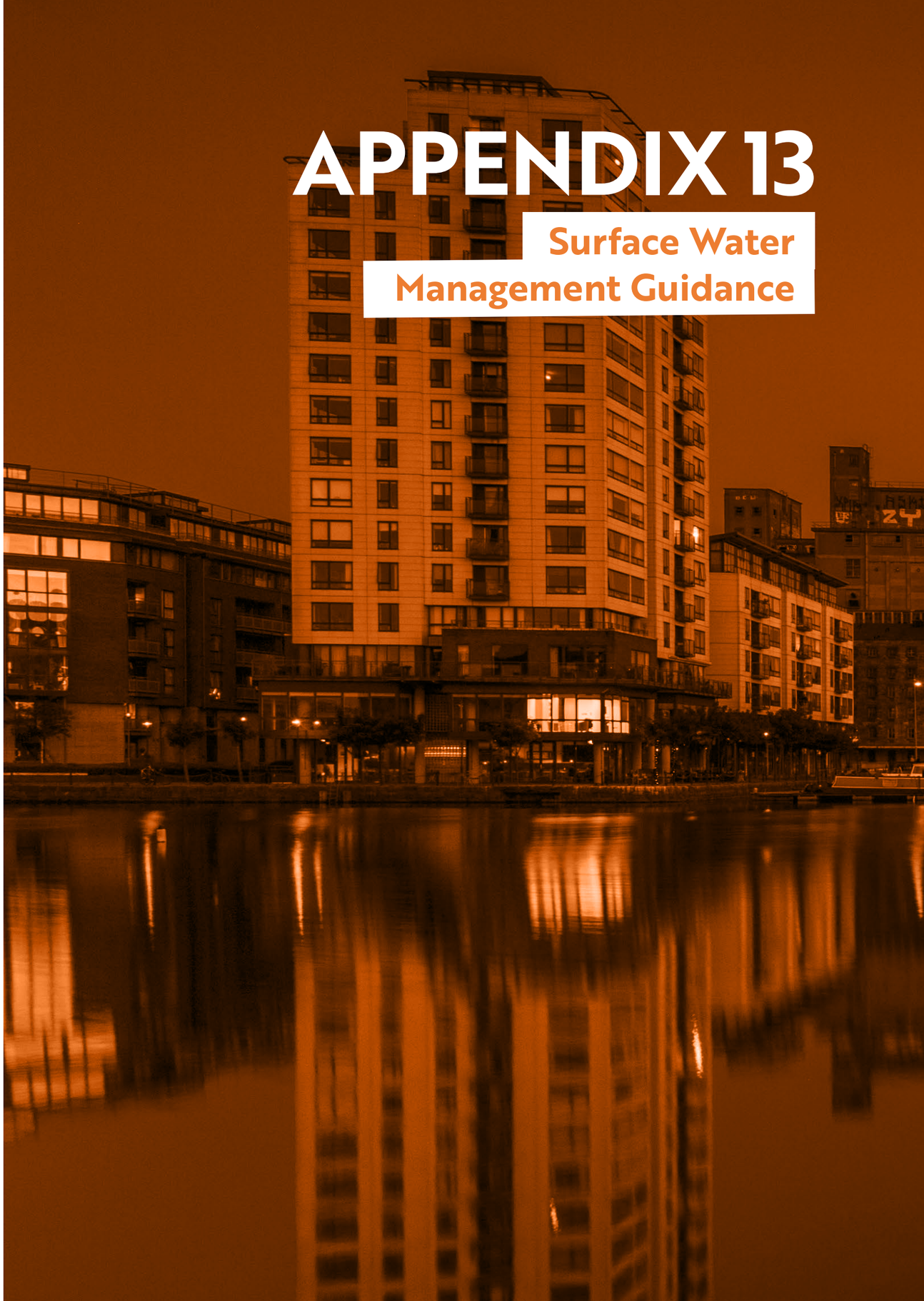
3.4 SuDS Requirement 4 - Amenity

Designs should seek to generate amenity benefits using SuDS, through the creation of multi-functional places and landscapes.

3.5 SuDS Requirement 5 - Biodiversity

Designs should seek to generate biodiversity benefits using SuDS.



