

## Section 2.3 Green and Blue Infrastructure

### Overarching Principle

**To deliver a network of high quality green and blue infrastructure spaces and public parks while protecting, enhancing and sensitively upgrading the natural, built and cultural assets of Clonburris lands.**



### 2.3.1 Introduction

Green Infrastructure (GI) is a generic term encompassing the protection, management and enhancement of urban, peri-urban and rural environmental resources (natural and managed), through the identification and provision of multifunctional and interconnected green spaces and provides an opportunity to reassess the manner in which we manage and use green spaces (RPGGDA, 2010)<sup>1</sup>. Green and blue infrastructure is essentially the green spaces and the water environment. It is referred to as 'infrastructure' as it is considered to be as important as other types of infrastructure such as roads, schools and hospitals. It is taken to mean all green space and water of public and natural value.

Spatially planned networks of natural and semi natural green (land) and blue (water) infrastructure becoming increasingly recognised as providing many environmental, economic and social benefits to society and we need to plan for their creation and protection within the SDZ lands. Successful green and blue infrastructure planning is also recognised as a natural solution and alternative to 'grey' infrastructure (utilities, transport infrastructure, flood control) that is environmentally friendly and less expensive.

A fundamental challenge in the preparation of the Planning Scheme is to achieve a balance between a new high quality, urban residential environment, sustainable water management and the protection and the enhancement of key natural and built heritage assets of the lands, in order to provide these spatially planned networks of green and blue infrastructure.

### Key Principles

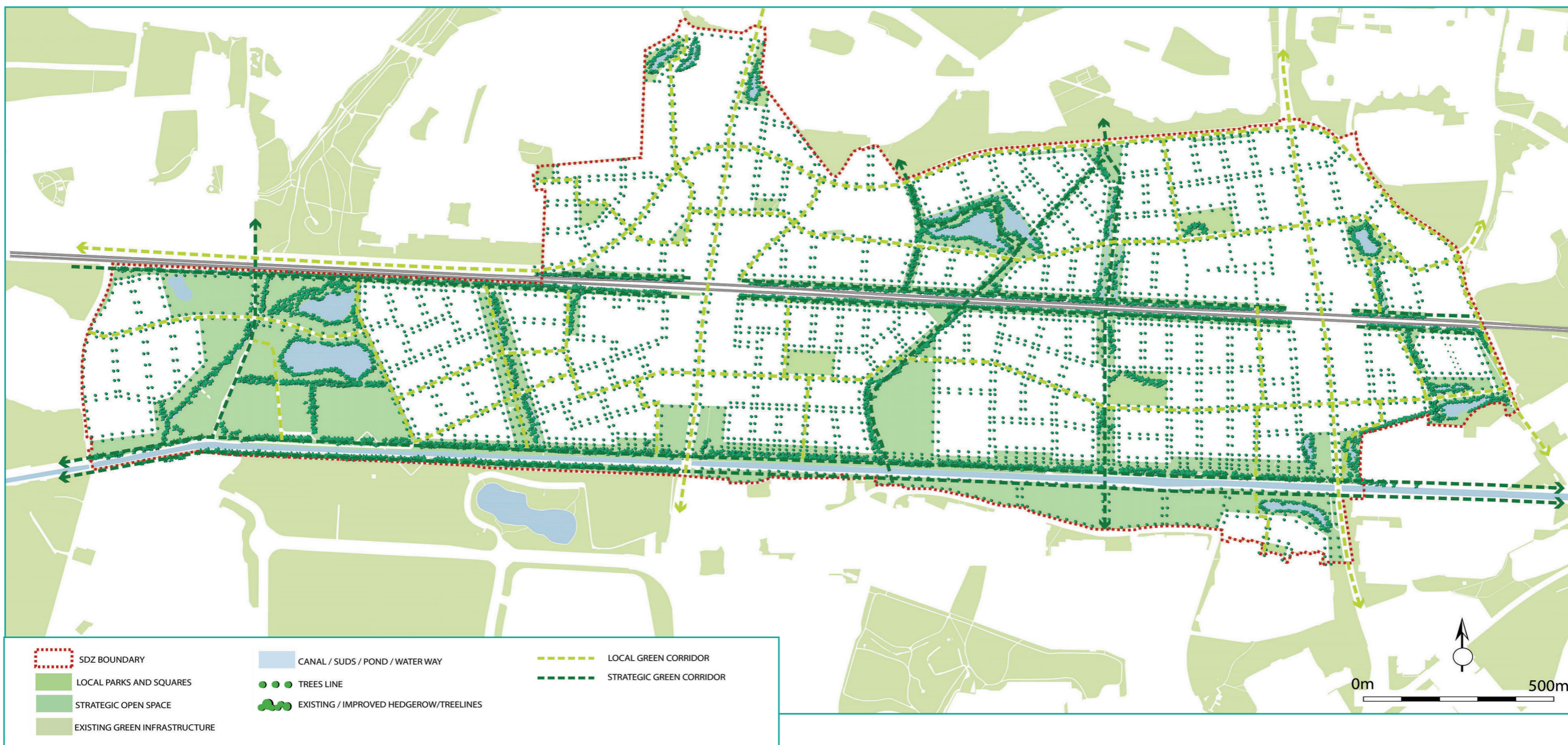
The key principles for green and blue infrastructure for the Planning Scheme are as follows;

