Henry J Lyons KPF NMP

Niall Montgomery + Partners

CWTC MULTI FAMILY ICAV

Proposed Strategic Housing Development on the former Player Wills site and undeveloped land owned by Dublin City Council at South Circular Road, Dublin 8.

PLAYER WILLS
LANDSCAPE DESIGN STATEMENT

December 2020

PLAYER WILLS PUBLIC REALM - INTRODUCTION

NMP are a team of Landscape Architects who work to create both distinctive and environmentally sustainable landscapes. Our philosophy stems from a desire to both enrich peoples' lives and to minimise our impact on the natural world.

NMP have been commissioned by CWTC MULTIFAMILY ICAV Ltd to prepare a landscape design masterplan for the proposed residential development at the Players site.

NMP have consulted with Dublin City Council Parks and Landscape Services Department regarding the design of the public realm within this project with reference to the criteria for open space design, play space design, bio-diversity and green infra-structure.

It is proposed to deliver a residential led scheme at the Player Wills site consistent with the requirements of the Sustainable Urban Housing: Design Standards for New Apartments Guidlines, 2018. Resident support facilities, services and amenities form part of the proposal.

The design of the public realm has been carried out in close correspondence with DCC parks department. This is reflected in the broadly positive response/comments issued by DCC parks department in reference to the scheme. It is anticipated that the developer's design team will continue to work closely with DCC parks team throughout the delivery of the project to ensure an important piece of public realm is delivered in the best interests to the residents and community.

The Landscape Drawings that accompany the pre-application information set out comprehensive proposals for hard and soft landscaping. See Drawing Number L1-100 – GENERAL ARRANGEMENT PLAN which clearly delineates the types of soft and hard landscape. Indicative CGIs and visualisations are incorporated into this landscape design statement in order to describe the character and effect of the public and communal open space in the context of the proposed Architecture and surrounding public realm.

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Design Director

DOCUMENT CONTROL SHEET

Client: DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV

Project: Proposed Strategic Housing Development on the former Player Wills site and undeveloped land owned by Dublin City Council at South Circular Road, Dublin 8.

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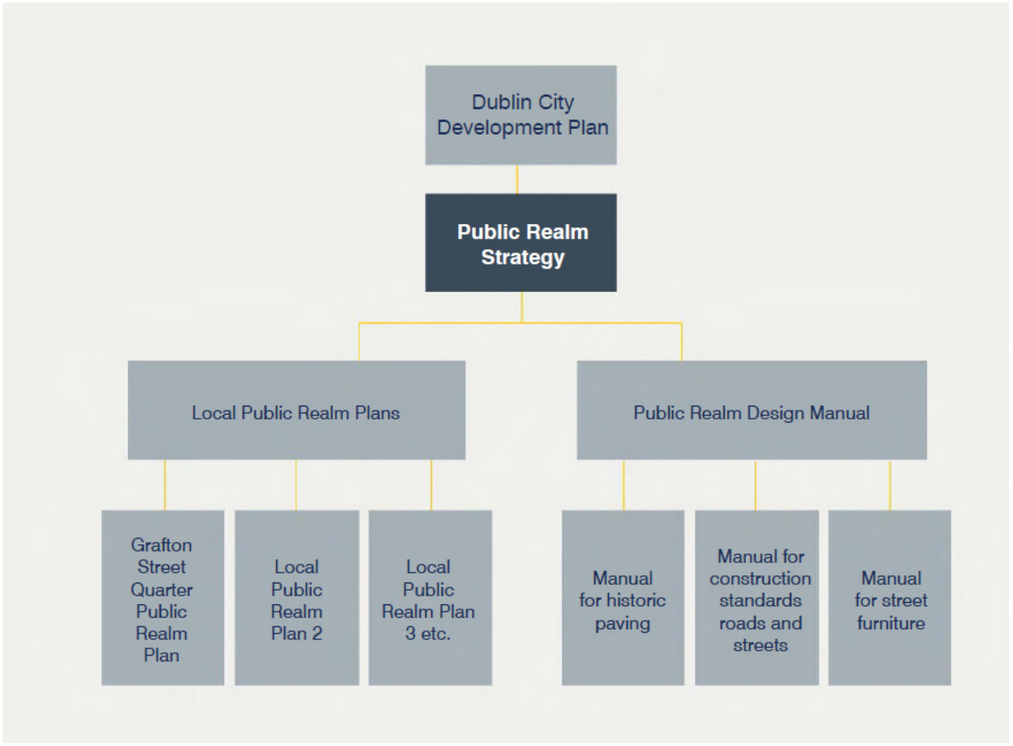
NMP
Niall Montgomery + Partners

PLAYERS WILLS PUBLIC REALM - CONTEXT

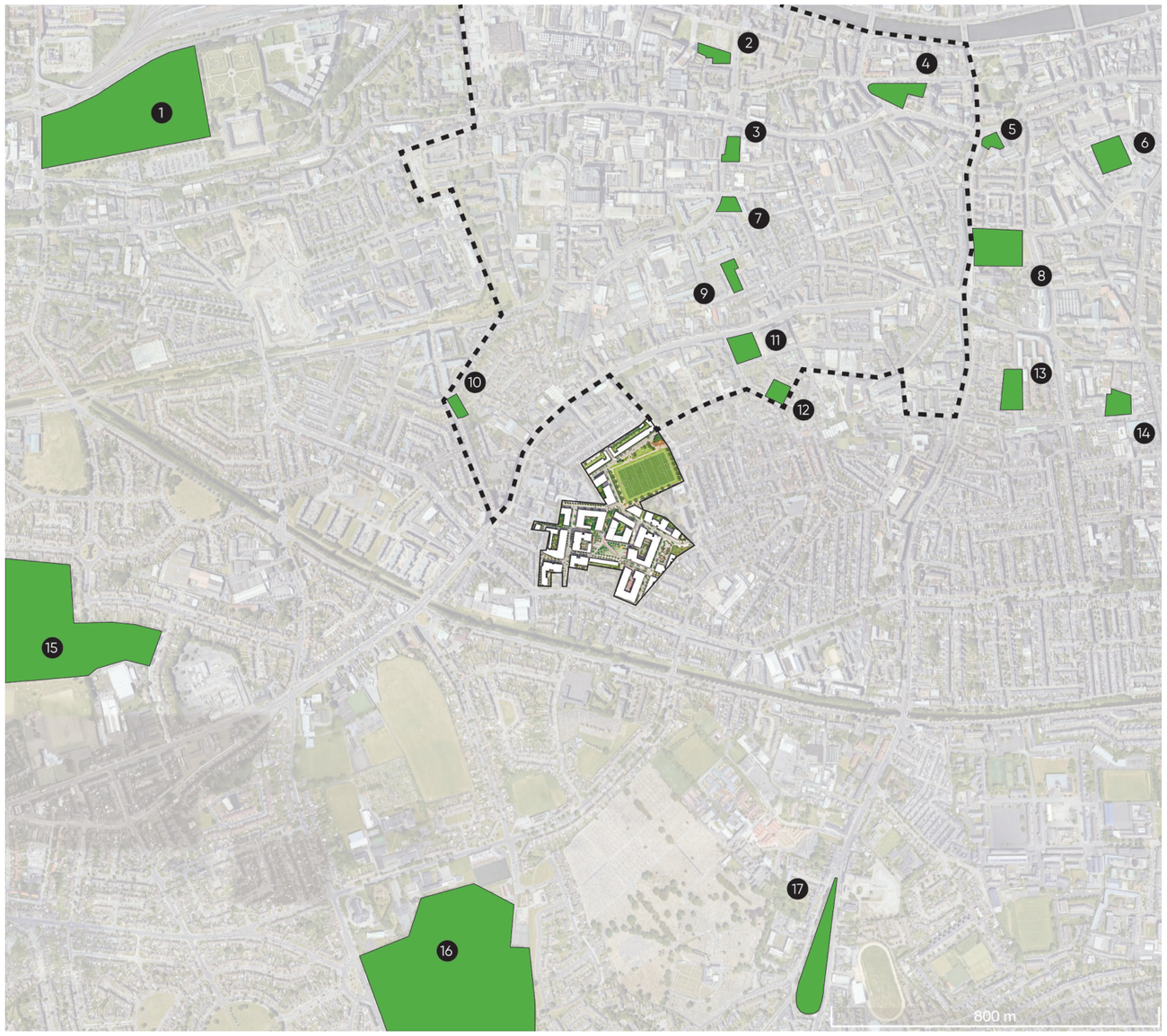


The design of the landscape within the Players Wills site has been considered with reference to several planning documents and guidance from DCC. In particular the following documents have been referred to throughout the design process:

- Dublin City Parks Strategy - DCC
- Dublin City Public Realm Strategy - DCC
- Dublin City Development Plan Chapter 10
- Liberties Green Open Space Strategy
- SDRA12 Development Framework - Public Open Space Strategy
- Design Standards for new apartments

Diagram showing Site and wider Masterplan land

PLAYERS WILLS PUBLIC REALM - CONTEXT



- Liberties Greenery Strategy
1. Bully's Acre
2. Bridgefoot Street Community Garden
3. St Catherine's Park
4. St. Audoen's Park
5. Peace Park
6. Dubh Linn Garden
7. Pimlico Residence Park
8. St. Patrick's Park
9. Pimlico Playground
10. Flanagan's Fields Community Garden
11. Weaver Park
12. Oscar Square
13. Cabbage Garden
14. St. Kevin's Park
15. Brickfield Park
16. Eamonn Ceannt Park
17. Harold's Cross Park

Diagram showing landscape amenity context of the Liberties area

The design team reviewed the greater landscape context during the masterplanning process to ensure that the Public realm delivered as part of this development was needed and was useful for the area. The main source of information regarding the surrounding landscape context was the Liberties Greening Strategy, published by Dublin City Council.

LIBERTIES GREENING STRATEGY:

The Liberties area is extremely deficient in quality green space. The Greening Strategy seeks to capitalise on the value and benefits of the existing green spaces such as improving access to green spaces associated with de consecrated churches and archaeological sites; wholesale regeneration of local green spaces and small enhancements to existing well-functioning green spaces. Globally the strategy seeks to ensure all children living in The Liberties are within a short 5-8 minute walk of a high quality and secure play space and all residents are within a short 2-5 minute walk of high quality green space. The strategy will also provide a long term proposal for food production in the form of allotments and community gardens within The Liberties.

(The Liberties Greening Strategy, Dublin City Council, 2015)

PLAYERS WILLS PUBLIC REALM

Courtyards

Residential spaces have been designed to be intimate, encourage social integration, mitigate against shade and planned to capture as much sunlight as possible. They are spaces to be viewed from above as well as at eye level. Flexible spaces, designed to be elegant with a degree of simplicity.

KEY OPEN SPACES

Players Park

PW2 Courtyard

St. Catherine's Park

Homezone Plaza

PW1 Courtyard

The design has evolved to protect and enhance the historic buildings and structures. The public open space has been conceived as a necklace of spaces which seamlessly blend together, unifying the public realm whilst transitioning from one landscape character typology to another. This approach creates a variety of memorable spatial experiences, diversity of use and a celebration of place.

LANDSCAPE PRINCIPLES

The Landscape Drawings set out the proposed levels and hard materials across the site (within both the public realm and private open space). Throughout every stage of the design process accessibility has been at the forefront of the design team's considerations. This ensured that every public and communal open space within the scheme is completely accessible, usable, and available for all – visually and mobility impaired.

In order to create a memorable, recognizable, distinct and humane place we aim to establish first principles relating to landscape design. These principles will guide the design of spaces, streets, materials and programming:

1. Authenticity

2. Life on the street

3. Playfulness

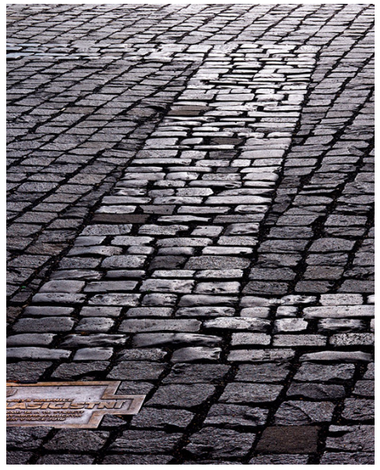
4. Biodiversity & Green infrastructure

These principles sit adjacent to and support the overarching masterplan guidelines.

The design promotes health and well-being through active and passive measures including the provision of allotment gardens, nature trails and the variety of spatial typology's, which have a positive mental impact both to look upon and to be in. These are the key building blocks to encourage a healthy neighbourhood, located in close proximity and appropriately to adjacent ground floor programme.

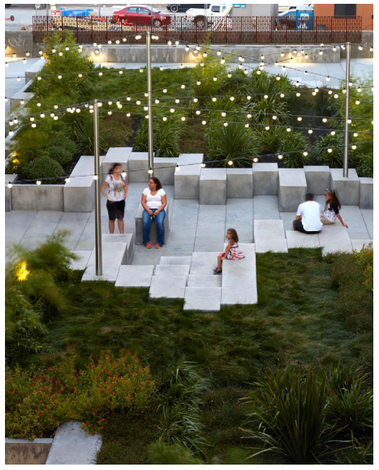
The landscape programme diverse and appropriate to its location in terms of responding to specific character areas. Flexibility of space provides residents and visitors to use space informally and invent programme.

Play is an important part of a multi family development and not only caters for the coming together of children but also encourages parents to socialise - essentially ingredients to creating a community.



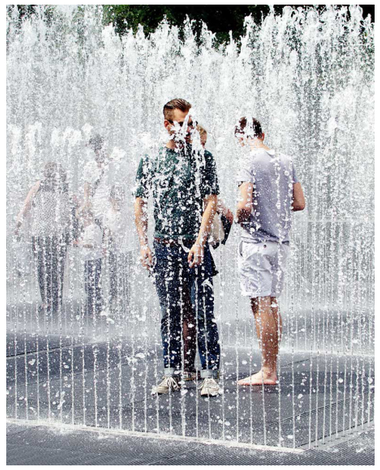
Authenticity

The site benefits from rich architectural surroundings, which have inspired the development's design. In pursuit for authenticity, careful attention has been paid to the selection of the same or similar materials and patterns to assimilate the new space to its historic context and ensure the design concept tells the story of the site's history and subsequent harmonious evolution.



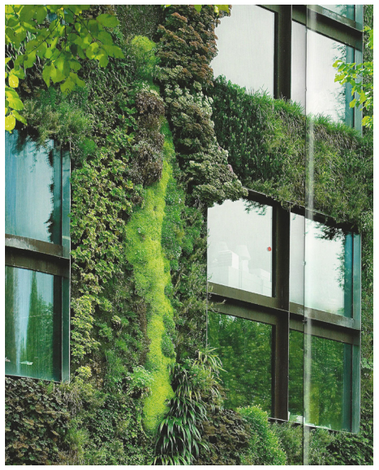
Life on the Street

Key to the design of any public space, is the fostering of conditions that encourage people to spend practical and leisure time and occupy said space. Street life can be animated through the introduction of physical structures such as streets opening into plazas, street furniture and structures, and food and beverage zones. These create ideal social spaces to activate the streets and attract people to spend time in these public spaces.



Playfulness

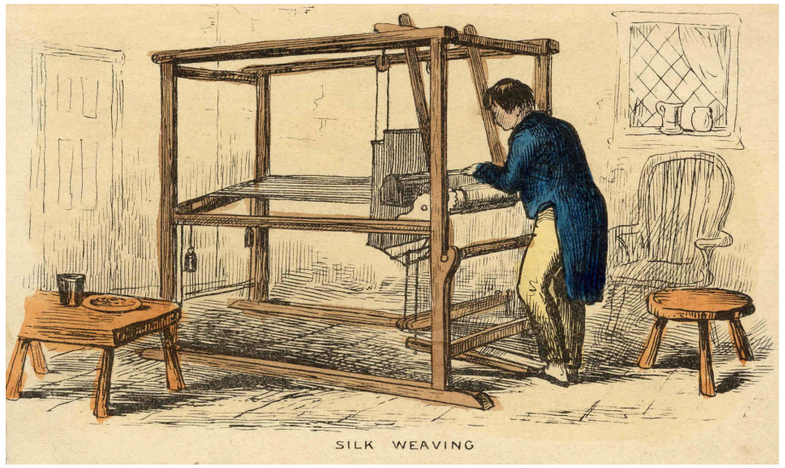
Spaces are created in a way as to invite visitors to fully engage and interact with their surroundings. Many interacting structures and landforms are to be located throughout the area, such as for example the dry fountain plaza.



Biodiversity & Green Infrastructure

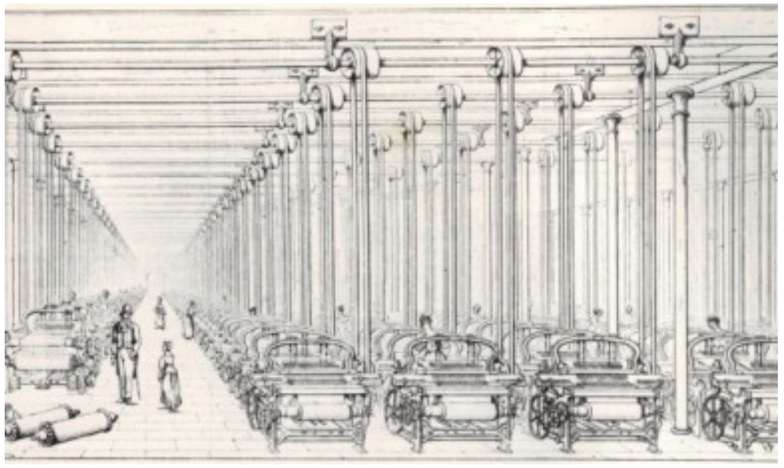
Biodiversity is a key tenet of the landscape design and is reflected in the planting of a great variety of trees and shrub species. Plants used throughout the site are mostly native, both deciduous and evergreen to ensure an attractive landscape all year round. Sustainable Environmental Green Infrastructure of the site consists of semi private and public areas, the tree pits and green roofs.

LANDSCAPE CONCEPT AND INSPIRATION



Concept birth

The landscape concept design, “Spinning the Tale”, has been devised to reflect the area’s history. In 1685, many Huguenots settled in the Liberties area of Dublin brought with them the skills and culture of their native France. The site sits adjacent to the current Liberties area boundary but historically would have formed part of the Donore Liberty of Dublin.

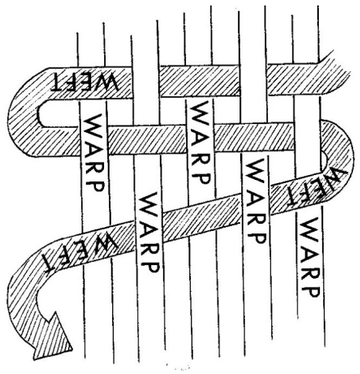


Renowned for their weaving abilities, the industry thrived following the Huguenot arrival and they became an intrinsic part of the diverse social tapestry of the area in the late seventeenth and eighteenth centuries. It was a Huguenot, David Digges La Touche, who financed the building of a new weavers’ hall in the Lower Coombe area in 1745. The tobacco industry also benefited from the incoming skilled labour force and at the time became a key employer in the locality. By applying the weaving metaphor to the design of the sites’ spaces, we can create a sense of unity throughout the public realm.

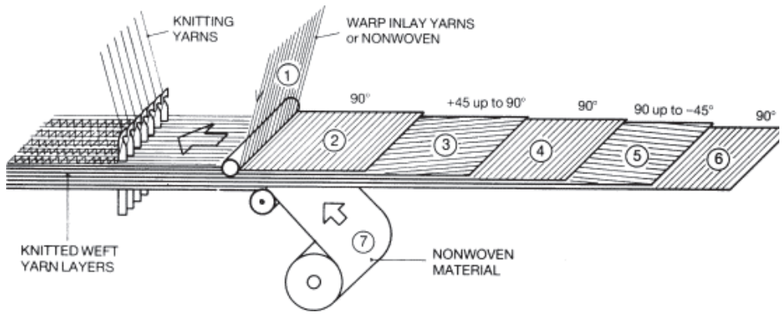
Thread: A Single Strand Drawing Together A Number Of Spaces

Spinning a tale

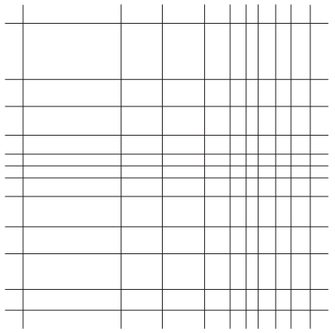
The Huguenots + A culture of craft + Industry, authenticity + Cultural relevance



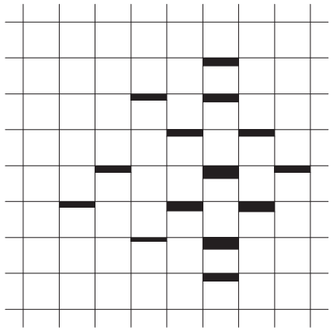
Unifying The Fabric Of Space As One Cohesive Design Approach



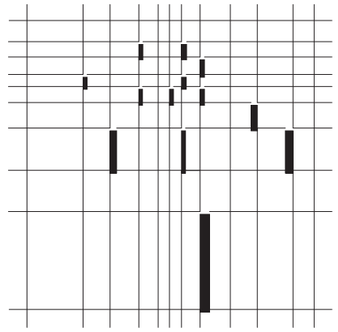
A Three Dimensional Landscape, Layered In A Dynamic Way To Replicate The Movement Of The Loom



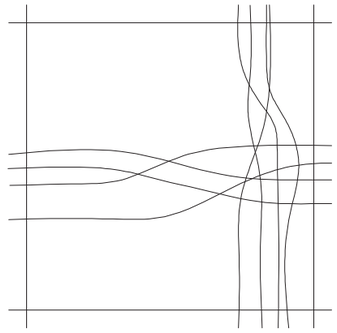
City Grid



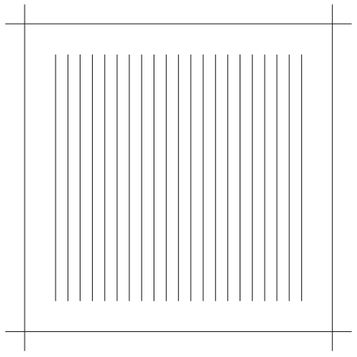
Landscape

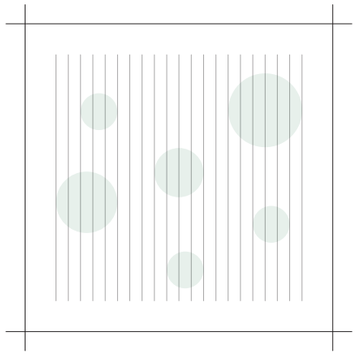


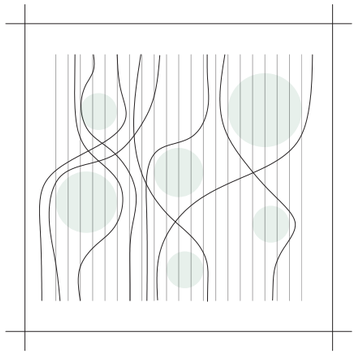
Weave

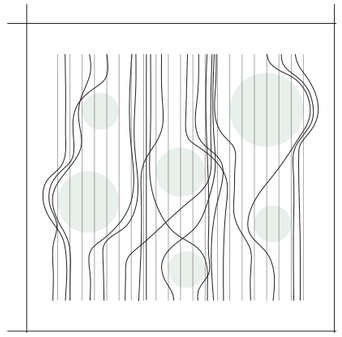


Integrate

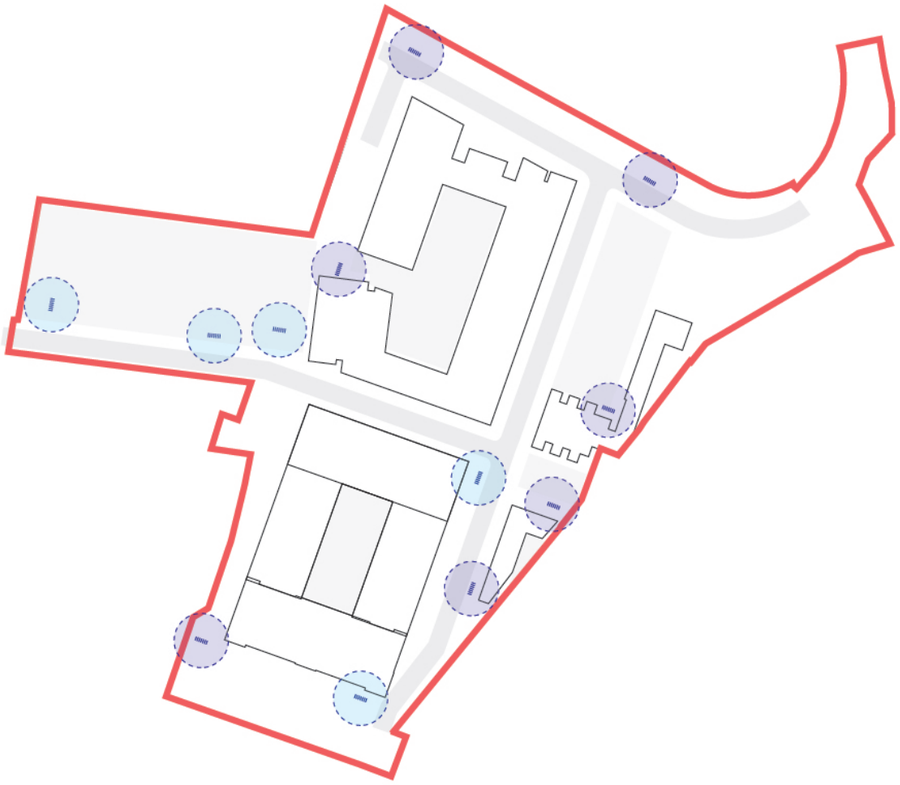








BIKE PARKING



Bike parking

28 Stands - 56 Spaces

32 Covered Stands - 64 spaces

Sheffield Stand

Example of secure green roof parking infrastructure

Bollards

Bike Stands

Bike stand covers

Parking bays

Parking bays

Granite Kerbs

SITEWIDE PLAY PROVISION

Playscapes within specific zones are described in their respective chapters

Inclusive play spaces have been proposed to provide opportunities for everyone to play together. The play spaces are accessible, engage children of all ages and abilities and encourage them to interact with each other. These will promote health and wellbeing, learning, and social interactions. Play is provided throughout the site and responds to age, context and ability. Several principles have driven the design all of which underpin creating a well-integrated community:

- equipment that stimulates the senses such as sound play

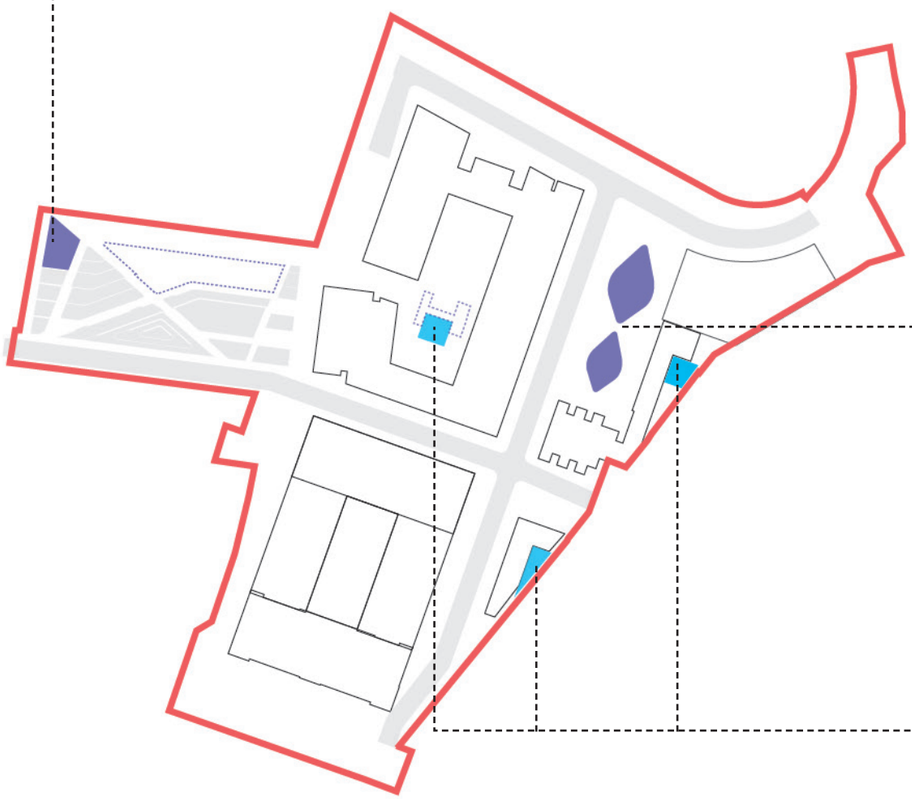
- equipment that is accessible to all such as rockr's with the width for wheelchair access and part M compliant and space for children who do not like to be touched

- surface materials meet EN 1176 and EN 1177 standards, to be safe and visually pleasing

- play for all has been provided for with play equipment that has similar tasks but different levels of challenge for age groups and abilitys, such as the climbing frame, providing children with choice.

-Providing for calm and landscaped areas with seating, or cubby holes in tree houses.

-A variety of routes to encourage exploration but also allowing for solitary play, onlooker play, parallel play (playing beside one another), associative play (playing close by and mimicking other children).



