East Lothian Council

REPORT TO: East Lothian Council

MEETING DATE: 26 February 2019

BY: Depute Chief Executive (Partnerships and Community Services)

SUBJECT: Adopted East Lothian Local Development Plan 2018: Draft Sustainable Drainage Systems (SuDS) Supplementary Planning Guidance

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1 PURPOSE

1.1 This report seeks Council approval for consultation on draft non-statutory Supplementary Planning Guidance (SPG) titled Sustainable Drainage Systems (SuDS), associated with the adopted East Lothian Local Development Plan 2018 (ELLDP 2018).

2 RECOMMENDATIONS

2.1 That the Council approves for consultation the draft non-statutory Sustainable Drainage Systems (SuDS) SPG.

3 BACKGROUND

Purpose and processes for preparing non-statutory Supplementary Planning Guidance (SPG)

3.1 Now that the ELLDP 2018 is adopted, the Council's intention is that it will be supported by non-statutory Supplementary Planning Guidance. The Council has previously approved Supplementary Planning Guidance on Cultural Heritage and the Built Environment, Development Briefs, Farm Steading Design Guidance, and Special Landscape Areas. These documents provide additional weight to the policies within the adopted Local Development Plan 2018 and decision making.

3.2 Whilst there are no statutory provisions setting out the scope or process for preparing non-statutory Supplementary Planning Guidance, if it is to carry enhanced weight as a material consideration in planning decisions, it must be consulted on and adopted by the Council. For this type of

guidance, there is no requirement for the Scottish Ministers to review it before the Council may adopt it.

3.3 The intention is that matters to be addressed within non-statutory Supplementary Planning Guidance are those that would be too detailed for inclusion within the main plan, but nonetheless merit more detailed policy guidance to assist with the operation of policies or proposals and the delivery of the plan. There is no pre-requisite for a policy 'hook' in the main plan in order to enable the preparation of non-statutory guidance. The preparation and adoption processes for non-statutory guidance can provide for more rapid policy responses to changes in operational practice than statutory Supplementary Guidance can, albeit non-statutory guidance carries less weight than statutory guidance in planning decisions.

3.4 Once approved for consultation, non-statutory guidance documents may be taken into account as material considerations in planning decisions as appropriate, but cannot carry as much weight in the determination of planning applications as if they are adopted by the Council. Approval for public consultation of the draft document at this stage is intended to help ensure that its preparation is progressed without delay with the intention that the document, once finalised following their period of public consultation and any other procedures as relevant, may be adopted by the Council as soon as possible.

East Lothian Council Guidance on Sustainable Drainage Systems: Supplementary Planning Guidance

3.5 Sustainable Drainage Systems (SuDS) is a term given to systems which include a range of features above and below ground that are used to manage surface water and flood risk. SuDS are primarily used to manage surface water run-off by attenuating it and then releasing it in a controlled manner, thereby helping to protect people and the natural environment from harmful effects of flooding. SuDS also help to remove pollutants from the water before it is returned to the environment. SuDS can vary widely in terms of type, size, design and effectiveness depending on their function and location. SuDS can also provide a range of secondary benefits, such as improving biodiversity through habitat creation, and providing attractive environments in residential developments which can encourage more active and healthy lifestyles.

National policy on Sustainable Drainage Systems

3.6 The subject of Sustainable Drainage Systems is covered in national policy and guidance. Scottish Planning Policy (SPP) requires the planning system to take a precautionary approach to managing flood risk, and promotes flood avoidance through the requirements of Sustainable Drainage Systems.

3.7 The Strategic Development Plan for Edinburgh and South East Scotland (SDP1) requires Local Development Plans to avoid new development in areas of medium to high flood risk, and to (where appropriate) promote enhancement of the water environment.

3.8 The ELLDP 2018 contains within chapter 6 (Our Natural and Cultural Heritage) information and guidance on the protection and enhancement of the water environment. Relevant policies include NH9 (Water Environment), NH10 (Sustainable Drainage Systems) and NH11 (Flood Risk). These policies aim to provide an integrated approach to managing the water environment and the effects of climate change.

Regulatory requirements and general responsibilities

3.9 The Flood Risk Management (Scotland) Act 2009 provides the Local Authority with general powers to manage flood risk in its area and to carry out flood protection work within or outwith its area. This includes the ability to make and build flood protection schemes. It also requires Local Authorities to lead on the preparation of local flood risk management plans, which supplement the national strategies prepared by SEPA and ensure actions are locally targeted and delivered. The Council works closely with SEPA and Scottish Water to facilitate regulatory requirements and to deliver flood risk management policies and strategies. These responsibilities are also underpinned by a duty to cooperate on the Local Development Plan preparation process.

Current guidance on Sustainable Drainage Systems

3.10 Scottish Water and SEPA have produced their own guidance on SUDS. Scottish Water's document, *Sewers for Scotland* (SfS) provides technical detailed design guidance for water and drainage infrastructure, including the design and management of SuDS. This has been modified and re-published a number of times. The most recent publication is *Sewers for Scotland Fourth Edition* (effective from 1 January 2019). The Scottish Environment Protection Agency (SEPA) SuDS guidance provides detail on the role of this organisation in relation to SuDS within the development planning and development management processes.

3.11 A number of Key Agencies are involved with the Sustainable Urban Drainage Scottish Working Party (SUDSWP) including SEPA, Scottish Water and SNH (plus stakeholders from the public and private sectors) and have collaboratively produced the *Water Assessment and Drainage Assessment Guide* (2018). This document is intended to assist those involved in the installation of water infrastructure with the processes for obtaining relevant permissions and consent, and the stakeholders involved at each stage.

3.12 The Construction Industry Research and Information Association (CIRIA) is widely recognised in the built environment and construction industries for their influential SuDS Manual. Originally produced in 2007, the SuDS Manual has been revised and updated with the latest version being C753 (2015). It is a detailed and comprehensive guide to assist with the effective implementation of SuDS within new and existing developments, and provides guidance on how to maximise amenity and biodiversity benefits, managing flood risk, and improving water quality.

