the proposal includes a change of use) AND:**

- Your site is more than 1 hectare in size but is not in a Critical Drainage Area **OR**
- Your site is more than 0.5 hectares in size and is in a Critical Drainage Area

5.3 Critical Drainage Areas (CDAs) are shown in [Appendix 1](#) of this Information Note.

### **What information should site-specific Flood Risk Assessments include?**

5.4 Site-specific FRAs should show how flood risk will be managed now and over the development's lifetime (including mitigation measures), taking into account climate change and the flood risk vulnerability of the development. They must also show an integrated approach to the management of flood risk, surface water and foul drainage.

5.5 The information in the site-specific FRA should be proportionate to the scale, type and vulnerability of the development and the flood risk. [Paragraph 1.4](#) above sets

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<sup>17</sup> Environment Agency Standing Advice on the content of site FRAs for certain change of use in Flood Zone 2 – see <https://www.gov.uk/guidance/flood-risk-assessment-standing-advice>



out where information on sources of flood risk can be found. The flood risk vulnerability of different uses is defined in Planning Practice Guidance 'Table 2'<sup>18</sup>.

5.6 Both the Environment Agency<sup>19</sup> and national planning policy<sup>20</sup> provide a range of information about what site-specific FRAs must contain, and applicants should refer to these for more complex proposals as well as to the checklist below. The Environment Agency also provides a range of products and packages of information to help you complete your flood risk assessment (for which there may be a charge).

5.7 Site-specific FRAs must provide information, analysis and assessment about:

- **The development site and location**
- **The development proposals**
- **Site specific flood risk from all sources to and from the site** (current and future)
- **Climate change** – how the flood risk site is likely to be affected by climate change and how these risks will be managed
- **Surface water management**– this section should be consistent with the sustainable drainage strategy for the site (see Sefton's SuDS Pro Formas<sup>21</sup>)
- **Occupants and users of the development** - the numbers of future occupants and users of the new development, the likely future pattern of occupancy and use, and proposed measures for protecting more vulnerable people from flooding.
- **Residual risks that remain after the flood risk management and mitigation measures are implemented** - explain how these risks can be managed to keep the users of the development safe over its lifetime.
- **Other considerations** - include information relating to the sequential and exception tests where these need to be passed, and any flood resistance and flood resilience measures included in the proposals (although these should not be used as a justification for development in areas at higher risk of flooding).

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<sup>18</sup> Planning Practice Guidance: Table 2 - Flood risk vulnerability classification – see

<https://www.gov.uk/guidance/flood-risk-and-coastal-change#Table-2-Flood-Risk-Vulnerability-Classification>

<sup>19</sup> Environment Agency guidance – see <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications> and Environment Agency Standing Advice on the content of site FRAs for certain change of use in Flood Zone 2 – see <https://www.gov.uk/guidance/flood-risk-assessment-standing-advice>

<sup>20</sup> Government guidance on 'Flood Risk Assessment for Planning applications' – see <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications>; national planning practice guidance – see <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

<sup>21</sup> See the SuDS Pro Formas 1 and 2 and guidance document 'Sustainable Drainage Completing Your Pro Forma on under the Information Note heading on <https://www.sefton.gov.uk>.



## 6. Managing Surface Water Flood Risk

### The need to use sustainable drainage systems (SuDS) to manage surface water

6.1 Parts 7 to 9 of Local Plan policy EQ8 ‘Flood risk and surface water’ set out Sefton’s Council’s expectations and requirements for sustainable drainage systems to be used in all development proposals which create an additional impermeable area (e.g. new buildings, extensions and hard-surfaces) which may cause an increase in surface water runoff, where reasonably practicable. In summary these requirements relate to:

#### **Policy EQ8 ‘Flood risk and surface water’**

- **Part 7** Development must incorporate sustainable drainage systems (SuDS) to manage surface water run-off within the site where reasonably practicable, **and**
- **Part 7 a** - Reduce surface water run-off rates and volumes by 20% (compared to the pre-existing rates) for sites covered by buildings or impermeable hard surfaces, and for greenfield sites do not exceed greenfield rates, **and**
- **Part 7 b** - Use the sequential hierarchy for surface water discharge, **and**
- **Part 7 c** – Use of above ground, natural drainage features rather than engineered or underground systems are used
- **Part 8** – SuDS must take account of climate change and likely changes in impermeable area over the lifetime of the development, **and**
- **Part 8** – SuDS and water storage areas must control pollution, and enhance water quality and existing habitats and create new habitats where practicable.
- **Part 9** - Suitable arrangements for long-term access to and operation, maintenance and management of sustainable drainage systems must be incorporated within development proposals, for the lifetime of the development.

6.2 In assessing when it is reasonably practicable to use SuDS or to meet the requirements of each part of policy EQ8 the Council will have regard to national Planning Policy Guidance<sup>22</sup> on what is reasonable, reasonably practical and appropriate, and to other materials considerations.

6.3 Applicants must also follow Sefton’s detailed technical requirements for SuDS and sustainable drainage strategies set out in the separate Sustainable Drainage Systems: Completing Your Pro-Forma’ document<sup>23</sup> and Pro Formas in the ‘Validation Checklist requirements for sustainable drainage.

6.4 As part of the documents submitted in support of a planning application, applicants must provide a sustainable drainage strategy. The information provided should be proportionate to the scale, type and vulnerability of the development and its flood risk (more information about flood risk in Sefton is in [paragraph 1.4](#) above).

<sup>22</sup> Planning Practice Guidance (on-line) – see <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

<sup>23</sup> Sustainable Drainage Systems: Completing Your Pro-Forma’ document & Pro Formas in the ‘Validation Checklist - see [www.sefton.gov.uk/spd](http://www.sefton.gov.uk/spd)

## **Use of Sustainable Drainage Systems (SuDS)**

6.5 Sustainable drainage systems (SuDS) are measures designed to manage surface water and drainage in the most sustainable way for development schemes; by reducing and managing volumes, rates and peaks of surface water run-off. SuDS aim to mimic natural drainage processes to achieve this.

6.6 There are a range of SuDS features which can be incorporated into most sustainable drainage schemes for most housing or other developments. Features should be selected based on local context and how they fit into the SuDS management train for that site. More details are set out in [Appendix 4](#) and in Sefton's detailed technical requirements for SuDS<sup>24</sup> and in many publications and web-sites providing SuDS good practice and technical information<sup>25</sup>.