Players Park
Total 142 m²

St. Catherine's Park
Total 370 m²

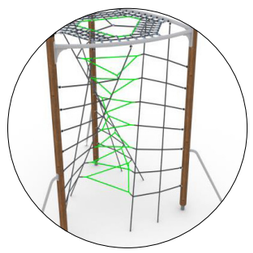
Courtyards
PW2 50 m²
PW4 30 m²
PW5 20 m²
Total 90 m²

Playgrounds

Public Play Area

Communal Play Area

Informal Play Area



Climbing Net

Programmed Play

Sound Play

Tot Lot

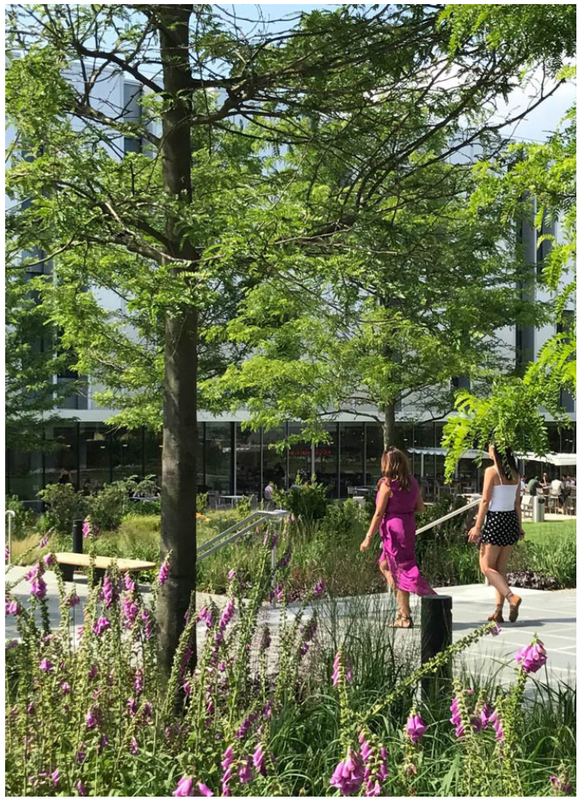
Natural Play

Informal Play

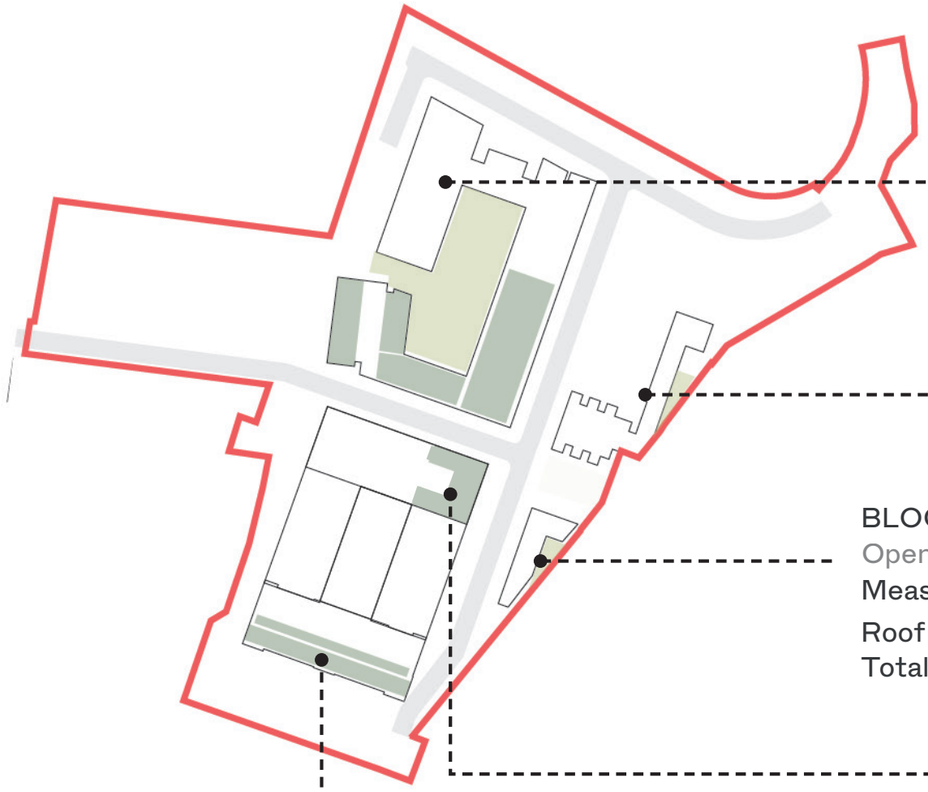
PRIVATE OPEN SPACE REQUIREMENT

The Open Space for Players has been planned without boundaries as an open permeable and welcoming piece of public realm. The semi-private space bleeds into the public open space with a series of smaller pocket spaces designed for seating, exercise or play. Some roof garden has been proposed to capture views and create a unique amenity for the development.

Communal open space - whilst visually permeable - will have defined boundaries to secure it - a 1.1m railing with hedge either side to ensure residents safety and tree planting with pergola surrounding it. The hierarchy of space radiates out from The Central Park, the primary space. With highly active areas, secondary spaces and a series of smaller tertiary spaces arranged throughout the masterplan as connective tissue, tying the entire development together as one cohesive masterplan and a series of interconnected spaces.



Precedent Image



BLOCK PW2
Open Space Requirement 2419 m²
Measured Courtyard Area: 1223 m²
Roof Terrace: 1535 m²
Total: 2758 m²

BLOCK PW4
Open Space Requirement 89 m²
Measured Courtyard Area: 111 m²
Roof Terrace: 0 m²
Total: 111 m²

BLOCK PW5
Open Space Requirement 94 m²
Measured Courtyard Area: 167 m²
Roof Terrace: 0 m²
Total: 167 m²

BLOCK PW1
Communal Open Space Roof Terrace: 285 m²
Roof Terraces Dedicated To Shared Accommodation : 165m2.
Total: 450 m²

Private Open Space Requirement

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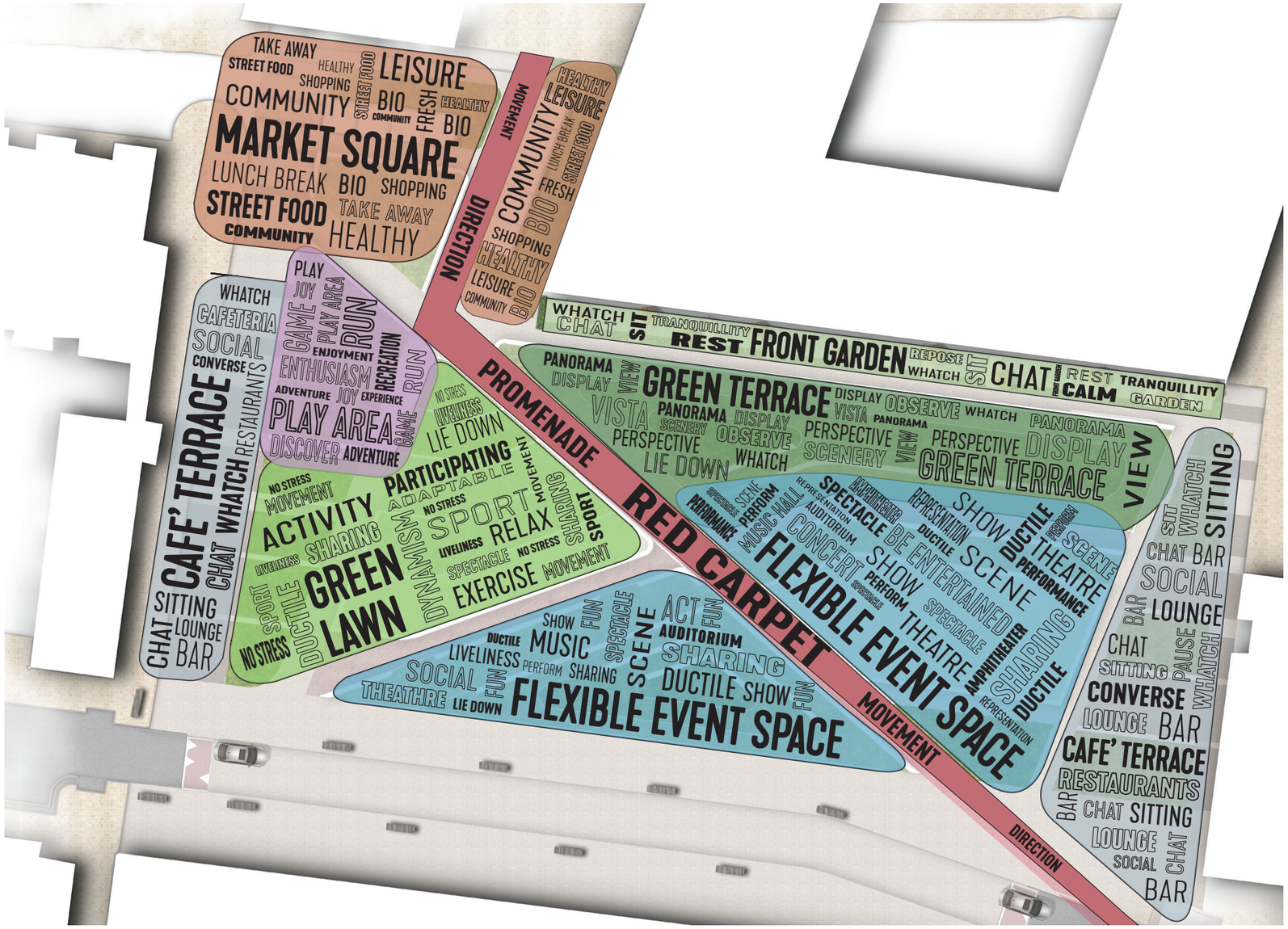
PLAYERS PARK

ACTIVITY & PROGRAM

The plan for the park promotes health and well-being through active and passive measures including the provision of allotment gardens, nature trails, dog parks and the variety of spatial typology's, which have a positive mental impact both to look upon and to be in. These are the key building blocks to encourage a healthy neighbourhood, located in close proximity and appropriately to adjacent ground floor programme.

The landscape programme for the park is diverse and appropriate to its location in terms of responding to specific character areas. For example, woodland play is proposed in the woodland areas and kickabout or frisbee for the formal lawn. Flexibility of space provides residents and visitors to use space informally and invent programme.

Reference Image



Programme Diagram

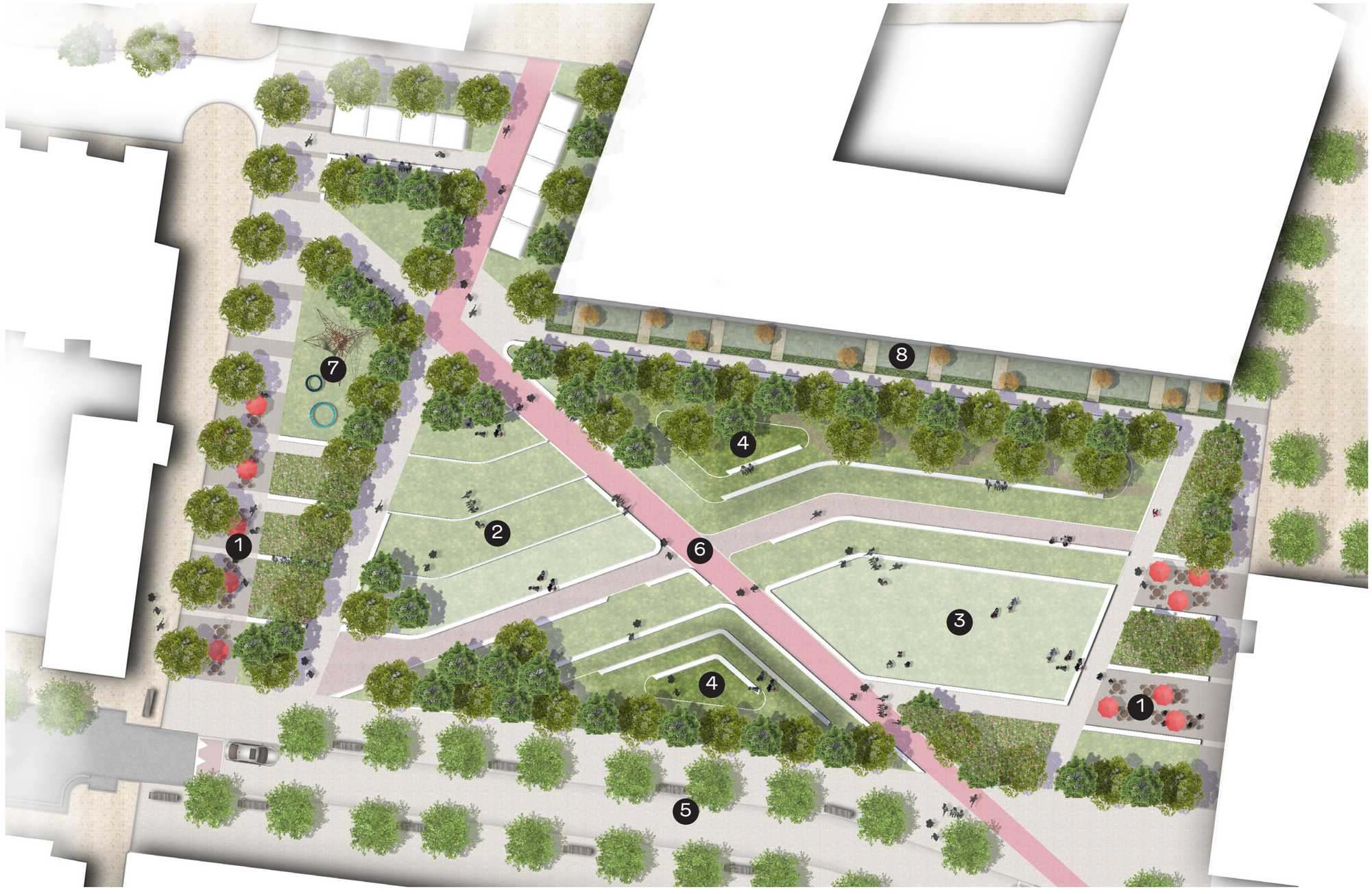
NMP Niall Montgomery + Partners HJL

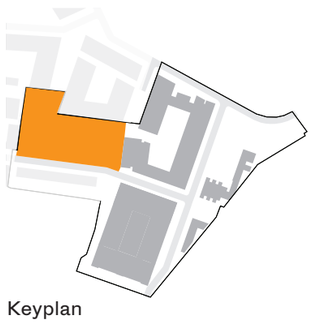
PLAYERS PARK

Players Park - Indicative CGI View

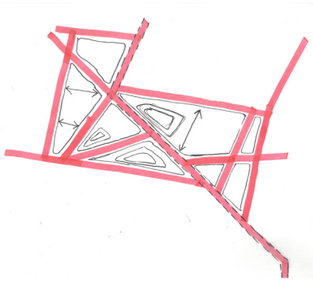
PLAYERS PARK

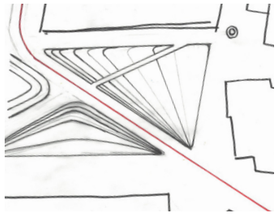
ILLUSTRATIVE PLAN

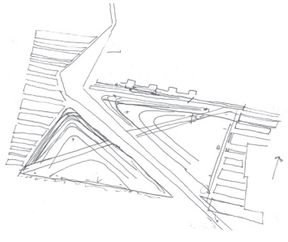




Keyplan







Initial Concept Sketches

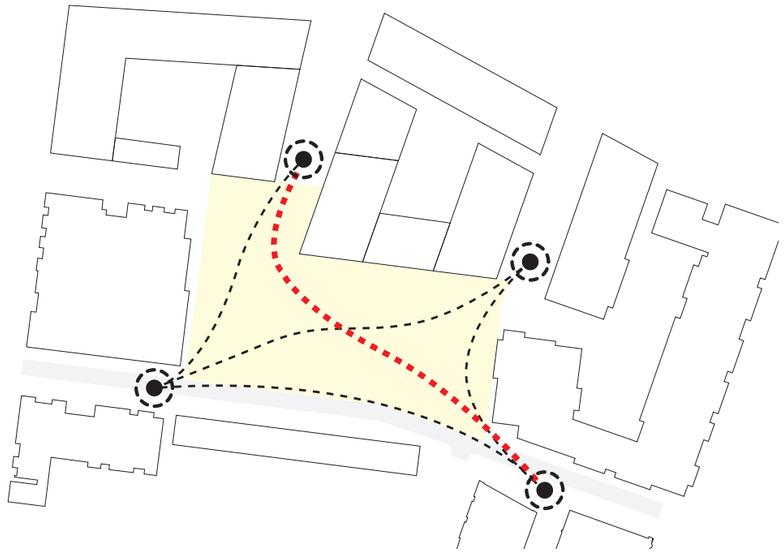
Legend

1. Cafe Terrace
2. Sunken lawn
3. Event Lawn
4. Audience hills
5. Shared Surface Road
6. Primary Pedestrian Route
7. Playground
8. Defensible Space

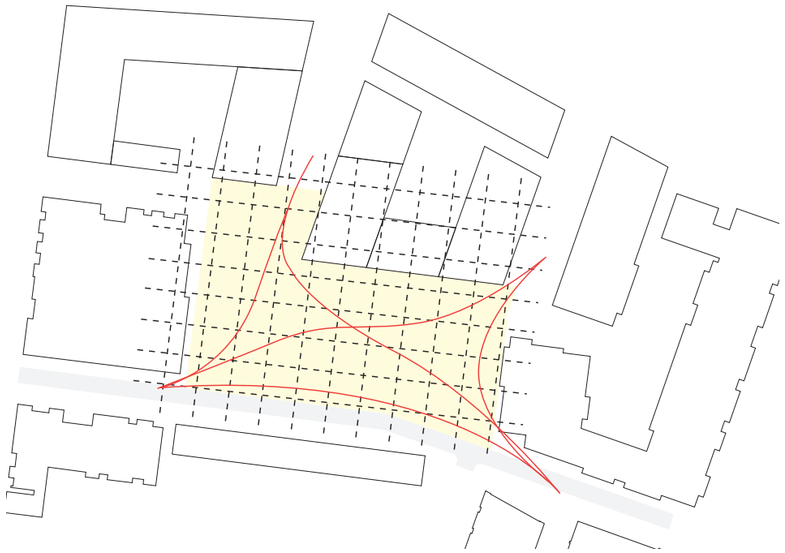
PLAYERS PARK

DESIGN BASIS

Directionality



Desire Lines



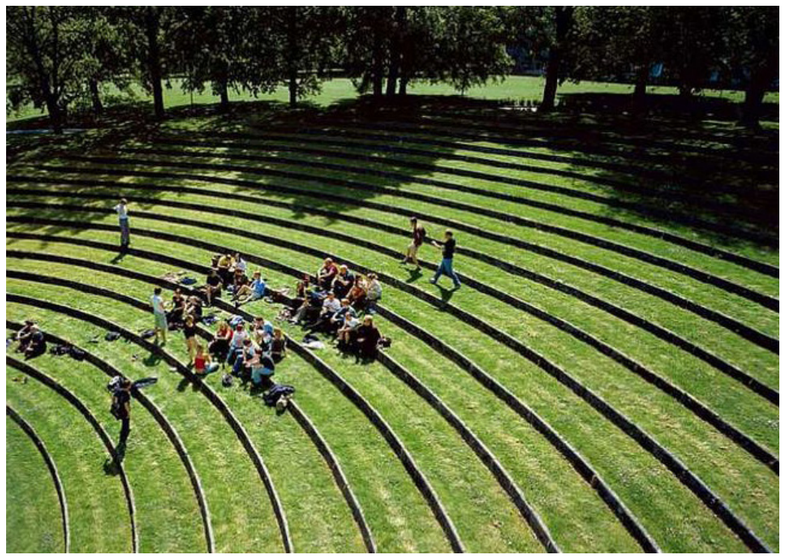
Gradation

PLAYERS PARK

PROGRAMMING THE SPACES

1. Red Carpet
2. Audience Lawn
3. Stage
4. Audience Hills
5. Sunken Lawn
6. Cafe's Square
7. Market
8. Playground

Reference Image



Reference Image

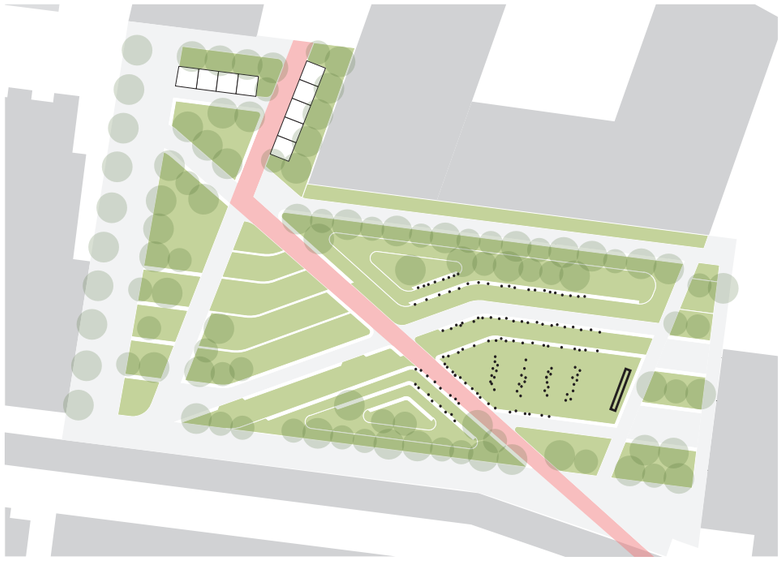
PLAYERS PARK

Players Park CGI View

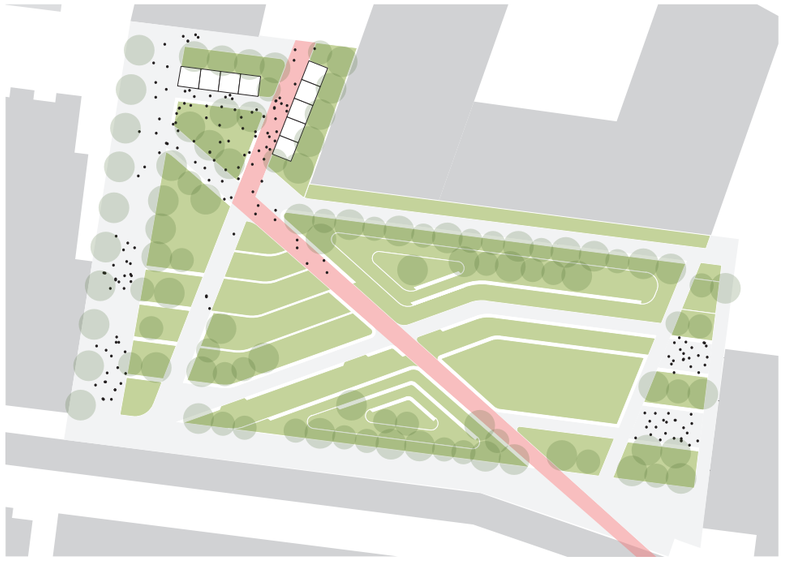
PLAYERS PARK

CAPACITY AND FLEXIBILITY

The space can be used for a variety of different purposes



Open Air Cinema Day



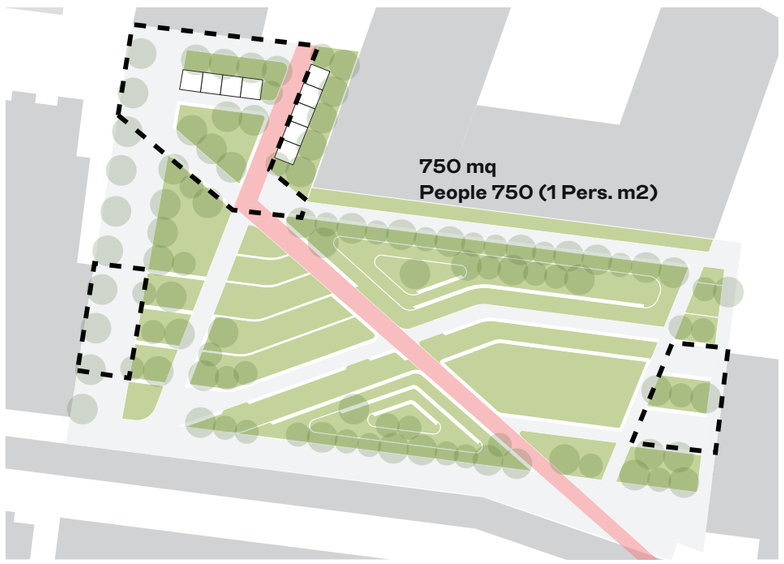
Market day

Concert Day

PLAYERS PARK

CAPACITY AND FLEXIBILITY

Open Air Cinema Day



Market day

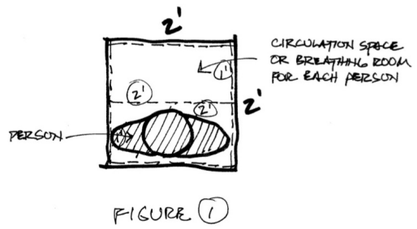


FIGURE (1)

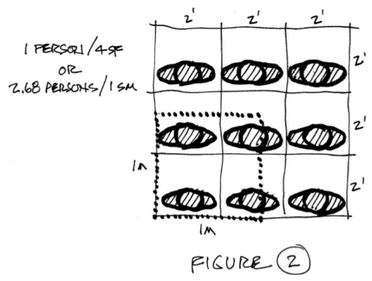
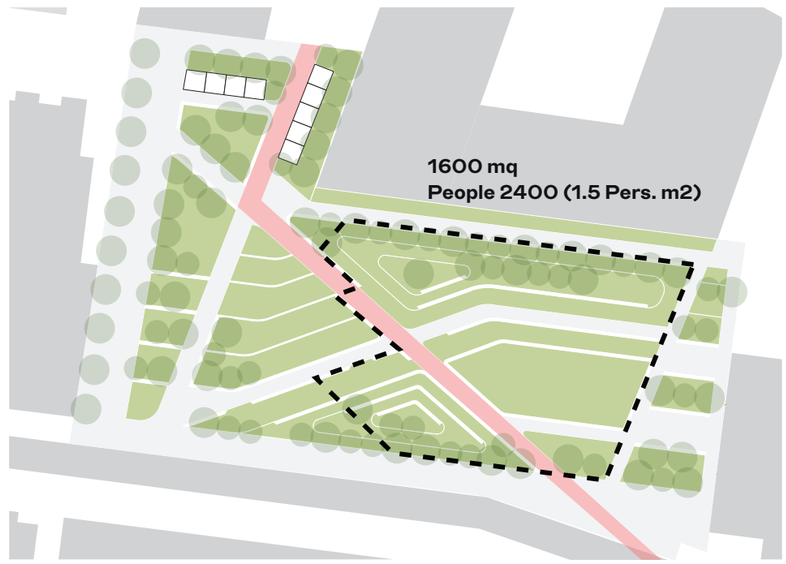
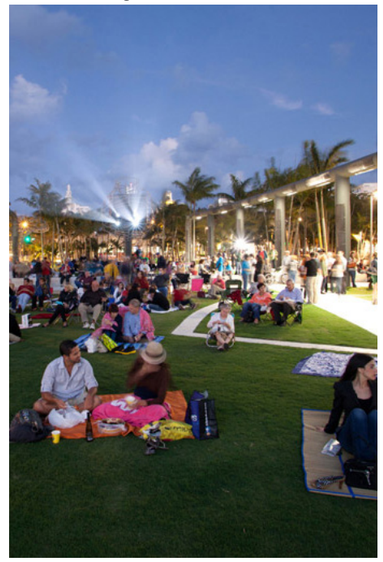


FIGURE (2)



Concert Day

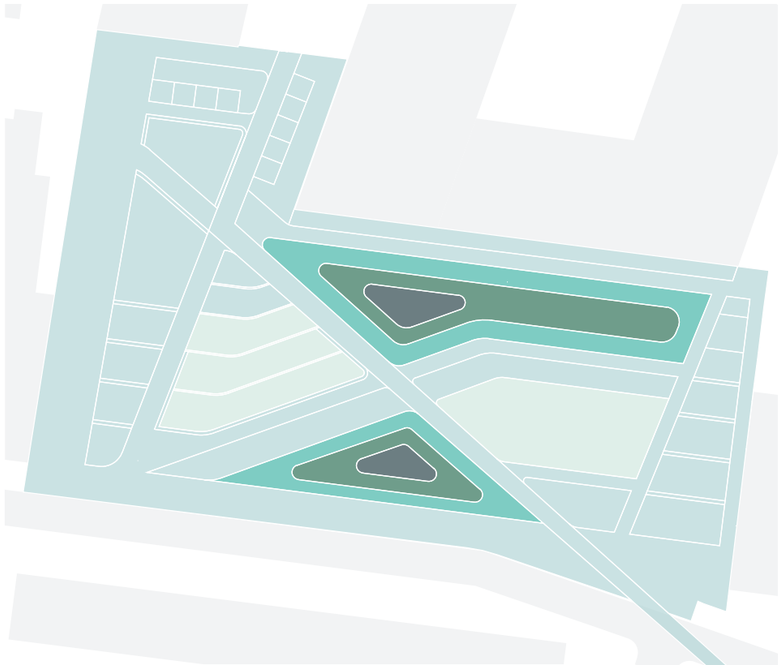


PLAYERS PARK

Park CGI View

PLAYERS PARK

LEVELS & GRADIENTS



-0.50 m
0.00 m
0.50 m
1.00 m
1.50 m

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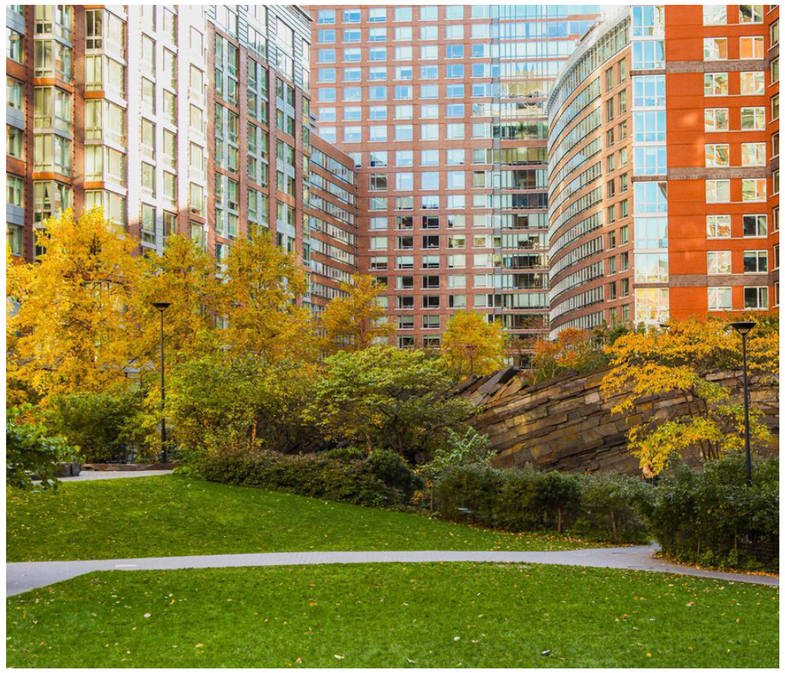

Reference Image

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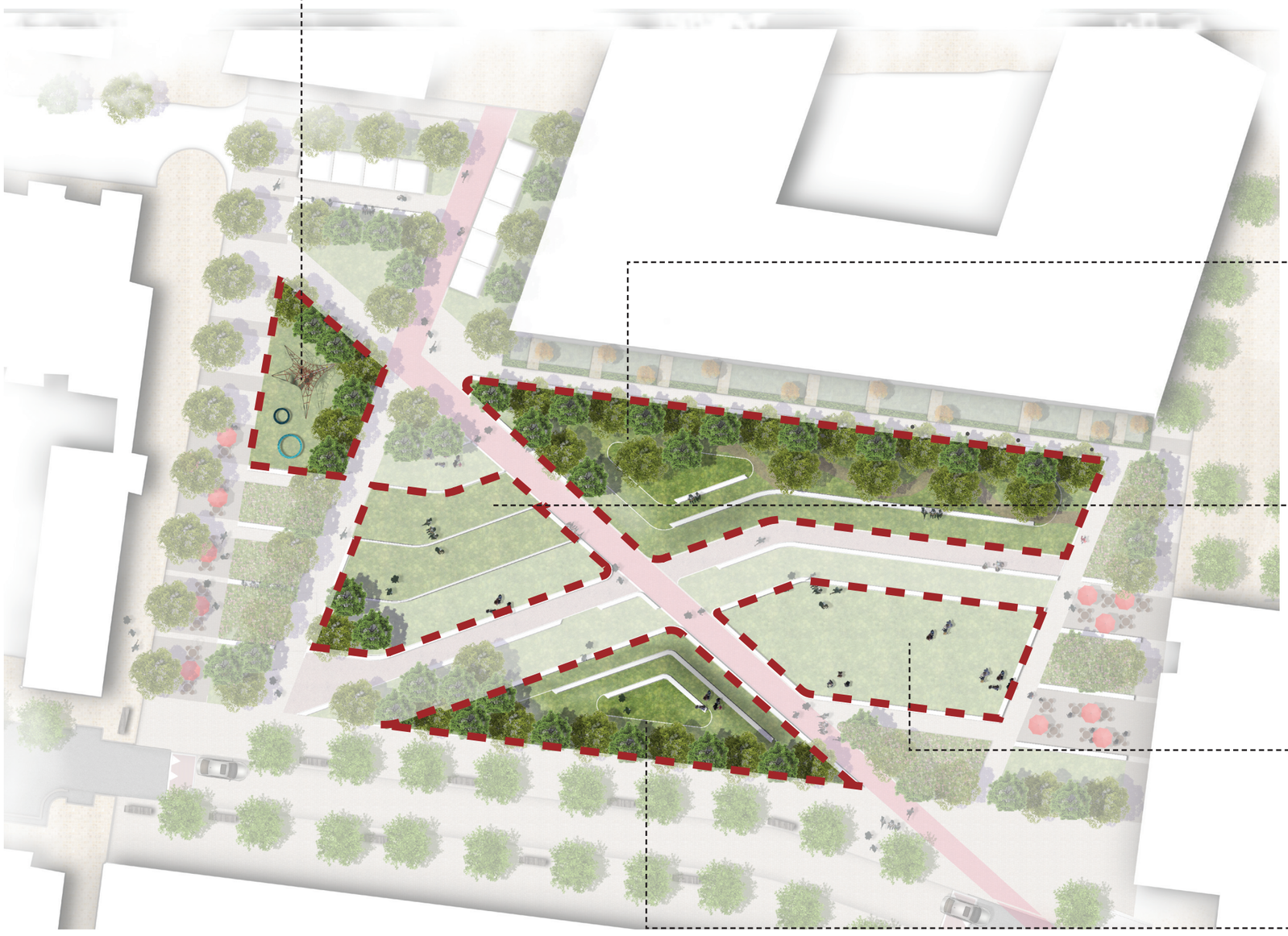
PLAYERS PARK