The need for local guidance on Sustainable Drainage Systems

3.13 Although there exists a range of guidance documents on designing and maintaining SuDS features, there is a general focus on either the technical requirements such as engineering detail or the statutory process involved with obtaining relevant consents. Additionally, these guides did not provide sufficient clarity on the roles and responsibilities for the adoption and ongoing maintenance arrangements for SuDS, particular the specific requirements that allow Local Authorities to take on responsibility for maintaining these features. There is also a need to highlight that at the local level, for SuDS to be included as part of open space requirements in new developments (LDP 2018 Policy OS3) they must achieve both suitable surface water treatment and reduced flood risk and additional benefits for the development such as enhanced landscape, wildlife habitat and recreational usability. There emerged a need for a simplified guide on SuDS to address these issues with specific reference to East Lothian.

3.14 Additionally, whilst there is a national policy requirement for SuDS features to be incorporated into development layouts as a means of managing surface water and reducing flood risk, the guidance that existed was intended to be generic across all geographical areas. This was found to have resulted in the type of SuDS features being designed and incorporated into development layouts within East Lothian not always maximising locational opportunities or otherwise significantly enhancing the quality of the built environment. There is often too much focus on the primary engineering function of SuDS to manage surface water, leading to designs that do not achieve the other wide ranging amenity and biodiversity benefits.

3.15 The ELLDP 2018 aims to address these issues through the policy approach given in the Protection and Enhancement of the Water Environment section of the plan, and specifically through the application of policy NH10 as part of decision-making on individual planning applications. The requirement for SuDS features to be incorporated into all developments (except single dwellings) highlights their importance. Policy OS3 also references the use of SuDS within informal open space subject to their design. There is, however, a need to provide more detailed guidance that relates specifically to the local opportunities and constraints of East Lothian's landscape to encourage SuDS designed to suit the specific opportunities and constraints of each individual site.

3.16 This Supplementary Planning Guidance on SuDS provides a simple and straightforward guide to the functionality of each type of SuDS feature, the benefits of each SuDS type, and where they can be most appropriately sited and any requirements for maintenance and ensuring safety for users. The SPG also discusses the details that are required on SuDS to be submitted at planning application stage, and the need to have clear arrangements in place for the future management and maintenance of SuDS following their construction. The SuDS SPG was produced through a multi-disciplinary team consisting of ELC Planning Service, ELC Flooding, ELC Roads and ELC Amenity Services. The SuDS SPG is intended to be used by professionals who are involved in the design and integration of SuDS within development layouts. It can also be viewed by

members of the public and community council's so they are aware what the East Lothian Council expects from developers. It is anticipated that this SuDS SPG will allow for a greater level of consideration being given during the design process and masterplanning stage to the most appropriate type of SuDS feature to be used on each site, and how the natural environment and surrounding community can benefit from them.

3.17 The Sustainable Drainage Systems SPG has been prepared in consultation with the Key Agencies. Early responses to feedback on the draft document indicate a level of support for this guidance, with no conflicts being identified in relation to existing Key Agency guidance that is available.

Consultation on the Sustainable Drainage Systems SPG

3.18 It is proposed that the consultation period for this non-statutory Sustainable Drainage Systems Supplementary Planning Guidance be for a six week period commencing on Friday 8th March and ending on Friday 19th April 2019, to allow for documents to be printed and circulated, and a questionnaire prepared for the consultation hub. Key agencies, Area Partnerships and Community Councils will be separately notified of the consultation and a press advert published.

4 POLICY IMPLICATIONS

4.1 The Sustainable Drainage Systems Design Supplementary Planning Guidance supports the ELLDP 2018 providing further detail in support of its policies.

5 INTEGRATED IMPACT ASSESSMENT

5.1 The subject of this report has been through the Integrated Impact Assessment process through the ELLDP 2018 and no negative impacts have been identified.

6 RESOURCE IMPLICATIONS

6.1 Financial – none

6.2 Personnel – none

6.3 Other – none

7 BACKGROUND PAPERS

7.1 East Lothian Local Development Plan 2018 Draft Supplementary Planning Guidance: Sustainable Drainage Systems

7.2 Key Agency pre-consultation responses to draft Sustainable Drainage Systems SPG

7.3 East Lothian Local Development Plan 2018

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DATE	11 February 2019

Appendix 1

East Lothian Council
Sustainable Drainage Systems (SuDS)
Supplementary Planning Guidance

Cross-service SuDS Working Group
East Lothian Council
Draft Version - November 2018

Executive Summary

Sustainable Drainage Systems (SuDS) deal with excess water from a site and return it to the water system in a controlled manner, to alleviate flood risk and reduce discharge of diffuse pollutants. Since 2006 SuDS have been a legal requirement for most new developments. SuDS should replace the traditional system of road gullies entering directly into combined surface water and foul water sewers and aims to deal with surface water within the site boundaries.

Scottish Water's latest edition of *Sewers for Scotland* provides advice on the technical standards for SuDS features that they will vest. East Lothian Council will consider adopting SuDS features adjacent to carriageways where these deal with road run-off only. The day-to-day maintenance of SuDS features, such as grass cutting and litter picking, should be covered by a factoring arrangement. CIRIA's latest edition of *The SuDS Manual* provides advice on designing SuDS, some of which Scottish Water will vest if the SuDS also complies with their *Sewers for Scotland* guidance. Unfortunately, existing guidance has often been interpreted in a way which has resulted in a standard, single function solution which occupies a considerable area on many sites.

This SuDS Supplementary Planning Guidance document has been prepared by East Lothian Council's cross-service SuDS Working Group to assist in the design of SuDS features that will look good and add value in terms of recreation and biodiversity, while being straightforward to maintain.

Figure 1: Detention basin providing water detention as well as usable attractive amenity space. Source: The SuDS Manual C753

Credits

All images courtesy of Woods Ballard, B, Wilson, D, Udale-Clarke, H, Illman, S, Scott, T, Ashley, R, Kellagher, R (2015) ***The SuDS Manual C753****, CIRIA, London (ISBN: 978-0-86017-759-3) www.ciria.org*

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Overview

Sustainable Drainage Systems (SuDS) manage surface water run-off by treating it as near to source as possible, slowing down the rate of discharge, treating water naturally and releasing it in a controlled way, preferably to watercourses or groundwater rather than into sewers. Since 2006 SuDS have been a legal requirement[1] for most new developments[2].

