

Dundrum Central Landscape Design Report

Part 10 Residential Development, Dundrum Central Development, Dundrum Road, Dublin 14.

DSRM-ACM-L-RPT

2024 - 09 - 19



Applicant



Agent

Quality information

Document name	Ref	Prepared for	Prepared by	Date	Reviewed by
Landscape Report	Dundrum Central Landscape Design	DLR County Council in partnership with Land Development Agency	Bicky Sanghera, Sufyan Anjum	19/06/24	Rich O'Connor Kieran Culleton

Revision history

Revision	Ref	Prepared for	Prepared by	Date	Reviewed by
P2	Dundrum Central Landscape Design	DLR County Council in partnership with Land Development Agency	Bicky Sanghera, Sufyan Anjum	19/06/24	Rich O'Connor Kieran Culleton
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P5	Dundrum Central Landscape Design	DLR County Council in partnership with Land Development Agency	Bicky Sanghera, Sufyan Anjum	19/09/24	Rich O'Connor Kieran Culleton

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Context and Site Overview

01



Project Description

Dún Laoghaire Rathdown County Council, in partnership with The Land Development Agency, is seeking a ten year approval to carry out the following proposed development which is located on a total application site area of c. 9.7 ha, located on the former Central Mental Hospital, Dundrum Road, Dundrum, Dublin 14 and areas of Dundrum Road and St. Columbanus Road, Dublin 14. The subject site is in the immediate setting and curtilage of a number of protected structures, namely the 'Asylum' (RPS No. 2072), the 'Catholic Chapel' (RPS No. 2071) and the 'Hospital Building' (RPS No. 2073).

The development will consist of the construction of a residential scheme of 934 no. dwellings on an overall site of c. 9.7 ha.

The development will consist of the demolition of existing structures associated with the existing use (3,677 sq m), including:

- **Single storey former swimming pool / sports hall and admissions unit (2,750 sq m);**
- **Two storey redbrick building (305 sq m);**
- **Single storey ancillary and temporary structures including portacabins (618sq m);**
- **Removal of existing internal sub-divisions/ fencing, including removal of security fence at Dundrum Road entrance;**
- **Demolition of section of porch and glazed screens at Gate Lodge building (4 sq m);**
- **Removal of walls adjacent to Main Hospital Building;**
- **Alterations and removal of section of wall to Walled Garden.**

The development will also consist of alterations and partial demolition of the perimeter wall, including:

- **Alterations and removal of section of perimeter wall adjacent to Rosemount Green (south);**
- **Formation of a new opening in perimeter wall at Annville Grove to provide a pedestrian and cyclist access;**
- **Alterations and removal of sections of wall adjacent to Dundrum Road (including removal of existing gates and entrance canopy), including reduction in height of section, widening of existing vehicular access, and provision of a new vehicle, cyclist and pedestrian access;**
- **Alterations and removal of section of perimeter wall adjacent to Mulvey Park to provide a pedestrian and cyclist access.**

The development with a total gross floor area of c. 94,058 sq m (c. 93,980 sq m excluding retained existing buildings), will consist of 934 no. residential units comprising:

- **926 no. apartments (consisting of 342 no. one bedroom units; 98 no. two bedroom (3 person) units; 352 no. two bedroom (4 person) units; and 134 no. three bedroom units) arranged in 9 blocks (Blocks 02-10) ranging between 2 and 8 storeys in height (with a lower ground floor to Blocks 02 and Block 10 and Basements in Blocks 03 and 04), together with private balconies and private terraces and communal amenity open space provision (including courtyards) and ancillary residential facilities, including an 130 sq m internal residential amenity area at the Ground Floor Level of Block 3;**
- 6 no. three bedroom duplex apartments located at Block 02, together with private balconies and terraces.
- 2 no. 5 bedroom assisted living units and private rear gardens located at Block 02.

The development will also consist of 4,380 sq m of non-residential uses, comprising:

- Change of use and renovation of existing single storey Gate Lodge building (former reception/staff area) to provide a café unit (78 sq m);
- 1 no. restaurant unit (266 sq m) located at ground floor level at Block 03;
- 3 no. retail units (1,160 sq m) located at ground floor level at Blocks 03 and 07;
- 1 no. medical unit (288 sq m) located at ground floor level at Block 02;
- A new childcare facility (716 sq m) and associated outdoor play area located at lower ground and ground floor level at Block 10;
- A management suite (123 sq m) located at ground floor level at Block 10; and
- A new community centre facility, including a multi-purpose hall, changing rooms, meeting rooms, storage and associated facilities (1,749 sq m) located at ground and first floor level at Block 06.

Vehicular access to the site will be from a new signalised access off Dundrum Road to the south of the existing access and the existing access of Dundrum Road will be retained for emergency vehicle, pedestrian and cyclist access only. The development will also consist of the provision of public open space and related play areas; hard and soft landscaping including internal roads, cycle and pedestrian routes, active travel routes for cyclists and pedestrians, pathways and boundary treatments, street furniture, wetland features, part-basement,

Legislative and Policy Review

The site to the north of Dundrum is enclosed by high stone walls on all sides. The site is primarily surrounded by residential properties which back on to the site. Matured vegetation with the back gardens of properties is a key characteristic of the site. The land abuts Rosemount Green to the south, Dundrum Road and Annville Park to the west. The area has a number of amenity green spaces, a few playgrounds and private sports provision, but lacks high quality open spaces which can be found in other areas of Dun Laoghaire Rathdown. The adjoining image highlights the different open spaces in the vicinity of the site.



 Site Boundary

Legislative and Policy Review

Dún Laoghaire–Rathdown County Development Plan 2022-2028

Dun Laoghaire-Rathdown County Council

The County Development Plan sets out policies and objectives for the continuing sustainable development of the county, including the area of Dundrum. The following policies are relevant to Dundrum and its landscape development:

5.6.1. Policy T11: WALKING AND CYCLING

As part of it is a Policy Objective to secure the development of a high quality, fully connected and inclusive walking and cycling network across the County and the integration of walking, cycling and physical activity with placemaking including public realm permeability improvements. (Consistent with NPO 27 and 64 of the NPF and RPO 5.2 of the RSES)

8.2.1. NATIONAL PLANNING FRAMEWORK

The NPF highlights the relevance of open space and recreation to enhance our amenities, landscape, heritage, and healthy living. It also emphasises that open space and recreational facilities are key to the delivery of sustainable communities

8.7.1.1. POLICY OBJECTIVE GIB18: PROTECTION OF NATURAL HERITAGE AND THE ENVIRONMENT

It is a Policy Objective to protect and conserve the environment including, in particular, the natural heritage of the County and to conserve and manage Nationally and Internationally important and EU designated sites - such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), proposed Natural Heritage Areas (pNHAs) and Ramsar sites (wetlands) - as well as non-designated areas of high nature conservation value known as locally important areas which also serve as 'Stepping Stones' for the purposes of Article 10 of the Habitats Directive

8.7.1.2 POLICY DIRECTIVE GIB19: HABITATS DIRECTIVE

It is a Policy Objective to ensure the protection of natural heritage and biodiversity, including European Sites that form part of the Natura 2000 network, in accordance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines

9.2.1.3. POLICY OBJECTIVE OSR3: FUTURE IMPROVEMENTS

It is a Policy Objective to continue to improve, plant and develop more intensive recreational and leisure facilities within parks and public open spaces insofar, as resources will permit, while ensuring that the development of appropriate complementary facilities does not detract from the overall amenity of the spaces.

9.2.1.4. POLICY OBJECTIVE OSR4: PUBLIC OPEN SPACE STANDARDS

It is a Policy Objective to promote public open space standards generally in accordance with overarching Government guidance documents 'Sustainable Residential Development in Urban Areas - Guidelines for Planning Authorities',

(2009), the accompanying 'Urban Design Manual - A Best Practice Guide', and the 'Sustainable Urban Housing: Design Standards for new Apartments', (2020).

9.3.1.2 POLICY OSR6: ALLOTMENTS AND COMMUNITY GARDENS

It is a Policy Objective to support the provision of additional public allotments and community gardens to improve their provision and distribution across the County.

9.3.1.3. POLICY OBJECTIVE OSR7: TREES, WOODLAND AND FORESTRY

It is a Policy Objective to implement the objectives and policies of the Tree Policy and the forthcoming Tree Strategy for the County, to ensure that the tree cover in the County is managed, and developed to optimise the environmental, climatic and educational benefits, which derive from an 'urban forest', and include a holistic 'urban forestry' approach.

9.4.1.1. POLICY OBJECTIVE OSR9 - SPORTS AND RECREATIONAL FACILITIES

It is a Policy Objective to promote the provision, and management of high quality sporting, and recreational infrastructure throughout the County, in accordance with the National Sports Policy 2018-2027, and dlr Space to Play: a new approach to Sports Facilities Strategy', 2017-2022, to ensure that the particular needs of different groups are incorporated into the planning and design of new facilities.

12.8.11. EXISTING TREES AND HEDGEROWS

New developments shall be designed to incorporate, as far as practicable, the amenities offered by existing trees and hedgerows. New developments shall, also have regard to objectives to protect and preserve trees and woodlands (as identified on the County Development Plan Maps). The tree symbols on the maps may represent an individual tree or a cluster of trees and are not an absolute commitment to preservation. Decisions on preservation are made subject to full Arboricultural Assessment and having regard to other objectives of the Plan.

SPECIFIC LOCAL OBJECTIVE NO:113

Any integration of / or connectivity between the Central Mental Hospital lands with the adjoining residential area should include the development of enhanced sporting facilities/ infrastructure for existing and future residents.

Dún Laoghaire–Rathdown County Biodiversity Action Plan 2021-2025

The DLR Biodiversity Action Plan sets out policies and objectives for the continuing restoration of the county, including the area of Dundrum. The following policies are relevant to Dundrum and its landscape development:

Theme 1: Reaching a deeper understanding of our county's biodiversity

Action 1.5: Map and protect our important hedgerows and promote native hedgerow enhancement and planting

Action 1.7: Identify important biodiversity areas most vulnerable to climate change, including terrestrial, watercourses, coastal and marine areas, and establish measures and projects that assist protection of vulnerable areas

Theme 3: Powerful actions to protect biodiversity and us

Action 3.4: Identify opportunities where ecosystems can be restored and enhanced, including terrestrial, river, coastal and marine ecosystems.



Action 3.6: To protect, restore and expand our County Ecological Network and DLR'S Green Infrastructure. Deliver Nature Recovery and Restoration as part of our Ecological Network and promote the use of Nature-based Solutions where these solutions allow the delivery and expansion of our Ecological Network

READY, STEADY, PLAY! A National Play Policy (2004)

The National Play Policy sets out objectives for the continuing restoration of the county, including the area of Dundrum. The following policies are relevant to Dundrum and its landscape development:

PROPOSED ACTIONS - 13: The use of creative landscaping by local authorities and others will be promoted as a means of providing new play opportunities for children.

PROPOSED ACTIONS - 23: All new and redeveloped local authority play facilities will be developed to be accessible in accordance with Universal Design Principles and best practice.

PROPOSED ACTIONS - 38: All play equipment used in public playgrounds or in publicly-funded playgrounds should conform with the Irish Standards for play equipment and surfacing [I.S. EN1176 and I.S. EN1177].

Teenspace, National Recreation Policy for Young People (2007)

The National Recreation Policy for Young People sets out objectives for the continuing restoration of the county, including the area of Dundrum. The following policies are relevant to Dundrum and its landscape development:

ACTION 21:

Existing facilities should include a space dedicated to young people where they can meet their friends in a safe environment.

ACTION 34:

The National Spatial Strategy, the National Rural Development Programme and expenditure under the National Development Plan will have regard to the provision of social and community infrastructure, such as parks, sporting and cultural facilities, that will meet the needs of young people

DLRCC play policy 2023 - 2028.

Designed to encourage exploration and imaginative play through the integration of play features and structures within the landscape to encourage interaction and exploration of the natural environment. There are two designated playgrounds located to the north of the site adjacent to the cycle track and in the community park south of the site: Local play opportunities occur in the semi-private podium spaces.

Context History

Dundrum - Windy Arbour OSI 1837-1842

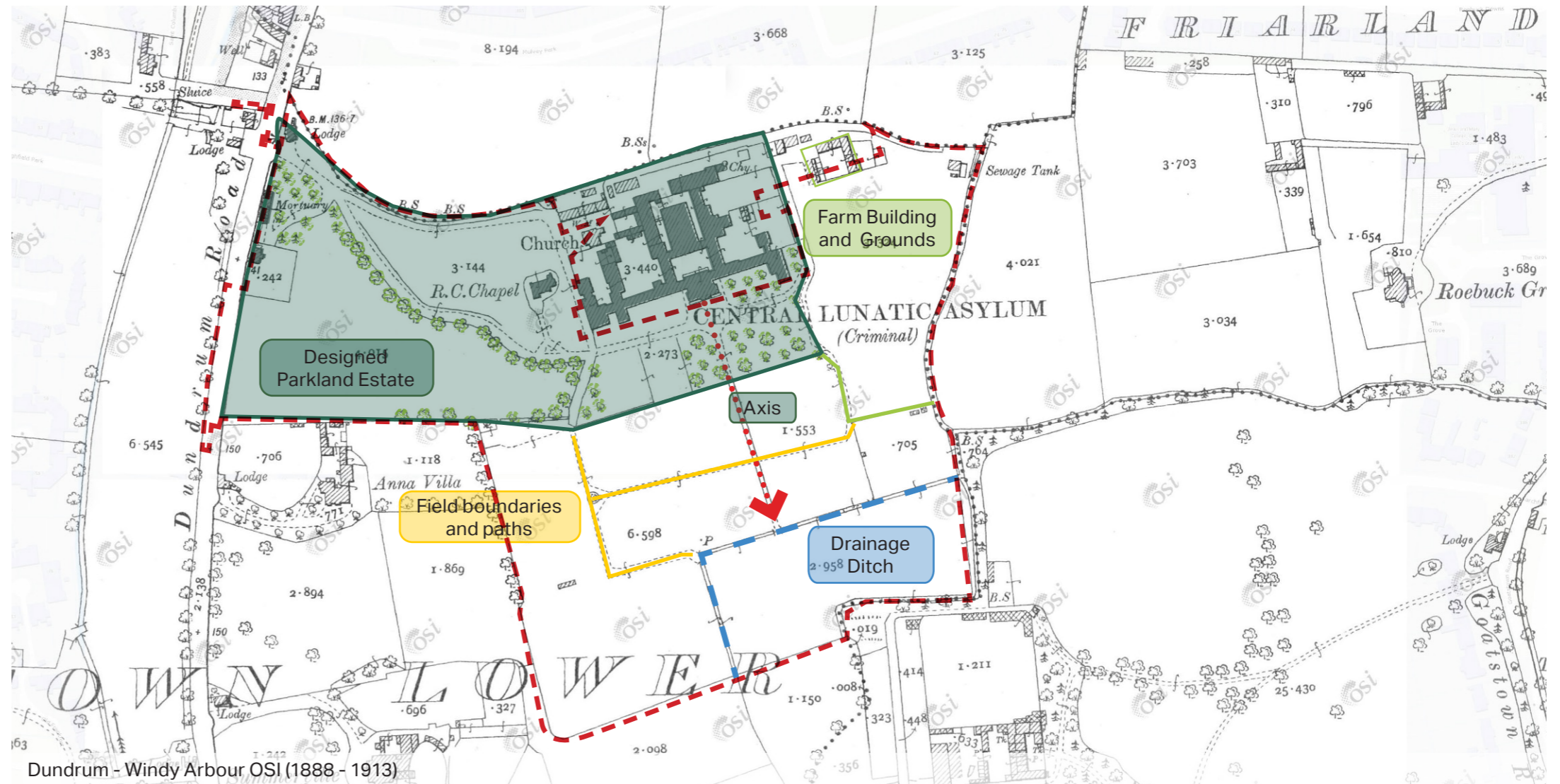
The site in 1837 was made up of an irregular field pattern, surrounded by large manor house demesne to the south and east. Some fields are delineated by trees

Dundrum - Windy Arbour OSI (1888 - 1913)

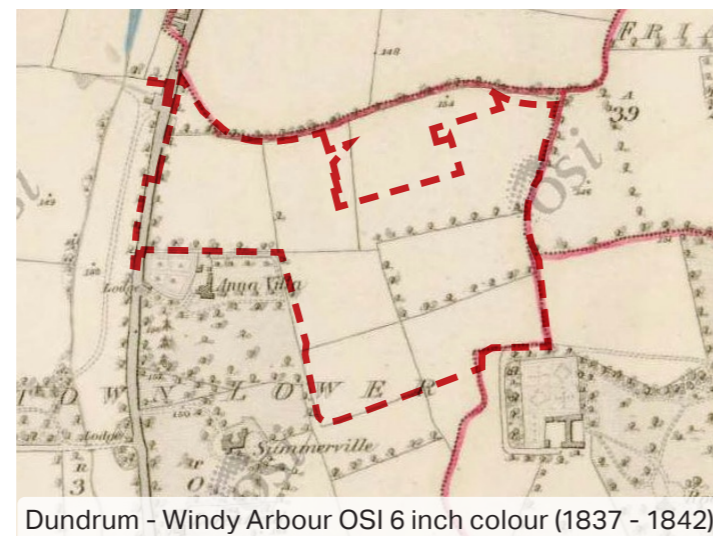
This map has the greatest amount of historic detail of the site itself including the hospital. The plan shows the designed parkland setting in the north of the site to the entrance along Dundrum Road and in front of the hospital. The farm buildings in the north east of the site are also visible. Agriculture / agrarian fields make up the rest of the landscape. A drainage ditch separates the land in the south east corner of the site.

Dundrum - Windy Arbour OSI 6 Inch Cassini - (1913-1930)

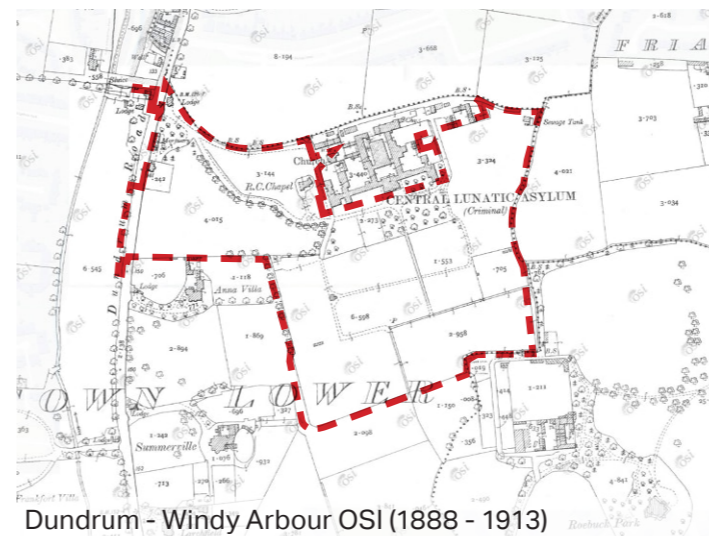
The site is identified only by the text *Central Lunatic Asylum (Criminal)*, with no detail within the boundary walls. Development is primarily to the east of the site, along Dundrum Road, Annville Park and Highfield Park. Some large manors/villas are still visible within the vicinity of the grounds, albeit with smaller grounds. Open agricultural fields are still visible to the north/ east and south



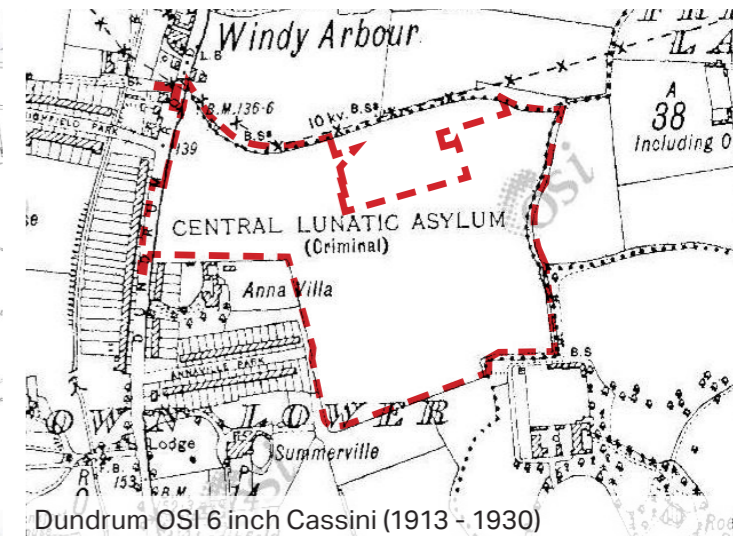
Dundrum - Windy Arbour OSI (1888 - 1913)



Dundrum - Windy Arbour OSI 6 inch colour (1837 - 1842)



Dundrum - Windy Arbour OSI (1888 - 1913)



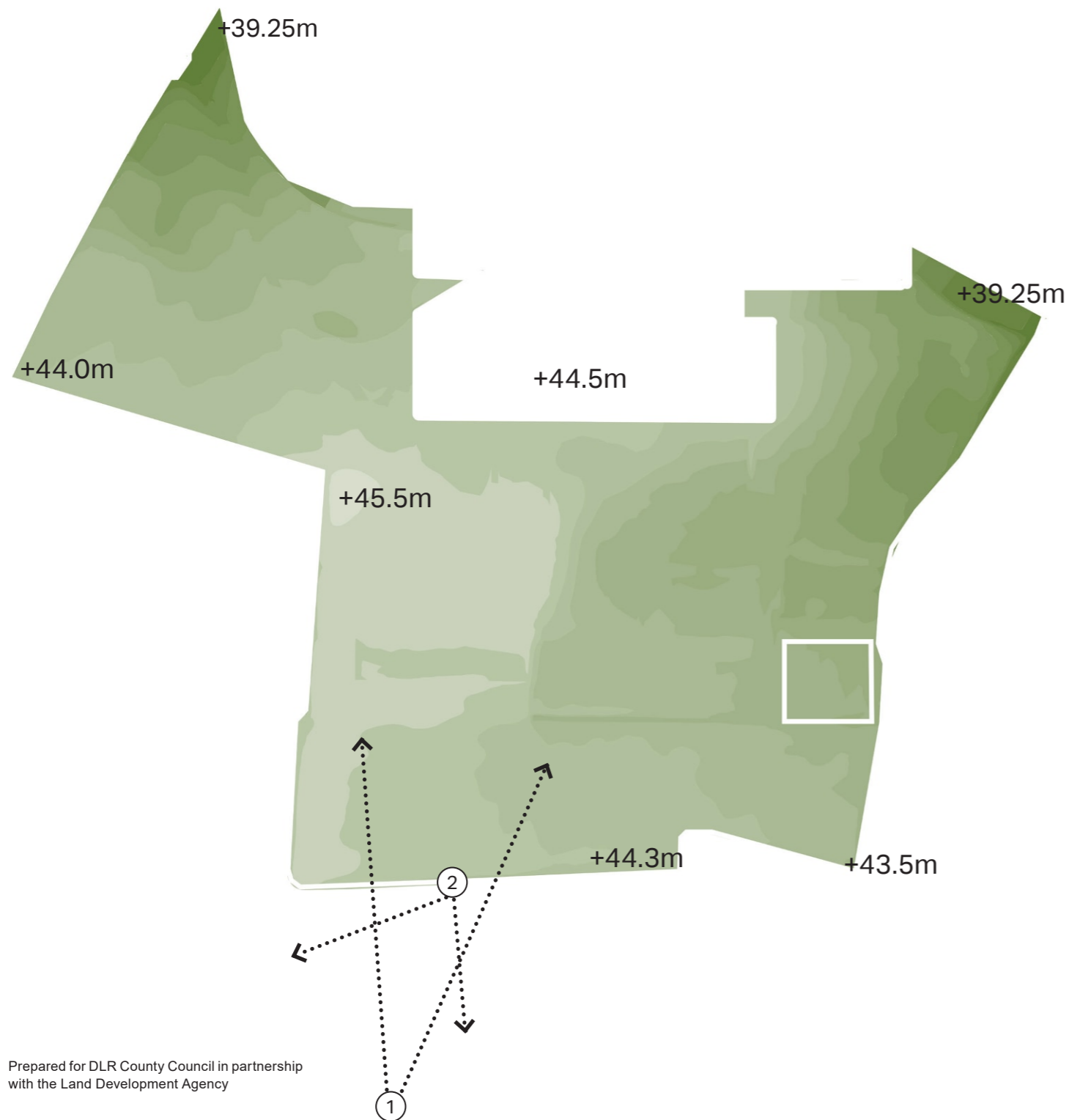
Dundrum OSI 6 inch Cassini (1913 - 1930)



Site Boundary

Analysis_Site Topography and Views

The site has over 6 meters of height difference. The highest point in the middle of the site falling to the edges. The majority of the site lies between 44.0 and 45.5 for a fairly flat centre area. The main hospital building sits at 44.5m.