6.7 SuDS and designated flood storage areas are part of Sefton's green infrastructure network. Multi-functionality of green infrastructure is one of its inherent strengths. SuDS should be designed to achieve as many green infrastructure benefits and functions as is appropriate and practicable. This is in line with Local Plan policy NH1 'Natural Assets'. More information is set out in [Appendix 4](#) and in relation to 'Pollution, water quality and habitats below'.

### **Sustainable drainage strategy requirements for house extensions and other small-scale extensions**

6.8 For planning applications for house extensions and other householder development, small extensions to non-residential premises and other small-scale development which does not increase the size of the building or the extent of the impermeable surfaces, the sustainable drainage strategy must show the location of foul sewers, and surface water drains, soakaways or other surface water management measures (SuDS) on:

- The site plan or block plan
- Floor plans
- Sections and finished floor and site levels (if required)
- Roof plans (*if the proposal includes dormer extensions or roof alterations, which would increase the amount of surface water run-off*).

6.9 Measures that can be taken to reduce the volume or rate of its surface water run-off are shown in [Appendix 3](#). Information about whether planning permission is required for a patio or drive or for paving over a garden is available online on the national planning portal and in the government's 'Guidance on the permeable surfacing of front gardens' (see <https://www.gov.uk/government/publications/permeable-surfacing-of-front-gardens-guidance>).

### **Sustainable drainage strategy requirements for other developments**

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<sup>24</sup> Sustainable Drainage Systems: Completing Your Pro-Forma' document & Pro Formas in the 'Validation Checklist' - see [www.sefton.gov.uk/spd](http://www.sefton.gov.uk/spd)

<sup>25</sup> For example CiRIA – see <https://www.susdrain.org/>, CiRIA SuDS Manual C753 – see [https://www.ciria.org/Resources/Free\\_publications/SuDS\\_manual\\_C753.aspx?WebsiteKey=3f18c87a-d62b-4eca-8ef4-9b09309c1c91](https://www.ciria.org/Resources/Free_publications/SuDS_manual_C753.aspx?WebsiteKey=3f18c87a-d62b-4eca-8ef4-9b09309c1c91), CiRIA Guidance on the construction of SuDS C768 – see [https://www.ciria.org/Resources/Free\\_publications/Guidance\\_on\\_the\\_construction\\_of\\_SuDS\\_-\\_C768.aspx](https://www.ciria.org/Resources/Free_publications/Guidance_on_the_construction_of_SuDS_-_C768.aspx).

6.10 Proposals for other developments include proposals for 1 to 9 new dwellings, other development (e.g. employment, retail, leisure, other development), and all major development proposals. These should provide a more detailed sustainable drainage strategy, which for major development must also follow Sefton’s detailed technical requirements for SuDS and sustainable drainage strategies<sup>26</sup>, and for other development should take a proportionate approach based on this.

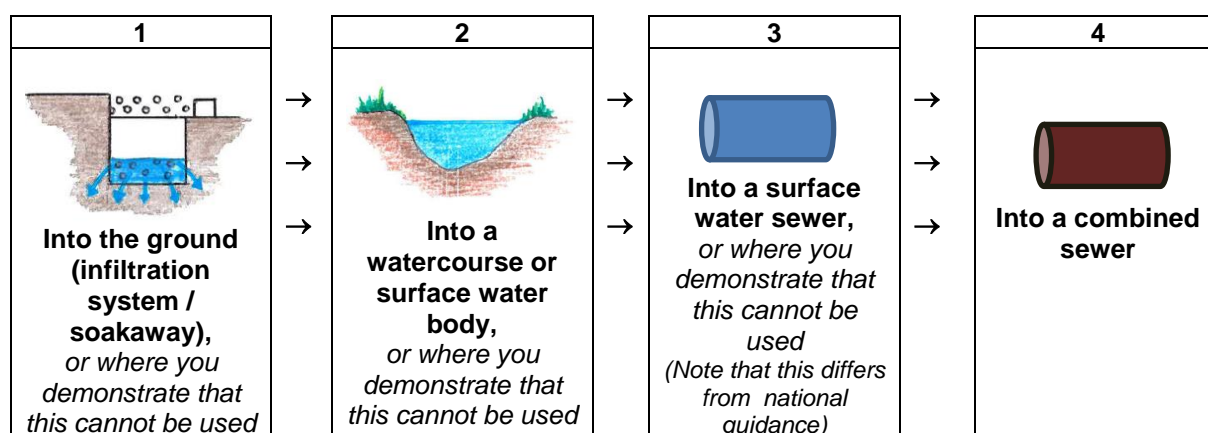
### Reducing surface water rates and volumes

6.11 Applicants must meet the requirements of part 7a of policy EQ8 ‘Flood risk and surface water’ and follow Sefton’s detailed technical requirements for SuDS and sustainable drainage strategies<sup>26</sup>

### The sequential hierarchy for surface water discharge

6.12 The sequential approach for discharge of surface water required in part 7b of policy EQ8 ‘Flood risk and surface water’ is shown in figure 6.1 below. Proposals for the attenuated discharge of surface water into anything other than the ground must demonstrate why sequentially preferable alternatives cannot be implemented.

**Figure 6.1 SuDS discharge points: Surface water drainage priority and sequential hierarchy**



6.13 The Building Regulations also assume that rainwater will be discharged to a soakaway (or watercourse), the first sequential preference. However, section 3.25 of the Building Regulations Approved Document H<sup>27</sup> – Drainage and Waste Disposal (2015) also set out situations where soakaways should **not** be built. These are:

- The soakaway/system would be within 5 metres of a building or a road, or
- The water table would reach the bottom of the soakaway device at any time of the year, or

<sup>26</sup> Sustainable Drainage Systems: Completing Your Pro-Forma’ document & Pro Formas in the ‘Validation Checklist - see [www.sefton.gov.uk/spd](http://www.sefton.gov.uk/spd). Note that greenfield rates apply to previously developed sites where a new drainage system is proposed (even if this uses the same point of discharge as the previously developed system).

<sup>27</sup> Building Regulations Approved Document H – Drainage and Waste Disposal (2015) See [https://www.planningportal.co.uk/info/200135/approved\\_documents/71/part\\_h\\_-\\_drainage\\_and\\_waste\\_disposal](https://www.planningportal.co.uk/info/200135/approved_documents/71/part_h_-_drainage_and_waste_disposal)

- The soakaway capacity of the ground is not exceeded and the effectiveness of any drainage field is not impaired (Buildings Regulations Approved Document H2), or
- The presence of any contamination in the runoff could potentially result in the pollution of a groundwater source or resource.