SuDS must be considered at the outset of project design. Many types of SuDS require significant areas of land, and sufficient space for SuDS must be safeguarded in site layouts. The design should ensure that the benefits to green networks, flood risk management, water quality, amenity, biodiversity, climate change adaptation and economic gain are maximised. Engineers should work with architects and landscape architects to ensure a holistic approach.

The level of SuDS required is dependent on the nature and size of the proposed development and the environmental risk posed by it.

Following a change to Water Quality parameters in 2015 SEPA now support the use of the "Simple Index Approach" (SIA) to direct designers towards what level of treatment is appropriate for their development. Rather than prescribing levels of treatment the SIA is an online tool that compares land use pollution hazard indices to SuDS mitigation indices. Guidance on use of the SIA can be found in SEPA's Regulatory Method 08 (WAT-RM-08) or Chapter 26.7.1 of the CIRIA SuDS Manual C753.

SuDS can be designed to integrate with and enhance the built environment and surrounding landscape and contribute to green space. SuDS can offer a wealth of opportunities within developments for both passive and active recreation for the local community. SuDS features include swales, filter trenches, permeable paving, detention basins and ponds. Multiple SuDS features are usually present within a single site, providing the necessary treatment. The type of SuDS feature must be designed for its location and provide additional benefits beyond the engineering requirement.

To be considered as part of the Council's on site open space requirements for new housing the SuDS need to provide both suitable surface water treatment (including flood attenuation and water quality) and enhanced landscape setting, meaningful habitat value or useable recreational space. East Lothian Council will support well designed SuDS solutions including detention basins, swales and ponds/wetlands or other suitable solutions, within amenity areas.

In terms of public safety for ponds and similar features, the Council promotes soft boundaries (i.e. planting) and avoiding steep drops or sudden changes in level. However, this would always require to be considered via an appropriate risk assessment by the developer.

[1] Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended):

[2] Exceptions are single dwellings and low-risk direct discharges to coastal waters

Design Guidance

Detention Basins

Detention Basins are indentations which capture surface water run-off in times of flood, and release it slowly into the downstream system. They are expected to be dry for much of the year. Detention basins can designed for either infiltration or attenuation, depending on site conditions.

If detention basins are to be included as recreational open space, consideration should be given to the following:

- The area must be accessible to all. This means side slopes of a suitable gradient for at least part of the basin or accessible paths across steeper slopes.
- It must be easy for people to escape the basin in times of a flood.
- *Sewers for Scotland* notes that the dual use of detention basins as passive public open space for recreation activities can be considered where the area is subject to flooding from events less frequent than the 1-year return period and where it can be clearly distinguished from the area providing flood storage for more frequent events.
- Where a dual use is proposed, the installation of educational and warning signage i.e. explaining purpose/operation of the basin and the installation of safety equipment
- Detention basins with a flat base size of a minimum of 60m x 40m can form an informal sports pitch.
- Although *Sewers for Scotland* specifies that the side slopes of basins must not have a gradient steeper than 1 in 4 East Lothian Council strongly encourages shallower slopes. Detention basins and side slopes that are grass covered and designed to be cut must not have slopes steeper than 1 in 8, although a variety of slope gradients are expected to create interest.
- Planting should be low maintenance.

If other adequate informal recreational space is delivered elsewhere within the development and within an adequate radius of the housing units then a detention basin can be considered to form part of the landscape setting and potentially biodiversity enhancement. Although detention basins are typically grassed, other vegetation is supported where this enhances the appearance and amenity value of the basin and increases its biodiversity by providing wildlife habitats. Planting can also help prevent erosion and slow flows across the basin thereby increasing sediment settling.

Figure 2: Detention basins with amenity planting and easy access for maintenance
Source: The SuDS Manual C753

Topsoil depths should be appropriate for the type of planting.

- 100mm subsoil for wildflower meadow planting
- 150mm topsoil for amenity grass
- 450mm for shrub planting
- Trees will require individual pits up to 1m in depth

Planting within SuDS basins must be robust plants that are tolerant of a wide range of conditions, wet and dry. Small pools planted with wetland and marginal plants may be included as a feature of a detention basin. However, consideration must be given to the possibility of these drying out completely in summer months and the consequences for the planting; or alternatively a small amount of water remaining and becoming stagnant and unattractive.

A full maintenance schedule should be provided at planning stage to allow assessment of the long-term maintenance burden for the Council. An example of a maintenance schedule is given in table 22.1 on page 483 of the CIRIA SuDS guidance.

Figure 3: Detention basin providing water detention as well as usable attractive amenity space with raised areas for planting and a variety of side slope gradients. Source: The SuDS Manual C753

Swales

Swales are shallow, flat bottomed, vegetated open channels. They can have multiple functions including:

- Water conveyance – the swale collects surface water run-off and moves it to another part of the treatment system
- Water treatment – if the swale includes a filter trench in the base this provides water collection and treatment through a filter medium

- Water retention - swales can also be designed to be wet with a permanent shallow level of water in the base supporting wetland planting

Swales provide the opportunity to introduce green vegetated areas into road corridors where there would be limited open space value of grass as play space. Vehicles must be prevented from parking or over-running the edges. Short sections of swale between driveways are discouraged due to the potential for vehicle encroachment. If these are desired, they should be planted with shrubs or trees rather than grassed.

Figure 4: Shallow formal grassed swale wide and shallow enough to be cut by a ride-on mower. Note low fence to prevent vehicle over-run. Source: The SuDS Manual C753

In any case, as it can be difficult for grass-cutting equipment to navigate the swales alternative planting material should be considered as appropriate for the function of the swale and whether it is expected to be predominantly wet or dry. Where side slopes are to be covered with grass and require cutting the slopes and cross section through the swale must have a gradient no greater than 1 in 8 to allow cutting by a ride-on mower. The side slope gradient and width of any swale will require agreement and approval from the council's amenity services department.

Planting in a swale in natural soil must be robust and tolerant of a wide range of conditions, wet and dry. Planting schemes in an under-drained swale must be drought tolerant. Trees should be kept to the natural soil banks.

As swales are generally shallow surface features they should not present significant risk or danger to the health and safety of the public. However, this needs to be considered as part of an appropriate risk assessment by the developer.

Scottish Water will only vest swales which are 'end of pipe' SuDS.