Prepared for DLR County Council in partnership with the Land Development Agency



View 1: Rosemount Green offers the best long distant view of the central mental hospital



View 2: Extensive views south over Rosemount Green offers long distant views of the Dublin Mountains

Analysis_Site Tree Conditions

A detailed survey and a tree protection plan was undertaken by a qualified arborist.

Please refer to their report and drawings whilst reading the landscape package.

The site contains a variety of good quality mature trees.

Category A trees are located in clusters throughout the parkland.

Mature Lime trees outline the main drive are visually pleasing and in good health.

A group of trees along the ditch in the middle of the site contains some large specimens.

There is an orchard grove of approximately 20 apple trees, with varying degrees of quality.

The walled garden contains a number of poly-tunnels and a rose garden. The area to the north of the walled garden has a strong sense of enclosure formed by trees to the north and the boundary walls of the garden and the site.



Tree Constraints Plan from Arborists

 High Retention Value

Analysis_Boundary Wall

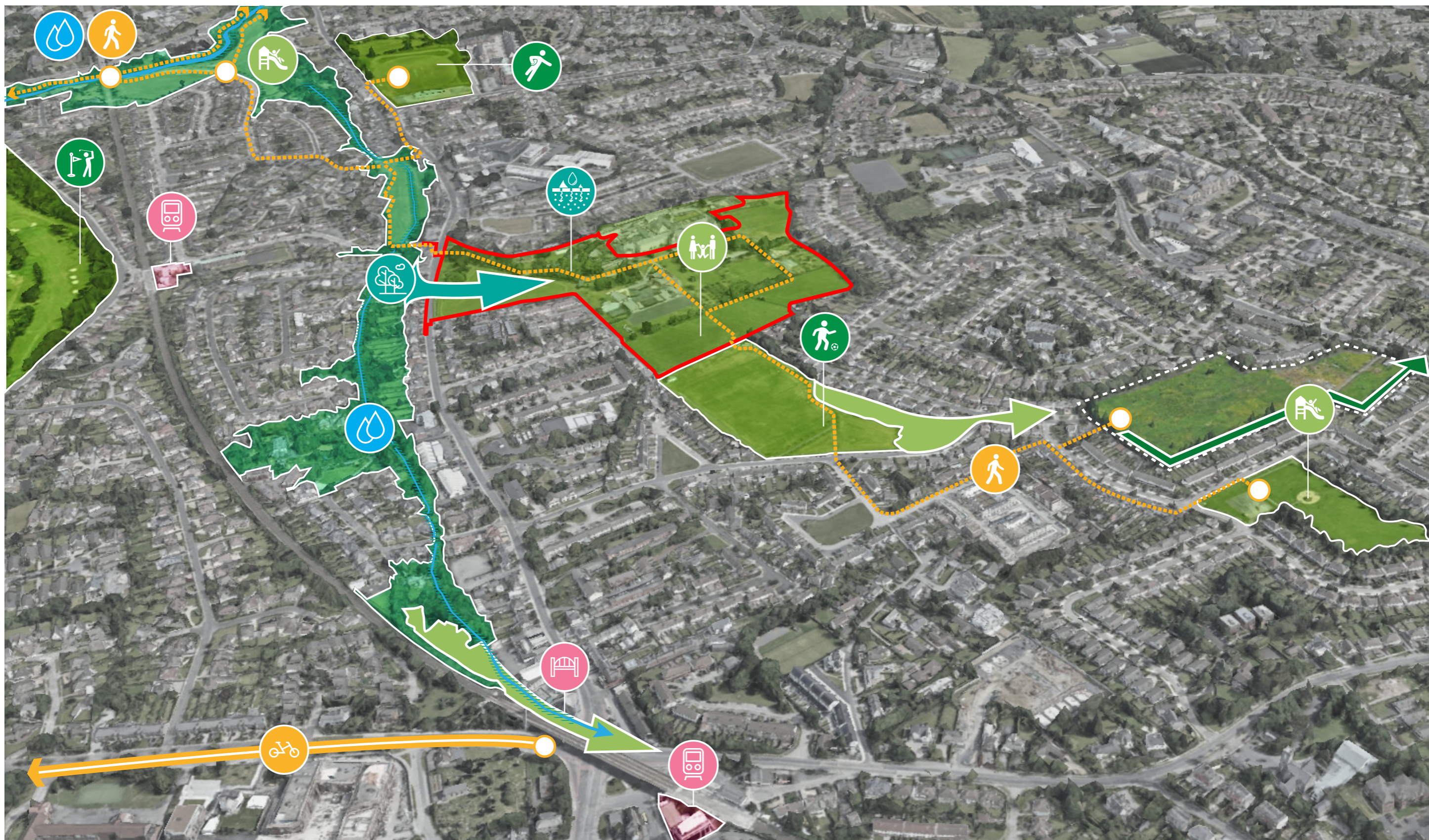
The existing wall surrounding the site plays an important role in the character of the site. The boundary wall creates a sense of separateness from the surrounding area and contributes to the sense tranquillity and relief from the surrounding urban area.

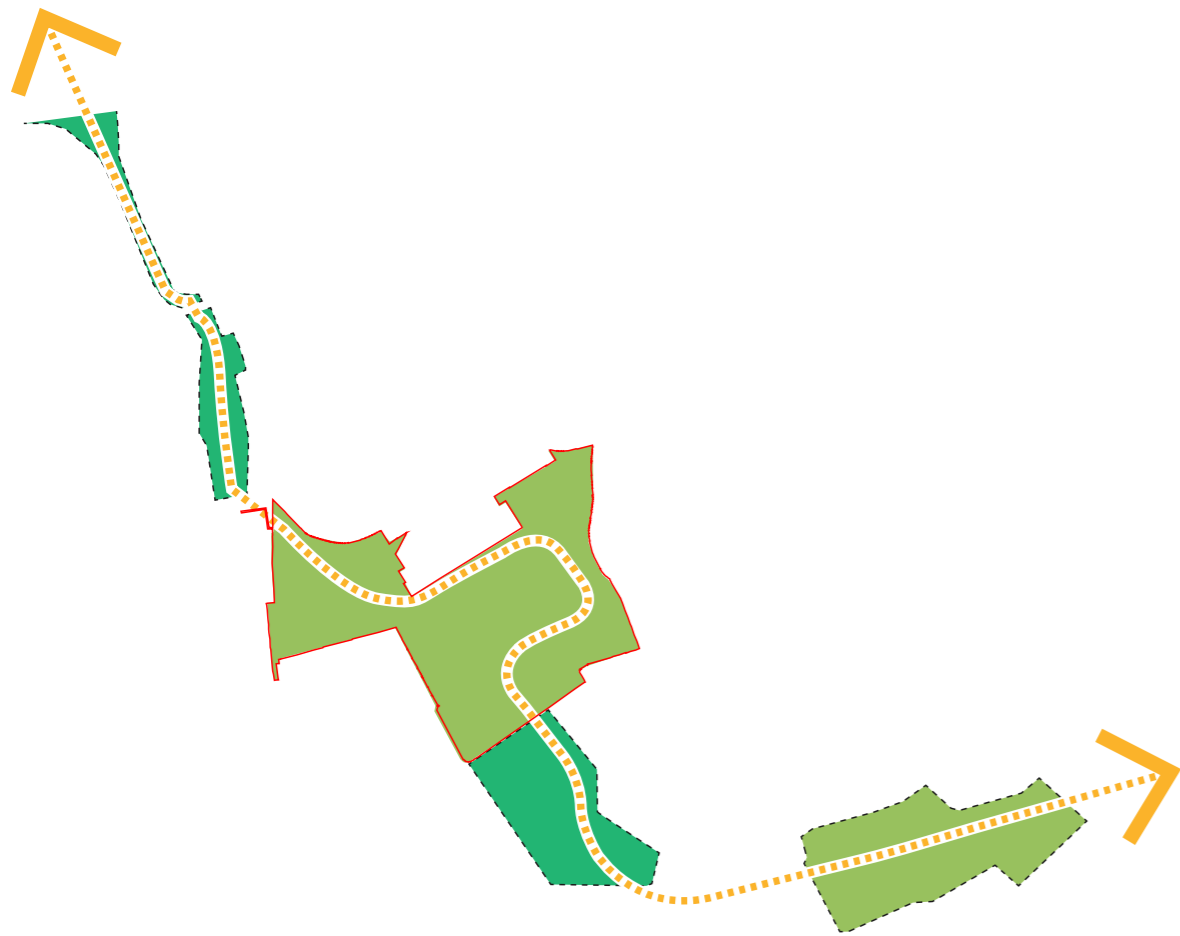


- Original Wall
- Garden Wall



Analysis_Urban Ecosystem Network





Blue/Green Corridor



River Slang



Green Amenity



Main Site



Recreational Ground



**Rosemount Mulvey
Football Club**

Urban Ecosystem

The site has potential to create a new ecological link from Windy Arbour to the Glass Bottle Site and towards Goatstown Road. Providing ecological corridors and connectivity to the River Slang, Rosemount Green, Milltown Golf Course and other green spaces throughout Dundrum. It also has the potential to greatly improve pedestrian and cycling connectivity across the area, providing the local community greater access to green spaces and recreational grounds both within Dundrum Central and in the surrounding area.



River Dodder



Playground Goatstown



CUS Rugby Ground

Analysis_Strengths, Weaknesses, Opportunities & Threats

On-site Findings

A spatial analysis exhibits the various strengths, weaknesses, opportunities and threats found across the site from a landscape perspective. This SWOT approach demonstrates a number of key observations that are to inform a public realm design approach.

Categorisation

A colour-coded plan of these four categories illustrates a variety of findings (opposite). This framework provides the design team with a summary of findings from across the site.



Site Heritage

Enhancement of the sites Vernacular Architecture and Historical Context.



Notable Planting

Existing mature trees stand tall covering a large portion of the site.



Site Wall

The boundary wall create a special character and sense of tranquility and a sense of relief from the surrounding urban environment



Edge Conditions

There is a 4m tall masonry wall separating the site from its surrounding context



Dominant Site Character

The existing character of the site is institutional. Significant change in character would be beneficial.

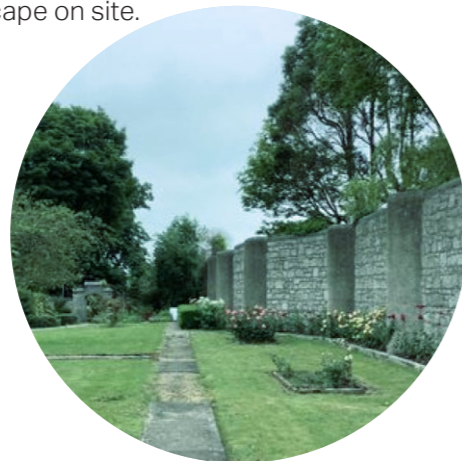


Strengths

Weaknesses

Existing Landscape Conservation

Renovation and reuse of the existing landscape on site.



New District in Dublin

The site has been inaccessible to the public.



Space Linkage

Improved access to the site. Better connection between Dundrum Road, Rosemount Green and Goatstown Road.



Opportunities

Threats

Boundary

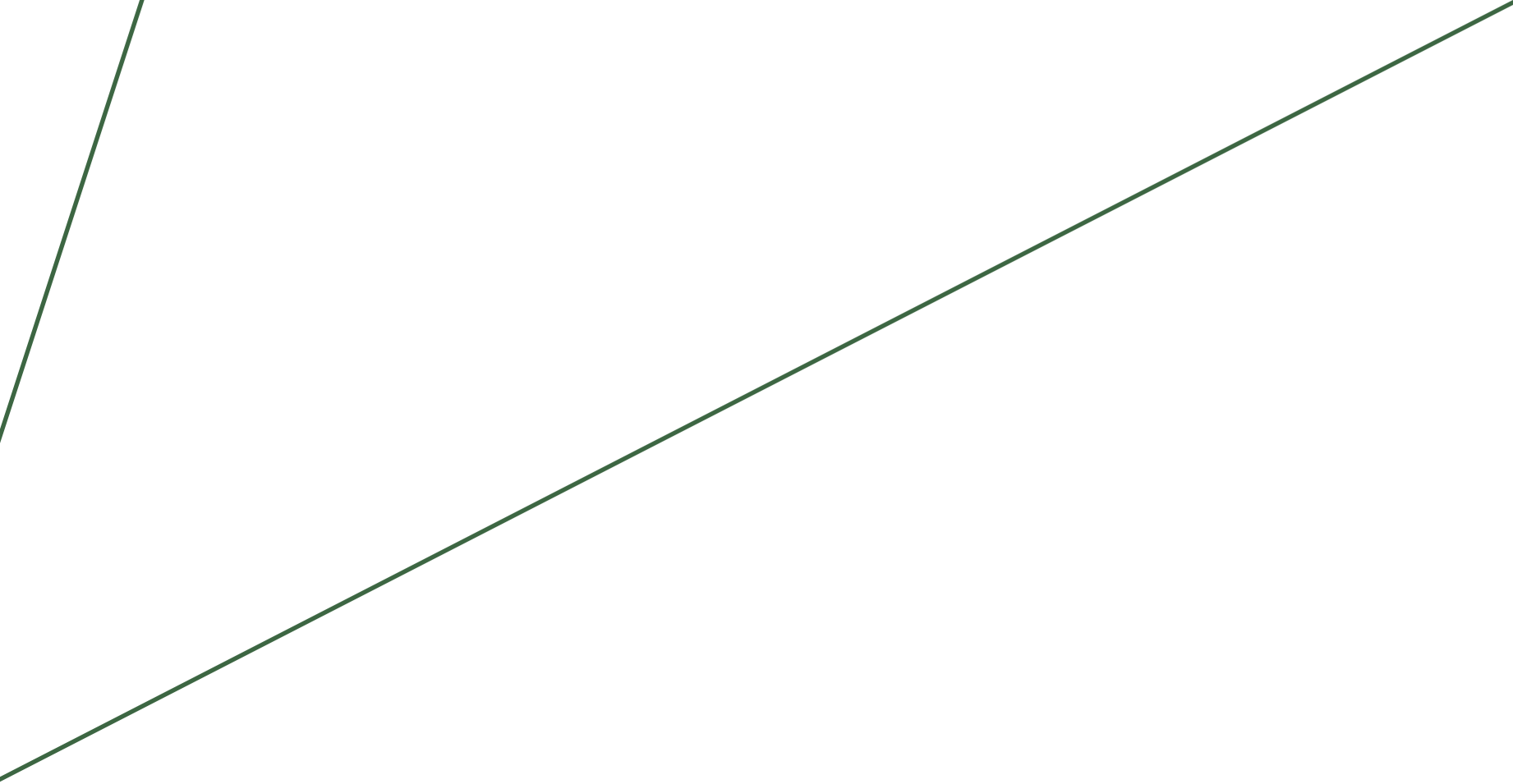
Lack of permeability and activity on through the site could lead to dark corners or antisocial behavior.



Landscape Development

02





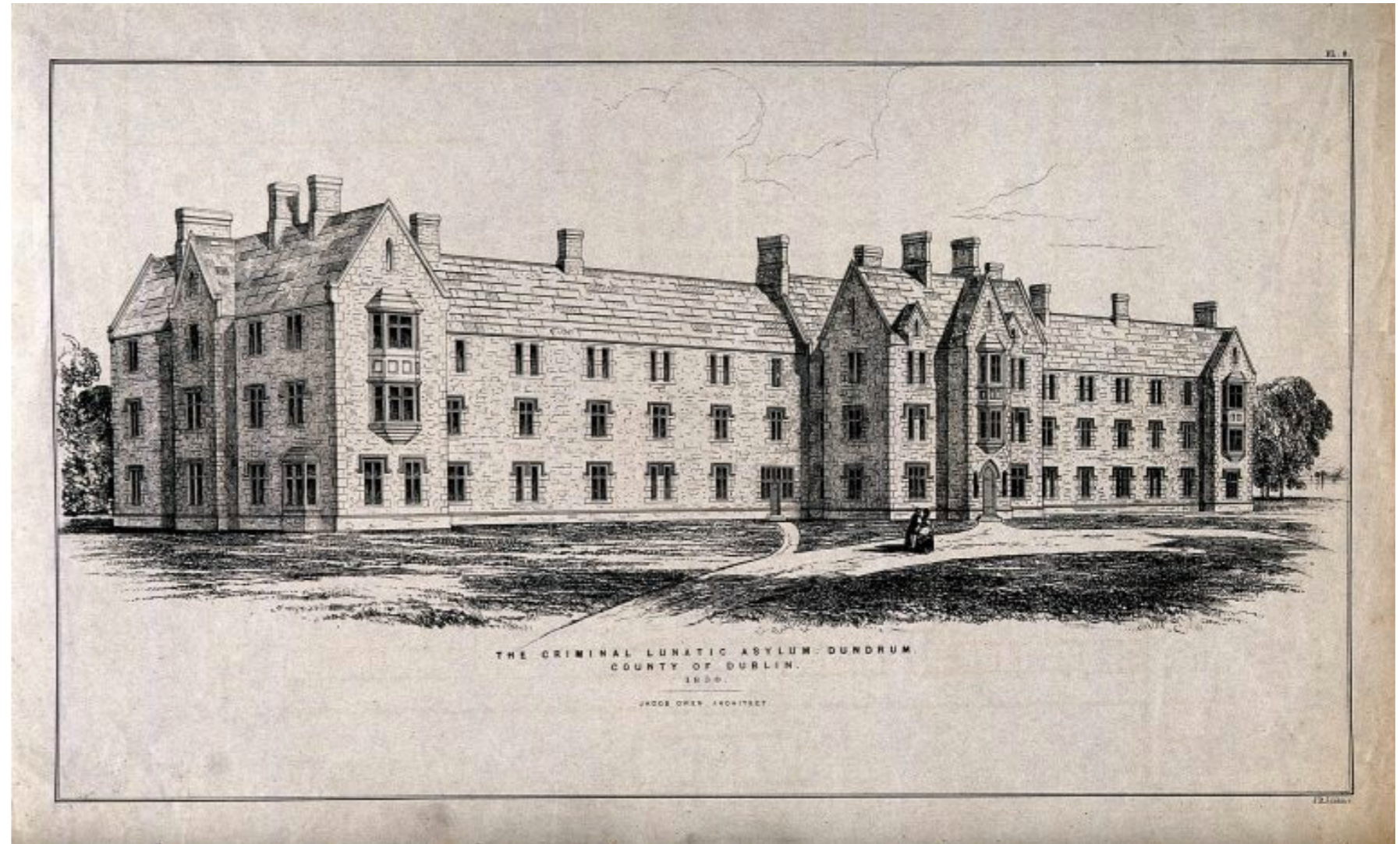
Concept Development

Landscape Concept

The landscape has been inspired by history of the site.

A hospital within a parkland setting, acting as a place of tranquility and restoration, and associated with the Picturesque movement, which places emphasis on the pictorial values of architecture and landscape in combination with each other.

- The developed landscape will retain and protect existing mature trees on site. A central parkland retaining the valuable mature trees on site will provide a key amenity reflecting the historic parkland of past.
- The existing walled garden will be retained and enhanced through the development.
- Existing and historic vistas through the site will be re-established through the design of the open space and architecture, providing a sympathetic green framework through the development.
- Landscape planting will be dynamic providing a sensory delight through smell, movement and visual aesthetic establishing a modern development of tranquillity and biodiversity.



Historic illustration of the Central Mental Hospital

Landscape Objectives

The proposed residential scheme comprises of duplexes, apartment buildings and a Crèche, with associated ancillary works including vehicular access, parking, footpaths, drainage, services, landscaping and site boundary works.

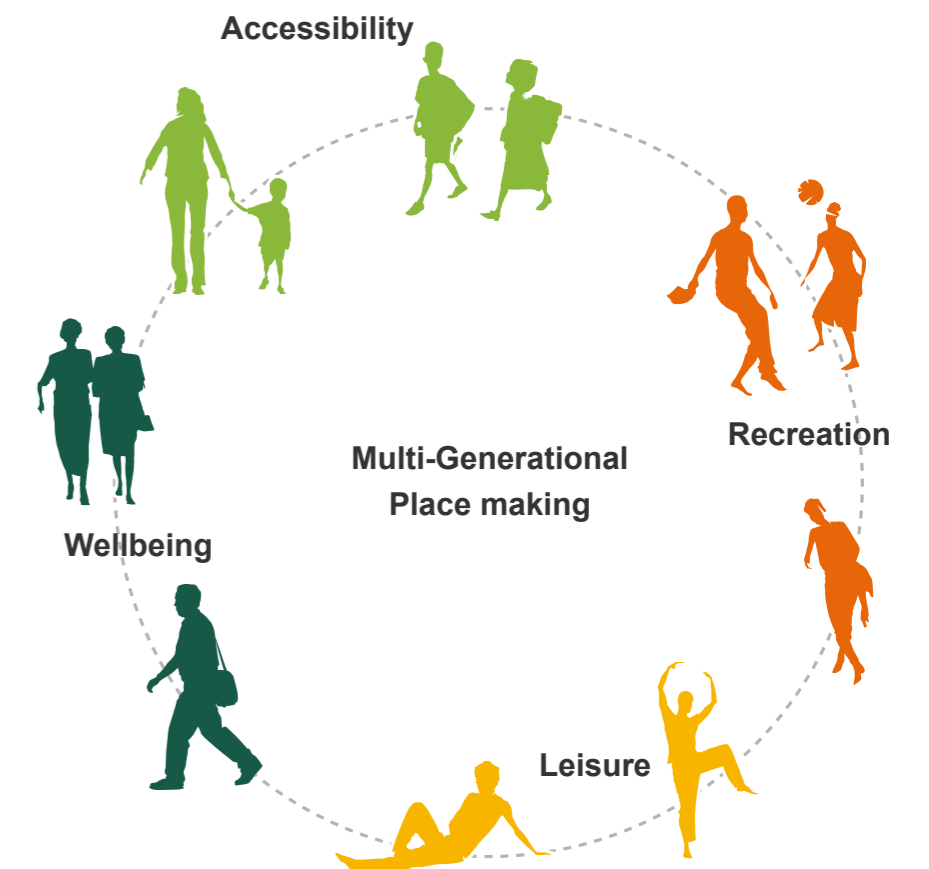
The proposed development follows the DoEHLG Urban Design Manual, Design Manual for Urban Roads and Streets (2019) and Dun Laoghaire Rathdown Development Plan 2022-2028.

The site development strategy is outlined in Reddy Architects Design Statement.

The overriding design intention is to create an inclusive and coherent new community based on best practice urban planning and landscape design principles, giving residents a sense of place, ownership and identity.

