

CUNNANE STRATTON REYNOLDS LAND PLANNING & DESIGN

COOKSTOWN CASTLE,

Lands west of Old Belgard Road and north, south and west of
Cookstown Road, Cookstown Industrial Estate, Tallaght, Dublin 24

LANDSCAPE STRATEGY & DESIGN REPORT

16408-2-D01-RevA
Dec 2020



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1.1 SITE LOCATION AND CONTEXT

Site Location

This 4.99 ha development site in Cookstown spans the north-west corner of First Avenue and Cookstown Road, Cookstown Industrial Estate, Dublin 24. It is located south of the LUAS Red Line and straddles Cookstown Road North. Presently, the lands accommodate mainly light industrial uses with some offices and privately run fitness centres. Between the application site and the LUAS line there is an electricity pylon in a mounded grass verge.

Site Context

The site is located within 1km of Tallaght Town Centre and Red line Luas stop 'Hospital'. There is an Aldi on Old Belgard Road, four local schools and two community centres close by. Existing local roads are already well-used by pedestrians. The Institute of Technology Tallaght, is within 2km of the site. The Dublin Mountains are approximately 4km south of the site and feature in several views from it. Cookstown Road roughly follows an old townland boundary but there are no other noteworthy historical features on the lands.

The site is part of the Tallaght Town Centre development area. This 270 hectare area of South Dublin aims to become, *"An inclusive and vibrant Town Centre, a connected and accessible place with an attractive built environment for families of all kinds, workers, visitors and tourists. A place where people can live, work, visit and have fun in lively and liveable spaces"* p.6 (Tallaght Town Centre Local Area Plan 2020). Within the development area, the application lands are located with the proposed Cookstown neighbourhood in the parcel of land referred to in the LAP as CT-D.

The key elements of the proposed urban structure for Tallaght focus on;

- "Connecting with adjoining communities to address issues of poor linkages between the Centre and the existing, surrounding communities in the wider Tallaght area;
- Building on landscape character and natural heritage by consolidating existing green infrastructure hubs and corridors;
- The provision of a "new network of public spaces that are distinctive in terms of function, design and appearance, enhancing public realm within the Plan area" (p.18).

Within the context of the site, good links and permeability across the site, connecting local destinations, including the LUAS and the proposed future park space (6500-7000m²) will be fundamental. In addition, the following planning requirements are met;

- Improvements to existing streets to create a good public realm of avenues and streets to encourage walking and cycling;
- Create new streets to improve permeability; -
- Provision of adequate public open space that are well overlooked and that can adequately provide for active and passive recreational facilities;-
- Utilizing the streetscape to incorporate the buildings into a good urban framework;
- Provision of communal open space (combined or separated from public open space);
- Provision for children's play facilities and teenspaces;
- Incorporation of native plants to improve urban biodiversity and pollen diversity;
- Coordination of services so ducting, pipes, attenuation and lights can be implemented without conflict; -
- And provision of adequate bike parking facilities for residents and visitors.