PLAYSCAPE



Toddlers Play Equipment

Woodland & Topographical Play

Green Open space

Sunken Lawn

Boulders & Topography

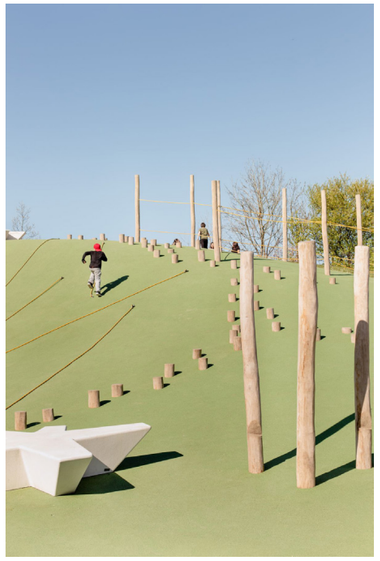
NMP Niall Montgomery + Partners HJL

PLAYERS PARK

PLAY IN THE PARK







Reference images

PLAYERS PARK

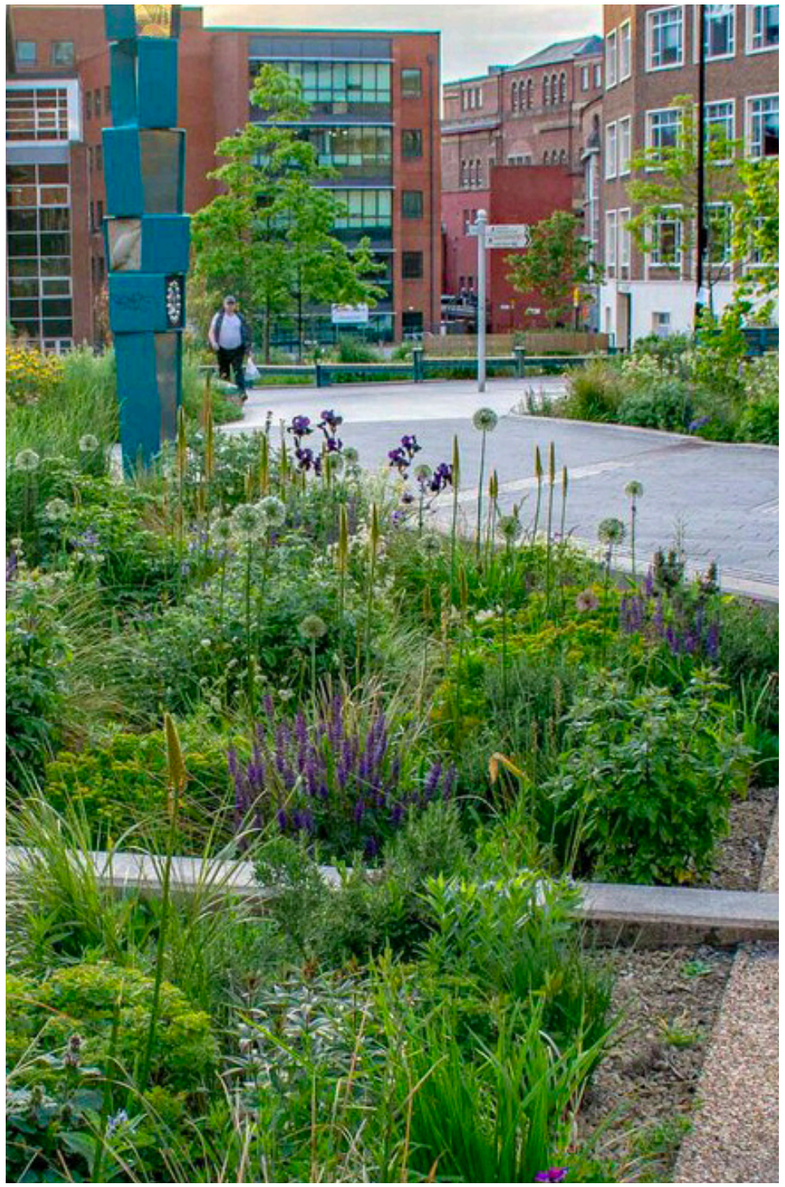
Player Park CGI View

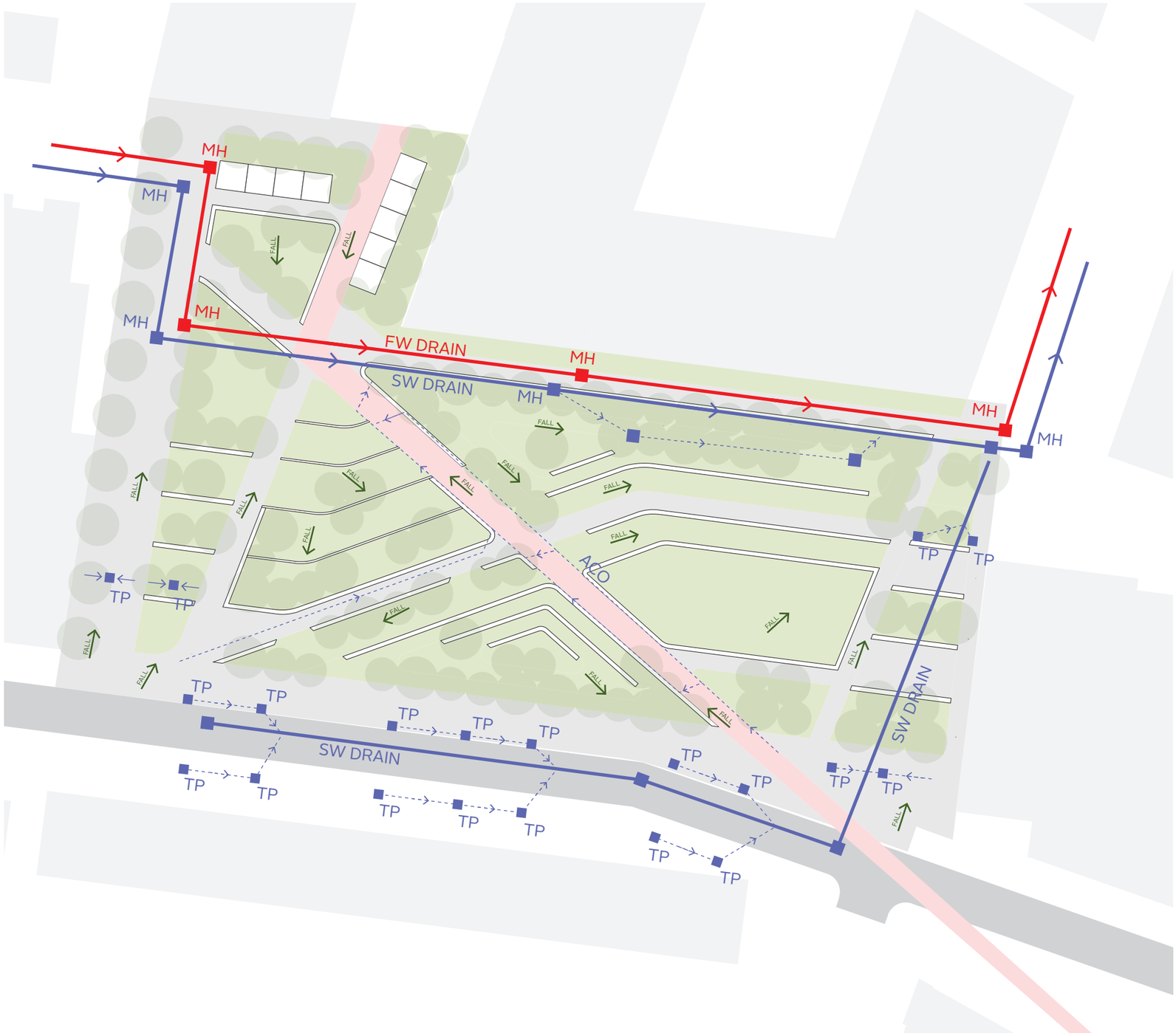
PLAYERS PARK

Player Park CGI View

PLAYERS PARK

DRAINAGE STRATEGY





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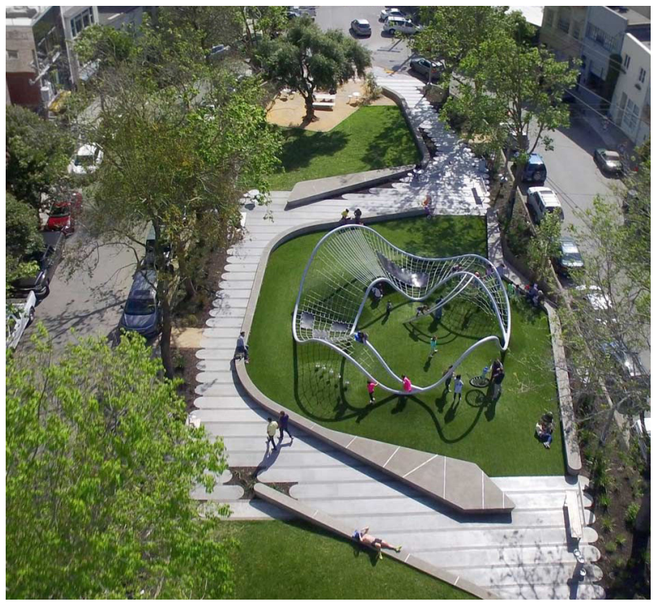
ST. CATHERINE'S PARK

LANDSCAPE DESIGN

This space is located toward the East of the site on the Player Wills lands. The park is adjacent to a proposed school and creche. The design seeks to provide play for all ages from 1-18.

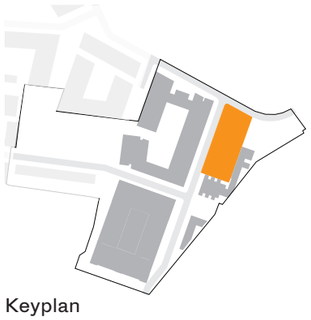


South Park, San Francisco

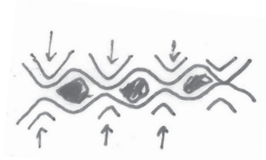
St. Catherine's Park CGI View

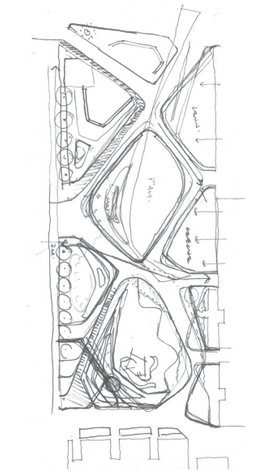
ST. CATHERINE'S PARK

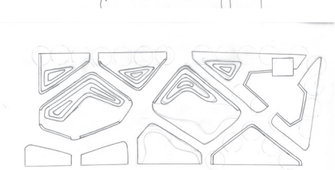
ILLUSTRATIVE PLAN



Keyplan







Initial Concept Sketches

Legend

1. Drop Off
2. Playscape (5-12)
3. Playscape (2-5)
4. Cafe Kiosk
5. Car Parking
6. Street Planting
7. Bike Parking
8. Temporary Landscape

ST. CATHERINE'S PARK

SECTION

Play Park Cross Section

Reference Image

|Reference image

ST. CATHERINE'S PARK

CONCEPT DESIGN

St. Catherine's Park CGI View

ST. CATHERINE'S PARK

St. Catherine's Park CGI View

ST. CATHERINE'S PARK

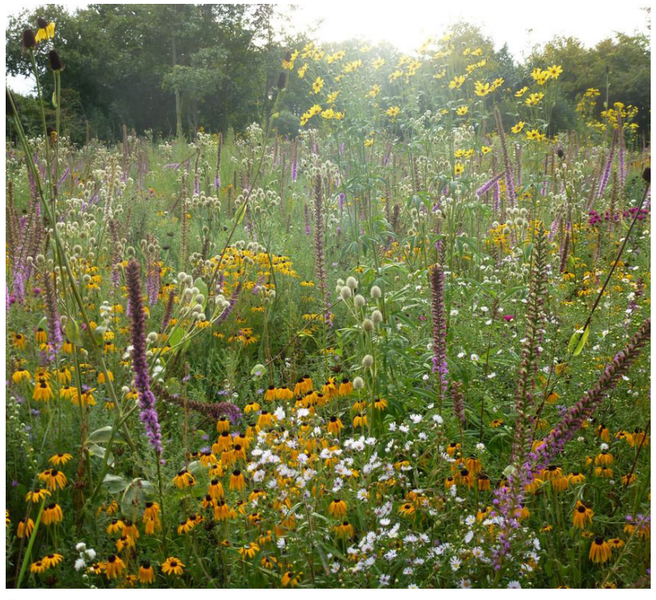
St. Catherine's Park CGI View

TEMPORARY PARK

The temporary park is designed to welcome the coexistence between people and wild life.

Meadow allow wildflowers to bloom throughout the pollinator season. A further benefit is that bumblebees are provided with an undisturbed area for nesting. Over a number of years, the area will become more and more flower-rich with local species that are adapted to the site's conditions – all without spending money on wildflower seed.

Native trees provide a safe and familiar habitat for birds and insects and meantime create an interesting spot for people to experience.



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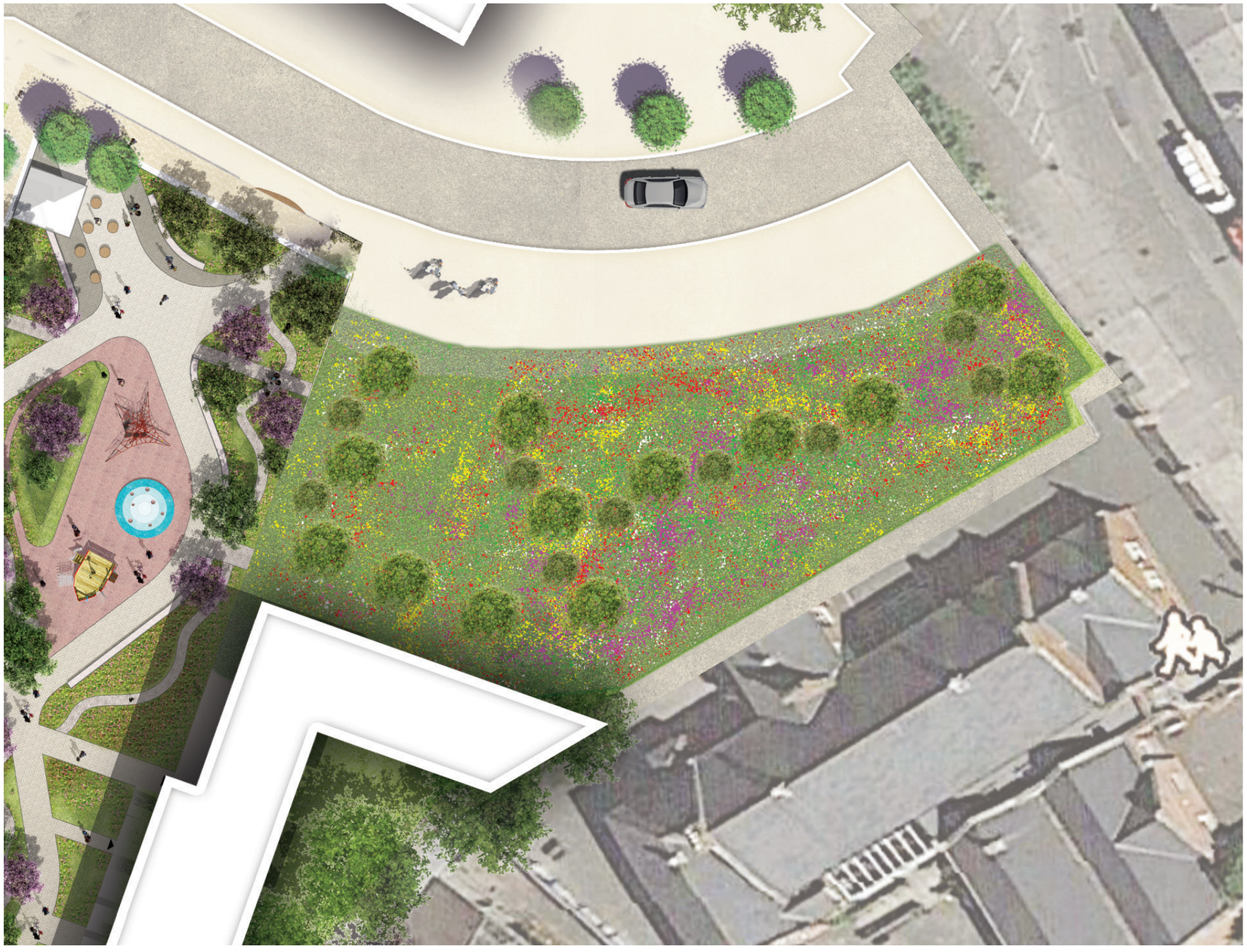


Illustrative Plan

TEMPORARY PARK

Reference Image

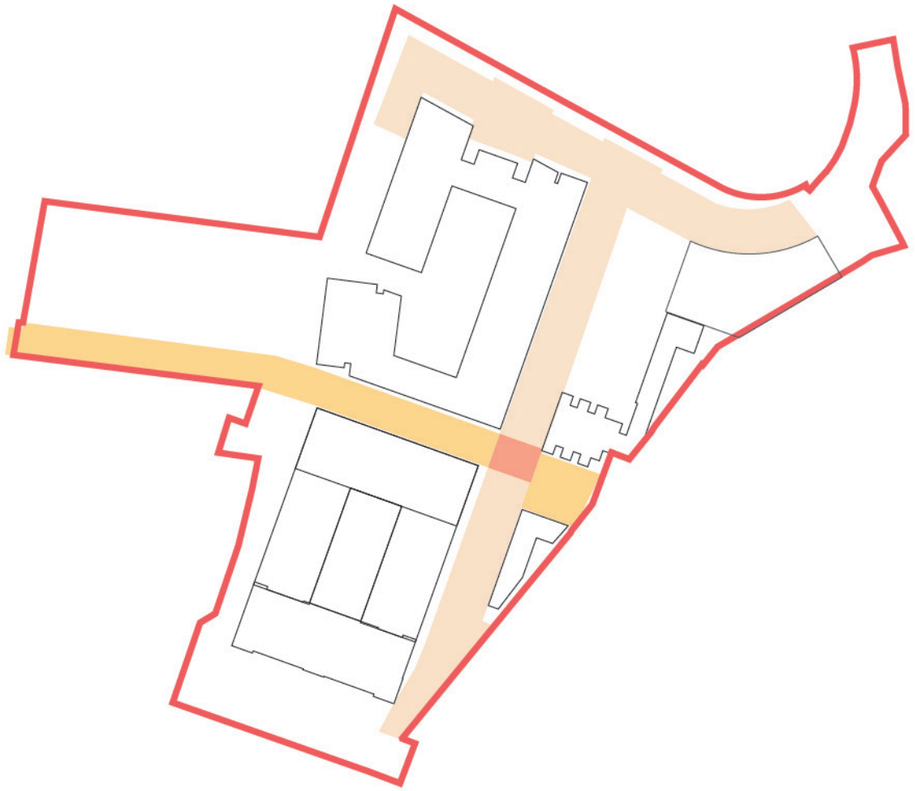
Reference Image

Reference Image

STREETSCAPE

Streetscape

The streetscape has been designed to ensure maximum integration with the surrounding context and existing public realm. Coordination between tree planting, utilities, light columns and street furniture has been considered and will require further coordination in the later stages.



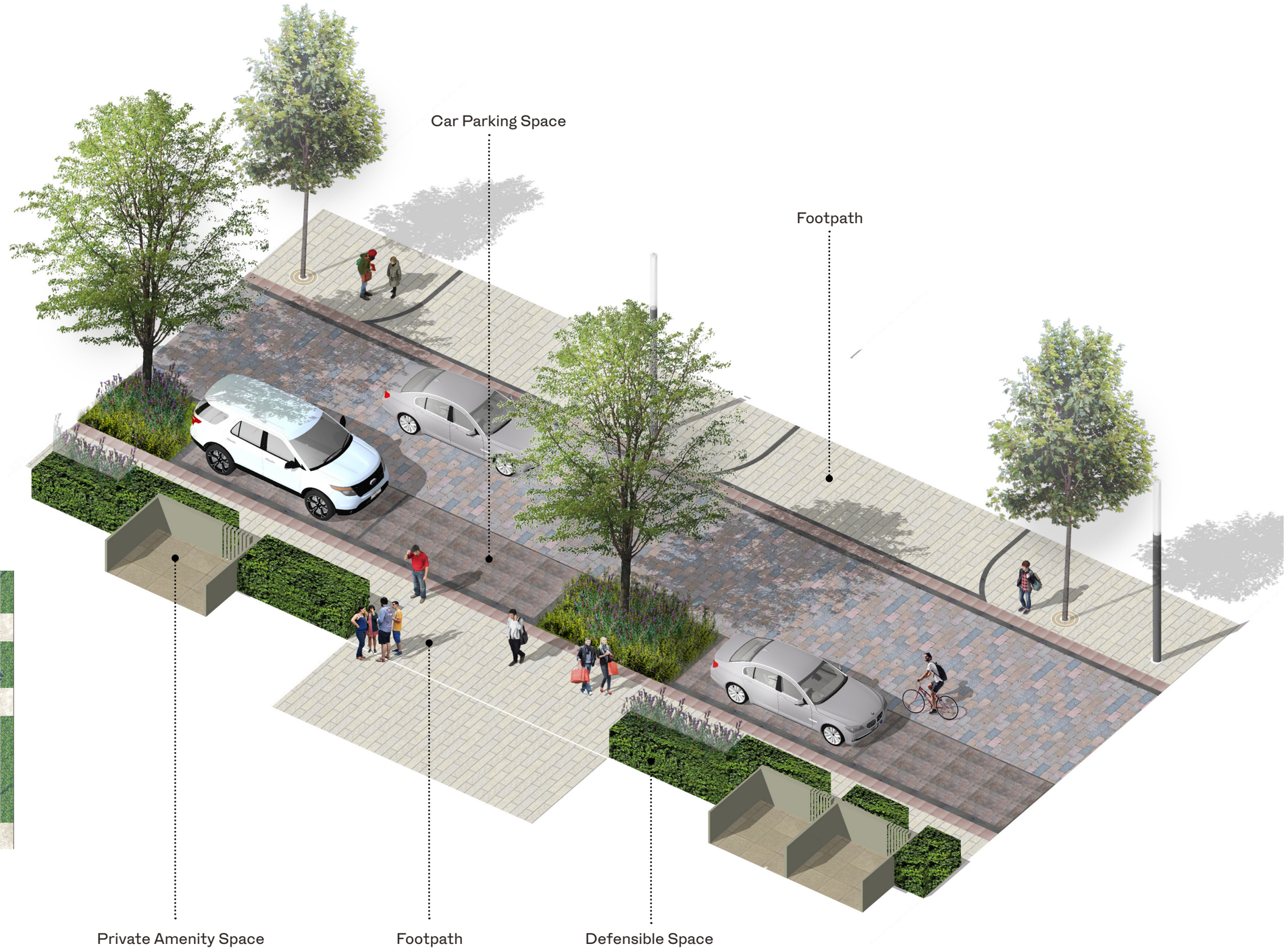
Streets

- Primary Street
- Shared Surface Junction
- Shared Surfaces\Homezone

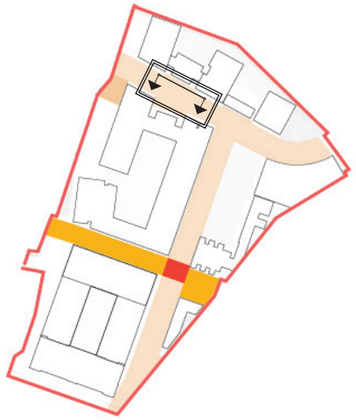
Street furniture is positioned “out of the way” to ensure it does not form an obstruction to anyone visually impaired. Slopes and gradients are designed to be no more than 1:21 slope gradient to ensure slopes are manageable for people who are physically impaired. High quality railings and hedges are used to segregate Public & private uses, vehicular and pedestrian traffic are separated using planting or kerbs appropriately. Materials have been chosen to be both robust and timeless, provide texture and tone for visually impaired, to tie into the surrounding public realm while also seeking to provide integrated intuitive wayfinding. Street furniture has been selected to adhere to an age friendly seating strategy (backs on seats with arm rests on 50% of benches, all located at intervals for rest stops). Other furniture has been chosen to be robust and easy to maintain.