- » To protect, enhance and develop an interconnected green and blue infrastructure network of parks, open spaces, hedgerows, grasslands, protected areas, rivers and streams for amenity and recreation, biodiversity protection, flood management and adaptation to climate change;
- » To retain and improve key landscape and ecological features such as hedgerows, the Grand Canal and the Griffeen River;
- » To incorporate new elements of Green and Blue Infrastructure such as tree planting, parks and natural open spaces and sustainable urban drainage systems;
- » To reduce fragmentation and strengthen ecological links through the retrofitting and or upgrading of the pedestrian bridge over the railway line to a 'green bridge';
- » To connect parks and areas of open space with ecological and recreational corridors to aid the movement of biodiversity and people and to strengthen the overall Green Infrastructure network;
- » To support native plant and animal species and encourage corridors for their movement; and
- » To seek to retain hedgerows, aquatic habitats and established tree lines wherever possible.

<sup>1</sup> Regional Planning Guidelines for the Greater Dublin Area 2010

2.3.2 Green Infrastructure Network

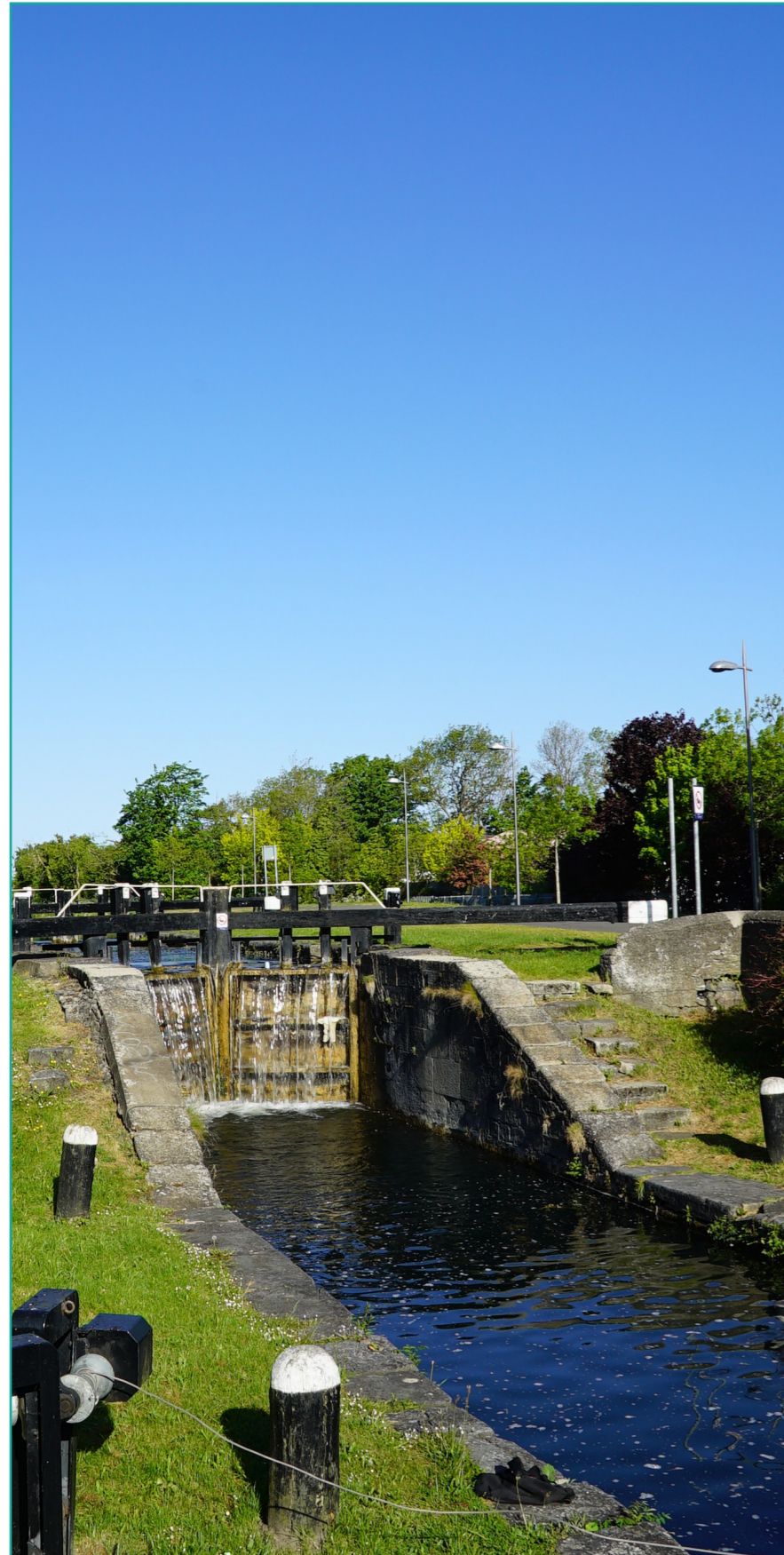
Figure 2.3.1 | Green Infrastructure



Blue and green spaces will cover approximately 30% of the SDZ lands. Developments on the SDZ lands should identify and protect (where possible) the existing green infrastructure elements on the lands including green open spaces, hedgerows, large trees, watercourses and other natural physical features as these are a strong part of the lands history and will define the character of areas and help to create attractive neighbourhoods.

New green spaces will be interconnected with existing green infrastructure to form multifunctional corridors and hubs at the Griffeen Valley Park Extension, along the Grand Canal, the Griffeen River, the Kilmahuddrick Stream, through existing and proposed Parks, along the railway line, through existing hedgerows and over the green bridge and connecting into existing green spaces outside the SDZ lands. Local level green infrastructure corridors shall be provided along the new urban structure of streets and spaces (i.e. trees, tree lines, swales margins).

