LAND PLANNING & DESIGN

CUNNANE STRATTON REYNOLDS

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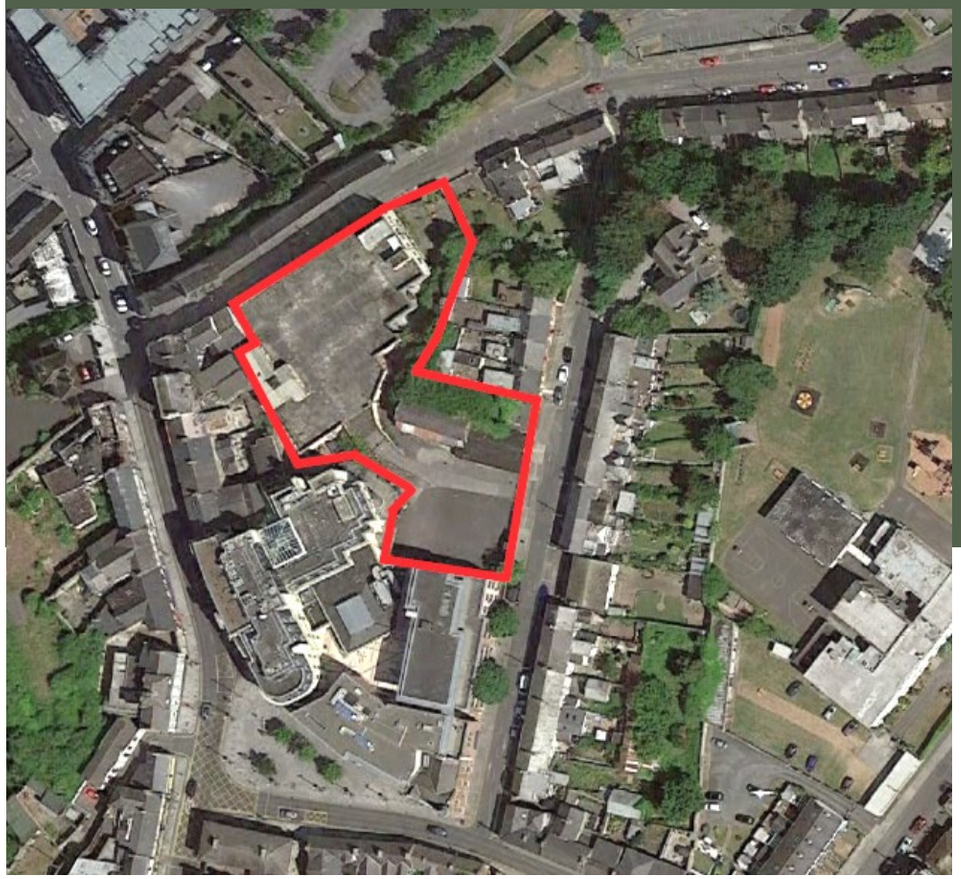

TEMPLAR PLACE SHD
QUAY STREET + HIGH STREET,
BALBRIGGAN, COUNTY DUBLIN

LANDSCAPE STRATEGY & DESIGN REPORT
Final Stage SHD Application
20445-2-D01-E

July 2021

for Rhonellen Developments Ltd

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Contents

Site Location and Context.

The proposed development site is located on the former shopping centre between Quay Street and High Street, Balbriggan with frontages on both streets. The proposal is for a Build to Rent (BTR) Strategic Housing Development (SHD) scheme comprising construction of two main apartment blocks (Blocks A and B, which range in height from 3 to 7 storey and a smaller 2 storey residential building, grouped around a central amenity courtyard, along with the provision of car parking, cycle parking, open spaces, landscaping, boundary treatments, all associated site works and services provision.

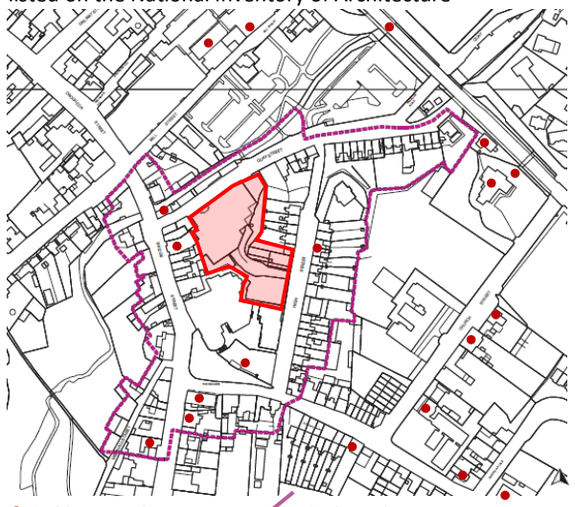
The site is just east of Drogheda Street, which is Balbriggan's main thoroughfare and west of the railway viaduct and harbour. The Bracken River flows to the north of High Street through Quay Street Park to the north of the site.

The site is located in the Balbriggan Historic Town Centre Architectural Conservation Area. This ACA spans the civic core of Balbriggan stretching north to the viaduct. There are several buildings listed on the National Inventory of Architectural Heritage dating from the late 19th and early 20th century including the Balbriggan Carnegie Free Library and the Balbriggan Court House. The Heritage Appraisal covers these aspects in more detail.

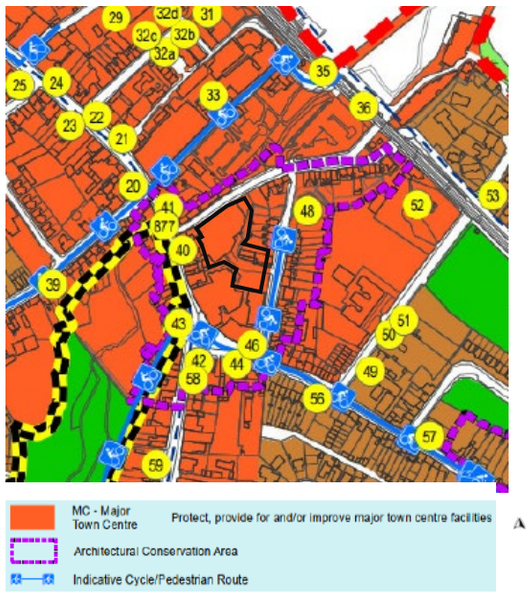
A plan for streets and public spaces in Balbriggan Town Centre called 'The Heart of Balbriggan' was published by FCC in 2011. The river, park, the main street (Dublin Road, Bridge Street, Drogheda Street) and Quay Street are among the three main elements of the town's urban and landscape structure, which have the greatest need and potential for improvement. As part of the plan, a new Heritage trail for the town is proposed which takes in Quay Street. The 'Our Balbriggan' Rejuvenation Plan similarly prioritises the area.

Designations and Planning

Balbriggan Historic Town Centre ACA and buildings listed on the National Inventory of Architecture

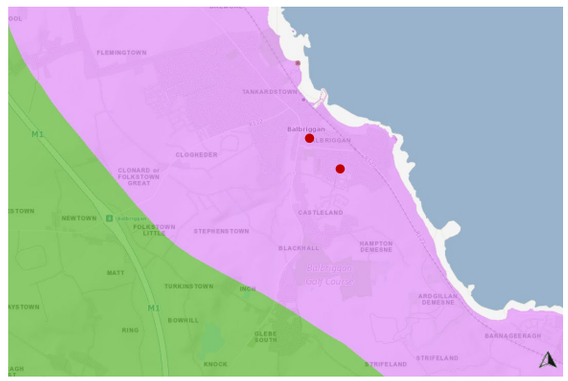


Excerpt from Fingal Development Plan – Balbriggan 2017-2023



Balbriggan, located on the east coast falls within Fingal County Council's 'Coastal' Landscape Character Area. This character area type, is categorised as having an exceptional landscape value due to the combination of visual, ecological, recreational and historical attributes. More locallised character areas can be derived within the site environs. These area presented overleaf.

Heart of Balbriggan strategic concept



Fingal Development Plan

- Airport and Swords
- Coastal
- Estuary
- High Lying Agricultural
- Low Lying Agricultural
- River Valleys/Canal
- Rolling Hills with Tree Belts

The site environs can be interpreted through the articulation of the following character areas.

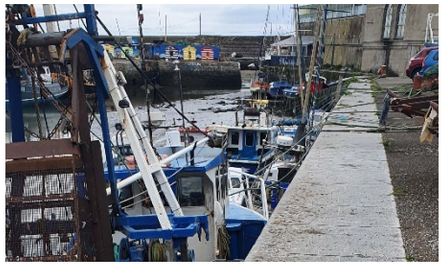
1 = Historic Core
2 = Balbriggan Harbour
3 = The Banks and Beach
4 = Balbriggan Railway
5 = Quay Street Park
6 = Drogheda Street
7 = Hampton Street
8 = Dublin Street
9 = St Georges

Legend
Character Areas boundaries
Railway line
CC

Relevant character areas are illustrated overleaf

1. Historic Quayside

2. Balbriggan Harbour



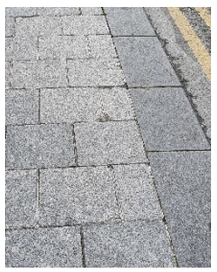
3. The Banks and Beach

4. Balbriggan Railway

5. Quay Street Park

6. Drogheda Street

7. St Georges Square



8. Hampton Street

Site Constraints and Opportunities

Opportunities

- The current condition of the lands are poor and are in need of change. They do not compliment the character of the ACA or Balbriggan town.
- Proximity to some of the most characterful parts of Balbriggan.
- Existing precedent set in terms of scale and massing by the old Tesco's building.
- To improve the street frontage and public realm of Quay Street and High Street.
- To respond positively to Quay Street Park and the future plans for this area and the wider Harbour.
- Existing mature trees in gardens west of High Street and in Quay Street Park break up views from the north.
- Views to Quay Street Park, the viaduct and the sea.

Constraints

- Close-proximity views from residences
- Adjacent two-storey residential buildings and potential over-looking
- Steep bank along the north- east which may need to be made structurally sound and safe.
- The 8-9m level change across the site (which is also an opportunity).
- Pedestrian rights of way / fire escape access through the site.