The design objectives respond to the site's character:

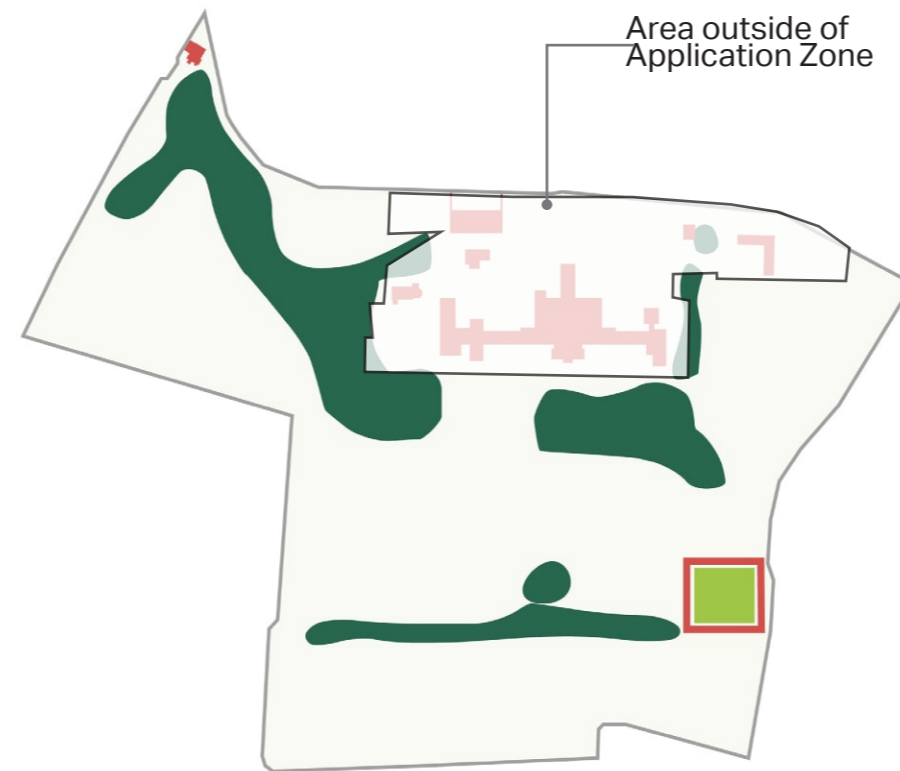
- Retain good quality trees and parkland on site.
- Retain and protect historic boundary stone walls and walled garden on site.
- Form a green spine through development linking residential and amenity nodes.
- Form a hierarchy of quality public open spaces including plazas, parkland, squares, community parks and pocket parks, providing a strong neighborhood identity. Encouraging social interaction, promoting health, well-being and social and civic inclusion.
- New housing to overlook open spaces to ensure passive surveillance of amenity areas. Ensuring the open spaces feel safe, secure for all to use
- Provide a strong SuDs management train whilst forming habitat creation. The scheme will contain environmental features such as tree planting, raingardens, Green roofs, and wetland.
- Form both formal and informal natural play elements throughout the scheme for diverse and social inclusion



On-site Findings

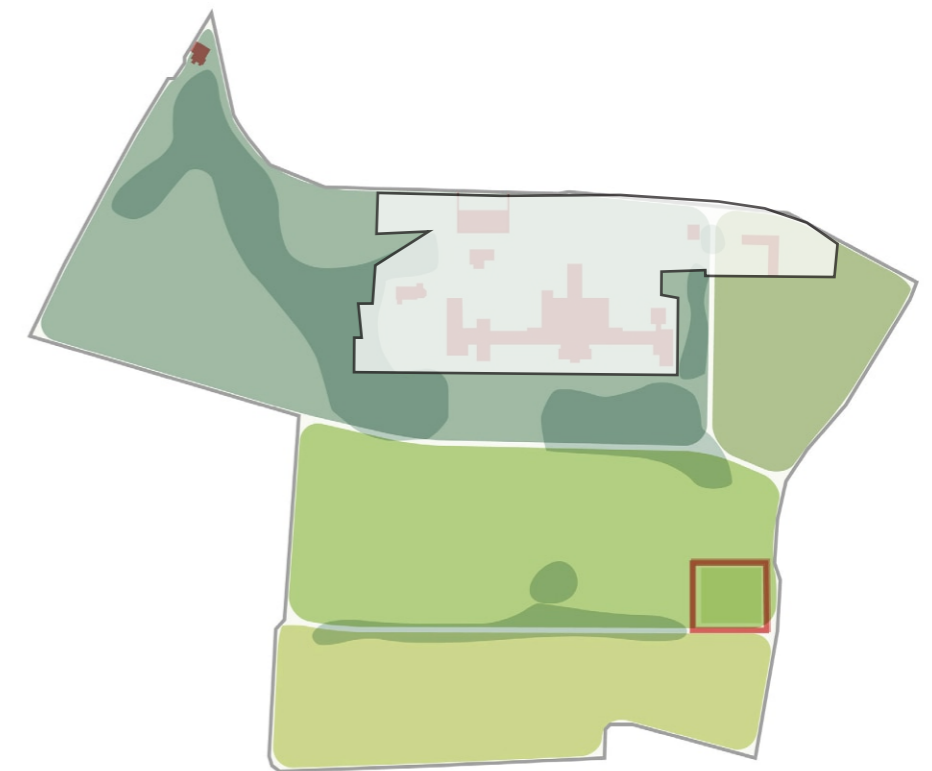
The following diagrams demonstrate the layering of landscape which compose the key open spaces. The illustrations demonstrate a sensitivity to place, existing heritage and landscape features. The Landscape Framework provides improved connectivity and linkages, and provides a structure within which the buildings are set.

Existing Heritage Features



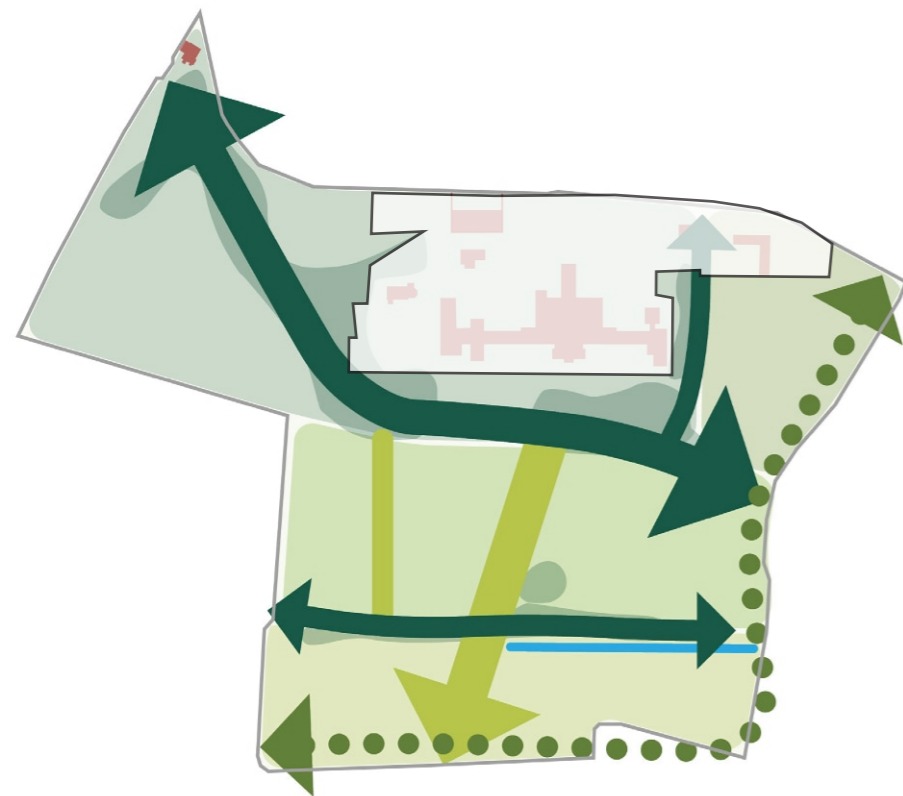
- Heritage Buildings / Structures
- Landscape Heritage Assets
- Walled Garden





Landscape Character



- Parkland
- The Farm
- Agrarian Field Network
- Open Grassland




Landscape Framework



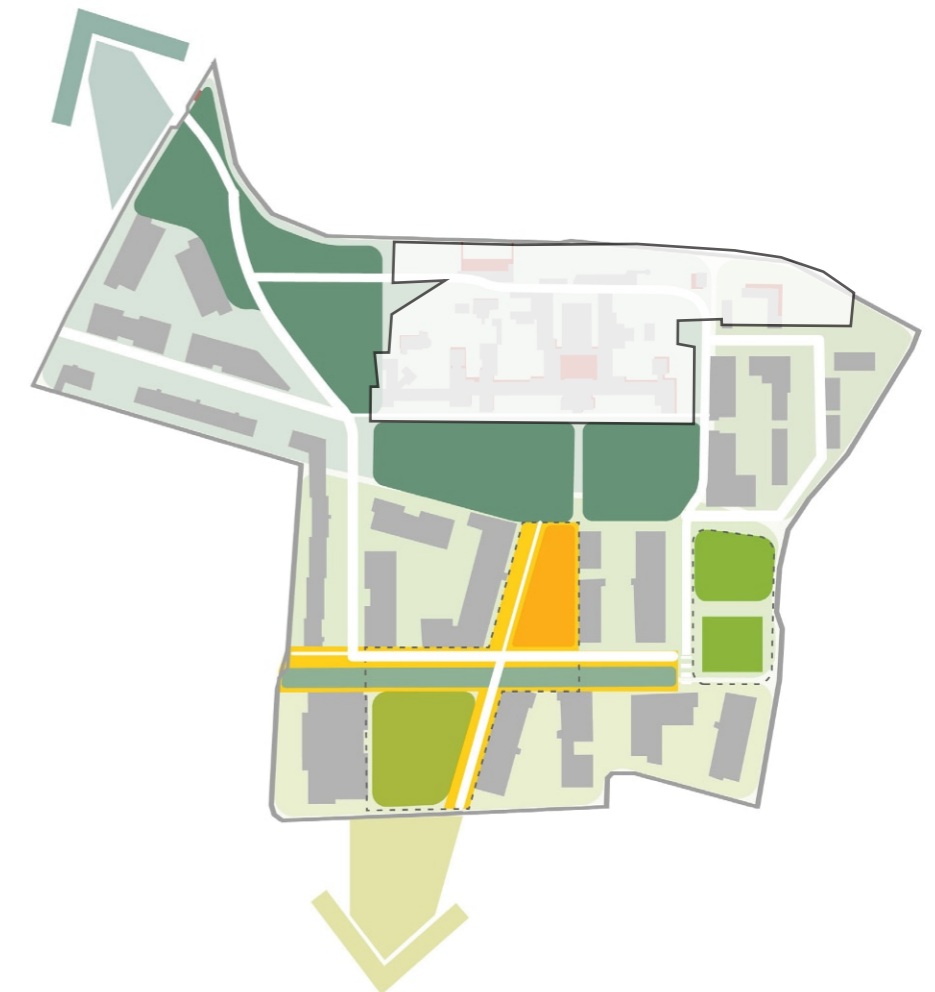
-  Heritage Landscape Corridor
-  Landscape Corridor / Connectors
-  Eastern Ecological Landscape Corridor
-  Elm Park Stream








Built Development



-  Heritage Buildings / Structures
-  Built Development
-  Central Landscape

Key Open Spaces



-  The Parkland
-  Central Landscape
-  Central Square
-  Walled Garden Landscape
-  Elm Park Stream corridor
-  Community Green
-  Boundary / threshold change

Landscape Programme

Recreation



The aim of the open space strategy is to provide informal recreational space throughout the development, this allows for sport, passive recreation and play. Informal recreational space ensures there is sufficient space to accommodate a variety of sporting and recreational activities, providing space which is flexible and accommodates a wide variety of user groups. This ensure the open spaces are inviting and encourage greater participation in recreational activities and health lifestyle choices.

Environment



All open spaces will be multi-functional, catering for the needs of people, as well as the natural environment, supporting habitat creation, the growing of trees, plants and food. A strong SuDs management Train with collection, conveyance and storing components will not only provide a key blue infrastructure on site but establish new habitats and enhance biodiversity throughout the development. These key components include Green Roofs, Bio retention systems/raingardens, permeable paving, drainage ditches, tree planting and the formation of a integrated constructed wetland in the community park of the development. The integration of these elements in the scheme will not only improve the surface water drainage of the site but improve the surrounding environment and aid climate change mitigation.

Education



Dundrum Central contains existing natural assets such as the parkland entrance of mature trees, the walled garden. Other assets and future landscape such as wetland areas can become important educational tools for local children visiting the site, learning about the natural environment, nature and local heritage.

Culture



The site has the potential to become a key local destination due to location and the quality of the environs. The different open spaces could accommodate a variety of cultural and entertainment events, and the central square could accommodate markets throughout the year.

Leisure



The peaceful and tranquil environs of site, lend themselves to providing some leisure facilities such as coffee shops or cafe's. The environs could provide a unique destination, which provides relief from the surrounding urban environment.



Sports field in the community



Natural environment for sustainable living



Community activities for social interactions

Key Open Spaces

The open space provision plan for the site can be found on the Reddy's architecture drawing DCD-02-SW-ZZZ-DR-RAU-AR-1004



Proposed Landscape Layout




- ① Pedestrian/cycle entrance
- ② Entrance - Pedestrian/Cycle/Emergency Vehicles
- ③ Playgrounds
- ④ Creche grounds
- ⑤ Central Parkland
- ⑥ Central Square
- ⑦ Community Park
- ⑧ Walled garden
- ⑨ Courtyard landscapes
- ⑩ Ecological corridor
- ⑪ Integrated Constructed Wetland
- ⑫ Local Street
- ⑬ Proposed Entrance




Proposed Boundaries




Existing Wall Proposals

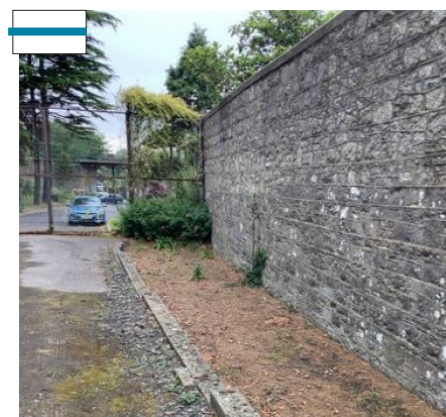
 Boundary Walls

Proposed Boundaries

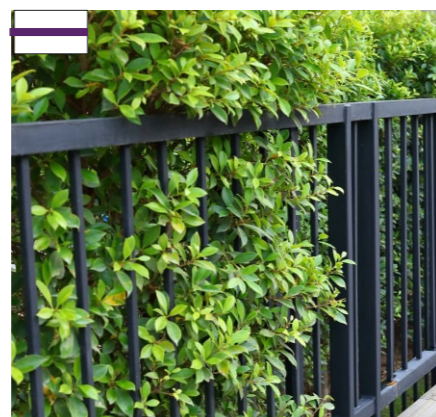
 1.1m Powder Coated Steel Railing with Internal Hedgerow Proposed. (To Architects)

 1.1m Timber Post & Rail (Painted Black) (To Architects)

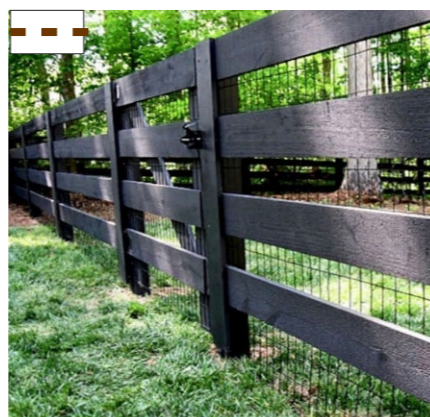
 Privacy Planting



Existing Wall



1.1m Steel Fence & Hedge (To Architects)



1.1m Timber Post and Panel Fence (To Architects)



Front Garden Hedge

Central Parkland

The primary aim of the Central Parkland Landscape will be about protecting and enhancing its existing character which is defined by the mature trees and historic landscape as a setting for the hospital building.

The subtle introduction of footpaths and areas of meadow and perennial planting which will define areas of amenity lawn and ensure the space caters for more passive recreation activity and enjoyment the newly accessible mature trees of the site.

Natural play areas located between existing mature tree planting will provide a key distinguishing amenity to the development.

With discussions with DLRC these play areas will be designed with neurodiversity in mind and cater for all age groups and abilities to ensure an inclusive play strategy is achieved within a nature based play design.

- ① Creche grounds
- ② Cycle lanes / footpath
- ③ Playgrounds
- ④ Pump Station
- ⑤ Existing mature trees
- ⑥ Podium
- ⑦ Lighting
- ⑧ Existing Entrance Road





Existing mature beech trees on site



People lingering, picnicking, sunning within parkland



Managed grasslands



Natural play area



Active Travel Route running through parkland

Central Parkland Photomontage





Entrance Plaza

The Entrance Plaza, located to the very north-west of the site, provides both the main pedestrian and cyclist entry points to the proposed development.

The high hospital walls will be taken down along the north-west and north east edge of the plaza. This will open up to the existing mature tree planting to the north of the site and provide open views of the sites existing mature trees from Dundrum road.

The wall will be replaced with bollards tracing the path where it once stood. A low wall will be retained in front of proposed structural planting beds providing a sense of enclosure to the space.

The former gatehouse will be converted into a cafe, with a seating area for outdoor furniture. This space serves as the entrance to the site, and as such has excellent linkage routes both into and out of the site.

- ① Removed Existing Wall Delinated with Bollards.
- ② Lowered Existing Wall to 1.1m
- ③ Structured Planting Beds
- ④ Feature Bench Locations
- ⑤ Restored Gatehouse to Cafe
- ⑥ Outdoor Cafe Area
- ⑦ Shared Surface Feature Paving
- ⑧ Bike Rack
- ⑨ BioRetention Area
- ⑩ Proposed Cycle Connection Opening
- ⑪ Active travel route
- ⑫ Pedestrian Pathway
- ⑬ Proposed Trees
- ⑭ Lighting



Entrance Plaza Images



Feature setts and flagstones



Sheffield bicycle stands



Bollards



Cycle way access



Outdoor cafe space



Feature bench with backrest



Structure planting

Central Square

The Central Square will provide a civic heart to the new community of Dundrum Central.

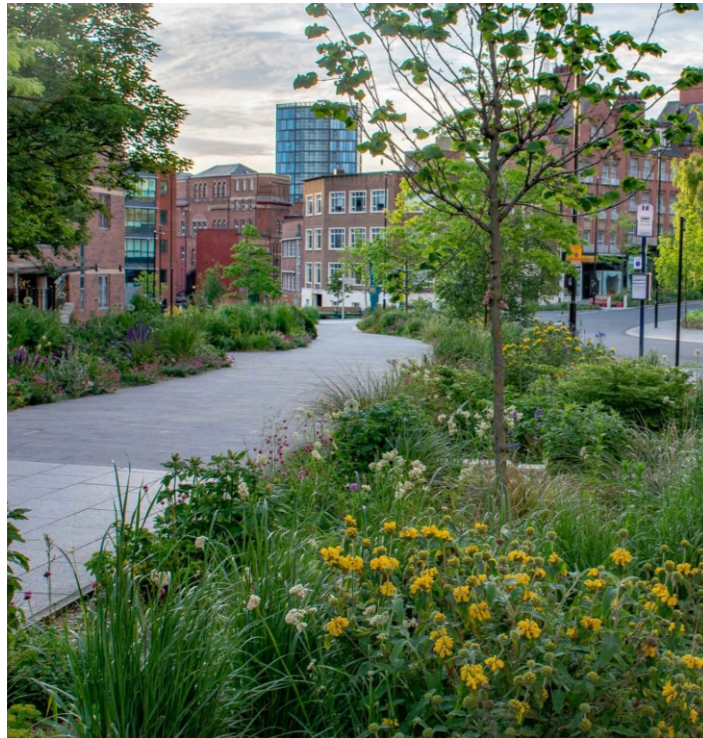
The concept for the square is the idea of exchange be that commercial, social or cultural. The square will be designed to provide flexibility and accommodate markets, pop up festivals and cultural events.

It's important the square maintains a level of intimacy in the scale of its spaces, so that it encourages everyday activities such as meeting friends, getting a coffee or lunch, encouraging people to linger in the space. Encouraging greater use of the space will help create a more vibrant community and heart to the development.

- ① Fractured Central Park-Raised Beds with Shrub Planting and Seating
- ② Feature Paving/ Flexible Square
- ③ Active travel route
- ④ Transition Zones
- ⑤ Raingardens with Feature Seating
- ⑥ Passive Green Space
- ⑦ Grid Tree Planting
- ⑧ Disabled Parking
- ⑨ Structured Shrub Areas
- ⑩ Bike Parking Locations
- ⑪ Seating
- ⑫ Lighting



Central Square Images



Raingardens



Flexible spaces which are intimate in scale



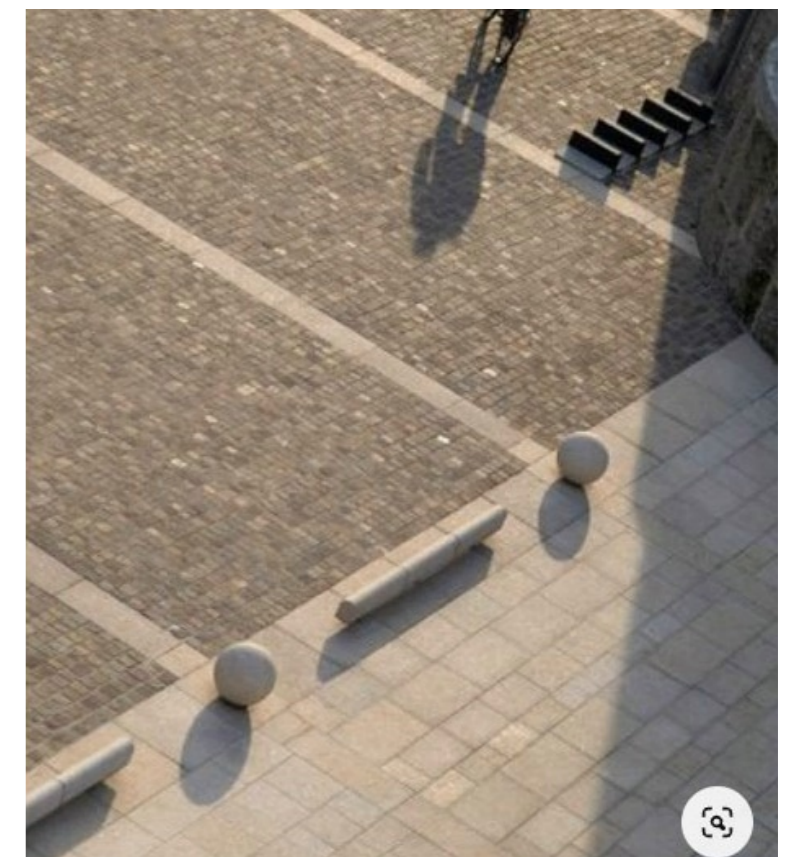
Cafe Space/Outdoor Dining



Flexible Activity Space



Shared Surface Cycleway



Feature Stone Paving

Central Square Photomontage



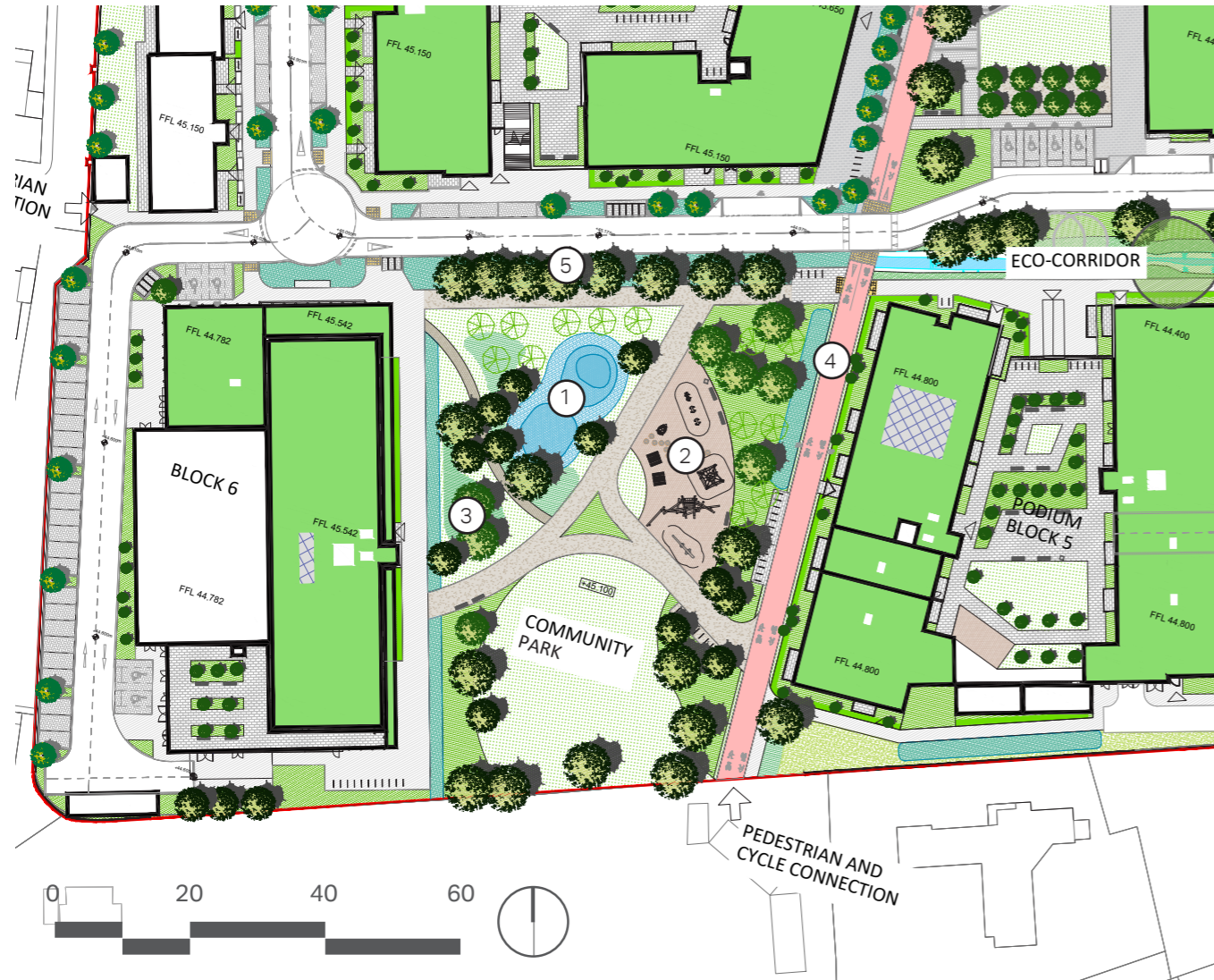


Community Park

Community Park will provide an important gateway and connection into Rosemount Green. This park will be a welcoming environment to residents, the local community, and visitors. This park will be integrated with Rosemount Green, and seen as a natural extension of the green, encouraging greater use of both spaces. The existing boundary wall will be removed to provide visual connection to both open spaces. A cycleway and footpath will link both areas. This community park will provide a large children's natural play area, passive recreation open space and an integrated constructed wetland. The wetland will have a backdrop of native woodland continuing along the northern boundary of the park.