These blue and green spaces will take the form of parks, open spaces, constructed wetlands, swales, tree planting, hedgerows, parks, permeable paving, green roofs and a green bridge over the railway line. These spaces will provide for amenity and recreation, biodiversity protection and enhancement, water management and adaption to climate change. In general, the recreation and amenity spaces should all be overlooked by buildings and streets that would provide passive supervision from residents, pedestrians and passing motorists where appropriate.



### Grand Canal

The Grand Canal is a proposed Natural Heritage Area (pNHA). This is an area considered important for the habitats present or which holds species of plants and animals whose habitat needs protection<sup>2</sup>. The Grand Canal is a man-made linear waterway that hosts a rich variety of plant and animal species including protected species and numerous mature tree species. It is a key element in the existing Green Infrastructure Network. Associated canal structures and buildings contribute to the unique setting and historic character of the Grand Canal and the southern tow-path provides an uninterrupted corridor for pedestrian and cyclist movement.

Development proposals on the SDZ lands close to the Grand Canal shall protect and incorporate high value natural heritage features including watercourses, wetlands, grasslands, woodlands, mature trees, hedgerows and ditches and include for a 50m set back for all buildings and a 30m set-back distance for development (with the exception of bridges and footpaths) from the pNHA boundary to facilitate the continuity of the Grand Canal as a corridor for protected species, biodiversity, and a fully functioning Green Infrastructure network (See also Sections 2.10 and 2.11).

Where new canal crossings (i.e footbridges/cycle bridges) are proposed, they should be designed so as to avoid fragmentation of linear habitats associated with the Grand Canal Corridor.