Figure 5: Examples of wet and dry planted swales.
Source: The SuDS Manual C753

Figure 6: Natural play within a swale. Source: The SuDS Manual C753

Ponds or wetlands

Well-designed and maintained permanent water bodies can offer important aesthetic, amenity and wildlife benefits to development sites. While in dense urban environments, a hard landscaped pond may be appropriate, in the semi-rural setting of East Lothian it is generally expected that ponds or wetlands are naturalistic features with shallow planted and grassed side slopes.

Ponds which are to function as SuDS features should be designed by appropriately skilled landscape professionals in conjunction with engineers in order to ensure aesthetic quality, effective integration within the landscape and performance as a community resource.

Ponds and wetlands provide valuable landscaping and biodiversity value. Depending on their location, the balance of visual amenity and habitat provision can be adjusted accordingly:

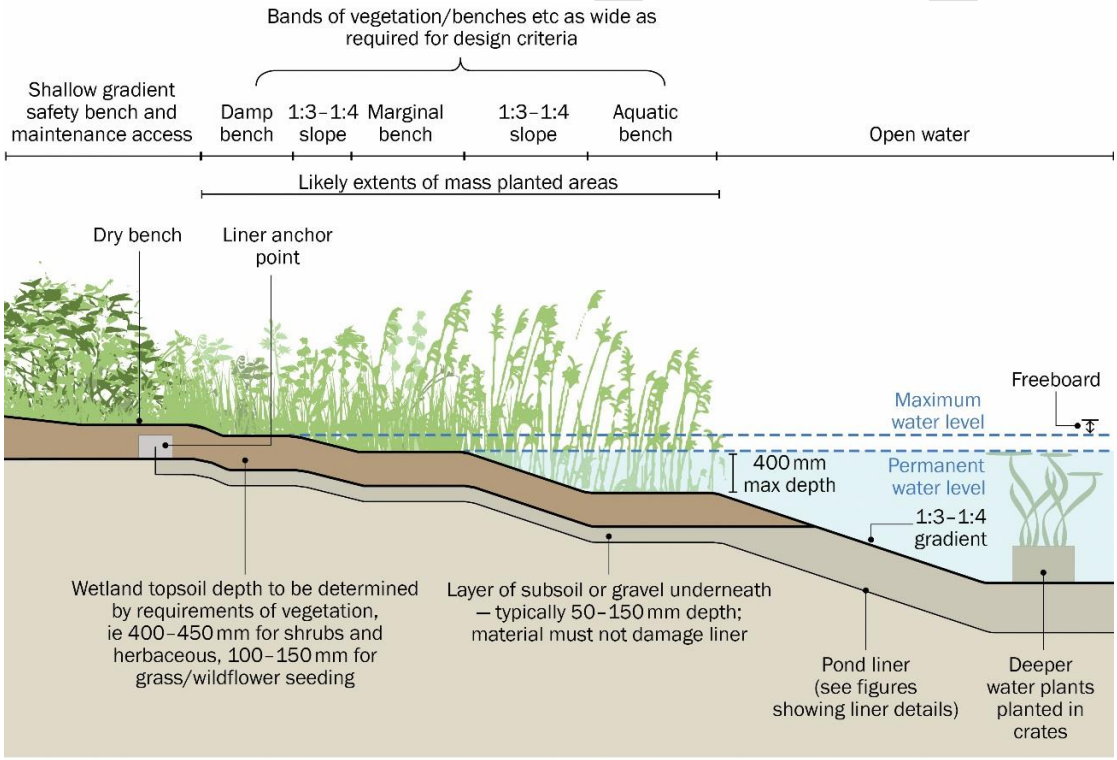
- At the core of the development – a pond or wetland should provide an aesthetically pleasing feature with a range of habitats to suit indigenous and desirable species.
- As part of the wider landscape setting or on the periphery of the site - the focus should be on biodiversity and habitat provision within a landscape that reflects indigenous species. In

such cases the design should demonstrate connectivity with adjacent green corridors to enable species migration.

In terms of public safety, the Council promotes soft boundaries and avoiding steep drops and sudden changes in level. However, this would also require to be considered via an appropriate risk assessment by the developer. This approach also allows efficient maintenance by allowing the use of ride on grass cutting equipment and eliminating the long-term burden of fence repairs. Soft boundaries can be achieved by incorporation of low to medium height marginal planting, varying grass cutting heights and gentle shelves to ponds.

In order to provide effective water treatment functions the 'effective' area of a pond needs to be 1 metre deep. However, there should be a mix of water depths (as indicated in Figure 7 below) and a minimum of 150mm water depth to provide adequate capacity to sustain desirable species. Gentle changes in slope around the pond perimeter as indicated in Figure 7 below allow the development of different types of wetland vegetation. Locating new ponds close to existing water bodies can benefit biodiversity.

Figure 7: Typical Planted Pond Edge Detail. Source: The SuDS Manual C753



Notes: Width, surfacing and extent etc of safety bench and maintenance access all dependent on site, size of pond, maintenance requirements etc

Further information on the design on ponds can be found in Appendix B of this document and in the CIRIA guidance. Information on appropriate planting for ponds can be found in Appendix C.

Figure 8: Examples of design approaches to ponds.
Source: The SuDS Manual C753

Above: barrier planting prevents access to standing water.

Below: dipping platform over shallow water

Filter Trenches

Filter drains or filter trenches are linear features filled with a filter material such as gravel. They may have perforated pipes along the bottom to convey the water that percolates down through the filter material. They can be positioned at the bottom of dry swales or be on their own. They must be protected from silting up through upstream protection. Roadside filter trenches can be of the 'French style' that are open, usually stone filled up to the ground surface, or enclosed under a hard or soft surface. With reference to the following section on permeable paving it is the Council's preference, in residential areas, to have filter trenches located underground, fed by road gullies and interspersed with access chambers at significant changes in direction or at a maximum spacing of 20 metres to facilitate ease of maintenance.

Scottish Water will only vest piped filter trenches which are 'end of pipe' SuDS.

Permeable paving

Permeable paving can be accepted in private parking areas and driveways. Services should not run under permeable paving, as when maintenance access is needed, it is likely that the paving will not be correctly reinstated. East Lothian Council will not generally accept permeable paving on roads and parking areas that will be adopted by the Council.