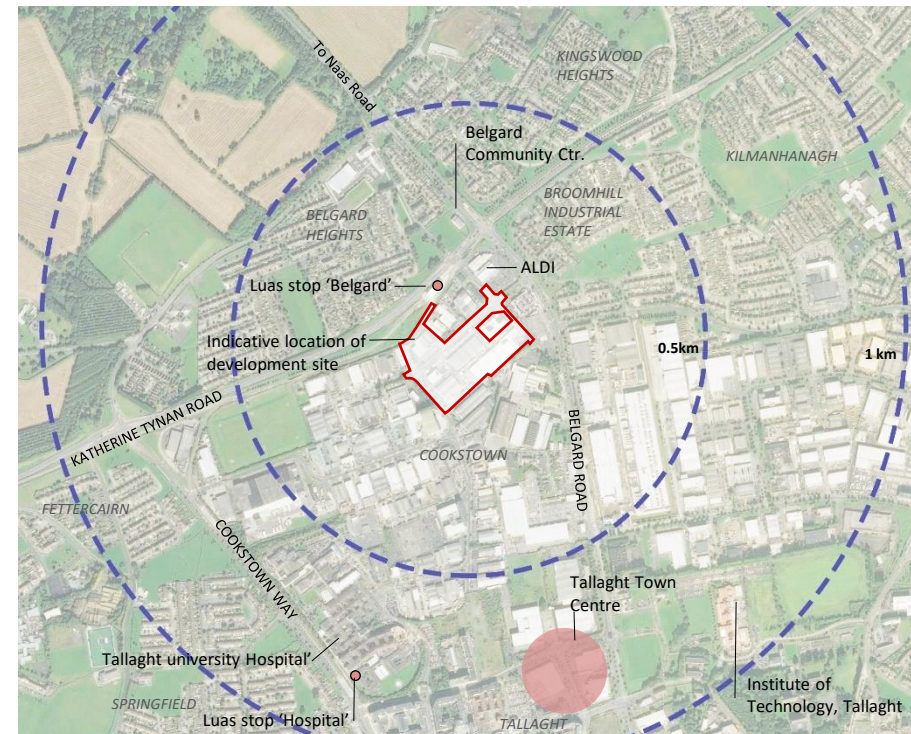


Fig. 1.1 Site Location



Housing in Belgard Heights



Office building on Cookstown Road



Towards Tallaght Town Centre

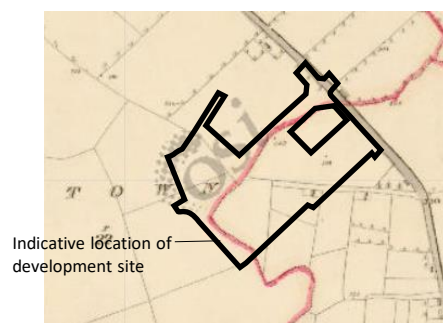


Fig. 1.2 Ordnance Survey 1st edition six-inch map, 1843

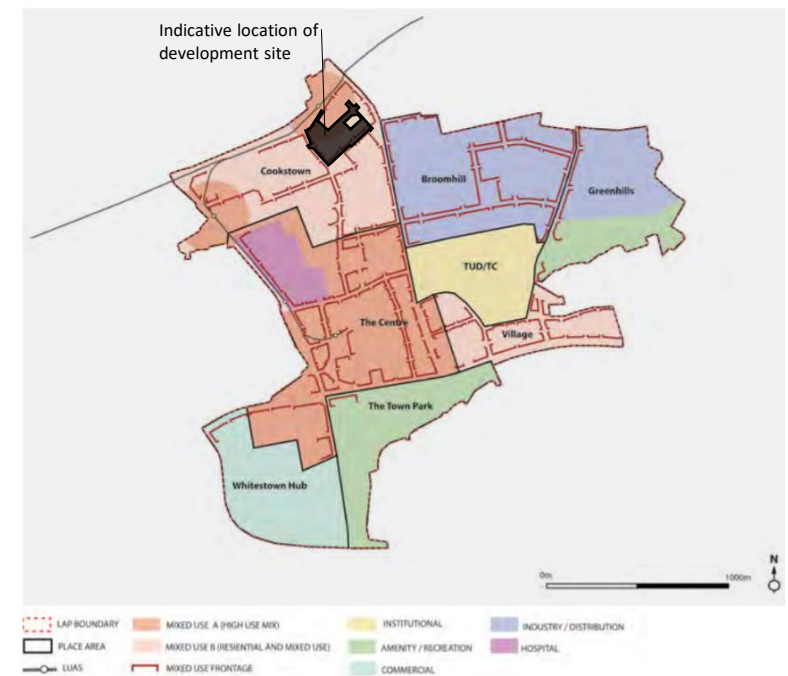


Fig 1.3 Excerpt from Tallaght Town Centre Local Area Plan 2020 p.20

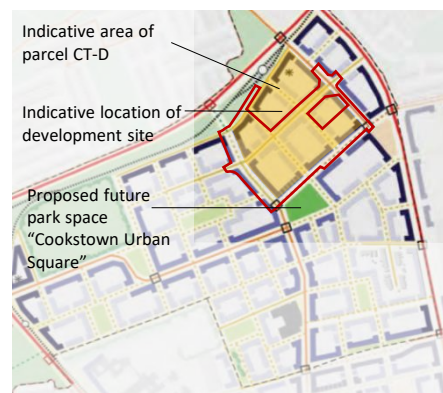


Fig 1.4 Excerpt from Tallaght Town Centre Local Area Plan 2020 p.43 showing the Proposed Urban Structure of the area