Site boundary

River Bracken and proposed

Vegetation in private lands on or adjacent to the site

Public Open Space

Semi-mature trees adjacent to the site

Building over 2 storeys high

Active / semi-active frontage

Residential frontage

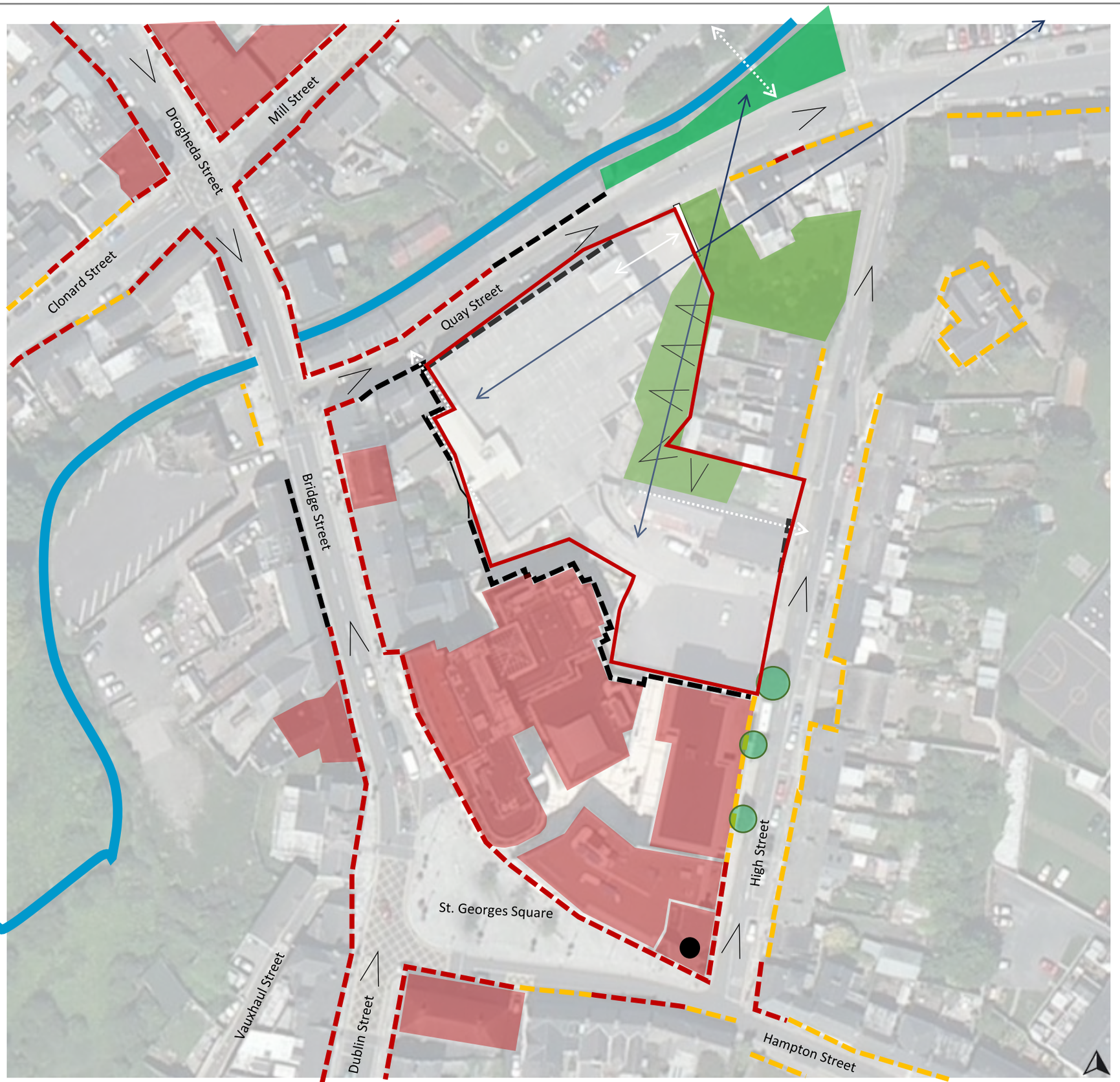
Passive frontage

Focal point / Prominent building

Key views into and from the site

Pedestrian rights of way / pathways

Slopes



Site Constraints and Opportunities

VP	Description of viewpoint	Rationale for selection	Visibility
1	From the lighthouse	Local landmark	Partial - distant.
2	Harbour Road	Edge on ACA, gateway into Balbriggan town.	Partial
3	Quay street / High Street	Representative of views from junction within ACA	Partial, mid-range, oblique
4	High Street	Close proximity residential receptor	Visible
5	High Street / Hampton Street	Representative of views from junction within ACA	Partial, mid-range, oblique
6	Hampton Street	Demonstrate lack of interference with view to library	None likely
7	St. Georges Square	View north from within the ACA	Potential glimpse through buildings
8	Bridge Street / Quay Street	Close proximity residential receptor / street view	Visible, oblique view
9	Clonard Street	Residential receptor / representing views from SW	None likely
10	Drogheda Street	Most elevated position	Partial
11	Quay Street	Representing residential views and views from the park	Visible
12	Mill Street	Representing residential views from Mill Street	Partial views over and through trees
13	Viaduct walkway	Viewpoint / pedestrian path	Visible
14	Quay Street Park	Public path	Visible

An Bord Pleanala Case Reference ABP-308916-20
Pre Application Consultation Opinion May 2021

1. Height and Design.

While the site may be considered suitable for high density development and may be able to absorb height and taller elements within it, the documents require further consideration and/or justification as they relate to the scale, bulk and mass of the building relating specifically to the visual impact on Quay Street and High Street and on the receiving environment of the Harbour Area, all of which are within Balbriggan ACA. The further consideration of these issues may require an amendment of the documents and/or design proposal submitted.

Response: See Architects Design Statement detailing design changes to building height and scale. Please see revised LVIA and Photomontages

2. Public Realm

Further consideration/justification of the documents in relation to the public realm along Quay Street and maximisation of opportunities for activity at street level.

Response: See Architects Design Statement and drawings detailing design changes to building at Quay Street interface.
See Drawing No 20445-2-101 Landscape Masterplan showing proposed footpath upgrade and enhancement to Quay Street including granite slabs, and setts. This is a commitment to the delivery of quality and consistent finishes to this street. FCC has commissioned a Public Realm Improvement Strategy for the town overall and a specific improvement scheme for Quay Street and the Harbour, however we understand from initial approaches that these are at a very early stage. The scheme proposals can be adjusted to reflect the styles and materials that are recommended for public areas / streets in due course. Please note street trees are not feasible in the existing pavement at Quay Street given the extent of underground services, particularly water and drainage. Proposals for High Street reflect a similar materials palette, however services here do allow for street trees.
See also detailed proposals and contextual description on Pages 11 & 12 Below.

Other Information Requested

Item 2: Documentation to clearly indicate details of public realm improvements proposed to Quay Street, including consideration of consistent footpath widths at this location, in conjunction with PA plans in this regard. Details in relation to public realm improvements along High Street are also required.

Response (As 2 above):See Drawing No 20445-2-101 Landscape Masterplan showing proposed footpath upgrade and enhancement to Quay Street including granite slabs, and setts. This is a commitment to the delivery of quality and consistent finishes to this street. FCC has commissioned a Public Realm Improvement Strategy for the town overall and a specific improvement scheme for Quay Street and the Harbour, however we understand from initial approaches that these are at a very early stage. The scheme proposals can be adjusted to reflect the styles and materials that are recommended for public areas / streets in due course. Please note street trees are not feasible in the existing pavement at Quay Street given the extent of underground services, particularly water and drainage. Proposals for High Street reflect a similar materials palette, however services here do allow for street trees.

See detailed proposals and contextual description on Pages 11 & 12 in relation to Quay Street and Page 13 in relation to High Street Below.

Item 13: Response to issues regarding Play Provision and Street Trees & Services raised by the Parks and Green Infrastructure Division (dated 15.01.21) from Appendix 3 of the Planning Authority Report, received on 27th January 2021:

Play provision:
The applicant should clearly demonstrate that toddlers up to teenagers have been catered for within the proposed play space areas in terms of areas as well as specific usage (in particular in relation to the older age groups). Response: See Drawing No 20445-2-102 Play Strategy Showing detail of play provision across a range of age groups and also pages 17 & 18 Below.

Street trees and services:
The applicant should demonstrate that planting proposals are achievable in terms of space both above and below ground for pedestrians, tree roots, services (existing/proposed) and future tree growth·. In this regard, the proposed 16 cubic metre constructed tree pit and existing and proposed services should be clearly shown in plan and section format.

Response: Tree planting is not feasible along the footpath in Quay Street due to existing services. Street tree planting at High Street is feasible without conflict with services and integrating with new surfaces, tree pits and accommodating services within the limited space available. See Page 21 below and Drawing No 20445-2-103

Places, Spaces and Concepts | Communal hub in a historic core

The proposal aims to create a large semi-private courtyard nestled within the heart of the development with some higher-level terraces and high-quality street frontages on Quay Street and High Street. An extensive range of green / biodiverse roofs will provide attenuation services and an important added biodiversity value to the project.

The courtyard gardens will be fully enclosed and contain a range of spaces / functions with a distinct character of coherence and calm.

Across the development, the following types of spaces are proposed;

1. **Quay Street frontage**: Enhanced stone surfaced pavement to the building frontage. (Subject to agreement with FCoCo and coordination with wider Quay Street plans.
2. **High Street frontage:** Simple streetscape with tree planting reflecting existing.
3. **Templar Gardens:** A semi-private enclosed courtyard, enclosed and with few views out, overlooked and used for relaxation, play and fitness.
4. **Biodiverse green roofs:** For enhanced wildlife habitat.
5. **Access routes and Laneways: G**ated entrances into the development – simply designed as welcoming spaces.

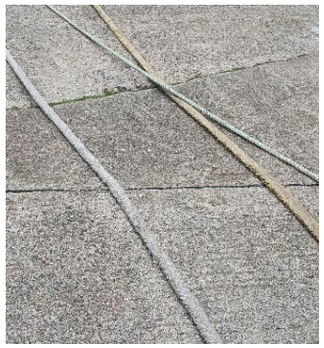
These spaces are labelled on the landscape masterplan shown overleaf and are explained in further detail on forthcoming pages.

The following aspects are pressing or special to this place and these have informed the proposed landscape masterplan;

- ***Proximity to the harbour and its characteristics***
- ***Level changes – Long distance views***
- ***Characteristics of the Architectural Conservation Area***
- ***Making outdoor spaces comfortable and usable***

The design has evolved to mimic the colours and textures of the historical features and existing landscape context and the textures, materials, lines and forms of the harbour.





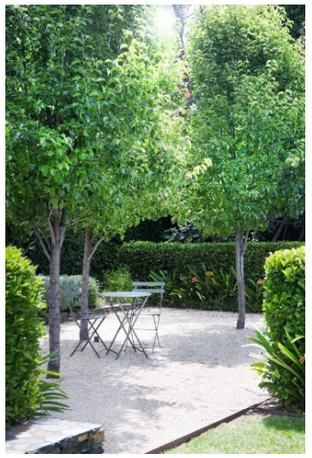

Colourful walls and buildings, stone walls, stretched rope and rings. granite and grey, bridges, sails and nets, wild coastal plants



Offset geometry, long continuous forms, social spaces, naturalistic drift planting, linear planting, framed views

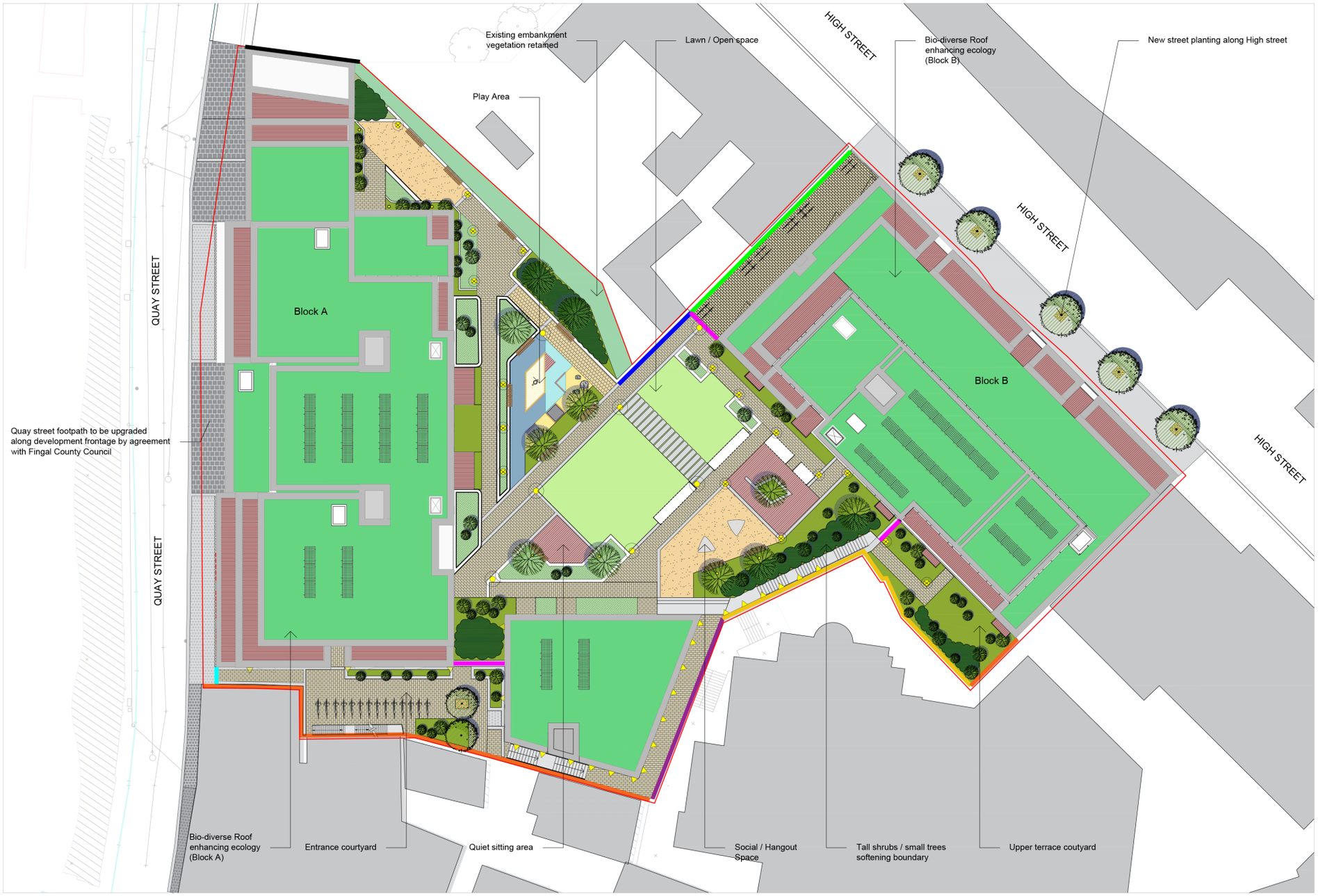







Landscape Masterplan

TEMPLAR PLACE SHD QUAY STREET & HIGH STREET, BALBRIGGAN



PROPOSED PLANTING AND VEGETATION

Street Trees
Fraxinus ornus obelisk ('Paus Johannes Paulus II')

Courtyard Trees
Acer griseum 14-16cm
Betula Jacquemontii multi-stem
Malus 'Evereste'
Sorbus aucuparia 14-16cm *