STREETSCAPE - TYPICAL STREET

Keyplan



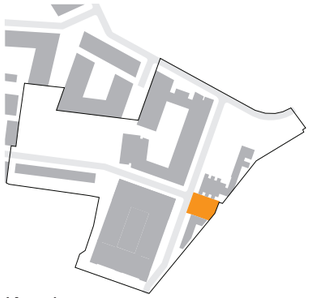
STREETSCAPE - PW2 ENTRANCE



Keyplan

Reference Image

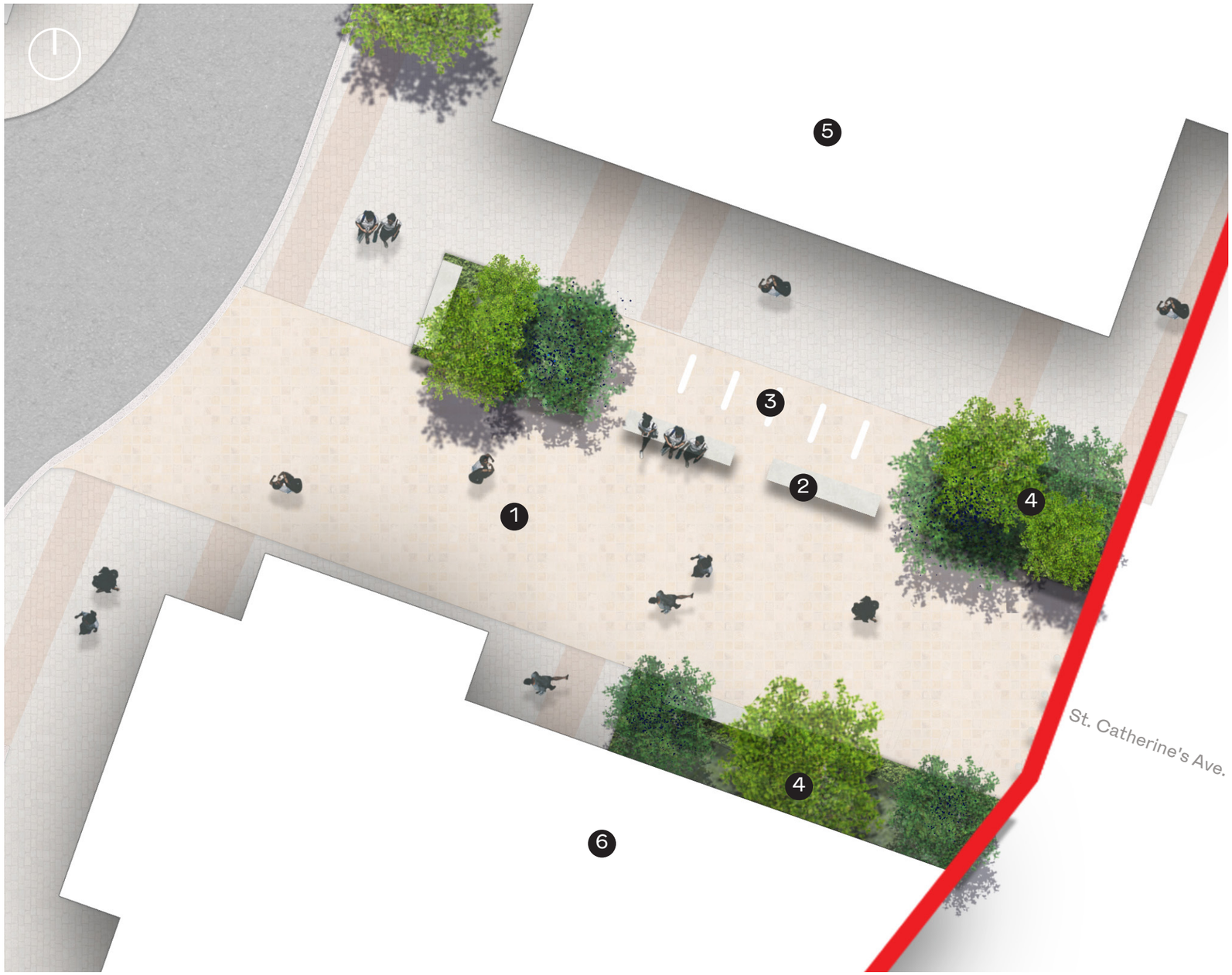
STREETSCAPE - HOMEZONE PLAZA



Keyplan

1. Homezone Plaza
2. Seating
3. Bike parking
4. On Street Planting
5. PW4
6. PW5

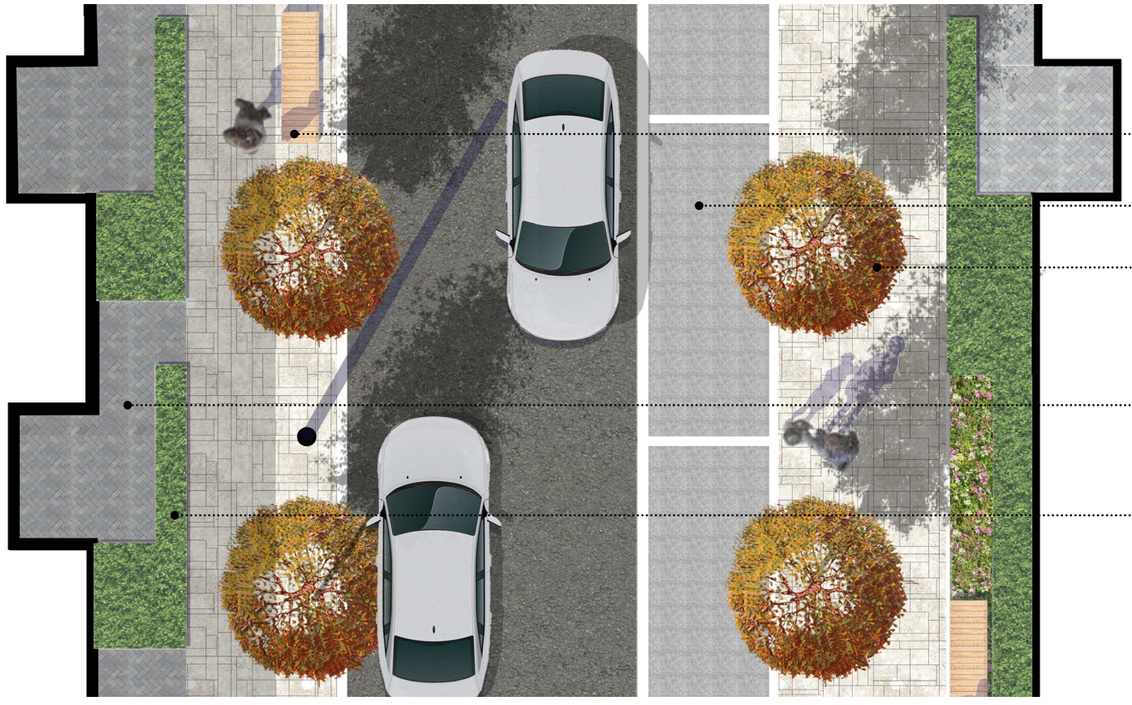
ILLUSTRATIVE PLAN



Homezone Plaza Illustrative Plan

Reference Image

STREETSCAPE



Pedestrian Pavement/High Quality Paving

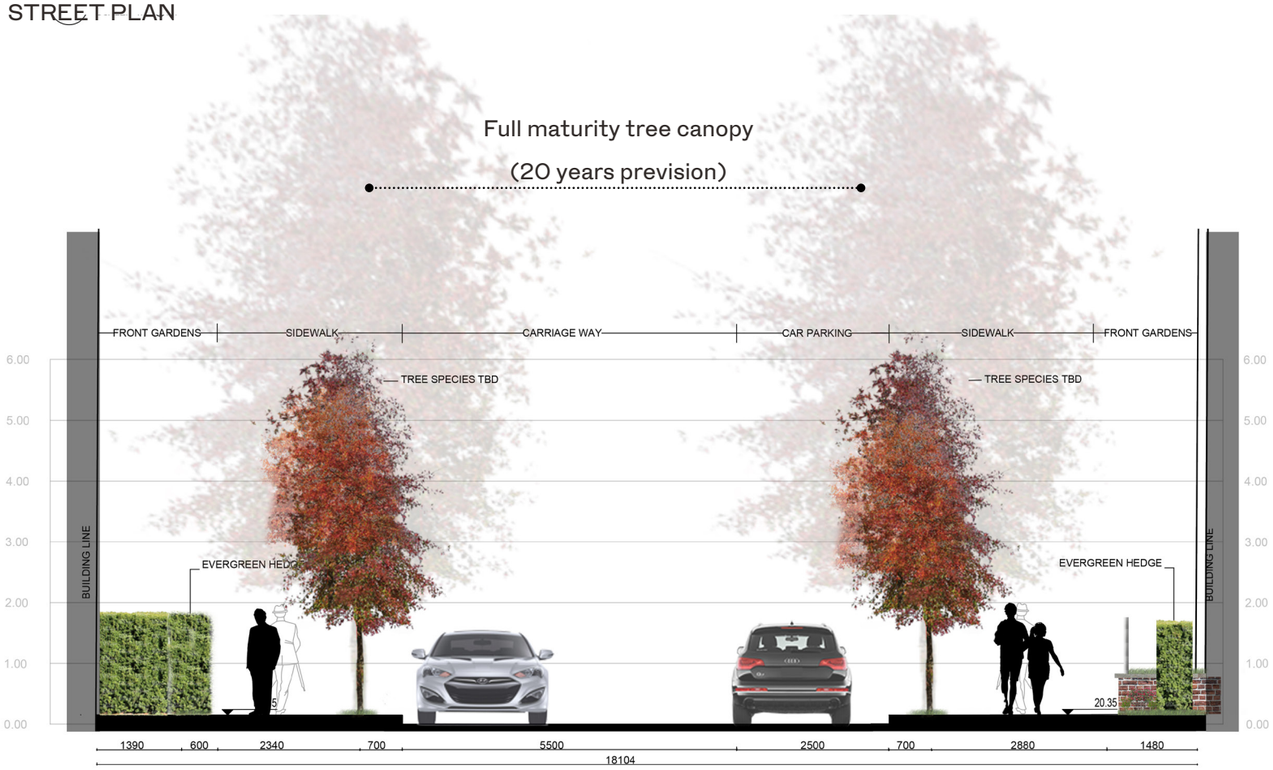
On Street Parking / Paving Setts

Tree Planting

Private Amenity Space

Defensible Space

STREET PLAN

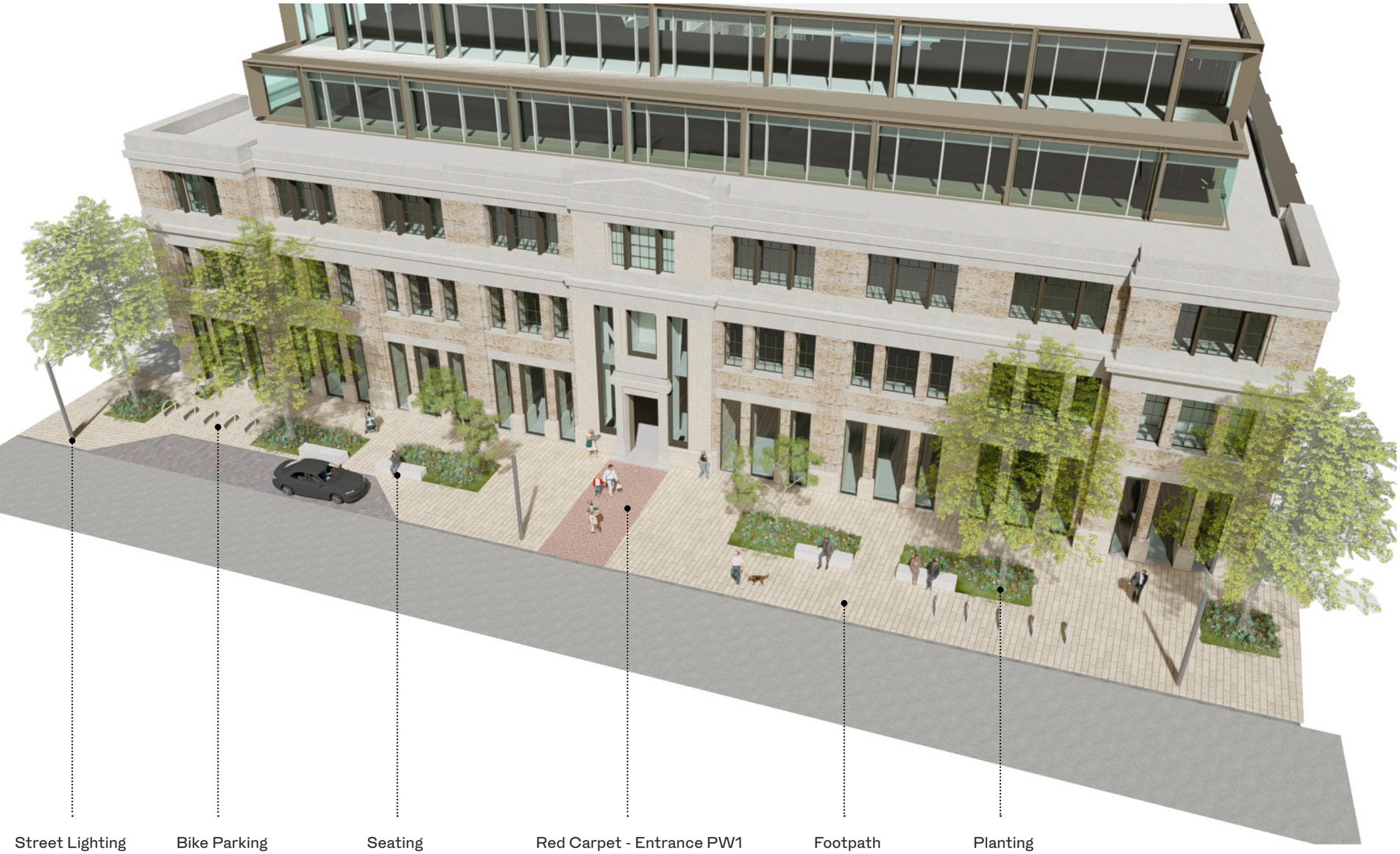


STREET SECTION

STREETSCAPE

Privacy planting strips shall be provided between all residential windows and public areas.

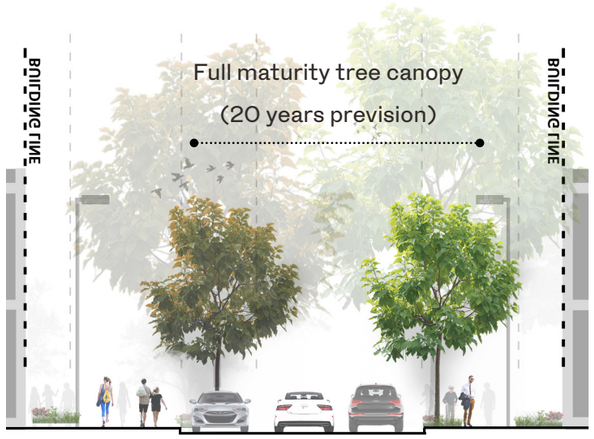
Keyplan



STREETSCAPE

Privacy planting strips shall be provided between all residential windows and public areas.

Keyplan



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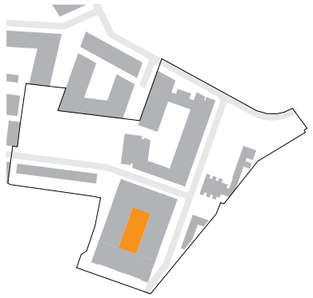
PLAYER WILLS BLOCK 1 - LANDSCAPE

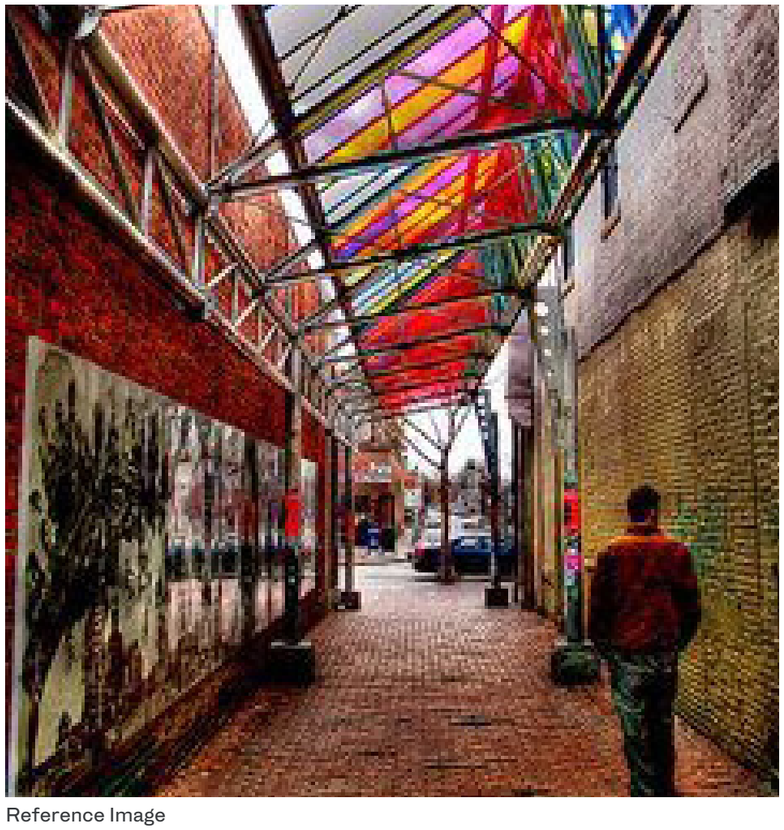


Keyplan

The Players courtyard to block PW1 acts as the central cultural hub to the entire proposed development. A flexible central space which acts as a galler floor or event space when needed. A sculptural garden one day, exhibition space for local artists the next.

Greenery interpays with light and heritage features from the existing building- giving an authentic yet biophillic feel to the space.

The red carpet leads memebers of the public through the space and onto the Players park green space



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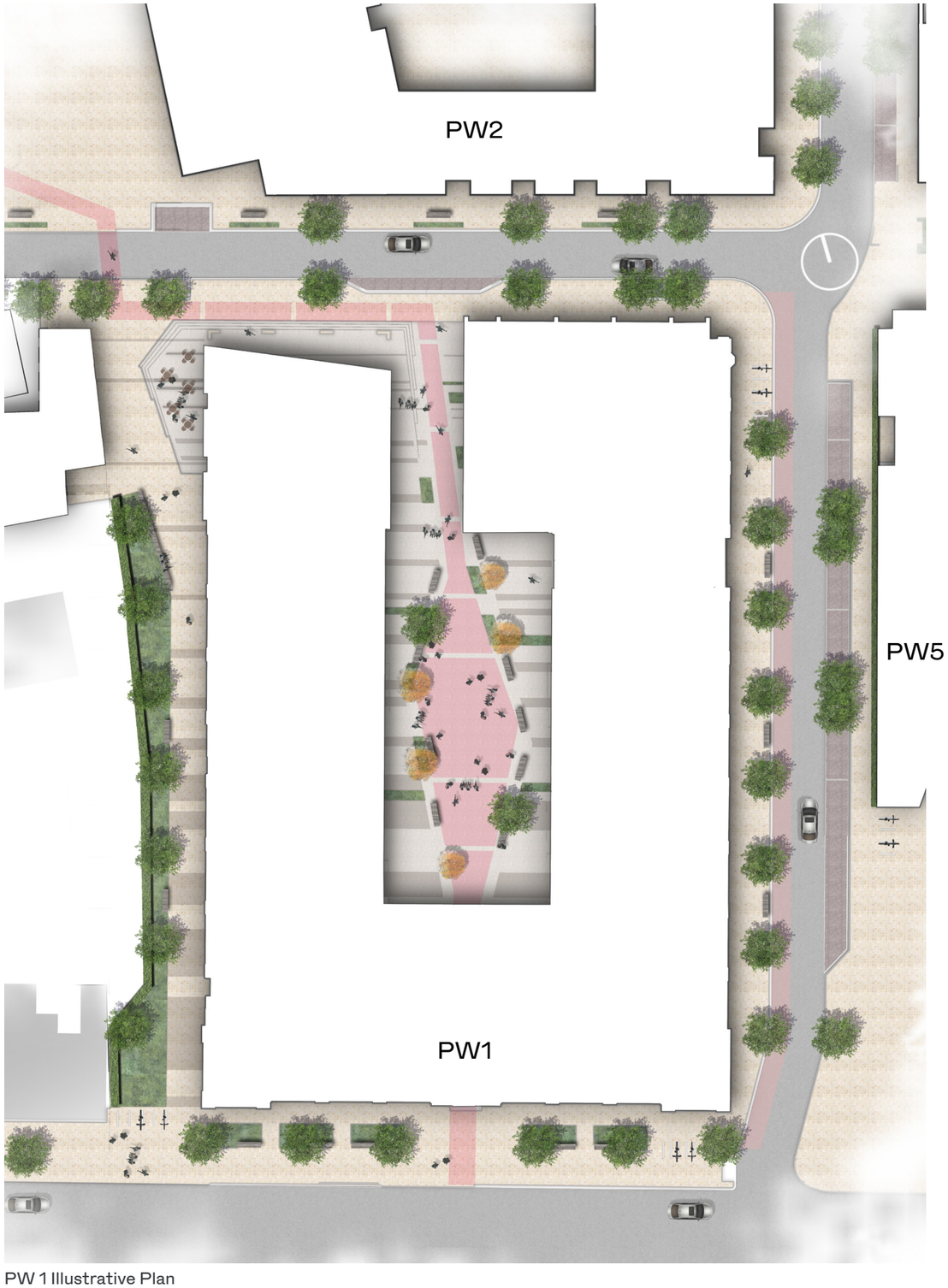
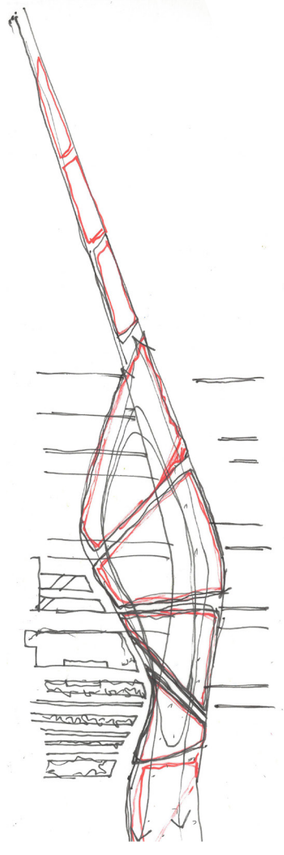


PW 1 Illustrative Plan



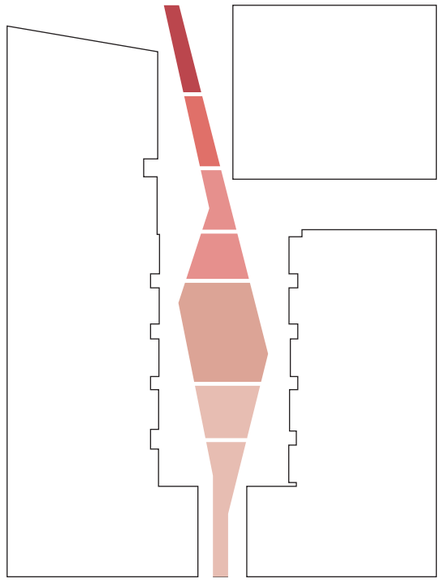
Concept Sketch

PLAYER WILLS BLOCK 1 - LANDSCAPE

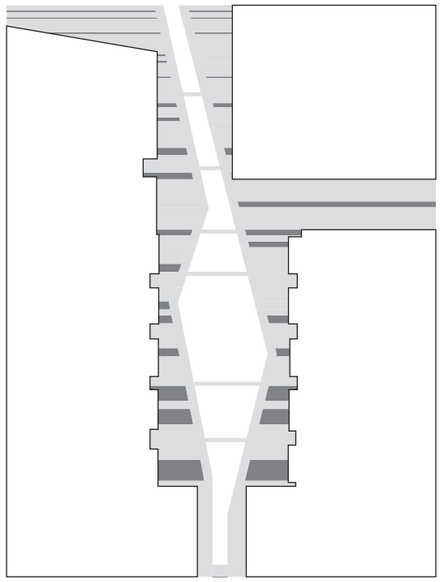
CGI View

PLAYER WILLS BLOCK 1 - COURTYARD LANDSCAPE

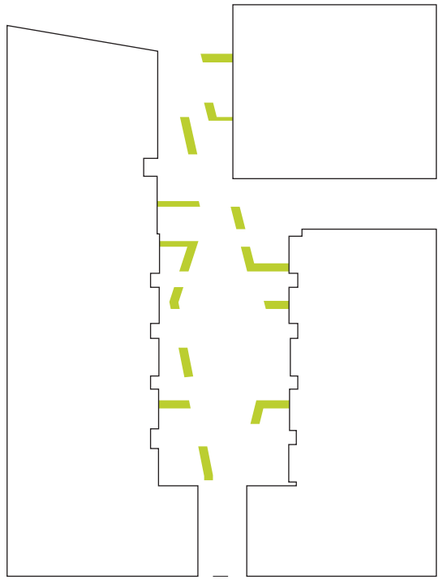
CONCEPT DEVELOPMENT



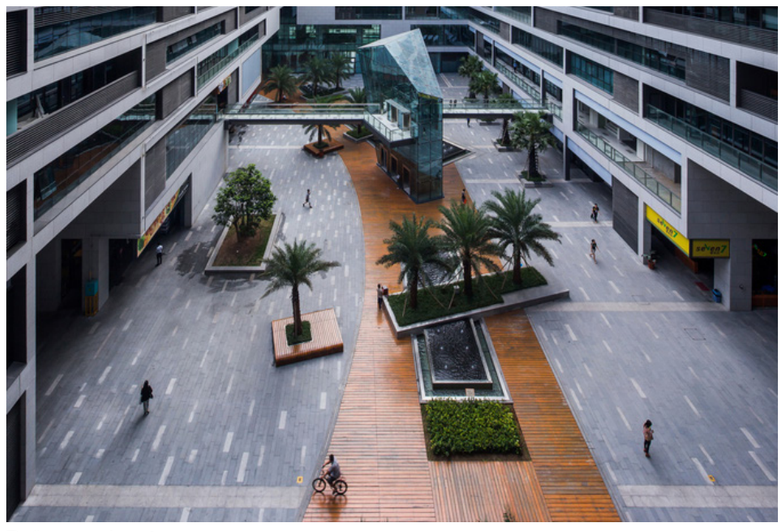
Red Carpet



Progression



Green Assets



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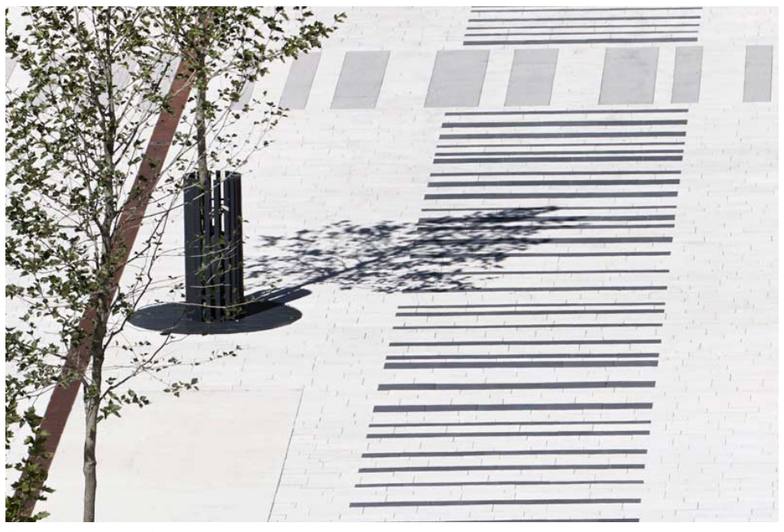
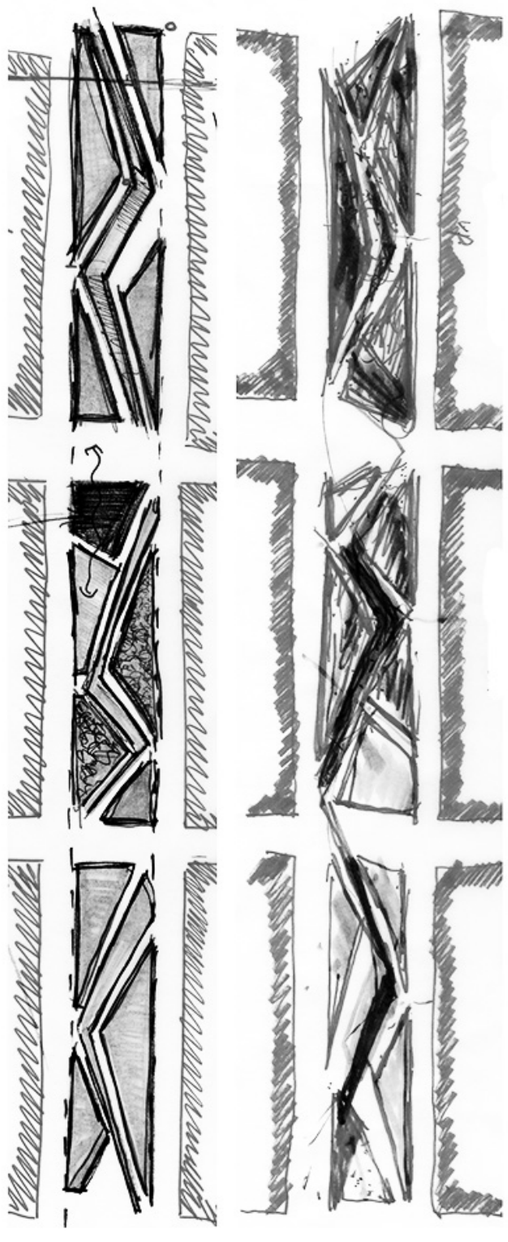


Reference Image

Reference Image

PLAYER WILLS BLOCK 1 - COURTYARD LANDSCAPE

CONCEPT DESIGN



Courtyard CGI View

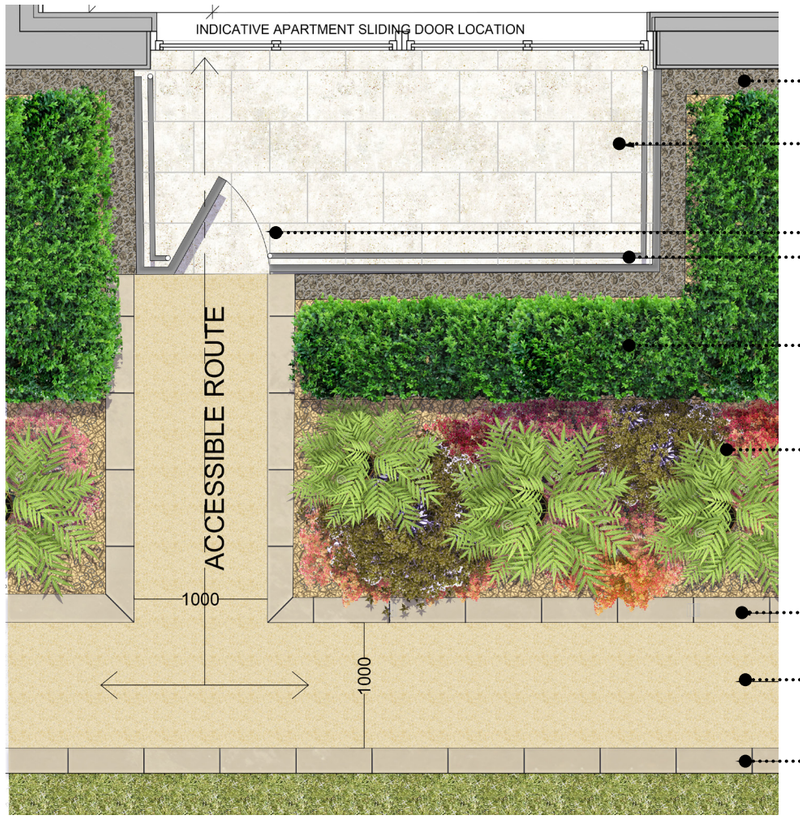
PLAYER WILLS BLOCK 2 COURTYARD

SEMI-PRIVATE COURTYARDS

Semi-private communal courtyards are distributed throughout the site. These courtyards offer significant amenity potential for the residents. Courtyards will be programmed with BBQ areas, play areas, lawns, orchards, vegetable patches, water features and follies.

Typically the the ground floor apartments will have a terrace with 1.5m planted defensible space, a railing and latched gate access to define the threshold.

