BLACKGLEN

LANDSCAPE DESIGN RATIONALE

gannon + associates

23170
Large Scale Development (LRD)
at Blackglen Road,
Sandyford, Dublin 18

on behalf of
Zolbury Ltd

December 2024

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INTRODUCTION

Gannon + Associates Landscape Architecture have been engaged by the applicant Zolbury Ltd. to prepare the Landscape Masterplan and Landscape Design Rationale for a Large Scale Residential Development (LRD) on a site of approx. 3.86ha on lands at Blackglen Road, Sandyford, Dublin 18.

The purpose of this report is to explain in detail the landscape context, the landscape design rational and to support the interpretation of the landscape architectural design proposals on the accompanying drawings.

01

SITE CONTEXT

1.1 DEVELOPMENT DESCRIPTION

Zolbury Ltd., intend to apply to Dun Laoghaire Rathdown County Council for permission for development for a Large Scale Residential Development (LRD) on a site of approx. 3.86ha on lands at Blackglen Road, Sandyford, Dublin 18.

The development will consist of 192 no. residential units ranging from 2-5 storeys in height, associated resident amenity facilities, a childcare facility, all boundary treatment and landscaping works, site services connections and all site development works to include:

a) Construction of 192 no. residential units, in the form of 6 no. new apartment buildings (A1 – B4), 40 duplexes (C1, C2, C2A) and 14 houses (D1 & D2), to include 33 no. 1-beds, 84 no. 2 -beds, 61 no. 3-beds and 14 no. 4-beds as follows:

- Block A1 (4 storeys) comprising 15 no. apartments (3 no. 1 bed units, 6 no. 2 bed units & 6 no. 3 bed units); a crèche facility of approx. 378.2 sq. m with associated outdoor play space of approx. 170 sq. m; and resident amenity facilities of approx. 31.6 sq. m.
- Block A2 (3-4 storeys) comprising 26 no. apartments (2 no. 1 bed units, 20 no. 2 bed units and 4 no. no. 3 bed units) and resident amenity facilities of approx. 353.6 sq. m.
- Blocks B1 and B2 (2-5 storeys) comprising 51 no. apartments (15 no. 1 bed units, 29 no. 2 bed units, 7 no. 3 bed units).
- Blocks B3 and B4 (2-5 storeys) comprising 46 no. apartments (13 no. 1 bed units, 23 no. 2 bed units and 10 no. 3 bed units).
- Duplex Units C1 (4 storeys), C2 and C2A (3 storeys) comprising 40 duplexes (6 no. 2 bed units, 20 no. 3 bed units and 14 no. 4 bed units).
- House Units D1 and D2 (2 storeys) comprising 14 houses (14 no. 3 bed units).

b) Total Open space (approx. 10,854 sq. m) is proposed in the form of public open space (approx. 8, 686 sq. m), and residential communal open space (approx. 2,168 sq. m). Each residential unit is afforded with associated private open space in the form of a garden/terrace/balcony.

c) The development will be served via a new vehicular access via Blackglen Road. This will be designed as a priority junction with pedestrian and cycle crossings where required to tie in with the Blackglen Road Improvement Scheme.

d) A new toucan crossing is proposed across Blackglen Road just to the east of the new vehicular access. This toucan crossing has been designed as per TL607 of the Cycle Design Manual to allow crossing of pedestrians and cyclists to the northern side of Blackglen Road for improved public transport access.

e) Emergency access only is proposed via Woodside Road.

f) A dedicated wildlife corridor is proposed to the east/ south-east side of the site and a public open space (approx. 307 m in length) tree trail to the west/north-west side of the site.

g) Basement/Podium car park areas are proposed below Blocks B1, B2, B3 and B4. A total of 226 no. car parking spaces are proposed, which includes 2 no. car club spaces, 12 no. accessible spaces and 47 no. EV charging spaces (198 no. long-stay spaces, 18 no. visitor space & 10 no. car parking spaces for creche use), in addition to 9 no. motorcycle spaces.

h) A total of 484 no. bicycle spaces are proposed in the form of 442 no. long stay bicycle spaces 42 short-term stay visitor parking.

i) 2 no. ESB substations at surface level.

j) Bin Storage areas for the Duplex blocks are proposed at ground level adjacent to the Duplex blocks.

k) All associated site and infrastructural works to include provision for water services; foul and surface water drainage and connections; internal roads, attenuation proposal; permeable paving; all landscaping works including green infrastructure zones; green roofs; and general plant areas; photovoltaic panels; landscaped boundary treatment; footpaths; public lighting; and electrical services.

1.2 SITE LOCATION

The subject site is situated at the foothills of the Dublin Mountains, to the west of Lambs Cross, Sandyford Co. Dublin. It spans approximately 3.76 hectares and is characterized by an undeveloped and undulating terrain. The site is bordered to the north by the Blackglen Road and to the south-west by the Woodside Road.

The elevated nature of the site provides sweeping views, offering expansive vistas to the north, encompassing Dublin City, Dublin Bay, and Howth on clear days. Views to the south showcase the uplands of the Dublin Mountains, while the eastern perspective reveals Dun Laoghaire Harbor and the Irish Sea beyond. This panoramic scenery contributes to the site's powerful sense of place, serving as a transitional zone between the lowlands and uplands.

In essence, the site's unique geographical features, elevated position, and diverse vegetation contribute to its distinctive character, establishing it as a significant location at the interface between urban lowlands and natural uplands.

source: Google Earth, 2024.

1.3 SITE PHOTOS

The site was visited multiple times throughout the year, providing insights into the existing site character, characterized by a post-agricultural landscape with scrub and gorse vegetation, along with exposed granite rock. After clearing certain areas of gorse to facilitate site investigation works, natural colonization by ferns, foxgloves, and a variety of grasses was observed.

It's worth noting that Blackglen Road is currently undergoing renovations for improvement. The road has already seen widening, the addition of a pedestrian footpath, and the installation of signage.












03


06




05

1.4 TREE SURVEY & TOPO

The topography of the site gently folds from the north at Woodside Road towards the south, meeting the Blackglen Road to the north. This positioning makes the site a gateway to prominent natural landmarks such as the Dublin Mountains, Ticknock, Three Rock, and extends to the Wicklow mountains on the outskirts of the broader Dublin conurbation.

In the specific context of the southern border of the site, the presence of trees in a good state of repair is remarkable. These trees, in good condition, make up a line , will be maintained and improved.

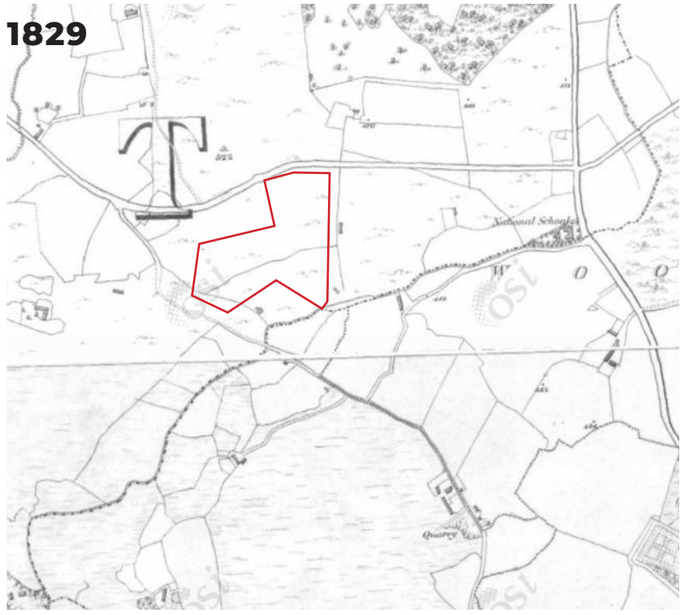


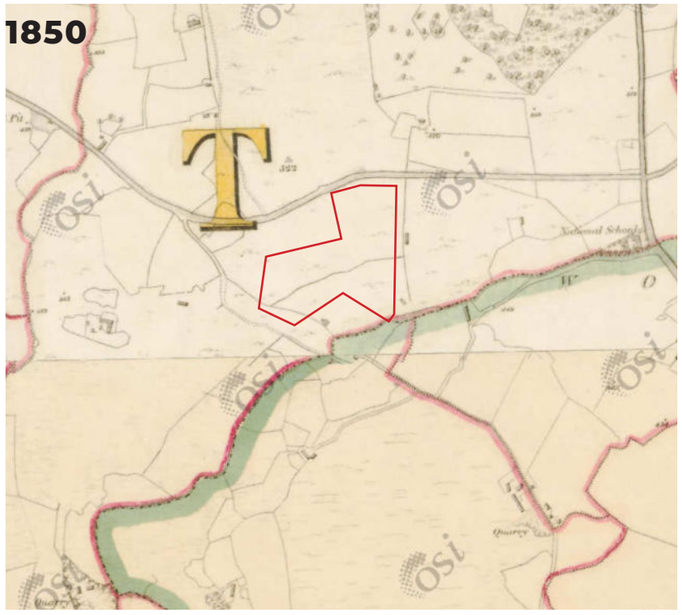
X trees to be removed

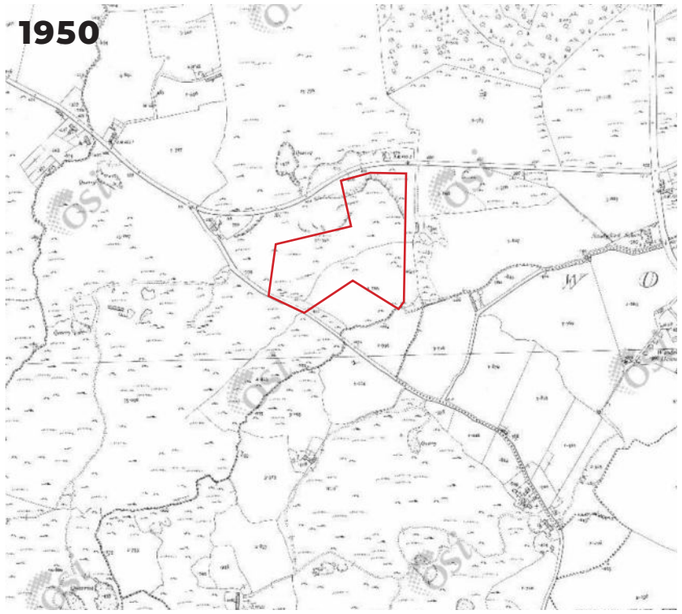
1.5 HISTORY

Historically settlement in the region dates back to late bronze age but settlement was slow as the region was overlooked for more preferential lowland settlement and agricultural areas. Settlement of the region quickens pace in the 1700's as roads, boundaries, dwellings, churches and quarries begin to appear. Always,however considered a frontier land between the settled lands of The Pale and the wilderness beyond to the Dublin and Wicklow Mountains to the South. The change in land use over the years from previously unmanaged areas to agriculture and quarrying from the 1800's has led to a loss of biodiversity. Mono cultural grassland has not encouraged a rich biodiversity in this area and some areas of heathland have been adopted to provide coniferous forestry.

The area has since become part of the southern fringes of the Dublin Conurbation. The regions underlying geology is dominated by Leinster Granite which has led to the development of the region as an important source of granite for the city of Dublin. This can be evidenced in the multitude of quarries found on and within close proximity of the site. The general characteristics of the upland soils where the subject site is located, were once denuded by glacial erosion and as a result a is light, well-drained and fertile soil. The bedrock below is very high owing to the limited soil depth in some places throughout the site.



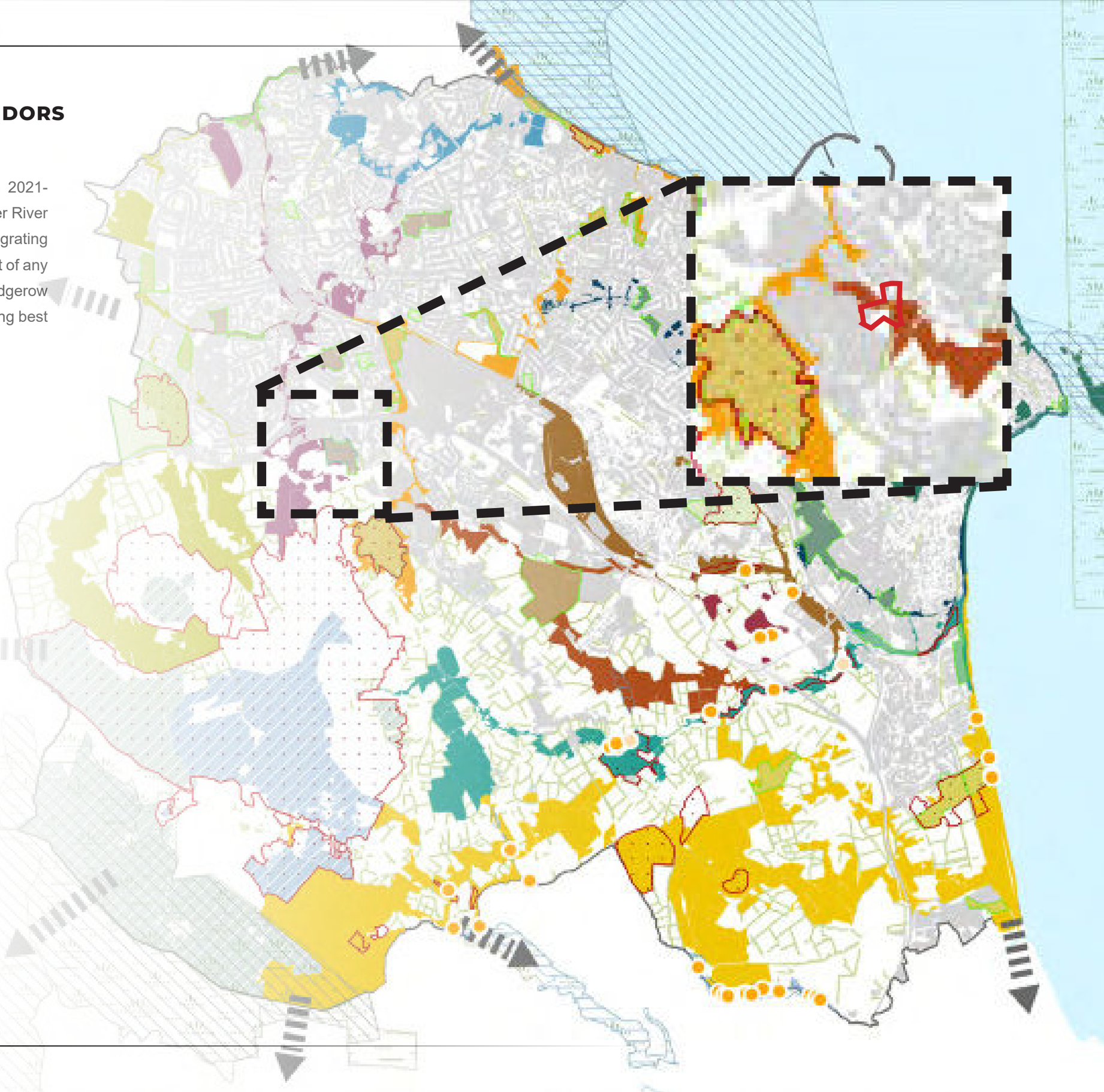






1.6 RIVER/COSTAL WILDLIFE CORRIDORS

According to the DLR County Biodiversity Action Plan 2021-2025 map, the site is positioned on the Ticknock to Dodder River corridor. In the approach to planning and development, integrating links with the wildlife corridor should form an essential part of any future project. This could include initiatives such as hedgerow planting or the creation of dedicated wildlife areas, following best available practice.

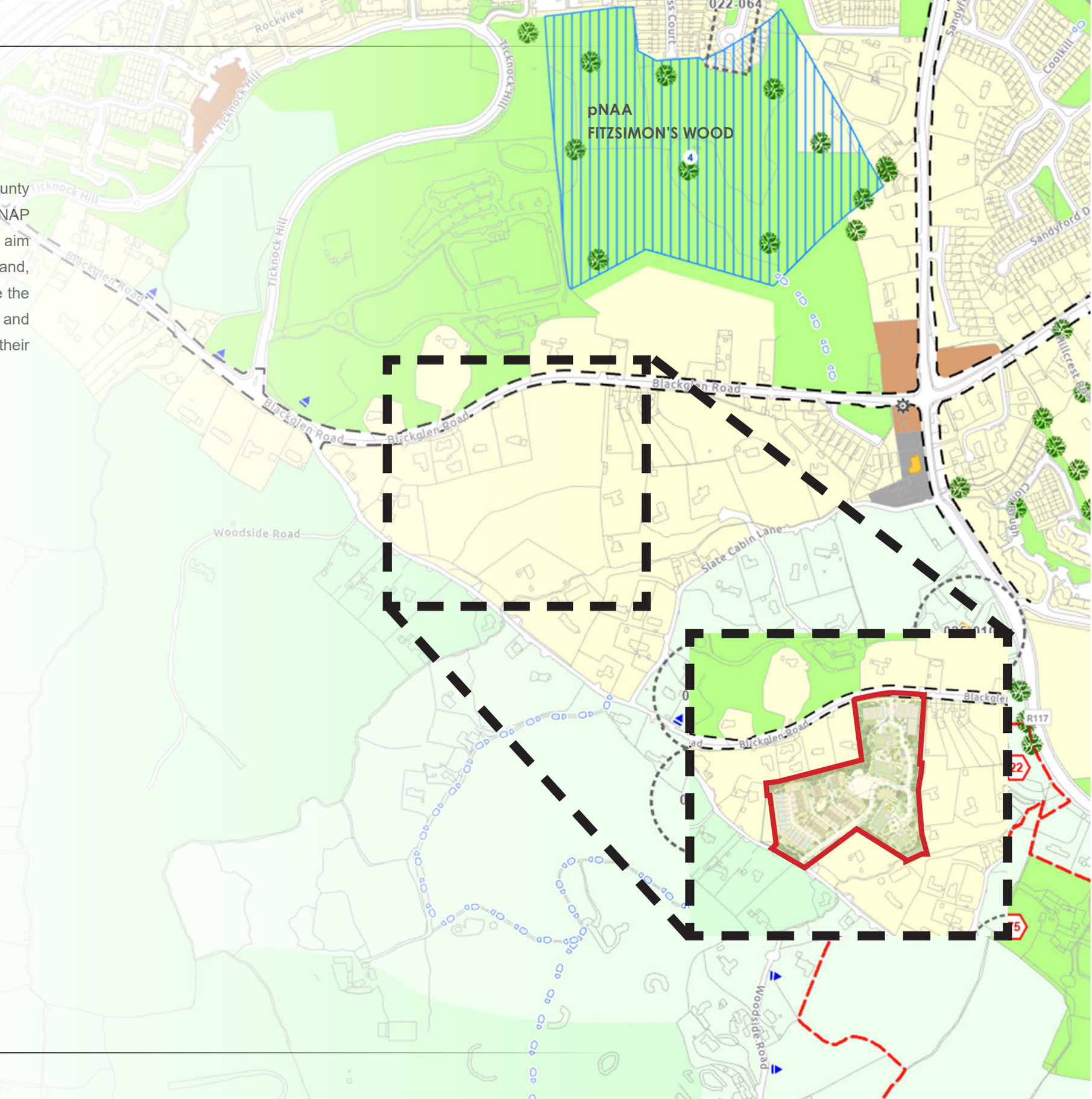


1.7 ECOLOGICAL CONTEXT

The map extracted from the Dún Laoghaire-Rathdown County Development Plan 2022-2028 highlights Fitzsimon's Wood NAP as a proposal to become a Natural Heritage Area with the aim of protecting local biodiversity, especially trees and woodland, which are identified as areas to be preserved. Even outside the highlighted zone, the development site aims to maintain and strengthen the green link between these areas, due to their proximity to the site.