6.14 Where discharge into the ground cannot take place, the applicant must explain why this is in the drainage strategy, so that the drainage proposal meets both the requirements of the Building Regulations and part 7b of Local Plan policy EQ8.

#### Use of above ground, natural drainage features

6.15 As well as a requirement under part 7c of policy EQ8 'Flood risk and surface water', use of above ground, natural drainage features is generally accepted good practice, as reflected in Appendix 4, in Sefton's detailed technical requirements<sup>28</sup> and in national publications and web-sites providing SuDS good practice and technical information. Generally above ground SuDS (examples illustrated in [Appendix 4](#)) will have lower construction and maintenance costs.

#### Climate change and likely changes in impermeable area over the lifetime of the development

6.16 Applicants must follow Sefton's detailed technical requirements for SuDS<sup>27</sup> regarding climate change. Appendix 3 sets out examples of steps that can be taken to reduce the volume or rate of surface water run-off. Applicants are encouraged to include this information in Home Information Packs.

#### Pollution, water quality and habitats

6.18 As well as part 8 of policy EQ8 'Flood risk and surface water', applicants must meet the requirements of Local Plan<sup>29</sup> policies EQ4 'Pollutions and Hazards' and NH2 'Nature', the Water Framework Directive<sup>30</sup> and Sefton's detailed technical requirements for SuDS<sup>27</sup> regarding pollution.

6.19 SuDS must have appropriate 'treatment trains'<sup>31</sup>, to make sure neither they nor the development as a whole have a negative impact on the water quality or ecology of any receiving watercourse or water body (i.e. on the discharge point). No activities or works during any stage of the development should result in a deterioration of the status of any nearby watercourse, aquifer or designated nature sites or Priority Habitat. For example, pollution control measures may be required and should be incorporated as an identified mitigation measure where applicable.

6.20 SuDS should also enhance water quality and existing habitats, and, where practicable, create new habitats in line with above policy framework and Local Plan

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<sup>28</sup> Sustainable Drainage Systems: Completing Your Pro-Forma' document & Pro Formas in the 'Validation Checklist see [www.sefton.gov.uk/spd](http://www.sefton.gov.uk/spd)

<sup>29</sup> Sefton Local Plan (2017) – see [www.sefton.gov.uk/localplan](http://www.sefton.gov.uk/localplan)

<sup>30</sup> Water Framework Directive – see [http://ec.europa.eu/environment/water/water-framework/index\\_en.html](http://ec.europa.eu/environment/water/water-framework/index_en.html)

<sup>31</sup> For one explanation of 'treatment train' see <https://www.susdrain.org/delivering-suds/using-suds/suds-principles/management-train.html>

policy NH1 'Natural Assets'. In addition, Sefton's Nature Conservation Supplementary Planning Document<sup>32</sup> (SPD) provides guidance on avoiding ecological impacts and on incorporating biodiversity into development. Sefton's Nature Conservation SPD, the Liverpool City Region Ecological Network<sup>33</sup> and Natural England's guidance for developers<sup>34</sup> may provide more information about the scope for multi-functional green infrastructure. Sefton's Open Space SPD provides additional guidance on the situations where SuDS may also form public open space.

6.21 There are various protected and notable habitats and species present within Sefton which rely upon a stable water table and / or the flows within watercourses and are highly vulnerable to changes in water levels. These include, but are not limited to, sand dune and mossland habitats and water vole and great crested newt. Downstream changes in water levels and flow rates from development can also impact upon habitats and species.

6.22 When designing proposals it is essential that close liaison takes place between the applicant's drainage, geotechnical and ecological consultants in order to reduce impacts and avoid any negative interactions between the specialisms, such as inappropriate siting of flood attenuation areas within designated nature conservation sites and/or functionally linked land (supporting habitat) or through SuDS draining into watercourses, requiring the creation of new outflows into the banks, which may lead to the loss and disturbance to water vole and otter habitat. The previous uses of land will also need to be taken into account in SuDS and scheme design.

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<sup>32</sup> Nature Conservation SPD (2017) and Open Space SPD (2017) – see [www.sefton.gov.uk/spd](http://www.sefton.gov.uk/spd)

<sup>33</sup> Liverpool City Region Ecological Network – see <http://www.lcreconet.uk/>

<sup>34</sup> Natural England guidance on construction near protected areas and wildlife – see <https://www.gov.uk/guidance/construction-near-protected-areas-and-wildlife>

## **7. References**

### **Local policy context**

The **Sefton Local Plan (2017)**, especially Local Plan policy EQ8 'Flood risk and surface water'- see <https://www.sefton.gov.uk/localplan>.

**Sefton Council 'pre-application' planning advice service** – see <https://www.sefton.gov.uk/planning-building-control/apply-for-planning-permission/pre-application-advice-on-development-proposals.aspx>

**Sefton Council separate Annex 'Sustainable Drainage Systems: Completing Your Pro-Forma'** which accompanies the Pro-Formas in the 'Validation Checklist' – see [www.sefton.gov.uk/spd](http://www.sefton.gov.uk/spd)

**Sefton Strategic Flood Risk Assessment (2013)** – SFRA – *and* **Local Plan Site Flood Risk Screening Report (2015)** – see document EN.3 at <https://www.sefton.gov.uk/planning-building-control/planning-policy-including-local-plan-and-neighbourhood-planning/local-plan-examination-library.aspx>

**Sefton Council's planning studies and drainage websites** – see [https://www.sefton.gov.uk/planning-building-control/planning-policy-including-local-plan-and-neighbourhood-planning/evidence-and-studies/environmental-\(local-plan\).aspx](https://www.sefton.gov.uk/planning-building-control/planning-policy-including-local-plan-and-neighbourhood-planning/evidence-and-studies/environmental-(local-plan).aspx) and <https://www.sefton.gov.uk/advice-benefits/crime-and-emergencies/flooding-advice.aspx>

**Sefton Surface Water Management Plan (2011)** – SWMP – see <https://www.sefton.gov.uk/advice-benefits/crime-and-emergencies/flooding-advice.aspx>

**Sefton Council Highways Developers' Pack** - see <https://www.sefton.gov.uk/parking,-roads-travel/highway-development-and-design.aspx>

**Sefton Flood and Coastal Erosion Risk Management Strategy (2015)** – see <https://www.sefton.gov.uk/your-council/plans-policies/drainage,-coastal-erosion-and-flood-prevention.aspx>