PW 2 Block CGI View

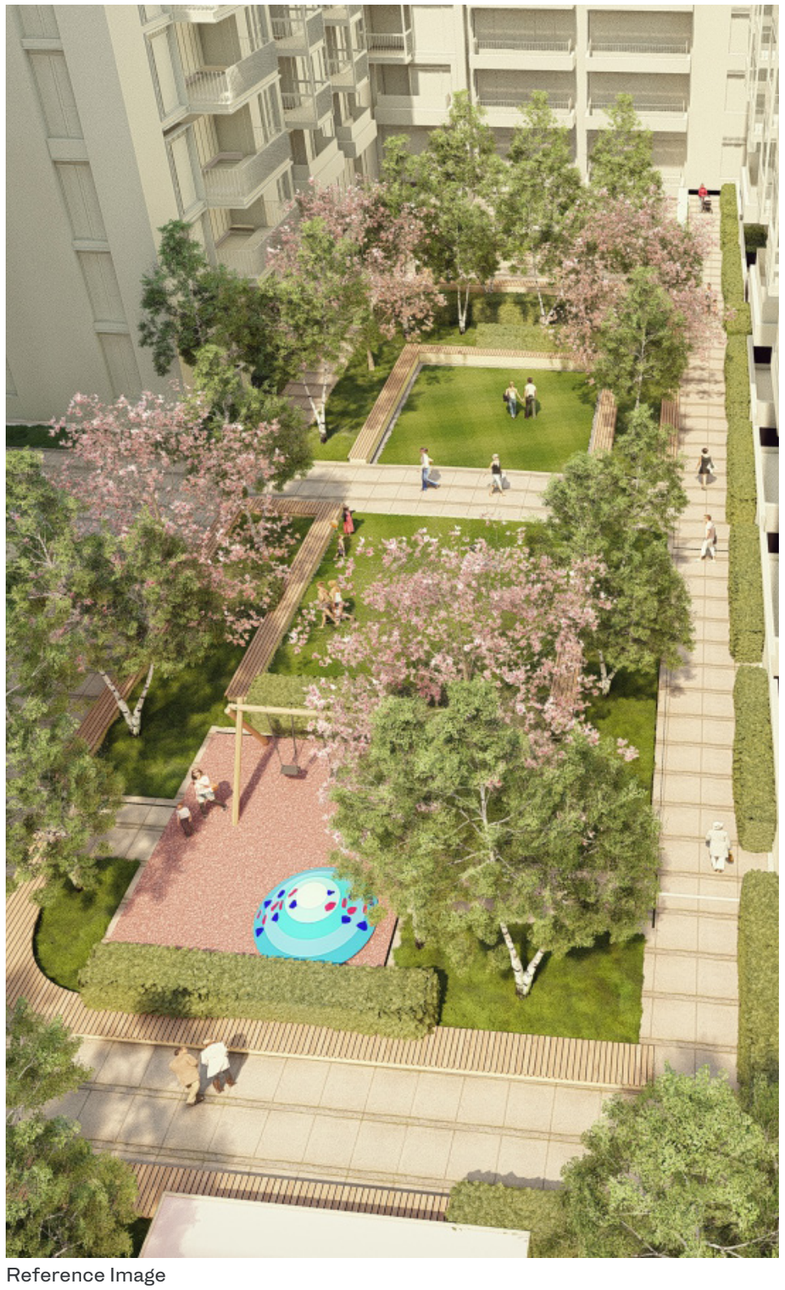


Typical Courtyard Entrance Detail

Reference Image

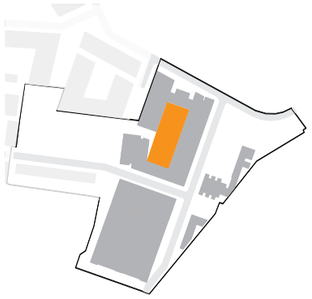
PLAYER WILLS BLOCK 2 - COURTYARD

ILLUSTRATIVE PLAN



Reference Image

PW 2 Illustrative Plan



Keyplan

Table Tennis / Games Area

Seating Edge

Defensible Space

Private Amenity Space

Sunken Lawn

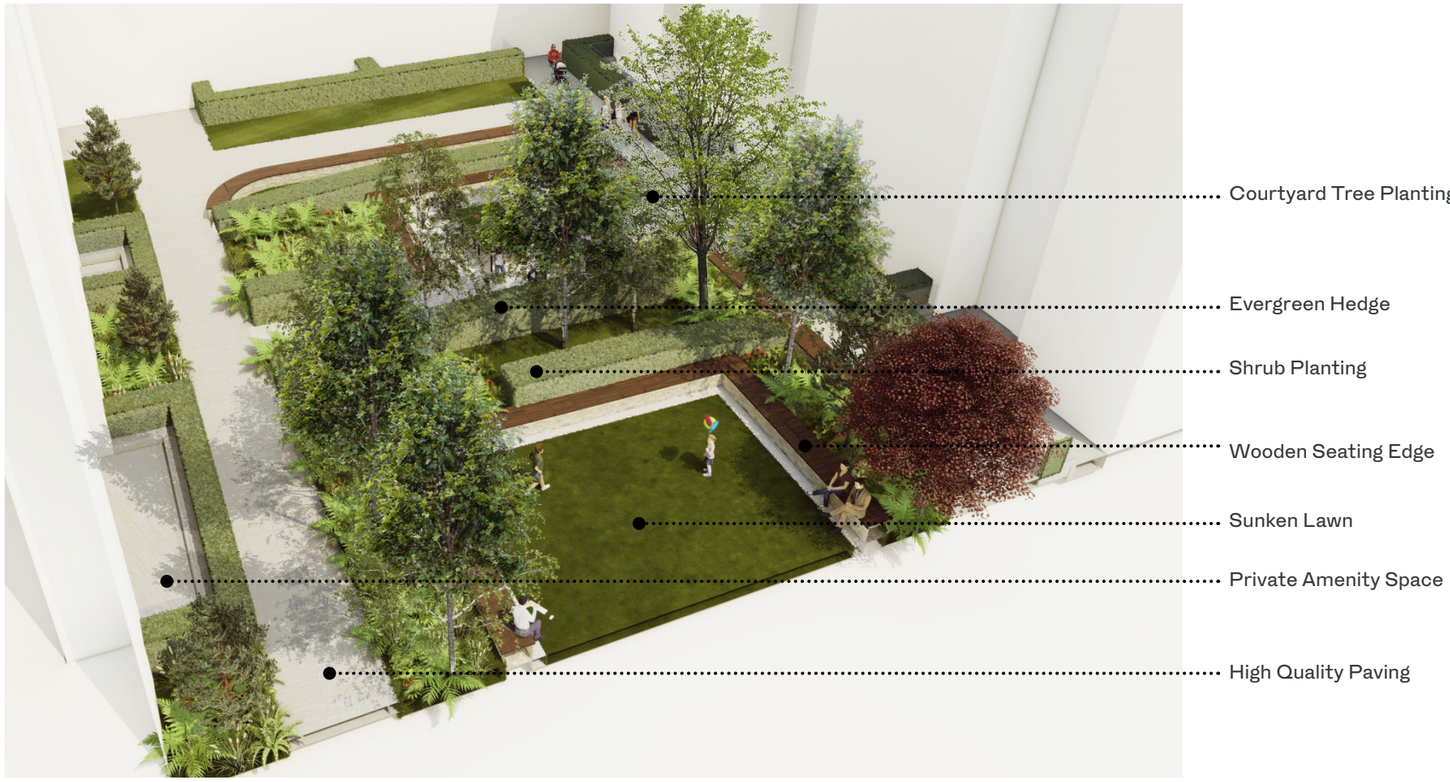
Seating Edge

Vent Stack

Cafe Terrace

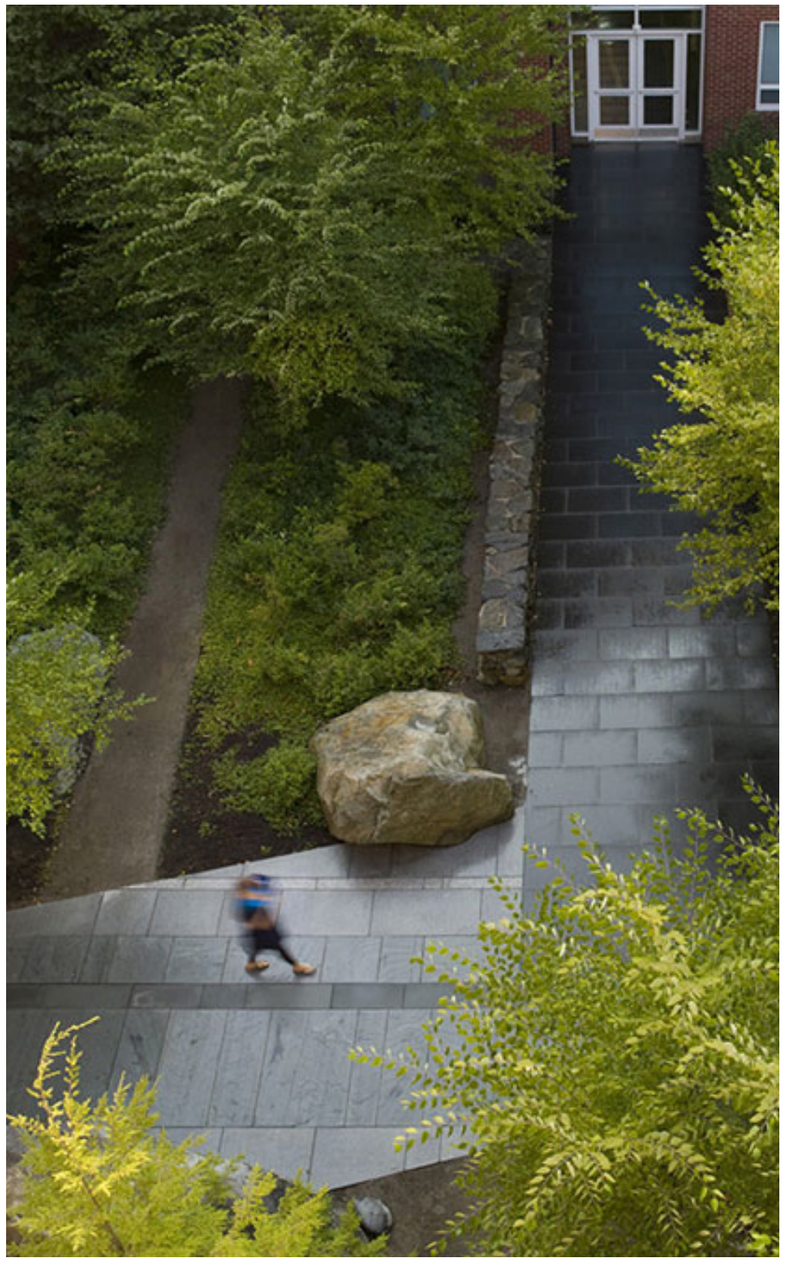
PLAYER WILLS BLOCK 2 - COURTYARD

SECTIONS



PW 2 Block 3D Section Diagram

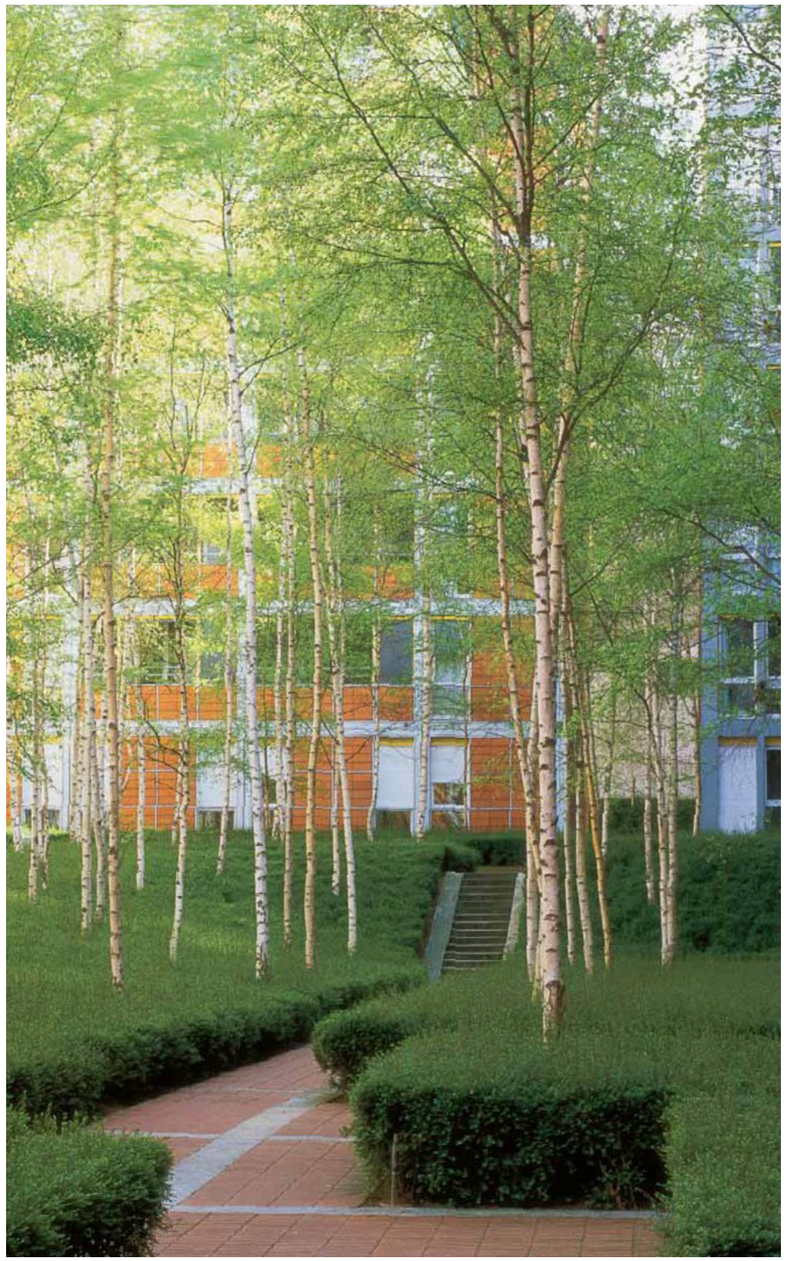
PW 2 Block Section



Reference Image

PLAYER WILLS BLOCK 2 COURTYARD

PW 2 Block Courtyard CGI View



Reference Image

ROOF GARDENS

ROOF TOP LANDSCAPES

The roof gardens for Players Wills Blocks will benefit from panoramic views across the city. The Gardens will be fully enclosed with glazed balustrades up to 1.5-1.8m in height according to recommendations by the micro-climate consultant in order to meet human comfort standards.

Capture Views

Raised Planting Allotments

Edge Condition

Garden Roof Top

Diversity of Planting

Garden Rooms

ROOF GARDENS

RESIDENT'S AMENITY ROOFTOP GARDENS

Each roof garden will have programme such as play, seating and small areas for boules, BBQ's and small gatherings. The spaces will be well planted with hardy shrubs in raised planters. In addition to this, some allotment programme can be provided, managed by the community. The provision of roof gardens is a benefit to the residents of the blocks and contributes in part to meeting the communal open space requirements.

Reference Image

Reference Image

PLAYER WILLS BLOCK 2 ROOF GARDENS

ILLUSTRATIVE PLAN

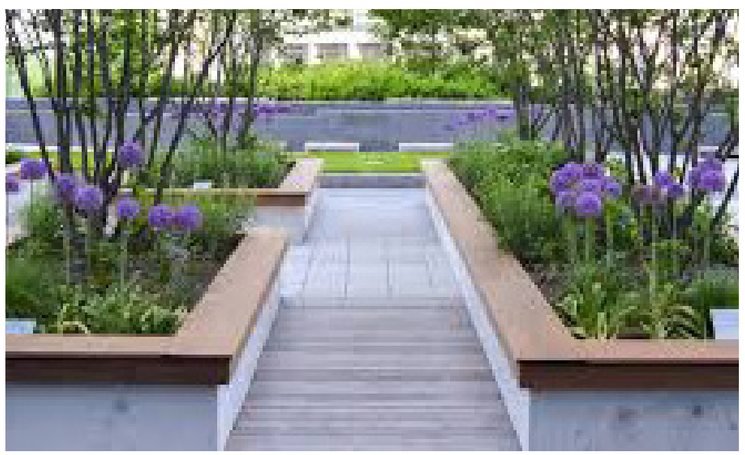
NMP Niall Montgomery + Partners HJL

PLAYER WILLS BLOCK 2 ROOF GARDEN

Typical Roof Garden Rendered View - Seating Area And Dining Area

Typical Roof Garden Rendered View - Seating Area And Screening Planting

Buffer Planting To The Edge Of The Roof Garden

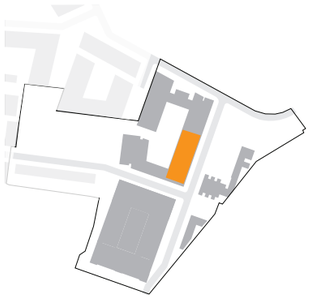


Seatin Edge On The Raised Planter Wall

Roof Garden Dining Area

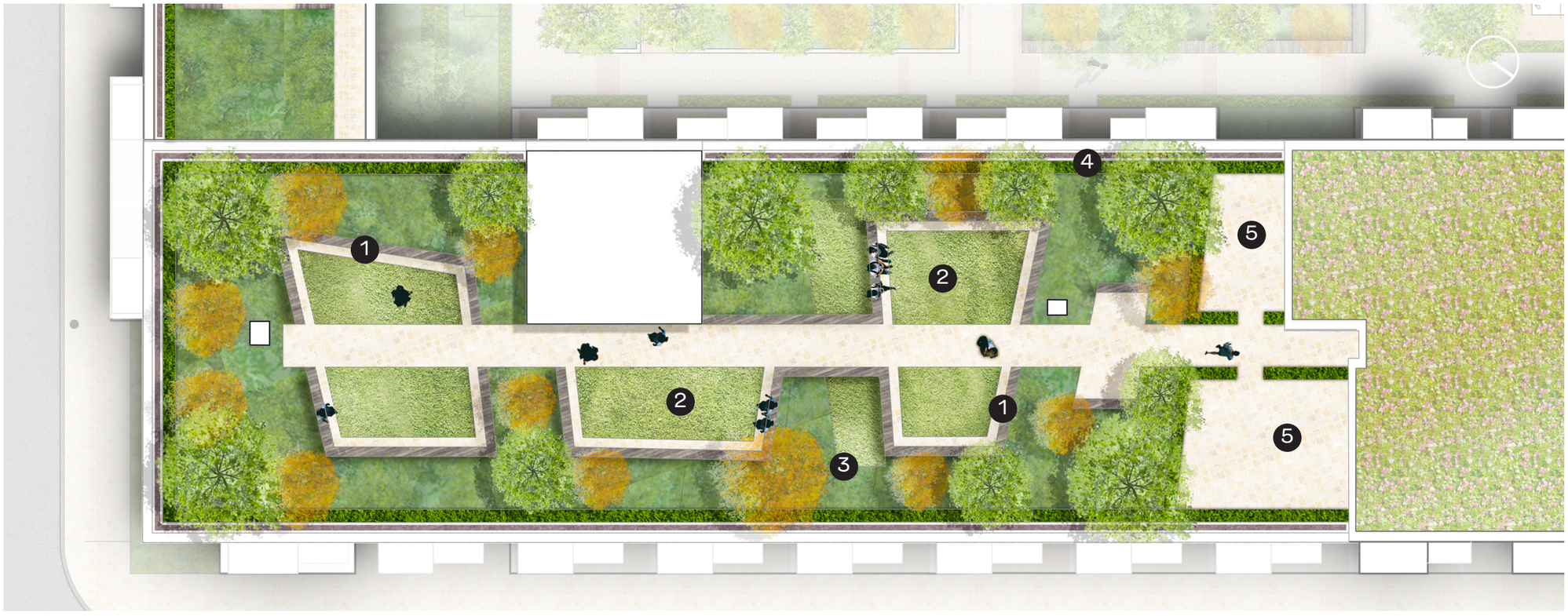
PLAYER WILLS BLOCK 2 ROOF GARDENS

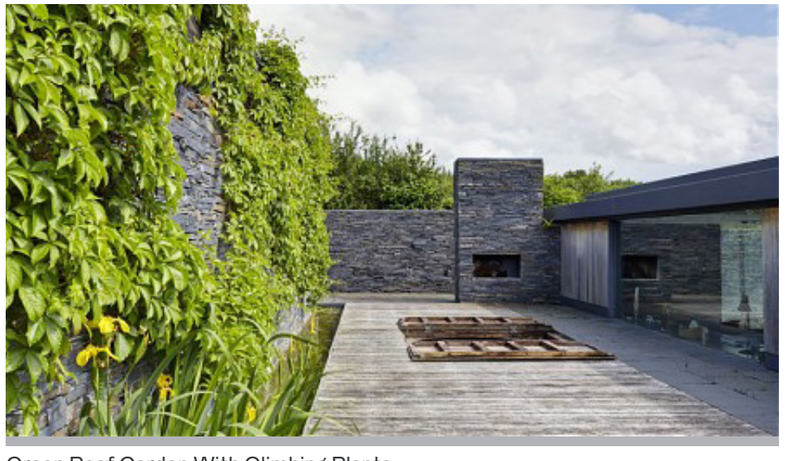
ILLUSTRATIVE PLAN TERRACE WITH ACCES FROM L06



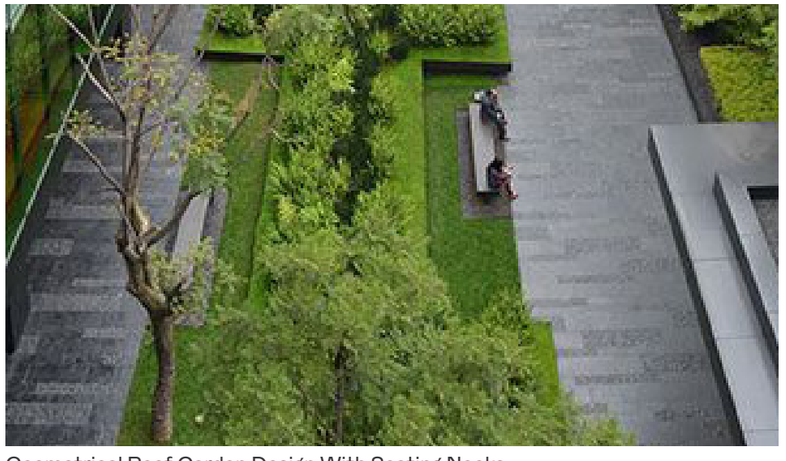
Keyplan

1. Seating
2. Lawn
3. Planting bed
4. Evergreen Hedge
5. BBQ Area





Green Roof Garden With Climbing Plants



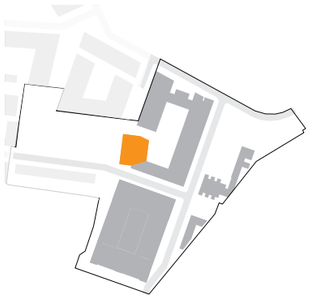
Geometrical Roof Garden Design With Seating Nooks

Extensive Sedum Green Roof

NMP Niall Montgomery + Partners HJL

PLAYER WILLS BLOCK 2 ROOF GARDENS

ILLUSTRATIVE PLAN TERRACE WITH ACCES FROM L15 L16 L17



Keyplan

1. Seating
2. BBQ
3. Plantings
4. Evergreen Edge
5. Dining Area

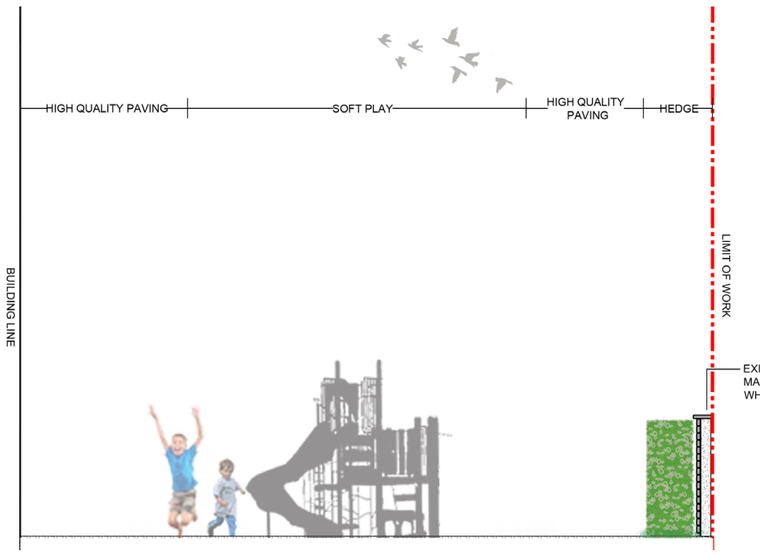
Reference Image

PLAYER WILLS BLOCK 4 COURTYARD

Privacy planting strips shall be provided between all residential windows and public areas.

CONCEPT DESIGN

Reference Image



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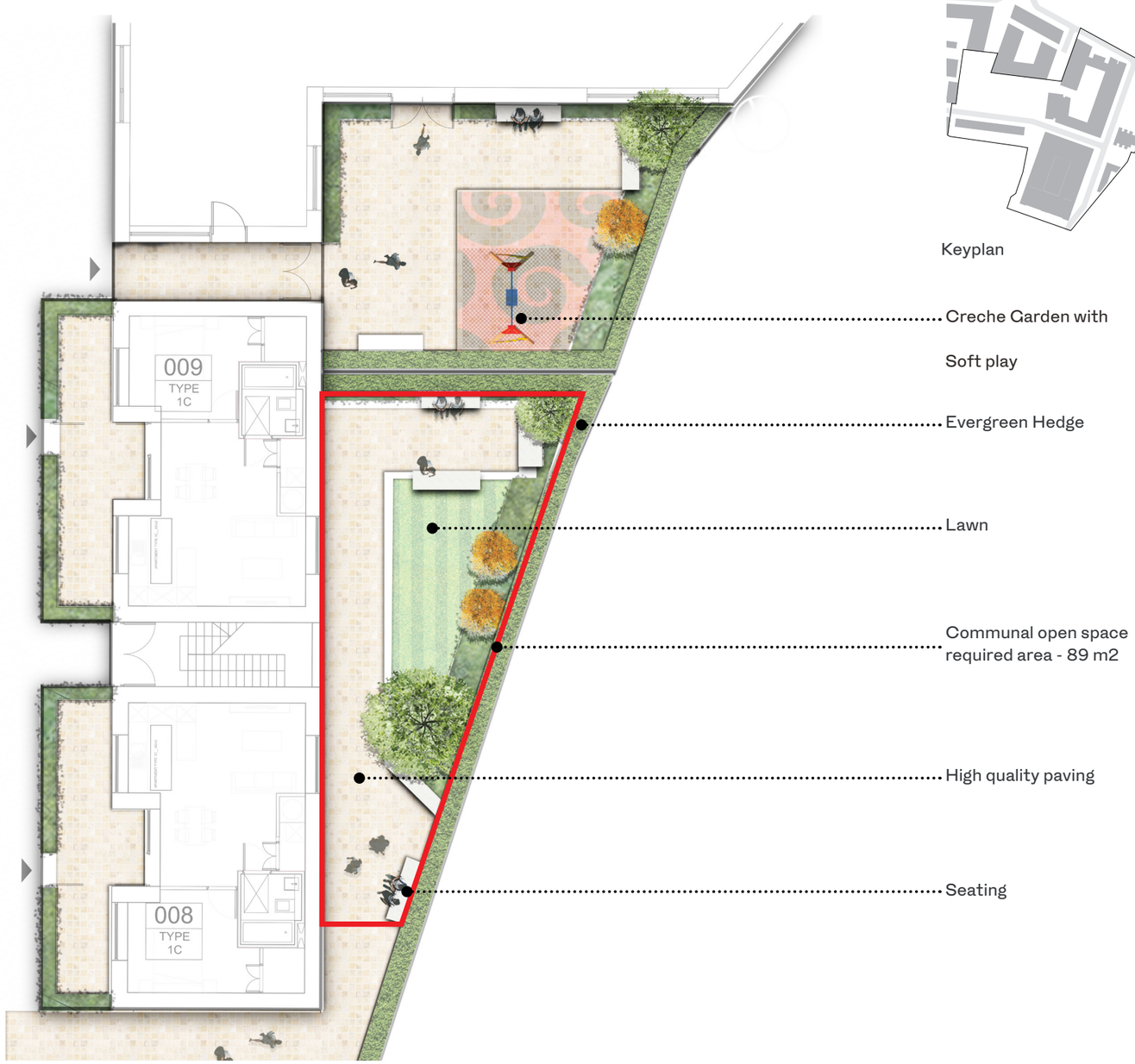
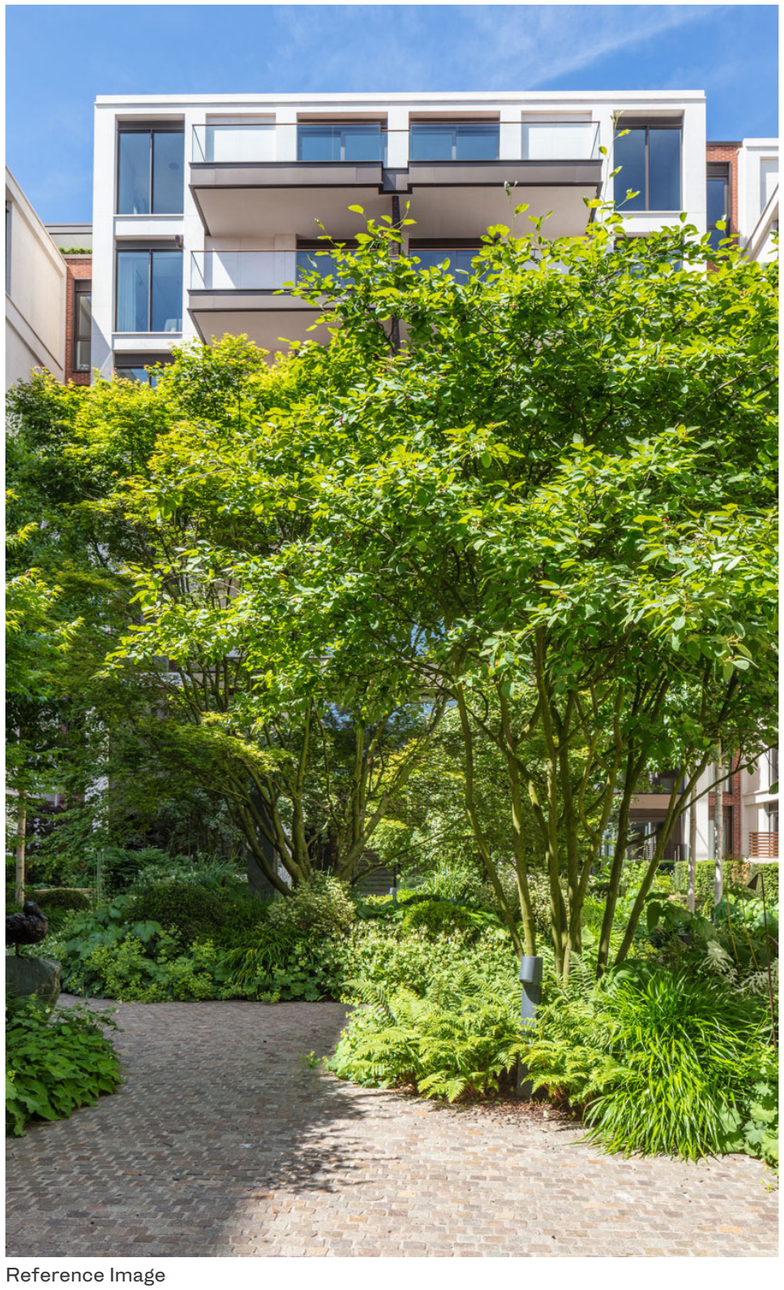


PW Illustrative Plan

PLAYER WILLS BLOCK 4 COURTYARD

Reference Image



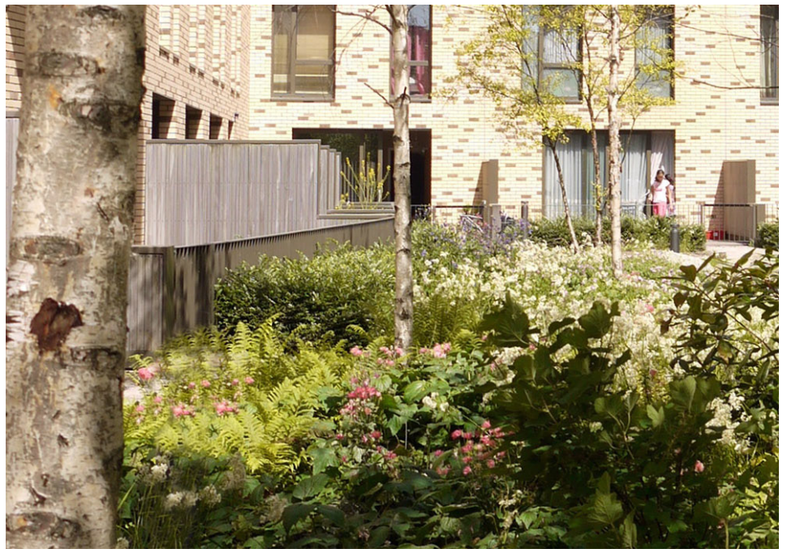
Reference Image

Reference Image

PLAYER WILLS BLOCK 5 COURTYARD

Privacy planting strips shall be provided between all residential windows and public areas.