The park will be rich in biodiversity through these habitat creations. The arrangement of the park is designed to encourage exploration into the wider landscape, creating visual links to other areas and destinations, such as the hospital, central square and the walled garden.

- ① Wetland
- ② Natural Playground
- ③ Native Woodland Mix
- ④ Active travel route
- ⑤ Ecological zone



Enriched Biodiversity



Passive Recreation



Natural Play Area



Integrated Constructed Wetland



Photomontage of Community Park (Macroworks)

Walled Garden

The Walled Garden is one of the most important existing features on site. It provides an area of complete tranquillity within the site. The concept for this space is to create a Kitchen Garden, a place where the residents can grow vegetables. It can also be a place of education, and a destination for local school children and the local community, an area of relief from the surrounding environment. There may be the opportunity to link the Kitchen Garden with a cafe on site.

An ecological corridor will be created to the east of the walled garden, proposed native tree and low shrub planting will allow for foraging and habitat creation opportunities. This new

- ① Public Open Space
- ② Edible landscape walled garden
- ③ Retained Existing mature trees
- ④ Existing drainage ditch retained
- ⑤ Podium



Espalier fruit tree within walled garden



Kitchen garden orchard



Growing Food



Pathways providing easy accessibility



Photomontage of Walled Garden (Macroworks)

Public Realm Photomontage





Eco-Corridor

The Eco Corridor will provide an important habitat corridor on site. The area already contains some semi-mature trees which will be retained, a ditch and some wet grassland areas. The area can be significantly improved, and the areas of wetland habitat increased which will benefit a wide variety of plant and animal species including bats. It will also be designed to provide educational tools/information which can be used by local school children as well as adults, to gain greater understanding of the natural world.

The proposals off additional native tree planting and low native ground cover shrub planting will allow for vertebrates and invertebrates to travel safely in an east-west direction with new foraging and habitat opportunities being created. This will also link close to a new north-south ecological corridor being created along the eastern boundary wall.

- ① Existing Trees
- ② Emergency Vehicle Access
- ③ Existing ditch modified to create miniature ponds
- ④ Wetland planting



Habitat managed landscape



Rain-water from building fed swale

Play Spaces

Play provision will be an important and integral part of the development, with discussions had with DLRCC outlining the natural and nature-based play strategy. The open space network that is proposed for Dundrum Central will allow for a broad variety of play and play spaces incorporating sensory planting add further value to these spaces. Differing materiality, scale, surrounding built form and content ensure that each play area caters for varying age groups and skills. Play spaces will be located so they are both convenient and easily accessible to both residents and visitors.

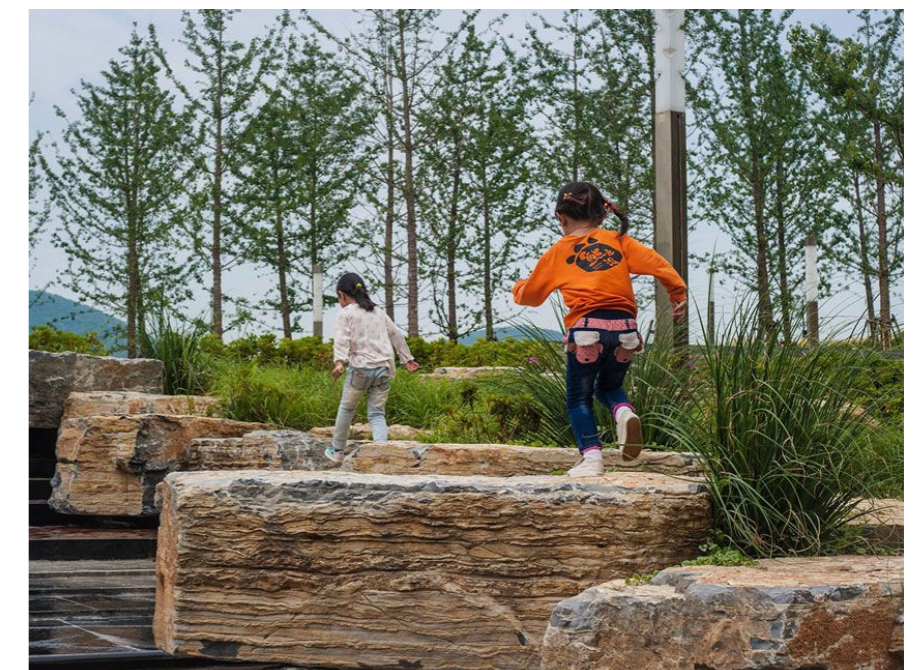
Demonstrated through the accompanying images, there will be a focus on natural play within the development taking guidance from the DLRCC play policy 2023 - 2028. Equipment has been selected to accommodate children of all abilities. Designed to encourage exploration and imaginative play through the integration of play features and structures within the landscape to encourage interaction and exploration of the natural environment. There are two designated playgrounds located to the north of the site adjacent to the cycle track and in the community park south of the



Natural play for children of all abilities



Teen hang out area



Natural play opportunities



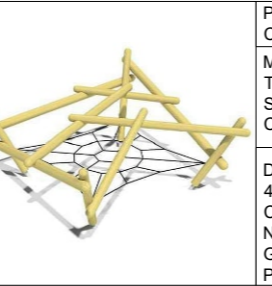



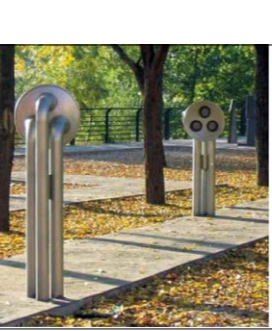






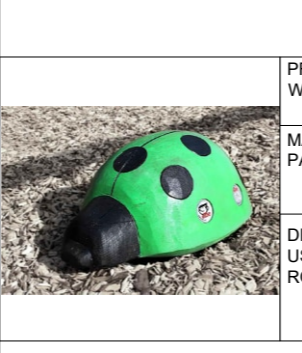

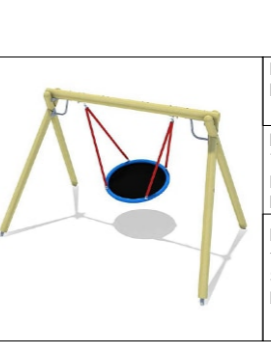


site: Local play opportunities occur in the semi-private podium spaces.

● Play space -

Number and sizes of play areas are indicative, to be finalised at detail design stage

Typical Play Equipment

	<p>PRODUCT CODE/ NAME : HEXAGONAL SWING</p> <p>MATERIAL : DE-BARKED AND PERFORATED WOOD, RUBBER, STEEL</p> <p>DESCRIPTION : HEXAGONAL SWING FRAME WITH CROSS BEAMS, 6 RUBBER SWING SEATS WITH STEEL INSERT WITH VERTICAL TYRES</p>		<p>PRODUCT CODE/ NAME : JUNIOR TRAMPOLINE</p> <p>MATERIAL : RUBBER, PLASTIC</p> <p>DESCRIPTION : IN GROUND TRAMPOLINE</p>		<p>PRODUCT CODE/ NAME : CLIMBING STRUCTURE</p> <p>MATERIAL : TIMBER, GALVANISED STRUCTURE, PLASTIC COATED STEEL CABLE</p> <p>DESCRIPTION : 4 STAND POSTS, 7 CONNECTING TIE BEAMS, 1 NET AND FITTINGS, 4 GALVANISED STEEL POST-SHOES</p>		<p>PRODUCT CODE/ NAME : INCLUSIVE SAND TABLE</p> <p>MATERIAL : TIMBER, CONCRETE, SAND</p> <p>DESCRIPTION : APPROX 1500x7000mm INCLUSIVE RAISED SANDBOX</p>
<p>01 HEXAGONAL SWING</p>		<p>02 JUNIOR TRAMPOLINE</p>		<p>03 SMALL CLIMBING STRUCTURE</p>		<p>04 INCLUSIVE ELEVATED SAND TABLE</p>	
	<p>PRODUCT CODE/ NAME : CLIMBING STRUCTURE</p> <p>MATERIAL : DE-BARKED WOOD, SPLINTER FREE AND SANDED SMOOTH, ROPE, STEEL</p> <p>DESCRIPTION : 14 STAND POSTS, 25 CONNECTING TIE BEAMS, 1 NET AND FITTINGS COLOUR : NATURAL WOOD</p>		<p>PRODUCT CODE/ NAME : STONE XYLOPHONE</p> <p>MATERIAL : GRANITE STONES, STEEL</p> <p>DESCRIPTION : 5 GRANITE STONES WITH SUPPORTING CONSTRUCTIONS AND 2 BEATERS</p>		<p>PRODUCT CODE/ NAME : ECHO GAME</p> <p>MATERIAL : STAINLESS STEEL, PERFORATED SHEET COVER</p> <p>DESCRIPTION : 2 ECHO PILLARS WITH INCORPORATED SOUND REFLECTOR, EXPLANATION BOARD WITH SUPPORT</p>		<p>PRODUCT CODE/ NAME : WILLOW WEAVE TUNNEL</p> <p>MATERIAL : WILLOW BRANCHES</p> <p>DESCRIPTION : HAND WOVEN WILLOW TUNNEL. REFER TO GENERAL ARRANGEMENT FOR DETAILS OF WIDTH AND LENGTH.</p>
<p>05 LARGE CLIMBING STRUCTURE</p>		<p>06 STONE XYLOPHONE</p>		<p>07 ECHO GAME</p>		<p>08 WILLOW WEAVE TUNNEL</p>	
	<p>PRODUCT CODE/ NAME : INCLUSIVE ROUNDABOUT</p> <p>MATERIAL : GALVANISED POWDERCOATED STEEL, HDPE SEATBACK</p> <p>DESCRIPTION : SPINNING, SOCIAL SEATING. GROUND LEVEL ACCESS INCLUDES SEATING WITH BACKREST</p>		<p>PRODUCT CODE/ NAME : BOULDERS</p> <p>MATERIAL : NATURAL STONE</p> <p>DESCRIPTION : SIZE VARIES. LOCALLY SOURCED WHERE AVAILABLE</p>		<p>PRODUCT CODE/ NAME : INCLUSIVE TRAMPOLINE</p> <p>MATERIAL : RUBBER, PLASTIC</p> <p>DESCRIPTION : COLOUR : CONCRETE GREY DIMENSIONS : 1400x3000mm FALL: 4000mm x 5500mm</p>		<p>PRODUCT CODE/ NAME : MULTI-UNIT</p> <p>MATERIAL : STAINLESS STEEL, TIMBER</p> <p>DESCRIPTION : MULTI-UNIT, FOR VARIES PLAY BENEFITS</p>
<p>09 INCLUSIVE ROUNDABOUT</p>		<p>10 BOULDERS</p>		<p>11 INCLUSIVE TRAMPOLINE</p>		<p>12 TIMBER MULTI-UNIT</p>	
	<p>PRODUCT CODE/ NAME : TIMBER PLAYGROUND FENCING</p> <p>MATERIAL : TIMBER POLES</p> <p>DESCRIPTION : WIDTH & HEIGHT VARIES: 50-100mm x 300-500mm</p>		<p>PRODUCT CODE/ NAME : WILDLIFE SCULPTURE</p> <p>MATERIAL : PAINTED TIMBER</p> <p>DESCRIPTION : USED FOR SITTING, ROLEPLAY, EDUCATION</p>		<p>PRODUCT CODE/ NAME : WILDLIFE SCULPTURE</p> <p>MATERIAL : TIMBER</p> <p>DESCRIPTION : USED FOR SITTING, ROLEPLAY, EDUCATION</p>		<p>PRODUCT CODE/ NAME : BASKET SWING</p> <p>MATERIAL : TIMBER, GALVANISED STEEL ROPE RING, STEEL CABLE MAT, RUBBER FABRIC</p> <p>DESCRIPTION : 1 SWING FRAME, 1 NEST SWING, 2 CARDAN JOINTS, POST SHOES</p>
<p>13 TIMBER PLAYGROUND FENCING</p>		<p>14 WILDLIFE SCULPTURE</p>		<p>15 WILDLIFE SCULPTURE</p>		<p>16 BASKET SWING</p>	

Selection of play equipment proposed

Podiums

Podiums are important spaces for residents as places to relax, play and enjoy outdoor space close to their homes. These spaces are especially important to provide universal access who may not have access to the larger open spaces on a day to day basis.

They provide important spaces where neighbours can meet one another and therefore enhance the sense of community within large developments as well providing environments which create habitats to support local wildlife.

Key Principles

- Privacy Buffer for Ground Floor Apartments
- Pedestrian Circulation
- Flexible Central Open Space
- Formal And Informal Play Opportunities
- Congregation And BBQ Opportunity
- Recreational Opportunities
- Communal Garden Opportunity
- Structural Planting with Seasonal Interest



Passive space enclosed by raised beds



Raised beds contain proposed tree planting.



Hardscaped open space



Privacy buffer to ground floor properties



Courtyard principles illustration

Dundrum SuDs Management Train

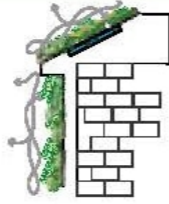











Dundrum Central has a strong SuDs Management Train that collects, conveys and treats surface water through differing SuDs components through the development.

The figure adjacent highlights the proposal and the following pages outlines indicative site strategy.

SuDs Components

- Green Roofs
- Permeable Paving
- Bioretention Systems
- Existing Drains/Swales
- Raingardens
- Intergrated Wetlands
- and Tree Planting





Collection

Type	Description	Setting	Required Area	Precedent	Symbol
 <p>Green Roofs</p>	A planted soil layer is constructed on the roof of a building to create a living surface. Water is stored in the soil layer and absorbed by vegetation.	 <p>Building</p>	Building integrated		
 <p>Permeable Paving</p>	Paving which allows water to soak through. Can be in the form of paving blocks with gaps between solid blocks or porous paving where water filters through the block itself. Water can be stored in the sub-base beneath or allowed to infiltrate into ground below.	 <p>Street/Open Space</p>	Water storage (underground or above ground)		
 <p>BioRetention Systems</p>	A vegetated area with gravel and sand layers below designed to channel, filter and cleanse water vertically. Water can infiltrate into the ground below or drain to a perforated pipe and be conveyed elsewhere. Bioretention systems can be integrated with tree-pits or gardens.	 <p>Street/Open Space</p>	Typically surface area is 5-10% of drained area with storage below.		

Conveyance

 <p>Swales/ Raingardens</p>	Rain gardens are similar to swales in attributes but tend to be smaller in scale.	 <p>Street/Open Space</p>	Account for width to allow safe maintenance typically 2-3 metres wide		
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Treatment

 <p>Integrated Constructed Wetland</p>	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 with a natural or hardscape environment.	 <p>Open Space</p>	Typically 5-15% of drainage area to provide good treatment.		
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SUDs Strategy

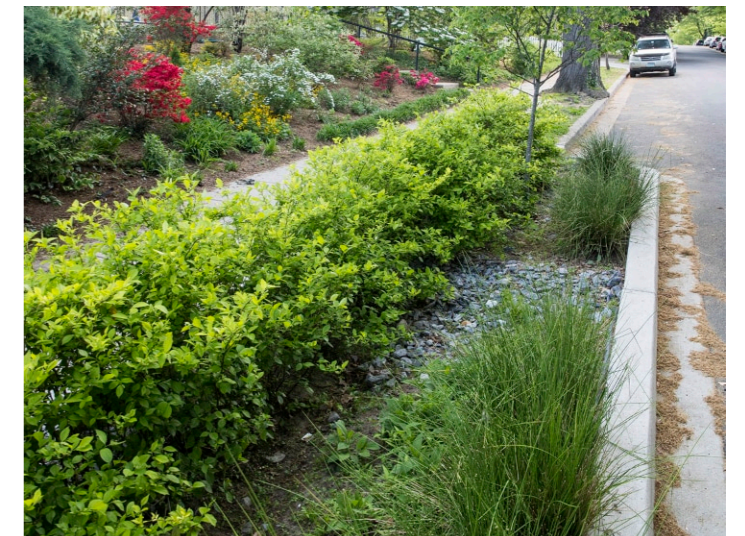
The green infrastructure concept involves the planning, management and engineering of green spaces in order to provide specific benefits to society. It is a network of green spaces, habitats and ecosystems within a defined geographic area and comprises of wild, semi natural and developed environments.

The proposal seeks to create a positive receiving environment and access in conveyance of water surface run off, which creates a better sense of place and a more aesthetically pleasing landscape. Sustainable drainage systems slow down the flow of rainwater entering drainage systems, they filter out pollutants, immediately improving water quality and allow groundwater to recharge.

Designing streetscapes, green space and public realm with a sufficient green infrastructure strategy that works well during all seasons of the year can provide valuable community recreational space as well as important environmental infrastructure. The following SUDs measures are incorporated into the scheme.



Bioretention Areas - grasses



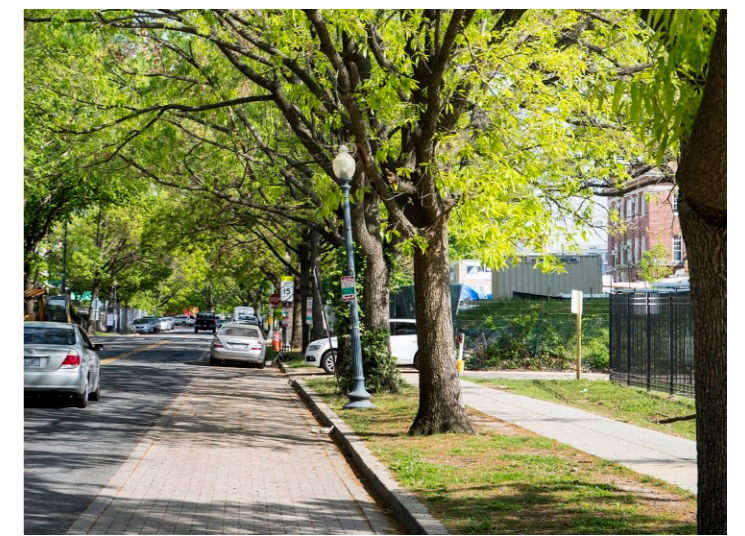
Rain Garden - trees, shrubs and perennials



Integrated Constructed Wetland



Green Roof



Permeable Surfacing - paving/asphalt/resin

Environment Strategy

In collaboration with DLRCC biodiversity team, discussions were held to ensure habitat creation is a key contribution to the landscape development proposal. The differing SuDs components have helped form a variety of inviting habitats through the development. Waters bodies and ponds are vital habitats for frogs, newts and a variety of insects including dragonflies.

The public open spaces through the development have native meadow planting as per the All Ireland National Pollinator Plan. Species rich grasslands provide habitats and food for insects and bees.

Other habitats that will be created through the open space will include:

- Open bonded brickwork within detailing of infrastructure buildings allowing for bat roosting,
- Bird and Mammalian nest boxes throughout the open public space,
- Log piles simulate fallen trees, and are valuable habitat for mosses, lichens and fungi, as well as many insects within the wetlands



Permeable gravel tertiary paths



Permeable gravel tertiary paths



Bat roosts within infrastructure buildings



Bird boxes within



Log piles for biodiversity

Extensive Green Roofs

Green Roof Functions:

- Stormwater Management
- Recreation Opportunity
- Improved Biodiversity
- Aesthetic Improvement

The following sources have been used in the development of a Green Roof strategy that provides biodiversity and amenity spaces:

- The SUDS Manual, Ch 12: Green Roofs
- The GRO Green Roof Code (2021), UK
- Building Greener. Guidance on the use of green roofs, green walls and complementary features on buildings
- Green Roof Guidelines - Guidelines for the Planning, Construction and Maintenance of Green Roofs (2018).
- Creating Green Roofs for Invertebrates, Best Practice Guide
- Green Roofs Over Dublin
- Biodiversity: Climate Change Sectoral Adaption Plan. Prepared under the National Adaption Framework' (2019).

Environmental Benefits

Green roofs provide a social and environmental benefits to development projects. Green roofs assist in reducing the building's energy consumption providing additional insulation when used in conjunction with traditional insulation. Additionally, green roofs the heat island effect that takes place within cities.