### **National policy context**

**National Planning Policy Framework (2018)** – see <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

**Planning Practice Guidance (on-line)** – see <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

**Government Written Statement on Sustainable Drainage Systems** - see <http://www.parliament.uk/documents/commons-vote-office/December%202014/18%20December/6.%20DCLG-sustainable-drainage-systems.pdf>



**Canal and River Trust – see:**

- <https://canalrivertrust.org.uk/business-and-trade/utilities>.
- <https://canalrivertrust.org.uk/business-and-trade/undertaking-works-on-our-property-and-our-code-of-practice>

**CiRIA SuDS Manual – C753 – see**

[https://www.ciria.org/Resources/Free\\_publications/SuDS\\_manual\\_C753.aspx?WebsiteKey=3f18c87a-d62b-4eca-8ef4-9b09309c1c91](https://www.ciria.org/Resources/Free_publications/SuDS_manual_C753.aspx?WebsiteKey=3f18c87a-d62b-4eca-8ef4-9b09309c1c91)

**CiRIA Guidance on the construction of SuDS – C768 - see**

[https://www.ciria.org/Resources/Free\\_publications/Guidance\\_on\\_the\\_construction\\_of\\_SuDS\\_-\\_C768.aspx](https://www.ciria.org/Resources/Free_publications/Guidance_on_the_construction_of_SuDS_-_C768.aspx)

**DCLG's Improving the Flood Performance of New Buildings: flood resilient construction (2007) –see** <https://www.gov.uk/government/publications/flood-resilient-construction-of-new-buildings>

**Defra's Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) – see** <https://www.gov.uk/government/publications/sustainable-drainage-systems-non-statutory-technical-standards>

**Environment Agency Flood Maps (Flood Zones for river and tidal flooding, and showing areas benefitting from defences) – see** <https://flood-map-for-planning.service.gov.uk/>

**Environment Agency Risk of Surface Water Flooding maps – see** <https://flood-warning-information.service.gov.uk/long-term-flood-risk/>

**Environment Agency's 'Flood risk assessments: climate change allowances' – see** <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

**Environment Agency guidance on 'Flood Risk Assessment for Planning applications' – see** <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications>

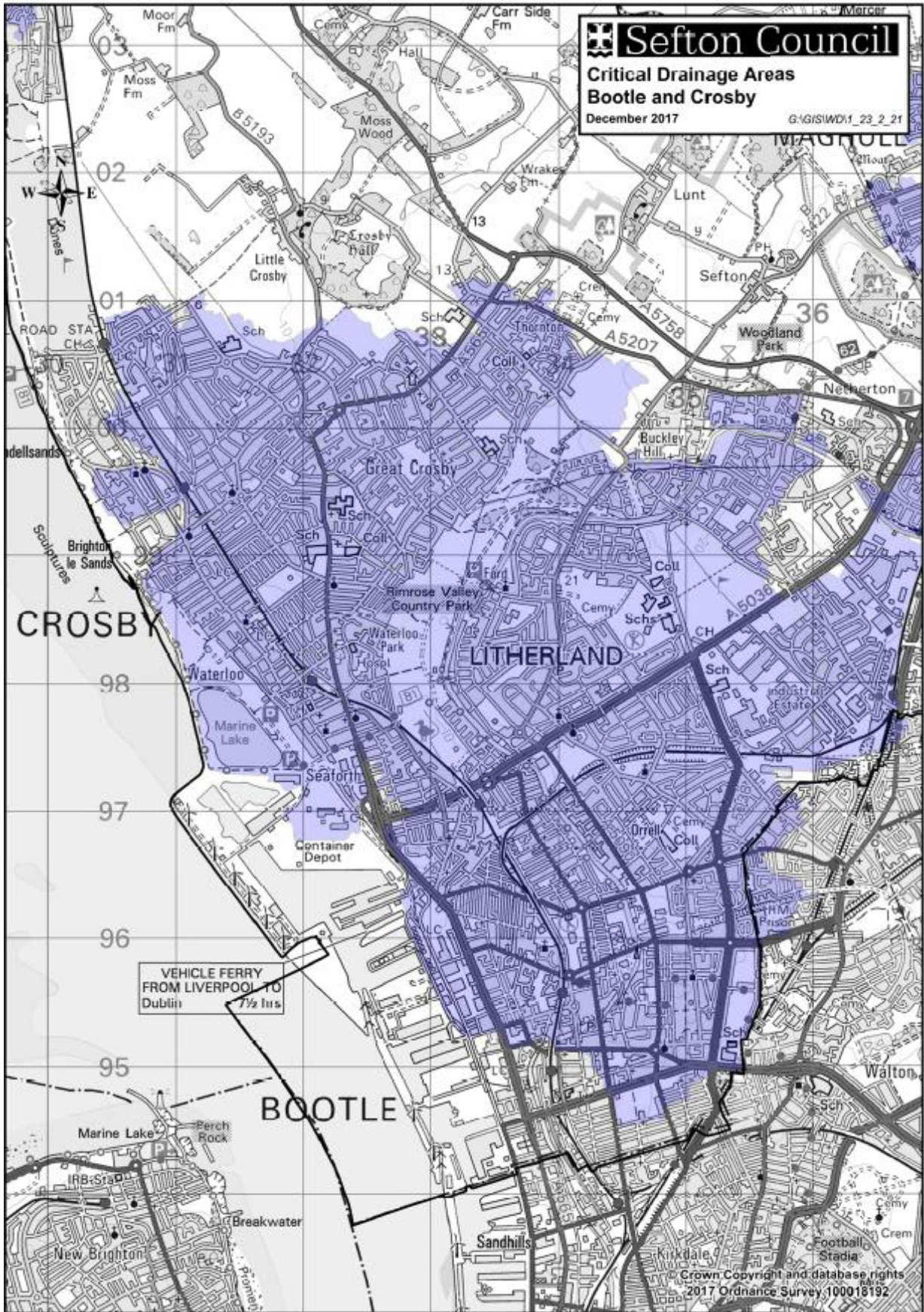
**Marine Management Organisation – see**