Feature Specimen Shrubs
Viburnum opulus - 2.5 - 3.5m ht, multi stemmed (3-4), RB or 35L CG.
Corylus avellana2.5 - 3.5m ht, multi stemmed (3-4), RB or 35L CG.
Euonymus europaeus 2.5 - 3.5m ht, multi stemmed (3-4), RB or 35L CG.
Rosa rugosa 90-120cm ht, 10L CG bushy 6-7 stems
Cornus sanguinea "Midwinter Fire" 90-120cm ht, 10L CG bushy 6-7 stems
Crataegus monogyna 1.75 - 2.5m ht, multi stemmed (3-4), RB or 35L CG
Amelanchier lamarkii 1.75 - 2.5m ht, multi stemmed (3-4), RB or 35L CG

Existing vegetation to be retained

Green / Bio-diverse Roof

Lawn area

Perennial drift plantingLow-medium height evergreen/perennial plants
Max height 40-150mm. 2L min. pot size and planted at 5/m² unless specified

Achillea sp.
Alium sp.
Aquilegia species (purples / deep reds)
Anemone × hybrid 3L pot planted at 4pm²
Agastache 'Black Adder' *
Carex sp (greens, golds) 1
Calamagrostis Karl Foerster *
Echinacea sp.
Euphorbia sp.
Lavendula augustifolia 'Blue Cushion'
Liatris spicata
Lonicera periclymenum
Knautia macedonica 5%
Miscanthus tenuissima
Pennisetum alopecuroides
Sedum 'Brilliant' *
Verbena bonariensis *

Low - Medium structural planting
Low -Medium height ornamental shrubs/plants
Pot size and planted 4pm² unless specified and supplied at 3L pots

Anenome nemorosa
Buxus sempervirens
Carex ssp.
Euphorbia amygdaloides purpurea
Geranium machrorrhizzum 'Alba'
Lavendula 'Hidcote'
Lonicera nitalda
Pachysandra terminal 'Green Carpet'
Stachys byzantina' ''Silver Carpet

Medium-High structural planting
Medium - High ornamental shrubs/plants.
Pot size and planted 4pm² unless specified and supplied at 3L pots

Deschampsia cespitosa 'Goldtau'
Elaeagnus x ebbingei
Fatsia japonica
Griselinia littoralis
Hebe 'Mrs Winder'*
Mahonia aquifolium 'Apollo'
Miscanthgus sp.
Miscanthus tennuissima
Photinia 'Red Robin'
Phyllostycus nigra
Sarcococca confusa
Spirea japonica 'Firelight'

PROPOSED BOUNDARY TREATMENTS

- Existing stone wall to be maintained and repaired. New stone wall to match existing.
- Existing embankment to be retained and vegetation to be managed
- Existing fence and gate
- Existing wall to be refinished
- New retaining wall - varying in height / to architect's detail.
- New 1.2m high metal railing to architect's detail
- New retaining wall / existing party wall - varying in height
- New 2m high rendered freestanding wall
- New 2m high fence & 1.2m high gate to Quay Street as per architect's detail

NOTE:

- DRAWING ISSUED FOR PLANNING PURPOSE ONLY.
LANDSCAPE IS SUBJECT TO APPROVAL OF THE PLANNING AUTHORITY

For further details and descriptions of the landscape proposals, please refer to the Landscape Strategy and Design Report 20445-2-D01

PROPOSED COURTYARD MATERIALS

- **Primary spaces and paths** Leinster granite slabs - 600x400mm bush hammered or similar approved
- **Secondary spaces and paths** PCC setts - Tobermore Artro - Platinum finish 220x80 units or similar approved
- **Thresholds and edges** Leinster Granite - bush hammered in 900 x 300 units or similar approved
- **Courtyard spaces and paths** Rolled dust / Breedon Gravel in golden Amber or similar approved
- **Timber decking**
- **Feature Plank Paving** Through lawn area
- **Play space / surface** Rubber play surface with integrated sand pit

PROPOSED PUBLIC REALM MATERIALS

- **Granite paving large slabs** - 900 x 600 bush-hammered granite paving (as agreed - check sized) to match Georges Square
- **Granite paving square slabs** - 300 x 300 bush hammered granite paving to match Bridge Street
- **Granite setts** - 100 x 100 bush-hammered granite setts to match Bridge Steet
- **Tree surrounds** - Permeable resin bound gravel, golden amber, in tree surrounds
- **High Street Pavement** - In situ-concrete with PCC kerbs to match the existing treatment.

NOTE: Courtyard paving to be permeable in accordance with engineers' specifications.

PROPOSED LIGHTING

- **LED light wall** Tall Lite
- **LED light wall** Vik
- **Bollard light** Verda
- **Ground light** ON Ground Led
- **Light column** Cirrus

PROPOSED FURNITURE & STRUCTURES

- **Raised white concrete planters / walls with timber seat capping**
- **Seats/Benches with louver**
- **Benches**
- **Seats**
- **Bike stands**

REV	DATE	AMENDMENT
C	19/07/2021	BOUNDARY TREATMENTS
B	30/06/2021	VENTS & EDITS
A	25/06/2021	REVISED LAYOUT

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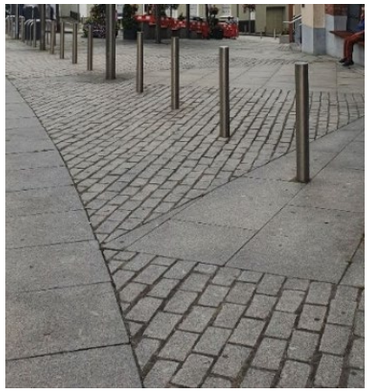
PROJECT: TEMPLAR PLACE SHD	DATE: DEC 2020
	SCALE: 1:200@A1
DRAWING: LANDSCAPE MASTERPLAN	DRAWN: GB CHECKED: DOL
	DRG NO: 20445-2-101

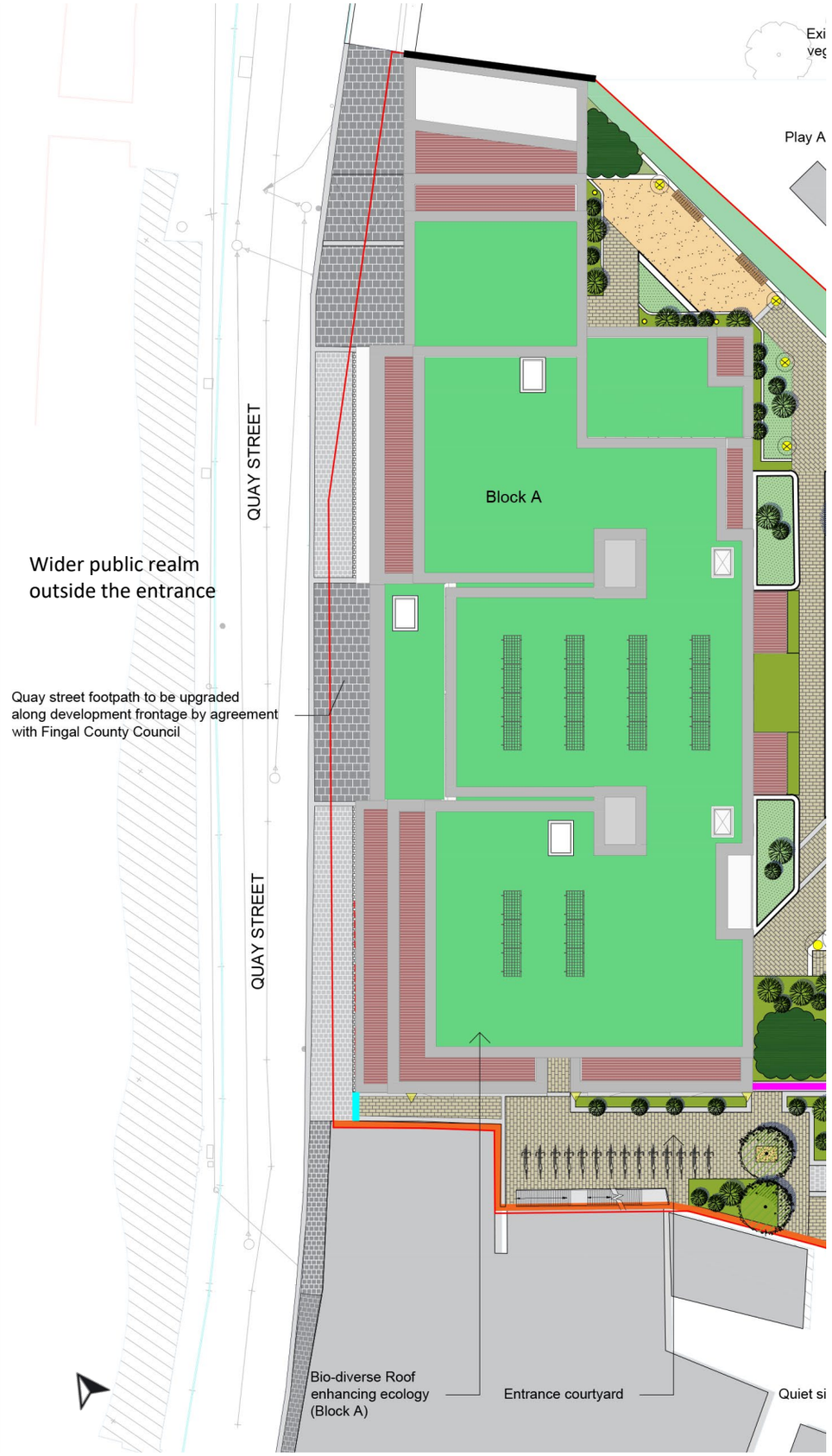
Quay Street

The public realm on Quay Street will be re-surfaced in granite paving to compliment and match the public realm on Bridge Street and Georges Square. This treatment will complement proposals for Quay Street and the Harbour area, currently at an early design development stage by Fingal Co.Co. in terms of materials, extents and patterns

The varied building edge and different materiality of the vertical sections creates a rhythm that compliments the grain of the street and historic town centre.



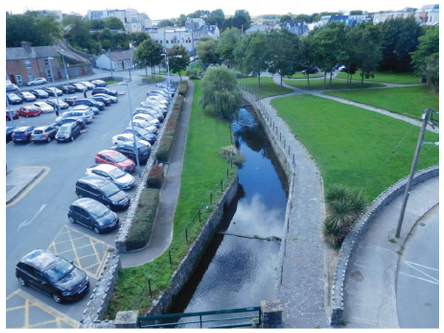
Proposed paving matches and continues the public realm on Georges Square and along Bridge Street and can reflect the requirements of the evolving Public Realm Strategy / Quay Street proposals

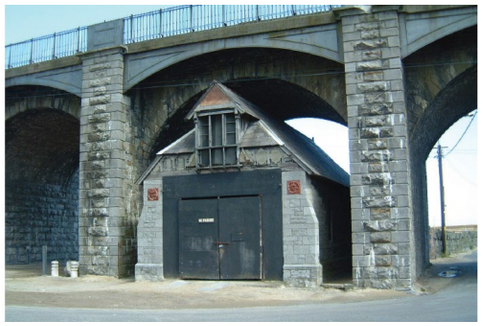


See over for Quay Street public realm concepts and the scheme integration.

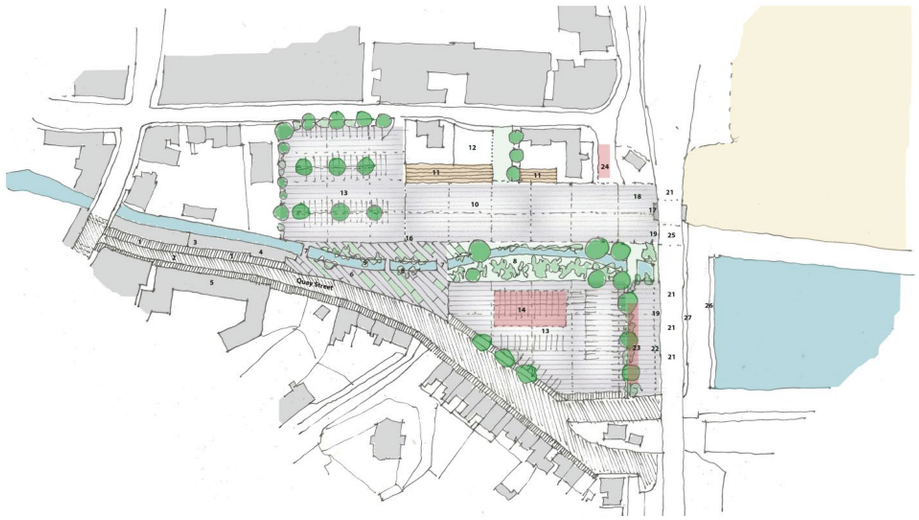
Quay Street – wider Public Realm Context

As part of an Urban Regeneration and Development project Fingal County Council is developing significant enhancement proposals for Quay Street and the general Balbriggan Harbour area. There is no doubt that Templar Place is both transformative in itself and also complementary to the potential of the Quay St / Harbour Area assets as well as the wider town centre ACA.