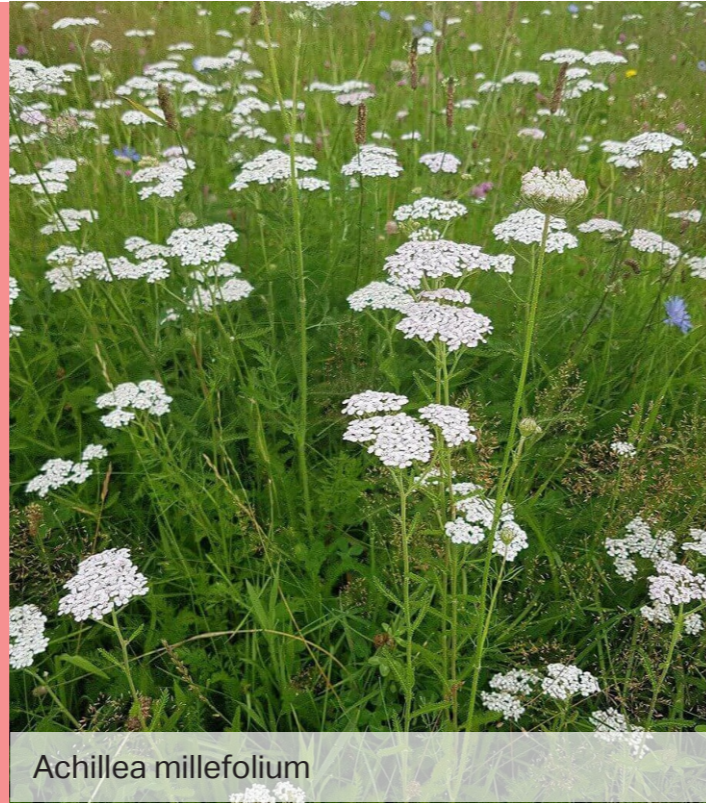
Green roofs to architect and civils details

Extensive Green Roof-Proposed Meadow Mat

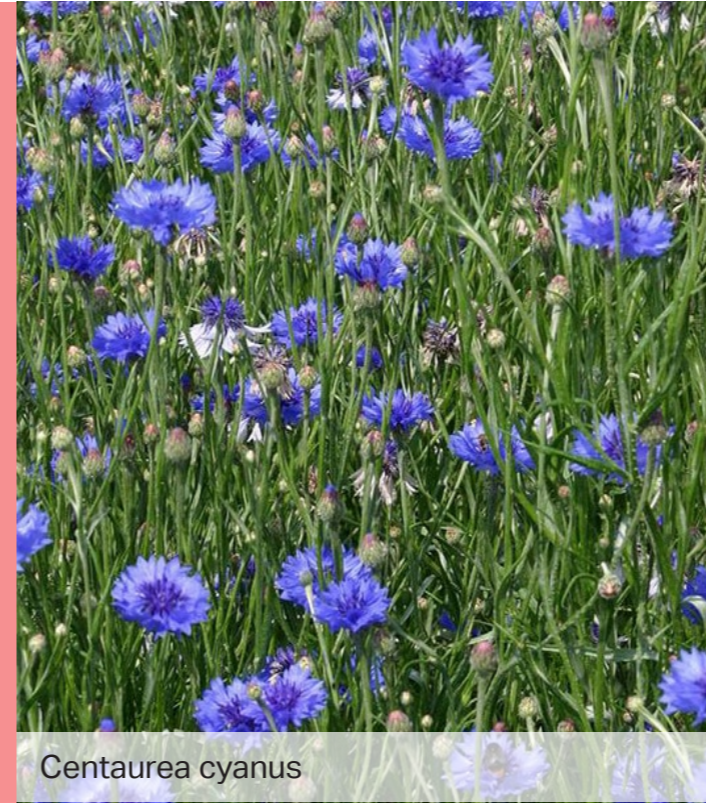
The Green Roof typology is focused on biodiversity as such there will be different species mixes for different conditions and follow the GRO Code by containing 15 species and a range of flowering species;

Wildflower meadow mat (100mm soil depth)
Species
<i>Achillea millefolium</i>
<i>Anthemis arvensis</i>
<i>Centaurea cyanus</i>
<i>Centaurea nigra</i>
<i>Galium verum</i>
<i>Leontodon autumnalis</i>
<i>Linaria vulgaris</i>
<i>Lotus corniculatus</i>
<i>Rhinanthus minor</i>
<i>Rumex acetosella</i>
<i>Saponaria officinalis</i>
<i>Scorzoneroideis autumnalis</i>
<i>Silene flos-cuculi</i>
<i>Thymus polytrichus</i>
<i>Veronica officinalis</i>
<i>Vicia sativa segetalis</i>
<i>Viola tricolour</i>

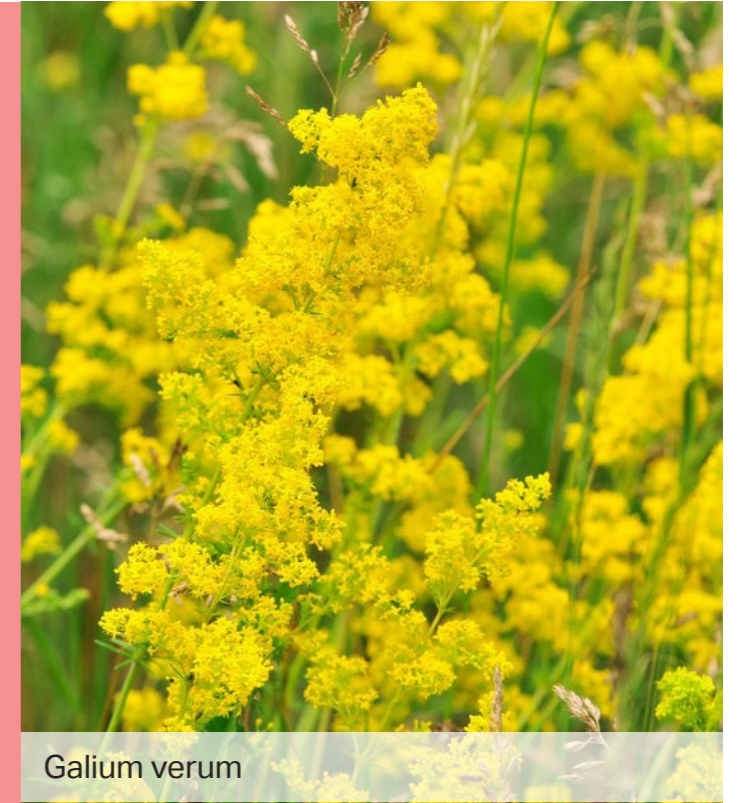
Wildflower Mat



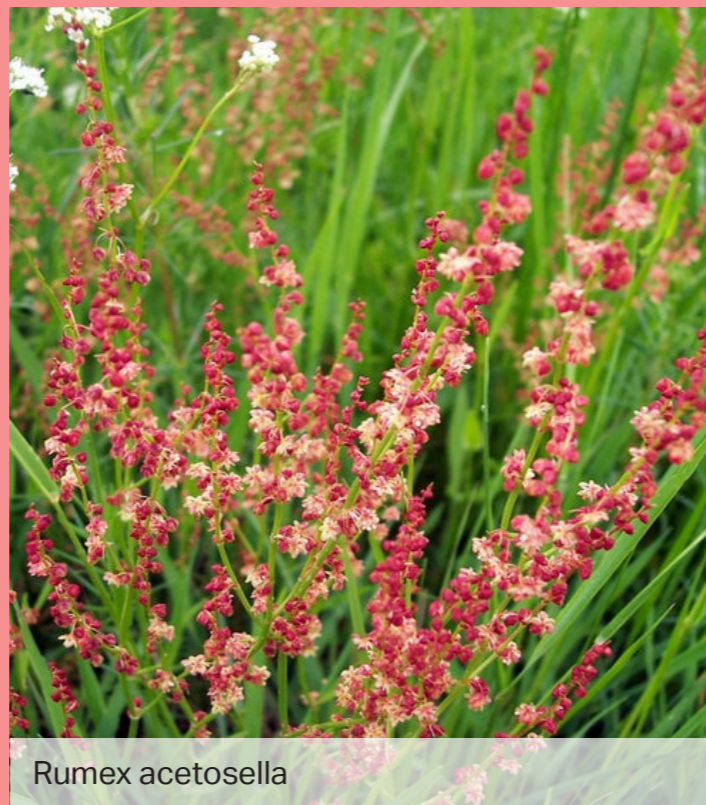
Achillea millefolium



Centaurea cyanus



Galium verum



Rumex acetosella



Silene flos-cuculi



Viola tricolour

Intensive Green Roof: Substrate and Structure

Blue roofs on this project are intensive green roofs, these shared spaces will be used for amenity and will therefore have a higher capacity to retain water contributing to the SUDS network onsite and reducing flood risk. SUDS also improves the water quality of water by allowing contaminants in surface water to be broken down, absorbed and their movement restricted by plants. SUDS methodology for reducing surface run off, the lag time between peak rainfall and peak discharge and removal of pollution is supported by the Water Framework Directive (2000).

Substrate and Structure

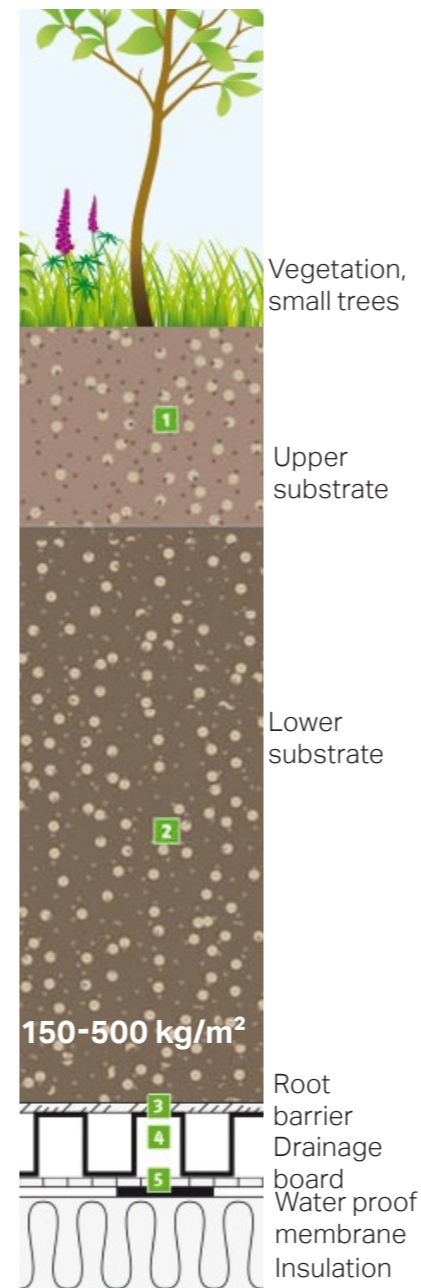
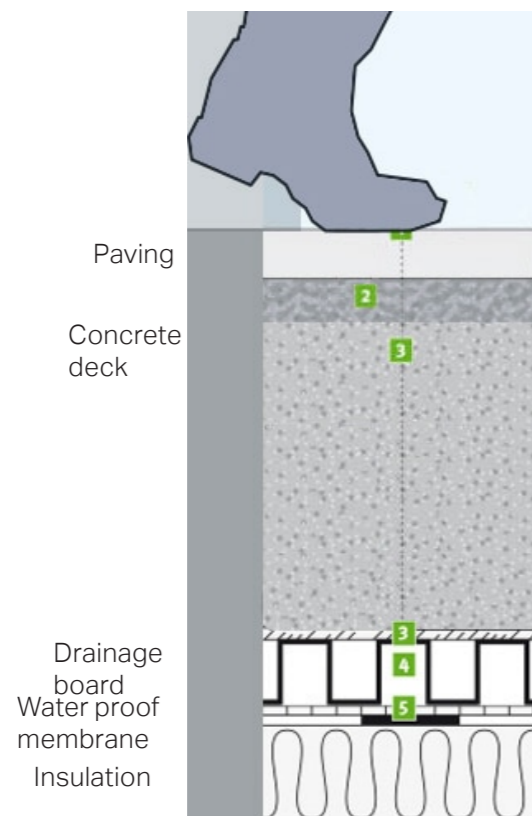
Structure

Green roof structure must adhere to the criteria set out in BS EN 1990:2002 'Eurocode - Basis of Structural Design' particularly 'EN 1991 - Eurocode 1: Additions on structures.'

The flat roof will act as a roof garden having a mixture of hardscape and softscape. A concrete deck will allow for higher loading, a greater depth of soil to be used for shrub and tree planting in planters on the roof podiums.

Origin and composition of soils/compost to be used:

- Green roof substrates must be tested according to BS8616:2019 or equivalent.
- The upper substrate will be 350-400mm thick and intensive roofs require a higher amount of nutrients to support larger plants.
- The lower substrate will be at least 250mm thick and acts as a drainage layer, less organic matter is needed.



Intensive green roof- Magnetan sensory garden green roof



Intensive green roof - Dickens Yard apartments roof garden

Intensive Green Roof: Biodiverse Habitat Creation-Planting Schedule

Courtyard/Podium Trees				
Species		Girth	Clear Stem	Height
<i>Amelanchier lamarckii</i> 'Robin Hill'		18-20 cm	2.0m	min. 450cm
<i>Acer palmatum</i> 'Osakasuki'		18-20 cm	2.0m	min. 450cm
<i>Malus</i> 'Evereste'		18-20 cm	2.0m	min. 450cm
Shrub and Ground Cover Mix 2 (Intensive Green Roof Planting)				
Species	Designation	Root Type	Height mm	Spread mm
<i>Pennisetum hamelin</i>	Container Grown	2l	200-300	200-300
<i>Ilex crenata</i>	Container Grown	2l	200-300	200-300
<i>Fatsia japonica</i>	Container Grown	2l	300-500	300-500
<i>Euonymus fortunei</i> 'Emerald Gaiety'	Container Grown	2l	300-500	300-500
<i>Sarococca hookeriana</i>	Container Grown	2l	100-200	200-300
<i>Pittosporum setiferum</i>	Container Grown	2l	200-300	200-300
<i>Tiarella cordifolia</i>	Container Grown	2l	200-300	200-300
<i>Carex oshimensis</i> 'Everest'	Container Grown	2l	200-300	300-500
<i>Allium Sensation</i>	Bulbs handsown planting 9 per m2			
<i>Muscari</i>	Bulb handsown, planting 9 per m2.			



Pennisetum hamelin



Iberis sempervirens



Ilex crenata



Pittosporum



Amelanchier lamarckii 'Robin Hill'



Malus 'Evereste'



Acer palmatum



Carex oshimensis everest



Allium

Integrated Constructed Wetland

Integrated Constructed Wetland (ICW)

An 'Integrated Constructed Wetland' (ICW) is a series of shallow, interconnected, emergent-vegetated, surface-flow wetland compartments that receive/intercept waterflows from a variety of sources. ICW systems are distinguished from traditional 'treatment wetlands' by the integration of water flow and quality management with that of landscape-fit and biodiversity enhancement

Design features should include a safe exceedance route, maintenance access to all areas of the pond, a flat safety bench around the perimeter of the pond.

The ICWs (Integrated Constructed Wetlands) proposed in the Dundrum scheme aims to create a biodiverse habitat on site. Native woodland planting will be the backdrop of the wetland in the community park and the walled garden. This comprises of a native mix of transplants, standards and semi mature trees and marks a continuation of the Eco Corridor east of the community park. A mix of bird boxes will be placed on the semi mature trees to encourage biodiversity. Adaptive/Native plug and seeding for the wetlands will provide a rich biodiversity when developed. These locations will be wildlife havens for the whole community to enjoy.

The following pages outline the proposed creation and formation of the wetlands for Dundrum.

Wetland Plant Species



Sparganium erectum



Schoenoplectus lacustris



Glyceria maxima



Native tree planting



Bird Boxes



Lythrum salicaria



Iris pseudacorus



Butomus umbellatus



Carex paniculata

Wetland Benches: Enhanced Biodiversity Habitat Creation

Habitat, Formation & Planting

Habitat and Formation

The design of wetlands should consider the inclusion of several zones:

- **Permanent pool** - This is the permanent volume of water that will remain in the pond/wetland throughout the year (less any evaporation and infiltration during extended periods of dry weather). The pool acts as the main treatment zone and helps to protect fine deposited sediments from re-suspension.
- **Aquatic bench** - This is the zone of shallow water along the edge of the permanent pool that supports wetland planting, acting as a biological filter and providing ecology, amenity, and safety benefits. Where the proportion of planting is increased (ie to create wetland features), there may be other "islands" (zones of shallow, vegetated areas) within the permanent pool.
- **Attenuation storage volume/Emergent zone** - This is the temporary storage volume above the permanent pool that fills as water levels rise during rainfall events, providing the required flow attenuation.

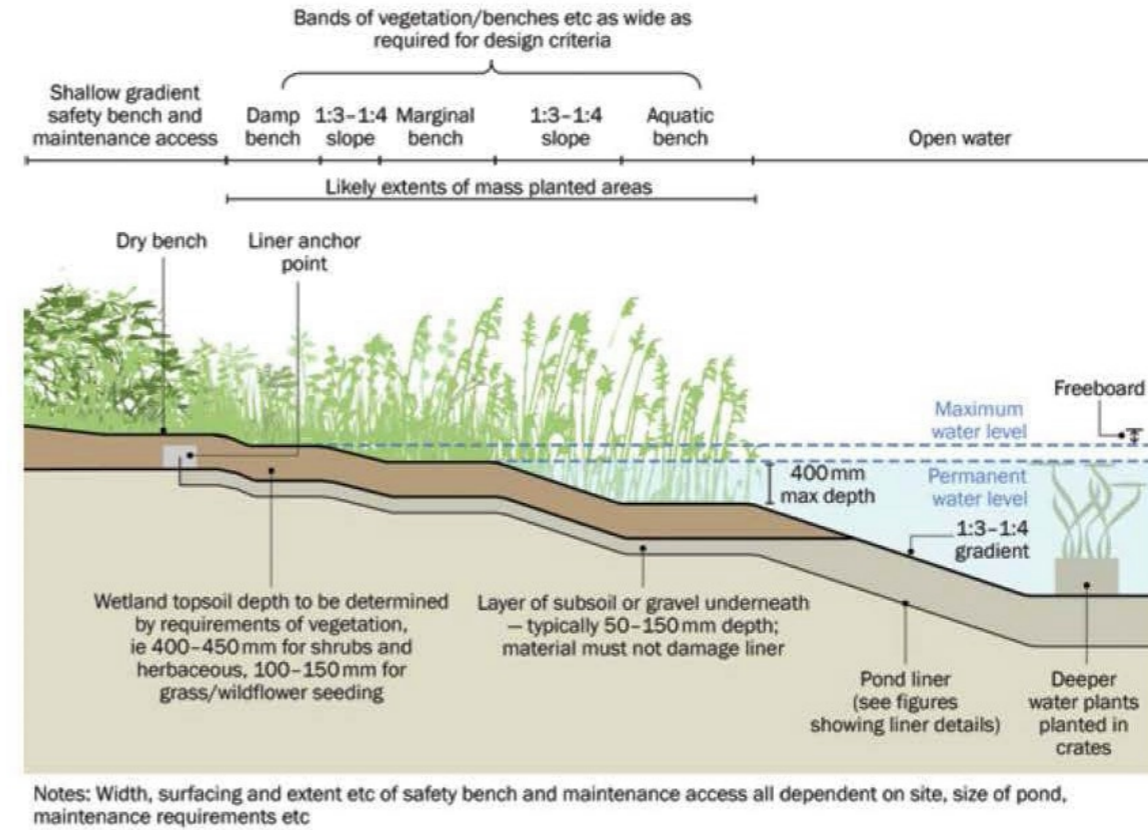


Figure 23.5 Typical planted pond edge details

Planting

Native/adaptive planting have been specified for the three differing benches in the wetland. Invasive species such as *Typha* spp. have been omitted from the proposal.

A wetland native seed mix is to be sown alongside the proposed plug planting providing a matrix of diverse plants for the area.

Wetland planting should take place between early April and mid-June, so the plants have a full growing season to develop root reserves they need to survive the winter. Vegetation ideally needs to be established as soon as possible to prevent bankside erosion.

The soils of a pond buffer are often severely compacted during constructions. To mitigate this, it is advisable to excavate large and deep holes around the proposed planting areas and backfill these with uncompacted topsoil. 300mm depth of good quality topsoil is acceptable for proposed plug planting of the wetland.

Wetland Planting			
Species	Type	Plants per sq. m	Mix %
Emergent Aquatic Planting			
<i>Glyceria Maxima</i>	Plug, P9	7	50
<i>Sparganium erectum</i>	Plug, P9	7	30
<i>Schoenplectus lacustris</i>	Plug, P9	9	20
Emergent Planting			
<i>Lythrum salicaria</i>	Plug, P9	13	40
<i>Iris pseudocarus</i>	Plug, P10	13	40
<i>Butomus umbellatus</i>	Plug, P9	13	20
Dry Meadow			
<i>Carex panuiculata</i>	Plug, P9	13	50
<i>Filipendula ulmaria</i>	Plug, P9	13	50
Seeding			
Native Wetland/Pond Edge Seed Mix Reference Code: EC05 -Design by Nature			

Intergrated Constructed Wetland: Formation

A membrane and geotextile shall be laid underneath the wetland to form ponding. Refer to CIRIA, SuDs Manual 2015 figure adjacent and below requirements.

Liner/Membrane & Geotextile:

Single layer robust welded flexible membrane, suitable for waterproofing to structures and for water containment.

Before laying check that substrate surfaces are :-

- a) Structurally sound.
- b) Free from ridges and undulations.
- c) Surface dry.
- d) Cleaned of loose and extraneous material.

Before laying check that construction allows membrane continuity to be maintained.

Membrane to be installed by qualified operatives recommended by membrane manufacturer and/or prefabricated into panels where appropriate to suit site requirements. Laid strictly in accordance with manufacturers' recommendations.

All penetrations through the membrane shall be sealed with proprietary water-resistant preformed cloaks. The cloaks shall be compatible with the membrane and approved by The Engineer.

A geotextile will be used in the system to protect liners and act as filters. It shall be laid continuously and have overlaps of a minimum 300mm.

Wetland construction details to engineers design (*typical pond example adjacent*)

Safety

A 1.1m timber post and panel fence will be erected along the emergent bench of the wetland protecting against anyone submerging into the pond whilst planting is establishing. Once planting has formed this fence will not be visible

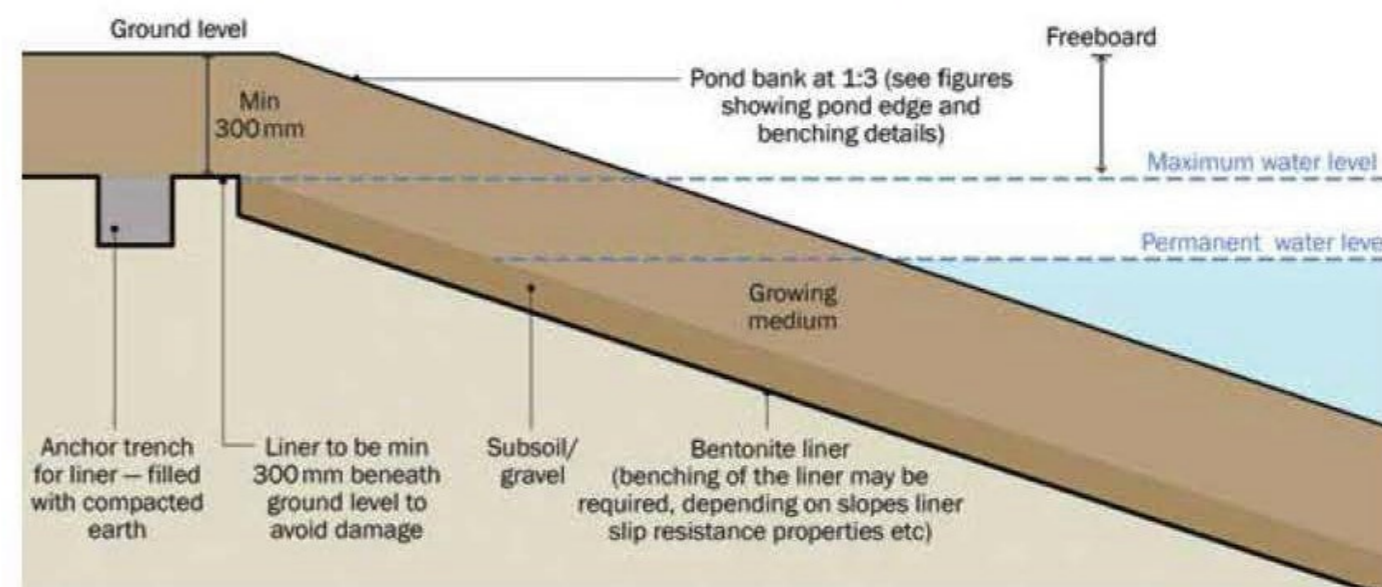


Figure 23.13 Details for a typical geosynthetic liner

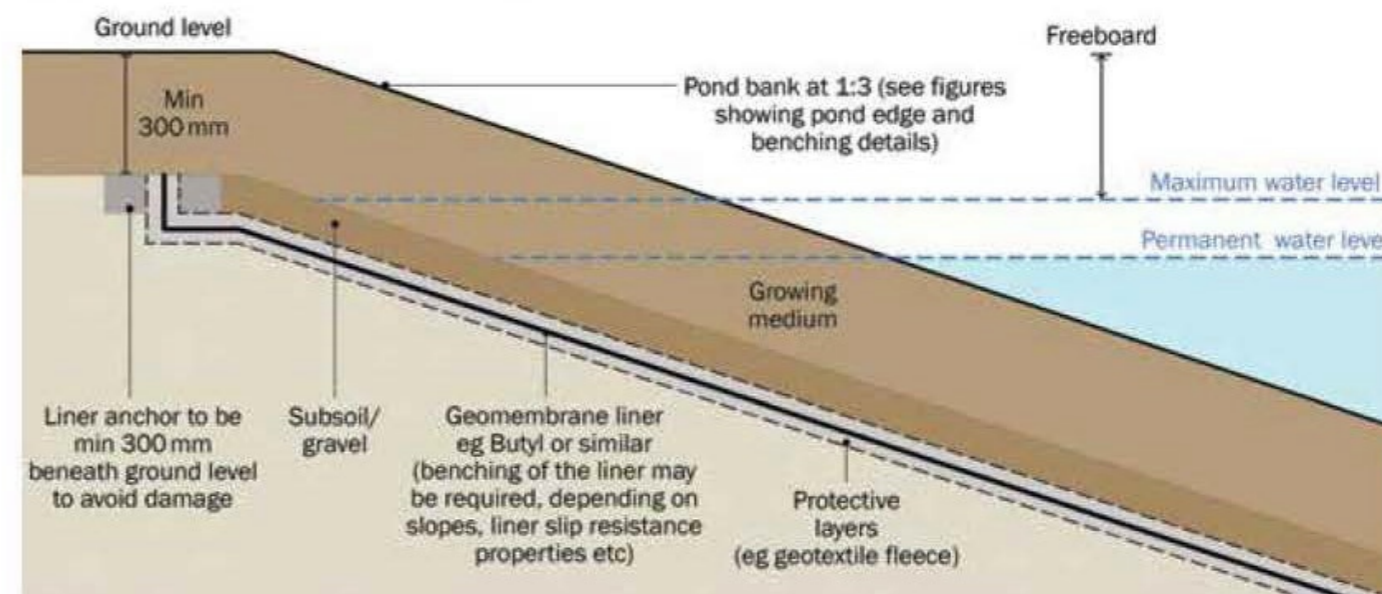


Figure 23.14 Details for a typical geomembrane liner

Raingardens/Bioretention Pits

What is a Raingarden/Bioretention Pit?