CONCEPT DESIGN



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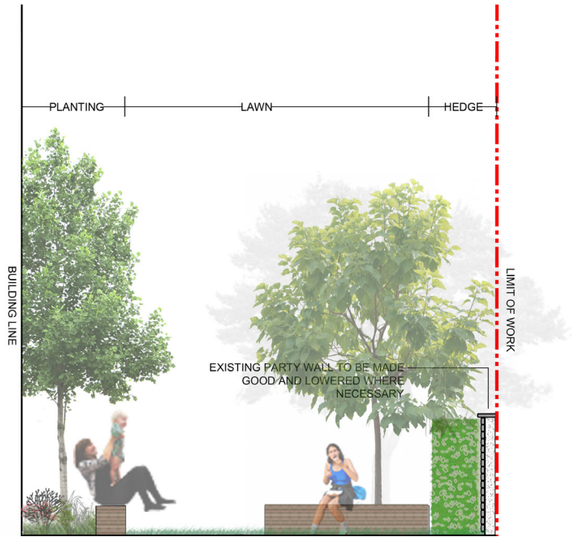

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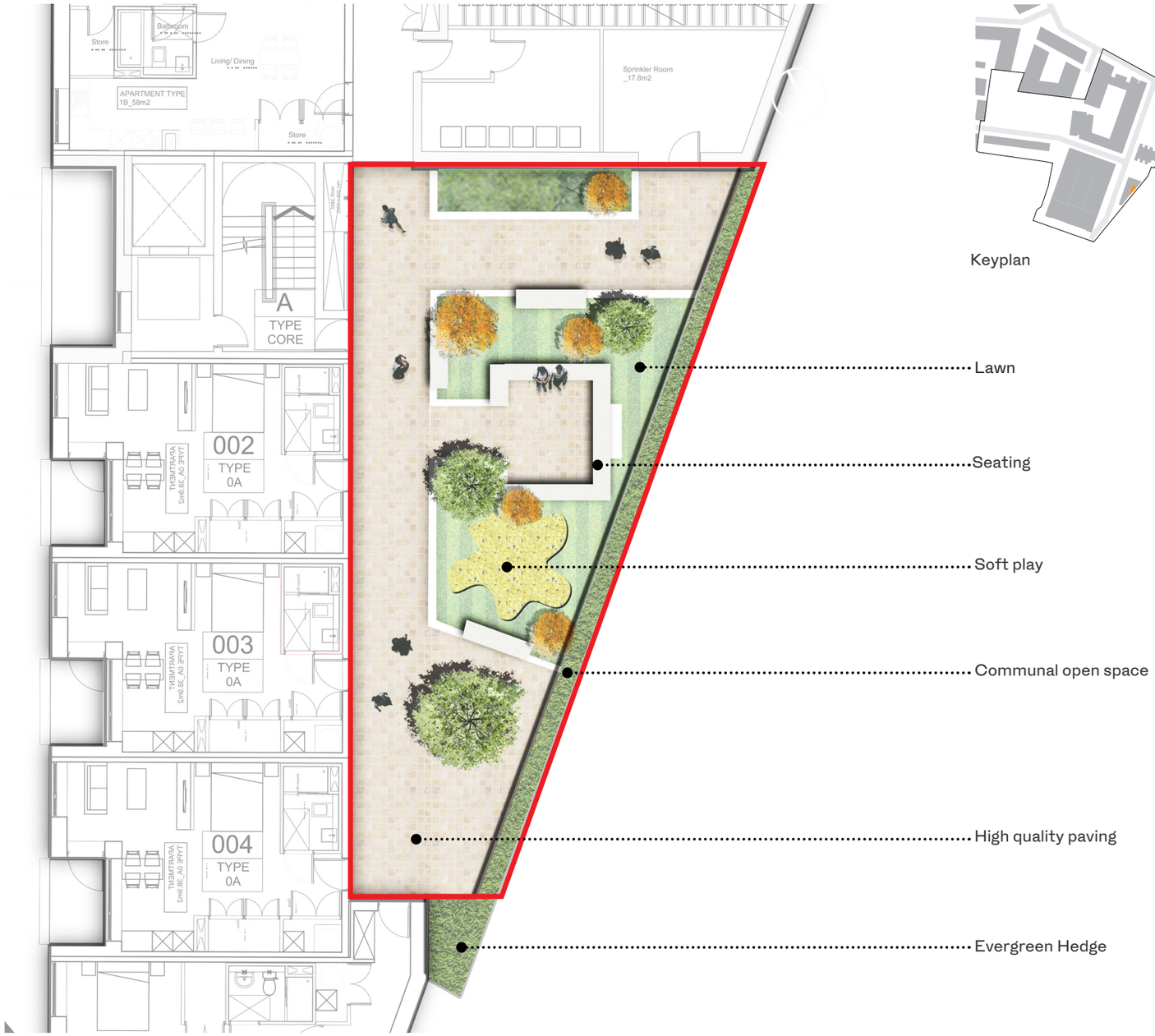
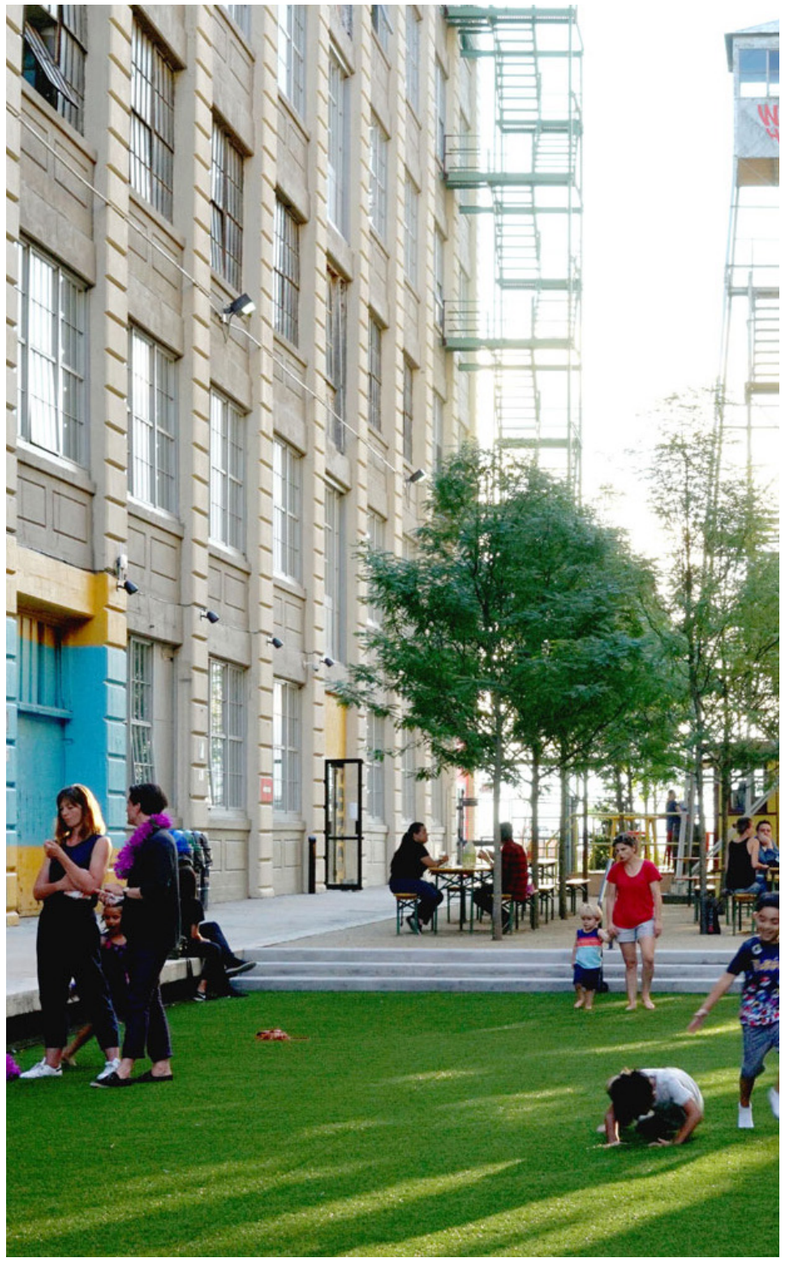


PW 5 Illustrative Plan

PLAYER WILLS BLOCK 5 COURTYARD

Reference Image

Reference Image



Reference Image

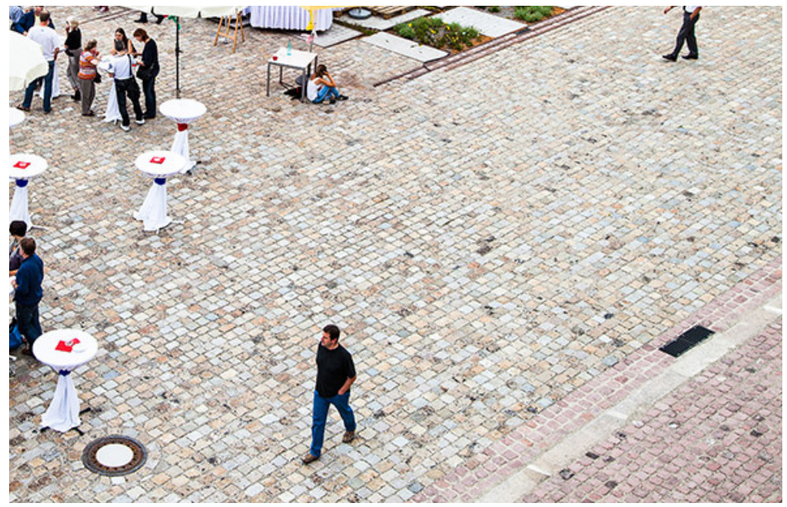
HARD LANDSCAPE STRATEGY

The scheme sets out a clear hierarchy of Private, Communal, and public open space in a way that will ensure allopen spaces are owned and taken care of. An outline landscape maintenance proposal is set out within the appendix of the landscape design statement. All public spaces have been designed in close correspondence with DCC parks department where several rounds of feedback was provided by the Parks team on the materials to the streetscape, tree pit designs, plant and tree species included within the public realm. All materials chosen for the public realm are to DCC taking in charge standards.

Timeless

Sustainable

Local



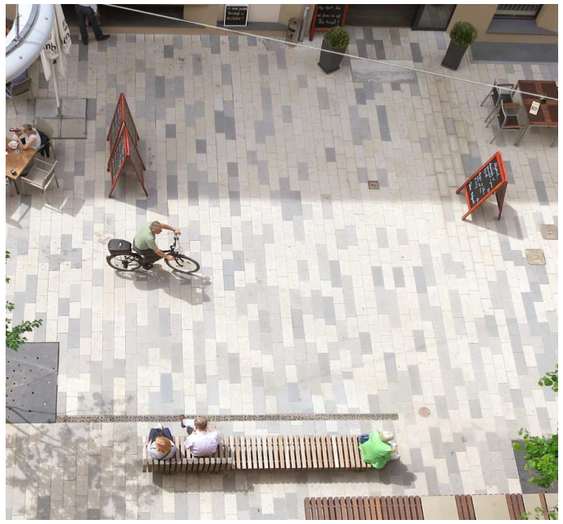
Civic

HARD LANDSCAPE MATERIALS

Tactile paving is proposed adjacent to street crossing points. Street furniture is positioned “out of the way” to ensure it does not form an obstruction to anyone visually impaired. Slopes and gradients are designed to be no more than 1:21 slope gradient to ensure slopes are manageable for people who are physically impaired. High quality railings and hedges are used to segregate Public & private uses, vehicular and pedestrian traffic are separated using planting or kerbs appropriately. Materials have been chosen to be both robust and timeless, provide texture and tone for visually impaired, to tie into the surrounding public realm while also seeking to provide integrated intuitive wayfinding. Street furniture has been selected to adhere to an age friendly seating strategy (backs on seats with arm rests on 50% of benches, all located at intervals for rest stops). Other furniture has been chosen to be robust and easy to maintain.

High Quality Paving

It is proposed to bring a sense of warmth to the streets by specifying buff coloured granite paving flags to the pedestrian areas in various sizes with a degree of variance through the grain of the stone.



Courtyard Surface Materials

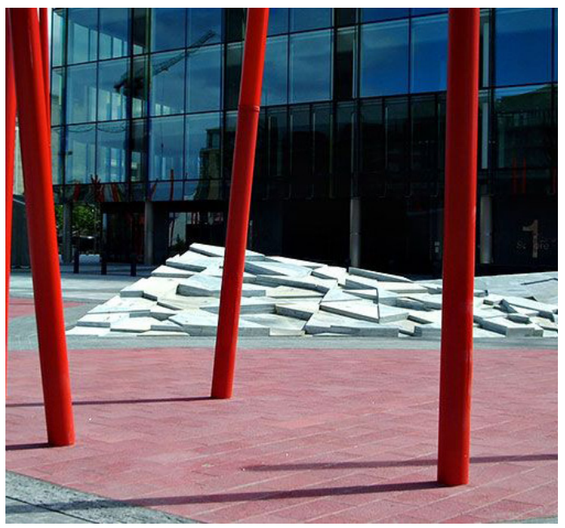
Paving proposals for courtyards should have a rustic feel to them using a combination of paving flags and smaller setts and cobbles.

Red Carpet Paving

Kilsaran Precast Concrete Pavers.

Hydraulically pressed semi-dry concrete.

Typically class 1 compliant to BSEN 1339:2003



HARD LANDSCAPE MATERIALS

On Street Car Parking

Materials for on street car parking will be delineated in a contrasting concrete or natural stone paving unit 100mm x 100mm or 100mm x 200mm. Finishes will be bush hammered with slip resistance to meet local standards and compressive strength to handle service vehicle run over. Tones will vary with surrounding materials.

Kerbs

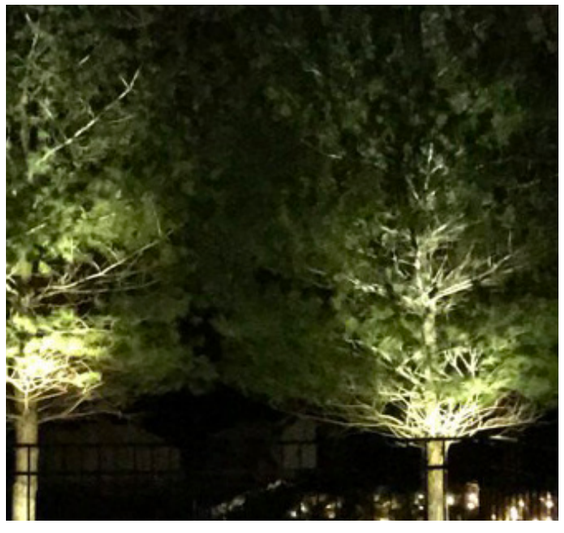
Granite kerbs lend a stylish, elegant look to the landscape schemes. Renowned for their hard-wearing qualities and versatility, granite kerb stones are available in a wide choice of sizes and specifications.

Informal Play

Provision of rocks, contrasting colour and shapes in landscape.

Lighting

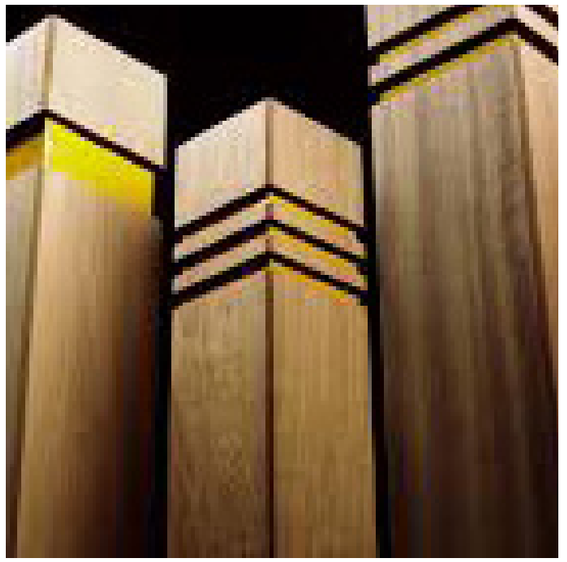
3m tall pedestrian street light,
Tree uplighters, strip lights. all adhering to DCC taking in charge standards



HARD LANDSCAPE MATERIALS

Landscape Furniture

High quality landscape furniture made from durable, sustainable materials. Bins, bollards and seating have been selected as appropriate to the design language and surroundings within which they fit. These for the most part,



LANDSCAPE INFRASTRUCTURE: SUSTAINABLE URBAN DRAINAGE

Sustainable Drainage Systems (SuDS)

Sustainable Drainage Systems are a collection of water management practices that aim to align modern drainage systems with natural water processes. Integration of SuDS make urban drainage systems more compatible with components of the natural water cycle such as storm surge overflows, soil percolation, and bio-filtration, mitigating the effect human development may have on the natural water cycle, particularly surface runoff and water

Sustainable Urban Drainage - WIDER MASTERPLAN

Proprietary Buried Stormwater attenuation storage beneath playground surface

Drainage Direction

Reference Image

Reference Image

Permeable surface to tree pits

Reference Image

LANDSCAPE INFRASTRUCTURE: SUSTAINABLE URBAN DRAINAGE

Interception Storage

Green Roofs:

Intensive – All roof terraces and podium terraces over basements shall be provided with a proprietary cellular drainage mat under the hard and soft landscaping to give a minimum interception storage volume of 10l/m2 as well as contributing to filtration and attenuation of surface water. Extensive – All roofs accessed only for maintenance and repair will be provided with a sedum blanket over a proprietary cellular drainage mat to give a minimum interception storage volume of 10l/m2, as well as contributing to filtration and attenuation of surface water.

Rainwater Harvesting:

Surface water shall be harvested from certain roof surfaces to provide water supply to landscaped areas and in particular, to supply the dry fountain, removing the reliance on potable water from the watermains.

Paved Areas:

The road and paved surfaces will be finished in impermeable surfacing, either flexible bituminous pavement, rigid bound paving, impermeable concrete paver or stone pavers. Typically, all streets are provided with trees and soft landscaping zones, with car parking on at least one side. The roads and footpaths will be drained by gullies that connect to tree pits which are interlinked with perforated distribution pipes to create infiltration trenches. The perforated pipes will allow discharge directly to the ground through the surrounding gravel bed. Due to the limited permeability which can be achieved through the sub-surface boulder clays, these pipes will also be connected to the surface water network via silt trap manholes. Notwithstanding the poor sub soil permeability, the gravel bed beneath the tree pits and surrounding the perforated pipes will provide good interception storage, which will retain, filter and attenuate run-off.

Direct Infiltration To Ground

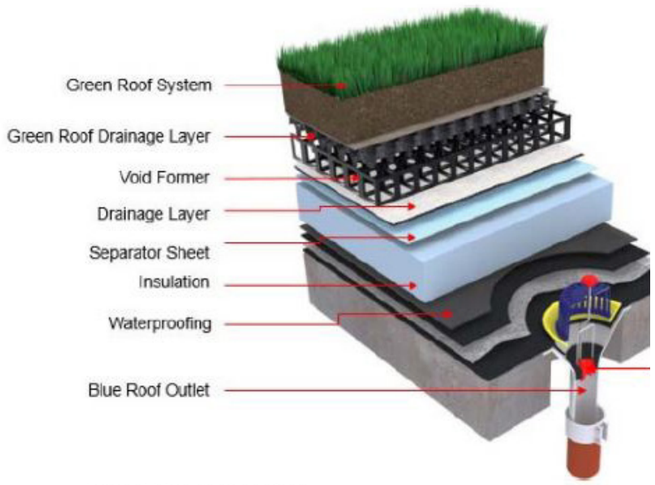
Ground level courtyards shall discharge surface water directly to ground. Hard landscaping zones within paved areas shall be drained to adjacent infiltration trenches within soft landscaped areas.

Attenuation Storage:

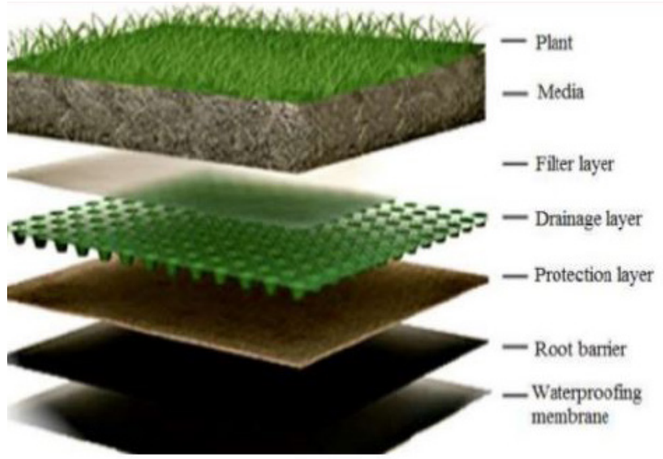
Blue Roof Attenuation - Certain roof areas, generally those areas adjacent higher green roofs, have been selected to provide blue roof attenuation storage beneath the interception storage mat. Once the cellular drainage mat has filled, the surface water will enter the open crate storage cells below and spread across the area of the roof. Isolated flow control outlets will restrict flow to discharge at a rate of 2l/s/ha based on the blue roof catchment area.

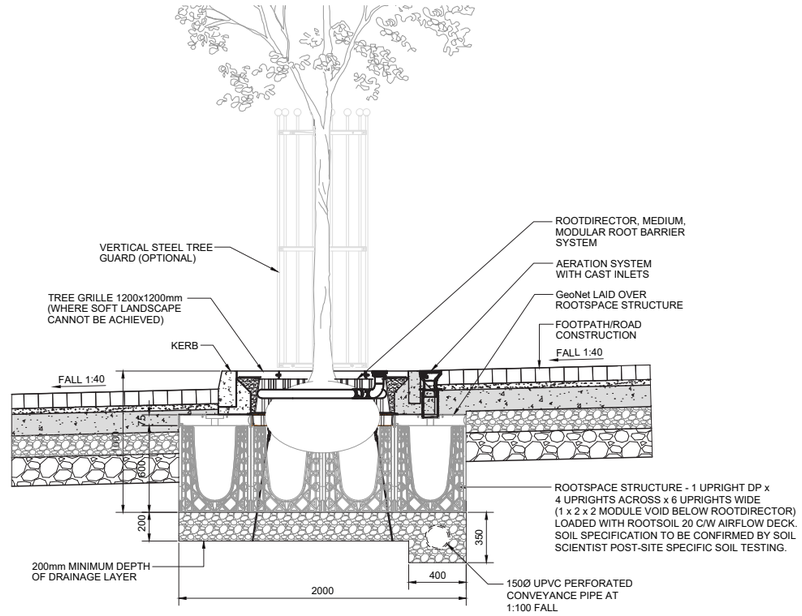
Tree Pits

Typically, street and footpath surfaces shall be impermeable surfacing, with finishes of bitumen, stone pavers, concrete. To provide interception storage of surface water from these impermeable surfaces, they shall be drained to Bio-retention tree pits via a series of



Typical blue roof section





Tree Pit Detail (Refer to BMCE Detailed Drawings)

LANDSCAPE INFRASTRUCTURE: SUSTAINABLE URBAN DRAINAGE

Paved Areas:

The road and paved surfaces will be finished in impermeable surfacing, either flexible bituminous pavement, rigid bound paving, impermeable concrete paver or stone pavers. Typically, all streets are provided with trees and soft landscaping zones, with car parking on at least one side. The roads and footpaths will be drained by gullies that connect to tree pits which are interlinked with perforated distribution pipes to create infiltration trenches.

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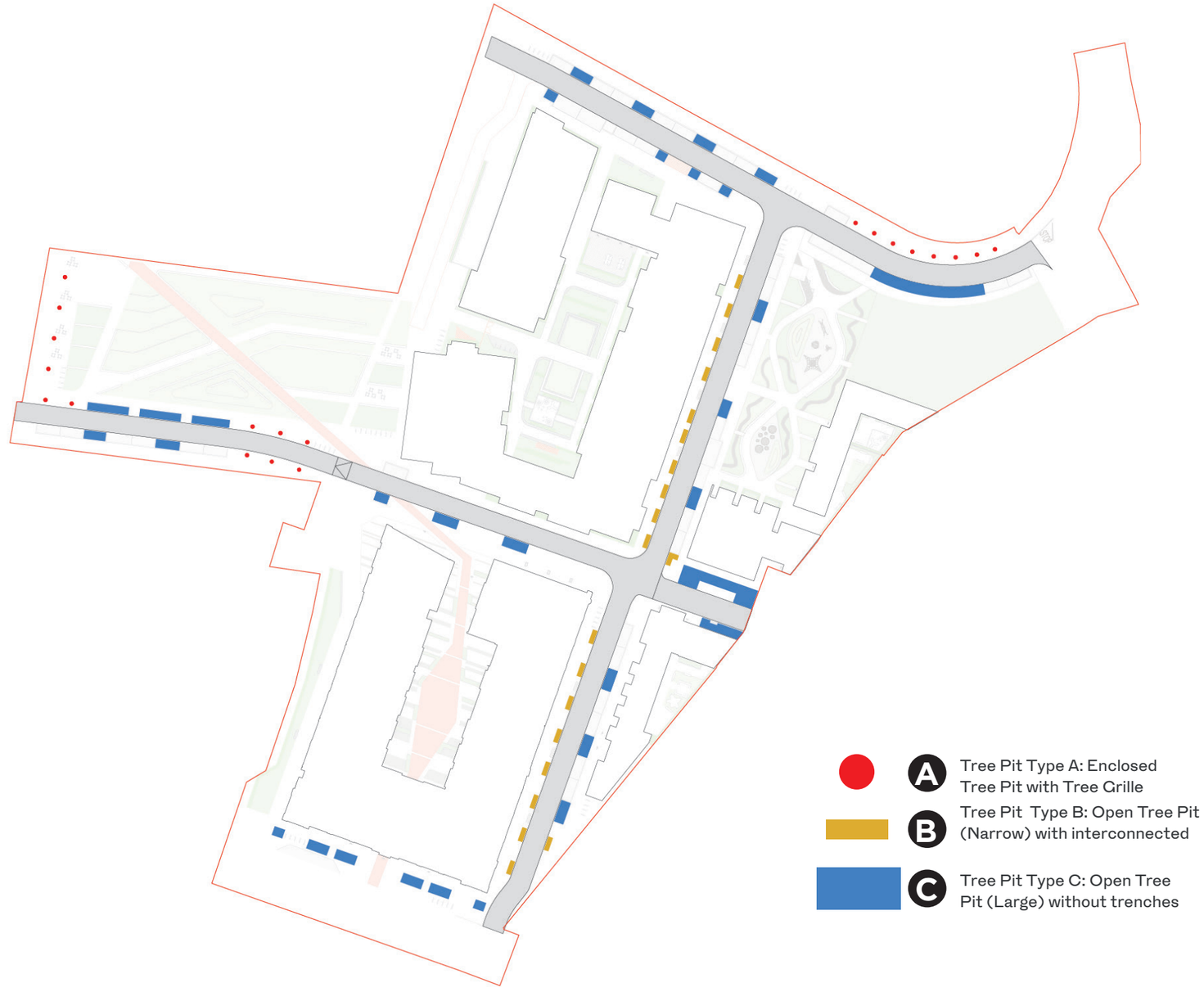
SUDS street planting



Tree Pit Type Diagram

LANDSCAPE INFRASTRUCTURE: SUSTAINABLE URBAN DRAINAGE

Tree Pits

Typically, street and footpath surfaces shall be impermeable surfacing, with finishes of bitumen, stone pavers, concrete. To provide interception storage of surface water from these impermeable surfaces, they shall be drained to Bio-retention tree pits via a series of road gulleys and linear drains.

A

Type A:
Covered tree pit with connecting trench.

Typical Soil Volume = 6m3 excluding trench and 8.5m3 including trench. Drained Area typically 30-50m2 per individual tree pit

B

Type B:

Open tree pit with connecting trench.

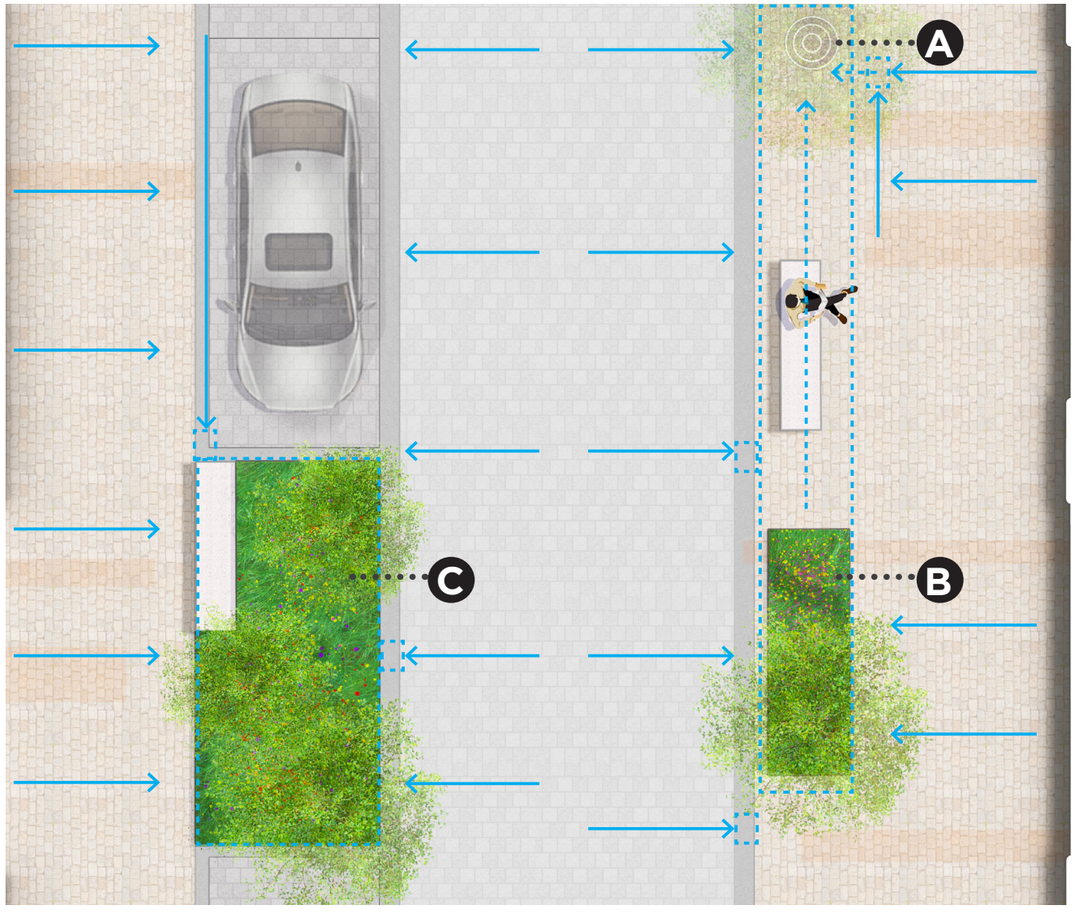
Typical Soil Volume = 5.7m3 excluding trench and 7.5m3 including trench. Drained Area typically 30-50m2 per individual tree pit

C

Type C:

Standalone open tree pit.

Typical Soil Volume = 15m3 – Drained Area typically 60-90m2



SUDS approach

Tree Pit Types - Refer to Engineer's Details

PLANTING STRATEGY

Planting styles and types will vary depending on use. Within the semi-private courtyards the palette should be softer, colourful and generally more shade tolerant. Within the public realm, plants will be more robust, evergreen and require less maintenance. Roof gardens will be low water usage and wind tolerant species.

Scale of planting and transition in shrub planting from low medium and high to create defensible space has been planned according to programme, thresholds and spatial hierarchy.

Hedge Deliniation

Native Wildflowers

Woodland Planting

Seasonal Bulbs

Formality

Allotments

Colour Accent Planting

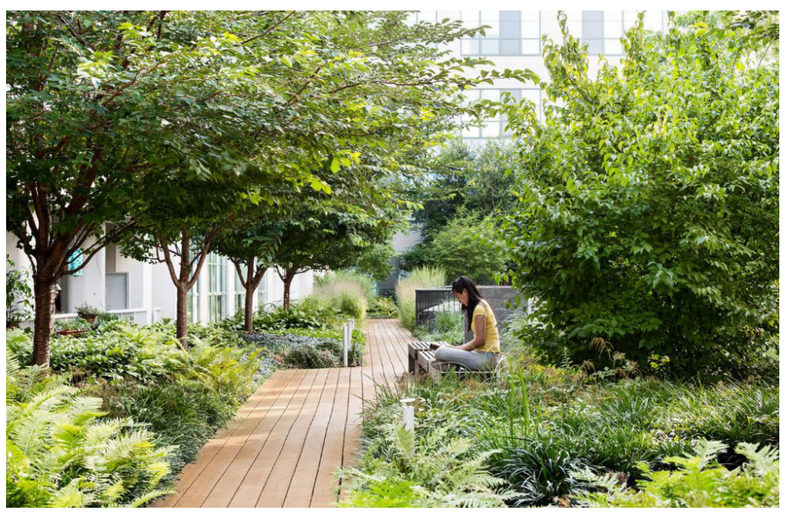
Courtyard Planting

Conceal + Reveal

Planting within the streets and squares will be more robust and civic in character with the inclusion of interlinked tree pits as natural surface water retention measures

Courtyard planting will be generally much softer in character

Native trees planting including birches and pines birch trees



Podium planting with small feature trees

TREE PLANTING STRATEGY

Tree species are selected for longevity, suitability to local soil conditions and micro-climate, biodiversity (native species) and where required suitability for proximity to residential buildings.

Street Trees

Gingko biloba

Betula Utilis Multistem

Platanus x hispanica

Prunus Serrula Multistem

Pyrus calleryana

Pinus sylvestris

Pinus Nigra

Malus hupehensis

Hedge/Screen Planting

Ilex crenata

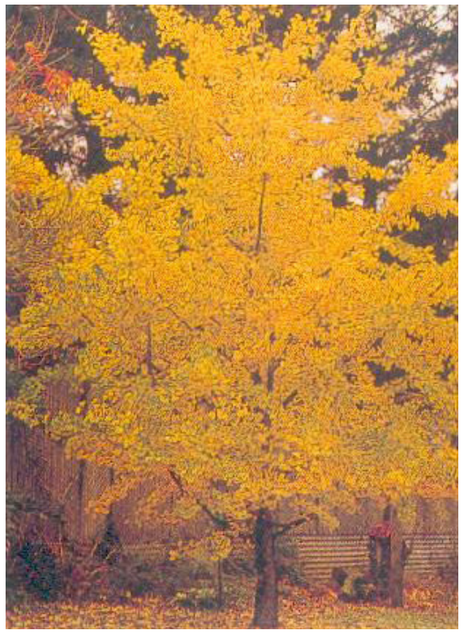
Fagus sylvatica

Trees

- Players Park Trees
- Courtyard Trees
- Street Trees
- Roof Garden Trees
- Park Land Trees

Betula Pendula

Acer Sp



Gingko Biloba

Ilex Crenata

Fagus Sylvatica

PLANTING - POLLINATOR PLAN

The pollinator plan 2020 has richly informed the planting palette and soft landscape approach. This in conjunction with a selection of native plant species will characterise the landscape design. Planting will inform and define public routes to differentiate from communal or private space.