Further Guidance

A number of examples of best practice exist and applicants are recommended to reference these. In particular, The CIRIA SuDS Manual Version 6 and subsequent updates published by CIRIA, offers detailed guidance on the technical requirements of SuDS design as well as demonstrating how the ethos of combining technical requirements with amenity, aesthetic and biodiversity considerations can be best achieved.

Figure 9: Swale planted for biodiversity and amenity. Source: The SuDS Manual C753

Figure 10: Wet swale example Source: The SuDS Manual C753

Information required for Planning Applications

Sufficient information must be submitted with a planning application to describe all elements of the proposals and allow them to be fully assessed. A drainage impact assessment should be submitted with relevant planning applications. Planning Advice Note 79 Water and Drainage should be referred to. The assessment and accompanying drawings must demonstrate that the SuDS features have been sized to the required Treatment Volume, and confirm that the proposals have been designed to Sewers for Scotland standards.

Although every site and proposal will vary, the following information should be provided, in addition to the engineering and technical details, to allow the full assessment of proposed SuDS features:

Applications for Planning Permission in Principle

- **An overall drainage strategy** - including a flood risk assessment and drainage impact assessment
- **SuDS Plan** - An appropriately scaled annotated site plan should show the approximate locations and land-take of the proposed SUDS features

Applications for Detailed Planning Permission

- **SuDS Plan** - An appropriately scaled annotated site plan should show the locations and land-take of the proposed SuDS features
- **SuDS sections** – Cross- and longitudinal-sections through SuDS basins and pond features to clearly identify the design elements
- **SuDS Features Maintenance Schedule** - Details of the annual and long-term maintenance which will be required for the system.
- **SuDS Maintenance Agreement** – if being carried out by a non-statutory body.
- **SuDS Features Risk Assessment** – Demonstrating that risks have been appropriately mitigated
- **Confirmation of compliance with *Sewers for Scotland***

Formal Scottish Water approval will be required in order to obtain Road Construction Consent, and it is worth consulting Scottish Water as early as possible in the design process in order to confirm the features which they are likely to vest/maintain.

Proposals for enhancement of biodiversity in and around SuDS features should be in line with the East Lothian Biodiversity Action Plan (ELBAP) and reflect connectivity with the wider landscape, helping to implement the ELBAP and Green Network strategies. The location of SuDS and their amenity value should also be considered in relation to providing points of interest along sustainable travel corridors.

Applicants will also have to demonstrate that changes to the existing topography will not have a detrimental effect on existing wetlands, habitat, groundwater or watercourses.

Where a detention basin is proposed, applicants will be required to provide adequate information on the soil permeability rate and water table levels and the balance between that and the site's ability to retain flood water for an adequate period to effect controlled release.

In addition to technical compliance, when considering a SuDS proposal we will be asking:

- Does the SuDS positively contribute to the visual amenity of the development?
- Does it contribute positively to the biodiversity value of the site?
- Is the developer proposing this as part of their open space requirements and if so is it accessible and useable for the majority of the year?
- Why has this location and design been chosen?
- What alternatives have been considered? Why have they been dismissed?

Appendix A - Planning Policy Relevant to SuDS

Scottish Planning Policy

Scottish Planning Policy 2014 clearly sets out that planning has a role in managing flood risk and drainage. Paragraph 255 states that the planning system should promote, 'avoidance of increased surface water flooding through requirements for Sustainable Drainage Systems (SuDS) and minimising the area of impermeable surface a role'. It also notes that SuDS can form part of Green infrastructure.

Further national guidance is given in Planning Advice Note 61 Planning and Sustainable Urban Drainage Systems and Planning Advice Note 79 Water and Drainage.

Local Planning Policy

The East Lothian Council Local Development Plan 2018

POLICY NH10: Sustainable Drainage Systems

Policy NH10 of the East Lothian Local Development Plan (ELLDP) states:

> All development proposals must demonstrate that appropriate provision for Sustainable Drainage Systems (SuDS) has been made at the time of submitting a planning application, except for single dwellings or developments in coastal locations that discharge directly to coastal waters where there is no or a low risk to designated bathing sites and identified Shellfish Waters.
>
> Sufficient space for proposed SuDS provision, including the level and type of treatment appropriate to the scheme of proposed development, must be safeguarded in site layouts. Provision must also be made for appropriate long-term maintenance arrangements to the satisfaction of the Council.
>
> A drainage assessment may also be required to show the impact of a 1 in 200-year rainstorm event. SUDS schemes should be designed with an allowance for climate change.
>
> Proposals must also demonstrate how SuDS will be used to promote wider benefits such as placemaking, green networks and biodiversity enhancement.

The ELLDP refers to SuDS in several places:

- **Open space:** 'SuDS areas may form part of informal open spaces subject to their design and provided they contribute to and do not harm the amenity value of the wider open space (para 3.127).
- **Green network:** 'It will be made up of green spaces (parks, public spaces, woodland spaces etc.) and blue spaces (rivers, streams wetlands and SuDS etc.). Although the Green Network will not compensate for the loss of flood plains, it can provide some mitigation for flooding and some adaptation for climate change. It aims to maintain and improve quality of place, including in relation to the setting and identity of settlements, and address environmental inequalities, promote active travel and enhance health and well-being. The development of the Green Network over time will help improve the quality of life in the area and connections for people and biodiversity (para 5.24).

- **Protecting and Enhancing the Water Environment:** The planning regime is a key tool assisting the delivery of River Basin Management Plans (RBMP), protecting and restoring the water environment through influencing developments. This will help increase the environment's capacity to cope with and support future developments, for example through the protection of existing flood plains or wetlands and the use of Sustainable Drainage Systems (SuDS) (para.6.26).