Raingardens are shallow landscape depressions that reduce rainfall runoff and mitigate the impact of pollution.

They will enhance the capacity of the surface water drainage network by capturing and storing rainfall, allowing it to soak into the ground slowly. (Refer to Engineers Surface Water Drawings for Reference).

Raingardens are flexible in design and are excellent examples of how SuDs components can be integrated into streetscape without negatively impacting the primary function of streets and spaces.

The performance of a raingarden can be enhanced by engineering the subbase to include a gravel layer that helps filter pollutants and provides more storage capacity for rainwater.

These are often referred to as 'Bioretention Systems' and are proposed along the streetscape of Dundrum Central as part of then overall SuDs Management Train for the development.

Please refer to the figure highlighting a typical plan of this component in a streetscape from the CIRiA, SuDs Manual 2015.

Planting proposed in the areas is a mixture of structure grass, fern and perennial planting that do well under these conditions which providing a biodiverse habitat to the street. Please refer to the planting schedule adjacent

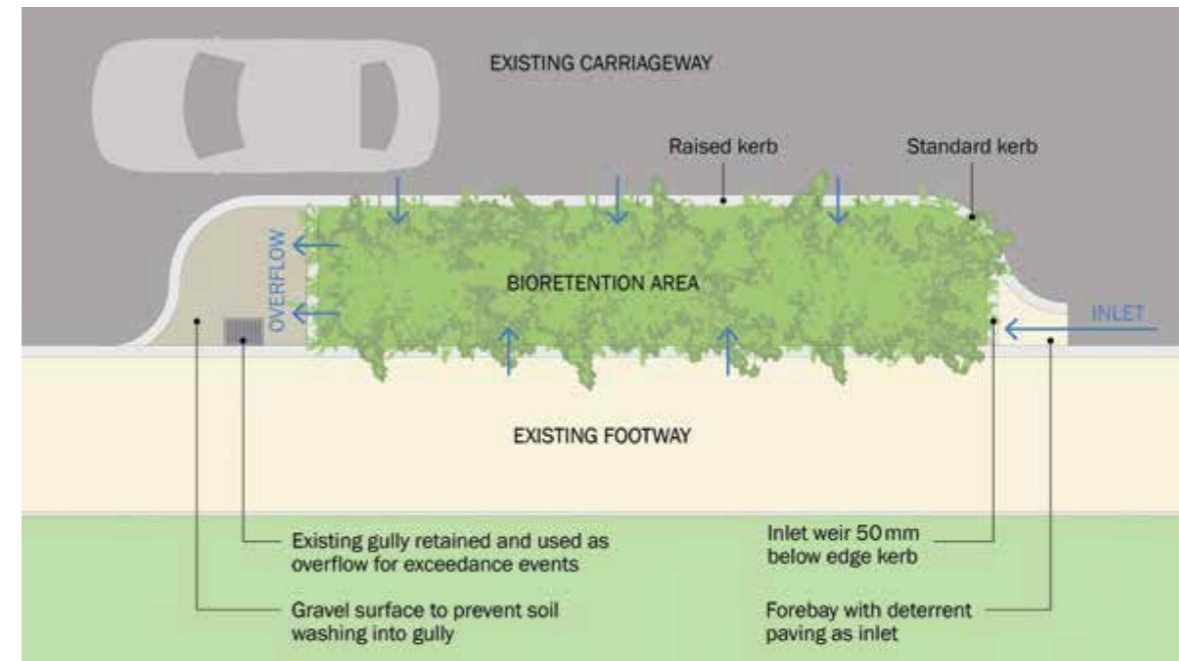


Figure 10.11 Example of a bioretention system upstream of an existing gully (after Illman Young/EPG Limited)

Rain Garden Mix				
Species	Designation	Root	Height mm	Spread mm
<i>Carex pendula</i>	Container Grown	2l	200 - 300	200 - 300
<i>Calamagrotis acutiflora 'Karl Foerster'</i>	Container Grown	2l	200 - 300	200 - 300
<i>Dryopteris felix mas</i>	Container Grown	2l	200 - 300	200 - 300
<i>Aster ageratoides "Stardust"</i>	Container Grown	2l	300-400	300-400
<i>Aster thomsonii</i>	Container Grown	2l	100 - 500	100 - 500
<i>Liatris spicata</i>	Container Grown	2l	300-400	300-400
<i>Perovskia atriplicifolia</i>	Container Grown	2l	1000 - 1500	500-1000
<i>Carex oshimensis "Everest"</i>	Container Grown	2l	200 - 300	200 - 300
<i>Echinacea purpurea</i>	Container Grown	2l	300-400	300-400
<i>Nepeta 'Six Hills Giant'</i>	Container Grown	2l	200 - 300	200 - 300
<i>Salvia nemorosa "Iubecca"</i>	Container Grown	2l	100 - 500	100 - 500

Cycle Parking Provision

Cycling Parking Provision

A variety of cycling infrastructure is proposed for the site.

Secure on street bike racks are proposed for the on street residences, in order to avoid cycle parking within homes, and generous on-street cycle parking will be provided for visitors to the site in well lit overlooked spaces.

A dedicated cycle lane through the site improves connectivity and cycle infrastructure within the Dundrum / Windy Arbor area, encouraging connectivity through the site and promoting sustainable forms of transport.

Please refer to the transport report outlining quantities of parking proposed alongside the corresponding figure adjacent.


General Principles

Please refer to indicative figure highlighting the non residential locations for bicycle parking locations.

- Cycling parking is to be convenient, accessible and sited close to principle destinations.
- Cycle parking is to be distributed throughout the site in well-lit locations with passive surveillance.
- Cycle stands will not be sited sideways on sloping ground greater than 2%.

All proposed cycle infrastructure and furniture are to follow;

- Cycling Policy-Smarter Travel, Better Living, DLRCoCo
- Dún Laoghaire-Rathdown Development Plan 2022-2028. Chapter 12, DLRCoCo
- Standards for Cycle Parking and associated Cycling Facilities for New Developments, DLRCoCo
- National Cycle Manual, NTA

 Cycle Parking: Proposals for Non-residential Land Uses



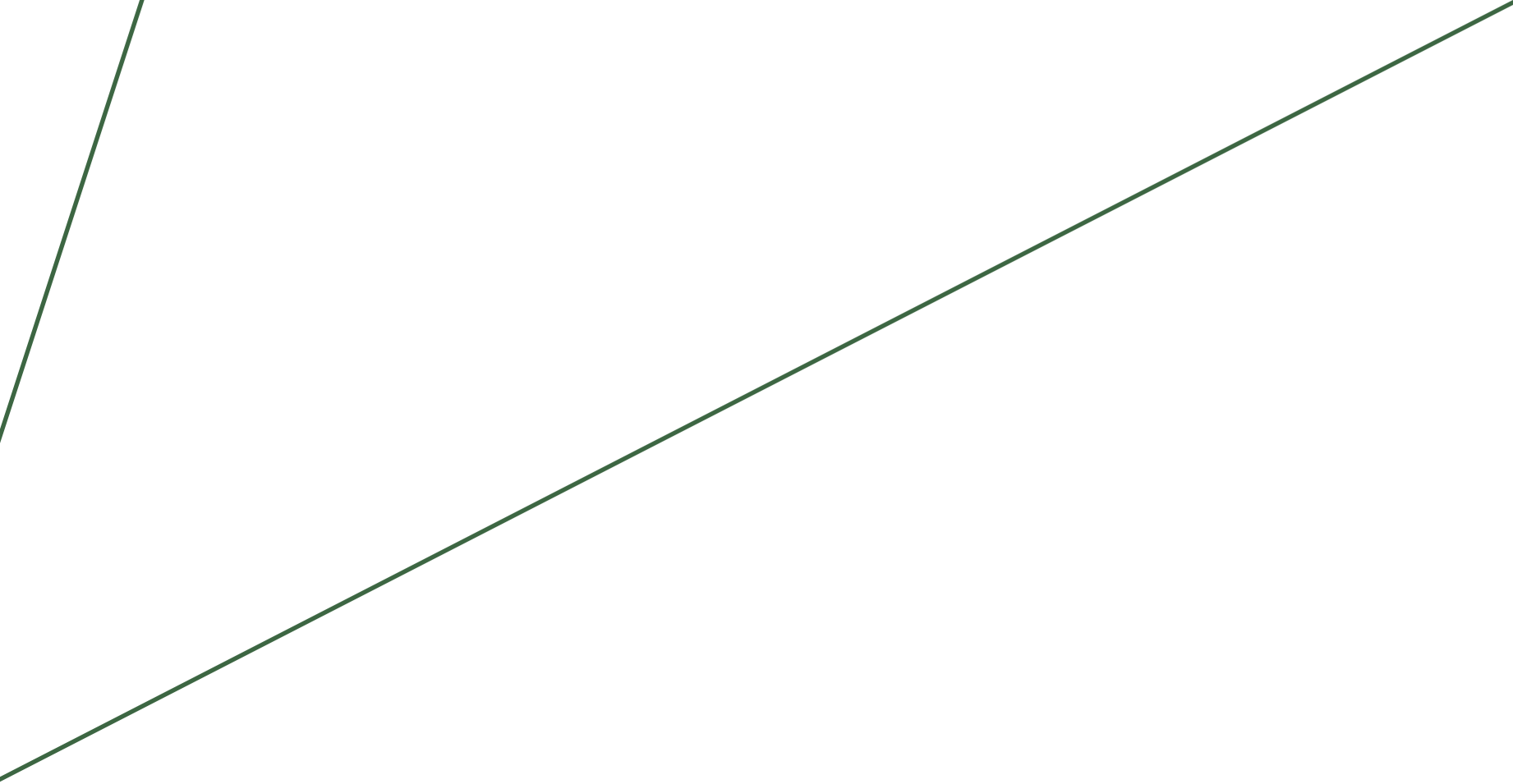
Indicative Bicycle Storage Proposed



Materiality

03





Soft Landscaping

The following sources have been used in the development of a suitable planting scheme that combines the overall design intent with a diverse planting palette to achieve a rich and sustainable softscape programme:

- Dún Laoghaire-Rathdown County Council(DLR) Development Plan 2022-2028
- DLR Trees, A tree strategy for Dún Laoghaire-Rathdown 2011-2015
- All-Ireland Pollinator Plan 2021-2025
- National Biodiversity Action Plan 2023-2030

The landscape architecture proposal aims to create a diverse planting scheme that contributes to the overall biodiversity within the development and the wider area. Plant species have been selected with direct reference to the 'All-Ireland Pollinator Plan 2021 - 2025' and the approach aims to align with the specific policies and objectives as set out in the Dún Laoghaire-Rathdown Development Plan 2022-2028.

The overall planting approach is focused on creating a rich and biodiverse planting footprint in the context of a significant re-development of the site. The removal of existing hedgerows and grassland is offset by the addition of pollinator friendly wildflower meadows, tree planting and mixed native woodland along the Eco Corridor and in the community park south of the site. All retained tree and hedgerow protection measures will be in accordance with the mitigation recommendations prescribed in the ecologists and arborist report.

A variety of open space and softworks currently exists on the site. These elements function as part of the overall green framework of the site, providing a hierarchy of space that is not only visual aesthetic but provides opportunities for rest and recreation.

Softworks Palette

A variety of open space and softworks currently exists on the site. These elements function as part of the green space, provide visual aesthetic as well as offering opportunities for rest and recreation.

The existing site offers a variety of softworks elements which have been categorised into 6 groups, Specimen Trees, Street Trees, Shrubs and Underplanting, Meadow and Wild Areas, Amenity Lawn and Wetland Areas.

Combined, these elements provide an open space network which defines the existing site and assets which have potential to be include within the proposals on site.



Existing condition of trees on site

Open Spaces and Street trees

High quality mature open space trees on site will be retained which outline the entrance avenue and historic parkland. Proposed native/adaptive tree planting will further enhance the open space in the development. Streets where appropriate will be lined with trees columnar/fastigate in form which all have a clear stem height of 2m.



Street trees within pavement

Shrubs and Underplanting

A distinctive palette of underplanting will be proposed on site. Structured planting in front of proposed dwellings and ground floor apartments will provide a soft transition from public to private space. Species have been chosen to enhance biodiversity whilst providing structure and being easily maintainable.



Shrub and underplanting

Meadow and Wild Areas

Wild areas and verges which are left to grow are increasingly popular aesthetically but importantly due to their benefits to biodiversity and lower maintenance costs. These areas will be located through the open spaces, transitioning from amenity lawn verges along pathway edges to meadow areas in passive open space zones.



Meadow planting

Bioretention systems/Raingardens

Bioretention systems will collect excess surface run off whilst providing a key biodiversity to the streetscape and open space. Species proposed will tolerate fluctuating soil moisture.



Roadside swale and tree planting

Amenity Lawn

Amenity lawns make up a large portion of the open space on site and provides residents of the site the opportunity for rest and recreation.



Amenity lawn

Wetland Areas

There are a number of wet areas and ditches on site, and proposals for an integrated constructed wetland at the community park. These areas have the potential to form important habitats for local wildlife, and educational tools for local children.



Wetland meadow planting

Proposed Tree Planting Species

Tree Strategy

The general planting strategy throughout the scheme is for significant structure tree planting with 2 metre clear stems to provide a leafy canopy layer, softening the proposed buildings and a base layer of low shrub/groundcover and hedge planting to create low level seasonal interest and colour softening the hard surfaced areas and car parking. Eye level between the two planting types is kept clear to maintain sight lines throughout the scheme.

Native and naturalised tree species are to be planted within the public open space to increase opportunities for native wildlife. These will ultimately be large scale trees to designate a parkland character.

Street tree planting will consist of species with fastigiate or neat forms suitable to the scale of the streetscape and those which will thrive in a streetscape environment. Street tree planting is located to avoid impacts with street lighting. Street trees will be planted into a minimum of 7cu.m. topsoil, with the use of urban tree soils, root barriers to protect water utilities and topsoil loaded rootcells to increase rooting areas outside the main tree pit area as necessary as from guidance 'A Climate for Trees' Tree Strategy 2023-2030'.

Courtyard/Podium trees have been chosen for seasonal diversity and small form. They will be planted in raised beds in the podium developments.

Private garden dwellings have a fruit tree planting in the gardens to enhance overall biodiversity and habitat creation on site.

Street Tree			
Species	Girth	Clear Stem	Height
<i>Pyrus calleryana</i> 'Chanticleer'	20-25 cm	2.0m	min. 450cm
<i>Acer platanoides</i> 'Emerald Queen'	20-25 cm	2.0m	min. 450cm
<i>Sorbus aria</i> 'Majestica'	20-25 cm	2.0m	min. 450cm
<i>Carpinus betulus</i> 'Lucas'	20-25 cm	2.2m	min. 500cm
<i>Acer campestre</i> 'Streetwise'	20-25 cm	2.2m	min. 500cm
<i>Liquidambar styraciflua</i> 'worplesdon'	20-25 cm	2.2m	min. 500cm
<i>Malus tschonoskii</i>	20-25 cm	2.2m	min. 500cm
<i>Acer platanoides</i> 'Crimson Sentry'	20-25 cm	2.2m	min. 500cm
<i>Magnolia kobus</i>	20-25 cm	2.2m	min. 500cm
<i>Crataegus monogyna</i> 'Strica'	20-25 cm	2.2m	min. 500cm
Open Space Trees			
Species	Girth	Clear Stem	Height
<i>Pinus sylvestris</i>	18-20 cm	2.0m	min. 450cm
<i>Fagus sylvatica</i>	18-20 cm	2.0m	min. 450cm
<i>Prunus avium</i>	18-20 cm	2.0m	min. 450cm
<i>Acer campestre</i>	18-20 cm	2.0m	min. 450cm
<i>Quercus robur</i>	18-20 cm	2.0m	min. 450cm
<i>Euonymus europaeus</i>	18-20 cm	2.0m	min. 450cm
<i>Sorbus aucuparia</i>	18-20 cm	2.0m	min. 450cm
<i>Alnus glutinosa</i>	18-20 cm	2.0m	min. 450cm
<i>Crataegus monogyna</i>	18-20 cm	2.0m	min. 450cm
<i>Malus sylvestris</i>	18-20 cm	2.0m	min. 450cm
<i>Corylus avellana</i>	18-20 cm	2.0m	min. 450cm
<i>Betula pendula</i>	18-20 cm	2.0m	min. 450cm

Boundary Wall Native Trees/Shrubs		
Species	Clear Stem	Height
<i>Betula pendula</i>	Multi-stem	min. 450cm
<i>Crataegus monogyna</i>	Multi-stem	min. 450cm
<i>Corylus avellana</i>	Multi-stem	min. 450cm
<i>Prunus avium</i>	Multi-stem	min. 450cm
<i>Malus sylvestris</i>	Multi-stem	min. 450cm
<i>Prunus avium</i>	Multi-stem	min. 450cm

Courtyard/Podium Trees			
Species	Girth	Clear Stem	Height
<i>Amelanchier lamarckii</i> 'Robin Hill'	18-20 cm	2.0m	min. 450cm
<i>Acer palmatum</i> 'Osakasuki'	18-20 cm	2.0m	min. 450cm
<i>Malus 'Evereste'</i>	18-20 cm	2.0m	min. 450cm
Fruit Trees (increased biodiversity, mainly located in and around Walled Garden Orchard)			
Species	Girth	Root	Height
<i>Prunus domestica</i> 'Victoria' (Victoria plum)	14-16cm	BR	min. 250cm
<i>Pyrus communis</i> (Conference Pear)	14-16cm	BR	min. 250cm
<i>Malus 'John Downie'</i> (Native Eating Apple)	14-16cm	BR	min. 250cm
<i>Malus domestica</i> varieties	14-16cm	BR	min. 250cm
Cherry Morello	14-16cm	BR	min. 250cm
Damson Farleigh	14-16cm	BR	min. 250cm



Proposed Overall Planting Species

Climbers

Native/adaptive climbers have been proposed throughout the scheme on proposed building facades where practical. Species are chosen for robustness, seasonality, and biodiversity. Habitats will be formed along this boundary edge to the development public realm providing both visual and ecological rewards.

Shrub & Groundcover

Low level shrub and groundcover planting will be in single species blocks taken from an overall palette of species throughout the scheme with flowers and fruits attractive to wildlife such as bees and butterflies. Species will be of maximum 1m height at maturity to maintain clear sight lines.

The principal objective of the landscape proposals is to provide a high quality public realm, which is accessible, safe and distinctive. Planting and landscape works will be carried out in accordance with BS4428. Trees will be advanced/semi-mature rootballed stock, in accordance with BS 8545.

Low level, low maintenance shrub planting will be used in planting beds containerised with a minimum size of 2 litre pots, Climbers will have 1 litre pots, all with a 75mm well composted fine bark mulch.

Climbers				
Species	Type	Size	Per Lin M	
<i>Lonicera caprifolium</i> (European honeysuckle)	CG	1L	3	
<i>Parthenocissis quinquefolia</i> (Virginia creeper)	CG	1L	3	
<i>Lonicera caprifolium</i> (European honeysuckle)	CG	1L	3	
<i>Clematis armandii</i> (Evergreen clematis)	CG	1L	3	
<i>Jasminum officinale</i> (White Jasmin)	CG	1L	3	
Hedge (Privacy Strips)				
Species	Designation	Root	Height	Per Lin M
<i>Prunus lusitanica</i>	3x transplanted, Bushy	RB	70-120cm	3
<i>Lonicera nitida</i> 'Maygreen'	2l, 30 -40cm spread	CG	30-40cm	4
<i>Buxus sempervirens</i> 'Suffruticosa'	2l, 30 -40cm spread	CG	30-40cm	4
Mixed Native Hedge (located within open spaces and boundaries where possible)				
Species	Designation	Designation	Height cm	
<i>Prunus spinosa</i>	Bare Root	1+2 Transplant	80-100	
<i>Crataegus monogyna</i>	Bare Root	1+2 Transplant	80-100	
<i>Sambucus nigra</i>	Bare Root	1+2 Transplant	60-80	
<i>Corylus avellana</i>	Bare Root	1+2 Transplant	40-60	
<i>Ilex aquifolium</i>	Container Grown	2l	40-60	
<i>Euonymus europaea</i>	Bare Root	1+2 Transplant	40-60	
<i>Rosa canina</i>	Bare Root	1+2 Transplant	40-60	
<i>Viburnum opulus</i>	Bare Root	1+2 Transplant	40-60	
<i>Prunus padus</i>	Bare Root	1+2 Transplant	40-60	
Shrub and Ground Cover Mix 1 (to Privacy Strips and Open Spaces)				
Species	Designation	Root Type	Height mm	Spread mm
<i>Rosmarinus officinalis</i>	Container Grown	2l	200-300	200-300
<i>Euonymus fortunei</i> 'Emerald Gaiety'	Container Grown	2l	200-300	200-300
<i>Sarcococca hookeriana</i>	Container Grown	2l	300-500	300-500
<i>Pittosporum tobira</i>	Container Grown	2l	500-700	500min
<i>Hebe</i> 'Green Globe'	Container Grown	2l	100-200	200-300
<i>Lavandula angustifolia</i>	Container Grown	2l	200-300	200-300
<i>Tiarella cordifolia</i>	Container Grown	2l	200-300	200-300
<i>Carex oshimensis</i> 'Everest'	Container Grown	2l	200-300	300-500

Edible Garden Mix (within walled garden)				
Species	Designation	Root Type	Height mm	
<i>Salvia rosmarinus</i>	Container Grown	2l	200-300	
<i>Allium schoenoprasum</i>	Container Grown	2l	200-300	
<i>Thymus</i>	Container Grown	2l	200-300	
<i>Origanum vulgare</i>	Container Grown	2l	200-300	
<i>Borago ofcinalis</i>	Container Grown	2l	200-300	
<i>Melissa ofcinalis</i>	Container Grown	2l	200-300	
<i>Monarda didyma</i>	Container Grown	2l	200-300	
<i>Foeniculum vulgare</i>	Container Grown	2l	200-300	
<i>Salvia ofcinalis</i>	Container Grown	2l	200-301	
<i>Mentha</i>	Container Grown	2l	200-302	
Pollinator Mix (located within Walled Garden)				
Species	Designation	Root Type	Height mm	
<i>Hypericum hidcote</i>	Container Grown	2l	200-300	
<i>Lavandula angustifolia</i>	Container Grown	2l	200-300	
<i>Sarcococca hookerana</i>	Container Grown	2l	200-300	
<i>Potentilla fruticosa</i>	Container Grown	2l	200-300	
<i>Lonicera nitida</i>	Container Grown	2l	200-300	
<i>Vaccinium corymbosum</i>	Container Grown	2l	200-300	
<i>Helleborus spp</i>	Container Grown	2l	200-300	
<i>Erysimum spp</i>	Container Grown	2l	200-300	
<i>Nepeta spp</i>				



Prepared for DLR County Council in partnership with the Land Development Agency

Habitat Enhancing Species and Overall Implementation

Native Woodland Mix

A woodland mix is proposed in the community park and northern edge of the Eco Corridor to enhance biodiversity and strengthen existing habitats. Species are a mix of sizes and species providing a seasonal interest and strengthen biodiversity.