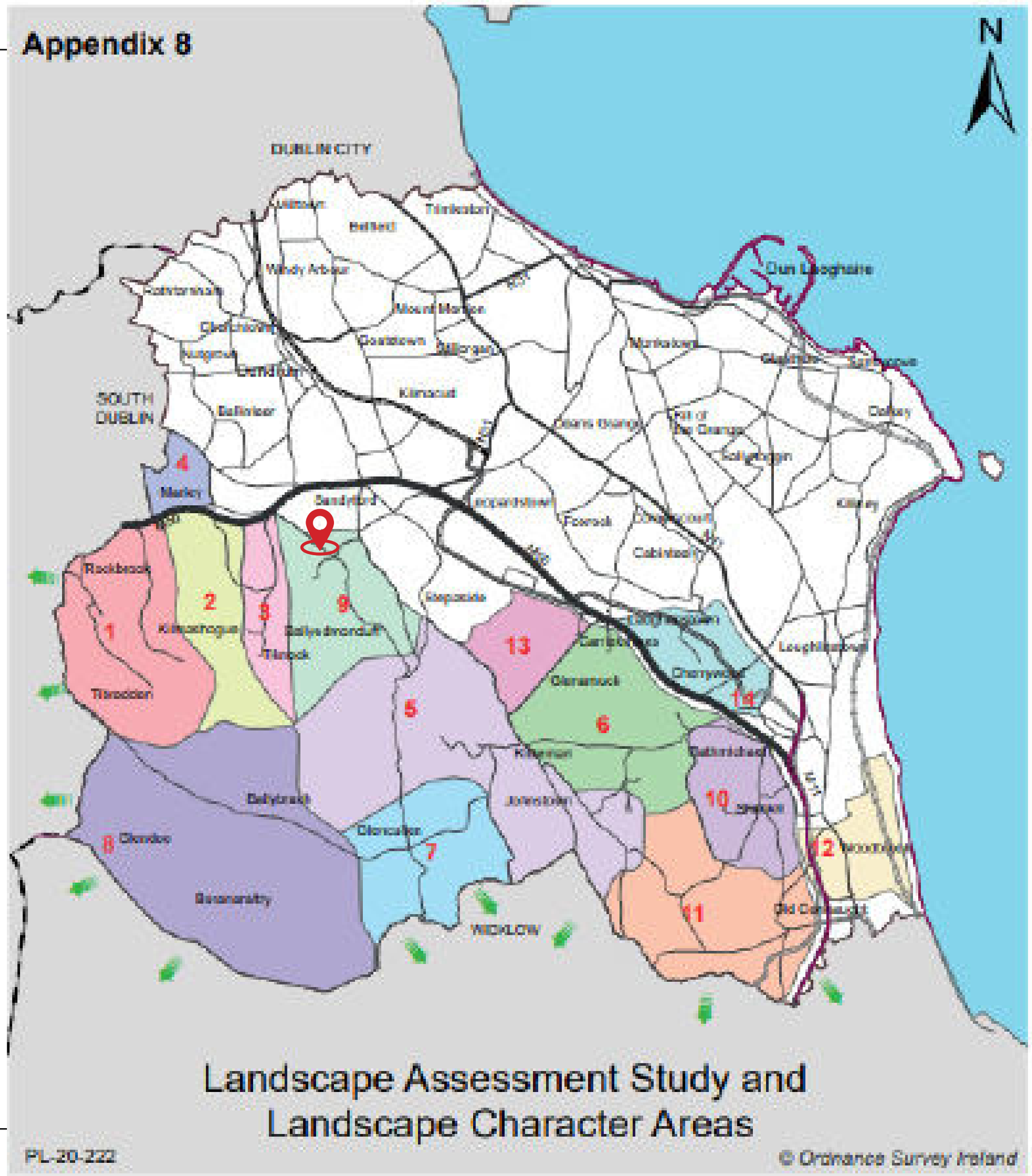
ProposedNaturalHeritageAreas

To protect and preserve Trees And Woodlands



1.8 LANDSCAPE CHARACTER ASSESSMENT

Located in the historic landscape character area of Baranacullia on the lower north western slopes of Three Rock Mountain and Ticknock. This area is defined by the undulating topography which ranges in high from +155m down to our subject site altitude of +135m and levels off to the lowland landscape of Dublin to the south and to Dublin Bay to the east. This highlights that the subject site resides in a transitional zone between the uplands of the Dublin Mountains and the lowlands of the Dublin environs and has developed historically as a transitional/frontier area.



1.8 LANDSCAPE CHARACTER ASSESSMENT

The site is a transitional zone ecologically between the lowlands of Fitzsimons Wood and the existing Oak Holly, Birch vegetation therein and the uplands of the Dublin Mountains and the vegetation found beyond. The landscape design of the proposed site aims to accentuate this transition and proposes that the planting scheme will transition mid-way through the site from the lowland Oak, Holly and Birch vegetation to the upland Heather and Pine.

The change in land use over the years from previously unmanaged areas to agriculture in the 1700's has led to a loss of biodiversity. Mono cultural grassland has not encouraged a rich biodiversity in this area and some areas of heathland have been adopted to provide coniferous forestry while large areas of upland Pine and Heather habitats prevail.



Oak



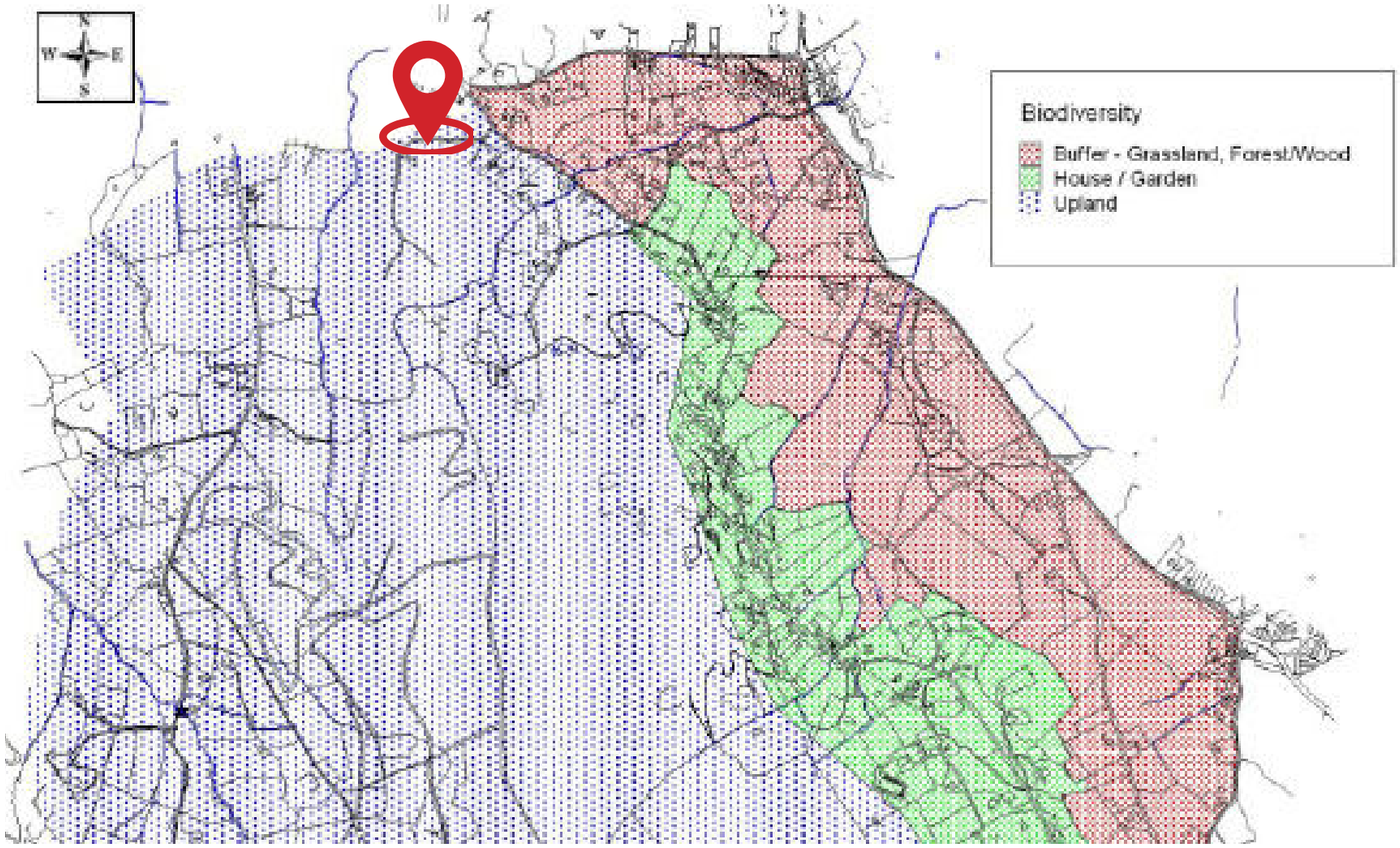
Birch



Holly



Pine



02

LANDSCAPE CONCEPT

2.1 DESIGN OBJECTIVES

The landscape design proposals have several aims and objectivities throughout the site. Place making and a sense of identity are central to the landscape proposal and in the design process a number of core aims and objectives were identified and consequently became an integral part of the landscape proposals.

01 PUBLIC OPEN SPACE

- To integrate the proposed landscape design into the existing landscape context.
- To facilitate public permeability through the site south, to the Dublin Mountains and north to Fitzsimons Wood and creating a public resource to promote this link.
- To create a cohesive landscape strategy that links all residents in the development through a central ‘heart’ which provides for a variety of community uses
- To develop a play and fitness strategy that encourages and promotes healthy living and social cohesion and connectivity.
- To provide a landscape that celebrates our tree species and reconnects people with nature.
- To provide a landscape amenity that is accessible to all ages, abilities and dispositions.
- Landscape amenity for all generations

02 COMMUNAL OPEN SPACE

- To create green fingers through the communal open space in the form of tree planting.
- Creating a visual and physical link between communal open space and the public realm.
- To provide for intimate, familial uses within communal open space.
- Each communal open space to be provided with small play area and activity space.
- To provide for a contemporary space that response to the proposed architecture whilst bleeding into the surrounding landscape.
- To provide ecological learning opportunities in the form of bug hotel.

03 PLAY & FITNESS

- To provide for a central, structured playground at the heart of the development, accessible to all.
- To create a nature trail that acts as a wellness and nature learning route.
- To provide informal and natural play opportunities throughout the scheme to encourage free play.
- To encourage a sustainable and healthy lifestyle with fitness equipment throughout the scheme encouraging movement between pieces and social interaction therein.

04 BIODIVERSITY

- To create a native tree trail along the green ribbon and around the boundaries of the development allowing the scheme to integrate well into the existing landscape.
- To match tree species growing in the lowlands at Fitzsimons Wood and in the Uplands of the Dublin Mountains in our tree planting scheme.
- To provide additional habitats to local fauna by way of badger mounds, newt ponds and an extensive pollinator friendly planting scheme.
- To encourage biodiversity learning through the native tree trail and education and information boards that are designed.
- To provide bat boxes throughout the site.
- To create a wildlife refuge/corridor along the south-eastern boundary
- To create a herbicide free zone as part of the maintenance programme.

2.2 LANDSCAPE VISIONS



POLLINATORS

The interconnection of green areas facilitates the movement of pollinators and promotes cross-pollination



MAMMALS PRESERVATION

Careful management of green corridors, contributing to the overall health of the ecosystem, especially dedicated to the preservation of mammal species native to Ireland.



SPECIES DIVERSITY

The variety of habitats, such as oak and pine forests, present in the green corridors, offers ideal conditions for a wide range of plant and animal species.



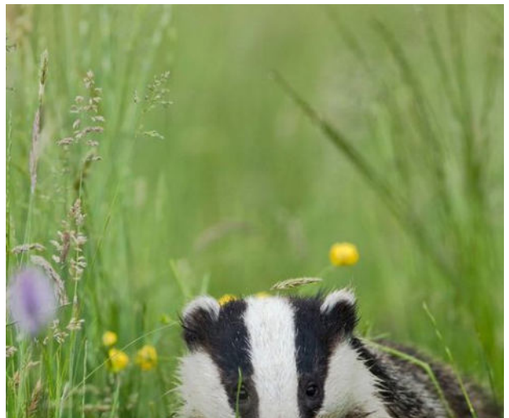
LANDSCAPE PRESERVATION

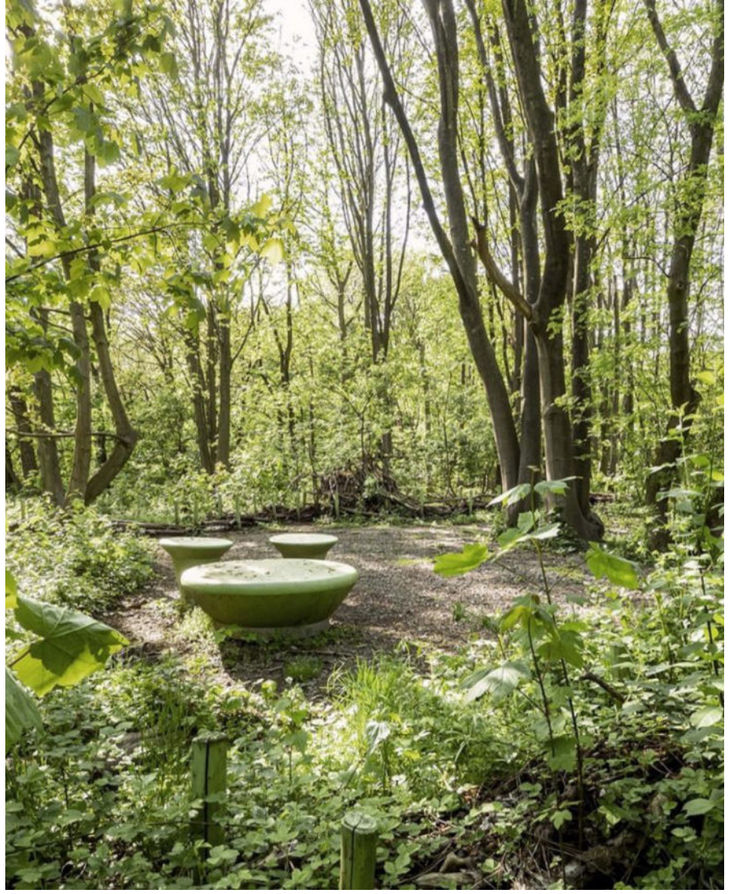
Preserving the rural character of the area and ensuring that the project is not intrusive on the horizon.

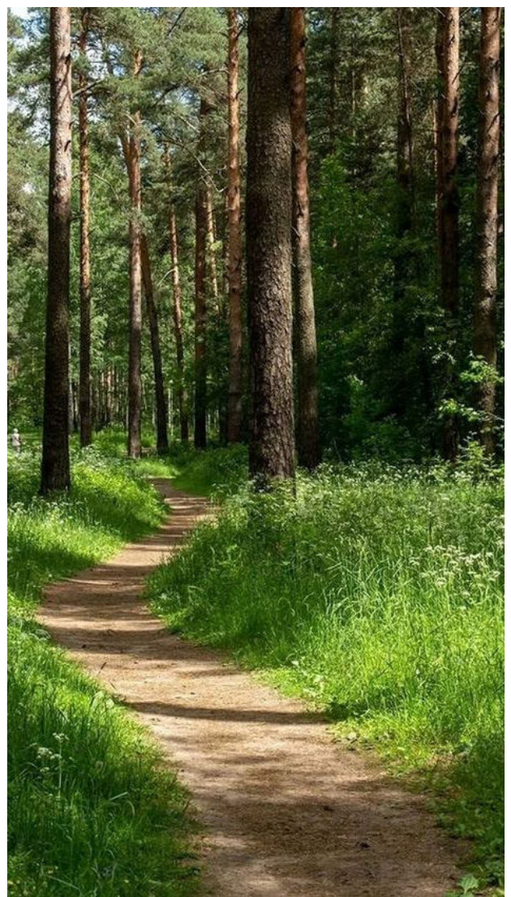
2.3 REFERENCE IMAGES















03

LANDSCAPE PROPOSAL

3.1 LANDSCAPE PLAN



KEY ZONES

1. Shared surface / Drop off Point
2. Bio-retention Area
3. View Point
4. Seating Area / Informal Plaza
5. Local Equipped Area for Play
6. Natural Play Area
7. Local Area for Play
8. Wellness Loop
9. Fitness Stations
10. Natural Ponds
11. Dog Park
12. Badger's Mounds
13. Amenity Grass Lawn
14. Intensive Accessible Roof Garden
15. Extensive Sedum Roof

LEGEND

VEGETATION

Street / Avenue Trees
@rb, 4x trpt 20-25cm girth
Acer Campestre 'elanjk' (Field maple)
Betula pubescens (Downy Birch)
Ginkgo biloba (Maidenhair tree)
Liquidambar styraciflua (Sweetgum)#
Platanus x hispanica (London Plane)
Pyrus calleryana 'Chanticleer'(Ornamental Pear)
Sorbus aria majestica (Whitebeam)
Tilia Cordata 'Greenspire' (Small leaved lime)

Parkland
@rb, 3x trpt 14-18cm girth
Betula pendula (Silver Birch)
Corylus avellana (Hazel)
Prunus spinosa (Blackthorne)
@rb, 4x trpt 20-25cm girth
Aesculus hippocastanum (Horse Chestnut)
Pinus sylvestris (Scots pine)
Populus tremula (Aspen)
Prunus Cerasifera 'nigra' ('Black Cherry Plum)
Prunus sargenti 'Rancho' (Sargent's Cherry)
Prunus avium (Cherry)
Sorbus aria majestica (Whitebeam)
@m/s, c/g 50L, 3.5m tall
Arbutus unedo (Strawberry tree)
Betula Jaquimontii (Hymalayan Birch)
Sambucus nigra (Elder)
Sorbus aucuparia (Rowan)

Podium / Planters Trees
@rb, 3x trpt 18-20 cm girth
Sorbus intermedia 'Brouwers' (Swedish Whitebeam)
@m/s, c/g 50L, 3.5m tall
Acer griseum (Paperbark maple)
Arbutus unedo (Strawberry tree)
Betula Jaquimontii (Hymalayan Birch)
Sorbus aucuparia (Rowan)

Oak/Birch Tree Trail
@rb 14-18cm gt.
Quercus rober (Sessile Oak)
Quercus petraea (Pedunculate Oak)
Betula pubescens (Downy Birch)
Ilex aquifolium (Holly)
Betula pendula (Silver Birch)

Conifers Wildlife Corridor
@rb 18-20cm gt.
Picea abies (Spruce)
Pinus sylvestris (Scots pine)
Betula pubescens (Downy birch)
Betula pendula (Silver Birch)

SHRUBS

Woodland Ground flora
@3l c/g planted at 300mm cntrs
Bilberry, Ling heather, Woodrush
Hard fern, Broadbuckler fern & honeysuckle

Mix of Lowland wild flowers and moist summer hay meadows
@3l c/g planted at 300mm cntrs
Deschampsia flexuosa
Deschampsia cespitosa
Deschampsia danthonioides
Molinia caerulea
Molinia Karl Foerster
Calamagrostis x acutiflora 'Karl Foerster'
Miscanthus sinensis
Sanguisorba officinalis
Lythrum vegatum
Succisa pratensis

Amenity Grass Areas
150mm topsoil depth

Ornamental grasses mix 1
150mm topsoil depth
Mix of ornamental grasses to provide all year round flow and texture in planting beds refer to planting specifications

Ornamental grasses mix 2 - Rain Garden
150mm topsoil depth
Mix of ornamental grasses to provide all year round flow and texture in planting beds refer to planting specifications

Climbing Plants
As per Soft landscape plan

HARD LANDSCAPE

Vehicular road
Asphalt

Granite chip rolled asphalt road

Shared surface
Buff asphalt

Parking bay/ Emergency Access
Grasscrete

Footpath
Compacted gravel path

Natural Play Area
Wood chip surface

Decking

Plaza paving of footpath
Large format natural stone paving

Paving of courtyards
Small format natural stone paving

Paving of courtyards
Small format natural stone paving

Wet pour surface

Safety grass matt

Gravel

FURNITURE

Play equipment *(supplier Kompan.com)*
ELE400062 Carousels
KSW0001 Swings
NRO110 Sinner Plate
NRO816 Six-sided climbing structure
NRO826 Crawling Pyramid
NRO417 Little Hen's House
NRO817 Balance Poles
NRO851 The Balance Combination
NRO852 Parkour 2
PCM000421Talk & Tumble with net

Fitness equipment *(supplier Kompan.com)*
FAZ30101 Steps
FAZ607 Lower back bench
FRO102 Combi 2
FSW202 Dip Bench
FSW226 Flex Wheel
FSW238 Leg lift & Pull up