Paragraph 6.29 states that SuDS should be designed in accordance with:

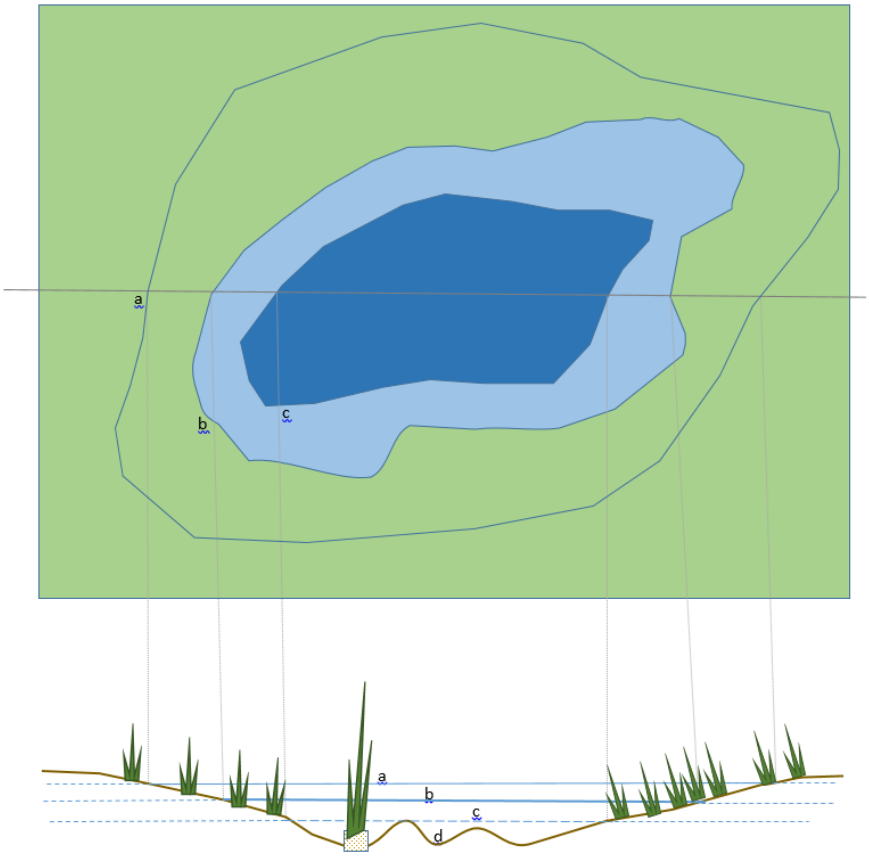
- CIRIA SuDS Manual C753 (or any revision)
- The current edition of *Sewers for Scotland* where the scheme is to be adopted by Scottish Water,
- The SuDS for Roads Manual where the proposals include roads, or any subsequent revisions of these documents.

Appendix B - Design Guidance for Biodiversity Ponds

The following points should be borne in mind when designing a biodiversity pond; for detailed design refer to chapter 23 of the CIRIA SuDS Manual[3]

- A biodiversity pond should be the last layer of water treatment, not the first
- Pond design should be informed by management requirements, with low maintenance being preferred. A gentle gradient of slope should allow for vehicle-based management of vegetation and for de-silting.
- Biodiversity ponds should be located close to structure planting or natural habitats to provide an appropriate landscape setting.
- Avoid a design that appears overly regular, e.g. concentric circles or ovals, around the different water levels. The best biodiversity ponds have more complex shapes, including undulations across the base of the pond. See e.g. Figure11.
- Plant different areas around the pond with different species to give a diversity of structure and a more natural appearance. See e.g. Figure 12
- Controlled species, where appropriate, should be planted 'downwind' to reduce the likelihood of seeds colonising areas of smaller vegetation.

Figure11: Stylised plan of a biodiversity SuDS pond



a = flood level and maximum level of water, max gradient in slope of XX degrees
b = standard water level, max gradient of slope of XX degrees
c = shallow gradient (max slope of XX degrees) from b to standard depth of water of 400 mm
d = maximum water depth (from standard depth, b) of 1m. Base of pond should have an undulating profile rather than a smooth and uniform profile. Emergent species can be planted in containers to provide patches of vegetation across open water.