1.2 SITE ANALYSIS AND OPPORTUNITIES

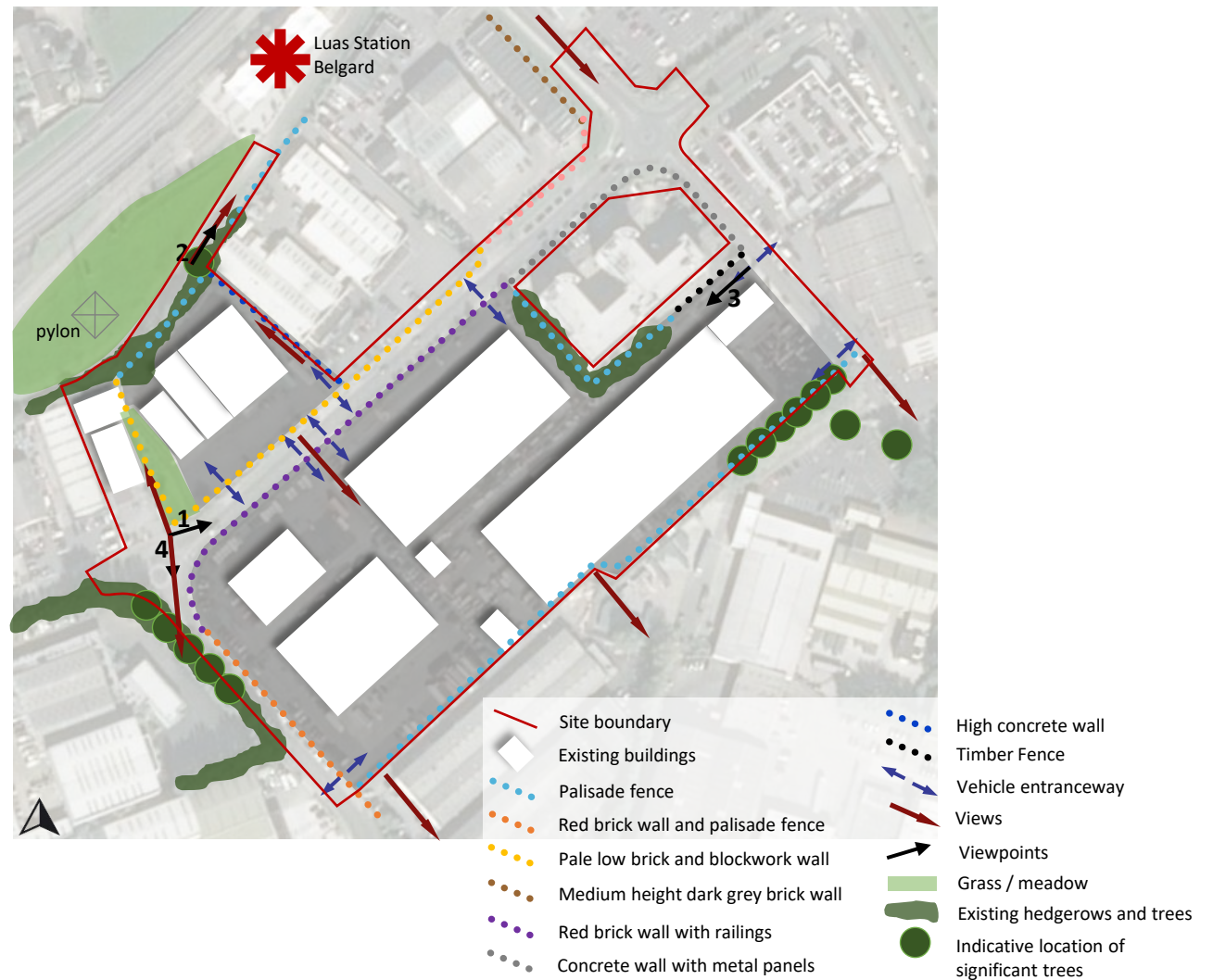
The application lands are currently occupied with premises for a mix of uses including light-industry, offices and indoor sports (such as gymnastics and skateboarding). The lands span Cookstown Road and take in parts of Old Belgard Way. There are views of the Dublin Mountains to the south visible along Cookstown Road and between buildings. The views and the active sports will influence the landscape design.