Seeding

The landscape development allows for a variety of self-collected DLR seeding mixes and native Irish wildflower (Wildflower seed collection to be discussed with DLR biodiversity officer). In the development to aid habitat creation and enhance biodiversity on site. A 1.5m amenity lawn verge will outline the edges of pathway through the development. Natural meadow planting is to occur through the open space in drifts forming fragmented corridors through the development. Amenity lawn will be placed in passive zones in the open space to allow for passive recreation areas. Meadow seeding to be 100% native sourced Irish provenance wildflower seeds. Amenity lawn seed shall conform in all respects to the European Communities (Seed of Fodder Plants) Regulations, 2002.

Landscape Implementation Programme

Planting on the site will commence with the completion of each stage of the works and as a result the programme is closely tied to construction operations. Ground preparation will precede planting and will include weed clearance and amelioration where necessary. Planting of species will be carried out in the dormant period from November – March, with grass seeding carried out from April – September, this will ensure ample opportunity for planting to establish properly and reduce casualties during the maintenance period.

Intensive landscape aftercare for each area will run for 12 months from the practical completion date using contact herbicides and hand weeding. There will be a period of 12 months defects liability on all planting with plant failures being replaced in the following planting season.

Shrub and Ground Cover Mix 2 (Intensive Green Roof Planting)				
Species	Designation	Root Type	Height mm	Spread mm
<i>Pennisetum hamelin</i>	Container Grown	2l	200-300	200-300
<i>Ilex crenata</i>	Container Grown	2l	200-300	200-300
<i>Fatsia japonica</i>	Container Grown	2l	300-500	300-500
<i>Euonymus fortunei</i> 'Emerald Gaiety'	Container Grown	2l	300-500	300-500
<i>Sarcococca hookeriana</i>	Container Grown	2l	100-200	200-300
<i>Pittosporum setiferum</i>	Container Grown	2l	200-300	200-300
<i>Tiarella cordifolia</i>	Container Grown	2l	200-300	200-300
<i>Carex oshimensis</i> 'Everest'	Container Grown	2l	200-300	300-500
<i>Allium Sensation</i>	Bulbs handsown planting 9 per m2			
<i>Muscari</i>	Bulb handsown, planting 9 per m2.			

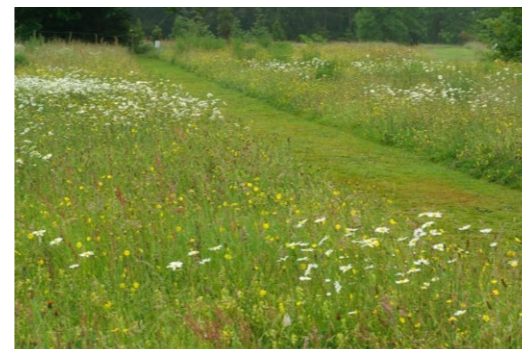
Rain Garden Mix				
Species	Designation	Root	Height mm	Spread mm
<i>Carex pendula</i>	Container Grown	2l	200 - 300	200 - 300
<i>Calamagrotis acutiflora</i> 'Karl Foerster'	Container Grown	2l	200 - 300	200 - 300
<i>Dryopteris felix mas</i>	Container Grown	2l	200 - 300	200 - 300
<i>Aster ageratoides</i> "Stardust"	Container Grown	2l	300-400	300-400
<i>Aster thomsonii</i>	Container Grown	2l	100 - 500	100 - 500
<i>Liatris spicata</i>	Container Grown	2l	300-400	300-400
<i>Perovskia atriplicifolia</i>	Container Grown	2l	1000 - 1500	500-1000
<i>Carex oshimensis</i> "Everest"	Container Grown	2l	200 - 300	200 - 300
<i>Echinacea purpurea</i>	Container Grown	2l	300-400	300-400
<i>Nepeta</i> 'Six Hills Giant'	Container Grown	2l	200 - 300	200 - 300
<i>Salvia nemorosa</i> "Iubacca"	Container Grown	2l	100 - 500	100 - 500

Native Woodland Mix 1				
Species	Size	Stem	Height	
<i>Pinus sylvestris</i>	18-20 cm	Clear Stem	min. 450cm	
<i>Euonymus europaeus</i>	16-18 cm	Multi	min. 350cm	
<i>Sorbus aucuparia</i>	18-20 cm	Clear Stem	min. 450cm	
<i>Betula pendula</i>	18-20 cm	Multi	min. 450cm	
Species	Age / Condition	Root Type	Height cm	Mix
<i>Quercus robur</i>	1+2 transplant	BR	90-120	n/a
<i>Fraxinus Excelsior</i>	1+2 transplant	BR	90-120	n/a
<i>Betula pendula</i>	1+1 transplant	BR	90-120	n/a
<i>Crataegus monogyna</i>	1+1 transplant	BR	90-120	n/a
<i>Pinus sylvestris</i>	2+0 transplant	BR	30-40	n/a
<i>Ilex aquifolium</i>	1+1 transplant	BR	20-30	n/a
<i>Euonymus europaeus</i>	1+1 transplant	BR	60-90	n/a

Wetland Planting			
Species	Type	Plants per sq. m	Mix %
Emergent Aquatic Planting			
<i>Glyceria Maxima</i>	Plug, P9	7	50
<i>Sparganium erectum</i>	Plug, P9	7	30
<i>Schoenoplectus lacustris</i>	Plug, P9	9	20
Emergent Planting			
<i>Lythrum salicaria</i>	Plug, P9	13	40
<i>Iris pseudocarus</i>	Plug, P10	13	40
<i>Butomus umbellatus</i>	Plug, P9	13	20
Dry Meadow			
<i>Carex panuiculata</i>	Plug, P9	13	50
<i>Filipendula ulmaria</i>	Plug, P9	13	50

Extensive Green Roof		Type
<i>Wildflower Meadow Mat. (Containing 15 species native/adaptive species) Bauder or similar</i>		Mat
Wildflower Meadow Grass Mix		
<i>Native & locally sourced/collected seed mix with input from DLRC Biodiversity Dept</i>		Planting Hand Sown
Wet Meadow Grass Mix		
<i>Native & locally sourced/collected seed mix with input from DLRC Biodiversity Dept</i>		Planting Hand Sown
Amenity Grass		
<i>Amenity Grass Mix</i>		Planting Hand Sown

Low Native / Shrub Planting (Eco-Corridor e.g. eastern boundary)			
Species	Designation	Root Type	Height mm
<i>Ruscus aculeatus</i>	Container Grown	2l	200-300
<i>Rosa pimpinellifolia</i>	Container Grown	2l	200-300
<i>Cytisus scoparius</i>	Container Grown	2l	300-500
<i>Salix repens</i>	Container Grown	2l	300-500



Hard Landscaping

Hardworks Materials

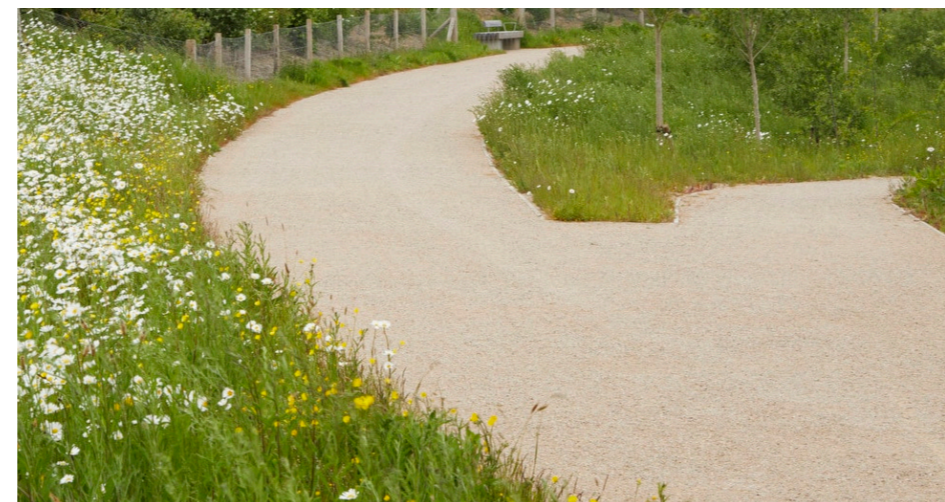
The hardworks palette has been chosen to enhance the hard surfaces and network of plaza's, roads and paths which link and connect the development.

Demonstrated opposite, a hierarchical categorisation of paving and finishes are described for the application throughout Dundrum Central.

The success of any paving structure is dependent on the appropriate associated structural build-up, bedding and jointing associated with the surface material. The full specification of these structural elements must be detailed by suitably qualified engineers, and constructed in accordance with capable and experienced design contractors.

Historic Landscape / Amenity Trails

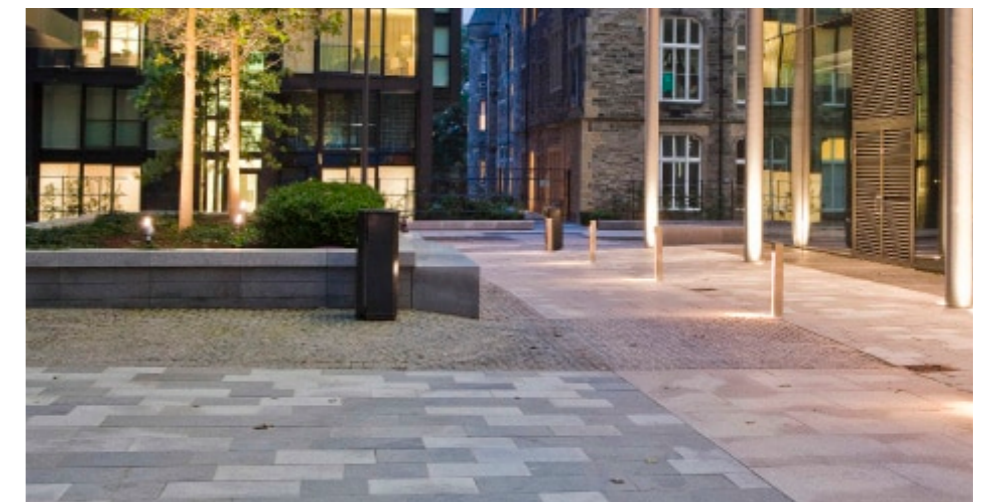
A self bound gravel in buff colour. This surface will form the main surface on the central park , offering an opportunity for walking and recreation. Hard paving will be provided to accent areas/ focal points.



Self bound gravel

Public Squares

The vision for the public squares is to create a high quality public realm spaces using a palette of robust materials to create a sense of place for each of these spaces.



Greater variety of materials within public squares



Paving setts to focal areas



Trees set within paved areas

Parks & Open Space

A self bound gravel in buff colour. This surface will form the main surface on the parks , offering opportunities for walking and recreation. Feature natural stone elements will form key accents within the surfacing.



Soft natural edges with buff gravel pathway



Play surface to kids play areas (Play sand, Bark Mulch, Tiger mulch , Grass matting)

Streets

Roadside pathways will consist of brushed concrete. These paths will run alongside the road network and offer routes for pedestrians and cyclists. Macadam surface will incorporate buff textured aggregate to compliments path surfaces. Blister paving will be provided at crossing to ensure legibility for the visually impaired.



Brushed concrete pathway adjacent to macadam cycleways



Raised Tables at key junctions provide pedestrian hierarchy

Home Zones

Shared Streets and Homezones will make use of a variety of materials to create a more informal environment and character which is pedestrian and children focused.



Shared surface and permeable pavement



Low boundary wall and railing to Home Zones

Streetscape Design

Entrance Roads

There are two access road into the Dundrum development. The existing entrance to the site and a new entry approximately 149m south of this entry point off Dundrum road. The existing entrance is outlined by mature Lime trees that will be protected and retained for pedestrian and cyclist access. The new entrance will provide cycle, pedestrian and vehicular access. Street trees will be proposed alongside raingardens where feasible.

Local Road

The sites overall road infrastructure is predominantly made up of a two-way local road 5.5m wide. Raised tables are positioned along pedestrian routes and will acting as a traffic calming measure through the scheme. Street trees will be proposed along the routes with each street containing a distinctive species that provides a sense of character to the street. On street parking will be permeable paving and will connect into the SuDs raingarden components. Privacy planting will act as a transition from pedestrian pathways into the private building blocks.

Shared Surface

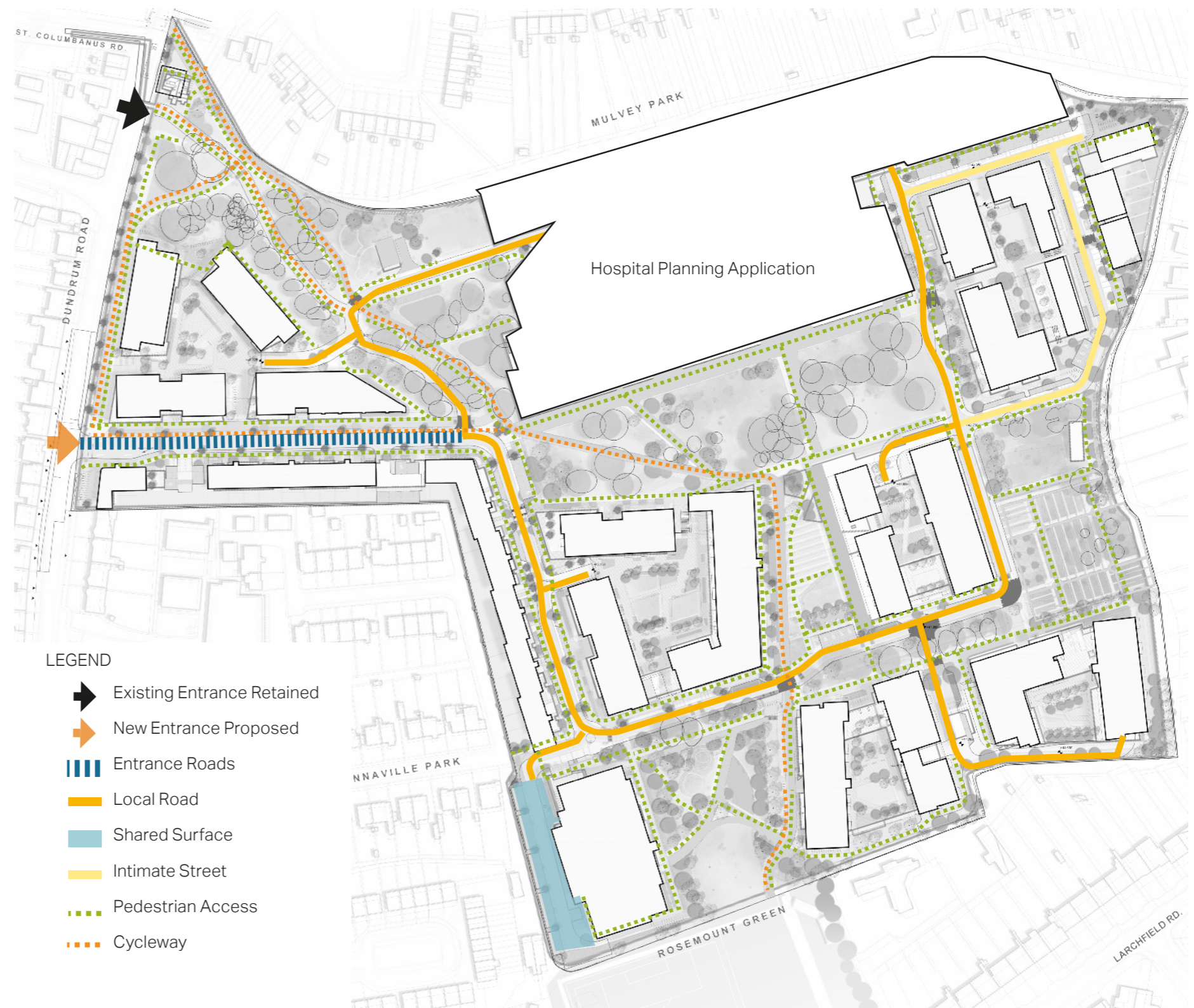
A shared surfaces zone is proposed in the scheme. Located to, the east of block 6 making the parking and roadway a pedestrian priority space.

Intimate Street

The development to the east of block 2 is an intimate street area with the aim to reduce vehicular dominance and provide a pedestrian hierarchy to the space. Perpendicular parking flows out onto a 5.5m road with street trees and clipped planting softening the overall zone.

Open space

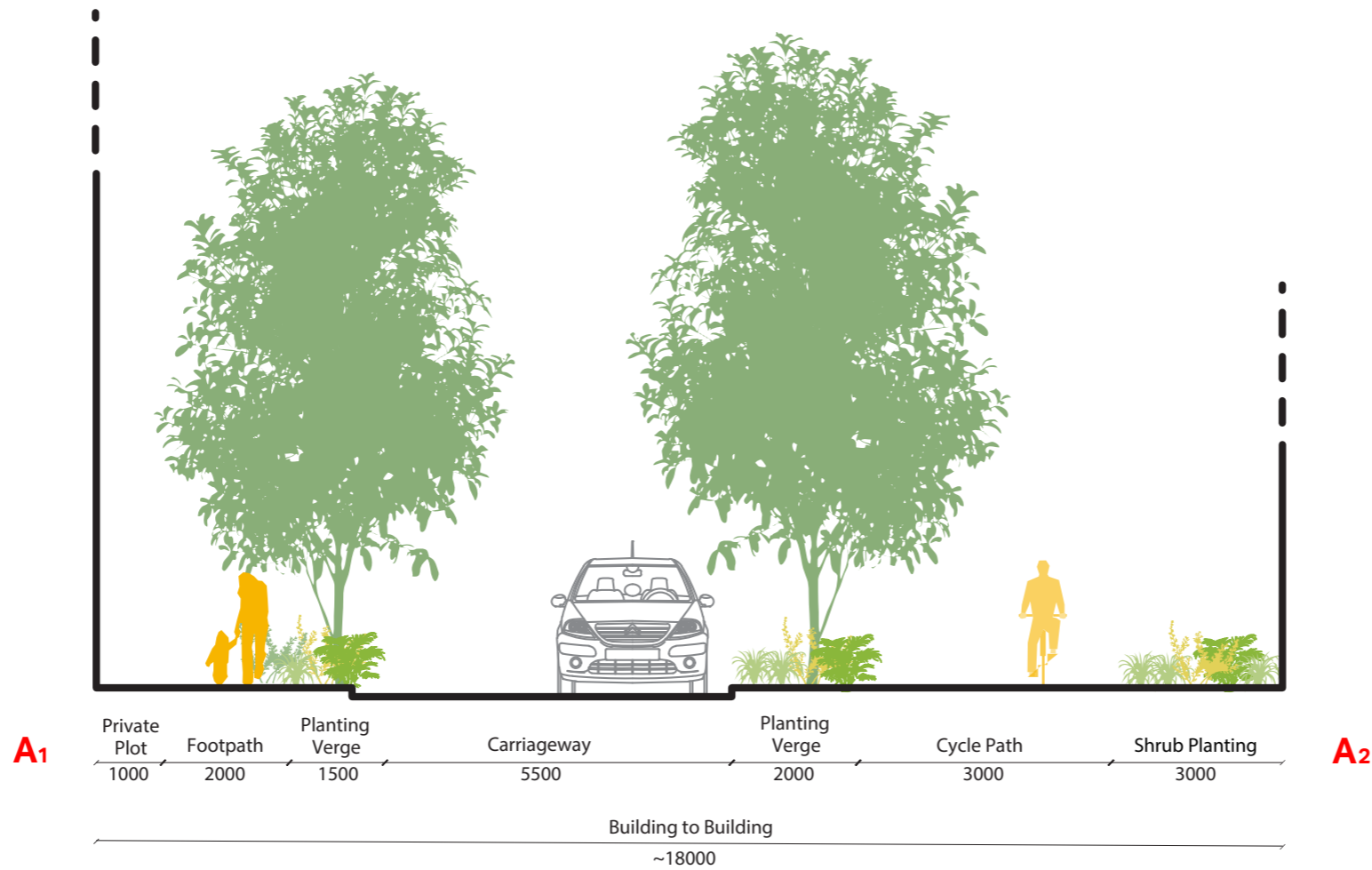
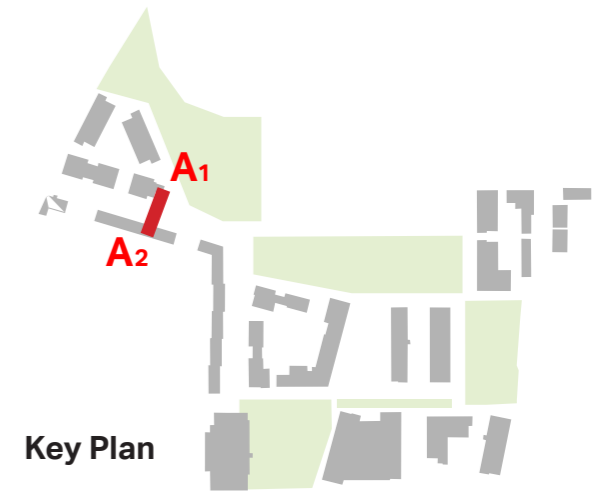
The community park and central square will be key pedestrian and cycle routes on site. Generous areas have been established to ensure pedestrian priority and design flexibility has been established.