<https://www.gov.uk/government/organisations/marine-management-organisation>

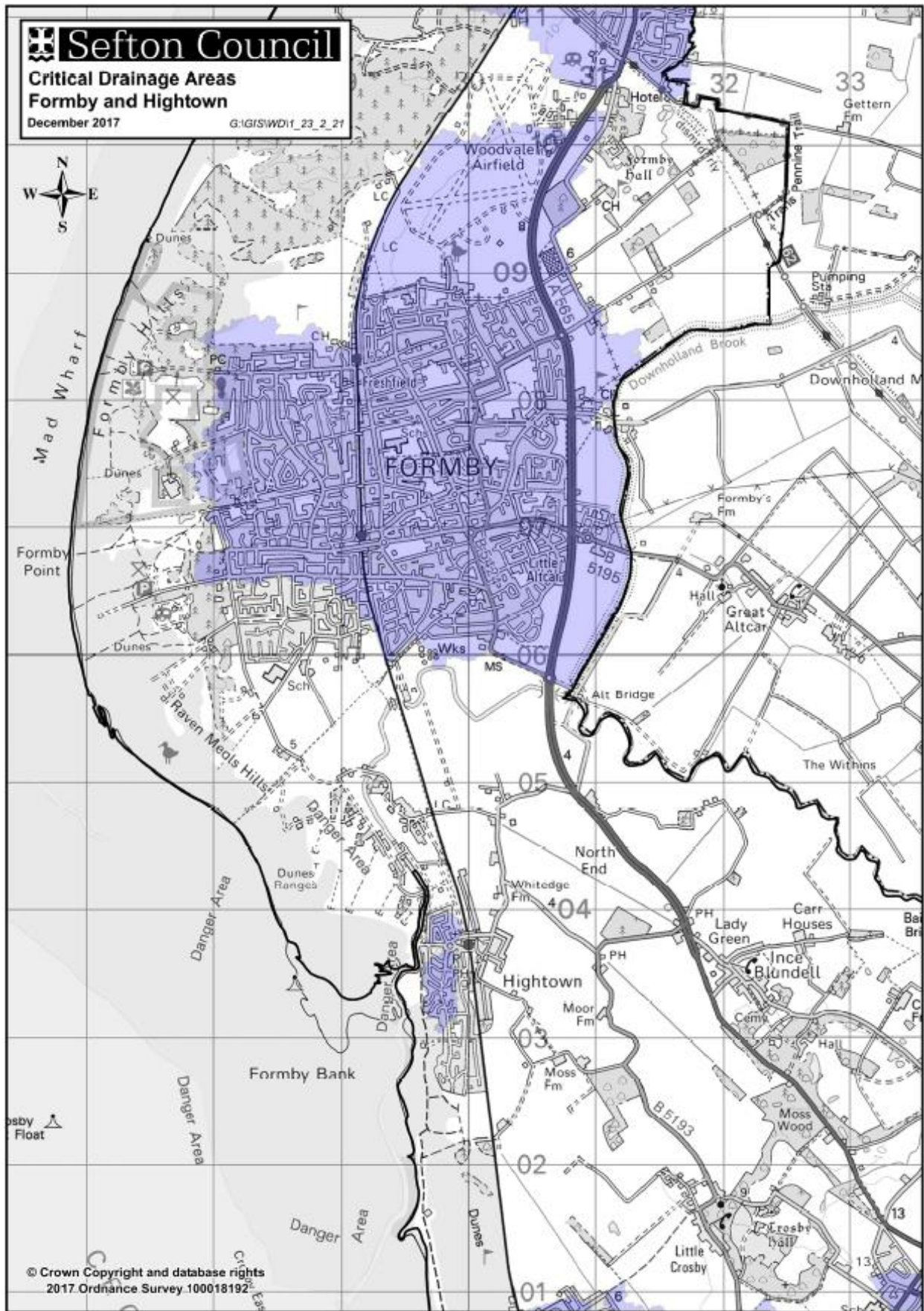
**Susdrain website - Created by CIRIA, this is a platform for those involved in delivering sustainable drainage – see** <https://www.susdrain.org/>

**Water Framework Directive – see** [http://ec.europa.eu/environment/water/water-framework/index\\_en.html](http://ec.europa.eu/environment/water/water-framework/index_en.html)

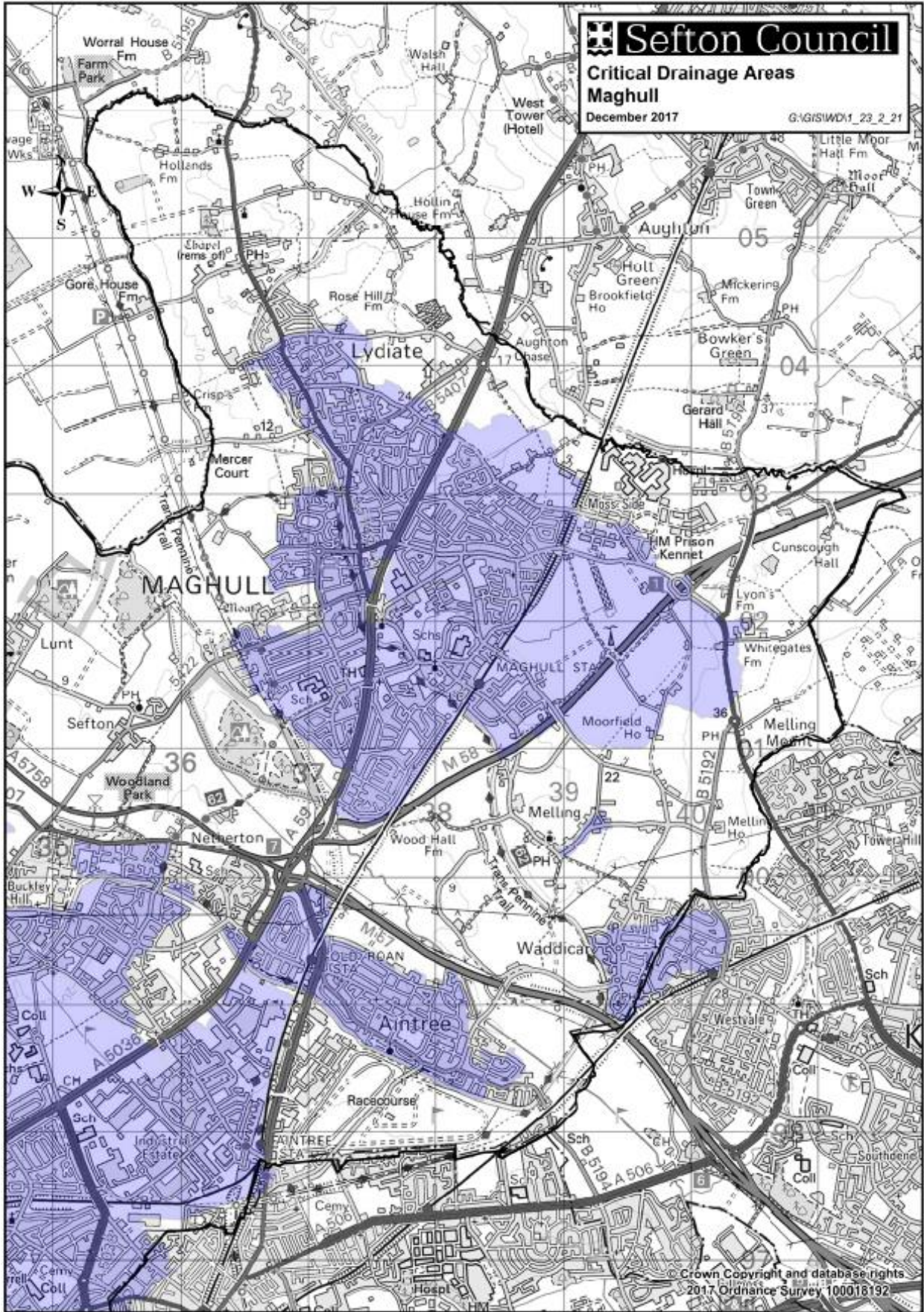
## Appendix 1: Sefton Critical Drainage Areas