[3] https://ciria.sharefile.com/share/view/19403f754e444e2a

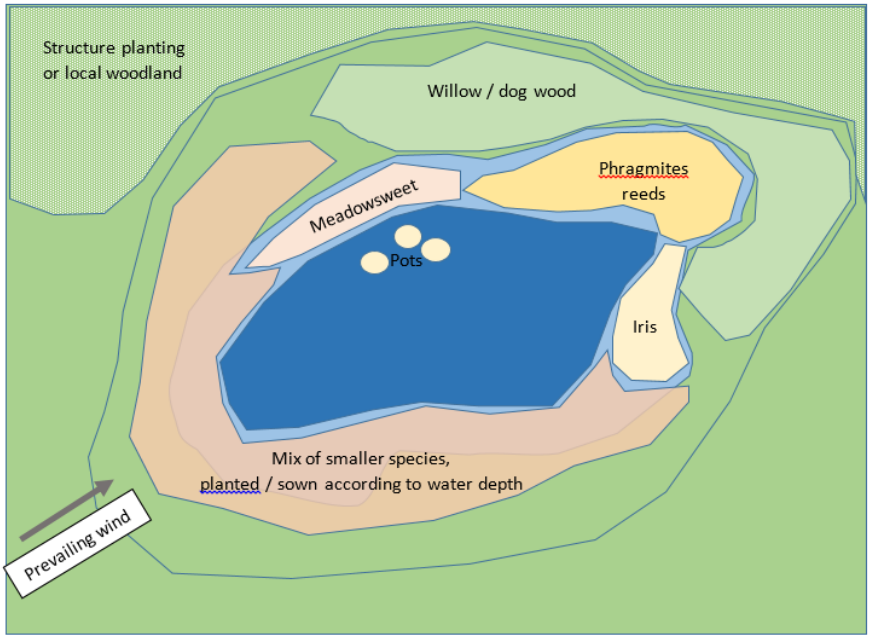


Figure 12: Stylised planting design for SUDS pond, based on Fig. 11

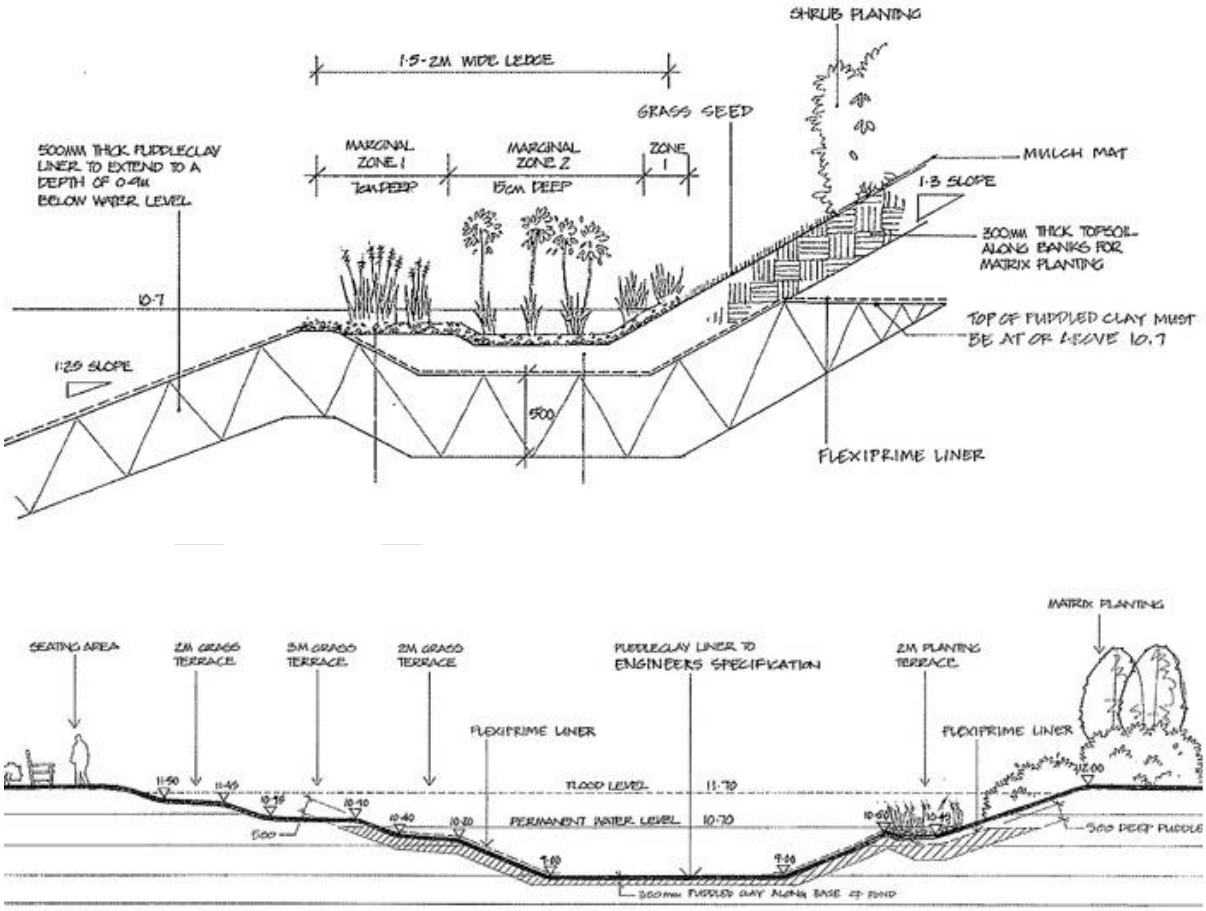


Figure 3: Examples of SUDS pond images from Google and CIRIA to aid discussions

Appendix C - Marginal (marsh) and Aquatic Plants Species

Table 1 lists native species that should grow well in marshy or aquatic conditions in East Lothian. Each species is available from commercial stockists, either as part of a seed mix or as plug plants. The list on the left hand side shows preferred species, which commonly grow as a mix of species to create diverse wetland vegetation communities. The species on the right hand side are taller and more robust, and can become dominant if the conditions suit the species. This will reduce overall plant diversity and can reduce landscape quality by presenting a solid blanket of a single species. These species should only be used where the pond design will restrict their spread, e.g. through soil conditions or water depth.

Note that *Typha* species should **not** be used because they can totally dominate a wetland, excluding most other species.

Acceptable species	Controlled Species	Banned Species
Achillea ptarmica (sneezewort)	*Filipendula ulmaria* (meadowsweet)	*Typha* species (reedmace) DO NOT USE
Alisma plantago-aquatical (water plantain)	*Iris psuedacorus* (iris)	
Angelica sylvestris (wild angelica)	*Juncus* spp (all rushes)	
Caltha palustris (marsh marigold)	*Phalaris arundinacea* (reed canary grass)	
Carex ovalis (oval sedge)	*Phragmites communis* (common reed)	
Dipsacus fullonum (teasel)		
Eriophorum vaginatum (hare's foot cotton grass)		
Geum rivale (water avens)		
Galium palustre (marsh bedstraw)		
Hypericum tetrapterum (square-stalked St John's wort)		
Lychnis flos-cuculi (ragged robin)		
Lythrum salicaria (purple loosestrife)		
Mentha aquatic (water mint)		
Myosotis scorpioides (water forget me not)		
Polygonum amphibium (amphibious bistort)		
Potentilla palustris (marsh cinquefoil)		
Primula veris (cowslip)		
Primula vulgaris (primrose)		
Prunella vulgaris (selfheal)		
Ranunculus flamula (spearwort)		
Stachys palustris (marsh woundwort)		
Valeriana dioica (valerian)		
Veronica beccabunga (brooklime)		

Table 1: Wetland plant species that are acceptable in a SuDS pond design, those that should be used under controlled circumstances and species that must not be used.

Appendix 2 : Key Agency pre-consultation responses to draft SuDS SPG

Historic Environment Scotland (HES)

Thank you for your email of 28 November requesting our comments on the above draft guidance. Our advice is set out below, in relation to the three specific issues you raise. Please note that our view is based on our main area of interest for the historic environment.

Pre-screening for SEA

We understand that the document is intended as supplementary planning guidance (SPG) which will provide detail to support the interpretation and application of policy NH10 in the East Lothian Local Development Plan (LDP). This policy has been subject to assessment through the LDP SEA process. On the basis of the information provided, including a copy of the draft SPG, we agree that the SPG is unlikely to have significant effects on the historic environment.

However, as you will be aware, it is the responsibility of East Lothian Council as the Responsible Authority to determine whether the SPG requires an environmental assessment and to inform the Consultation Authorities accordingly.

The content of the guidance

We have no specific advice to offer on the contents of the guidance, which does not relate to our interests.

Any specific conflicts with other guidance

We have not identified any specific conflicts with other guidance. You may, however, wish to consider references to other policy areas in the LDP that may be relevant for the type of works referred to in the document. This would include, for example, any policies relating to archaeology.