APPENDIX 13

Surface Water Management Guidance

1.0 Introduction

Climate change impacts manifest in changes to the water cycle, with extreme events such as floods affecting our city. Sustainable and climate resilient water management is now critical to achieving climate resilience and meeting the objectives of the National Climate Action Plan 2019.

Early consideration and application of a sustainable and climate resilient approach to surface water management at project concept stage can deliver benefits for whole communities in terms of biodiversity, climate resilience, creating public places that support people, health and general wellbeing in the city.

The Dublin City Development Plan 2022-2028, identifies the need for Sustainable Environmental Infrastructure as part of all development proposals in the city. New development is expected to integrate the principles of Sustainable Drainage Systems (SuDS) with all other environmental aspects of new development, using best practice solutions to develop a high standard of sustainable development – for further guidance see Appendix 12 - Technical Summary of Dublin City Council Sustainable Drainage Design and Evauluation Guide (2021).

Dublin City Council (DCC) will require a softer engineered or nature-based approach to be used to manage surface water at source as it is a greener, more environmentally effective approach for managing surface-water on development lands.

In compliance with policy SI25, development proposals must be accompanied by a Surface Water Management Plan (SWMP) which sets out the proposed strategy for managing surface water. The preparation of SWMP's will also be required to inform the preparation of frameworks/ masterplans/ plans (statutory and non-statutory). SWMP requirements for development proposals and frameworks/ masterplans/ plans are set out in sub-sections A and B below.

This Appendix sets out the requirements of such plans which will be considered in the assessment of planning applications. This Appendix should be read in conjunction with:

Dublin City Council Development Plan (2022 – 2028)

- Chapter 3: Climate Action
- Chapter 9: Sustainable Environmental Infrastructure and Flood Risk
- Chapter 10: Green Infrastructure and Recreation
- Chapter 15: Development Standards, Section 15.6
- Strategic Flood Risk Assessment for Dublin City Development Plan 2022-2028 – Volume 7
- Appendix 11: Technical Summary of Dublin City Council Green and Blue Roof Guide (2021)
- Appendix 12: Technical Summary of Dublin City Council Sustainable Drainage Design and Evaluation Guide (2021)

2.0 Requirement for Surface Water Management Planning for New Development

The objective of producing a SWMP is for the developer/ project proposer to consider all the opportunities and constraints in developing a design solution that will manage surface water in a way that utilises and mimics natural processes, whilst protecting and enhancing the built and natural environment. This ensures that the optimal design solutions are integrated into a development in order to provide more resilient and adaptable infrastructure, to mitigate against future flooding and climate change disruption. For the avoidance of doubt, drainage/ SuDS plans will be required to reflect the proposals for SuDS as set out in the SWMP.

A. Surface Water Management Requirements for Development Proposals

(i) Development including or in excess of 2 no. residential units or 100 sq. m. of non-residential uses (including social and community uses)

All developments with surface water implications which fall within these thresholds will be required to prepare a SWMP as part of their project design process.

The SWMP prepared for submission to the planning authority as part of a planning application shall include the following:

- Site location map with proposed planning boundary indicated in red
- Overall surface water drainage layout indicating:
  - Existing public surface water infrastructure
  - Proposed connection points to existing public sewers
  - Spine sewers (if any)
  - Detail of any surface water sewer extension, diversions, surface water sewer upgrades etc. to be clearly indicated
- Report detailing existing site conditions including:
  - Topography
  - Ground conditions
  - Land drain features
  - Overland flow paths
  - Floodplains
  - Utilities
- Detail of proposed surface water management strategy shall include:
  - Longitudinal section details of proposed surface water pipe runs if required indicating route, levels, pipe size, gradient etc. A well designed SuDS scheme will reduce or even eliminate the need for significant piped drainage
  - Identify proposed location to discharge to stream or public drainage system
  - Identification of appropriate SuDS features to meet the key criteria of the GDSDS and reference in Section 16.3 of the Greater Dublin Regional Code of Practice for Drainage Works - source control and interception storage provided and volumes defined – no run-off from site for events up to 5mm. See also the Council's Sustainable Drainage Design and Evaluation Guide (2021) and Appendix 12
  - Provide a clear explanation of the SuDS proposals proposed for each hardstanding area including defined control structures and sizes of same
  - Discharge rate applied
  - Attenuation storage provided and volumes defined – storage for 1% and 3.3% annual probability with factor in accordance with the SFRA for climate change shall be applied. A figure of 20% will be applicable in most cases
  - Exceedance and overland flow routes
  - Phased development – where development under a planning application/permission is phased, coordination of the overall surface water management strategy shall be implemented at the first phase in order to ensure the overall integrated design is implemented. This would allow different parts of a site to be developed at different times, while ensuring that the final developed site shall meet the overall design criteria as set out in this Appendix
  - Identify green space and public space locations including any that are designed to be multifunctional – integrating SuDS (see also Section 15.6 – Green Infrastructure and Landscaping)
  - Details of any proposed wayleaves or land transfers in relation to surface water drainage.
  - An undertaking that SuDS will be completed to taking in charge standards (in accordance with policy SI26).