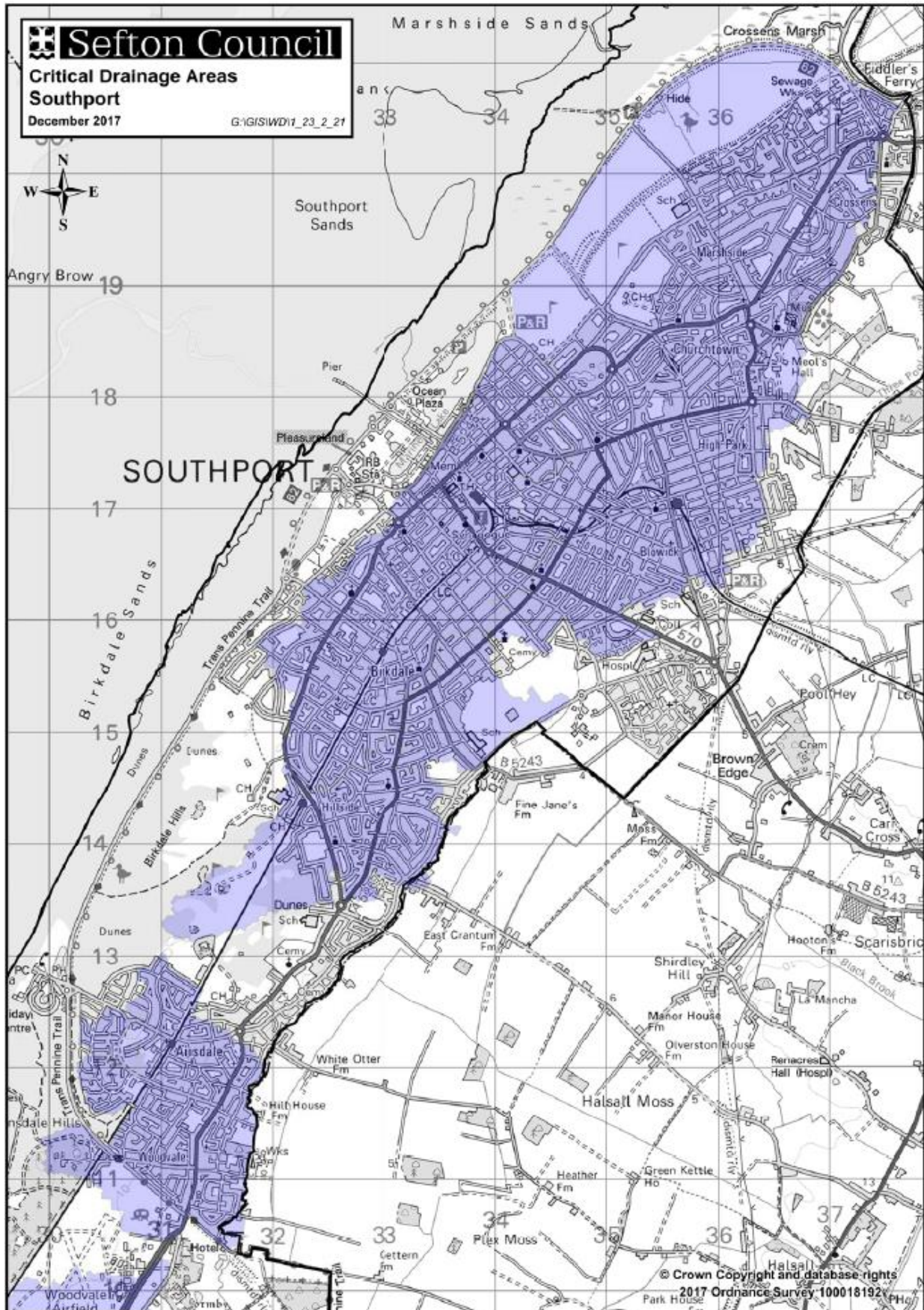












## **Appendix 2: Additional consents, permissions and permits**

A2.1 Other consents or permissions under other legislation and separate to and independent of the grant of planning permission may be required before you to implement any planning permission. Grants of planning permission does not necessarily mean these consents, permissions and permits would be granted by any other organisation. These are required under different legislation to that the planning system. Some of these are listed below, although this is not an exhaustive list. It is the responsibility of the applicant to make sure that all necessary consents, permissions and licenses are obtained.

### **Consent under the Building Regulations**

A2.2 The Building Regulations approval process is entirely separate from the planning application process. The two processes come under different legislation and have different purposes and requirements. A grant of planning permission does not mean necessarily that Buildings Regulations consent will be given, and vice versa.

A2.3 The Building Regulations Approved Document H<sup>35</sup> – Drainage and Waste Disposal (2015) covers foul water from where it is generated (bathrooms, sinks etc) to where it meets the public sewer or private treatment plant. Approved Document H also covers rainwater from the point where it is collected to where it discharges to a soakaway, watercourse, attenuation tank or public sewer etc. Rainwater pipes can discharge onto the ground, or into new or existing underground pipework.

A2.4 For further information about Sefton Council's Building Control Service contact [building@sefton.gov.uk](mailto:building@sefton.gov.uk).