### Green Bridge

Traditionally, transport infrastructure, such as railways and roads, had a negative impact on the green infrastructure network; severing habitats, landscapes, greenspaces and creating barriers to species movement. The Landscape Institute UK defines a Green Bridge as *an artificial structure over road or rail infrastructure which is either vegetated or provides some wildlife function*. Green bridges are a green infrastructure solution that can minimise these impacts and provide enhanced connections for species and humans. Other benefits to green bridges include increased opportunities for recreation and tourism and improved visual appearance of the infrastructure. Within the SDZ lands, the Kildare Railway Line severs the lands including Griffeen Valley Park and the lands to the south. In order to reduce fragmentation of the Green Infrastructure network, in particular the Griffeen Valley Park and the Griffeen River, a Green Bridge shall be provided over the railway line.

It is an objective of the scheme to retrofit or replace the existing pedestrian bridge over the railway line to provide a green bridge connecting the Griffeen Valley Park and the proposed extension of the park to the south.

The green bridge shall be integrated into the surrounding landscape and shall provide connections for pedestrians and cyclists, commuting routes for species and the park landscape as a whole.

The design of the green bridge shall be in accordance with the Landscape Institute UK *Green Bridges Technical Guidance Note 09/2015*.

### Sustainable Urban Drainage Systems

Sustainable Urban Drainage Systems (SUDS) is widely recognised as a green infrastructure based approach to drainage and storm water management. The development of the SDZ lands will require a planned and incidental approach to SUDS and Infrastructural SUDS, to address drainage and storm water management issues. The system should be designed as an ecological resource through appropriate planting and landscape intervention. (See also Section 2.9 Services, Infrastructure and Energy Framework).

It is essential that open spaces accommodating SUDS measures such as attenuation ponds, shall be designed in order to achieve a balance between surface water management and high quality open space.

The key elements of the proposed SUDS measures are as follows:

- » The SUDS shall be designed into the street, public squares and open space network, as a series of 'wet' and 'dry' landscape elements. These should be of a high quality to achieve a multifunctional space for amenity, biodiversity and surface water management and should include grasses and swales, and high quality, well designed attenuation ponds and constructed wetlands.
- » A system of infiltration trenches, tree pits, permeable paving green roofs, and other elements shall be provided that should direct surface water to attenuation areas.
- » Swales should be designed as linear landscape elements and used as elements to enhance streetscape and neighbourhood character and identity.
- » Surface water should be captured and treated within the curtilage of each site using green roofs, rainwater gardens, filter trenches or bio retention units.

<sup>2</sup> National Parks and Wildlife Service

A detailed Surface Water Management Plan is required to be prepared by the landowners/developers and agreed with South Dublin County Council in advance of any development on the SDZ lands. All SUDS proposals within the SDZ shall comply with this Plan and also with the Greater Dublin Strategic Drainage Study and the Sustainable Urban Drainage Manual C753.

### **Temporary and Advance Greening**

Undeveloped land can be an underutilised resource that could improve the environmental, economic and visual amenity of an area and could be a valuable use of lands that could contribute to the green infrastructure network. Temporary greening is a positive way to create short-term safe and attractive places until development comes on stream and would also contribute to the green network on the lands.

Temporary greening allows undeveloped land, for which there are no development proposals prepared or considered, to be used in the short or medium term for temporary greenspace. Temporary landscapes can be provided, that are affordable and maintainable on a temporary, yet self-sustaining basis.

It is an objective of the plan to support temporary greening proposals including those that involve community growing, allotments, sports and recreation activities, on the basis that it is not intended to develop these sites in the medium to long term for 5-10 years. Pedestrian and cycle paths could also be formed along proposed route networks.

It is essential to fully convey to the public that these are temporary measures and landscape uses, and they will be replaced with re-development on the site in the future. These sites could provide links with schools, the Grand Canal and or the Griffeen Valley Park.

It is also an objective of the scheme to promote advanced greening of lands. Green features including structural planting may be provided in advance of construction. This would ensure essential green infrastructure, trees and other planting can become established, mature and resilient prior to the completion of the development.

Proposals for temporary greening shall be agreed with the Planning Authority at planning application stage.



**Temporary greening allows undeveloped land, which has no development proposals prepared or considered, which is intended to be used in the short or medium term for temporary greenspace.**