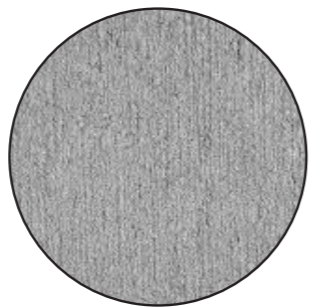
- LEGEND
- ➔ Existing Entrance Retained
 - ➔ New Entrance Proposed
 - ▨ Entrance Roads
 - Local Road
 - Shared Surface
 - Intimate Street
 - - - Pedestrian Access
 - - - Cycleway

Section A

Access Road



PP: Privacy Paving
Small Precast Unity Paving



Pavement/Path
Brushed Concrete



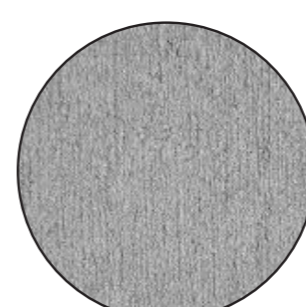
RG: Rain Garden & Street Trees
Biodiverse Planting



Cycleway
Demarcation on Asphalt



Cycleway
Demarcation on Asphalt



Pavement/Path
Brushed Concrete

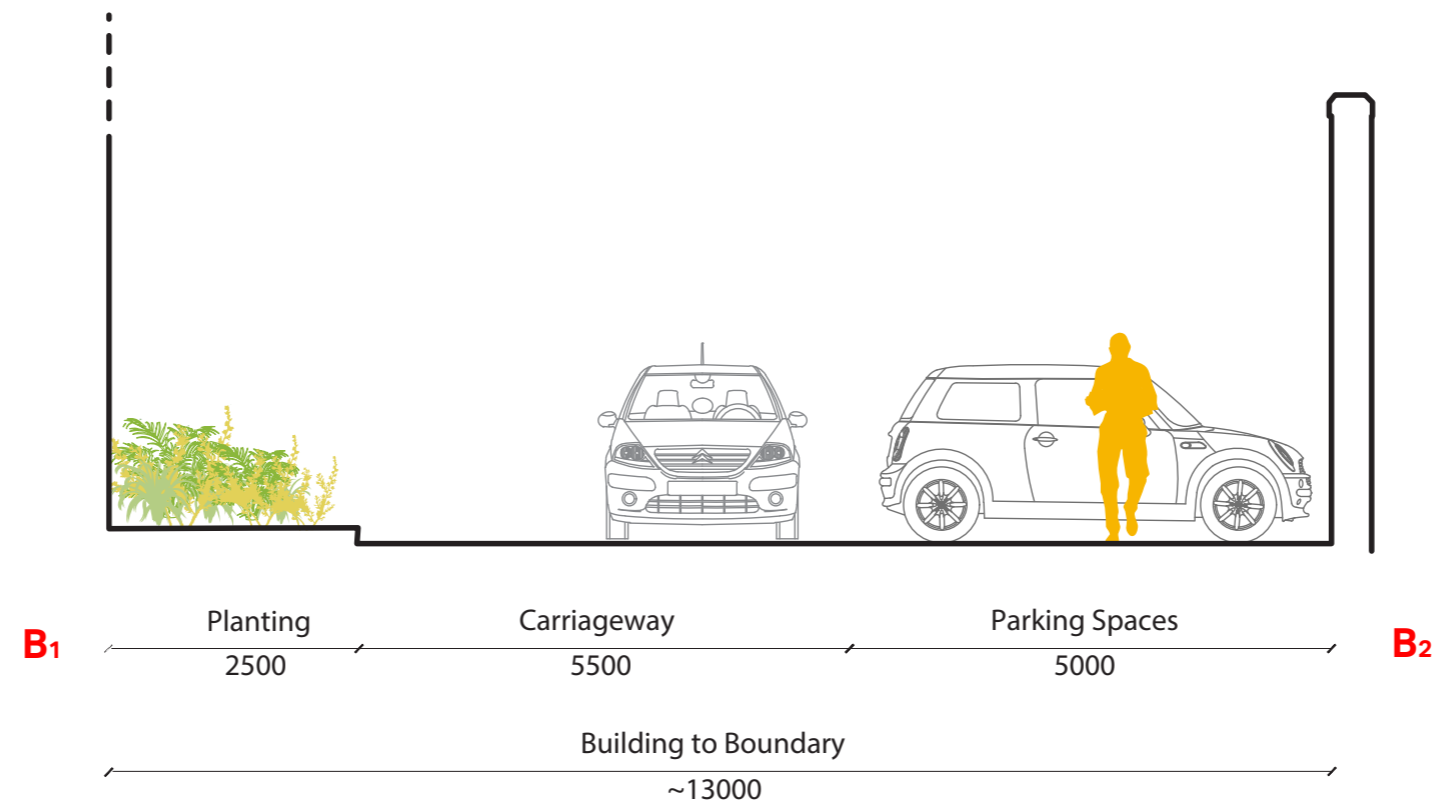
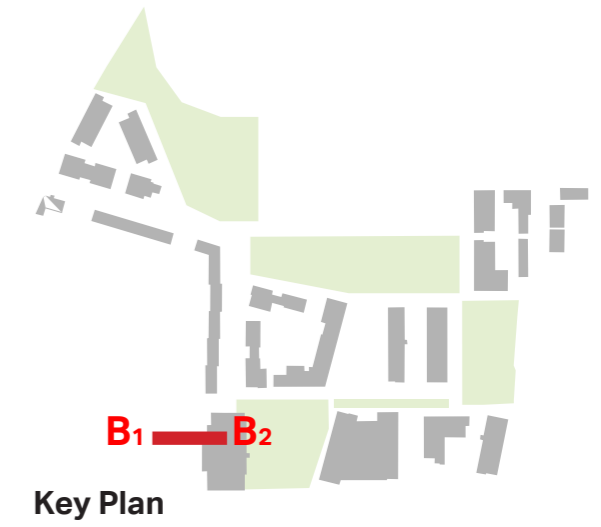


Privacy Strip & Street Trees

Structure Planting Prepared for DLR County Council in partnership with the Land Development Agency

Section B

Shared Surface



Native Planting



Permeable Paving



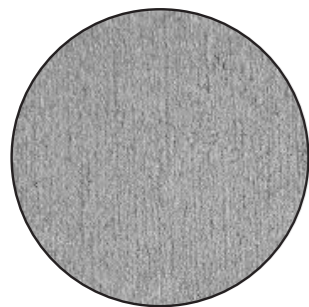
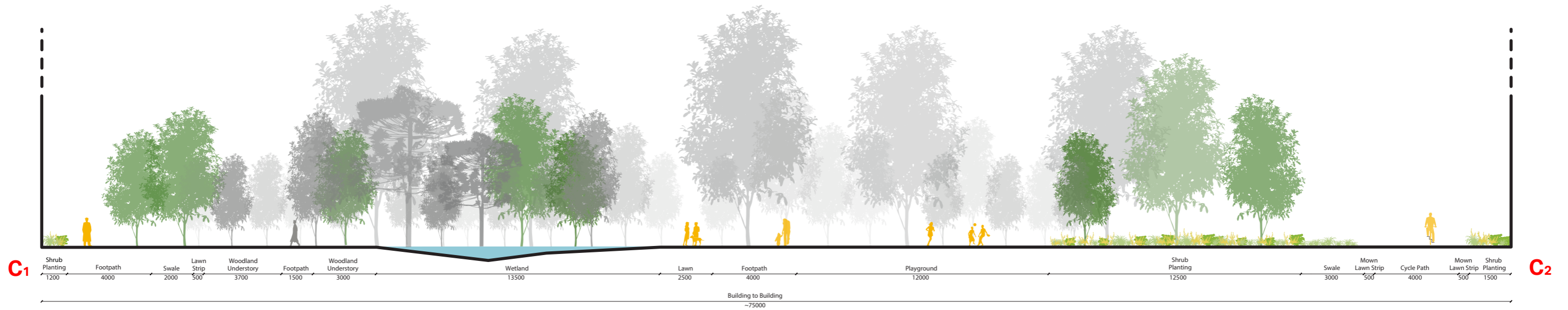
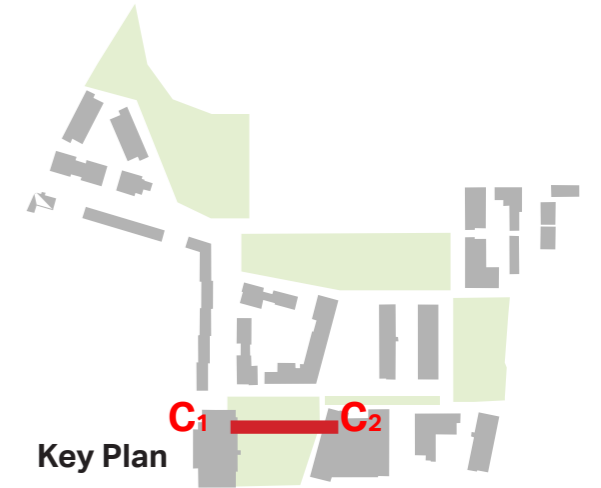
Asphalt with Chippings



Structure Planting

Section C

Access Road & Community Park



Pavement/Path
Brushed Concrete



Maintenance Strip
Grasscrete



Native Woodland and Tree Planting
'Eco Corridor'



Integrated Constructed Wetlands (ICW)



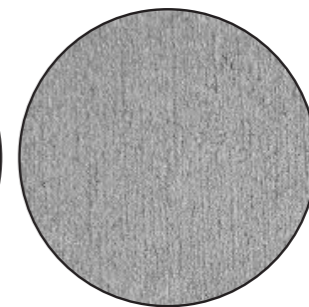
Park Path
Resin Bound Material



Playground
Natural Thematic Playground



Cycleway
Macadam



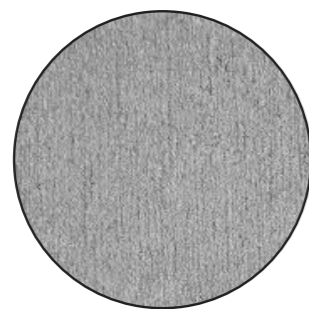
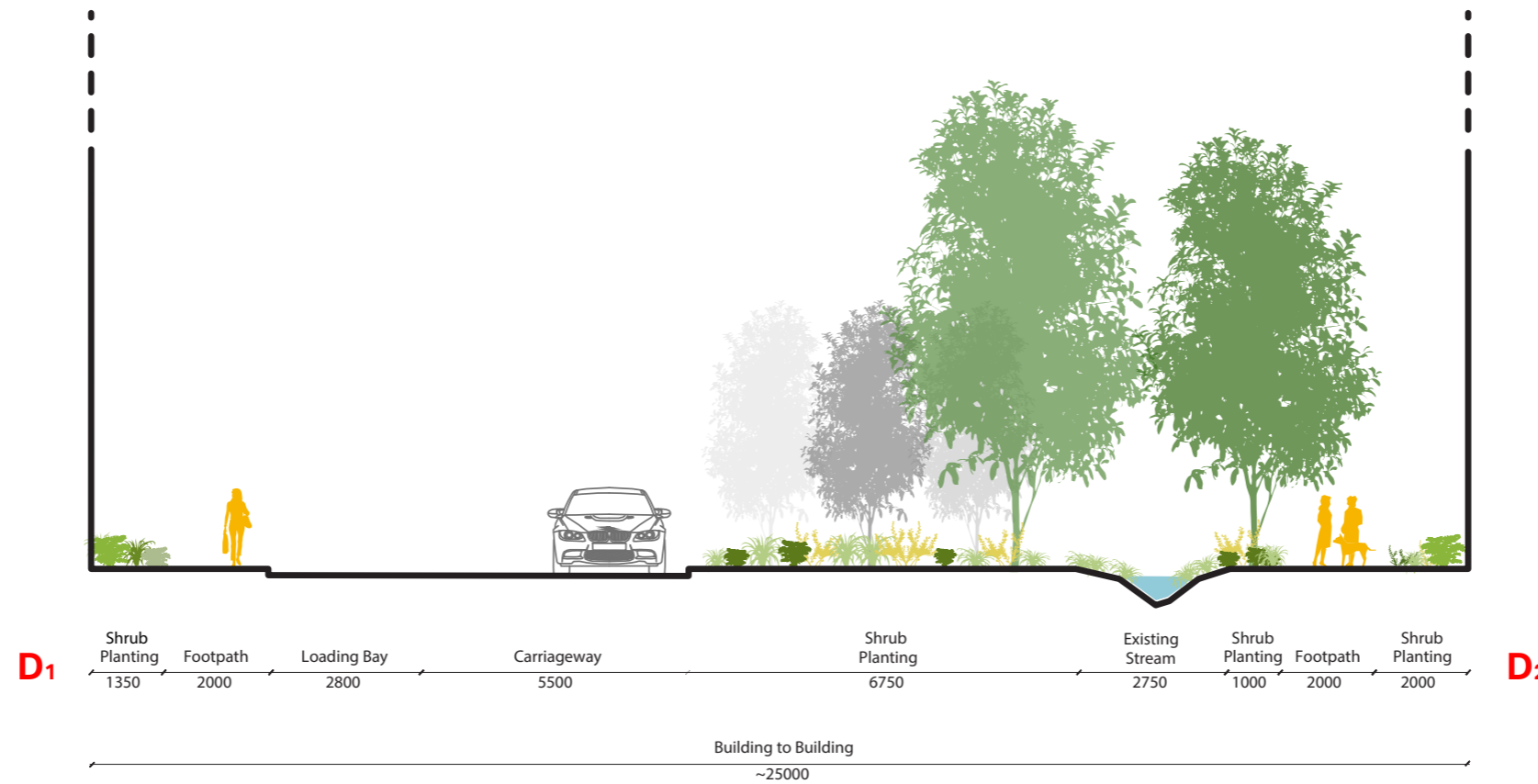
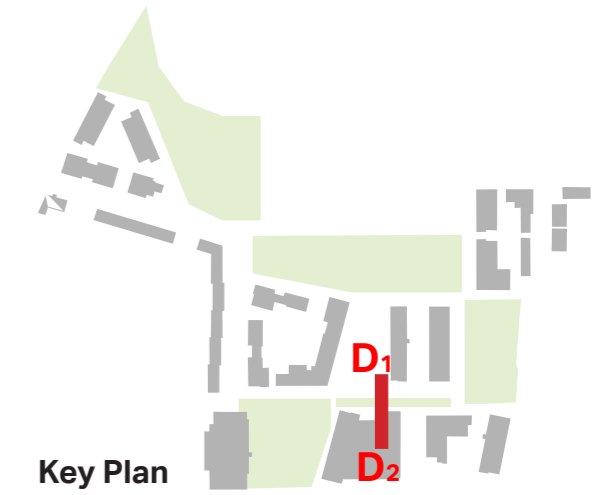
Pavement/Path
Brushed Concrete



Privacy Strip & Street Trees

Section D

Local Road & Eco Corridor



Pavement/Path
Brushed Concrete



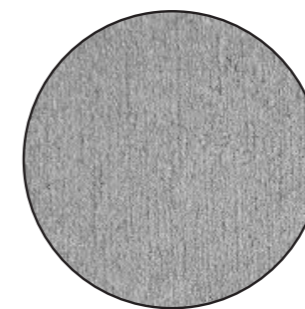
RG: Raingarden & Street Trees
Biodiverse Planting



Native Woodland and Tree Planting
'Eco Corridor'



Wet Seeding
Biodiverse Ditch



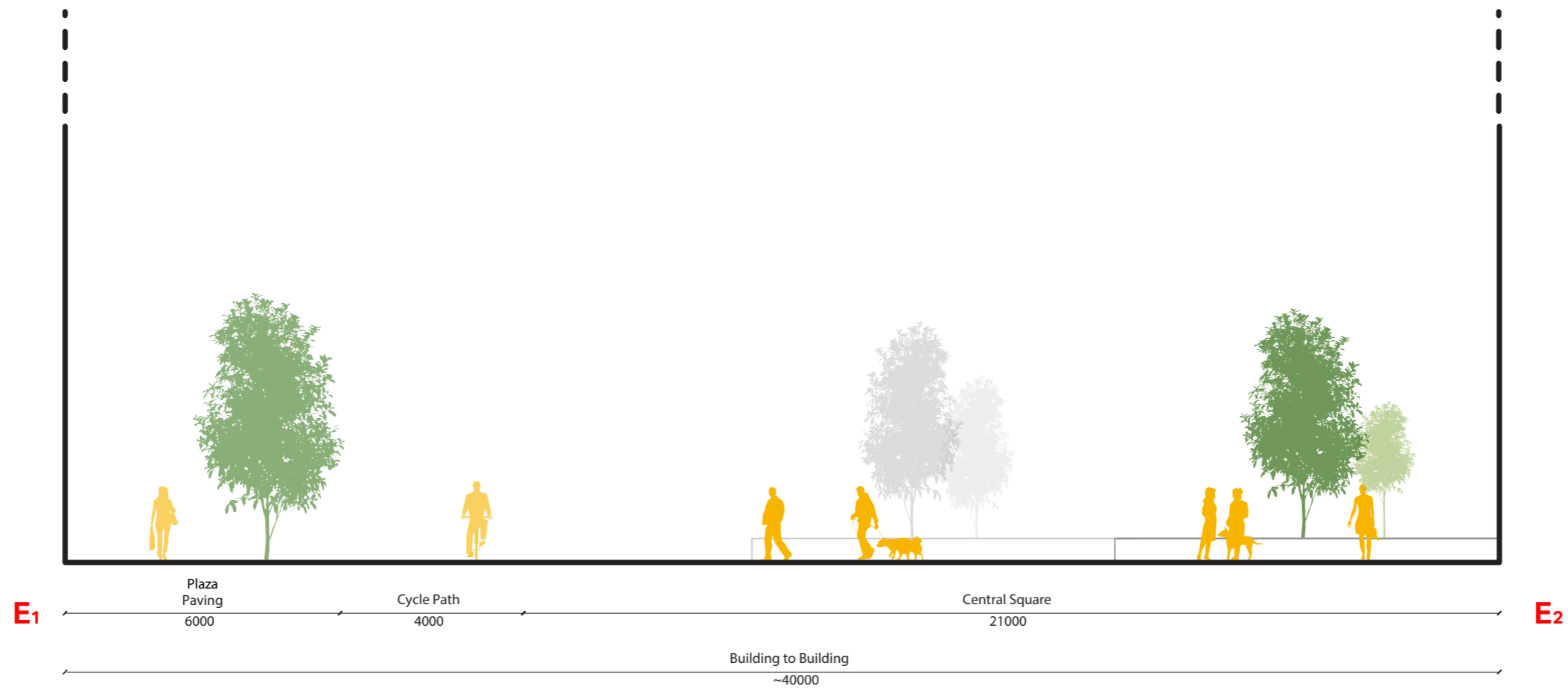
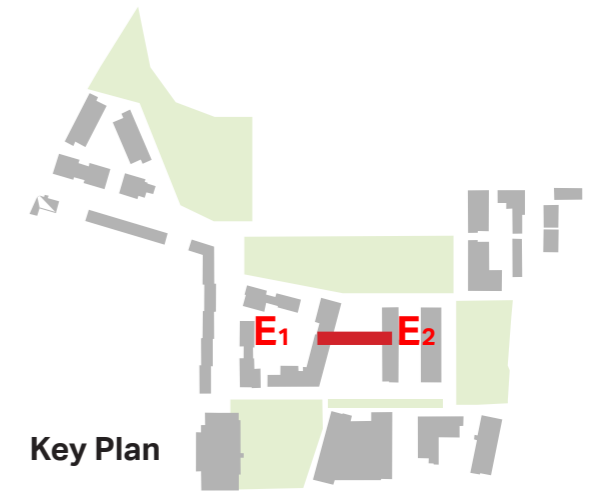
Pavement/Path
Brushed Concrete



Privacy Strip & Street Trees
Structure Planting

Section E

Central Sq



Threshold Pavement
Precast Concrete Unit



Raingarden and Tree Planting
Raingarden with Feature Seating



Cycleway
Macadam



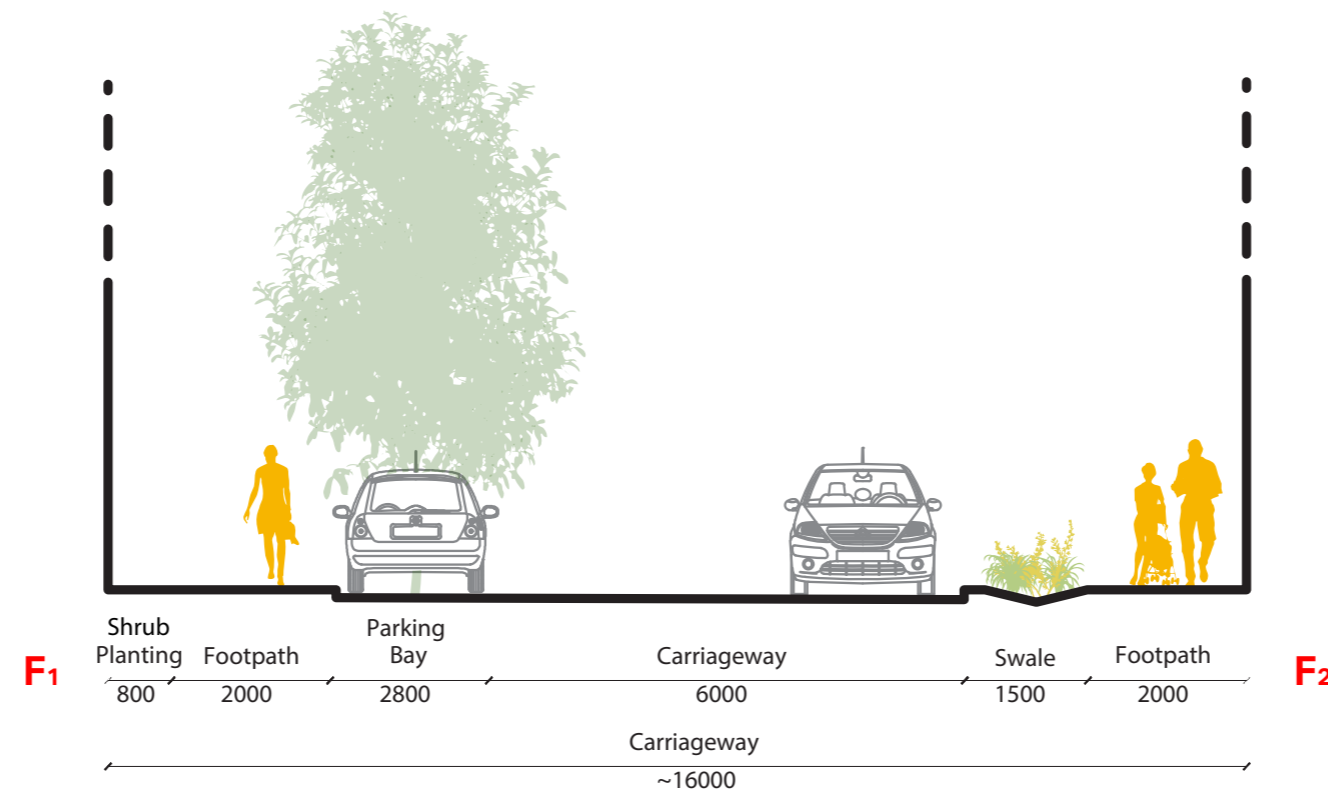
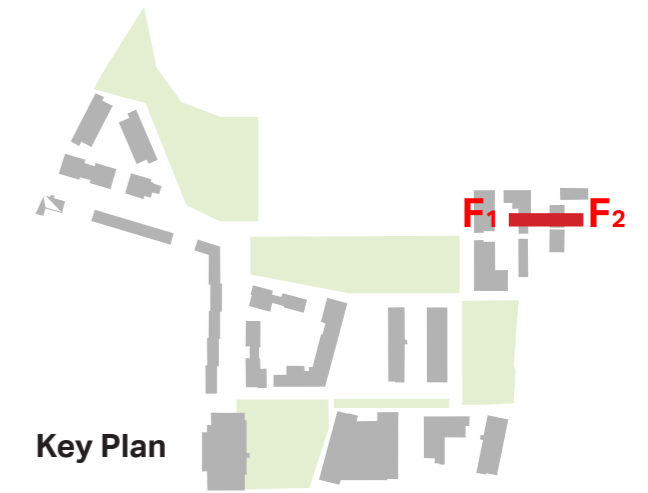
Central Square
Feature Paving



Threshold Pavement
Precast Concrete Unit

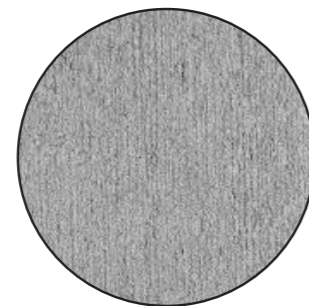
Section F

Intimate Street



Privacy Boundary

Low Wall and Railing



Pavement/Path

Brushed Concrete



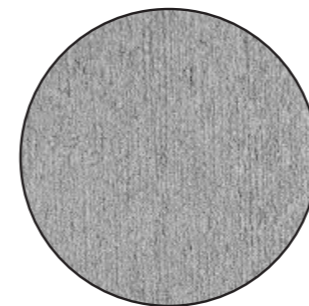
Parking

Permeable Paving



Street Tree Planting

'Small Street Trees'



Pavement/Path

Brushed Concrete



Privacy Boundary

Low Wall and Railing

Site Furniture

Universal Access

Street furniture must take cognisance of all users, while contributing to the wider visual qualities of the town environment. Location should also be determined by shelter and good clear views.

Seating must be no more than 450mm high, and offer 100mm of heel space. Units should be placed 600mm back from any line of movement, flush with surrounding levels, and offer an 800mm x 1300mm square of firm paving for an adjacent wheelchair. Headroom of less than 2100mm should be avoided.

Seating should be provided at regular intervals: located no more than 50m apart where possible. This should be planned so as to ensure that the resting points are along defined routes.

Enhancing the Streetscape

The use of street furniture that caters for universal access allows an inclusive design scheme that in turn will enhance the streetscape. Creating and providing spaces that attract users of all ages and abilities will in turn bring life to the street. Taking consideration for those who are most vulnerable, to the front of the design allows the formation of a suitable solution and creates a universally inclusive space.

Bicycle Parking



Lockable cycle storage



Chelsea cycle shelter



Cycle stand parking set back from the pedestrian thoroughfare with different paving, against a surface colour and texture change.

Seating



Rest opportunities



Single chairs can provide a location for short breaks

Bollard and Bins



Important features which create a definite boundary and edge.



Seating provided with soft landscaping provides interest, while also filtering noise and fumes.



Seating with back support offers user comfort and directional focus, ensuring an element of containment.

Contemporary and functional bins that contrast well with surrounding environment.