Scottish Environment Protection Agency (SEPA)

Thank you for your consultation email which SEPA received on 28 November 2018. We have reviewed the draft East Lothian Council Guidance on Sustainable Drainage Systems (SuDS) and provide the comments under the relevant chapter titles of the guidance.

Advice for the planning authority

Summary comments

It is very helpful to see the East Lothian Council specific requirements for SuDs within this guidance. We have made a number of comments, including the provision of further information on water quantity and flood risk requirements

We would suggest that general requirements for SuDS such as amenity, biodiversity etc are clearly outlined as part of the design guidance, and further references are made to the CIRIA manual alongside the East Lothian Council specific requirements for SuDS.

We are happy to meet to discuss and provide further support in developing this guidance if required.

Executive Summary

We consider that there is an opportunity in the Executive Summary to further describe the multifunctional benefits of SuDs, particularly in regard to placemaking. As indicated throughout the document, SuDs have multi-benefits for place-making and should form an important component of blue-green networks. Well-designed SuD features can enhance biodiversity, reduce siltation thereby enhancing water quality, alleviate flash flooding and be incorporated within and alongside active travel routes and provide an interesting educational resource. The communication of this message in the Executive Summary will assist in building wider understanding of the value of well-maintained SuDS.

Overview

We consider that SuDs should be considered as a component of blue-green networks. The opportunity should be taken to enhance and connect existing blue-green networks while creating new ones. This context should underlie the design of any SuDs scheme onsite. We consider that this could be further described within the text of the overview to ensure that readers understand what is meant by this.

We would also add in this section, that careful landscaping can usually avoid the need for fencing, avoiding unnecessary loss of connectivity between the SuD feature and wider blue-green network. Maintaining access to SuD ponds, enhances their value within public open space, making it more likely that residents will understand their role and take an interest in their long-term maintenance.

Design Guidance

We would suggest that further information to clarify responsibilities for SuDS is included in the guidance and options for SUDS ownership and adoption in East Lothian are set out. This will assist in the clarification of when Scottish Water standards need to be met and when East Lothian Council standards need to be met (or where full CIRIA manual standards can be followed). For example, in-curtilage SUDS should be considered part of the SUDS design with responsibility for ownership and maintenance being with the home owner / landowner.

However maintenance responsibilities and requirements should be made clear to any new owner in order to ensure that SuDS remain effective. We have noted this under the Executive Summary and Design Guidance section, however it may be beneficial to have a separate chapter on this.

There is also the opportunity for shared ownership of SuDS between Scottish Water and East Lothian Council under Section 7 of the Sewerage (Scotland) Act 1968. We are not clear if this has been agreed in East Lothian Council yet, however it may be helpful to include this if agreements have been established.

Overall it is helpful to see the East Lothian Council specific requirements set out clearly under the different types of SuDS. To further support the information provided we have provided further advice under several topic headings below which could be incorporated as part of overall general requirements of SuDS design.

Amenity

It would be useful if East Lothian Council LDP polices in regard to open space and green networks were identified within the Design Guidance section to promote the contributions which SuDS make to these aspects of development. The CIRIA Manual provides information on design objectives and criteria for amenity and also gives detail on how different SUDS features (e.g. basins, swales and ponds) should be designed to provide amenity value and gives supporting guidance on landscape and health and safety.

Biodiversity

We also consider whether it is possible for the East Lothian LDP policies with regard to biodiversity to be referenced to promote the contributions which SuDS can have in delivering biodiversity. The CIRIA Manual provides information on design objectives and criteria for biodiversity and also gives detail on how different SUDS features (e.g. basins, swales and ponds) should be designed to provide biodiversity value. We note there is discussion of this in the Information required for Planning Applications sections, however this may be better placed within the Design Guidance section.

Water quality

With regard to water quality, we note that reference is made to SEPA requirement for the CIRIA SUDS manual standards for water quality to be met (SEPA Regulatory Method WAT-RM-08 Sustainable Urban Drainage Systems) at the beginning of the document. It would be beneficial if this was reiterated in the Design Guidance section.

Water quantity and flood risk

We consider that there is an opportunity to provide further information with regards to water quantity and flood risk requirements in relation to SuDS. SuDS can be designed to include areas that are designated to flood on an infrequent basis, for example car park, roads, recreation areas and these areas should be designed and managed with this multifunctional purpose in mind. The CIRIA Manual provides further information including design objectives, criteria and standards for water quantity and also gives detail on the hydraulic design requirements for different SuDS features (e.g. basins, swales and ponds). The CIRIA manual also provides supporting guidance on hydrology and hydraulics.

Construction and maintenance

The CIRIA manual provides information on how design should take into account maintenance requirements. We recommend that this is identified within the guidance. An

operation and maintenance manual should be made available to those responsible for the SUDS and directions to information on best practice with regard to construction.

Further information on East Lothian Council Flood risk management requirements should be provided including requirements for exceedance design E.g. all of the development including roads and access areas should have no surface water up to the 1 in 30 year rain (except in the designated drainage features). For management of more extreme rain events between 1 in 30 and 1 in 200 year areas may be specifically designated for temporary flood storage or conveyance as part of the design of the surface water management system.

Scottish Natural Heritage (SNH)

The guidance would have no or minimal environmental impacts and therefore can be pre-screened for SEA.

You have said in your original email that the guidance will be non-statutory. On that basis, we agree that it would be eligible for pre-screening under Section 5(4) of the Environmental Assessment (Scotland) Act 2005.

The content of the document including the overarching aim to provide developers/designers/engineers with a local framework for designing suitable SUDS for East Lothian.

We have only given the document a quick read and will provide more detailed advice when consulted. Having said that, we welcome the emphasis on multi-functionality and what will be expected of developments in East Lothian. We consider that a place-based approach to design, rather than reiteration of other guidance, is an essential part of delivering successful, sustainable development. We understand that the selection of photos used is intended to demonstrate what good practice looks like but would encourage you to include more examples from East Lothian, if available, rather than concentrating solely on photos used in national guidance.

There would be no specific conflicts with any advice and guidance that each of the key Agencies have or intend to produce.

SNH is a member of the SUDS Working Party, along with other Key Agencies and relevant stakeholders from public and private sectors. The SUDS Working Party released the Water Assessment and Drainage Assessment Guide earlier this year. As far as I'm aware, SNH has no plans to produce further advice and guidance on SUDS.