ECO-FRIENDLY ELEMENTS

Excavated Rock Features
Large Granite Boulders

Large Natural Logs

Bugs Hotel
675x450mm Timber Frame

Nest Box
Timber frame

Bee hive Box
595x450mm timber frame

Rocket bat boxes
to be install on 5m poles

Badger mounts

Natural pond

Bioretention area
Wet tolerant planting
refer to planting specifications

Landscape Mounding

SEATING ELEMENTS

Feature plaza seating
supplied by *Escofet.com*

Individual seats
benchi/ chairs/ sun lounge

Featured seating elements
in form of amphitheater

OTHER ELEMENTS

Tennis table

Viewpoint
Timber frame

BOUNDARY TREATMENT

Site Boundary
Application site 3.70 Ha outlined in red

Land in ownership of applicant
(circa 4.022 Ha outlined in blue)

Lands subject to Letter of Consent

3.2 PUBLIC OPEN SPACE TREE TRAIL

307m long

approx. 8m wide

Soft Landscape



Quercus robur



Betula pubescens



Hawthorn



Elder

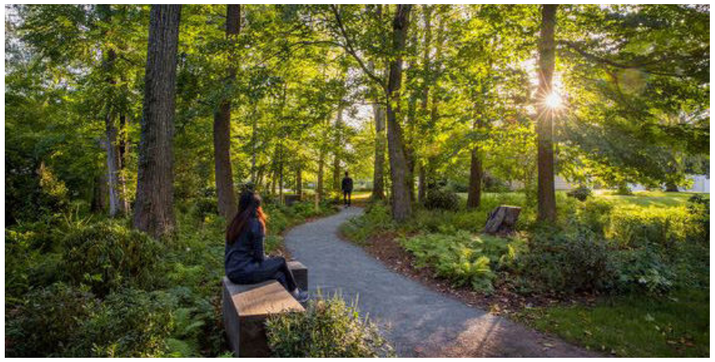




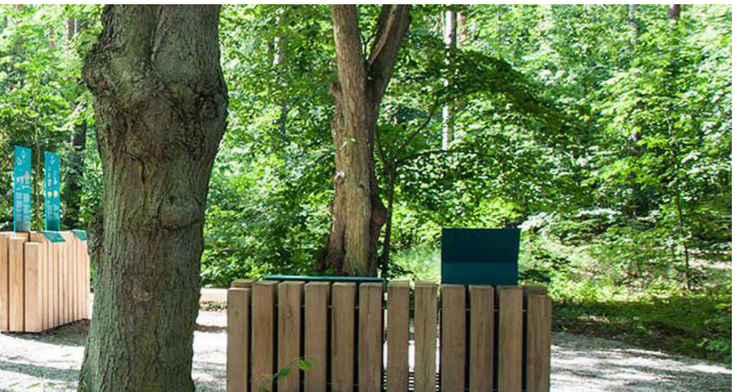








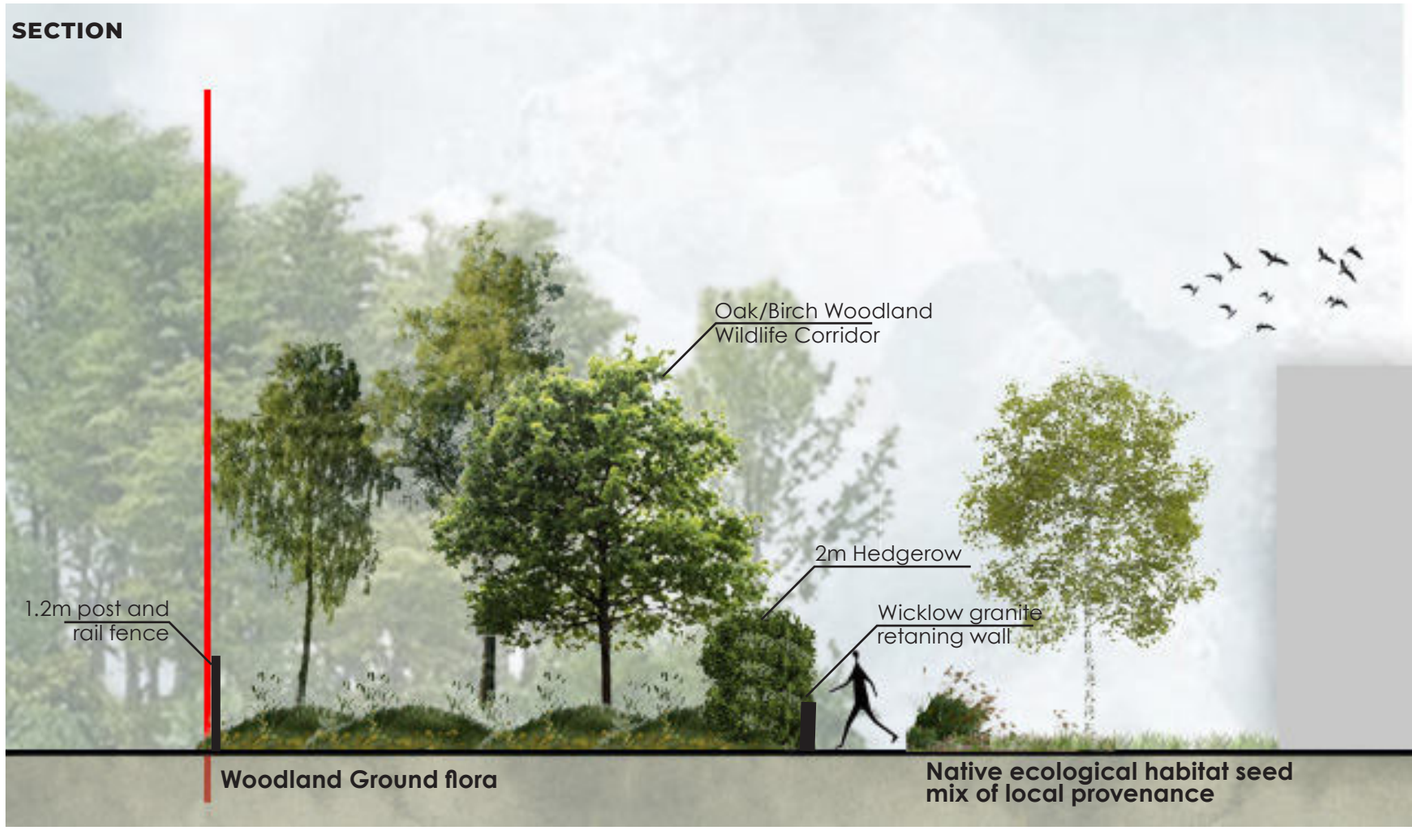




CURRENT VIEW



SECTION



3.3 WILDLIFE/REFUGE CORRIDOR

442.4m long

approx. 10m wide

Soft Landscape



Pinus sylvestris



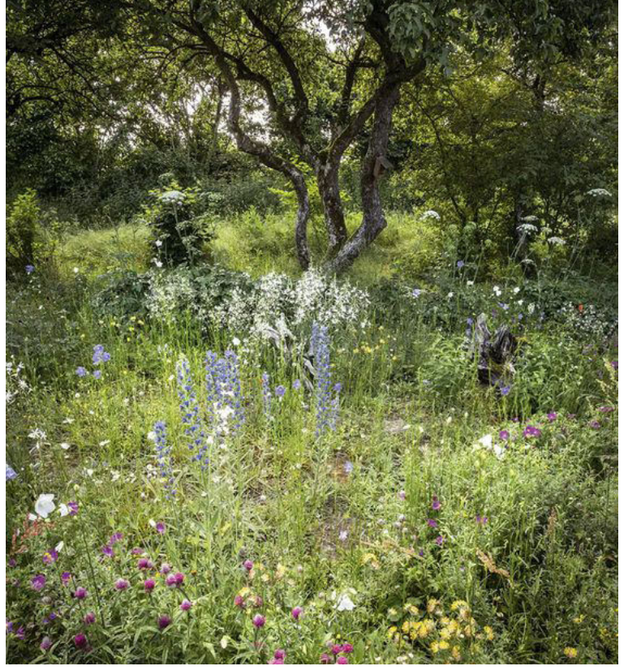
Wildflower meadow

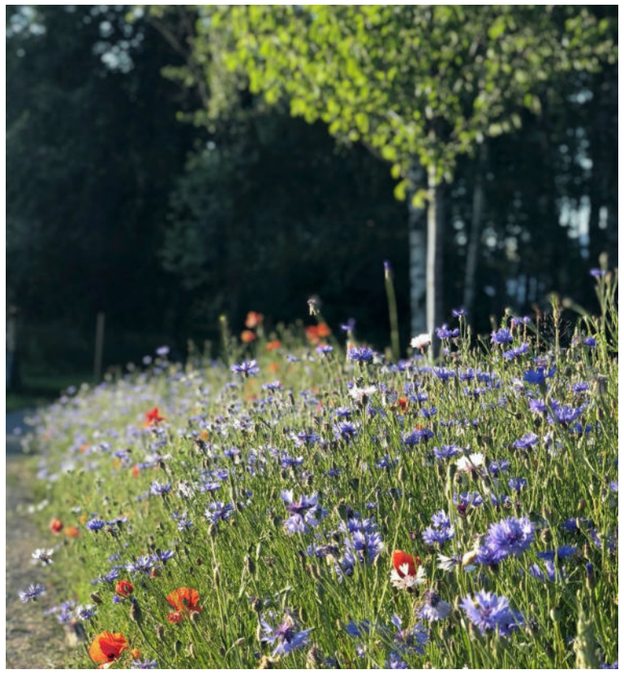


Rain garden bulbs mixture



Scilla bifolia and siberica mixture













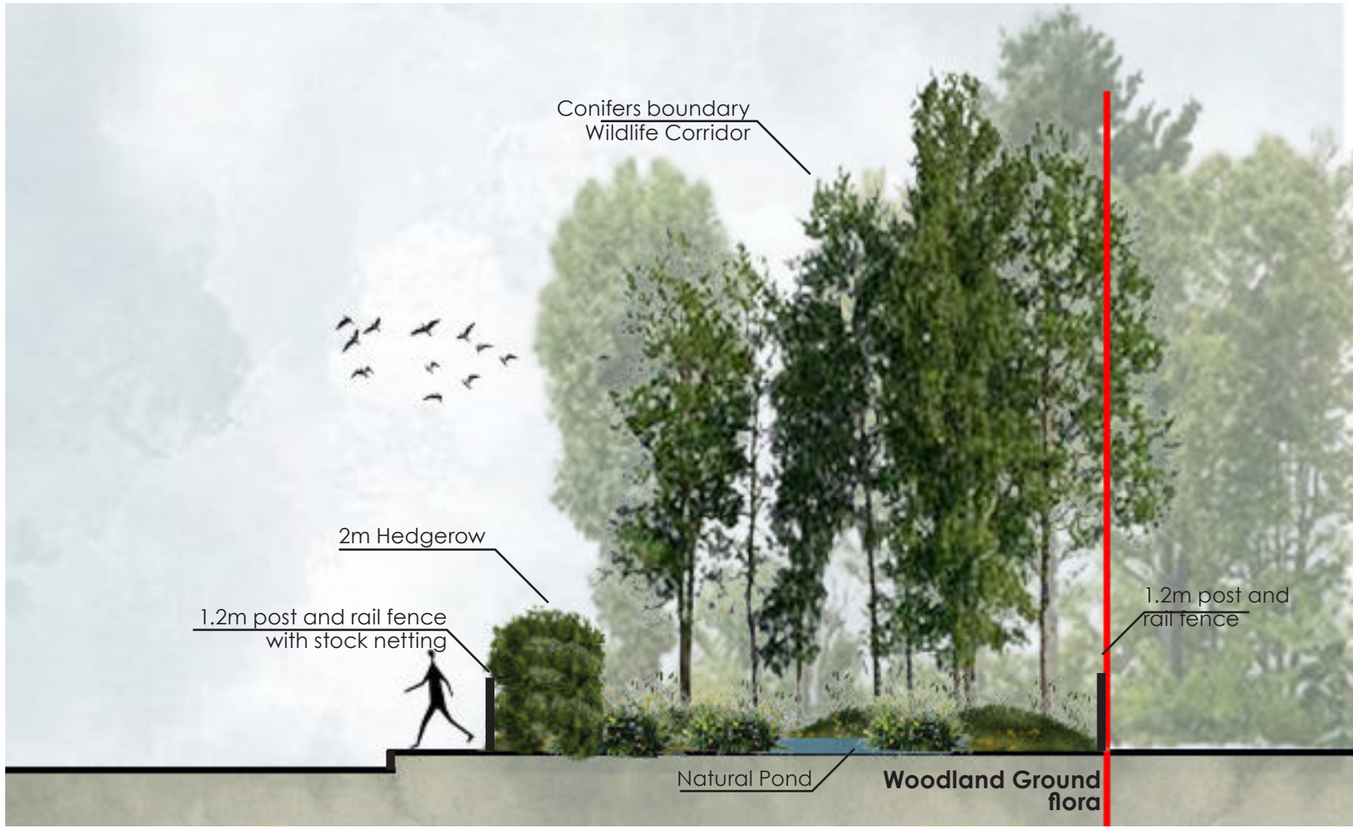




CURRENT VIEW



SECTION



04

LANDSCAPE STRATEGY

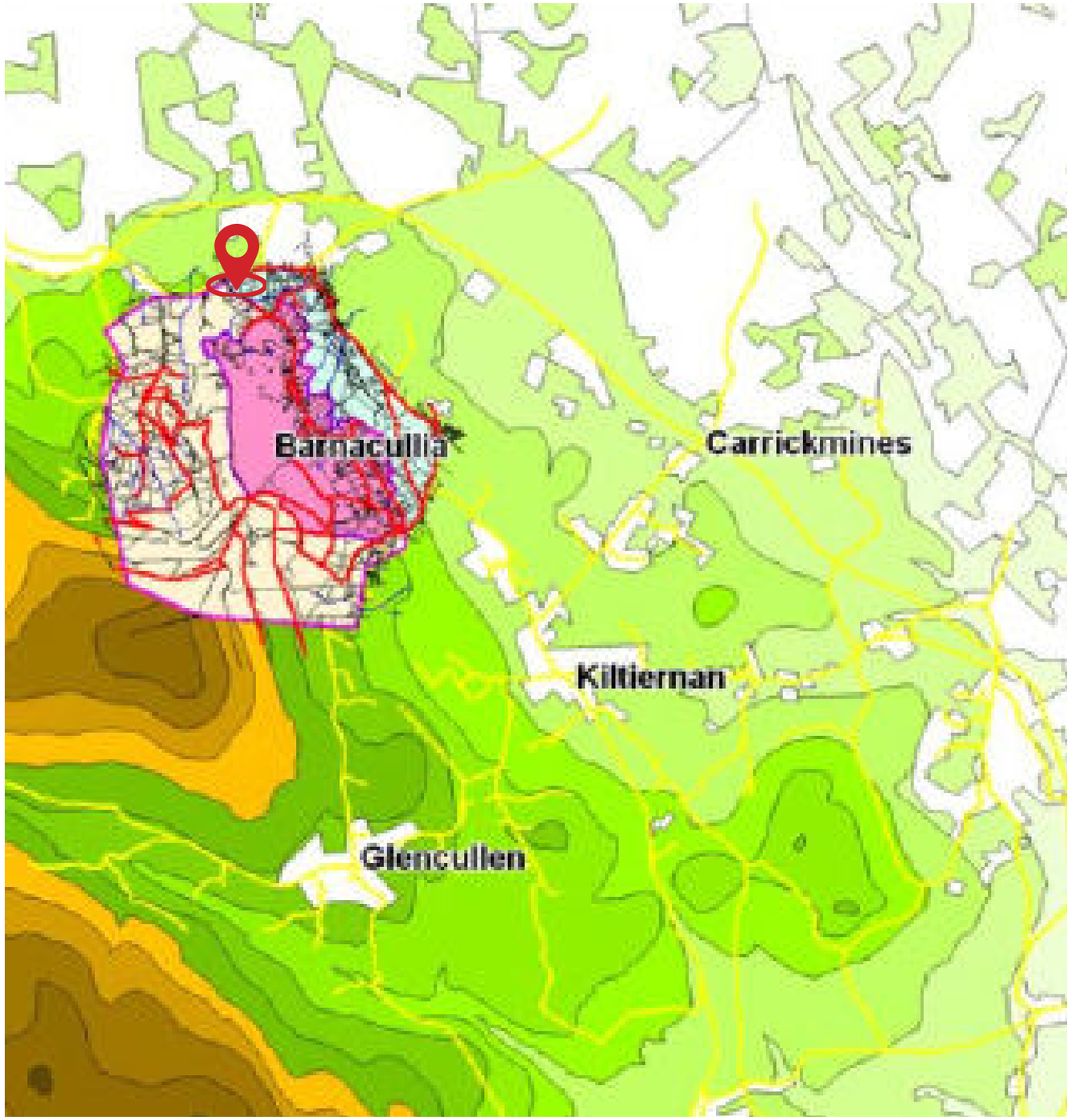
4.1 BARNACULLIA'S LANDSCAPE INFLUENCES

REASONS AND CONSIDERATIONS FOR REFUSAL

1.

Having regard to the site's locational context at the fringe of the outer suburban area at the foothills of the Dublin Mountains, within Landscape Character Area 9: Barnacullia as identified in Appendix 8 Landscape Assessment Study and Landscape and Seascape Character Areas and within a Transitional Zone as identified in section 13.1.2 of the Dun Laoghaire-Rathdown County Development Plan 2022-2028 it is considered that inadequate consideration was given to the design approach at this sensitive location and that the proposed height, scale, design and layout of the proposed scheme fails to integrate into or enhance the character of the surrounding area and would not make a positive contribution to place-making.

The proposed development would, therefore, be contrary to Policy Objective GIB2 Landscape Character Areas and Policy Objective GIB5 Historic Landscape Character Areas and to the provisions of section 13.1.2 Transitional Zonal Areas of the Dun Laoghaire-Rathdown County Development Plan 2022-2028. The scheme would also be contrary to the provisions of section 3.2 of the Urban Development and Building Heights Guidelines for Planning Authorities, issued by the Department of Housing, Planning and Local Government in December 2018; and the principles of the Guidelines for Sustainable Residential Developments in Urban Areas and the accompanying Urban Design Manual, A Best Practice Guide, issued by the Department of the Environment, Heritage and Local Government in May 2009; and would, be seriously injurious to the visual amenities and character of the area and would, therefore, be contrary to the proper planning and sustainable development of the area.



4.1 BARNACULLIA'S LANDSCAPE INFLUENCES

STREETSCAPE

The landscaping project maintained the distinctive streetscape characteristics of Barnacullia's roads. Road boundaries vary, including low masonry walls, wooden fences, low ditches and hedges. The presence of street furniture is minimal in the region. The roads have narrow margins and are defined by a combination of elements such as stone walls, dense hedges and trees. These characteristics have been preserved in the landscape design.

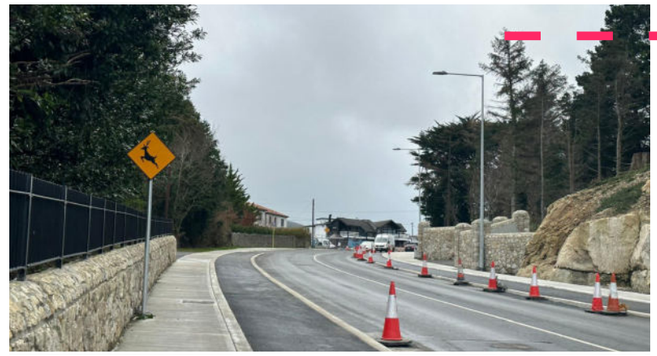
BARNACULLIA:





BLACKGLEN ADAPTATION:



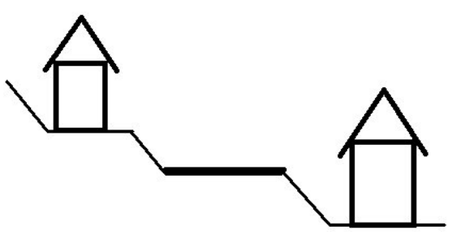




TERRACING

An unusual feature of the area is the terracing arrangement of the buildings. This results from the steep sloping terrain and results in houses being placed both above and below the road level

BARNACULLIA:

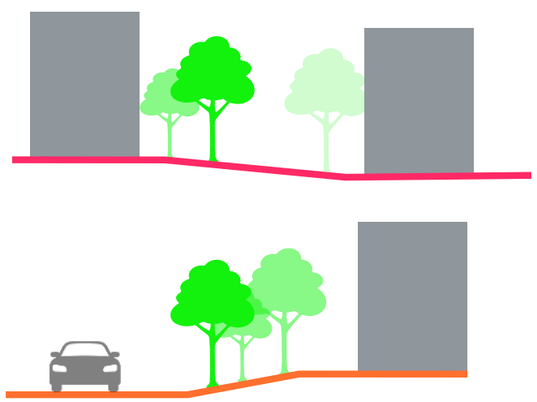


BARNACULLIA:



BLACKGLEN ADAPTATION:





source: Historic Landscape Character Assessment - Barnacullia ,2006.