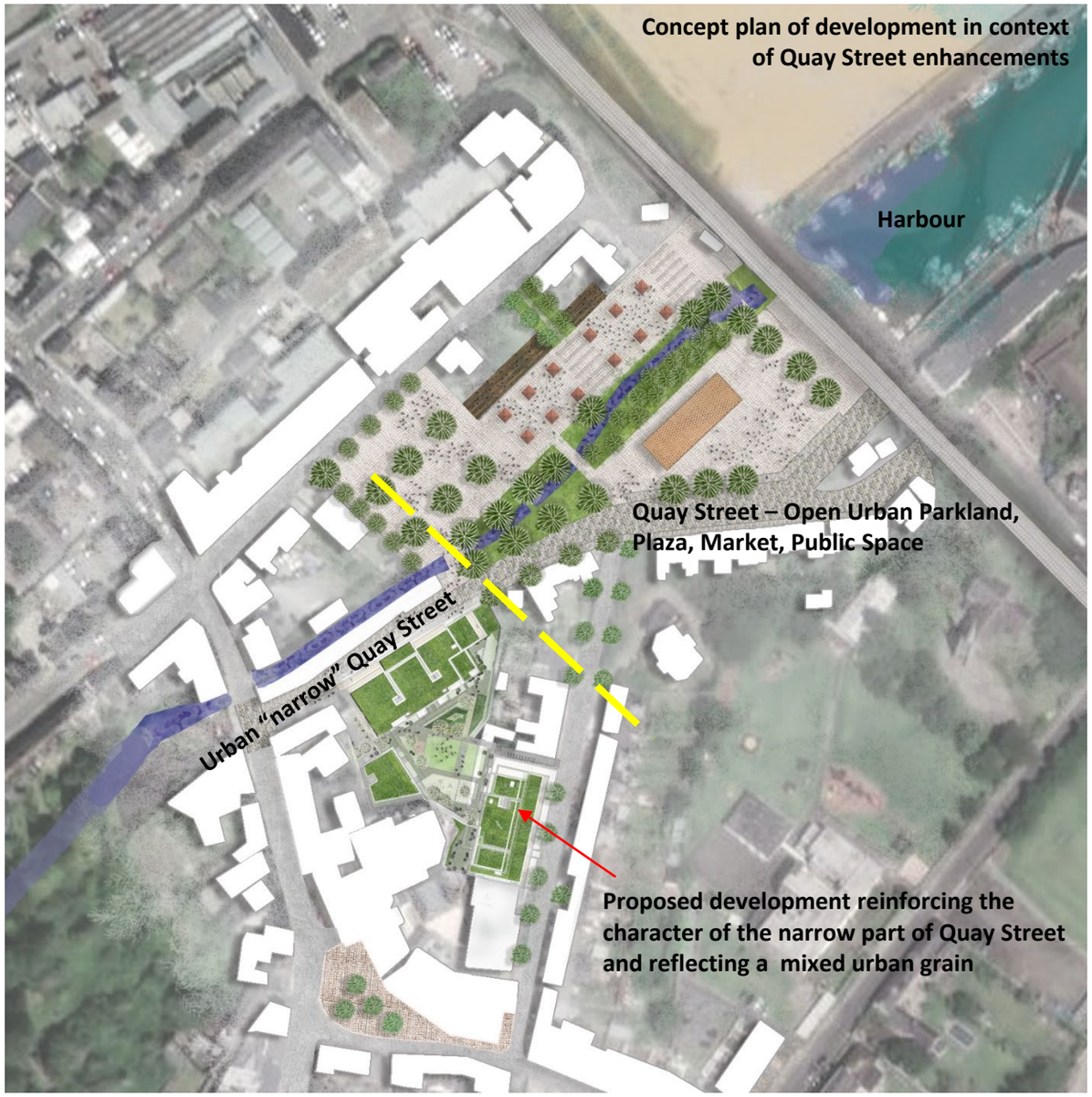


Quay Street and Environs



Site Plan of subject area

Extracted images and sketch proposals from FCC concepts for Quay Street and Environs



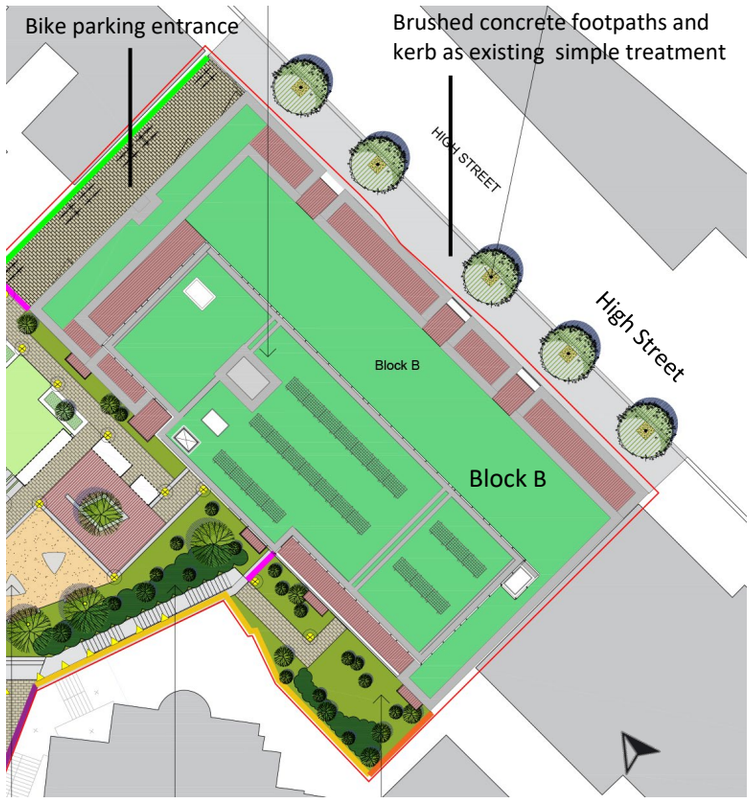
The above artistic render of the Quay Street concepts places the new development Templar Place in the setting of a potential new Quay Street.

The contextual plan illustrates that Templar Place is part of the western end of Quay street which is enclosed, narrow and urban. It introduces new residents, considered but strong architecture and is part of a transition from the town centre/Bridge Street through western Quay Street to the proposed open public realm and associated spaces and uses further east – park, plaza, market, performance area and gateway to the seafront.

It provides enclosure and animation to what is currently a dead street and will provide a new resident population to enjoy the proposed new amenities. Moreover the transformational character of the building scale and architecture, reflecting the local mixed urban grain, will contribute to the evolving character and future of Balbriggan town centre and the exciting vision presented by FCC for Quay Street.

High Street

High Street will benefit from the planting of new street trees and re-surfacing to tie in with the surrounding streetscape. Permeable resin bound gravel will be used around the tree pit to tie in with local materials, maximise the pavement's carrying capacity and ensure the longevity of the tree.



CGI showing the proposal from High Street

Fraxinus ornus obelisk ('Paus Johannes Paulus II') selected for its tolerance for urban, coastal conditions and its narrow, light canopy.

Urban tree pit with permeable resin bound gravel tree surrounds are proposed to hug the kerb on High Street, maximising space for pedestrians.
Example Dawson Street, Dublin City Centre

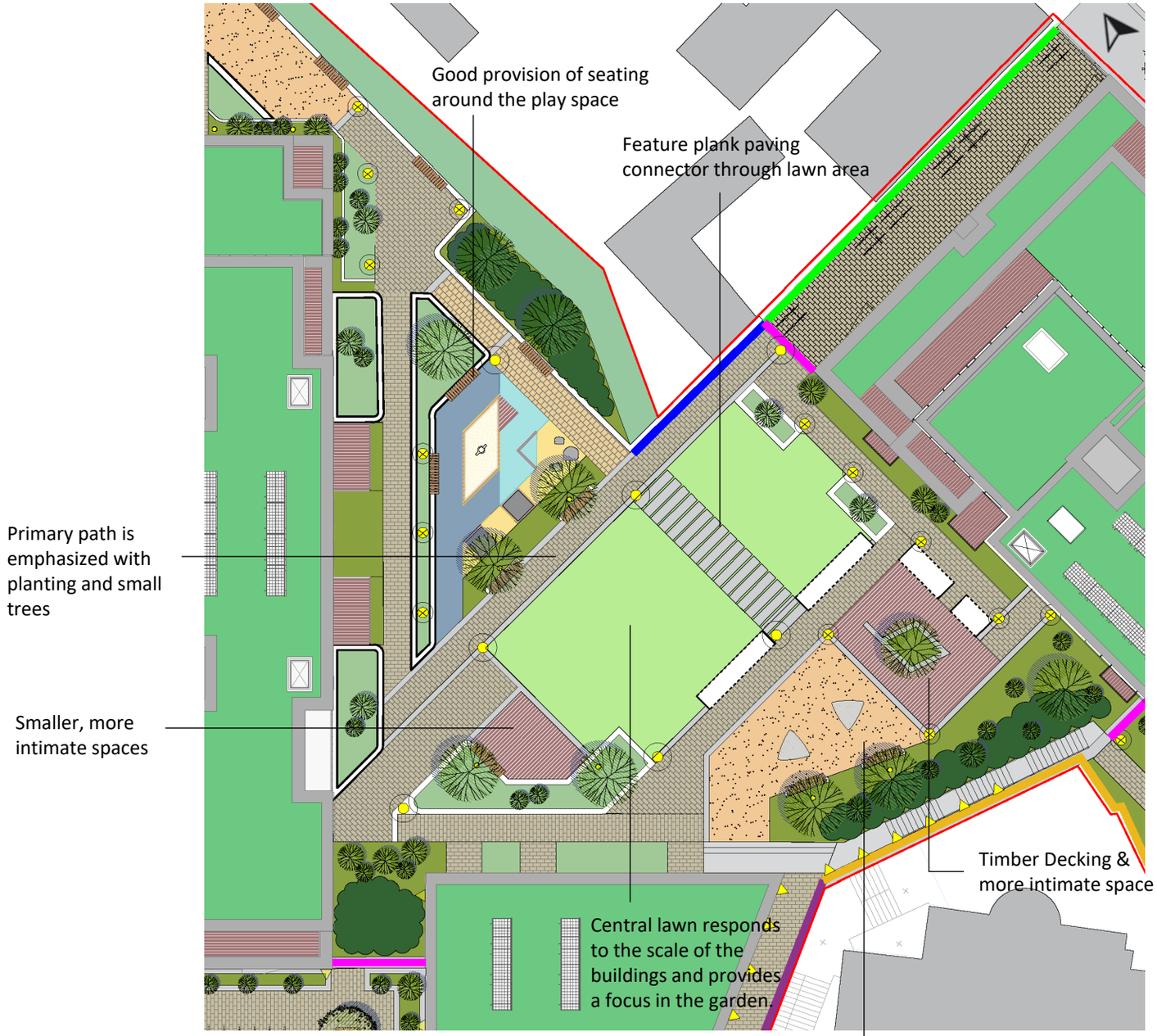
Templar Gardens – Main Courtyard

A semi-private enclosed courtyard, enclosed and sheltered, overlooked and used for relaxation, play and fitness.

The large central lawn anchors the courtyard and provides a well-overlooked open space for sitting, lying or small children to play. Secondary courtyards, siting areas and the play area lie at its edges.

Raised planters with filleted corners are reminiscent of sea-worn stones and perennial drift planting bears a reminder to dune habitats. Multi-stemmed trees create structure. Intertwining trunk casting interesting shadows. A green wall is proposed along the south-western boundary of the site against the existing embankment. Similar planting is proposed around ventilation well and embankments to the northern boundary.

High quality, robust materials are used throughout. Pavior, sourced in different sizes and tones create thresholds. Wide flush edges resonate with the wide kerbs and edge details found in historic Balbriggan. The play area is further described on page 17 & 18.