Perennial Flowers For Pollinators

Incorporate pollinator friendly perennial plants into the local community to provide food for pollinators from spring through to autumn.

Pollinator friendly perennial plants are excellent sources of pollen and nectar. They are much more attractive to bees when planted in blocks rather than as single plants. Having a pollinator friendly perennial bed is an excellent way to provide food for pollinators across their lifecycle.

Wildflower Meadow

Meadows managed in the following way will allow wildflowers to bloom throughout the pollinator season. A further benefit is that bumblebees are provided with an undisturbed area for nesting. Over a number of years, the area will become more and more flower-rich with local species that are adapted to the site's conditions – all without spending money on wildflower seed.

Annual Flowers For Pollinators

Work with local authorities to ensure a component of annual planting in parks is with pollinator friendly annual plants - single rather than double flowered varieties.

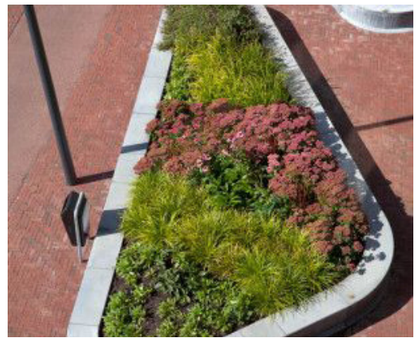
You should always try to select scented, single-flowered varieties. The block planting of these can be an excellent source of food for pollinators.

Short Flowering '6-Week Meadow'

Identify areas of grass that could be cut on a 6-weekly rotation to allow Clovers and Bird's-foot-trefoil to flower. This will provide food for pollinators where shortly mown grass does not. Such areas could be beside areas of shortly mown grass, a path or a meadow

Pollinator Friendly Urban Planters

Identify some urban planters or hanging baskets where the standard annual bedding mix could be replaced by perennial pollinator friendly plants.



Flowering Trees And Shrubs

Incorporate a mix of pollinator friendly trees and shrubs into the local community that will flower throughout the season. An orchard can be a wonderful addition for pollinators and the community.

It is important to prioritise increasing native plants (trees, shrubs, wildflowers) across the landscape to provide food for pollinators.

Native Wildflower Meadows

Identify areas where it may be possible to create a native wildflower meadow using commercially purchased seed. This would be more flower-rich than the meadow but it is also more costly and requires careful planning and management. If you do have a suitable site, it is very important to buy a pollinator friendly seed mix that has been grown in Ireland from native wildflowers and is suitable for your soil type.

PLANTING - POLLINATOR PLAN

Hedgerows For Pollinators

Flowering hedgerows that contain Hazel, Willow, Blackthorn and Hawthorn provide food in spring when wild bees come out of hibernation. Bramble is a good source of ood in summer, and Ivy in the autumn. Bumblebees often nest in long grass at thebase of hedgerows.

Clover Lawns

Identify small areas where grass could be entirely replaced with a permanent clover mix. Red and white clovers will provide colour, and are a very important food source for bees.

Eliminate The Use Of Pesticides

Identify some areas where the use of pesticides could be eliminated. This could be streets/areas where your group is willing to take responsibility for manual weed control. Most herbicide use is along edging or tree bases that mowers can't access. Identify areas of south facing edging that could not be sprayed to provide solitary bee nesting habitat.

Awareness

Promote the All-Ireland Pollinator Plan to local businesses and encourage them to make their outdoor spaces pollinator friendly or to sponsor local pollinator friendly actions

Pesticides Avoided

Identify areas that could be spot treated rather than with the use of blanket sprays. Spray in dry conditions with low wind speed to prevent drifting. Spray after sunset to avoid direct contact of pollinators with chemicals.

Signage

Put up signage explaining the importance of pollinators and what is being done locally to support the All-Ireland Pollinator Plan. Templates that can be used to create signage can be downloaded from the website.

Bee Hotels For Pollinators

Incorporate small numbers of solitary bee nest boxes into the local community for cavity nesting solitary bees. Bee hotels can be useful and are a good awareness raising tool, but actions 13 and 14 are preferable ways to create nest sites. A number of small hotels is better than one large one in terms of minimising the risks of disease and predators killing the bees.

Training

Facilitate or deliver training programmes locally on pollinators and how to take action to protect them. Resources will be available to allow interested parties to deliver training on: creating nest sites for wild pollinators; identification of common pollinator species; how to participate in the AlIlreland Bumblebee Monitoring Scheme; collection, storage and use of local wildflower seed to improve areas that are being managed as small grassy meadows in parks, schools, along greenways etc.

STREET PLANTING


Betula utilis multistem


Pyrus chanticleer


Acer Campeastre


Carpinus betulus


Prunus avium


Quercus robur


Sorbus aucuparia


Pinus sylvestris


Malus hupehensis


Malus sylvestris


Ilex Crenata


Buxus sempervirens

Street Trees

Gingko biloba

Betula Utilis Multistem

Platanus x hispanica

Prunus Serrula Multistem

Pyrus calleryana

Pinus sylvestris

Pinus Nigra

Quercus Palustris

Quercus Robur

Malus hupehensis

Hedge/Screen Planting

Ilex crenata

Fagus sylvatica

COURTYARD PLANTING


Euphorbia Sp.


Cornus Florida ‘Cherokee Princess


Asplenium Scolopendrium


Verbena Bonariensis


Hydrangea Petiolaris


Trachelospermum Jasminoides


Festuca Glauca

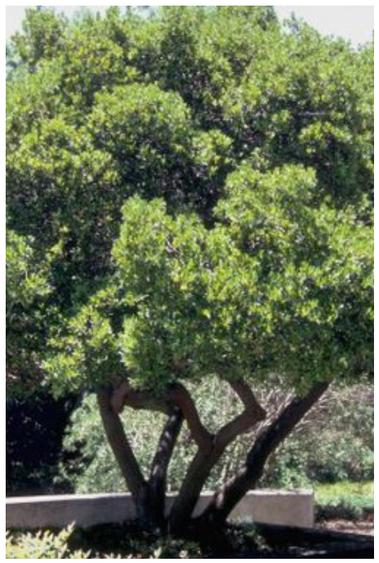

Miscanthus Sinesis ‘Gracillimus’


Juniperus Squamata ‘Blue Star’

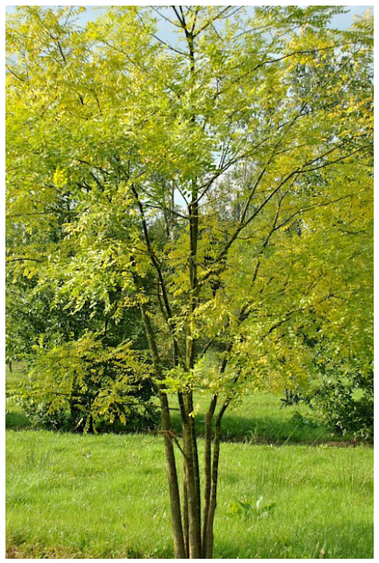

Pachysandra Terminalis


Sedum Spectabile ‘Stardust’


Agapanthus Snow Pixie

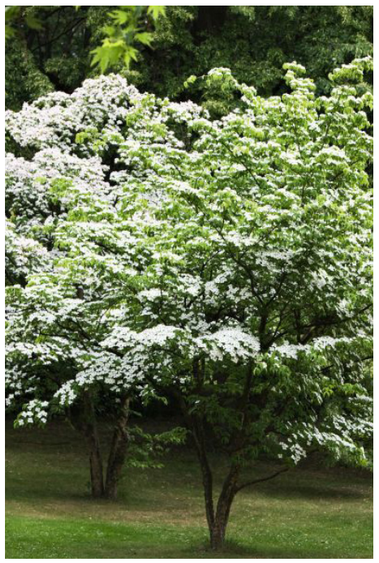

Arbutus Unedo


Betula Utilis Jacquemontii


Stiphnolobium Japonicum ‘Regent’


Amelanchier Sp.


Ilex Crenata


Cornus Kousa

INDICATIVE PLANT SCHEDULE

Proposed tree sizes range from heavy standards and multi-stemmed trees to native whip and forestry transplants. A total of 240 new individual trees are proposed in order to improve the species mix and the proportion of native species on site.

Type	Zone	Species Name	Common Name	Girth / Size (cm)	Stock	Mix %	Density (p/m2)
	Street Trees						
		Pyrus chanticleer	*Pyrus*	*25-35*			
		Platanus x hispanica	*London Plane*	*25-35*			
		Liquidambar	*Liquidambar*	*25-35*			
		Alnus cordata	*Alder*	*25-35*			
		Acer rubrum	*Maple*	*25-35*			
		Gleditsia triacanthos	*Honey locust*	*25-35*			
		Tilia cordata 'Greenspire'	*Lime*	*25-35*			
	Courtyard trees	*Crataegus monogyna*	*Hawthorn*	*2m tall*			
		Prunus spinosa	*Blackthorn*	*2m tall*			
		Acer campestre	*Field maple*	*2m tall*			
		Betula Utilis Multistem	*Multistem Birch*	*4m height*			
		Pinus sylvestris	*Scots Pine*	*25-35*			
		Magnolia grandiflora	*Southern Magnolia*	*25-35*			
		Sorbis aucuparia	*Rowan*	*20-25*			
		Malus hupehensis	*flowering crab*	*20-25*			
		Arbutus unedo	*strawberry tree*	*50l pot*			
		Prunus serrula Multi-stem	*Paperbark Cherry*	*4-6m height*			
Type	**Zone**	**Species Name**	**Common Name**	**Girth / Size (cm)**	**Stock**	**Mix %**	**Density (p/m2)**
	Street Planting	*Stipa tenuissima*	*Green*		*2L*	*10*	*12*
		Miscanthus "Silver Feather"	*Green*		*3L*	*3*	*9*
		Heuchera Autumn Bride	*Green*		*3L*	*3*	*9*
		Verbena bonariensis	*Purple*		*2L*	*8*	*12*
		Pennisetum sp.	*Light Green*		*3L*	*2*	*9*
		Salvia sylvestris	*Purple-Silver*		*3L*	*2*	*9*
	Courtyard Planting	*Crambe cordifolia*	*White-Silver*		*2L*	*1*	*12*
		Ajuga reptans 'Burgundy Glow'	*Purple-Silver*		*2L*	*1*	*9*
		Lobelia × speciosa 'Hadspen Purple'	*Purple*		*2L*	*1*	*9*
		Echinops Ritro	*Blue-Purple*		*3L*	*5*	*9*
		Echium canarienses	*Purple-Silver*		*3L*	*2*	*5*
		Echinacea purpurea	*Purple*		*2L*	*1*	*10*
		Lavandula angustifolia	*Purple*		*3L*	*4*	*9*
		Stachys byzantina	*Purple-Silver*		*2L*	*2*	*8*
		Philadelphus sp.	*White*		*2L*	*1*	*13*
		Myosotis sylvatica	*Blue*		*2L*	*1*	*12*
		Phlox 'Blue Paradise'	*Blue-Purple*		*3L*	*2*	*6*
		Phlomis species	*Blue-Purple*		*2L*	*1*	*12*
		Festuca glauca	*Silver-Blue*		*3L*	*2*	*9*
		Helleborus x hybridus Harvington Lime	*Green*		*3L*	*1*	*8*
		Artemisia 'Powis Castle'	*Light Green*		*2L*	*1*	*10*
		Digitalis grandifolia	*Yellow*		*3L*	*2*	*10*
		Euphorbia palustris Waenburgs Glorie	*Green*		*3L*	*1*	*6*
		Euphorbia polychroma	*Green*		*3L*	*1*	*8*
		Foeniculum vulgare	*Green*		*3L*	*1*	*6*
	Climbers & Groundcover	*Hedera helix*	*/*		*2l*	*8*	*0.25*
		Pachysandra terminalis	*/*		*2l*	*8*	*0.25*
		Vinca minor	*/*		*2l*	*8*	*0.25*
		Clematis heracleifolia	*/*		*2l*	*8*	*0.25*
		Hyacinthoides	*/*		*2l*	*8*	*0.25*
		Helleborus sp.	*/*		*2l*	*8*	*0.25*
		Lonicera periclymenum	*/*		*2l*	*8*	*0.25*
	Bulbs	*Allium sphaerocephalon*	*/*		*2L Cg min 8 bulbs*	*5*	*4*
		Allium 'Everest'	*/*		*2L Cg min 8 bulbs*	*6*	*3*
		Allium Globemaster	*/*		*2L Cg min 8 bulbs*	*5*	*3*
		Allium Purple Sensation	*/*		*2L Cg min 8 bulbs*	*5*	*3*
		Crocus sp.	*/*		*2L Cg*	*4*	*7*
		Crocus tommasinianus Whitewell Purple	*/*		*2L Cg*	*4*	*7*
		Narcissus Petrel	*/*		*Bulb*	*3*	*7*

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1. Specifications for supply.

1.0 Schedule of supply:

The nursery stock material will be delivered following consultation between the Landscape Architect, landscape contractor and the selected nursery, and the Engineer. Delivery will be at all times by means of covered vehicles, and all plant material will be clearly labeled. The source of origin must be from the selected nursery as no other additional stock from other nurseries will be permitted without prior inspection and approval.

1.1 Programme of Works

The planting works shall be executed at the earliest opportunity.

1.2 Nursery stock:

All plant material shall be good quality nursery stock, free from fungal, bacterial or viral infection, aphids, red spider or other insect pests and any physical damage. It shall comply with the requirements of B.S. 3936: Parts 1-10: 1965 Specification for Nursery Stock, where applicable.

All plants shall have been nursery grown in accordance with good practice and shall be supplied through the normal channels of the wholesale nursery trade. They shall have the habit of growth that is normal for the species. Country of origin must be shown in all cases for species grown from seed.

Unless otherwise stated, the plant materials shall be supplied in accordance with the following codes where stated:

1+0 1 Year old seedling
1+1 1 Year old seedling lined out for 1 year
1+2 1 Year old seedling lined out for 2 years
1+1+1 1 Year old seedling lined out for 1 year, lifted and lined out for one further year
1u1 1 Year old seedling undercut then 1 more year in seedbed.
1u2 1 Year old seedling undercut then 2 more years in seedbed.
0/1 1 Year old Hardwood cutting
0/2 2 Year old Hardwood cutting
2X Twice transplanted tree
3X Three times transplanted tree
4X Four times transplanted tree
P9 Containerised plant in 9cm pot

1.3 Species:

All plants supplied shall be exactly true to name as shown in the plant schedules. Unless stipulated, varieties with variegated and/or coloured leaves will not be accepted, and any plant found to be of this type upon leafing out shall be replaced by the contractor at his/her own expense.
Bundles of plants shall be marked in conformity with B.S. 3936: Part 1: 1965 and B.S. 3936: part 4: 1966. The nursery supplier shall replace any plants which, on leafing out, are found not to conform to the labels. Definitions of all terms used are in accordance with the following British Standards: -

B.S. No. 3936: Part 1: 1965 entitled “Nursery Stock-Trees and Shrubs”

B.S. No. 3936: Part 4: 1966 entitled “ Nursery Stock-Forest Trees”

B.S. No. 3936: 1967 entitled “Specification for Nursery Stock”

2.0 Tree specifications:

Trees shall have a sturdy, reasonably straight stem, and a well-defined straight and upright central leader, with branches growing out of the stem with reasonable symmetry. The crown and root systems shall be well formed. Roots shall be in reasonable balance with the crown and shall be conductive to successful transplantation.

2.1 Standard trees shall have a clear stem 1.70m in height from ground level to the lowest branch, a minimum girth of 8cm measured at 1.00m above ground level and a total height of 2.75-3.00 m.

2.2 Light Standard trees have a clear stem 1.30m in height from ground level to the lowest branch, a minimum girth of 6cm measured at 1.00m above ground level and a total height of 1.80-2.40m.

2.3 Select standard trees shall have a clear stem 1.70 m in height from ground level to the lowest branch, a minimum girth of 10 cm. Measured at 1.00.m. above ground level and a total height of 3.0 to 3.5 metres.

2.4 Heavy standard trees shall have a clear stem 1.80-1.90m in height from ground level to the lowest branch, a minimum girth of 14 cm. measured at 1.00.m. above ground level and a total height of 4.0 to 4.5 metres. All trees shall have been undercut a minimum of three times.

2.5 Extra Heavy standard trees shall have a clear stem 2.0m in height from ground level to the lowest branch, a minimum girth of 16 cm. measured at 1.00.m. above ground level and a total height of 4.5 to 5 metres. All trees shall have been undercut a minimum of three times.

2.6 Semi-mature trees shall have a clear stem 2.0m in height from ground level to the lowest branch, a minimum girth, as specified in the Bill of Quantities, measured at 1.00.m. above ground level and a total height of min. 5 metres. All trees shall have been undercut a minimum of three times.

All standards shall be clearly labeled.

2.7 Feathered Trees 180-240cm
Feathered trees shall be not less than four years old, and shall have been transplanted at least three times. Trees of species not listed in BS 3936: Part 4: shall be sturdy, with a balanced root and shoot development. Size shall conform to the schedules.
Trees shall be well furnished with lateral fibrous roots, and shall be lifted without severance of major roots. Roots shall be of the habit normal for the species, without deformation. Transplants shall be wrapped in polythene in bundles of 50 no. and clearly labeled from the time of lifting until planting to conserve moisture.

2.8 Feathered Transplants 120-150cm
Transplants shall be not less than two years old, and shall have been transplanted at least once. Trees of species not listed in B.S. 3936: Part 4: shall be sturdy, with a balanced root and shoot development. Size shall conform to the schedules.
Trees shall be well furnished with lateral fibrous roots, and shall be lifted without severance of major roots. Roots shall be of the habit normal for the species, without deformation. Transplants shall be wrapped in polythene in bundles of 50 no. and clearly labeled from the time of lifting until planting to conserve moisture.

2.9 Feathered Transplants 90-120 cms, 60-90 cm, 40-60 cm, 30-40 cm

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Transplants shall be not less than one year old. Trees of species not listed in B.S. 3936: Part 4: shall be sturdy, with a balanced root and shoot development. Size shall conform to the schedules. Trees shall be well furnished with lateral fibrous roots, and shall be lifted without severance of major roots. Roots shall be of the habit normal for the species, without deformation. Transplants shall be wrapped in polythene in bundles of 50 no. and clearly labeled from the time of lifting until planting to conserve moisture.

2.10 Shrubs

(1) Containerised Shrubs shall be of the size specified in the schedules, with several stems originating from or near ground level and of reasonable bushiness, healthy, vigorous and with a sound root system. Pots or containers shall be appropriate to the size of shrub supplied and clearly labeled. Shrubs shall not be pot bound or with girdled or restricted roots.

(2) Bare Root Shrubs shall be of size specified in the schedules, with several stems originating from or near ground level, with reasonable bushiness, healthy, and vigorous. They shall be well furnished with fibrous roots and shall be lifted without severence of major roots. All bare root shrubs shall be wrapped in polythene in bundles of 50 no. and clearly labeled from the time of lifting until planting to conserve moisture.

2.11 Container Grown Conifers:
Conifers shall be of the size specified in the schedules, with one main stem originating from or near ground level and of reasonable bushiness and health, with a well-grown, root system. Pots or containers, where required, shall be appropriate to the size of plant supplied and clearly labeled. Plants shall not be pot bound, or with deformed or restricted roots.

2.12 Protection:
The interval between the lifting of stock at the nursery and planting on site is to be kept to an absolute minimum. Plants shall be protected from drying out and from damage in transport. All stock awaiting transport shall be protected from the wind and frost and from drying out.
Protection shall include for the supply of stock to site to a suitable heeling-in/ storage area prior to planting. The landscape contractor shall allow for liaison with the site engineer to arrange the heeling-in area/ storage. The contractor shall continue to be entirely responsible for the maintenance of this stock to ensure that at the time of planting the stock complies with the requirements for the supply of nursery stock as per clause 1.0 thereof. No responsibility for the maintenance of the stock will attach to the site engineer whilst the stock is protected on site. No time limit shall attach to the period of protection.

In the event of the Landscape Architect being dissatisfied with the care and attention given to the stocks, following heeling-in, he shall notify the Landscape Contractor who shall take steps to ensure careful heeling-in procedures.

The preparation of the heeling-in area and its subsequent maintenance is the sole responsibility of the Landscape Contractor.

2.13 Damage
On completion of lifting of plants in the nursery, any broken shoots or severed roots shall be pruned, areas of damaged bark neatly pared back to sound tissue.

2.14 Inspections
The Landscape Architect will inspect the hardy nursery stock on the selected nursery during the execution of the works. Only plants selected and approved in the landscape contractors selected nursery will be accepted on the site.

2.15 Delivery and heeling in
All plants will be delivered on a phased basis as called up in advance in agreement with the Engineer, Landscape Architect and the appointed Landscape Contractor. In the event of the Landscape Architect being dissatisfied with the care and attention given to the stocks, following heeling-in, he shall notify the Landscape Contractor who shall take steps to ensure careful heeling-in procedures.

The preparation of the heeling-in area and its subsequent maintenance is the sole responsibility of the Landscape Contractor.

3.0 Specifications for site operations:

3.1 Setting out:
Setting out shall be in accordance with site meetings with the Landscape Architect, and the drawings listed in the preliminaries. No planting works shall take place when the soil /fill is in a waterlogged condition.

3.2 Finished grading:
All planting pits and topsoiled areas disturbed by the landscape contractor shall be left in an even state, with all soil clumps broken up and stones of greater than 50mm diameter shall be removed.

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4.0 Specifications for Planting and Plant Materials

4.1.1 Staking/Protection:

2m high willow wrap to be installed around each tree for protection of bark

4.1.2 Canes:

Bamboo canes or similar approved shall be used to provide spot spraying location markers for small plants including Pinus, species. The canes are not to be attached to the plants.

4.2 Tree ties:

For standard and select standards, tree ties shall be of rubber, PVC or proprietary fabric laminate composition and shall be strong and durable enough to hold the tree securely in all weather conditions for a period of three years. They shall be flexible enough to allow proper tightening of the tie. Ties shall be min. 25mm wide for 120cms height trees and min. 38mm for larger sizes. They shall be fitted with a simple collar spacer to prevent chafing. Two ties per tree shall be applied to standards; for staked transplants, one tie per tree is required.

Ties shall be nailed to the stake with one galvanised nail.

4.3 Protection:

The interval between the lifting of stock at the heeling-in area and planting on site is to be kept to an absolute minimum. Plants shall be protected from drying out and from damage in transport. All stock awaiting planting on site shall be stored in a sheltered place protected from the wind and frost and from drying out.

All transplants shall be wrapped in polythene from the time of lifting to conserve moisture. Except when heeled-in, they shall be protected in polythene at all times until planted into their final position on site.

4.4 Damage:

On completion of planting any broken branches shall be pruned, areas of damaged bark neatly pared back to sound tissue.

4.5 Watering / / Fertilisers:

All bare rooted light standards and select standards shall be soaked in water overnight, on site, before planting in a liquid solution containing “Alginure” at the recommended dilution rate. Fertilisers shall conform to BS 5581: 1981. In the case of granular fertiliser being added to plantings, it must be mixed through and incorporated into the base of the planting hole and covered over in order to avoid roots of plants coming in direct contact.

4.6 Setting out:

Setting out shall be in accordance with site meetings with the Landscape Architect. Transplants in mixtures shall be planted in staggered rows. Species shall be planted in groups, as indicated in the planting drawings.

No planting shall take place until all planting holes (with ameliorants) have been inspected and approved by the Landscape Architect, or a person appointed by him as a representative, to ensure accordance with the specifications. No planting shall take place when ground conditions are frozen or waterlogged. All planting holes shall be opened and closed on the same day.

4.7 Tree planting:

Trees shall be planted at the same depth as in the nursery, indicated by the soil mark on the stem of the tree. They shall be planted in the centre of the planting pit and planted upright. Stones or other rubbish over 75mm shall be removed. Supply and drive the stake 800mm into the ground for standards, 500mm for other transplants. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

4.7.1.Select Standards/Standards

Excavate tree pits to 800mm x 800mm x 600mm deep, or as approved. The base of the pit shall be broken up to a depth of 200mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m.(equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

4.7.2 Heavy and Extra Heavy Standards

Excavate tree pits in soft landscape to 1000mm x 1000mm x 800mm deep, or as approved. The base of the pit shall be broken up to a depth of 200mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m. (equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

4.7.2 Semi-mature trees

Excavate tree pits to 1200mm x 1200mm x 1000mm deep, or as approved. The base of the pit shall be broken up to a depth of 200mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m. (equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

4.7.3.Light Standard Trees

Excavate tree pits to 500mmx500mmx500xx deep, or as approved. The base of the pit shall be broken up to a depth of 80mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m. (equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

4.8 Feathered Trees 180-240cm, container grown conifers (>2l)

Excavate tree pits to 400mm x400mm x 400 mm deep, or as approved (slit or notch planting are not acceptable planting methods). The base of the pit shall be broken up to a depth of 80mm and glazed sides roughened. Trees shall be planted at the same depth as in the nursery and backfilled with compound fertiliser 0.10.20 at the rate of 50gm per tree and 0.020m3 of Mushroom Compost or similar approved. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

4.9 Feathered Whips 120-150 cm:

Excavate tree pit to depth of 300mm x 300mm x 300mm deep, or as approved (slit or notch planting are not acceptable planting methods). Excavation

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to be achieved by machine digging or augering methods, approved by the Landscape Architect. The base to be broken up to a depth of 60mm and glazed sides roughened. Whips to be planted at same size as in the nursery. Apply 60gm 0.10.20 and 0.020m3 of Mushroom Compost or similar approved.per tree pit to plants. Stakes 1.2m high x 37mm dia. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

4.10 Feathered Whips and Transplants 90-120cm, 60-90 cm, 40-60cm, 30-40cm, container grown conifers (<2l size) and container grown shrubs (<2l size):

Excavate planting hole to a depth of 300mm x 300mm x 300mm deep; the base to be broken to a depth of 50mm and glazed sides roughened (slit or notch planting are not acceptable planting methods). Excavation to be achieved by machine digging or augering methods, approved by the Landscape Architect. Apply 30gm 0.10.20.per planting pit. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

4.11 C. C. Shrubs / C. C. Wall Shrubs / C.C. Climbers:

Excavate planting hole to a depth of 300mm x 300mm x

300mm deep; the base to be broken to a depth of 50mm and glazed sides roughened. The following products are to be supplied and incorporated in to the bottom 100mm of topsoil at the base of the planting pit and in to the topsoil for backfilling around each plant: (1)Seanure soilbuilder as supplied by Farmura @ 1.5Kg per cu.m of topsoil, (2) clean and friable green waste compost @ 25 Kg per cu.m of topsoil and (3) Sierrablen Flora 15:9:9 slow release fertiliser @ 70 grams per m2 Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

4.12 Grassing

All grass areas to be ripped with a tractor mounted tine prior to rotovating. The contractor shall grade off all areas to smooth flowing contours, removing all stones greater than 10mm diameter and tip off site. All hollows to be filled in. Roll all areas with a roller as approved. Following the completion of final grading and raking, the area is to be left fallow for a period of 14 days. Spray with 'Basta' at recommended rates, and seed with fine grass mix at a rate of 35gr/Sq.m together with fertilizer 10:10:20 at a rate of 50gr/Sq.m use Coburns Irish premier low maintenance mixture or other as approved by the Landscape Architect.

4.12.1 Grass cutting

Grass cutting shall be carried out during the three year maintenance period and is defined into three categories:

4.12.2 Regular grass cutting

Shall be carried out to the frequencies indicated in the Bill of Quantities. Attention to neat and tidy cutting shall be required to all areas. Sightlines, as set out with the Engineer, at junctions and roundabouts must be kept clear of vegetation at all times.

GENERAL

Upon completion of planting, all pits shall be raked over lightly to leave an even surface and neat appearance. All stones greater than 50mm dia. to be removed. Provision should be made for the watering of light and select standards during periods of prolonged drought in the first year following planting.

4.13 Inspections:

The Landscape Architect will inspect the site with the Landscape Contractor during the execution of the works and following maintenance visits.

4.14 Presentation of certificates:

The Landscape Contractor shall present for the Landscape Architect's inspection, all seed and fertiliser bags, together with their markings. If requested, the contractor shall furnish the Landscape Architect with receipts of purchase for these respective materials.

4.15 Spraying:

1) Following planting of embankments, slopes etc., weed free circles to be formed around individual plants, as directed, using an approved broad-spectrum contact herbicide, as approved by the landscape architect, in mid-spring following planting. Herbicide to be applied using controlled drop applicator containing a dye to indicate areas sprayed. In areas where grass is excessively long, such grass will be strimmed off and collected prior to spraying. The contractor shall be responsible for keeping the ground (1m diameter circle) around all planted material weed free by means of herbicidal application, using approved sprays, during the course of the contract. Weeds to be removed include grasses ,broad-leaved annual and perennial weeds and all noxious weeds.

2) Selective spot spraying will be carried out to all grassed areas, whether planted or unplanted through the application of contact herbicide to control broad-leaved annual and perennial weeds, including thistle, dock and ragwort. Contact herbicide to be approved by the landscape architect prior to application. Herbicide to be applied using controlled drop applicator containing a dye to indicate areas sprayed. The contractor shall allow for the removal of gorse by cutting, as required prior to spraying to ensure its eradication from all grassed areas for the duration of the contract.

3) The boundary hedgerows shall be kept weed free by herbicidal application by forming a 300mm wide spayed strip along the full length of each respective hedgerow. Approved herbicide (broad-spectrum contact herbicide) to be applied using controlled drop applicator containing a dye to indicate areas sprayed. Spraying of planted areas on roundabouts is also included in this spraying application.

4) Such routine spraying (1, 2 and 3 above) shall be carried out during maintenance visits over the three-year period. No spraying shall take place during adverse weather conditions or at times not recommended by the manufacturer.

4.16 Cutting back:

Plants for cutting back/tip pruning shall be cut back after inspection by the Landscape Architect. This work to be carried out initially following planting for plants suffering from wind damage.

4.17 Mulching

Mulching may be considered as an optional factor that may be implemented. Mulch shall be from coniferous trees. It shall be shredded, but not pulverised, so that no dimension exceeds 75mm. Bark shall have been composted for a min. of 3mths. In the case of areas requiring mulch the depth of bark shall measure 30 mm.

4.18 Ground finish:

Upon completion of planting, all ground finish shall include for the removal of stones greater than 50mm excavated during the course of the digging for planting purposes.