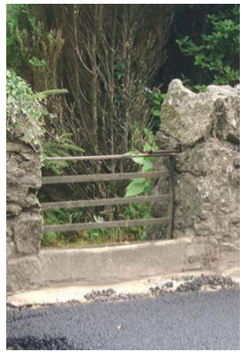
4.1 BARNACULLIA'S LANDSCAPE INFLUENCES

GATEWAYS

We propose to continue with this traditional layout of the gateways and incorporate them into the project. The village's distinctive feature lies in the wealth and variety of traditional stone-built entrances. These encompass formal cut-stone gate piers to simple square masonry gateposts. Furthermore, numerous gates within this context display exceptional examples of traditional vernacular metalwork.

BARNACULLIA:







BLACKGLEN ADAPTATION:







Inspirations proposed in the project

BOUNDARIES

Inspired by historical boundaries, the project incorporates elements such as railing fences and granite rubble walls. The majority of house plot boundaries feature irregular stone masonry with diverse finishes. Throughout the study area, there are diverse boundary elements, including metal handrails, bridge parapets, and various types of masonry, such as dry stone and formal stone. Notably, the extensive use of granite walls, ranging from irregular stones to dry stones, stands out as a prominent feature in both Barnacullia and its surroundings.

BARNACULLIA:

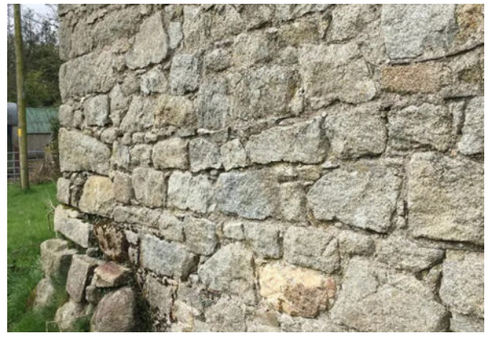






BLACKGLEN ADAPTATION:





proposed granite rubble wall

source: Historic Landscape Character Assessment - Barnacullia ,2006.

4.1 BARNACULLIA'S LANDSCAPE INFLUENCES

RUINS

The Barnacullia area contains a selection of what appear to be cottage ruins, mostly covered with vegetation and nearly hidden. Adjacent to the project site, there are ruins as depicted in the photos, and their rural style will be incorporated into the landscape project through boundaries and natural aesthetics.

BARNACULLIA:





BLACKGLEN ADAPTATION:







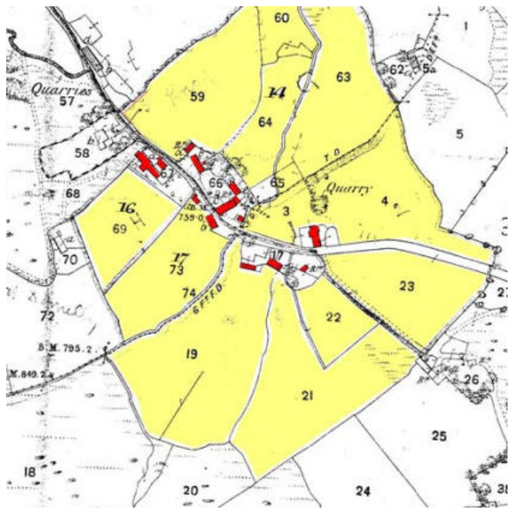


- Ruins found near the site
- Inspirations proposed in the project

CLACHAN

The landscape design adhered to the historical predefinition, aiming to evoke the historical charm of a Clachan—a distinctive settlement feature in the Irish historical landscape. This type of settlement comprised a collection of small cottages and annexes arranged closely and randomly around each other, lacking any formal layout or amenities.

BARNACULLIA:



BLACKGLEN ADAPTATION:



Maintain standard boundaries along the Blackglen Road

source: Historic Landscape Character Assessment - Barnacullia ,2006.

4.2 GREEN LINKS

REASONS AND CONSIDERATIONS FOR REFUSAL

3.

Having regard to the site's location within the Ticknock to River Dodder Wildlife Corridor as outlined in the Dun Loaghaire-Rathdown Biodiversity Action Plan 2021-2025 it is considered on the basis of the documentation submitted with the application, that the applicant has not adequately demonstrated how the proposed design and layout of the scheme supports or enhances links to the wildlife corridor which connects the Dublin Mountains to Fitzsimons Wood proposed National Heritage Area. The proposed development would, therefore, be contrary to Objective GIB20 to support the provisions of the Dun Loaghaire-Rathdown Biodiversity Action Plan 2021-2025 and would be contrary to the proper planning and sustainable development of the area.



River/Costal Wildlife Corridors

- Brides Glen corridor
- Dodder Valley corridor
- Fernhill to Booterstown corridor
- Fernhill to Brides Glen
- Glendoo Mountain to Shanganagh corridor
- Killiney and Dalkey costal corridor
- Leopardstown Brides Glen corridor
- Leopardstown to N11 corridor
- St John of Gods to Killiney corridor
- Ticknock to the River Dodder corridor
- UCD to Blackrock corridor

ProposedNaturalHeritageAreas

To protect and preserve Trees And Woodlands

Proposed main green links

source: DLR County Biodiversity Action Plan 2021-2025 and Dún Laoghaire-Rathdown County Development Plan 2022-2028

4.2 GREEN LINKS

Green Links to Connect with Fitzsimon's Wood National Park:
-Vital connection with Fitzsimon's Wood National Park.
-Preservation of natural paths for animals.

Public Open Space Tree Trail:
-Creation of wildlife corridor with oak and birch woods.
-Enrichment of local biodiversity.

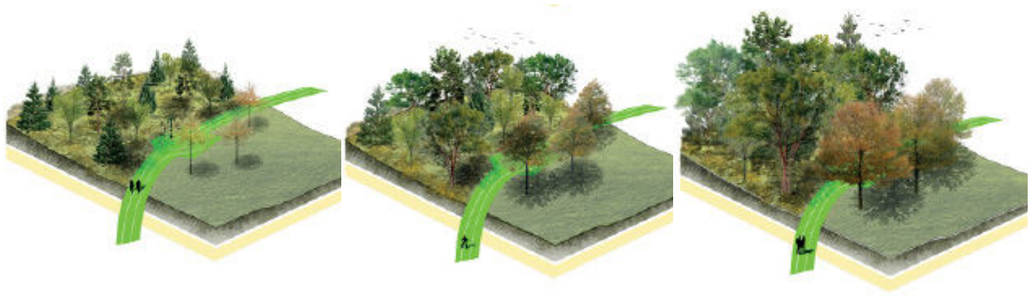
Wildlife Corridor
-Wildlife corridor with broom and pine trees.
-Habitat diversification and promotion of coexistence.

Internal Paths with Green Areas and Green Connections:
-When planning internal routes between residential units, we prioritized the maintenance of green areas and green connections.

Road Improvements for Safe Connections:
-Road improvements for safe connection between green areas.
-Inclusion of wildlife crossings and measures to preserve the safety of wildlife.



WOODLAND WALK



05

LANDSCAPE DETAILS

5.1 SOFT LANDSCAPE PLAN

Tree Planting Specification
Tree planting throughout the scheme has been selected to blend the development in to its surrounding environs
for birds and invertebrates. Trees will be planted as Standard and Heavy Standard to provide a reasonable degr
trees shall be purchased from a reputable nursery as rootball specimens and final order to be agreed by Landsc
frosty), the plants must be healed in. Maintenance Watering is essential during the first 2 growing seasons regardl

	Oak/Birch Boundary - 2,915.5sq.m.				
	Trees				
	Code	Scientific name	Common Name	Size	Quantity
	Bp	Betula pendula	Silver Birch	rtb, 3x trpt 14-18cm girth	9
	Bpu	Betula pubescens	Downy Birch	rtb, 3x trpt 14-18cm girth	8
	Ia	Ilex aquifolium	Holly	rtb, 3x trpt 14-18cm girth	7
	Qp	Pedunculate Oak	Quercus petraea	rtb, 4x trpt 18-20cm girth	10
	Qr	Sessile Oak	Quercus rober	rtb, 3x trpt 14-18cm girth	5
	Large Shrubs				
		Blechnum spicant	Hard Fern	c/g 2L	1200
		Crataegus monogyna	Hawthorn	b/r 1.0m tall	290
		Cytisus scoparius	Broom	c/g 2L	600
		Digitalis purpurea	Foxglove	c/g 2L	1200
		Ilex aquifolium	Holly	b/r 1.0m tall	290
		Malus sylvestris	Crab Apple	b/r 1.0m tall	290
		Myrtus communis	Myrtle	c/g 2L	1200
		Prunus spinosa	Blackthorn	b/r 1.0m tall	290
		Sambucus nigra	Elder	b/r 1.0m tall	290
	Conifers Boundary (dominated by Heather & Scots Pine) - 4,995.6sq.m.				
	Trees				
	Bp	Betula pendula	Silver Birch	rtb, 3x trpt 14-18cm girth	10
	Bpu	Betula pubescens	Downy Birch	rtb, 3x trpt 14-18cm girth	8
	Ps	Pinus sylvestris	Scots pine	180L, 25-30cm girth	11
	Pa	Picea abies	Spruce	rtb, 4x trpt 18-20cm girth	6
	Large Shrubs				
		Calluna vulgaris	Heather	c/g 2L	1200
		Crataegus monogyna	Hawthorn	b/r, 2x, 1.2m tall	1450
		Erica cinerea	Bell Heather	c/g 2L	1200
		Juniperus communis	Common Juniper	c/g 2L	1200
		Purple Moor-grass	Molina caerulea	c/g 2L	1200
	Specimen Trees				
	Cc	Corylus colluma	Turkish Hazel	rtb, 4x trpt 18-20cm girth	13
	Bp	Betula pendula	Silver Birch	rtb, 3x trpt 14-18cm girth	17
	Bpu	Betula pubescens	Downy Birch	rtb, 3x trpt 14-18cm girth	15
	Gb	Ginkgo biloba	Maidenhair Tree	rtb, 4x trpt 20-25cm girth	9
	Ls	Liquidamber styraciflua	Sweetgum	rtb, 4x trpt 20-25cm girth	7
	Pt	Populus tremula	Aspen	rtb, 4x trpt 18-20cm girth	11
	Pa	Prunus avium	Wild Cherry	rtb, 4x trpt 18-20cm girth	9
	Pc	Pyrus calleryana 'Chantiler'	Ornamental Pear	rtb, 4x trpt 20-25cm girth	10
	Pcn	Prunus cerasifera nigra	Black Cherry Plum	rtb, 4x trpt 20-25cm girth	19
	Ps	Pinus sylvestris	Scots pine	180L, 25-30cm girth	10
	Sam	Sorbus aria Majestica	Whitebeam	rtb, 4x trpt 20-25cm girth	17
	SI	Sorbus intermedia 'Brouwers'	Swedish Whitebeam	rtb, 4x trpt 18-20cm girth	6
	Tc	Tilia cordata 'greenspire'	Small leaved Lime	rtb, 4x trpt 18-20cm girth	17
	Qr	Fastigiate Oak	Quercus robur 'fastigiata'	rtb, 4x trpt 20-25cm girth	20
	Multi-stem Trees				
	Ag	Acer griseum	Paperbark Maple	c/g 50L, 3.5m tall	4
	Au	Arbutus unedo	Strawberry Tree	c/g 50L, 3.5m tall	3
	Bj	Betula jaquimontii	Silver Birch	c/g 50L, 3.5m tall	11
	Bn	Betula nigra	River Birch	c/g 50L, 3.5m tall	6
	Js	Juniperus scopulorum	Rocky Mountain Juniper	c/g 50L, 3.5m tall	11
	Ma	Magnolia 'Heaven scent'	Magnolia 'Heaven scent'	c/g 50L, 3.5m tall	3
	Rt	Rhus typhina	Staghorn Sumac	c/g 50L, 3.5m tall	7
	Rain Gardens				
	Ag	Alnus glutonosa	Alder	rtb, 3x trpt 14-18cm girth	5
	Bn	Betula nigra	River Birch	rtb, 3x trpt 14-18cm girth	2
	Bp	Betula pendula	Silver Birch	rtb, 3x trpt 14-18cm girth	4
	Cam	Cmus amomum	Silky dogwood	c/g 20L, 1.0m tall	15
	Ca	Corylus avellana	Hazel	rtb, 3x trpt 14-18cm girth	6
	Sb	Salix babilonica	Willow	rtb, 3x trpt 14-18cm girth	4
	Qp	Quercus palustris	Spanish Oak	rtb, 3x trpt 14-18cm girth	1
	Vo	Viburnum oputus	Eur. cranberry bush	c/g 50L, 1.0m tall	13
	Shrubs				
	Agr	Abelia grandiflora	Linnaea x grandiflora	c/g 5L, 60-100cm tall	9
	Agb	Amelanchier x grandiflora 'Ballerina'	Amelanchier x grandiflora 'Ballerina'	c/g 5L, 60-100cm tall	10
	Ct	Choisya ternata	Mexican orange	c/g 5L, 60-100cm tall	10
	Cc	Cistus × corbariensis	Hybrid Rock Rose	c/g 5L, 60-100cm tall	17
	Cm	Crataegus monogyna	Hawthorn	c/g 5L, 60-100cm tall	28
	Hm	Hydrangea macrophylla	Hydrangea	c/g 5L, 60-100cm tall	6
	Jc	Juniperus communis	Common juniper	c/g 5L, 60-100cm tall	11
	Mc	Myrtus communis	Myrtle	c/g 5L, 60-100cm tall	13
	Sn	Sambucus nigra	Elder	c/g 5L, 60-100cm tall	13
	Rs	Ribes sanguineum	Currant	c/g 5L, 60-100cm tall	6
	Green Roof Trees				
	Bpu	Betula pubescens	Downy Birch	c/g 50L, 3.5m tall	6
	Sog	Spiraea x cinerea 'Grefsheim'	Garland Spirea	c/g 10L, 0.8-1.0m tall	8
	Fj	Fatsia japonica	Paperplant	c/g 10L, 0.8-1.0m tall	6
	No	Nerium Oleander	Oleander	c/g 10L, 0.8-1.0m tall	6
	Amenity Grass area - 1,282sq.m.				
	G	Coburn's Low Maintenance seed at 300mm topsoil depth			
	Mix of Lowland wild flowers and moist summer hay meadows - 2,546.6sq.m.				
	SHM	Deschampsia flexuosa, Deschampsia cespitosa, Deschampsia danthonioides, Molinia caerulea, Molinia Karl Foerster, Calamagrostis x acutiflora 'Karl Foerster' , Miscanthus sinensis, Sanguisorba officinalis, Lythrum virgatum, Succisa pratensis			

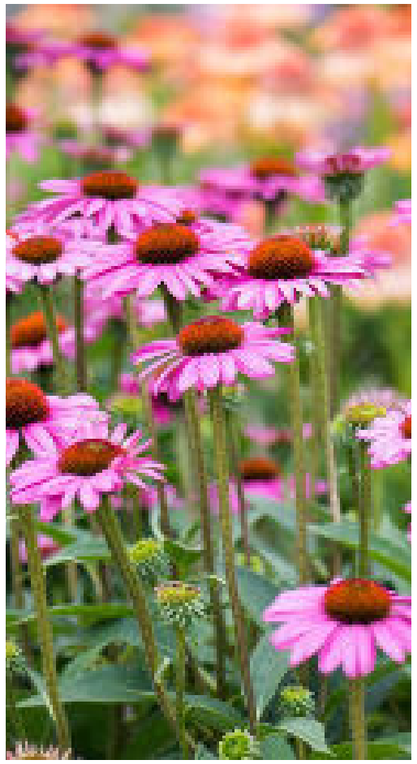
	Wildflower Meadow Mix - 1,914.7sq.m.			
	WF01	Appropriate herbs for this type of meadow include: Birdsfoot Trefoil, Black Meddick, Cat's Ear, Purple Loosestrife, Ragged Robin, Red Clover, Corn Marigold, Corn Poppy, Cornsockle, Cornflower, Cowslip, Devil's-bit Scabious, Kidney Vetch, Lady's Bedstraw, Lesser Knapweed, Meadow Buttercup, Meadowsweet, Ox-Eye Daisy, Ribwort Plantain, Rough Hawksbit, Selfheal, Smooth Hawksbit, Sorrel, Common Vetch, Wild Angelica, Wild Carrot, Yarrow, Yellow Agrimony, Fleabane and Yellow Rattle		
	Wet Tolerant Wildflower Meadow Mix - 316.5sq.m.			
	EC05	Appropriate herbs for this type of meadow include: Devils Bit Scabious, Common Sorrel, Cowslip, Fleabane", Greater Trefoil", Hemp Agrimony, Lesser Knapweed, Marsh Cinquefoil, Marsh Marigold, Meadow Buttercup, Meadowsweet, Meadow Rue, Oxeye Daisy, Purple Loosestrife, Ragged Robin, Red Clover, Red Rattle, Ribwort Plantain, Selfheal, Sneezewort", Tufted Vetch, Water Avens", Wild Angelica, Wild Valerian, Yarrow, Yellow Flag Iris, Yellow Rattle,Red Rattle"		
	Tall Wildflowers - 393sq.m.			
	DW03	Appropriate herbs for this type of meadow include: Alexanders, Bladder Campion, Burdock, Common Vetch, Corn Marigold, Corn Poppy, Corncockle, Cornflower, Field Scabious, Foxglove, Greater Trefoil, Hedge Garlic Mustard, Hemp Agrimony, Cow-Parsley, Lesser Knapweed, Scented Mayweed, Meadowsweet, Mullein, Opium Poppy, Ox-eye Daisy, Purple Loosestrife, Red Campion, St Johnswort, Sorrel, Teasel, Upright Hedge Parsley, Weld -Yellow weed, Wild Angelica, Wild Carrot, Yarrow, Yellow Flag Iris, Mugwort, Pokeweed, White Bedstraw. Yellow Agrimony,		
	Extensive Green Roof Planting mixture - 2,416sq.m.			
	S	**Common Sedum species used include Sedum acre, S. rupestre, and S. album mixed with native/pollinator friendly perennials such as fox glove, Rudbeckia, Armeria, Dianthus, Helctotrichon sempervirens, Stipa tenuissima.**		
	Ornamental Planting Mix 01 - 1097sq.m/ 322 each plant			
	OPM1	@c/g 2L 20-30cm ht. Nepeta, Rosmarinus officinalis, Salvia spp., Lavandula stoechas, Digitalis purpurea, Echinacea purpurea, Pulmonaria officinalis, Verbena bonariensis, Geranium 'Dreamland', Vinca minor, Cotoneoeaster dameri, Stipa tenuissima, Carex everest Fiwhite, Luzula sylvatica, Deschampsia goldchleier, Miscanthus sinensis, Molinia Karl Foerster		
	Ornamental Planting Mix 02 - 214.5sq.m/ 107 each plant			
	OPM2	@c/g 2L 20-30cm ht. Cistus ladanifer, Echinacea pallida, Eryngium yuccifolium, Perovskia 'Little spire', Polystichum, Rudbeckia maxima.		
	Ornamental Planting Mix 03 - 814.0sq.m			
	OPM3	@c/g 2L 20-30cm ht. **Cistus ladanifer, Echinacea pallida, Eryngium yuccifolium, Perovskia 'Little spire', Rudbeckia maxima, Festuca mairei, helenium rubinzwerg, Molinia transparent, Persicaria amplexicaulis 'Orange Field', Stipa gigantea**		
	Climbing Plants - 230sq.m			
	OPM3	@c/g 2L 50-60cm ht. Trachelospermum jasminoides. Wisteria sinensis, Wisteria Floribunda 'Alba'		
	Low Privacy Hedge - 1369.92 lin.m.			
	H1	Crataegus monogyna	Hawthorn	c/g 5L 50-80cm ht. 2166
	Irish Traditional Native Hedgerow - 1,195.2sq.m.			
		Crataegus monogyna	Hawthorn	c/g 2L 20-40cm ht. 1250
		Prunus spinosa	Blackthorn	c/g 2L 20-40cm ht. 1250
		Ilex aquifolium	Holly	c/g 2L 20-40cm ht. 1250
		Roasa canina	Dog rose	c/g 2L 20-40cm ht. 1250