To the north of Cookstown Road, the lands comprise a two-storey unit with an asphalt hardstanding area. The boundary to Cookstown Road is a low blockwork wall with timber panel fencing along all other edges. To the north-west of the site there a number of mature trees and a mature native hedgerow along the boundary perimeter, which is likely to provide valuable habitat for biodiversity. Adjacent to the north-western site boundary there is a metalled access road leading towards Belgard Station, which has the potential to provide a direct future connection. The land then rises steeply towards a pylon which is sited on a mounded grassy meadow containing wildflowers and plants. Together with the mature hedgerow, the mounded land prevents passive surveillance from surrounding buildings, roads and the LUAS. There is evidence of fly tipping there.

The lands south of Cookstown Road consist of a number of two-three storey premises. The boundaries consist of brick-walls with heavy, black, rusting and sometimes chained bollards along Cookstown Road, which itself has high kerbs of industrial proportions. The bollards, although clearly dated, have some charm about them and have the potential to be up-cycled. The remaining boundaries differ across the site. The boundaries around the four-storey office building north of the application lands and the dark grey brick wall on Old Belgard Road are the only boundaries that are likely to remain unchanged as part of this application.

There is a fuel station located on the Old Belgard Road and within the site boundary. Between the fuel station and the office building (off-site) there is an access road and then a high concrete rendered wall separating the site from a driveway leading to an underground office carpark. The ground level of the south-eastern façade of this building is located approximately 1.5m above the access road north of the fuel station. There is a row of mixed mature trees further along this boundary. To the south of the fuel station in the adjacent lands, there is a row of mature Aspens. Within the site itself, metal palisade fences separate plots.

In summary, the site presents many opportunities for change in the move towards creating a new Tallaght. The views towards the Dublin Mountains and potential direct links to the LUAS should be maximised. Constraints and sensitivities are minimal and are limited to the existing pylon and existing mature trees. The existing hedgerow and the ecological richness of the mound have the potential to be replaced. There is there is little or no topsoil on the site and poor quality subsoil.



1. View east along Cookstown Way



2. View along the northern site boundary towards Belgard Station



3. View along the north-eastern boundary of the site



4. View south-west towards the Dublin Mountains

2.1 LANDSCAPE STRATEGY

The landscape strategy aims to;

- Maximise public open space in a way that it will be highly used.
- Create a legible and permeable public realm that connects between Belgard Luas stop, the proposed future park, further south to Tallaght Town Centre and west to existing local facilities and schools.
- Create strong green links
- Make this place pedestrian priority
- Make clearly defined spaces
- Create identifiable semi-private courtyards
- Facilitate proposed community and commercial uses
- Use landmarks to create a legible place with a strong identity
- Maintain visual connectivity with the Dublin Mountains.



- LUAS
- Existing vegetation and important trees
- Proposed buildings
- Proposed pedestrian priority movement hierarchy
- Adjacent / future open spaces
- Public open spaces with integrated playscape
- Public realm not to be taken in charge
- Semi-private courtyards at ground level
- Semi-private courtyards at podium level with integrated play spaces
- Proposed public play area / shared play facility
- Creche play areas
- Future public play area
- Future active spaces for all
- Important views
- Focal points

2.2 LANDSCAPE DESIGN CONCEPT

The landscape design aims to;