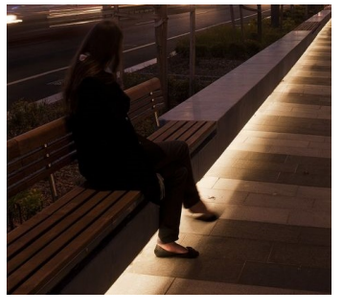


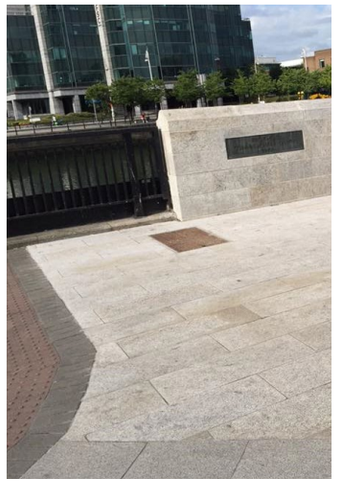

Drift planting

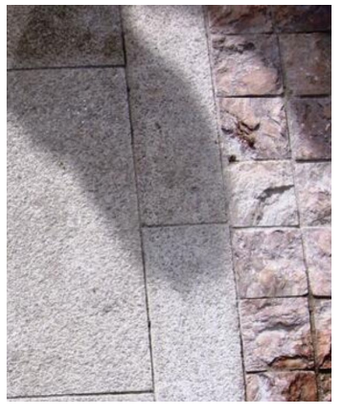

Central lawn


Raised beds / sitting walls


Malus ‘Evereste’


Underlit seats and structures

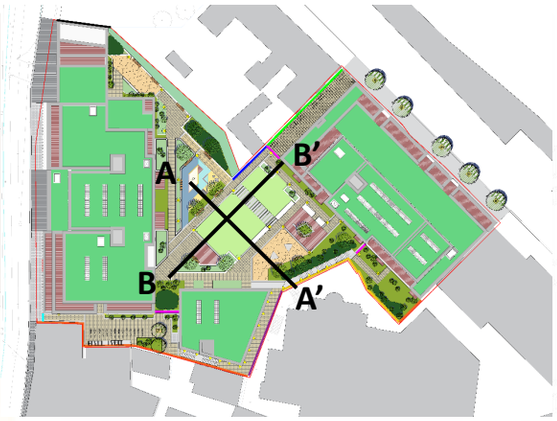

PRIMARY PATHS
Leinster Granite slabs 600x400


CHUNKY EDGES / THRESHOLDS
Leinster Granite – bush hammered in 900 x 300 units or similar approved


SECONDARY PATHS: PCC setts - Tobermore Artro - Platinum finish 220x80 units or similar approved

Templar Gardens

CGI showing the proposed courtyard looking towards the Bracken Court Hotel



KEYPLAN NTS

Templar Gardens – Section / elevations
(not to scale)

NOTE:

- DRAWING ISSUED FOR PLANNING PURPOSE ONLY.
LANDSCAPE IS SUBJECT TO APPROVAL OF THE PLANNING AUTHORITY

For further details and descriptions of the landscape proposals, please refer to the Landscape Strategy and Design Report 20455-2-D01

REV	DATE	AMENDMENT

CUNNANE STRATTON REYNOLDS
LAND PLANNING & DESIGN

DUBLIN OFFICE
3 MOLESWORTH PLACE DUBLIN 2
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EMAIL info@csrlandplan.ie

PROJECT: TEMPLAR PLACE SHD	DATE: JULY 2021
	SCALE: 1:50 @ A1
DRAWING: LANDSCAPE SECTIONS	DRAWN: GB CHECKED: DOL
	DRG NO: 20445-2-200

Play Areas in Semi-private Courtyard Garden

Play opportunities will be provided in the main communal area located centrally within the proposed apartment blocks.

'Sustainable Urban Housing: Design Standards for New Apartments (December 2020)

Children's play needs around the apartment building should be catered for:
• within the private open space associated with individual apartments (see chapter 3);
• within small play spaces (about 85 – 100 sq. metres) for the specific needs of toddlers and children up to the age of six, with suitable play equipment, seating for parents/guardians, and within sight of the apartment building, in a scheme that includes 25 or more units with two or more bedrooms; and
• within play areas (200–400 sq. metres) for older children and young teenagers, in a scheme that includes 100 or more apartments with two or more bedrooms.

The proposed development includes 41, 2 bedroom units therefore a play space between 85-100m² is required.

The proposed development is located adjacent to Quay Street Park where a small play area is located. The beach is within walking distance. The purpose of the courtyard garden therefore should be to provide a safe, well overlooked place for children up to at least 6 to play.

The Design Standards also state in Section 4.14:
The perimeter block with a central communal open space is particularly appropriate for children's play, especially if access from the street is controlled. The landscape design and orientation of play areas can contribute significantly to their amenity value. However, the noise from courtyard play areas can diminish residential amenity, particularly in smaller schemes, and designers must find solutions which balance all the factors involved.

The courtyard is within a perimeter block form and overlooked and therefore ideal for play space and related facilities. **The proposed courtyard includes a furnished play area that is 65m² plus a lawn of 192m² for more informal play and older children.** Associated seat walls and benches provide places for parental supervision. This area is located in a fully enclosed courtyard within a gated scheme. Planting and changes in material distinguishes the edge of the play space.

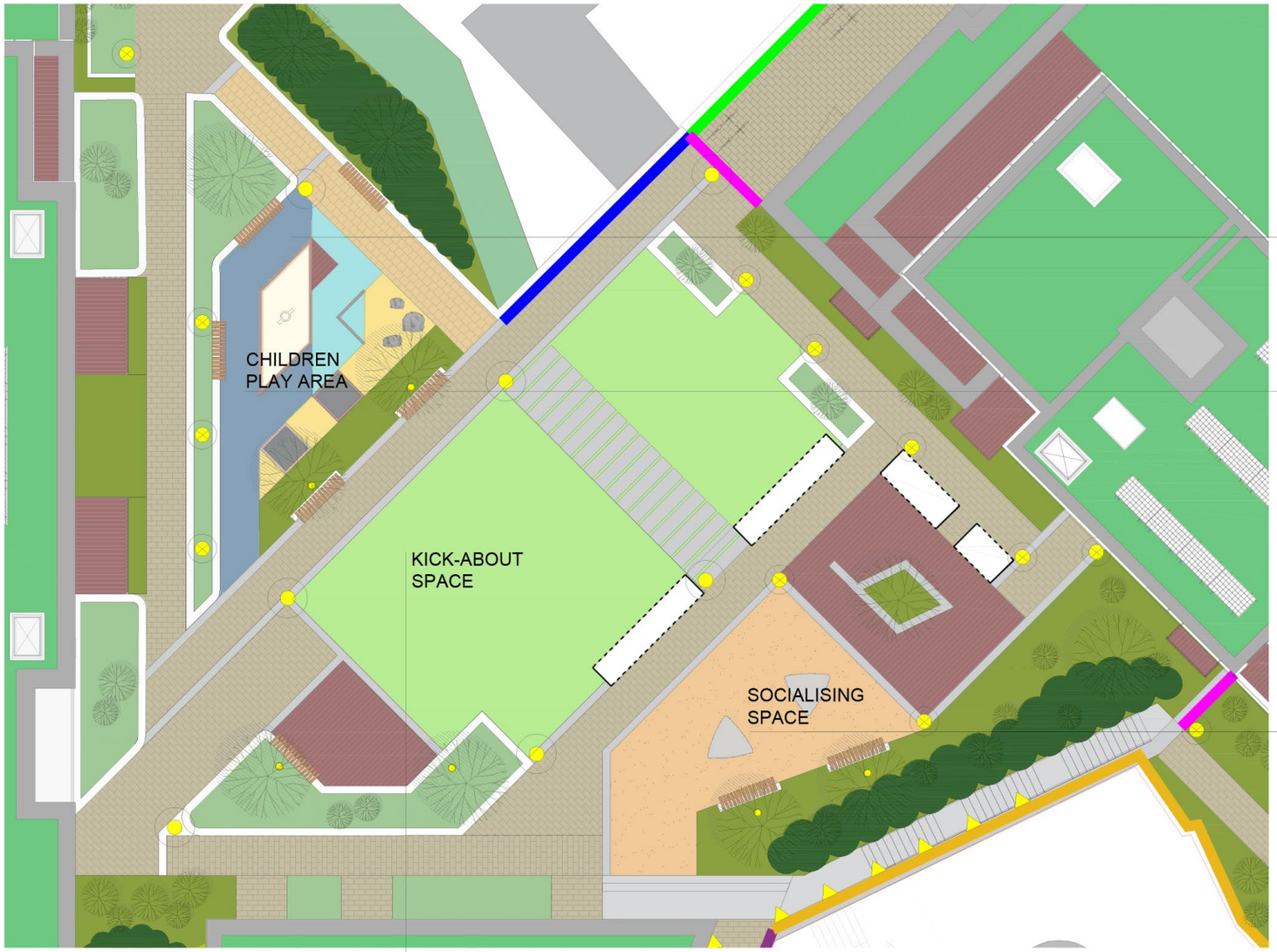
The look and feel of the play area will be designed to compliment the contemporary, urban look of the architecture while embracing creative play principles already outlined. References to the nearby beach and harbour are represented in the equipment selected.

Additional social spaces in the courtyard provide for older children, teenagers and adults for "hanging out" or sitting.

Play for all
Play is defined as, *"a physical or mental leisure activity that is undertaken purely for enjoyment or amusement and has no other objective"* (Play Therapy Ireland). The following play opportunities are provided for all residents;
- Lawns and seating areas for relaxing, reading, picnicking
- BBQ areas
- Social spaces

Natural play

Play - plan



BLOWN-UP COURTYARD
MASTERPLAN 1:200 @ A3

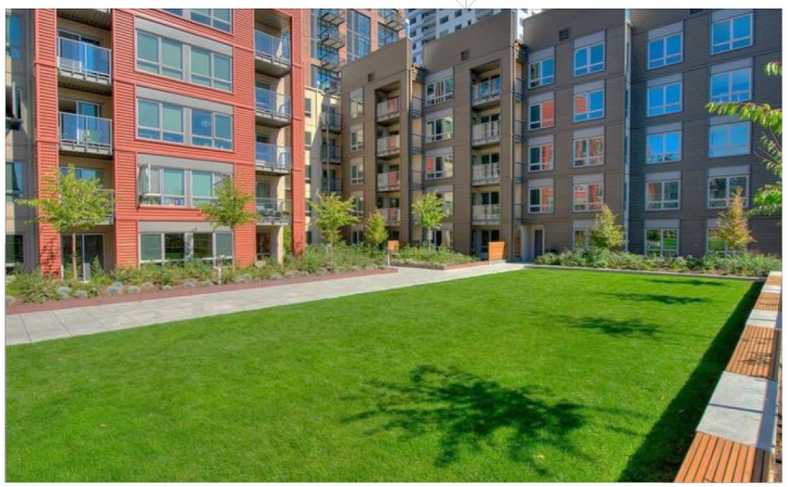
PLAY EQUIPMENT - Climbing structure for toddlers, representing the local context of Balbriggan

NATURAL PLAY - Sandpit to encoruage natural play

PLAY AREA - Rubber safety surface to dedicated play space

SEATING - Seating in the courtyard space

SEATING - Seating blocks in social space for older kids



NATURAL PLAY - Lawn area and kick-about space for kids

PLAY STRATEGY

The play area strategy caters for all age groups. Children play area for toddlers, kick-about space for younger kids and socialising space for older kids have been provided within the courtyard area.

- Play features/surfaces will be installed by a reputable specialist play contractor in accordance with ISEN 1176 an ISEN 1177.
- Surfacing of play areas to be Wet Pour coloured safety surfacing to BS EN 1177:2018 to designed pattern
- A RoSPA certificate will be issued.
- Boulders - typically rounded Leinster granite boulders maximum 1m in height by 1-2m in length or width, 1-2 tonnes in weight. Boulders to be set in concrete to avoid movement.

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N

PROJECT: TEMPLAR PLACE SHD	DATE:	JUNE-21
	SCALE:	1:200@A3
DRAWING: PLAY STRATEGY	DRAWN:	PG
	CHECKED:	DOL
	DRAWING NO:	20445-2-102

PLANTING STRATEGY AND SPECIES

The planting strategy responds to site pressures and placemaking principles for proposed users. Key factors are to:

- Use trees to create strong spaces and streets
- Create a beautiful and robust landscape that performs all year round
- Maximise the potential of SuDs measures i.e. soft areas as well as permeable paving
- Use vegetation to screen, frame and enhance views
- Plant species that are good pollinators (*).
- Plant robust species that tolerate extremes of sun and shade
- Plant species that are maintenance friendly.

The planting palette presented on the following pages showing images of the typical species used along with a description for their selection. An indicatibve A full species list and specification is available on drawing 20445-2-100.

1. Street Trees
Street trees will support street hierarchy and have been selected based on a right tree – right place philosophy. Trees with a narrow canopy that are salt tolerant and suitable for streets have been selected for this scheme.

2. Public realm and Courtyard trees
Trees that function well in semi-shade and in a paved and / or podium landscape are selected. Small-medium sized trees that suit the spaces available have been selected with a range of growing habits including clear stemmed trees and multi-stems. The pubic realm, is an unnatural environment, which is not always the best place for native trees. Therefore, some non-native trees have been specified.

3. Structural shrubs and plants
The planting in these areas is intended to provide 80% evergreen / structural planting with perennials interplanted, where appropriate to provide changes in texture and colour throughout the year. Swathes of planting create textural change and a buffer between the private and semi-private spaces. Flowering species have been selected for their pollinating qualities.

A mix has been specified for medium-high planting and low-medium planted.