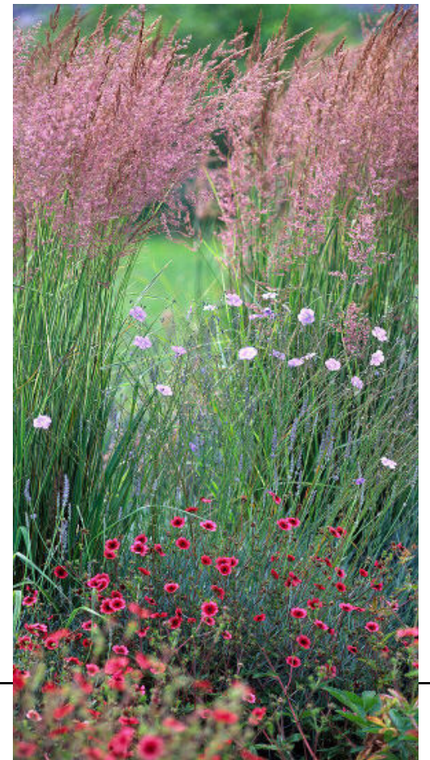












5.1 SOFT LANDSCAPE REFERENCE

Mix of Lowland wild flowers and moist summer hay meadows
@2l c/g planted at 300mm cntrs
Deschampsia flexuosa
Deschampsia cespitosa
Deschampsia danthonioides
Molinia caerulea
Molinia Karl Foerster
Calamagrostis x acutiflora 'Karl Foerster'
Miscanthus sinensis
Sanguisorba officinalis
Lythrum virgatum
Succisa pratensis

Wildflower Meadow Mix
Appropriate herbs for this type of meadow include: Birdsfoot Trefoil, Black Meddick, Cat's Ear, Purple Loosestrife, Ragged Robin, Red Clover, Corn Marigold, Corn Poppy, Corncockle, Cornflower, Cowslip, Devil's-bit Scabious, Kidney Vetch, Lady's Bedstraw, Lesser Knapweed, Meadow Buttercup, Meadowsweet, Ox-Eye Daisy, Ribwort Plantain, Rough Hawksbit, Selfheal, Smooth Hawksbit, Sorrel, Common Vetch, Wild Angelica, Wild Carrot, Yarrow, Yellow Agrimony, Fleabane and Yellow Rattle

Wet Tolerant Wildflower Meadow Mix
Appropriate herbs for this type of meadow include: Devils Bit Scabious, Common Sorrel, Cowslip, Fleabane*, Greater Trefoil*, Hemp Agrimony, Lesser Knapweed, Marsh Cinquefoil, Marsh Marigold, Meadow Buttercup, Meadowsweet, Meadow Rue, Oxeye Daisy, Purple Loosestrife, Ragged Robin, Red Clover, Red Rattle, Ribwort Plantain, Selfheal, Sneezewort*, Tufted Vetch, Water Avens*, Wild Angelica, Wild Valerian, Yarrow, Yellow Flag Iris, Yellow Rattle,Red Rattle*

5.1 SOFT LANDSCAPE REFERENCE

TREES

Oak/Birch Boundary
TREES:
Betula pendula
Betula pubescens
Ilex aquifolium
Quercus petraea
Quercus rober
LARGE SHRUBS:
Blechnum spicant
Crataegus monogyna
Cytisus scoparius
Digitalis purpurea
Ilex aquifolium
Malus sylvestris
Myrtus communis
Prunus spinosa
Sambucus nigra

Conifers Boundary
TREES:
Betula pendula
Betula pubescens
Pinus sylvestris
Picea abies
LARGE SHRUBS:
Calluna vulgaris
Crataegus monogyna
Erica cinerea
Juniperus communis
Molina caerulea

Multi-stem Trees
Acer griseum
Arbutus unedo
Betula jaquimontii
Betula nigra
Juniperus scopulorum
Magnolia ‘Heaven scent’
Rhus typhina























5.2 SOFT LANDSCAPE DETAILS

TREE PLANTING

Tree planting throughout the scheme has been selected to blend the development in to its surrounding environs and create focal points within the development. The tree species selected will maximise food and nectar sources for birds and invertebrates. Trees will be planted as Standard and Heavy Standard to provide a reasonable degree of instant maturity to the development. All trees shall be planted between the months of Nov and March. The trees shall be purchased from a reputable nursery as rootball specimens and final order to be agreed by Landscape Architect; The trees shall be planted on delivery. If this is not possible due to weather conditions (wet or frosty), the plants must be healed in. Maintenance Watering is essential during the first 2 growing seasons regardless of the weather conditions - 1000Lt / Tree/ Month.

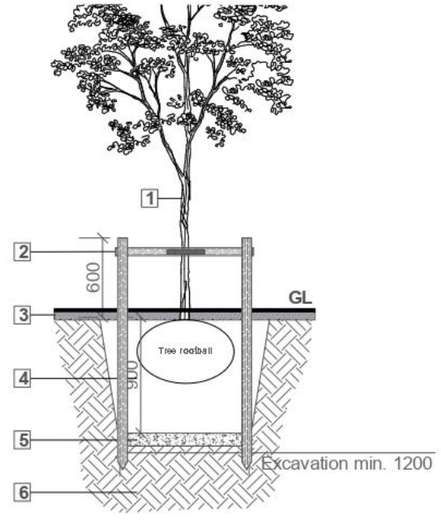
Methodology and Guidance notes:

The tree pit should have a diameter at least 100mm greater than that of the root system, with the depth not exceeding the rootball. Any glaed or smeared sides caused by digging shall be scarified with the use of a fork. The tree will be positioned in the centre of the planting pit at the correct depth, taking into account the root flare and finished level. Prior to backfilling the hessian twine/ wire cage supporting the rootball shall be loosened or removed. Backfilling shall be carried out in layers of 150mm, ensuring the tree is held upright. At each stage the fill will be carefully firmed in to eliminate air pockets under and around the root system.

The final layer of backfill will not be consolidated, but should be of a sufficient depth to allow for settlement and mulching. Formative pruning should be carried out if required, removing dead, damaged, crossing or diseased branches. Refer to Tree planting specification for tree anchoring system. All trees planting operation will be carried in accordance with BS8545:2014 Trees: from nursery to independence in the landscape recommendations.

Standard Rootball Tree

detail #1 sc 1/50



STANDARD ROOTBALL TREE

1 - Specified tree

2 - Triple stake with cross bars. Stake 75mm O, 2400mm long min., machined and rounded. All timber to be pressure treated. All nails to be galvanised. Cross bar set at min. 15o angle to ground. Tree stem strapped to staked with 3no. 'Holdfast Rubber Block; HB3 90x75x40mm and 50mm wide 'Holdfast Natural Tree Belting'. Available from www.greentech.co.uk or similar approved.

3 - 75mm medium grade bark chip supplied by Enrich.ie or similar approved, no splinters or fines

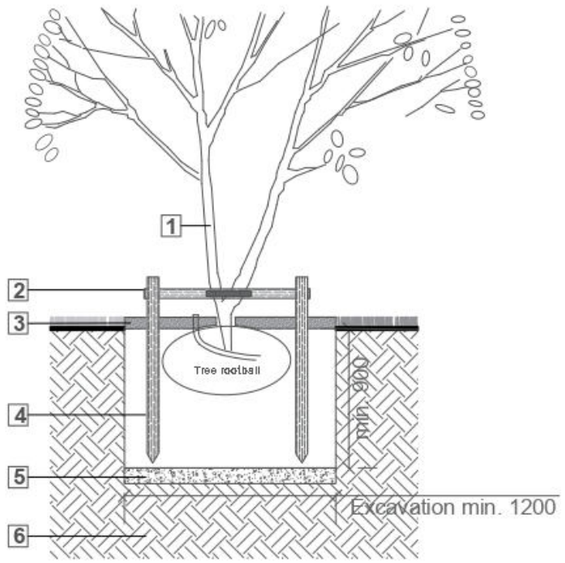
4 - 900mm of depth rich, friable, sandy loam topsoil and compost mix 3:1 provided supplied by Enrich.ie or similar approved

5 - 100mm gravel drainage layer. Ground condition finely ripped substrate at 600mm depth below drainage layer to ensure no standing water.

6- Subsoil

Multi-stem Tree

detail #2 sc 1/50



MULTI-STEM TREE

1 - Specified tree

2 - Triple stake with cross bars. Stake 75mm O, 1200mm long min., machined and rounded. All timber to be pressure treated. All nails to be galvanised. Cross bar set at min. 15o angle to ground. Tree stem strapped to staked with 3no. 'Holdfast Rubber Block; HB3 90x75x40mm and 50mm wide 'Holdfast Natural Tree Belting'. Available from www.greentech.co.uk or similar approved.

3 - 75mm medium grade bark chip supplied by Enrich.ie or similar approved, no splinters or fines

4 - 900mm of depth rich, friable, sandy loam topsoil and compost mix 3:1 provided supplied by Enrich.ie or similar approved

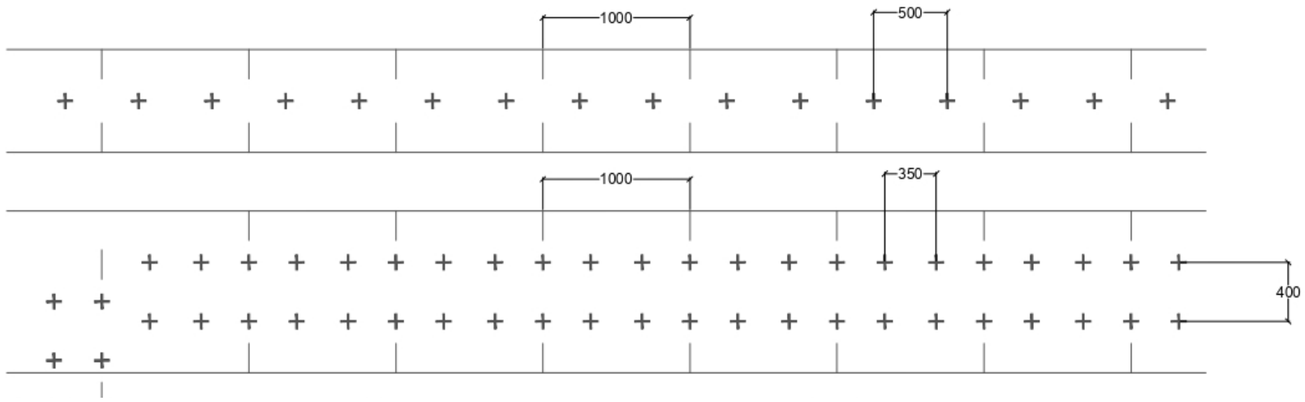
5 - 100mm gravel drainage layer. Ground condition finely ripped substrate at 600mm depth below drainage layer to ensure no standing water.

6- Subsoil

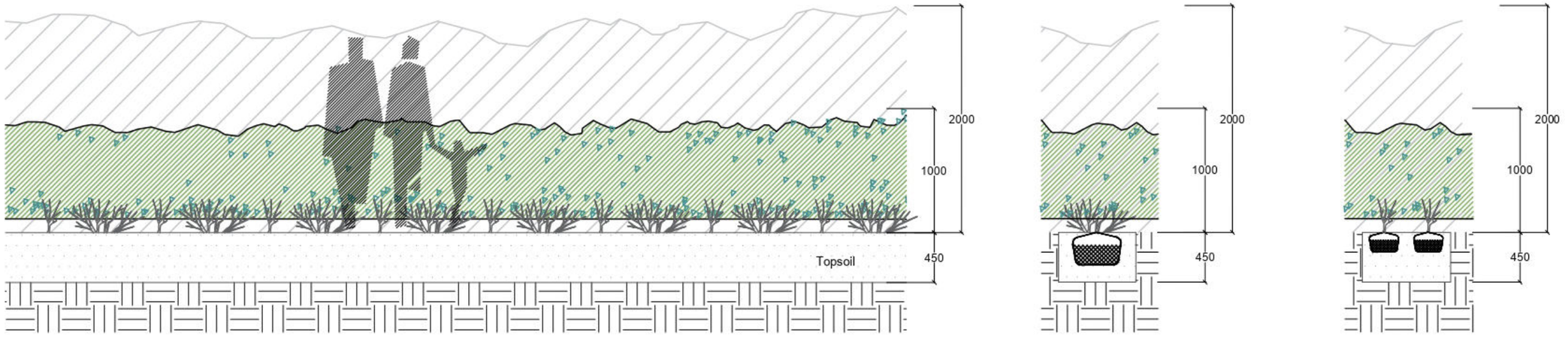
5.2 SOFT LANDSCAPE DETAILS

LOW PRIVACY HEDGE/TRADITIONAL IRISH NATIVE HEDGEROW

PD4 - Ornamental Planting Mix
sc 1:25



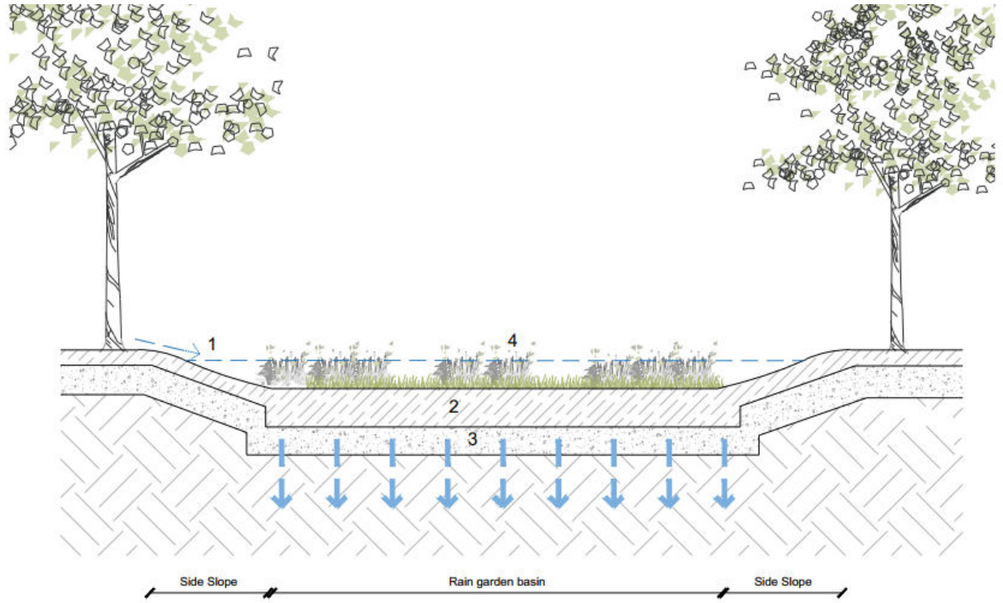
NOTE: All hedges shall be planted at a density of 3 plants per linear metre in a single row. Where indicated, hedges shall be planted at a density of 6 plants per linear metre in a double staggered row, with 3 plants per linear metre in each row and 400mm between rows.



NOTE: Screen hedge to be planted as per planting schedule. Plants shall be 1m tall, and be shall conform to BS 3936 - Part 1: Nursery stock specification for trees and shrubs. Planting strip to be 700mm wide x 450mm deep with cultivated and evenly incorporated organic manure 100mm layer over area of strip, fertiliser 35g. 50mm depth bark mulch dressing on completion of planting.

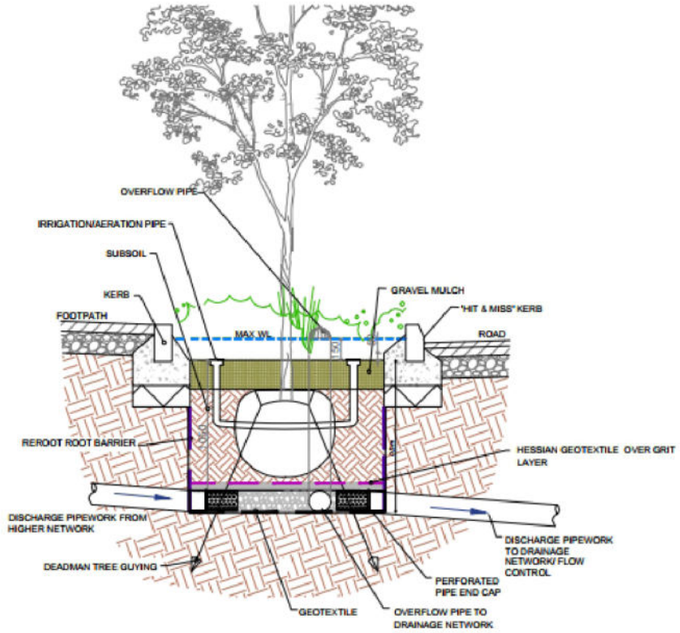
5.2 SOFT LANDSCAPE DETAILS

RAIN GARDEN

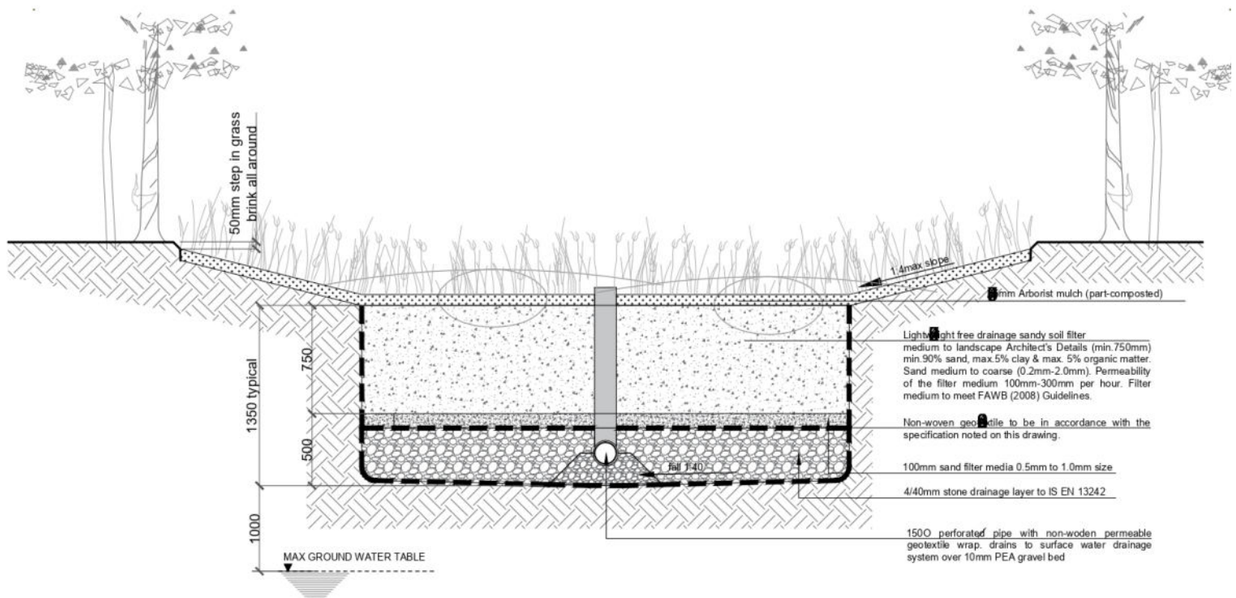


1 - Gentle slope to collect water from the surface
2 - 450mm improved topsoil up to 20% coarse compost
3 - Free-drainage soil, under-drain optional
4 - Adapted vegetation, tolerant to wet soil and submersion

TREE PIT



BIORETTENTIO AREAS



5.3 HARD LANDSCAPE DETAILS

LEGEND

HARD LANDSCAPE

Vehicular road
Asphalt

Granite chip rolled asphalt road

Shared surface
Buff asphalt

Parking bay/ Emergency Access
Grasscrete

Footpath
Compacted gravel path

Natural Play Area
Wood chip surface

Decking

Plaza paving of footpath
Large format natural stone paving

Paving of courtyards
Small format natural stone paving

Paving of courtyards
Small format natural stone paving

Wet pour surface

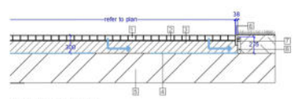
Safety grass matt

Gravel



DETAILS

Permeable Paving sc1:50



PERMEABLE PAVING
1 - Selected paving blocks
2 - 6.3-2mm grit laying course material to BS EN13242:2002. Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving. Nominal thickness after compaction: 70mm
3 - Well compacted Sub-Base clean stone 4/20mm aggregate to BS EN13242:2002. Compacted thickness: 100-225mm
4 - Water proof layout
5 - Podium slab

TIMBER EDGE
6 - 175 x 38 mm treated timber board (Tanalised larch)
7 - 50mm Galvanized nails into softwood pegs
8 - 50x50x275 drive into ground treated pegs

NOTE:
All pathways to follow a smooth gradient and to be pegged out and approved by the Landscape Architect prior to completion of formwork.