### **Environment Agency: Environmental Permits for flood risk activities**

A2.5 Development may require a permit from the Environment Agency for any proposed works or structures, in, under, over or within eight metres of the top of the bank of a designated 'main river'. Some activities are excluded or exempt. This permit is separate to and in addition to any planning permission granted, and is required under the Environmental Permitting (England and Wales) Regulations 2016. For further information, visit the Environment Agency's website <https://www.gov.uk/guidance/flood-risk-activities-environmental-permitswebsite> or contact [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk).

### **Lead Local Flood Authority: Ordinary Watercourse Consent**

A2.6 Development may require Land Drainage Consent (consent), from the Lead Local Flood Authority (LLFA) to build a culvert or structure (such as a weir) or to carry out works in, under, over or within eight metres of the top of the bank of an ordinary watercourse which may alter or impede the flow of water on any ordinary watercourse, regardless of whether it is culverted or not. This consent is separate to and in addition to any planning permission granted, and is required under the Land Drainage Act 1991 (as amended by the Flood & Water Management Act 2010).

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<sup>35</sup> Building Regulations Approved Document H – Drainage and Waste Disposal (2015) See [https://www.planningportal.co.uk/info/200135/approved\\_documents/71/part\\_h\\_-\\_drainage\\_and\\_waste\\_disposal](https://www.planningportal.co.uk/info/200135/approved_documents/71/part_h_-_drainage_and_waste_disposal)

A2.7 Applicants must apply for consent before starting any works on site and failure to do so may result in enforcement action. Land drainage consents are valid for 12 months from the date of issue, and applicants need to reapply for consent should works continue beyond this period.

A2.8 Ordinary Watercourse Culverting, Diverting, Enforcement and Flood Investigation Policies were approved and adopted by Sefton Council in April 2017 see

<http://modgov.sefton.gov.uk/moderngov/ieListDocuments.aspx?CId=143&MId=8569&Ver=4>.

### **Canal & River Trust Consent**

A2.9 The Canal & River Trust is a charity entrusted with the care of over 2000 miles of canals, rivers, docks and reservoirs in England and Wales, including over 20 kilometres of the Leeds and Liverpool Canal which passes through Sefton.

A2.10 The Canal & River Trust is not a land drainage authority, but can accept surface water discharge from developments. Any discharge of surface water from a development site to the Leeds and Liverpool Canal must be agreed with the Trust. It advises that such discharges are not granted as of right; where they are granted, they will usually be subject to completion of a commercial agreement. For more information, visit the Canal & River Trust website see

<https://canalrivertrust.org.uk/specialist-teams/planning-and-design/about-us-and-the-planning-system> or contact [Deborah.McCormick@canalrivertrust.org.uk](mailto:Deborah.McCormick@canalrivertrust.org.uk)

A2.11 Applicants proposing development, works or tree planting adjacent to the Canal should contact the Canal & River Trust in order to ensure that any necessary consent is obtained and that the works comply with the Canal & River Trust Code of Practice for Works affecting the Canal & River Trust. For more information, contact the Third Party Works Team (01782 779909).

### **Marine Management Organisation: Marine Licences**

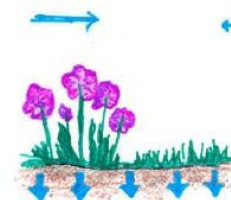
A2.12 The Marine Management Organisation (MMO) has a range of functions within English waters (seaward of mean high water spring tides) under the Marine and Coastal Access Act 2009. The MMO is the marine licensing authority, responsible for regulating the impact of licensable activities on the environment, human health, other users of the sea, and other relevant matters, e.g. maintenance activities for coastal or river defences in estuaries (carried out seaward of mean high water spring tides extents). For more information on whether a marine licence is required visit the Marine Management Organisation website <https://www.gov.uk/topic/planning-development/marine-licences> or contact [marine.consents@marinemanagement.org.uk](mailto:marine.consents@marinemanagement.org.uk) or telephone 0300 123 1032.



### Appendix 3: How residents and small businesses can manage and reduce surface water run-off and flood risk

A3.1 For any site, there are simple steps that can be taken to reduce the volume or rate of its surface water run-off. This may have significant benefits for residents and local businesses and will also help manage or reduce surface water flood risk in the area and/or the wider community. This is in line with part 2 of Local Plan policy EQ8 'Flood risk and surface water'. For small businesses, charities or similar local organisations, such measures could reduce water rates. Examples of measures to reduce or manage surface water discharge are shown below.

- Design, slope and angle surfaces to direct rainwater away from your property to particular areas of the garden where flooding will not cause a problem to you, neighbours or the public highway or pavement (e.g. vegetated areas, rain gardens)
- Vegetated garden areas (e.g. grass or lawns, flower or shrub beds or vegetable plots) rather than large areas of hard, impermeable surfacing
- 'Rain gardens' – vegetated areas within larger hard-surface areas designed and sloped so that surface water flows into them



- Tree planting can slow the rate at which rainwater reaches the ground
- Use of permeable (including porous) paving or surfacing and driveways (rather than impermeable surfacing).

*Porous materials* include reinforced grass or gravel, porous concrete or porous asphalt.



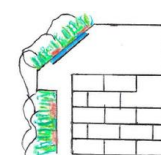
*Permeable materials* include clay bricks or concrete blocks, designed to allow water to flow through joints or voids.



- Disconnecting downpipes on garden sheds or greenhouses so that the water runs into the garden or a water butt.
- Water butts used to collect rainwater from houses, bungalows or flats must have an outlet which conforms to the Building Regulations standards.



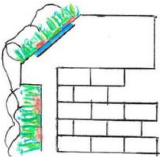



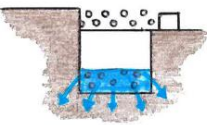

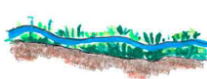

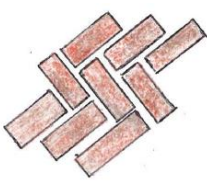

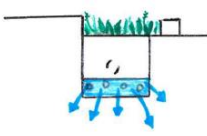

- Green roofs – planted soil layer constructed on the roof of a building to create a living surface. Water is stored in the soil layer and absorbed by vegetation.