Street trees

Fraxinus ornus obelisk ('Paus Johannes Paulus II')

Courtyard trees – select images

Acer griseum

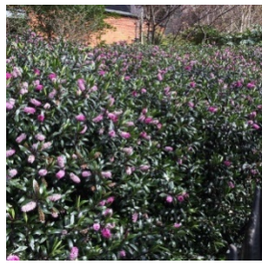
Malus 'Evereste'

Betula Jacquemontii multi-stemmed tree

Sorbus aucuparia*

Structural shrubs and plants

Buxus sempervirens



Hebe 'Mrs Winder'

Lonicera pileata

Pachysandra terminalis*

Griselinia littoralis

Sarcococca confusa

Miscanthus tenusisima

4. Perennial beds and drifts
Planted to create swatches or colour and texture in pubic and semi-private areas. Placed to create a sense of comfort / intimacy. Specified with 70% evergreen / structural plants with a high proportion of pollinators. A basic colour palette of greens and purples (except for in courtyard D) is supplemented in the public realms with white, yellow and gold flowering plants and in semi-private courtyards by mixes that link visually to the colours used on the buildings.

5. Lawns and long grass
Located in sunny spots to create areas to sit on or run around on.

6. Specimen Shrubs
A selection of native and ornamental species are proposed to add height and enclosure to planted areas. A high proportion of native species will be included to enhance biodiversity in what will be generally an urban / ornamental landscape.

Perennial Beds


Lonicera periclymenum


Calamagrostis Karl Foerster


Verbena bonariensis*


Carex spp.


Knautia macedonica*


Achillea sp*


Lavendula augustifolia


Miscanthus tenusisima


Santolina rosmainifolia


Sedum ‘Brilliant’


Crataegus monogyna

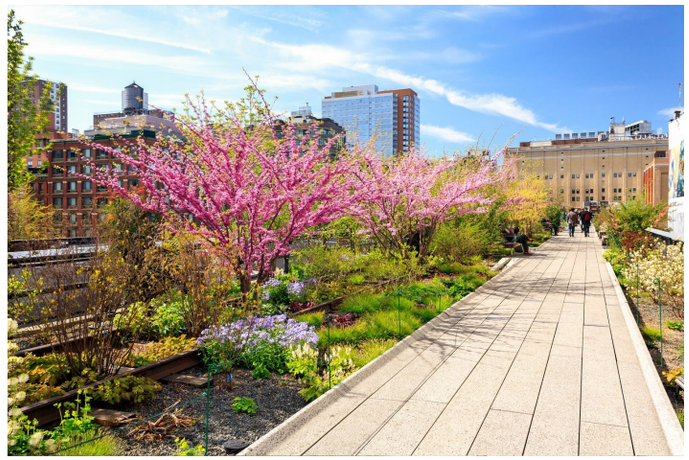

Euonymus europaeus

atris


Viburnum opulus

Amelanchier lamarkii

Cercis silaquastrum


Specimen Shrubs

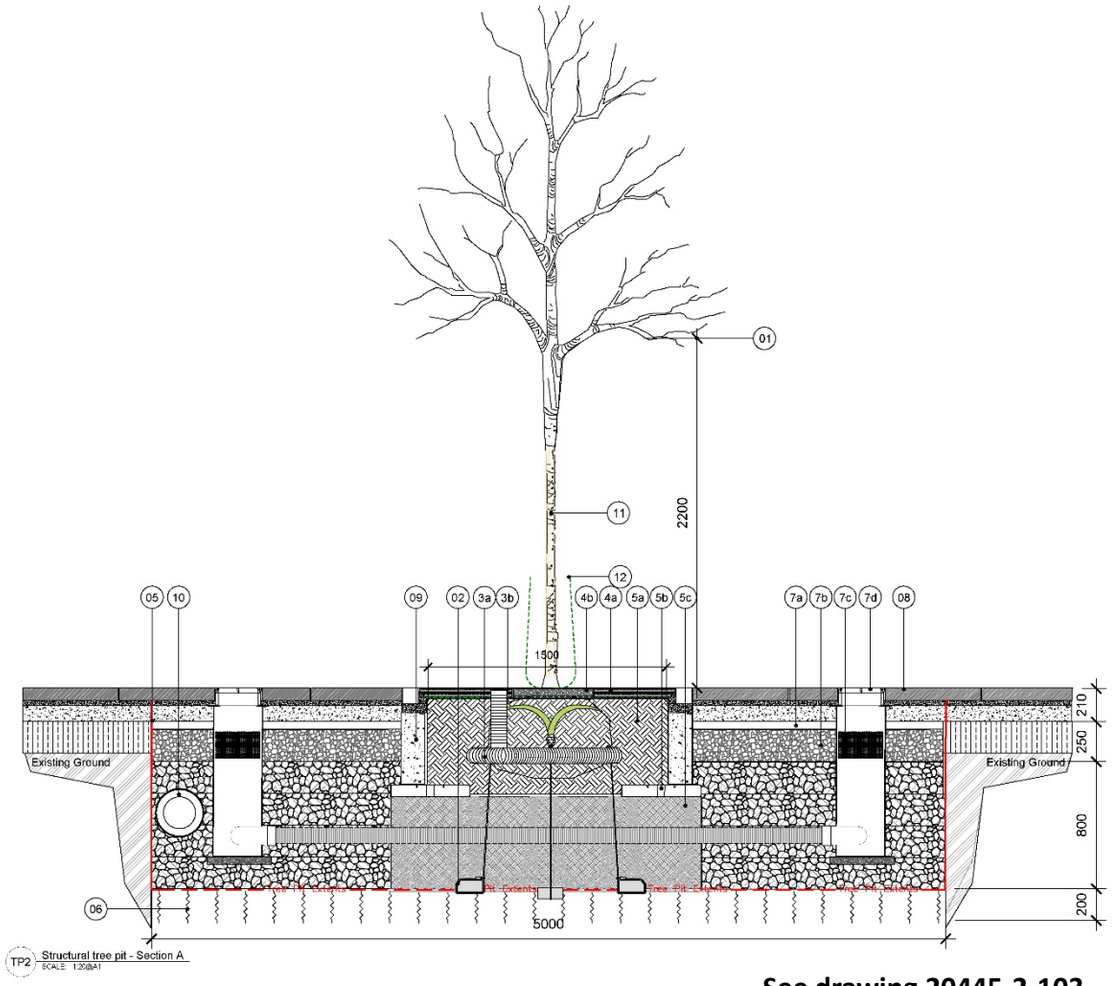
Tree Planting and Podium Planting Details

The landscaped courtyard is over the ground floor carpark . There is typically 700-1000mm of space between the outer surface of the car-park roof and proposed finish levels of the courtyard. This allows ample capacity for suitable build ups for planting areas and sub-surface infrastructure.

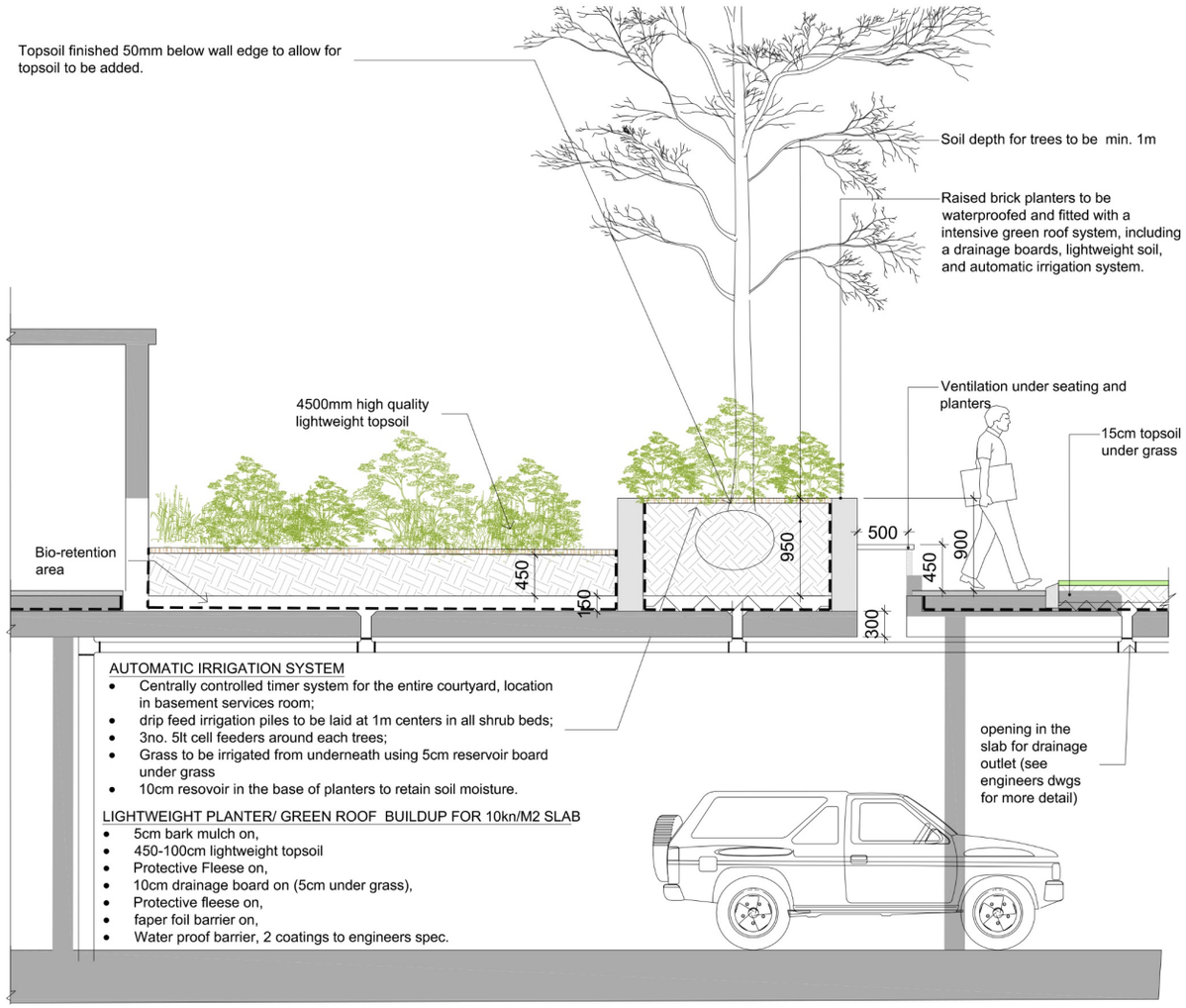
See typical detail to the right

Trees in the streets will require constructed tree pits to ensure longevity.

- Where feasible a volume of 16m³ under the pavement is to consist of Urban Structural Tree Soil or similar. See Drawing No 20445-2-103
- Where trees are planted in rows, tree trenches are to be used rather than individual tree pits to optimise available space..



See drawing 20445-2-103



Typical planting and landscape construction detail over podium

4.3 MATERIALS & FURNITURE

All materials will be designed to a high quality standard, will be robust and withstand a long life, as well as meet the CE standard. All areas will be designed to facilitate universal access to all users and be in compliances with Part M of the building regulations, as well as meet the CE standard.

Lighting will be designed to meet the required lux levels for the site and streets and comply with Fingal County Councils standards.

Lights have been positioned so they are 7m from proposed trees within the street areas. Where different, either the lighting design has been adjusted or the tree species amended so as to not block the street lighting.

INTRODUCTION

This document sets out the proposed maintenance and management plans for the establishment and ongoing maintenance of the landscape element of the proposed development. There will be a minimum 18 months defects period on all soft landscape works implemented. Thereafter the landscaping will be maintained in perpetuity consecutive 12 months periods.

1.0 SOFT LANDSCAPE WORKS SPECIFICATIONS

1.1 Site Clearance Generally

- General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
- Stones: Remove those with any dimension exceeding 25mm.
- Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life. In accordance with current Health and safety legislation.
- Vegetation: remove all weed growth.
- Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.

1.2 Weed Control

Remove all noxious and undesirable weeds from the sit. Weeds shall include: Ragwort, Himalayan Balsam, Giant hogweed & Japanese knotweed, Thistle, Dock, Common Barberry, Male Wild Hop and Spring Wild Oat, or any other noxious species identified by the Department of Environment. For the removal of certain species such as Japanese Knotweed a method statement is to be prepared and submitted to the Department of Environment.

1.3 Standards

In preparing the landscaping, supplying plants and maintaining the landscaping the following standards are to be adhere to:

- BS 3882 Specification for topsoil and requirements for use
- BS 3936-1 to 10 Specification for the supply of nursery stock
- NPS National Plant Specification
- BS 3998 Tree Works: Recommendations
- BS 4428 Code of Practice for general Landscape Operations
- BS 5837 Tree in relation to Construction
- BS 7370-1 to 5 Grounds Maintenance
- BS 8545 Trees: from nursery to independence in the landscape- recommendations
- BS 8601 Specification for subsoil and required use
- BS EN 1722-9 round or Fences Specification for mild steel - low carbon steel - fences with square verticals and flat horizontals
- RoSPA Standards for safety for play and exercise equipment.