Wet Pour Surface sc1:50

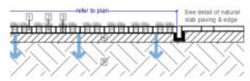


WET POUR SURFACE
1 - 20mm wet pour surface
2 - 30mm AC14 or AC10 Porous Open Surface asphalt concrete max 100/150 pen to BS EN13108-1:2006 (Bituminous Macadam); Laid in well compacted layers to a minimum fall of 1.5% (1 in 66).
3 - 150mm depth of well compacted, non-frost susceptible Type 3 granular sub-base to SHW clause 805 or 4/40mm, 4/20mm graded crushed concrete aggregate to BS EN12620 or locally available secondary or recycled aggregates which comply with the requirements of the TII specifications for road sub-bases. Laid on Geotextile in well compacted layers to a minimum fall of 1.5% (1 in 66).
4 - Natural soil

CONCRETE KERB
5 - 100mm Bullnose Kerb or other as approved
6 - C30N Concrete Haunching

TIMBER EDGE
7 - 175 x 38 mm treated timber board (Tanalised larch)
8 - 50mm Galvanized nails into softwood pegs
9 - 50x50x750 drive into ground treated and pointed pegs

Grasscrete paving sc1:50



GRASSCRETE PAVING
1 - Grasscrete concrete block
2 - Filled with multipurpose soil textural class to BS 3882
3 - Bedding Layer - 10mm grit laying course material to BS EN13242:2002
4 - 150mm Well compacted Sub-Base clean stone 4/20mm aggregate to BS EN13242:2002
6 - Subgrade

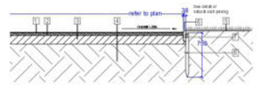
Ballylusk dust sc1:50



BALLYLUSK DUST PATH to GRASS
1 - Ballylusk dust (14mm Golden Pea Gravel)
2 - 150mm depth of well compacted, non-frost susceptible Type 3 granular sub-base to SHW clause 805 or 4/40mm, 4/20mm graded crushed concrete aggregate to BS EN12620 or locally available secondary or recycled aggregates which comply with the requirements of the TII specifications for road sub-bases. Laid on Geotextile in well compacted layers to a minimum fall of 1.5% (1 in 66).
3 - Subgrade

TIMBER EDGE
4 - 175 x 38 mm treated timber board (Tanalised larch)
5 - 50mm Galvanized nails into softwood pegs
6 - 50x50x750 drive into ground treated and pointed pegs

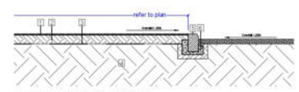
Buff Asphalt sc1:50



BUFF ASPHALT PATH
1 - The ULTICOLOUR 6 mm Thin Surfacing System is a stone mastic asphalt surface course, consisting of a proprietary clear binder, pigments, cellulose fibres, limestone filler, and fine and coarse aggregates to BS EN 13043 : 2002.
2 - 50mm - 6 mm nominal size wearing course macadam. Standard: IS EN 13108-4 Annex C and TII specification (Vol. 1 Series 900, Clause 4)
3 - 150mm - Well compacted Clause 804
4 - Well compacted sub-grade.
5 - Vegetation

TIMBER EDGE
6 - 175 x 38 mm treated timber board (Tanalised larch)
7 - 50mm Galvanized nails into softwood pegs
8 - 50x50x750 drive into ground treated and pointed pegs

Concrete footpath sc1:50



PERMABLE CONCRETE FOOTPATH
1 - 20mm Porous concrete
2 - 150mm depth of well compacted, non-frost susceptible Type 3 granular sub-base to SHW clause 805 or 4/40mm, 4/20mm graded crushed concrete aggregate to BS EN12620 or locally available secondary or recycled aggregates which comply with the requirements of the TII specifications for road sub-bases. Laid on Geotextile in well compacted layers to a minimum fall of 1.5% (1 in 66).
3 - Polypropylene, Non-woven
4 - Subgrade.

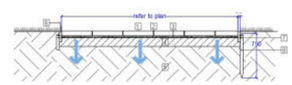
IN-SUTI KERB
5 - MCD-05b kerb or other as approved
6 - C30N Concrete Haunching

Grass Mat sc1:50



RUBBER GRASS MAT
1 - Heavy Duty Black Rubber Grassmat 1500 x 1000 x 23mm
2 - 150mm depth of well compacted, non-frost susceptible Type 3 granular sub-base to SHW clause 805 or 4/40mm, 4/20mm graded crushed concrete aggregate to BS EN12620 or locally available secondary or recycled aggregates which comply with the requirements of the TII specifications for road sub-bases. Laid on Geotextile in well compacted layers to a minimum fall of 1.5% (1 in 66).
3 - Subgrade

Natural stone paving sc1:50



PERMEABLE PAVING
1 - Selected large format natural stone
2 - 6.3-2mm grit laying course material to BS EN13242:2002. Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving. Nominal thickness after compaction: 70mm
3 - Polypropylene, Non-woven
4 - 150mm Well compacted Sub-Base clean stone 4/20mm aggregate to BS EN13242:2002.
5 - Subgrade

TIMBER EDGE
6 - 175 x 38 mm treated timber board (Tanalised larch)
7 - 50mm Galvanized nails into softwood pegs
8 - 50x50x750 drive into ground treated and pointed pegs

Compacted gravel sc1:50



COMPACTED GRAVEL
1 - 35-50mm of self-binding gravel
2 - 150mm depth of well compacted, non-frost susceptible Type 3 granular sub-base to SHW clause 805 or 4/40mm, 4/20mm graded crushed concrete aggregate to BS EN12620 or locally available secondary or recycled aggregates which comply with the requirements of the TII specifications for road sub-bases. Laid on Geotextile in well compacted layers to a minimum fall of 1.5% (1 in 66).
3 - Subgrade

TIMBER EDGE
4 - 175 x 38 mm treated timber board (Tanalised larch)
5 - 50mm Galvanized nails into softwood pegs
6 - 50x50x750 drive into ground treated and pointed pegs

5.4 OPEN SPACE PROVISION



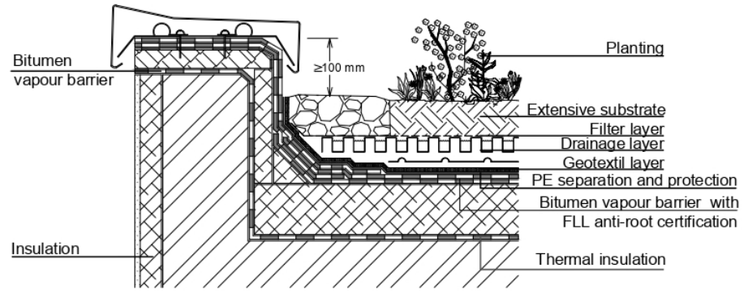
	Public Open Space including:	Area, Sq.m	%, of the site
	Play provision of them		
	- Natural Area for Play	412.79	
	- Fitness Area	54.84	
	- Dog Park	126.98	
	TOTAL	**8,686.56**	**22.27**
	Communal/Semi-private Open Space including:		
	- Podiums	1201.23	
	- Courtyards	966.86	
	Play provision of them		
	- Local Area for Play (LAP)	169.03	
	- Accessible Roof Gardens	424	
	TOTAL	**2,168.09**	**5.44**
	Widlife Corridor	**4,665.70**	**11.91**

Red Line boundary: 3.86ha

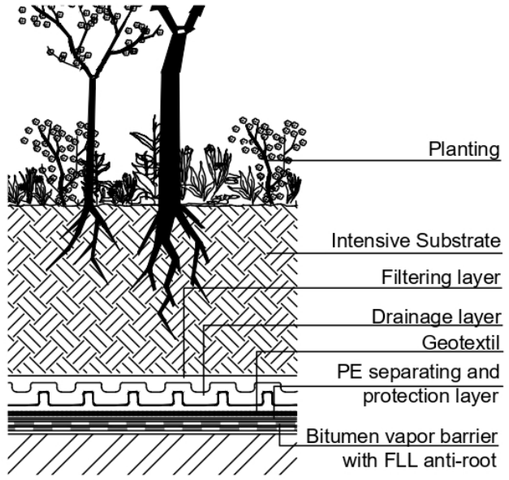
5.5 GREEN ROOFS



SLP D5 - Extensive Green Roof
sc 1/10

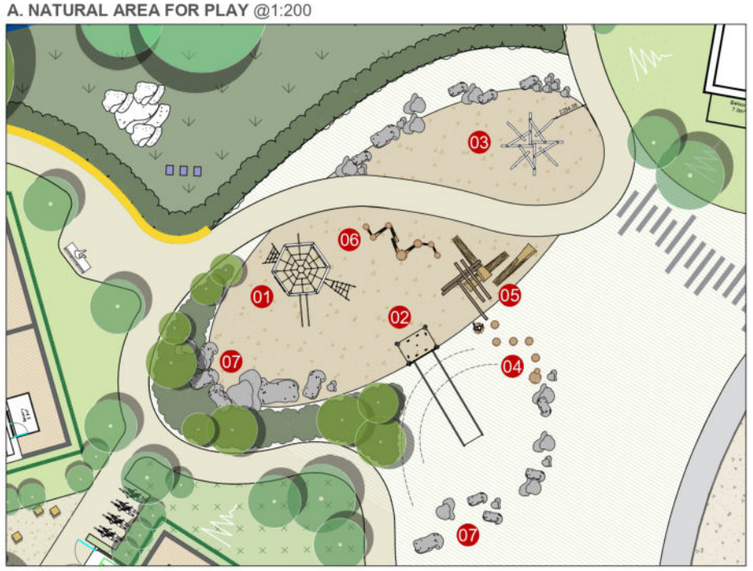


SLP D6 - Intensive Green Roof
sc 1/20

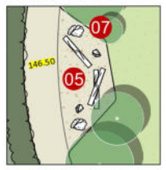


5.6 EQUIPMENT SPECIFICATION

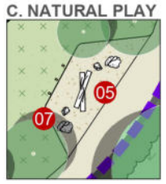
A. NATURAL AREA FOR PLAY @1:200



B. NATURAL PLAY



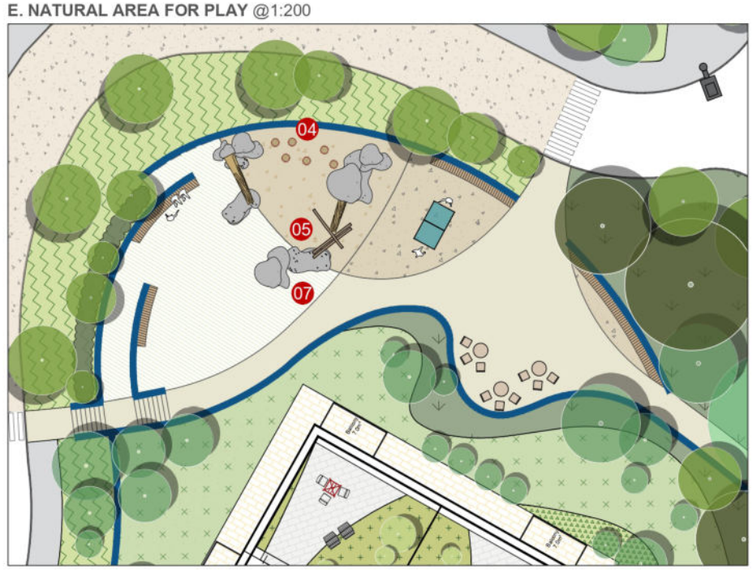
C. NATURAL PLAY



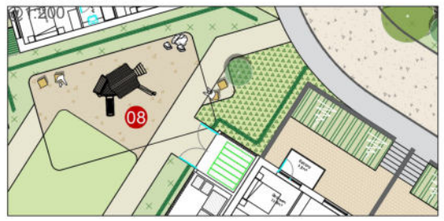
D. NATURAL PLAY



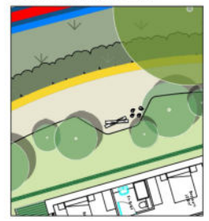
E. NATURAL AREA FOR PLAY @1:200



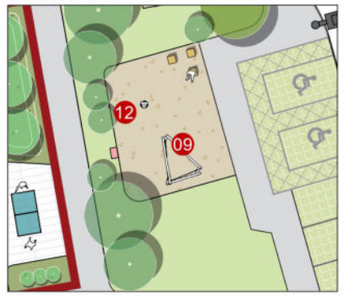
F. NATURAL PLAY



J. NATURAL PLAY



G. NATURAL PLAY



I. EQUIPPED AREA FOR PLAY



EQUIPMENT SPECIFICATION

01 Six-Sided Climbing Structure



02 Embankment Slide, wide



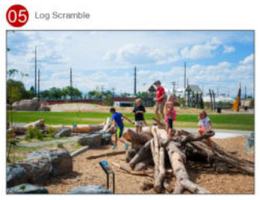
03 Crawling Pyramid



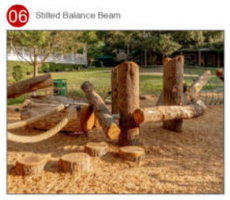
04 Stepping Stump



05 Log Scramble



06 Stilted Balance Beam



07 Large boulders



08 Little Hen's House



09 Parkour 2



10 Balance Plus



11 Balance Combination



12 Spinner Plate



13 Step, 20cm PU Steel



14 Dip Bench



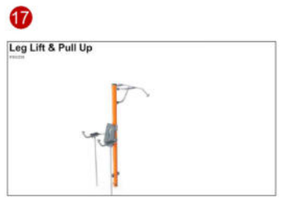
15 Combi 2 Robinia



16 Lower Back Bench Pro



17 Leg Lift & Pull Up



HARD LANDSCAPE SPECIFICATION

Safety Grass Matt



Wet Pour Surface



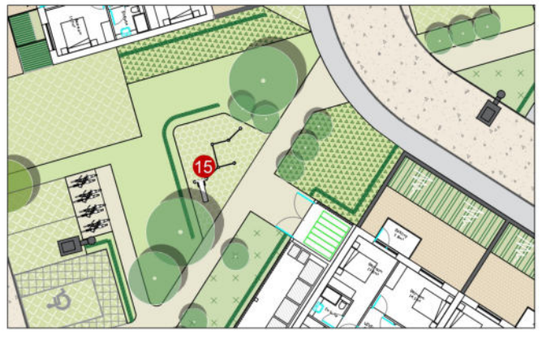
Rubber Mulch



K. TYPICAL FITNESS AREA @1:200



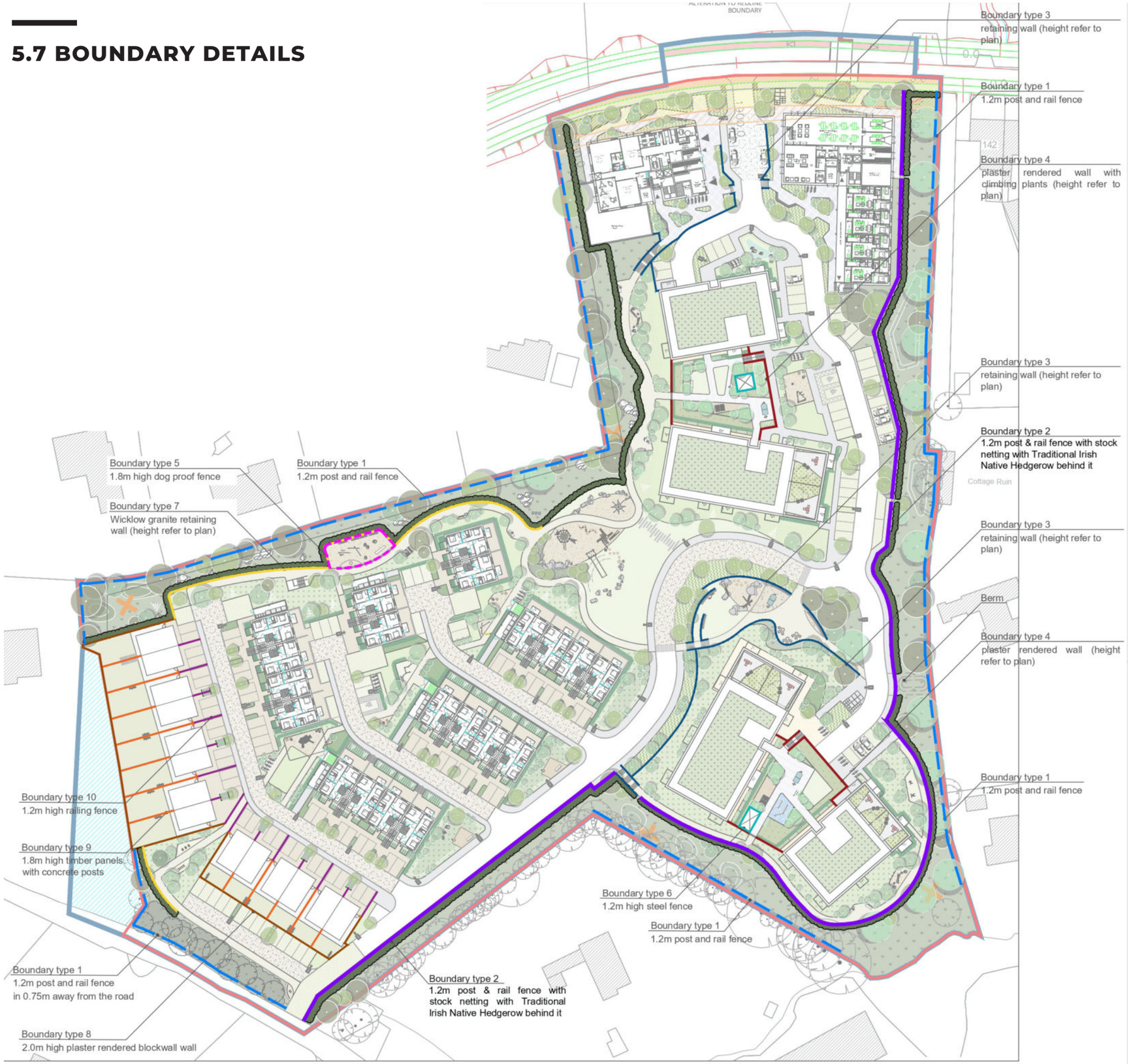
L. TYPICAL FITNESS AREA @1:200



M. TYPICAL FITNESS AREA @1:200



5.7 BOUNDARY DETAILS



BOUNDARY TREATMENT

Site Boundary
Application site 3.70 Ha outlined in red

Land in ownership of applicant
(circa 4.022 Ha outlined in blue)

Lands subject to Letter of Consent

Boundary type 1
1.2m post and rail fence

Boundary type 2
1.2m post & rail fence with stock netting

Boundary type 3
retaining wall (height refer to plan)

Boundary type 4
5.35m high plaster rendered wall

Boundary type 5
1.8m high dog proof fence

Boundary type 6
1.2m high steel fence

Boundary type 7
Wicklow granite retaining wall (height refe

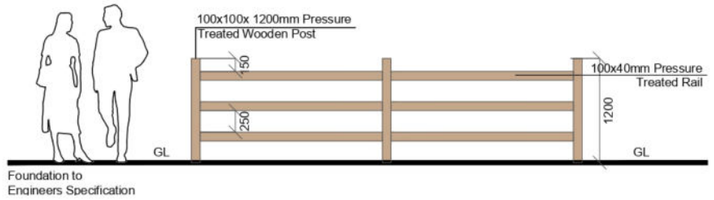
Boundary type 8
2.0m high plaster rendered blockwall wall

Boundary type 9
1.8m high timber panels with concrete pos

Boundary type 10
1.2m high railing fence

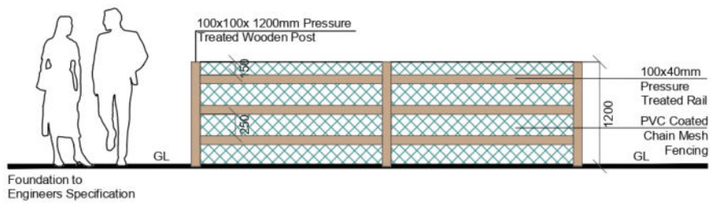
5.7 BOUNDARY DETAILS

Boundary type 1
1.2m post & rail fence



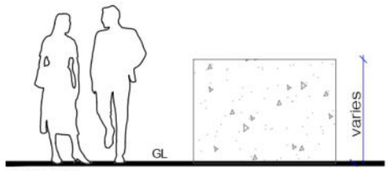
Foundation to
Engineers Specification

Boundary type 2
1.2m post & rail fence with stock netting



Foundation to
Engineers Specification

Boundary type 3
retaining wall (height refer to the plan)