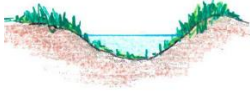
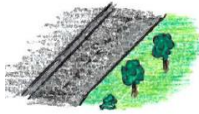
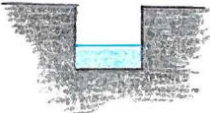

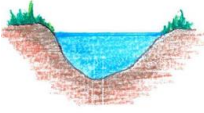

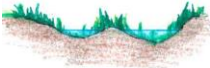

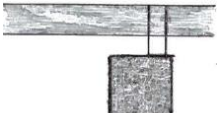



- On-site water recycling, e.g. recycling of surface water run-off or 'greywater' recycling from baths or sinks

## Appendix 4 : Common components of Sustainable Drainage Systems (SuDS) and their green infrastructure benefits

A4.1 There are a number of SuDS features, illustrated below, which can be incorporated into most sustainable drainage systems for most housing or other developments, depending on local context and how the features fit into the SuDS management train for that site.

	<b>Description</b>	<b>Setting</b>	<b>Required area</b>
 <i>Green roofs</i>	Construction of a planted layer on the roof of a building, creating a living surface. Water is stored in the soil layer and absorbed by vegetation.	 <i>Building</i>	Building integrated
 <i>Rainwater harvesting</i>	Rainwater is collected from the roof of a building or other paved surfaces to be stored in an above ground or underground tank for treatment and re-use locally. E.g. water could be used for flushing toilets and watering plants.	 <i>Building</i>	Water storage (underground or above ground)
 <i>Soakaway</i>	Soakaways are designed to allow water to soak quickly into permeable layers of soil. An underground pit ('dry well') is dug and filled with gravel or rubble. Water can be piped to a soakaway where it will be stored and allowed to infiltrate gradually into the ground.	 <i>Open Space</i>	Dependent on run-off volumes and soil permeability
 <i>Filter strip</i>	Filter strips are grassed or planted areas that runoff is allowed to run across to promote infiltration and natural cleansing.	 <i>Open Space</i>	5 metres minimum length
 <i>Permeable paving</i>	Paving which allows water to soak through it; e.g. paving blocks with gaps between them which allow water to move through, or porous paving where water filters through the block itself. Water can be stored in the sub-base beneath or may infiltrate into the ground below.	 <i>Street / open space</i>	Typically, can drain double its area.
 <i>Bio-retention area</i>	A vegetated area with gravel and sand layers beneath it; designed to channel and filter water vertically, and clean it. Water can infiltrate into the ground below or drain to a perforated pipe for conveyance elsewhere. Bio-retention systems	 <i>Street / open space</i>	Surface area typically 5-10% of drained area, with storage below.

	<b>Description</b>	<b>Setting</b>	<b>Required area</b>
	can be integrated within gardens, verges and tree-pits.		
 <i>Swale</i>	Vegetated shallow depressions, designed to convey and filter water. Swales can be 'wet', where water gathers above the surface; or 'dry', where water gathers in a gravel layer underneath. Swales may be lined, or unlined to allow infiltration.	 <i>Street / open space</i>	With should allow for safe maintenance, hence typically 2-3 metres wide
 <i>Hard landscape storage</i>	These hard landscaping water features can be used to store run-off above ground within a constructed 'container'. Within urban areas storage features can be integrated into public realm areas.	 <i>Open Space</i>	Can be above or below ground, with their size dependent on storage need.
 <i>Pond / basin</i>	Ponds and basins can be used to store and treat water. 'Wet' ponds have a constant body of water and any run-off is additional. 'Dry' ponds or basins are empty during periods without rainfall. Ponds and basin can be designed to allow infiltration into the ground, or to store water for a period of time before discharge.	 <i>Open Space</i>	Dependant on runoff volumes and soils.
 <i>Wetland</i>	Wetlands are shallow vegetated water bodies with a varying water level. Specially selected plant species are used to filter water. Water flows horizontally and is gradually treated before being discharged. Wetlands can be integrated within a 'natural', green or hard landscaping.	 <i>Open Space</i>	To provide good water quality treatment, typically should cover 5- 15% of the area to be drained.
 <i>Underground storage</i>	Water can be stored in tanks, gravel or plastic crates beneath the ground to provide attenuation, if no soft landscaped (or 'soft engineered') solutions are practicable.	 <i>Open Space</i>	Dependent on runoff volumes, and soils.

**Delivering green infrastructure and multi-benefits on a development through SuDS**

A4.2 SuDS and designated flood storage areas are part of Sefton's green infrastructure network and provide many green infrastructure benefits and functions. SuDS should be designed to achieve as many of these green infrastructure benefits



as possible, where this is appropriate and practicable. Green infrastructure benefits particularly relevant to SuDS are set out below:

- **Infiltration:** Slowing conveyance of water to the nearest watercourse (or sewer) to a 'greenfield' (pre-development) run-off rate, and enabling the recharging of groundwater.
- **Filtration, pollution control and water quality:** Removing pollutants such as metals, hydrocarbons and excess nutrients which may be contained in run-off from roads, car parks or agricultural land. This is likely to improve water quality of rivers, streams & groundwater.
- **Attenuation; slowing rates and volumes:** Vegetated, planted 'naturalistic' SuDS also help attenuate and convey water slowly, reduce soil erosion and mitigate flood risk.
- **Nature conservation and enhancement:** Creation or enhancement of new wetland or other habitats if appropriate, and their on-going management and maintenance which should be informed by an ecological management plan.
- **Reducing the impacts of climate change – carbon sequestration:** Carbon sequestration (take up), as the plants in vegetated, planted 'naturalistic' SuDS can take up carbon in the atmosphere as they grow. Tree and woodland planting, in the right location, potentially can also take up more carbon as well as reducing surface water run-off.
- **Reducing the effects of climate change – thermal cooling:** Vegetated, planted 'naturalistic' SuDS (including trees) have a cooling effect on surroundings (the 'microclimate') because of effects of increased evapotranspiration. Standing water can also moderate temperatures locally.
- **Reduced pressure on physical infrastructure:** Removing surface water runoff from the sewer system could improve its capacity for managing wastewater and reduce flood risk.
- **Water resources:** Water recycling, storage areas or water butts may reduce the amount (and cost) of mains water needed for landscape maintenance.
- **Recreation:** Publicly accessible, vegetated, planted 'naturalistic' or above ground SuDS may have physical health and recreation benefits, and may form part of the public open space provision for a development scheme.
- **Cost savings and ease of maintenance:** Above-ground SuDS can provide long-term solutions to surface-water drainage as blockages, and issues can be easily identified and remedied. If integrated from the early stages of the design process SuDS provide cost savings for design, installation and main compared to more traditional engineered surface drainage systems.
- **Other green infrastructure benefits:** These include the mental health and well-being benefits associated with proximity to the natural environment and trees.