The latest publications for each document are to be used.

1.4 Soil Conditions

- Soil for cultivating and planting: Moist, friable and do not plant if waterlogged.
- Frozen or snow covered soil: Give notice before planting. Provide additional root protection. Prevent planting pit sides and bases and backfill materials from freezing.

1.5 Climatic Conditions

- General: Carry out the work while soil and weather conditions are suitable.
- Strong winds: Do not plant.

1.6 Times of year for planting

- Deciduous trees and shrubs: Late October to early March.
- Evergreens/Conifers: October/November or Feb/ March.
- Container Grown plants: Any time of years.

1.7 Mechanical Tools

Restrictions: Do not use within 100mm of tree and plant stems.

1.8 Watering

- Quantity: Wet full depth of topsoil.
- Application: Even and without damaging or displacing plants or soil.
- Frequency: As necessary to ensure establishment and continued thriving of planting.

1.9 Preparation, Planting and Mulching Materials

General: Free from toxins, pathogens or other extraneous substances harmful to plant, animal or human life.

1.10 Plants/ Trees - General

- Condition: Materially undamaged, sturdy, healthy and vigorous.
- Appearance: Of good shape and without elongated shoots.
- Hardiness: Grown in a suitable environment and hardened off.
- Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
- Budded or grafted plants: Bottom worked.
- Root system and condition: Balanced with branch system.
- Species: True to name.

1.11 Container Grown Plants/ Trees

- Growing medium: With adequate nutrients for plants to thrive until permanently planted.
- Plants: Centred in containers, firmed and well watered.
- Root growth: Substantially filling containers, but not root bound, and in a condition conducive to successful transplanting.
- Hardiness: Grown in the open for at least two months before being supplied.
- Containers: With holes adequate for drainage when placed on any substrate commonly used under irrigation systems.

1.12 Labelling And Information

General: Provide each plant/ tree or group of plants/ trees of a single species or cultivar with supplier's labelling for delivery to site, showing:

- Full botanical name.
- Total number.
- Number of bundles.
- Part bundles.
- Supplier's name.
- Employer's name and project reference.
- Plant specification, in accordance with scheduled National Plant Specification categories and BS 3936.

1.13 Plant/ Tree Substitution

Plants/ trees unobtainable or known to be likely to be unobtainable at time of ordering. Submit alternatives, stating the price and difference from specified plants/ trees. Obtain approval before making any substitution.

1.14 Plant Handling, Storage Transport and Planting

- Standard: To HTA 'Handling and Establishing Landscape Plants'.
- Frost: Protect plants from frost.
- Handling: Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
- Planting: Upright or well balanced with best side to front.

1.15 Treatment of Tree Wounds

Cutting: Keep wounds as small as possible.

- Cut cleanly back to sound wood using sharp, clean tools.
- Leave branch collars. Do not cut flush with stem or trunk.
- Set cuts so that water will not collect on cut area.
- Fungicide/ Sealant: Do not apply unless instructed.

1.16 Protection of Existing Grass

- General: Protect areas affected by planting operations using boards/ tarpaulins.
- Excavated or imported material: Do not place directly on grass.

Duration: Minimum period.

1.17 Surplus Material

Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, pruning's and other arising's: Remove.

1.18 General Planting/Seeding

- Planting shall be carried out within the contract period but not during periods of frost, drought, cold drying winds or when the soil is waterlogged, or when the moisture of the soil exceeds field capacity.
- All containers and protective coverings including biodegradable coverings to root systems shall be removed prior to planting. Roots, except for emergent vegetation, shall be teased out from the root-ball, spread evenly and not twisted.
- All plant material shall be planted upright or placed so as to be well-balanced. Extreme care is to be taken to avoid damage to the root system, stem and branches when planting. The plant shall be positioned such that after planting the original soil mark on the stem is at finished ground level.
- Following completion of planting, grass seeding and turf laying, the soil over the whole of the planted, seeded or turfed area shall be sufficiently watered to achieve its field capacity.
- On completion of planting, watering and mulching, all areas shall be left tidy and weed-free and shall be maintained in a tidy and weed-free state until completion of the works.
- For shrub and transplant pit planting, notch planting and ordinary planting, the plant positions shall be set at equal centres in order to obtain a natural dense cover when mature. For notch and pit planting plants shall be planted in parallel lines. Planting positions in each row shall be staggered with the previous row.
- Finely-broken backfill material shall be carefully spread around roots and root trainers of all plants and the plants given slight shake to ensure that all interstices/ gaps are filled with soil, which shall then be consolidated by heeling. Careful filling and heeling shall continue as necessary at 150mm layers.

1.18.1 Mulching

Newly planted shrub areas shall be mulched immediately after planting to a depth of 50mm or in accordance with the details indicated on the drawing. Mulch shall be coarse chipped tree bark, composted for 2-4 months. Particle size 25-75mm diameter. No Fines.

1.18.2 After Planting & Mulching

- Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.
- Firming: Lightly firm soil around plants and fork and/ or rake soil, without damaging roots, to a fine tilth with gentle cambers and no hollows.
- All areas shall be left tidy and weed-free and shall be maintained in a tidy and weed-free state until completion of the works.

1.19 Tree Planting

Attached in the appendix are typical tree planting details for this site.

1.19.1 Tree Pits

- Sizes: at least 300mm greater than rootball in all directions.
- Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
- Pit bottoms: With slightly raised centre. Break up to a depth of 100mm.
- Pit sides: Scarify.

1.19.2 Semi-Mature Trees

- Standard: Prepare roots and transplant to BS 8545.
- Planting shall be carried out by positioning the tree in the centre of the pit closely against the tree stake and spreading the tree roots to their fullest extent.
- Backfilling material: Previously prepared mixture of topsoil excavated from pit and additional compost as required.
- Immediately following planting, trees with stakes shall be secured with tree ties. Tree ties shall be fixed so that movement of the tree shall not cause damage or abrasion to the bark, top tie to be 50mm below top stake.

1.19.3 Staking Generally
Softwood, peeled chestnut, larch or pine, straight, free from projections and large or edge knots and with pointed lower end. Adjustable rubber ties to be fixed to all trees and at the correct size for the tree.

1.19.4 Mulch Circles/Squares
All existing trees/newly planted trees within open grass areas or grass verges shall have 50mm depth mulch circle/square of a maximum 1m diameter or as allowed by verge width.

1.20 Shrub Planting
- All shrubs are to be pit planted. General pit dimensions are to be wide enough to accommodate roots when fully spread and 75mm deeper than root system.
- Break up base of pit to a depth of 150 mm, incorporating soil ameliorant/ conditioner at 50 g/m².
- Pits to be backfilled with previously excavated material. Backfilling to be done in layers of 150mm depth; at each stage the filling to be firmly consolidated.
- Soil ameliorants can be premixed with the soil applied or mixed in during planting.
- Soil ameliorants to consist of an approved compost at 10L per m2; and 150g/m2 of 10:10:10 NPK slow release fertilizer, or as approved.
- All shrub areas to be finished, with 75mm of medium grade bark mulch.

1.21 Hedgerow Planting
- Preparation: Dig trench to 500mm width for single staggered row, ensuing pit base is broken up 100mm deeper than plant rootball.
- Ameliorants: Compost at 10lt/m2 and 10:10:10 NPK slow release fertiliser at 150g/m2.
- Planting: Mix in soil ameliorants with excavated topsoil, or if there is poor topsoil then mix in with imported new topsoil. Firm down topsoil lightly in layers of 150mm by treading.
- Additional Requirements: If there is no existing fencing or barrier, install a protective fence to stop people walking through it until hedge is established. If there is livestock adjoining hedge install a stockproof fence or electrical fence 1m from hedge line until hedge is established.
- Prior to new growth cut the hedge back by 300mm to encourage new growth from base.

1.23 Removing Trees and Shrubs
- Identification: Clearly mark trees and hedges to be removed.
- Work near retained trees: Where canopies overlap, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.

1.24 Failures of Planting
- Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.
    - Exclusions: Theft or malicious damage after completion.
    - Rectification: Replace with equivalent plants/ trees/ shrubs.
- Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
- Defects Period: 5 years.

1.25 Green Roofs
Due care is to be taken when planting in gardens to ensure no damage occurs to the waterproof membranes. All planting is to be laid over a green-roof system that complies with EEuropean Federation of Green Roof Associations, (EFB), or equivalent, and in accordance with the drawings provided. See Biodiverse Green Roof Commentary below.

1.26 Grass Seeding

1.26.1 Herbicide Application
- Type: Suitable for suppressing perennial weeds and existing grass.
- Timing: Allow fallow period before cultivation.
- Duration: As manufacturer's recommendation

1.26.2 Seedbed cleaning before sowing
Operations: Kill pernicious weeds with selective contact herbicide.

1.26.3 Cultivation
- Compacted topsoil: Break up to full depth.
- Soil ameliorant/ Conditioner/ Fertilizer are to be used to boost late seeding only. Type to be used is to be agreed with the administrating body depending on the time of year and the condition of the soil.
- Tilth: Reduce topsoil to a tilth suitable for blade grading.
    - Depth: 75 mm.
    - Particle size (maximum): 20 mm.
- Material brought to the surface: Remove stones and clay balls larger than 50 mm in any dimension, roots, tufts of grass, rubbish and debris.

1.26.4 Topsoiling
- Areas to be reinstated shall be top-soiled to a min. depth of 150mm.
- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
- General: Do not use topsoil contaminated with subsoil, rubbish or other materials that are:
    - Corrosive, explosive or flammable;
    - Hazardous to human or animal life;
    - Detrimental to healthy plant growth.

1.26.5 Grading
- General appearance to be achieved: A fine graded finish to bring the ground to a uniform and even grade at the correct finished levels with smooth, flowing contours.
- Topsoil condition: Reasonably dry and workable.
- Contours: Smooth and flowing, with falls for adequate drainage.
- Hollows and ridges: Not permitted.
- Finished levels after settlement: 25 mm above adjoining paving, kerbs, manholes etc.
- Blade grading: May be used to adjust topsoil levels provided depth of topsoil is nowhere less than 150mm.
- Give notice: If required levels cannot be achieved by movement of existing soil.

1.26.6 Fertilizer for Seeded Areas
- Types: Apply both:
    - Superphosphate with a minimum of 18% water-soluble phosphoric acid.
    - A sulphate of ammonia with a minimum of 20% nitrogen.
- Application: Before final cultivation and three to five days before seeding/turfing.
- Coverage: Spread evenly, each type at 70 g/m², in transverse directions.

1.26.7 Final Cultivation
- Timing: After grading and fertilizing.
- Seed bed: Reduce to fine, firm tilth with good crumb structure.
- Depth: 50-100mm.
- Surface preparation: Rake to a true, even surface, friable and lightly firmed but not over compacted.
- Remove surface stones/earth clods exceeding:
    - Pastoral areas: 50mm.
    - Fine lawn areas: 10mm.
- Adjacent levels: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.

1.26.8 Grass Seed
- All seeds shall carry appropriate certificates.
- Seed shall be purchased fresh for each growing season and seed purchased impervious sowing seasons is not to be used.
- Seed shall be stored under non-transparent wrapping, off the ground, in a dry, shaded place, in well ventilated conditions under cover and shall be protected from vermin and contamination until required for use.
- No seeding shall take place until the seedbed is completed. All seeding shall be carried out within the sowing season.

1.26.9 Sowing
- General: Establish good seed contact with the root zone.
- Method: To suit soil type, proposed usage, location and weather conditions during and after sowing.
- Distribution: 2 equal sowings at right angles to each other.
- Protection: fence off areas with suitable fencing to stop people or animals from trampling new growth.

1.26.10 Grass sowing season
Grass seed generally: April to June or August to November.

1.27 Cleanliness
After completion of all works remove all debris and waste material from site.
- Soil and arisings: Remove from hard surfaces and grassed areas.
- General: Leave the works in a clean tidy condition at completion and after any maintenance operations.

1.28. MEADOW AREAS – GROUND PREPARATION
• Prepare a seeding bed of weed free soil to a depth of 100mm (composed of 50% topsoil: 50% subsoil well mixed prior to spreading) over a prepared free draining subsoil base preformed to required levels. leave for 10 days for any weed growth to occur before spraying any emergent weed growth with glyphosate herbicide;
• Allow sufficient time for herbicide to react before raking off any dead plants;
• Cultivate soil to a crumbly/friable texture before grading to achieve smooth flowing contours.

GRASS SEED
- Mixture: see drawings for grass seed mixtures.
- Application rate: see bill of quantities.

QUALITY OF SEED
- Freshness: Produced for the current growing season.
- Certification: Blue label certified varieties.
  Standard: EC purity and germination regulations.
  Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.
- Samples of mixtures: Submit when requested.

SOWING
- General: Establish good seed contact with the root zone.
- Method: by hand or by petrol drive machine. If to be by Hydraulic submit method statement. .
  Distribution: to rate specified.