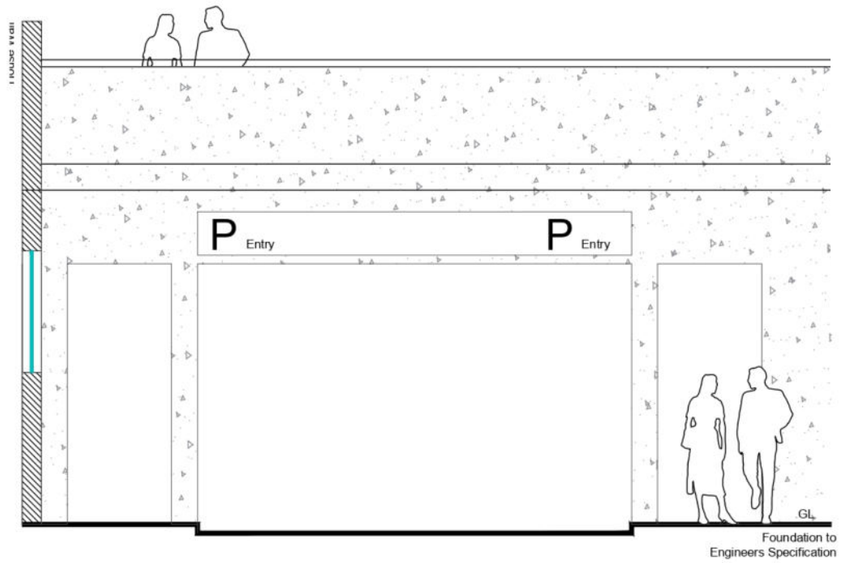


Foundation to
Engineers Specification

Boundary type 7
Wicklow granite retaining wall

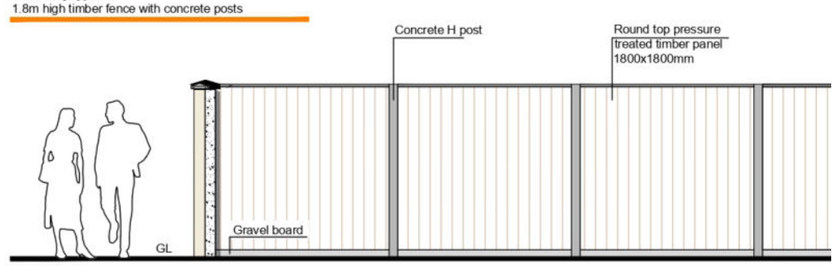


Boundary type 4
5.35m high plaster rendered block wall



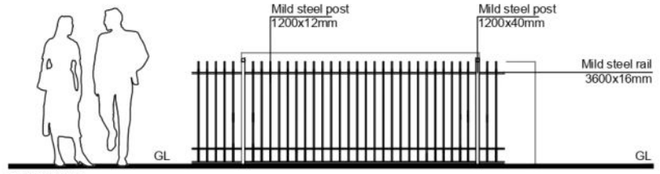
Foundation to
Engineers Specification

Boundary type 9
1.8m high timber fence with concrete posts



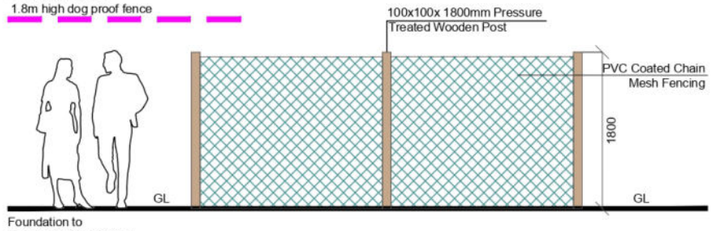
Foundation to
Engineers Specification

Boundary type 10
1.2m high railing fence



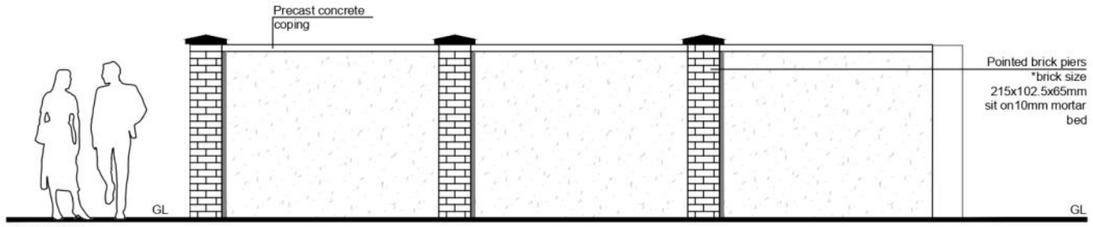
Foundation to
Engineers Specification

Boundary type 6
1.8m high dog proof fence



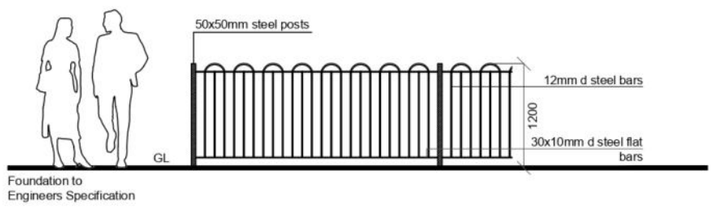
Foundation to
Engineers Specification

Boundary type 8
2m high plaster rendered block wall
with brick finish piers



Foundation to
Engineers Specification

Boundary type 6
1.2m high steel fence



Foundation to
Engineers Specification

06

THE EUROPEAN LANDSCAPE CONVENTION

6.1 ALIGNMENT WITH THE EUROPEAN LANDSCAPE CONVENTION OBJECTIVES

INTRODUCTION

The Blackglen Landscape Design Rationale has been developed to align with the objectives of The European Landscape Convention (ELC), adopted in Florence in 2000. This international treaty emphasizes the protection, management, and sustainable planning of landscapes across Europe. By embedding these principles into the design, the project ensures compliance with best practices, mitigates risks of judicial review, and contributes to the sustainable development of the region. It also demonstrates how thoughtful landscape design can balance environmental preservation with community needs.

1. RECOGNIZING LANDSCAPE IN LAW

The project reflects the ELC's principle of embedding landscapes within a legal framework to enhance their role in public well-being. Specific measures include:

• Policy Integration: The project integrates the Dún Laoghaire-Rathdown Biodiversity Action Plan 2021-2025 and County Development Plan 2022-2028, which emphasize habitat conservation and sustainable land use.

• Wildlife Corridor Support: Positioned within the Ticknock to River Dodder Wildlife Corridor, the project enhances ecological networks by incorporating features such as native tree trails and protected green spaces.

• Sustainability Compliance: The design aligns with national guidelines for sustainable urban development, ensuring legal adherence while promoting ecological health.

The project also incorporates elements that reflect the cultural and ecological significance of the landscape, including the preservation and enhancement of key features such as the Wicklow granite rubble walls, the traditional layout of gateways, and the Barnacullia landscape influences. These features provide a sense of continuity with the area's historical and cultural identity, fostering a strong connection between the landscape and its community.

2. ESTABLISHING AND IMPLEMENTING LANDSCAPE POLICIES

This development showcases a forward-thinking approach to landscape management by:

• Enhancing Biodiversity: Features like wildlife corridors, pollinator-friendly planting schemes, and habitat creation (e.g., bug hotels and ponds) encourage biodiversity.

• Incorporating Green Infrastructure: Rain gardens, green roofs, and permeable paving mitigate climate impacts and promote ecological connectivity.

• Transition Planting: Reflecting the area's transitional ecological zone, the planting scheme transitions from lowland oak and birch species to upland heather and pine, supporting local flora and fauna. Native vegetation boundaries, such as the oak/birch boundary and conifers boundary, play a crucial role in maintaining ecological balance and enhancing the site's biodiversity.

• Water Management: Sustainable Drainage Systems (SuDS), including bioretention areas, reduce runoff and improve water quality, aligning with sustainability goals.

These policies demonstrate the project's commitment to holistic and sustainable landscape management.

3. PROMOTING EDUCATION AND PUBLIC AWARENESS

The project integrates educational elements to foster public understanding of landscapes and biodiversity. These include:

• Interpretive Signage: Educational boards along the nature trails highlight local ecosystems, flora, and fauna, encouraging community awareness.

• Experiential Learning: Interactive elements, such as bat boxes and bug hotels, provide hands-on learning opportunities about native species.

• Cultural Heritage Integration: The preservation of Wicklow granite rubble walls and incorporation of the traditional layout of gateways offer opportunities for interpretive education about the site's historical context.

• Inclusive Public Spaces: Accessible trails, informal play areas, and wellness spaces promote a connection with nature for all ages and abilities.

These features advance the ELC objective of recognizing landscapes as a shared and valued resource, enhancing community engagement and stewardship.

4. ENCOURAGING PUBLIC PARTICIPATION

Public involvement has been central to the project, ensuring it addresses local needs and aspirations. Notable measures include:

• Stakeholder Engagement: Consultations with community members and local authorities shaped the design, fostering inclusivity and transparency.

• Accessible Design: Features like well-connected green trails, fitness zones, and community spaces enhance usability and promote equity.

• Connectivity: The design strengthens links between the Dublin Mountains and Fitzsimons Wood, improving public access and fostering a sense of shared ownership.

This participatory approach minimizes risks of opposition and reinforces the community's role in maintaining the landscape.

MITIGATION OF JUDICIAL REVIEW RISKS

To mitigate risks associated with judicial review, the project has been structured to meet the following criteria:

• Adherence to Regulatory Standards: The design complies with ELC principles and local biodiversity action plans, safeguarding against legal challenges.

• Transparency and Accountability: Comprehensive documentation of public consultations and policy alignment demonstrates due process.

• Environmental and Social Balance: The project prioritizes ecological resilience and community benefits, reducing potential conflicts with planning and environmental regulations.

These steps establish a robust framework for legal and community approval, minimizing risks and ensuring project viability.

CONCLUSION

The Blackglen Landscape Design Rationale exemplifies alignment with The European Landscape Convention by embedding its objectives into the project's core. From biodiversity enhancement to community engagement, the design demonstrates a balanced approach to sustainable development. By prioritizing legal compliance, public participation, and ecological integrity, this project serves as a benchmark for integrating international landscape principles into local development, fostering a harmonious relationship between people and nature.

07

LANDSCAPE MANAGEMENT PLAN

7.1 OUTLINED SPECIFICATIONS FOR LANDSCAPE WORKS

1. INTRODUCTION

The purpose of this Landscape Management Plan is to provide guidance and specifications for the maintenance requirements of the landscape elements of the proposed development and all associated spaces. This will cover all of the landscape typologies, both existing (hedgerows and mature trees) and proposed (trees, shrubs, hedging, grass, bulbs, SuDS features, etc.) on-site to ensure that all maintenance operations required for the efficient and effective management of the landscape are characterised and defined. The plan will provide a set of measurable performance standards that can be applied to evaluate landscape maintenance works carried out on the site.

In preparing the landscape proposals, and this document, reference has been made to the following Dún Laoghaire Rathdown Co. Council publications, to ensure that the proposals are in accordance with the relevant policies:

- Guidelines for Development and Taking in Charge of Public Open Space;
- DLR TREES: A Tree Strategy for Dún Laoghaire-Rathdown;
- DLR Parklife: A Policy for Enhancing Biodiversity in Parks and Green Spaces.

2. NATURE OF SITE

Landscape works are proposed to enhance the overall appearance of the a Large Scale Residential Development (LRD) and create an appropriate and high quality series of open spaces. The soft landscape works include trees and woodland / shrubs/ ornamental perennial plantations / climbing planting/ Irish Native Traditional Hedgerows / areas of grass and wildflower planting. Hard landscape works include feature paving, permeable paving, lighting and several Sustainable Drainage System (SuDS) measures, as well as play areas and landscape furniture. There will also be concrete footpaths and cycling / road surfaces to be maintained.

3. TIMEFRAME & PROGRAMMING

Planting works will be carried out in the planting season following completion of construction and maintenance will follow thereafter, following the programme set out in the following document. A detailed programme of works will be agreed with the Contractor prior to maintenance operations commencing, in each year.

4.AIMS & OBJECTIVES

4.1 General

Fundamentally, the aim of landscape management is to ensure that all external areas are kept in good condition, as perceived and expected by the users. The Landscape Management Plan aims to provide a manual for the maintenance requirements of the road network and adjacent landscapes. It will define and specify all necessary operations for the efficient and effective management of the landscape in order to ensure that each area is appropriately and sustainably maintained.

4.2 Horticultural / Sylvicultural Objectives

Horticultural and sylvicultural aims relate to the appropriate management operations for all plants and trees. The specific horticultural objectives are as follows:

- All plants to be maintained so that they remain in good health;
- All plants to have a habit and form consistent with species type and aesthetic objectives;
- Specialist operations for particular types of plants where necessary to achieve the aesthetic or functional objectives, e.g. pruning, dead-heading of flowering plants, formative clipping, etc. are included in the plan;
- Areas surrounding plants are to be maintained in such a way that potential threats to plant viability are addressed, e.g. weed control (particularly invasive and noxious weeds);
- Recognition of planting (including trees) at the end of its viable life is important to ensure that it is removed and replaced in a timely manner to avoid eyesores.

4.3 Performance Standards

Performance Standards can be defined as follows in the context of this plan: written specifications of the conditions that will exist when satisfactory works are completed. Performance standards will be measurable against the specified outcomes required for a particular operation, within a particular area. Performance standards must be upheld by the contractor at all times and will be monitored on an ongoing basis through regular site inspections. Performance standards are specified in section 5 of this document. All required maintenance operations are defined and detailed to provide both specifications for the landscape contractor to follow and a set of measurable outcomes to appraise and value the contractor's performance against the requirements of the contract.

1.0 SOFT LANDSCAPE WORKS SPECIFICATIONS

1.1 Site Clearance Generally

4.4 Environmental Considerations

Responsible and sustainable landscape management is about balancing the performance standards with the required standard of maintenance. The following principles have guided the development of the specification:

• Minimise use of non-renewable resources

- e.g. reduce lawn areas to reduce consumption of fossil fuels, reduce use of chemical inputs such as pesticides, where possible.

• SuDS

- Sustainable Drainage Systems have been included in the design and are an integral part of the landscape, including filter drains in landscape areas and tree pits with drainage gravel or structural soil materials for soakaway.

• Utilise low input systems

- Includes measures such as: mulching instead of herbicide use, where possible; encourage rough-cut or meadow grass where appropriate to avoid regular mowing.

• On-site green waste recycling / mulching / composting

- Avoids excessive transportation and use of landfill

• Use of environmentally friendly products where possible

- e.g. biodegradable herbicides, biodegradable tree ties, timber stakes.

• Biodiversity & Nature Conservation

- Project ecologist will be consulted for any replacement planting or operations that could disturb wildlife in order to comply with best practice; All works involving tree surgery or removal of trees / hedgerows will be carried out outside the nesting season (unless required for health and safety or is unavoidable).

• Control of Invasive Species

- It is an objective of this plan to control and prevent the spread of invasive species, and in particular, Giant Hogweed, in order to protect the biodiversity of the landscape.

• Protection of site resources

- Appropriate maintenance will result in the protection of existing trees, vegetation and soil resource of the site.

5.SPECIFICATIONS FOR LANDSCAPE MAINETANCE OPERATIONS

5.1 Grass and Lawn Areas

At all times grass to look lush, vigorous and of fine quality with a minimum weed content, and a minimum variation in height of the sward during the growing season. Cutting should take place on a regular basis. Grass cutting areas shall be cleared of litter and rubbish prior to grass-cutting taking place.

No ruts are to be caused due to poor ground conditions. During periods of poor weather, no grass is to remain lodged following cutting. In periods of prolonged wet weather or where ground is waterlogged, consult with Property Manager prior to engaging in grass cutting operations.

Noxious and competitive weeds such as Ragwort, Gorse, Thistle, Dock, Nettle, Briar, Horsetail and Dandelion shall not be allowed to establish in any grass areas.

5.1.1 Aesthetic / functional requirements

Amenity lawn areas are those grass areas which will be maintained for general access and amenity purposes, to create a lawn which is neat, healthy, close-cut and with minimal weed content.

5.1.2 Permitted mower type

Cylinder mower, Rotary mower, ride-on mower, tractor-pulled gang mower (note: subject to ground conditions; hand-mowing required in designated areas and/or where ground is soft).

5.1.3 Height of Cut

Minimum 20mm; maximum permissible height 50mm. At the commencement of the contract, following flowering cycle of seasonal bulbs or if grass cutting has been forestalled due to poor ground conditions resulting in the grass growing above the maximum permissible height, it shall be cut to 50mm on the initial cut, then to 25mm on the subsequent cut. Such initial long grass shall be collected and removed off site.

5.1.4 Frequency

Mow weekly during spring; summer and autumn; only when necessary in winter. Mowing is not permitted when ground conditions are very soft, waterlogged or frozen, or during spells of cold, drying winds or when the grass is frosty or wet.

5.1.5 Finish

Even finish. Vary direction/pattern of cutting every 3 months. Grass shall be trimmed from around the bases of walls and fences, back of footpaths and kerbs, litter bins, sluice valves and hydrant markers, trees, poles, signage and public lighting columns, etc., and this interface between grass and walls, fences, etc., as noted above, kept in a neat and tidy condition. This trimming shall be deemed to be included for at every grass-cutting. The Landscape Contractor is bound to comply with this instruction and herbicide application is not permitted to achieve this.

5.1.6 Clippings

To be gathered at every cut and disposed of in designated area or off-site. Box to be emptied regularly during cutting to avoid clumps being left on the grass.

5.1.7 Fertiliser

In mid-spring (late March to April), use a proprietary lawn fertiliser at the manufacturer’s recommended rates, to be approved by the ER. Apply fertilisers when the soil is moist, or when rain is expected. If grass loses vigour and freshness between late spring and late summer (often May to August), repeat the application of lawn fertiliser.

5.1.8 Weed Control

Minimum weed content permitted i.e.: (1) <5% of species content; (2) <10% of total grass area. When necessary and agreed with ER, use a selective herbicide, with the active ingredient Mecoprop-C, MCPA, 2-4-D or Dicamba to control broad-leaved weeds in the sward. Weeds resistant to herbicide to be dug out by hand in autumn.

5.1.9 Scarifying

Scarifying to be carried out to keep levels of thatch (old grass stems, dead moss and other

debris) at an acceptable level (i.e. less than 1cm deep). To remove thatch, rake vigorously but carefully with a power-scarifier. Recommended to be carried out in autumn only.

5.1.10 Aeration
Spiking with holes 10-15cm (4-6in) apart and deep to be carried out once per annum.

5.1.11 Rolling
Amenity grass areas should be reasonably even, with no variations greater than 25mm over a 1m straight edge. In September, to repair any uneven areas of the lawn, use an edging iron to slice through the turf and roll it back. Fork over the underlying ground and add or remove soil as needed. Replace the turf, pressing the edges together, roll with lawn roller (nominally 100kg, subject to site conditions) and water thoroughly.

5.1.12 Edging
Lawn to be edged by hand or edging machine regularly to leave an even, straight edge and to ensure that the grass or soil does not protrude over the edge by more than 25mm.

5.1.13 Over-seeding
After moss or weeds have been removed, or where grass is growing sparsely, over-seeding may be necessary. (Early autumn or mid-spring). Break up the surface with a fork and rake to leave a fine, even tilth; Sow grass seed at half the recommended rate (usually 10- 15g/sq.m); lightly rake to incorporate the seed into the surface; water if weather remains dry for 2-3 days following seeding.

5.1.14 Watering
Watering to be carried out when required. Ensure that the water reaches a depth of 10cm (4in) after each watering. Rate: max. 20 litres per square metre.

Indicators of under-performance: Excessive weeds or weeds such as clover or moss indicate poor sward health; bare patches may indicate scalping or lack of vigour; yellowing or browning of sward may indicate drying out, under-feeding, herbicide drift or inappropriate use of herbicide; thatch build-up greater than 1cm depth; rutting of the surface, wheel marks or poor drainage may indicate compaction of soil caused by mowing in wet weather or use of unsuitable mower type.