(ii) Development proposals under 2 no. residential units or 100 sq. m. of non-residential uses (including social and community uses) and all other developments likely to have surface water implications

The following requirements shall be addressed as part of drainage submission for all other smaller scale development likely to have surface water implications:

To meet the requirements of the development plan on SuDS (policy SI22 and Appendix 12), the design shall incorporate SuDS measures appropriate to the scale of the proposed development such as water butts, filter drains, infiltration systems, soakaways, permeable paving, rain gardens etc. that would minimise discharges to the public drainage system and maximises infiltration potential. All SuDS measures must be designed in accordance with the relevant industry standards, see policy SI26 and the recommendations outlined in the Council's Sustainable Drainage Design and Evaluation Guide (2021).

B. Surface Water Management Requirements – Frameworks/ Masterplans/ Plans

Frameworks/ Masterplans/ Plans typically involve multiple sites or a bank of land (which may or may not be in different ownerships), the development of which requires a coordinated approach through a statutory or non-statutory plan (please refer to Chapter 2 Core Strategy, Chapter 13 Strategic Development and Regeneration Areas and Appendix 3 for further details). Examples of statutory plans include Local Area Plans and SDZ Planning Schemes. Examples of non-statutory plans include masterplans for large scale regeneration or development sites.

A SWMP will be required to be prepared as part of the plan-making/ master planning process.

The SWMP will provide a description of the relevant area characteristics and a vision for SuDS and how they are proposed to be integrated into the planning and layout of the area subject to the plan.

The SWMP for a plan area shall specifically include:

- A location layout with site boundary indicated in red
- Report detailing the existing site conditions including:
  - topography (high and low points)
  - existing land drainage features e.g. existing open drains/ditches and where they drain to
  - existing public drainage network
  - existing flood risk
  - existing ground conditions (including infiltration rates)
  - identification of any existing overland flow paths for flood events
  - any physical restrictions e.g. existing trees or buildings to be retained

The SWMP should also provide details on the following:

- Phasing arrangements – where development under the plan is likely to be phased, coordination of the overall SWMP shall be implemented at the first phase in order to ensure the overall integrated design is implemented. This would allow different parts of lands subject to the plan to be developed at different times, while ensuring that the full and final development shall meet the overall design criteria as set out here
- Proposed overland flow paths - existing drainage patterns and natural flow paths should be mimicked
- Identify discharge options e.g. water reuse, infiltration, discharge to water body etc.
- Identify SuDS sub-catchments
- Provision of treatment stages based on land use for each sub-catchment
- Estimate attenuation volumes - from the types of land use and density of the development, a general assumption can be made about the percentage of the area which is impermeable and will generate runoff
- The amount of source control (management where rain falls to prevent runoff such as rainwater harvesting, permeable surfaces and green roofs) should be estimated through discussions with the design team to give a realistic estimate of runoff. The volume calculated does not need to be delivered as one storage area, and better solutions are often found by breaking down the storage volume into smaller parts and combining these with multi-functional spaces e.g. paved public areas, open spaces, roads, gardens etc
- Structure conveyance paths - natural flow paths and 'man-made' connection routes (roads, green corridors) should be examined at this point to establish a structured grid for surface water conveyance to storage areas and discharge points. Runoff should be kept at or near ground level, where possible
- Identify green space and public space locations including any that are designed to be multifunctional – integrating SuDS (see also Section 15.6 – Green Infrastructure and Landscaping)
- Details of any proposed wayleaves or land transfers in relation to surface water drainage
- An undertaking that SuDS will be completed to taking in charge standards (in accordance with Policy SI26)