MEADOW GRASS SOWING SEASON
- Meadow seed generally: April or September

MEADOW AREAS – SEEDING
• Sow wildflower seed by evenly hand broadcasting only when ground conditions are suitably dry;
• Rake entire area ensuring seeds are lightly covered with soil and out of reach of birds before lightly rolling seed bed firm ensuring seed contact with soil.

1.29. Biodiverse Green Roof

Detailed design will address the following to achieve the optimum habitat creation opportunities.

Typical Roof Build Up:
- 200mm Insulation and Waterproofing layer over roof slab
- 40mm egg crate drainage layer
- 80mm substate – topsoil and no more than 20% organic matter.

Species mix – see Planting schedule - To be seeded across the surface to agreed layout

Habitat creation
- Mosaic habitats - 2 or 3 habitats of a similar character to widen the appeal to invertebrates and birds
- Incorporation of other components such as:
  - Dead tree trunks / branches of appropriate weight / size.
  - Log piles – 600mm logs stacked
  - Stone or brick piles – 350mm high - for insects
  - Sandy areas for nesting insects
  - Small mounds for planting variation.

Irrigation – Allow for leaky pipe irrigation system for season one. Thereafter the system should be self regulating and tolerant of normal weather conditions.

Examples of Biodiverse roof landscape





2.0 MAINTENANCE

The maintenance programme will be organised on the basis of specific **performance standards** which must be met by the contractor at all times and will be the basis on which this contract will be assessed. Along with these performance standards a monthly report sheet shall be filled out and returned each month. Details of the performance standards are outlined below.

Remove all noxious and undesirable weeds from the sit. Weeds shall include: Ragwort, Himalayan Balsam, Giant hogweed & Japanese knotweed, Thistle, Dock, Common Barberry, Male Wild Hop and Spring Wild Oat, or any other noxious species identified by the Department of Environment. For the removal of certain species such as Japanese Knotweed a method statement is to be prepared and submitted to the Department of Environment.

Performance Standards and Maintenance Operations

2.1 Grassed Areas

2.1.1 Fine-Cut Grass Areas

Fine cut grass areas shall achieve an even cover of vegetation of uniform height and colour comprising predominantly of grass species. No more than 5% of the grass areas shall contain dicotyledonous (dicots) weeds, except clover. Grass cutting shall not be carried out during excessively wet or waterlogged conditions. Contractor to inform administrative authority if conditions are unsuitable.

Fine-Cut Mowing

Where practical fine grass areas shall be cut using a cylinder mower, otherwise a rotary mower shall be used. All grass clippings shall be collected and removed off-site after each cut.

Lawn grass cutting shall be carried out every 10-14 days during the growing season, (throughout the period of March to October), but will need to be adjusted according to season's weather conditions. Grass shall be kept at a maximum height of 50mm and minimum height of 35mm. A minimum of 24 cuts shall be carried out annually.

Weed Control

Lawn grass areas shall be treated using an approved selective herbicide according to manufacturer's instructions. Areas of invasive and noxious species in the lawn or areas, shall be spot sprayed.

Fertilizer

Approved fertilizer shall be applied 2no. times per year to lawn areas if required due to poor grass growth / establishment or yellowing. Spring fertilizer application of NPK ratio 9:7:7 shall be applied in May of each year and Autumn/Winter fertiliser of NPK ratio 3:12:12 shall be applied in October of each year to all fine cut grass areas.

2.1.2 Amenity Grass Areas

Amenity grass areas shall achieve an even cover of vegetation of uniform height and colour comprising predominantly of grass species. Unless otherwise agreed with the landscape architect no more than 15% of the grass areas shall contain dicotyledonous (dicots) weeds, except clover. Grass cutting shall not be carried out during excessively wet or waterlogged conditions. Contractor to inform administrative authority if conditions are unsuitable.

Amenity Grass Mowing

Where practical grass areas shall be cut using a cylinder mower, otherwise a rotary mower shall be used. Unless excessive or unsightly, or likely to cause a nuisance or damage to the sward, arisings shall be spread evenly over sward areas collected.

Lawn grass cutting shall be carried out every 10-14 days during the growing season, (throughout the period of March to October), but will need to be adjusted according to season's weather conditions. Grass shall be kept at a maximum height of 75mm and minimum height of 35mm. A minimum of 24 cuts shall be carried out annually.

Weed Control

Areas of invasive and noxious species in lawns, shall be spot sprayed.

Weed infestations shall be reviewed in the context of the aesthetic and amenity functioning of the grass and if necessary controlled or eradicated.

Fertilizer

Approved fertilizer shall be applied 2no. times per year to lawn areas if required due to poor grass growth / establishment or yellowing. Spring fertilizer application of NPK ratio 9:7:7 shall be applied in May of each year and Autumn/Winter fertiliser of NPK ratio 3:12:12 shall be applied in October of each year to all fine cut grass areas.

2.1.3 MEADOW GRASSED AREAS

Preparation: Before each cut remove all litter and debris.

Height and frequency of cut in first growing season:

Time of first cut: April, July/August or September.

Height of first cut: 150mm.

Frequency of subsequent cutting (min.): 1 in 1st year. Mown strip along paths 5 cuts /per year.

Height of growth permitted (maximum): N/A.

Height and frequency of cut in second growing season:

Time of cut: Year: Year 2 = 2 cuts in spring and autumn. For mown strip along cycle paths 5 cuts per year.

Height of cut: 150mm.

Bulb planting areas: Do not cut until bulb foliage has died down.

Trimming: All edges.

Arisings: Remove.

2.1.4 Edging and Strimming

Grass edges along pathways, planting borders, roadways, trees, lampposts, signs and any other obstacle shall be kept neat and tidy at all times.

Between the months of March and October inclusive edging shall be carried out to all areas of grass abutting isolated/ specimen trees or shrub borders or mulch circles. These areas shall be maintained using a half moon tool or similar to maintain straight or curved defined line and shall be carried out a minimum of 2 - 3 times per year.

Mowing strips against permanent obstacles shall be a max. width of 150mm and shall be maintained using a hand strimmer. Large areas of desiccated/ burnt off grass are not permitted. Strimming shall be carried out a min. of 12 times per year.

Grass clipping and all arisings shall be swept up and removed off site. **2.1.5 Spring Bulbs in Grassed Areas**

Only cut grassed areas populated by spring bulbs after the leaves of the bulbs have died down and/or yellowed completely. Initially reduce height by one third, followed by a 2-3 stage further reduction over two weeks to achieve desired grass height.

2.1.6 Failed areas

Areas of grass which fail or are damaged or worn shall be reinstated by re-turfing or re-seeding in accordance with the original specification.

2.2 Shrub Planting

Shrub areas shall be kept litter and weed free, particularly of perennial weeds. Healthy growth shall be maintained to cover as much as possible of the planting area and allowing the individual plants to achieve as near as possible their natural form. With the exception of hedges, boxing or pruning to shapes is prohibited. Plants shall be contained with designed planting areas and pruned to avoid obstructing pathways or sightlines. Climbers are to be pruned and tied into trellises as required, with two main inspections annually to check trellis system is intact and anchor points are secure.

2.3 Pruning

In general pruning shall be done only to enhance natural growth. Dead, damaged and diseased portions of the plant will be removed. All cuts shall be flush and clean, leaving no stubs or tearing of bark. All major pruning shall be done following flowering or during plant's dormant season. Emergency or minor pruning shall be done when needed.

Pruning shall be carried out to maintain proper size in relationship to adjacent plantings and intended function. Remedial attention and repair to shrubs shall be provided as appropriate by season or in response to incidental damage.

Groundcover plants shall be pruned as required to restrain perimeter growth to within planting bed areas where adjacent to walks and curbs. Tip prune selected branches of low growing shrub or groundcover masses to maintain even overall heights and promote fullness

Certain plants, such as Cornus spp. will require heavy annual pruning in order to maintain healthy colourful stems and healthy leaves. All arising's from pruning shall be removed of site.

2.4 Weed Control

Planting beds shall be maintained relatively weed free (no more than 10% of weed cover at maximum) by hand weeding or spot spraying any emergent weeds during the growing season with Glyphosate or approved equivalent. Saplings shall be removed from all planting areas on emergence or immediately after to prevent establishment.

Specific weed control operations shall be carried out a min of 9no. times per year, however it will be the contractor's duty to control weeds by hand weeding or other if weed cover exceeds 10% of the planting area.

2.5 Mulching

Shrub beds shall contain a min. depth of 50mm bark mulch throughout the year. Contractor to top-up as 2 times per year or as appropriate to maintain depth. Mulch is not required in areas where plant foliage completely covers the soil surface, such that the soil is not visible through the foliage. The contractor shall spot treat to remove emergent weeds as specified above but do not cultivate or incorporate the mulch into the soil. Any mulch outside of designated planting areas shall be returned to the planter on a weekly basis.

Mulch shall be uniform in colour and appearance, and free of leaves, sticks, or trash. Mulch may be chipped or shredded wood, bark. When replacing existing mulch, use a mulch product that is similar in appearance to that already at the site.

2.6 Tree Planting Care

Trees shall be maintained in a healthy, vigorous growing condition with a well-shaped framework for future growth.

2.7 New Tree Planting

Spring and autumn of each year during the maintenance period the trees, double-stakes, rabbit guards and ties shall be checked and adjusted, the soil firmed, any dead wood removed back to healthy tissue and mulch adjusted to original levels. Any broken stakes or ties evident throughout the maintenance period shall be replaced.

A 1m-diameter mulch circle/square shall be maintained at the base of each tree located in open grass areas or grass verges. Top up bark mulch to 75mm where required and make good any mulch mats.

During the first growing season all standard trees / semi-mature trees shall be watered at least five times during the growing season - in April, May, June, July and August unless otherwise directed by the Landscape Architect. During the second growing season trees will be kept well watered, particularly during June, July and August.

The edge of the mulch circle shall be maintained in a neat and tidy condition as above..

The surface of all planting pits is to be kept free of weeds during the maintenance period by hand weeding of annual weeds, and spot application of translocated herbicide, (as per manufacturer's instructions), for perennial weeds to be carried out on three visits during the growing season.

2.9. Tree Stakes and Ties

Check tree stakes and ties on each maintenance visit. Repair, strengthen and adjust (loosen / tighten) to ensure optimum functioning and trees not being damaged by poor fixings. If trees no longer require stake / tie remove. Prior to handover, check all tree stakes and ties and remove those no longer required.

2.8 Woodland/Scrub Area / native shrubs / Hedgerows Management

Woodland areas specified shall be maintained in a healthy, vigorous condition and free from litter and noxious weeds throughout the year.

Certain areas of woodland may require thinning over the 5-year period. These areas shall be thinned by no more than 10%, removing only the weaker tree specimens. Thinning shall be carried out as directed onsite by administrative authority.

Once established no herbicide or weed control should be necessary in woodland / hedgerow areas.

Areas of natural scrub, hedges as indicated on the maintenance plans shall be contained by trimming back once per year or more substantial coppicing to stimulate dense vegetative growth on a 7-15 year cycle or as advised by the arborist/ecologist.

All clearance operations within woodland and scrub areas shall be carried out outside of the bird-nesting season to preserve the bird life in the area. This season extends from the 1st March to 31st August.

2.09 Litter Clearance/Pick-up

The contractor shall maintain all areas free from litter. This shall mean the removal of all extraneous litter, rubbish and any other debris from all areas, which will include grass areas, planted areas, carparks, footpaths as well as woodlands and tree canopies.

Notwithstanding the above it is expected that the contractor and his staff shall take sufficient pride in the appearance of the site and that they would pick up all visible litter during every site visit.

In addition to removal of litter from footpaths, planted areas, etc., the contractor shall make provision for the immediate (within 1 days of notification) arrangement for collection and removal of all extraneous matter which has been deliberately been deposited on site by persons known or unknown (fly-tipping).

2.10 Replacements

Any tree, hedge or shrub that is removed, uprooted, destroyed or becomes seriously damaged, defective, diseased, or dead shall be replaced in the same location with another plant of the same species and size as that originally planted within 5 years after planting. All such replacements shall be carried out in the first available planting season after the requirement to do so is recognised.

2.11 Biodiverse Roof Maintenance

Inspection and maintenance visits at least quarterly in year one and thereafter bi-annually. The following maintenance tasks to be carried out:

- Removal of unwanted plant material i.e. invasive species (if required)
- Correction of any localised plant system problems that may have occurred post installation
- Replacement of any failed plants
- Application of nutrient source
- Removal of dead flower heads (if required)
- Inspection of rainwater outlet chambers and surrounding vegetation breaks
- Replenishment of any areas of settled substrate

The area is intended to be natural and undisturbed, even untidy. It is generally out of site other than along roofline so tidiness and ornament is not the objective.

3.0 Maintenance Programme

This programme is a guideline only and times of operations may vary on approval by landscape architect.

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

Biodiverse Roofs

Year One – Quarterly visits – avoid nesting season March – August

Thereafter – Winter and Late Summer as described in 2.11.