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Pollinators Plant list

Trees

Amelanchier x grandiflora ‘Robin Hill’

Crataegus monogyna ‘Stricta’

Malus tschonoskii

Pyrus calleryana ‘Chanticleer’

Sorbus acuparia varieties

Tilia cordata ‘Greenspire’; Tilia x europaea ‘Euchlora’

Aesculus hippocastanum

Amelanchier species (not A. lamarckii which may be invasive)

Catalpa bignonioides

Crataegus species

Malus species/cultivars

Paulownia tomentosa

Prunus avium

Prunus padus

Prunus serrulata ‘Tai Haku’

Pyrus species and cultivars

Sorbus species/cultivars

Salix alba (spring flowering)

Salix alba ‘Liempde’

Salix alba var. vitellina

Bulbs, Annuals, Biennials, Perennials, Climbers & Shrubs

AUTUMN

BULBS

Colchicum species (Autumn crocus)

Crocus species (Crocus, autumn-flowering)

PERENNIALS

Aconitum carmichaelii (Carmichael’s monk’s hood)

Actaea simplex (Simple-stemmed bugbane)

Anemone × hybrida (Japanese anemone)

Anemone hupehensis (Chinese anemone)

Aster species and hybrids (Michaelmas daisy)

Campanula poscharskyana (Trailing bellflower)

Ceratostigma plumbaginoides (Hardy blue-flowered leadwort)

Chrysanthemum species & hybrids (Chrysanthemum)

Dahlia species & hybrids (Dahlia)

Helianthus × laetiflorus (Perennial sunflower)

Leucanthemella serotina (Autumn ox-eye)

Salvia species (Sage -autumn-flowering)

CLIMBERS

Clematis heracleifolia (Tube clematis)

Hedera colchica (Persian ivy)

SHRUBS

Arbutus unedo (Strawberry tree)

Elaeagnus × ebbingei (Ebbinge’s silverberry)

Elaeagnus pungens (Silverthorn)

Fatsia japonica (Japanese aralia)

WINTER

BULBS

Crocus species (Crocus, winter-flowering)

Eranthis hyemalis (Winter aconite)

Galanthus nivalis (Common snowdrop)

PERENNIALS

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Helleborus species and hybrids (Hellebore, winter-flowering)

CLIMBERS

Clematis cirrhosa (Spanish traveller’s joy)

SHRUBS

× Fatshedera lizei (Tree ivy)

Lonicera × purpusii (Purpus honeysuckle)

Mahonia species (Oregon grape)

Salix aegyptiaca (Musk willow)

Sarcococca confusa (Sweet box)

Sarcococca hookeriana (Sweet box)

Viburnum tinus (Laurustinus)

SPRING

BULBS

Crocus species (Crocus, spring-flowering)

Muscari armeniacum (Armenian grape hyacinth)

Ornithogalum umbellatum (Common star of Bethlehem)

BIENNIALS

Erysimum species (Wallflower)

Lunaria annua (Honesty)

PERENNIALS

Arabis alpina subsp. caucasica (Alpine rock cress)

Armeria juniperifolia (Juniper-leaved thrift)

Aubrieta species (Aubretia)

Aurinia saxatilis (Gold dust)

Bergenia species (Elephant ear)

Doronicum × excelsum (Leopard’s bane)

Erysimum ‘Bredon’ (Wallflower ‘Bredon’)

Euphorbia amygdaloides (Wood spurge)

Euphorbia characias (Mediterranean spurge)

Euphorbia cyparissias (Cypress spurge)

Euphorbia epithymoides (Cushion spurge)

Euphorbia nicaeensis (Nice spurge)

Helleborus species & hybrids (Hellebore, spring-flowering)

Iberis saxatilis (Alpine candytuft)

Iberis sempervirens (Perennial candytuft)

Lamium maculatum (Spotted dead nettle)

Pulmonaria species (Lungwort)

SHRUBS

Berberis darwinii (Darwin’s barberry)

Chaenomeles species (Japanese quince)

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Cornus mas (Cornelian cherry)

Cotoneaster conspicuus (Tibetan cotoneaster)

Enkianthus campanulatus (Redvein enkianthus)

Erica × darleyensis (Darley dale heath)

Erica carnea (Alpine heath)

Hebe species (Hebe)

Mahonia species (Oregon grape (spring-flowering))

Pieris formosa (Lily-of-the-valley bush)

Pieris japonica (Lily-of-the-valley bush)

Prunus incisa ‘Kojo-no-mai’ (Cherry ‘kojo-no-mai’)

Prunus tenella (Dwarf russian almond)

Ribes nigrum (Blackcurrant)

Ribes rubrum (Redcurrant)

Salix hastata ‘Wehrhahnii’ (Halberd willow ‘wehrhahnii’)

Salix lanata (Woolly willow (male form only))

Skimmia japonica (Skimmia)

Stachyurus chinensis (Stachyurus)

Stachyurus praecox (Stachyurus)

Vaccinium corymbosum (Blueberry)

SUMMER

SOFT LANDSCAPE OUTLINE SPECIFICATION

BULBS

Allium species ornamental and edibles (when allowed to flower) (Allium)

ANNUALS

Ageratum houstonianum (Flossflower)

Amberboa moschata (Sweet sultan)

Anchusa azurea (Large blue alkanet)

Anchusa capensis (Cape alkanet)

Antirrhinum majus (Snapdragon)

Argemone platyceras (Crested poppy)

Borago officinalis (Borage)

Calendula officinalis (Common marigold)

Callistephus chinensis (China aster)

Centaurea cyanus (Cornflower)

Centratherum punctatum (Manaos beauty)

Cerinthe major 'Purpurascens' (Honeywort 'purpurascens')

Clarkia unguiculata (Butterfly flower)

Cleome hassleriana (Spider flower)

Consolida ajacis (Giant larkspur)

Cosmos bipinnatus (Cosmea)

Cosmos sulphureus (Yellow cosmos)

Cucurbita pepo (Courgette)

Cuphea ignea (Cigar flower)

Echium vulgare (Viper's bugloss)

Eschscholzia californica (California poppy)

7

Gilia capitata (Blue thimble flower)

Glebionis segetum (Corn marigold)

Gypsophila elegans (Annual baby's breath)

Helianthus annuus (Common sunflower (avoid pollen-free cultivars))

Helianthus debilis (Cucumberleaf sunflower)

Heliotropium arborescens (Common heliotrope)

Iberis amara (Wild candytuft)

Lavatera trimestris (Annual lavatera)

Limnanthes douglasii (Poached egg flower)

Linaria maroccana (Annual toadflax)

Lobularia maritima (Sweet alyssum)

Malope trifida (Large-flowered mallow wort)

Nemophila menziesii (Baby blue eyes)

Nicotiana alata (Flowering tobacco)

Nicotiana langsdorffii (Langsdorff's tobacco)

Nigella damascena (Love-in-a-mist)

Nigella hispanica (Spanish fennel flower)

Papaver rhoeas (Poppy)

Phacelia campanularia (Californian bluebell)

Phacelia tanacetifolia (Fiddleneck)

Phaseolus coccineus (Scarlet runner bean)

Reseda odorata (Garden mignonette)

Ridolfia segetum (False fennel)

Sanvitalia procumbens (Creeping zinnia)

Scabiosa atropurpurea (Sweet scabious)

Tagetes patula (French marigold)

Tithonia rotundifolia (Mexican sunflower)

Trachymene coerulea (Blue lace flower)

Tropaeolum majus (Garden nasturtium)

Verbena × hybrida (Garden verbena)

Verbena rigida slender (Vervain)

Vicia faba (Broad bean)

Zinnia elegans (Youth and old age)

BIENNIALS

Alcea rosea (Hollyhock)

Angelica archangelica (Angelica)

Angelica gigas (Purple angelica)

Campanula medium (Canterbury bells)

Dianthus barbatus (Sweet william)

Digitalis species (Foxglove)

Eryngium giganteum (Miss willmott's ghost)

Lychnis coronaria (Rose campion)

Matthiola incana (Hoary stock)

Myosotis species (Forget-me-not)

Oenothera species (Evening primrose)

Onopordum acanthium (Cotton thistle)

Verbascum species (Mullein)

8

PERENNIALS

Achillea species (Yarrow)

Actaea japonica (Baneberry)

Agastache species (Giant hyssop)

Amsonia tabernaemontana (Eastern bluestar)

Anthemis tinctoria (Dyer's chamomile)

Aquilegia species (Columbine)

Aruncus dioicus (male form only) (Goat's beard)

Asparagus officinalis (Common asparagus)

Astrantia major (Greater masterwort)

Buphthalmum salicifolium (Yellow ox-eye)

Calamintha nepeta (Lesser calamint)

Catananche caerulea (Blue cupidone)

Centaurea atropurpurea (Purple knapweed)

Centaurea dealbata (Mealy centaury)

Centaurea macrocephala (Giant knapweed)

Centaurea montana (Perennial cornflower)

Cirsium rivulare 'Atropurpureum' (Purple plume thistle)

Coreopsis species (Tickseed)

Crambe cordifolia (Greater sea kale)

Cynara cardunculus including Scolymus Group (Globe artichoke and cardoon)

Cynoglossum amabile (Chinese forget-me-knot)

Dahlia species (Dahlia)

Delosperma floribundum (Ice plant)

Delphinium elatum (Candle larkspur)

Dictamnus albus (Dittany)

Echinacea purpurea (Purple coneflower)

Echinops species (Globe thistle)

Erigeron species (Fleabane)

Eriophyllum lanatum (Golden yarrow)

Eryngium × tripartitum (Eryngo)

Eryngium alpinum (Alpine eryngo)

Eryngium planum (Blue eryngo)

Erysimum × allionii (Siberian wallflower)

Eupatorium maculatum (Joe pye weed)

Euphorbia cornigera (Horned spurge)

Euphorbia sarawschanica (Zeravshan spurge)

Ferula communis (Giant fennel)

Foeniculum vulgare (Fennel)

Fragaria × ananassa (Garden strawberry)

Gaillardia × grandiflora (Blanket flower)

Gaura lindheimeri (White gaura)

Geranium species

Geum species

Helenium species (Helen's flower)

Heliopsis helianthoides (Smooth ox-eye)

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Hesperis matronalis (Dame's violet)

Inula species (Harvest daisy)

Knautia macedonica (Macedonian scabious)

Lathyrus latifolius (Broad

-leaved everlasting pea)

Leucanthemum × superbum (Shasta daisy)

Liatris spicata (Button snakewort)

Limonium platyphyllum (Broad

-leaved statice)

Linaria purpurea (Purple toadflax)

Lythrum virgatum (Wand loosestrife)

Malva moschata (Musk mallow)

Mentha spicata (Spearmint)

Monarda didyma (Bergamot)

Nepeta × faassenii (Garden catmint)

Origanum 'Rosenkuppel' (Marjoram 'rosenkuppel')

Paeonia species (Peony)

Papaver orientale (Oriental poppy)

Persicaria amplexicaulis (Red bistort)

Persicaria bistorta (Bistort)

Phlox paniculata (Perennial phlox)

Phuopsis stylosa (Caucasian crosswort)

Polemonium caeruleum (Jacob's ladder)

Potentilla species (Cinquefoil)

Rudbeckia species (Coneflower)

Salvia species (Sage)

Scabiosa caucasica (Garden scabious)

Scabiosa columbaria (Small scabious)

Sedum spectabile & hybrids (Ice plant)

Sedum telephium (Orpine)

Sidalcea malviflora (Checkerbloom)

Solidago species (Goldenrod)

Stachys byzantina (Lamb's ear)

Stachys macrantha (Big sage)

Stokesia laevis (Stokes' aster)

Tanacetum coccineum (Pyrethrum)

Tanacetum vulgare (Tansy)

Telekia speciosa (Yellow ox

-eye)

Teucrium chamaedrys (Wall germander)

Verbena bonariensis (Purple top)

Veronica longifolia (Garden speedwell)

Veronicastrum virginicum (Culver's root)

CLIMBERS

Campsis radicans (Trumpet honeysuckle)

10

Convolvulus tricolor (Dwarf morning glory)

Hydrangea anomala subsp. petiolaris (Climbing hydrangea)

Jasminum officinale (Common jasmine)

Parthenocissus tricuspidata (Boston ivy)

Pileostegia viburnoides (Climbing hydrangea)

SHRUBS

Aesculus parviflora (Bottlebrush buckeye)

Brachyglottis (Dunedin Group) 'Sunshine' (Brachyglottis 'sunshine')

Brachyglottis monroi (Monro's ragwort)

Buddleja globosa (Orange ball tree)

Bupleurum fruticosum (Shrubby hare's ear)

Callicarpa bodinieri var. giraldii (Beautyberry)

Caryopteris × clandonensis (Caryopteris)

Cornus alba (Red-barked dogwood)

Elaeagnus angustifolia (Oleaster)

Erica vagans (Cornish heath)

Erysimum 'Bowles's Mauve' (Wallflower 'bowles's mauve')

Escallonia species (Escallonia)

Hebe species (Hebe)

Hydrangea paniculata (Paniculate hydrangea (cultivars with many fertile flowers e.g.

'kyushu', 'big ben', 'floribunda','brussels lace'))

Hyssopus officinalis (Hyssop)

Kalmia latifolia (Mountain laurel)

Laurus nobilis (Bay tree)

Lavandula × intermedia (Lavandin)

Lavandula angustifolia (English lavender)

Lavandula stoechas (French lavender)

Lavatera olbia (Tree lavatera)

Ligustrum ovalifolium (Garden privet)

Ligustrum sinense (Chinese privet)

Olearia species (Daisy bush)

Perovskia atriplicifolia (Russian sage)

Phlomis species (Sage)

Photinia davidiana (Stranvaesia)

Prostanthera cuneata (Alpine mint bush)

Ptelea trifoliata (Hop tree)

Pyracantha species (Firethorn)

Rosmarinus officinalis (Rosemary)

Spiraea japonica (Japanese spiraea)

Tamarix ramosissima (Tamarisk)

Thymus species (Thyme)

Viburnum lantana (Common wayfaring tree)

Weigela florida (Weigelia)

Zauschneria californica (Californian fuchsia)

Perennial planting schemes

Pollinator friendly perennial plants are excellent sources of pollen and nectar. They are much more

attractive to bees when planted in blocks rather than as single plants. Having a pollinator friendly

perennial bed is an excellent way to provide food for pollinators across their lifecycle.

Perennials can be used to great effect in traffic islands and public spaces, providing a strong visual

impact and giving a good display of flowers over a long period. Pollinator friendly perennial planting

should be designed to provide a food source from spring through to autumn. In addition they are:

- Low maintenance

- Easy to establish

- Have strong visual impact

- More cost effective than bedding schemes over the long term

- Less maintenance than lawn mowing

- Provide a natural style of planting

- Provide habitat and nesting materials for birds and insects

Maintenance:

Good ground preparation is essential to minimise maintenance in the future.

- Removal of all root weeds before planting such as scutch grass, bindweed etc. will reduce

weeding later on. Sometimes it is best to leave the site fallow for a season to sort out any

issues.

- The soil must be well drained and not compacted, and have good nutritional content.

Organic material can be added. There is usually no

SOFT LANDSCAPE OUTLINE SPECIFICATION

need to add fertiliser.

- Plants ideally should contain a slow release fertiliser in the pot and should be watered well

before planting.

- In the first few months after planting beds will have to be weeded by hand as hoeing can

damage spreading plants. This should be done regularly, maybe three or four times in year

one depending on the weed population. When the perennials have established and provided

dense cover, the frequency of weeding can be reduced.

- In year two and onwards, weed the beds at the beginning of and end of the growing season,

and spot check for the odd weed in between.

- Watering may have to be taken into consideration during dry spells.

- Leave dead stems on plants for the winter as they provide protection for the plants, offer

food and habitat and nesting materials for wildlife, prevent weed seeds from germinating

and increase the organic matter.

- The dead foliage can be removed in spring by mass pruning to approx. 10cm height when

there is new growth appearing. Some plants like Grasses & Thymes will look good without

pruning back.

- Organic matter like compost can be added to keep the soil in good condition.

Planting time:

March-April is the best time for planting as the plants will have plenty time to root in before

summer. If planted in June then weeds will have already established and they will be easy to

remove, but the plants have less time to root in and provide ground coverage.

Life span of perennial planting:

The life span of a well planted and well maintained perennial scheme is 10 to 12 years, maybe

longer, which is about the same as a shrub bed. Small amount of replacements may be required

depending on the site but in general the plants are trouble free.

Thanks to Young Nurseries who voluntarily provided suggested perennial plant lists and example

costings.

Best Practice in the Use of Pesticides

In additional to the honeybee who lives in hives, we also have 20 different types of bumblebees and

77 different types of solitary bees in Ireland. Bumblebees and solitary bees live entirely in the wild.

We need healthy populations of all these bees to carry out pollination if we want to have

wildflowers in the landscape, be able to grow our own fruits and vegetables, or buy affordable,

locally grown apples or strawberries in our shops. Bees and other pollinators can only survive in a

landscape that provides them with food, shelter and safety throughout the year. Already, one third

of our 98 bee species are threatened with extinction from Ireland.

Insecticides pose the greatest direct hazard to insect pollinators. However, herbicides use is having a

much greater negative impact on pollinators because it is so widely used.

Herbicides, Fungicides and Plant Growth Regulators typically have little or no toxicity to pollinators,

but many of the plants we spray as weeds are vital sources of food for pollinators, especially in early

spring. Pollinators need a range of flowers to feed on from spring through to autumn. The overuse of

these chemicals is making it very difficult for them to find enough food to survive in our landscape.

Pesticides should be used sparingly and only when absolutely necessary, such as in the treatment

of invasive species like Japanese Knotweed

Do's

- Check the label and select pesticides that are less harmful to pollinators

- Always read, understand and follow the product label instructions fully

- Treat only the target area

- Spot treat rather than use blanket sprays

- Follow the buffer zone instructions on the product label

- Leave areas of pollinator-friendly habitat free from all pesticides. These include areas of

clover or wildflowers, the base of hedgerows, and any natural areas.

- Minimize spray drift to non-target areas by:

o Using equipment that reduces drift

o Checking the weather forecast before application and be mindful of changing

conditions.

o Ensure that you spray when the wind is blowing away from beehives and pollinatorfriendly habitat.

Don'ts

- Do not apply pesticides to bees or other pollinating insects

- Do not spray flower-rich areas (including weeds) when flowers are in bloom and providing

food for bees. Plants that we might consider weeds like dandelions, vetches, clovers, deadnettles and knapweed are important food sources as they provide high quality pollen and

nectar for bees.

- Do not apply pesticides to areas that have been identified as important nesting areas for

wild pollinators

- Do not apply pesticides to standing water.

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HARD LANDSCAPE OUTLINE SPECIFICATION

PAVING & KERBS

FOOTPATHS

General: Public footpaths, roadways, kerbs etc. shall be constructed in accordance with the requirements of the Dublin City Council Roads Dept.

Accuracy of Levels and Alignment: The levels of paths and paving shall be carefully set out and frequently checked. All care shall be taken to ensure that the correct cross sections are maintained. The finished face of paths shall be formed so as to provide adequate fall and satisfactory run off to surface water outlets, gullies, etc. Cross-falls of paths shall be carried without break across verges and kerbs to prevent ponding of water between back of kerb and

path.

Sub-Base: Granular material shall comply with Clause 804 of the D.o.E. Specification for Roadwork's and shall be spread uniformly over the formation and compacted by vibrator roller. Rolling shall continue until there is no movement under the roller. The finished surface of the compacted sub-base shall be parallel to the proposed finished surface of the footpath. The surface levels for each layer shall not deviate from the design levels by more than +15mm or –15mm.

For sub-base thickness in paved areas see area engineers spec. and attached following schedule. Each contractor shall do all necessary tests to ensure a well compacted, plain even surface on all areas with traffic movement. If paving shows settling after 1 year which normally is related to an insufficient depth and compaction of the sub-base the contractor shall rebuilt the failed area to his own

cost.

Use of Surfaces by Construction Traffic:

Constructional traffic used on pavements under construction shall be suitable in relation to the courses it traverses so that damage is not caused to the sub-grade. Where damage is caused to the formation of the sub- grade in strength or level the damaged area shall be excavated for an area and depth which shall be determined by the Architect and this area shall be filled to the required levels with crushed rock of 50mm maximum size. The degree of compaction for this area shall be the same as that specified for the remainder of the formation. All this excavation and making good of damaged areas shall be carried out at the expense of the Contractor. Where damage is caused to the sub-base, the damaged area shall be made good as noted above, using the material of which the sub-base is composed. The wheels or tracks of plant moving over the various pavement courses shall be kept free from deleterious materials.

MODULAR PAVING

Concrete Pavers Precast concrete pavers shall conform to the requirements of BS 6717 Part 1.

Ensure that sub-bases are suitably accurate and to specified gradients before being laid.

Sample: Before placing orders submit representative samples for approval.

Ensure that delivered materials match sample.

Laying Generally:

1. Laying Specification

1.1 Paving blocks/bricks shall be laid to the requirements of Part 3: 1997, BS 7533,

except that the lip onto gully gratings is modified to 5 - 6 mm.

Note, in particular, the following requirements of Part 3.

i. The difference in level between two adjacent blocks shall not exceed 2 mm.

ii. The finished pavement surface shall not deviate more than 10 mm under a 3m

straight edge.

iii. The accuracy of cutting a block should be such that the resulting joint should not

exceed 5 mm.

iv. The surface course should be between

(a) 3 - 6 mm above drainage channels

(b) 5 - 10 mm above gullies (*BRL modify this to 5 - 7 mm above gullies to

reduce "trips")

v. The surface course should be inspected soon after completion and at regular

intervals thereafter - additional sand should be brushed in where necessary.

1.2 The surface course for chamfered units should be 3 - 5 mm above the kerb to

facilitate surface drainage. The surface course for non-chamfered units should be 2 mm above the kerb to facilitate surface drainage.

1.3 When paving units need to be trimmed, pieces with a dimension less than 50 mm

should not be used.

2. Drainage Channels

2.1 Where paving blocks are used in a channel, they shall be laid on freshly mixed moist 3:1 sand-cement mortar. The mortar should have thickness between 10 mm and 40 mm. Vertical joints should be filled with 3:1 wet sand-cement mix.

2.2 Mortar, which has been mixed for over 2 hours, should be discarded.

2.3 The mortar should be laid on a previously prepared concrete base as per construction drawing detail. Select blocks/paviors vertically from at least 3 separate packs in rotation, or as recommended by manufacturer, to avoid colour banding. Lay blocks/paviors on a well graded sand bed and vibrate to produce a thoroughly interlocked paving of even overall appearance with sharp sand filled joints and accurate to line, level and profile. Refill joints once a week three weeks after first fill. Commencing from an edge restraint lay blocks/paviors hand tight with a joint width of 2-3mm for pedestrian use and 3-5 mm for areas with traffic. Maintain an open working face and do not use mechanical force to obtain tight joints. Place blocks/pavers squarely with minimum disturbance to bedding. Supply blocks/paviors to laying face over newly laid paving but stack at least 1 m back from laying face. Do not allow plant to traverse areas of uncompacted paving. Continually check alignment of pavers with string lines as work proceeds to ensure maintenance of accurate bond. Infill at edge restraints as work proceeds. Wherever the type of bond and angle of edging permit, avoid very small infill pieces at edges by breaking bond on the next course in from the edge, using cut blocks/pavers not less than 1/3 full size. Cut stones shall be rectangular or trapezoidal; the smallest point shall be a minimum of 35mm. (May be pavers have to be turned by 90 deg.)Half stones shall be cut at manufacture. Thoroughly compact blocks/pavers

HARD LANDSCAPE OUTLINE SPECIFICATION

with vibrating plate compactor as laying proceeds but after infilling at edges. Apply the same compacting effort over the whole surface.

Do not compact within 1 m of the working face. Do not leave uncompacted areas of paving at the end of working periods, except within 1 m of unrestrained edges. Checks paving after compacting first few metres, then at frequent intervals to ensure that surface levels are as specified; if they are not, lift blocks/pavers and relay. Brush sharp sand into joints, revibrate surface and repeat as required to completely fill joints. Make sure that paving is held by a kerb on both sides before vibration to avoid uneven joints. Avoid damaging kerb haunching and adjacent work during vibration. Do not begin vibration until kerbs have matured. The paving pattern will be stretcher bond, make sure that the joints will be in straight line after vibrating. Also ensure joints are off equal width.

The block pavement shall have a surface regularity/ flatness tolerance of less than 10 mm under a 3 m straight edge.

Sample: Before placing orders submit representative samples for approval.

Ensure that delivered materials match sample.

PRECAST CONCRETE FLAGS

Pre-cast Concrete Flags:

1. Precast concrete flags shall be laid to the requirements of BS 7533 Part 4.

Note the following selected items from BS 7533, Part 4.

- The difference in level between two adjacent flags should not exceed 3 mm.
- The top surface of the paving units should stand 3 - 6 mm above the drainage channel.
- A 30 - 50 mm (compacted thickness) of the sand laying course is given as suitable (for narrow joints)

2. Flags should be laid with narrow joints (2 - 5 mm). Joints should be filled with dried sand (conforming to table 4 of the code), or as determined by the Landscape Architect.

KERBS

Kerbing General: Kerb radii shall be in accordance with Architects and Engineers drawings. Use radius kerbs for all new kerbs.

Laying Generally:

Natural stone and precast concrete kerbs shall meet the requirements of BS 435 and

BS 7263-1.

1. Precast concrete kerbs shall be laid to the requirements of BS 7533, Part 6.

2. Units shall be laid on fresh concrete or mortar bed and adjusted to line and level.

3. Concrete for foundations and haunching shall be to BS 5328.

4. Bedding mortar shall be freshly mixed, moist 3:1 sand-cement between 12 and 40

mm thick.

5. Kerbs shall be backed with concrete as per drawing.

6. Radius kerbs shall be used on radii of 12 m or less.

7. Kerbs should not deviate from the required level by more than 6mm.

8. Kerbs should not deviate by more than 3 mm under a 3 m straight edge.

9. Open-jointed kerbs should have joints of 2 - 4 mm wide.

Mortar jointed kerbs should have joints of 7 - 10 mm wide filled completely with 3:1

sand-cement mortar, and finished to give a smooth flush joint or as specified by the

Landscape Architect.

Programme For Implementation, Maintenance + Defects Period

5.0 Maintenance:

5.1 Period:

The Contractor shall be responsible for aftercare of the completed works for an agreed amount of time from the date of completion of planting. The period is to be negotiated btween Hones (The Developer) and Dublin City Council.

5.2 Organisation:

The aftercare programme will be organised as follows:-

(1) Scheduled operations, in whose timing the contractor will be permitted some flexibility and which will be the basis of payment to the Contractor.

(2) Performance standards, which the Contractor is required to meet at all times, and on which his performance will be assessed.

(3) Critical dates, by which time scheduled operations, shall have been completed, and at which performance will be assessed.

5.3 Performance standards:

Shrub, woodland and hedgerow planting to be maintained in accordance with specifications e.g. spraying, firming, tree tie adjustment. Weeds shall not cover more than 20% of the ground surface within planting areas and the maintained 1m diameter weed free circles at any time, and neither shall they exceed 100mm in height. Weeds shall be treated before they establish.

Within grass areas noxious and competitive weeds shall not be allowed to establish and all perennial weeds shall be spot treated at each maintenance visit, 3 times per year.

5.4 Watering:

The contractor is responsible for the survival of all plants during the maintenance period. Apply water to moisten full depth of root run using proprietary irrigation system. Avoid washing or compaction of the soil surface. The Landscape Contractor is responsible for informing the Landscape Architect if the plants require watering. A minimum of 16 no. waterings year1, 8 no. year 2, 4 no. year 3. Prior notification to the landscape architect and a record of attendance will be requested for each visit. Spot checks will be made to ensure full compliance with this condition.

5.5 PROGRAMME

Year One (After Planting):

5.5.1 By end of May (Year One):

Application of herbicide agreed with Landscape Architect to all planting areas. Protect all plants. Hand weed all large weeds too close to nursery stock for safe treatment. Strim long grass prior to spray application. Provision for 1 no. visit for spot weed control application to areas where perennial weeds are apparent in the grass sward. Tip prune, firm plants. Grass cutting. All necessary cultural/ husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Water select standard trees.

Critical date: 30 May (Year One)

5.5.2 By end August (Year One):

Application of herbicide agreed with Landscape Architect to all planting areas. Protect all plants. Hand weed all large weeds too close to nursery stock for safe treatment. Provision for 1 no. visit for spot weed control application to areas where perennial weeds are apparent in the grass sward. All necessary cultural/husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Grass cutting. All necessary cultural/ husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Water select standard trees.

Critical Date: 30 August (Year One)

5.5.3 October (Year One):

Remove dead plants after Landscape Architect's inspection.

5.5.4 November (Year One):

Replacement planting. Tree care shall mean pruning deciduous trees including those of hedgerow form when dormant to promote open frame works in the crown. Remove all suckers and dead branches, and branches that are encroaching on to footpaths should be cut back to point of branching.

5.5.5 By end December:

Application of herbicide agreed with Landscape Architect to all planting areas. Grass cutting. All necessary cultural/ husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Water extra heavy standard trees, standard trees.

Critical Date: 30 December (Year One).

5.5.6 Year 2

As year 1.

5.5.7 Year 3

As year 1 . Hedgerow to be fully pruned at end of season.

5.5.8 Sweeping and Cleaning

Sweeping shall mean sweeping of the footpaths, playing courts, car parks and the schools road network and removal of all grit rubbish moss and leaves, keeping the hard landscaped areas of the site in a neat and tidy manner. Number of sweepings per annum -12no.

Cleaning shall mean the removal of paper, plastic bags and all other rubbish from grassed areas, roads, car parks, playing courts, shrubbery's, hedging etc. or any part of the school grounds. This operation shall be carried out twice a month.

All dirt and rubbish to be removed off site to a tip to be provided by the Landscape contractor.

Autumn leaves shall be swept on a weekly basis from end of October to mid-November (three weeks). Any additional cleaning and sweeping deemed necessary, during the year, and requested by the school for any part of the schools grounds will be paid for at a pro rata basis to the rates for the programmed maintenance schedule.

5.5.9 Other Maintenance Works

All grassed areas are to be edged 3 times a year using a machine and are not to be sprayed.

Carry out any other maintenance to ensure the works are kept in a satisfactory state during the defects liability period.

5.6 Grass Cutting

Grass cutting shall be deemed to include for:

[a] Removal of lodged grass.

[b] Removal and disposal of grass cuttings from adjoining roads and paving.

[c] Removal and disposal of stones and other obstructions

Programme For Implementation, Maintenance + Defects Period

from area of grass to be cut.

The pitches and other high profile grassed areas, eg. the schools entrance are to be Fine cut. Fine cutting shall mean mowing to 25mm high. This operation is to be carried out in each location shown on the landscape drawings and in locations as directed on site by a representative of The Department Of Education and Science. A rough schedule is as follows-

March: 1cut

April: 3 cuts

May: 4 cuts

June: 4 cuts

July: 4 cuts

August: 4 cuts

September: 4 cuts

October: 4 cuts

November - February: 1 cut

Total 29 cuts

Fine cutting shall be deemed to include for grass cut to 25mm high evenly over the whole area, with cuttings left evenly spread over the surfaces. Grass not to exceed 50mm between cuts.

Other grass areas of which are less high profile are to be cut 16 times a year. These will include the grassed areas around the woodland areas, in between the pitches and any grassed area hidden from the main road by the school.

Areas indicated as wildflower mix shall be cut three times per annum. Cuts shall be carried out at specified times as agreed with landscape architect and recommended by the wildflower seed producer. Remove cuttings after each cut and remove offsite to tip.

Leave cuttings evenly spread. This operation is to be carried out in each location shown on the landscape drawings and in locations as directed on site by a representative of the Board Of Management.

At every second grass cut, grass shall be trimmed from around the base of walls and fences, back of footpaths and kerbs, litter bins, sluice valves and hydrant markers, trees, shrubberies poles and public lighting columns etc., and kept in a neat and tidy condition.