5.2. Meadow Grass/ Wildflower Areas
5.2.1 Aesthetic / functional requirements
Meadow grass or wildflower areas are those areas which will not usually be accessed by users and will usually be in low priority areas, or kept for biodiversity reasons. These areas are to be maintained to create a meadow area which is healthy and with minimal noxious or invasive weed content, with grass allowed to grow relatively long between infrequent and regular cuts.

5.2.2 Permitted mower type
Strimmer, Rotary mower, ride-on mower, tractor-pulled gang mower (note: subject to ground conditions; strimming required in designated areas, areas of slope gradient greater than 1:3 and/or where ground is soft).

5.2.3 Height of Cut
Meadow grass areas shall be cut to a height of c. 75mm.

5.2.4 Frequency
3no. times during the growing season, in May, July and September.

5.2.5 Clippings
To be gathered at every cut and disposed of in designated area or off-site.

5.2.6 Weed Control
Noxious or invasive weeds to be spot treated by controlled droplet applicator or glove with Glyphosate (Round-Up or equal) in May, June and August and prevented from flowering.

5.2.7 Edging
Meadow grass areas to be edged by hand or edging machine regularly to leave an even, straight edge and to ensure that the grass or soil does not protrude over the edge by more than 25mm.

Indicators of under-performance: Occurrence of noxious or invasive weeds unacceptable.

5.3 Groundcover/ Mixed Borders/ Mass Shrub Plantation
5.3.1 Aesthetic / functional requirements
Shrub planting areas shall be kept clean at all times, with an even finish. Plants to have a healthy, lush appearance, typical for plant species and time of year.

5.3.2 Weed Control
Weeds shall not be allowed to cover more than 5% of the ground at any one time, neither shall weeds exceed 50mm in height. Residual herbicide permitted for established shrub areas.

5.3.3 Bark Mulch
Required – min. 50mm deep; to be kept topped up at all times.

5.3.4 Fertiliser
Annual feeding with 50g/sq.m of general-purpose fertiliser in February. (Rake back mulch prior to application.)

5.3.5 Pruning / Clipping
Pruning once per annum to maintain the typical size and form of the plant, for sightlines and for plant health; all clippings to be gathered at every pruning and disposed of in designated area or off-site.

5.3.6 Edging
Beds to be edged by hand or edging machine twice per annum to leave an even, straight edge. Shrubs or soil not to protrude past the edge by more than 50mm.

5.3.7 Watering
Watering required only in periods of prolonged drought (i.e. after more than 2 weeks).

5.4 Speccimen Shrubs
5.4.1 Aesthetic / functional requirements
Specimen shrub planting areas shall be kept clean at all times, with an even finish. Shrubs to have a healthy, lush appearance at all times, typical for plant species and time of year.

5.4.2 Weed Control
No weeds permitted in the shrub area. Established shrub areas may be treated with an approved residual herbicide to provide year round weed control.

5.4.3 Bark Mulch
Required – 75mm deep; to be kept topped up at all times.

5.4.4 Fertiliser
Annual feeding with 50-100g/sq.m of general-purpose fertiliser in February. (Rake back mulch prior to application.)

5.4.5 Pruning / Clipping
Regular pruning as necessary to maintain the typical size, habit and form of the plant, for health and to maintain best appearance; all clippings to be gathered at every pruning and disposed of in designated area or off-site.

5.4.6 Watering
Watering required to ensure consistent availability of water to plant during periods of drought (i.e. after more than 5 days) - minimum

5.5 Hedge - Pruned (including topiary)
5.5.1 Aesthetic / functional requirements
Even, clean finish to ground plane. Hedge to have a healthy, lush appearance, typical for plant species and time of year. Formal habit to be maintained throughout year. Formal habit of hedge to be defined and maintained at all times.

5.5.2 Weed Control
No weeds permitted in the shrub area. Established shrub areas may be treated with an approved residual herbicide to provide year round weed control.

5.5.3 Bark Mulch
Required – 75mm deep; to be kept topped up at all times.

5.5.4 Fertiliser
Annual feeding with 50-100g/sq.m of general-purpose fertiliser in February. (Rake back mulch prior to application.)

5.5.5 Pruning / Clipping
Regular pruning as necessary to maintain the required height and width of the plant, to maintain best appearance; all clippings to be gathered at every pruning and disposed of in designated area or off-site.

5.5.6 Watering
Watering required only in periods of prolonged drought (i.e. after more than 2 weeks).

5.6 Native Shrub Plantation
5.6.1 Aesthetic / functional requirements
Even, clean finish to ground plane. Hedge to have a healthy, lush appearance, typical for plant species and time of year. Relatively informal habit acceptable.

5.6.2 Weed Control
Weeds shall not be allowed to cover more than 5% of the ground at any one time, neither shall weeds exceed 50mm in height. Residual herbicide permitted for established areas.

5.6.3 Bark Mulch
Required for high prominence areas; recommended for medium areas – 50mm deep; to be kept topped up at all times.

5.6.4 Fertiliser
Not required.

5.6.5 Pruning / Clipping
Pruning once per annum for shrubs such as Dogwood and Guelder Rose or to control height and spread when necessary.

5.6.6 Watering
Watering required only in periods of prolonged drought (i.e. after more than 2 weeks)

5.7 Scrub - naturally occurring
No maintenance operations required, except to ensure that any edge plants are kept cut back at least 1m from road edges and tidy where visible or prominent.

5.8 Trees & Woodland
5.8.1 General:
• Canopies overhanging a pedestrian path to be maintained to 2.2m and canopies overhanging vehicular access to 4m;
• Limb damage caused by wind, passing traffic, etc. to be pruned resulting in a clean even wound;

• No signs, security boxes, etc. to be attached to trees;
• Surface tree roots not to cause a trip or mowing hazard. In grass areas, top up soil over roots and re-seed;
• Raised paviors or cracked/bulging walls due to root growth are to be reported to the Contract Administrator;
• Exposed roots from construction works to be kept moist by wrapping damp hessian around roots until soil is backfilled and then apply a one off generous application of water. Root damage to be pruned resulting in a clean even wound prior to backfilling / topsoiling;
• Control of ivy and suckering on the trunks of trees within falling distance of activity;
• Informal monitoring of trees for change of condition or evidence of a fungal fruiting body.

5.8.2 Specimen, Solitary and Avenue Trees
All trees to be maintained in accordance with requirements for species and habit to be maintained in accordance typical form for tree. Tree trunk will be kept visible for defect inspection with control of ivy and removal of suckering. Mulch 1m diameter will be maintained around all individual trees within grassed areas. Stakes and ties to be retained for a maximum period of 3 years, with tie loosened annually and both stake and tie to be removed after 3 year period. All nursery marking, bamboo and labels to be removed off all trees. Tree grilles in hard surface areas to be maintained weed free. Any visible change in condition to be reported.

5.8.3 Tree Groups, Woodland, Grid, Hedgerow Trees
Such areas shall be kept free of noxious and pernicious weeds at all times. Mulch or spray rings 1m diameter will be maintained along group perimeter and around all plants in young woodland areas where canopy cover has not been achieved. Established woodland areas shall not be treated with herbicide except where necessary for the removal of noxious and invasive weeds including Ragwort, Gorse, Thistle, and Dock, hogweed, bramble and any others. Japanese knotweed shall not be allowed to establish in any woodland areas. Bramble should not exceed 20% of ground cover of any woodland. Ivy shall be controlled and shall not be allowed to establish itself on trees along the perimeter and within falling distance of activity within woodland areas. Understorey (excluding saplings) not to exceed 1m in height in order to retain visibility for user safety in areas of activity. Tree numbers not to exceed 4 per sq.m of trees with a girth of less than 250mm and numbers not to exceed 2 per sq.m for trees with a girth of over 300mm. Fallen or felled trees in woodland areas to be maintained on-site where permissible, for reasons of biodiversity and ecology which contribute to the overall health of the woodland.

5.9 Bulbs
5.9.1 Watering
Ensure that bulbs have adequate water throughout growth period, up until cutting back occurs (see below).

5.9.2 Fertiliser
Apply approved general purpose fertiliser to all bulb areas at nominal rate of 35g/sq.m in late February.

5.9.3 Cutting Back
Cut back dead foliage to ground level six weeks after the end of flowering (or earlier if foliage is yellow and straw-like). Do not tie or knot the leaves.

Note: Herbicides may not be used in or around bulb areas.

5.10 Wildlife Refuge
5.10.1 Meadow Grassland Areas (High-sward)
For areas within the wider Site area proposed as meadow grassland within the landscape plan e.g., the meadow areas around apartment blocks in the north, centre and south-east of the Site, a reduced mowing regime will be followed to allow the tall wildflower and grasses to flower. Management will be as follows:
• A reduced pollinator friendly mowing regime will be implemented:
- An annual mowing regime for meadow grassland areas with the hay/cuttings removed to maintain a nutrient poor soil that favours the growth of wildflowers. The meadow will be allowed to mature and seed heads to form before cutting – this may be in mid- to late- July or into August3.
- A second cut may be required in autumn to reduce the growth of the grassland sward.

Signage will be erected to support the management company to maintain the pollinator and wildlife friendly management regime.
• Mowing will ideally be undertaken during dry conditions to avoid compacting and potentially damaging the soil structure.
• No herbicides4 or fertilisers will be used within these meadow grassland habitat areas as this would negatively impact their biodiversity value.

HEDGEROWS AND TREELINE
5.10.2 Newly Planted Hedgerows
For the first year, weeding will be carried out around the base of any newly planted hedgero in summer. This will prevent competition from grasses and other plants. However, a mulch of chopped bark placed along the length of the hedgerow will prevent weeds from growing up in the first place and help to reduce moisture loss. Trees and shrubs that have died will be replaced in the autumn or winter.

When planting up gaps in an existing hedgerow, great care must be taken to ensure the new plants are not shaded out by existing plants. Hard pruning or even coppicing adjacent shrubs may be required. To this end, control of competitive vegetation for the first few years will be undertaken. In the first spring, the shrubs will be cut down to 45—60cm above the ground. This hard pruning encourages the shrubs to bush out and will help to create a thick hedge.

5.10.2.1 Low Intervention Hedgerow Management
The condition of existing hedgerows at the Site will be improved through active lowintervention management and maintenance.

5.10.2.2 Hedgerow Cutting
All hedge cutting will be carried out outside the main breeding bird season, i.e. 1st March to 31st August, in compliance with the Wildlife Act 1976 (as amended). The following, extracted from “Farmland Actions to Help Pollinators”5 will be implemented along the hedgerows being retained at the Site:

• Hedgerows will be cut on a minimum 3-year cycle, on rotation e.g., a third of the hedgerows left uncut each year. Cutting all hedgerows annually stops the hedgerow flowering and fruiting.
• Bramble and Ivy will be retained in hedgerows, as they are key nectar and pollen sources in summer and autumn.
• The hedgerows will be retained as high as possible, but at least 2.5m above ground level or above the bank.
• The hedgerows will be trimmed in an A-shape, but where feasible they will be side trimmed only.
• Tall grassy meadow margins will be maintained along the bases of each hedgerow as detailed in the following section.

5.10.2.3 Hedgerow Margins
The following will be implemented along the bases of the hedgerows at the Site:
• A margin (minimum 1.5 m) will be retained adjacent to existing hedgerows as an ameliorating buffer between the hedgerow flora and the adjacent land use. A margin of at least 2m is recommended (3m in the case of the eastern boundary hedgerow) to be retained adjacent to hedgerows;
• It is recommended that the hedgerow margin is managed in two halves, with the half closest to the hedgerow cut only once every few years, and the other half cut annually after mid-July.
• Herbicides will not be used on hedgerow margins, except in exceptional circumstances where spot control of weeds or invasive flora is required.
• Fertilisers will not be spread on the margins of hedgerows as these can reduce wildflowers and increase weeds and grasses.
• Physical removal of weeds from hedgerow margins will be undertaken. Herbicides will only be used as a last resort. If herbicide use is required, herbicides will only be used to spot control weeds (e.g. invasive or non-native plants).

5.10.2.4 Invasive Flora Removal
Non-native and invasive flora will be removed from the hedgerows within the Site boundary, as per the IASMP (INVAS Biosecurity, 2024). Ongoing monitoring and removal (if required) will also be carried out as per the IASMP.

GENERAL VEGETATION REMOVAL
5.10.3 Removal/ Trimmimg
Removal or trimming of any vegetation on Site will be conducted outside of the breeding bird season, which runs from 1st March to 31st August, inclusive. Alternatively, in the rare circumstances that vegetation removal is unavoidable between March and August, the area in question will be checked by a suitably qualified ecologist for breeding birds, prior to removal. If breeding birds are present, work shall cease in the vicinity of the area, as determined by the ecologist. The ecologist will return to confirm if nests are no longer active after which clearance works may proceed. Vegetation trimming of the trees, hedgerows, scrub and any grassland habitat will need to be take consideration of any wildlife potentially present that could be harmed. Table 1 provides guidance for when vegetation clearance is allowed in relation to wintering, hibernating and breeding animals. The preferred period for vegetation clearance is within the months of September and October to avoid the main breeding bird and bat maternity and roosting season as well as mammal, amphibian, and reptile hibernation periods.

5.10.4 General Protection During Grass Cutting
Frogs forage for insect food species within tall grassland areas and are known to be present at the Site. They are therefore at risk of harm during the mowing of meadow grassland areas or areas of semi-natural vegetation. The following approach will help avoid any harm to frogs at the Site:
• Meadow grassland habitats managed for biodiversity will be mown/strimmed carefully and with consideration of small animals that could be present in the long grass. This will allow any wildlife within grassland areas a chance to escape. A high cut will be used (minimum 15cm) as detailed in the preceding sections.
• Any frogs found during maintenance or grass cutting will be carefully picked up and moved to the nearest safe area i.e., a boundary hedgerow, woodland or the wildlife refuge along the eastern boundary.
• All hedge cutting will be carried out outside the main breeding bird season, i.e. 1st March to 31st August, in compliance with the Wildlife Act 1976 (as amended).

5.11 Management of Wildlife Ponds
5.11.1 Minor Works - 1-3 year rotation (August-October)
During the critical early colonising stages of vegetation on Site, and for the first 2-5 years after creation, when the vegetation is still establishing, the pond area will be managed via the below methods:
• Mechanical removal of rapidly colonising aquatic species, such as bulrush, to ensure these do not dominate the new site.
• Ensure the removal of roots of these plants to reduce the likelihood of regrowth.
• As the proposed ponds are located along wooded areas, the removal of some dead leaves/ logs/branches may be required to avoid excess nutrients which encourage algal growth, however some dead logs will be retained along the banks of the pond area to provide habitat for species such as dragonflies, which lay their eggs on dead wood close to ponds.

These minor works will be carried out on a 1-3 year rotation and will be undertaken in August – October to avoid disturbance during amphibian breeding season (February – July, inclusive) and hibernation (November – January, inclusive).

5.11.2 Medium Scale Works - 3-5 year rotation (September-October)
For medium scale works, including the coppicing and removal of encroaching trees and shade (if required), these works will be undertaken on a 3-5 year rotation outside of the bird nesting season (March 1st – August 1st, inclusive). Again, September-October is the best time for these works.
While most amphibian species, including frog and smooth newt, prefer areas of shade, clearance of encroaching trees may be necessary to allow plants to grow and provide areas of warmer water, which will encourage frogs and smooth newts to spawn. In additional, the removal of overhanging shade may be beneficial as it allows marginal plants to grow, providing additional foraging resources and habitats for aquatic and marginal insects. The removal and coppicing of trees surrounding the ponds will be undertaken to the extent that a minimum of 25% of the pond habitat is unshaded.

5.11.3 Long-term Works - 5-10 year rotation (August-October)

While pond succession is a natural process as ponds mature and infill with sediment, the restoration of pond habitats via desilting is often carried out via dredging in order to reinstate original water levels. As dredging can cause a high level of disturbance to the habitats and species utilising this wetland habitat, these works will be carried out on a 5-10 year rotation and will take place in August – October to avoid disturbance during amphibian breeding season (February – July, inclusive) and hibernation (November – January, inclusive).

5.12 Management of Bioretention Areas

The bioretention areas located within the wildlife refuge will be managed on a reduced mowing
regime to promote their value for pollinators, amphibians, and ensure natural seeding is maximised each year. See Figure 15 for an image showing the areas in question located along the Site's eastern boundary in the Landscape Plan.

The following management of bioretention areas will be undertaken during the Operational Phase of the Proposed Development:

• A reduced pollinator/ amphibian friendly mowing regime will be implemented:

-An annual cutting regime for bioretention areas with the cuttings removed to maintain a nutrient poor soil that favours the growth of wildflowers.

- Cutting vegetation in these bioretention areas will take place during late winter when amphibians are inactive. Ideally the cut will be high (minimum 15 cm) to ensure any frogs or newts present are not harmed.

-An added benefit of a late cut is that the wetland vegetation will be allowed to mature and seed heads to form before cutting.

-If vegetation has to be cut when amphibians are active i.e., in spring/summer, then a high cut (minimum 15 cm) is unlikely to harm amphibians.

• Signage will be erected to support the management company to maintain the pollinator and amphibian friendly management regime of bioretention areas.

• Mowing/ strimming will ideally be undertaken during dry conditions to avoid compacting and potentially damaging the soil structure.

• No herbicides2 or fertilisers will be used within the bioretention areas or the wildlife refuge.

5.13 Hard Landscapeing & Signage

Hard Standing including roads, paved areas, pavements, and kerb-lines - shall be kept clean at all times, with no growth of weeds and without moss infestation. Roads and kerb lines shall be kept free of litter and build up of grit and debris through the implementation of a regular sweeping program.

5.13.1 Weed Control

All paved areas such as footpaths, kerb lines, feature paving, gravel areas, etc., throughout the site are to be maintained weed free at all times. The application of a suitable broad-spectrum herbicide e.g. Glyphosate (Roundup Bi-Active or equal and approved) shall be applied 3no. times per annum to achieve this. Once per annum a suitable chemical to treat moss shall be applied where it has established on hard surfaces. An initial physical treatment, such as scraping using a spade, will be required to remove existing moss growth prior to spraying.

5.13.2 Sweeping

Sweeping shall mean sweeping of feature paving areas, footpaths and kerb lines along all public roads (edge of road) and removal of all grit, rubbish and leaves from these areas. Soil wash from beds on to paved areas should also be swept. This work to be executed fortnightly.

5.13.3 Cleaning

Cleaning shall mean the removal of paper, plastic bags and all other rubbish. Cleaning shall be carried out as follows:

• Fine cut grass areas, all paved and hard standing areas, footpaths and kerb lines: This work to be executed prior to grass cutting on each grass cutting visit. Cleaning shall be carried out 36no. times per annum, including winter.

• Rough cut grass areas: prior to each scheduled grass cut, minimum 8no. times per annum.

• Tree groups, boundary tree areas, shrub maintenance areas, all other areas: 8no. times per annum. Cleaning shall also include the removal of grit and rubbish from road gullies, drains, Aco drains and collapsible bollards twice per year.

5.13.4 Signage

All signs are to be cleaned to a high standard 4 times per year.

5.13.5 Gullies

All roadside gullies are to be inspected monthly and if full or blocked, must be cleared out as appropriate.

5.13.6 Natural Areas

No maintenance operations are permitted within areas designated as natural zones. Neither is dumping of any arisings, storage of materials or any other related activity.

6. Monthly Maintenance Operations Schedule

The following tables give an indicative outline of the required monthly maintenance operations, based on the specification outlined above.

ONGOING REQUIREMENTS:	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Lawn grass cutting (Min 24 cuts)		*	**	**	***	***	***	***	***	**	**	
Edging to lawn grass areas				*			*			*		
Rough Grass							*					
Fertiliser application to lawn grass areas							*					
Hedge pruning/cutting										*		
Shrubs pruning and feeding							*					
Weed control of hedge and shrub planting areas				*			*			*		
Tree pruning											*	
Removal of tree stakes (3-5yr)				*								
Mulch top-up to tree circles/ squares				*			*					
Watering of new trees (or after 3 weeks of no rain)				*	*	*	*	*	*	*		
Trimming of scrub areas											*	
Weed control of scrub areas				*							*	
Application of residual weed killer to footpaths, cycle paths.				*								
Litter Clearance/pick up	***	***	***	***	***	***	***	***	***	***	***	***

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