- Deliver a high quality, attractive, vibrant, fun, energetic and usable landscape.
- Create a strong sense of place for people to identify with.
- Form a permeable and legible landscape and streetscape.
- Create a landscape that leads people through it by integrating landmarks and focal points.
- Develop a hierarchy of public, semi-private and private spaces.
- Make a secure environment that people are happy to call home.
- Integrate a variety of active and passive recreation opportunities for all ages.
- Embrace the existing street sports culture present in Tallaght.
- Create vibrant communal gardens, each with their own identity and strong design language, which look attractive from above.
- Plant strong network of trees, using a range of species that are native where possible.
- Integrate functional and attractive SuDs features into the scheme.
- Use a range of planting types to create identity, texture, space and habitat.
- Use high quality and robust materials that support the landscape vision and compliment the proposed architecture.
- Incorporate the heritage of Tallaght, where appropriate.
- Use materials and form to define the use of a space and minimise signage.

The main idea driving the landscape design is the use and combination of a floating geometry with strong forms and shapes that repeat throughout. These are carefully placed and manipulated to create a clear overall identity and sense of place. Forms, shapes and spaces will flow logically and will be detailed creatively to provide opportunities for movement, activity and rest resulting in a diverse public realm and series of highly legible amenity open spaces.

The approach taken towards this urban landscape will produce a distinctive and coherent but also complex landscape with changing intricacies that demand the attention. This approach forces people to engage in the landscape and public realm while they make the most of the frequent opportunities to use it.

The design will create a series of spaces which will be rich in detail and diverse in textural and spatial qualities. Within the open spaces there will be areas for informal play, casual recreation and passive leisure, enhanced by the inclusion of features and elements such as level play spaces for all ages, seating areas, paths, low maintenance textural planting and landform using high quality and environmentally appropriate materials.

The principles of inclusivity for all age groups, universal accessibility and sustainable development will be applied to ensure an inclusive and environmentally responsible design solution.

Open spaces will be punctuated with raised planters, specimen trees, planting and grassed areas. Where feasible, native trees and plants will be used, with some non-native species used to enhance local biodiversity. The finishes to the landscape will incorporate elements that relate to the overall development of Cookstown regeneration area.



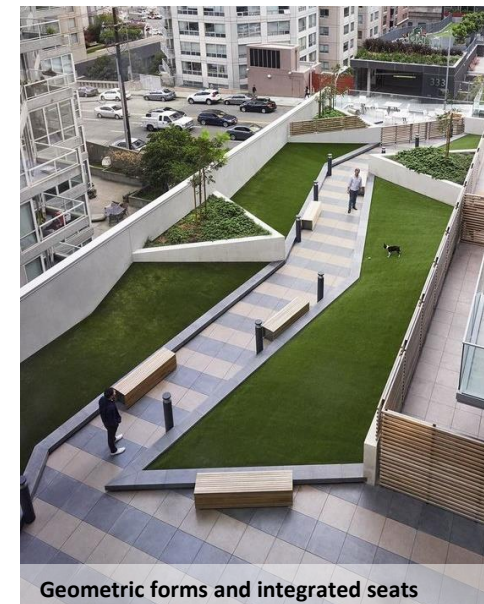
Snaking paths and scattered trees



Strong and simple forms and textures - repeated



Geometric islands in the urban landscape



Geometric forms and integrated seats



Bold colours – as already used in Tallaght

3.1 LANDSCAPE MASTERPLAN

The landscape masterplan has been carefully considered to accommodate the sensitives and opportunities derived from the site and its context, including planning policy and objectives.

The landscape masterplan delivers the landscape strategy and concepts presented previously to create;

A fluid, distinctive and connected urban landscape with a floating geometry that defines places to move and pause, rest, play and live.

The masterplan delivers;

- A new urban green plaza with an outdoor flexible events space 'Cookstown Squared'
- A strong network of linear parks
- A new, active, pedestrian route to the LUAS
- A series of pocket plazas
- High quality streets with integrated SuDs features and raised tables
- 5 semi-private courtyards (4 at podium level and 1 at ground level).

This report now continues to explain the;

- Proposed places and spaces in more detail
- Movement, access & street hierarchy
- Approach to public Realm, open space & privacy
- Distinctiveness & legibility
- Play and recreation strategy
- SuDs strategy
- Planting strategy.

Landscape details and specification and included in section 4.0 of the report.



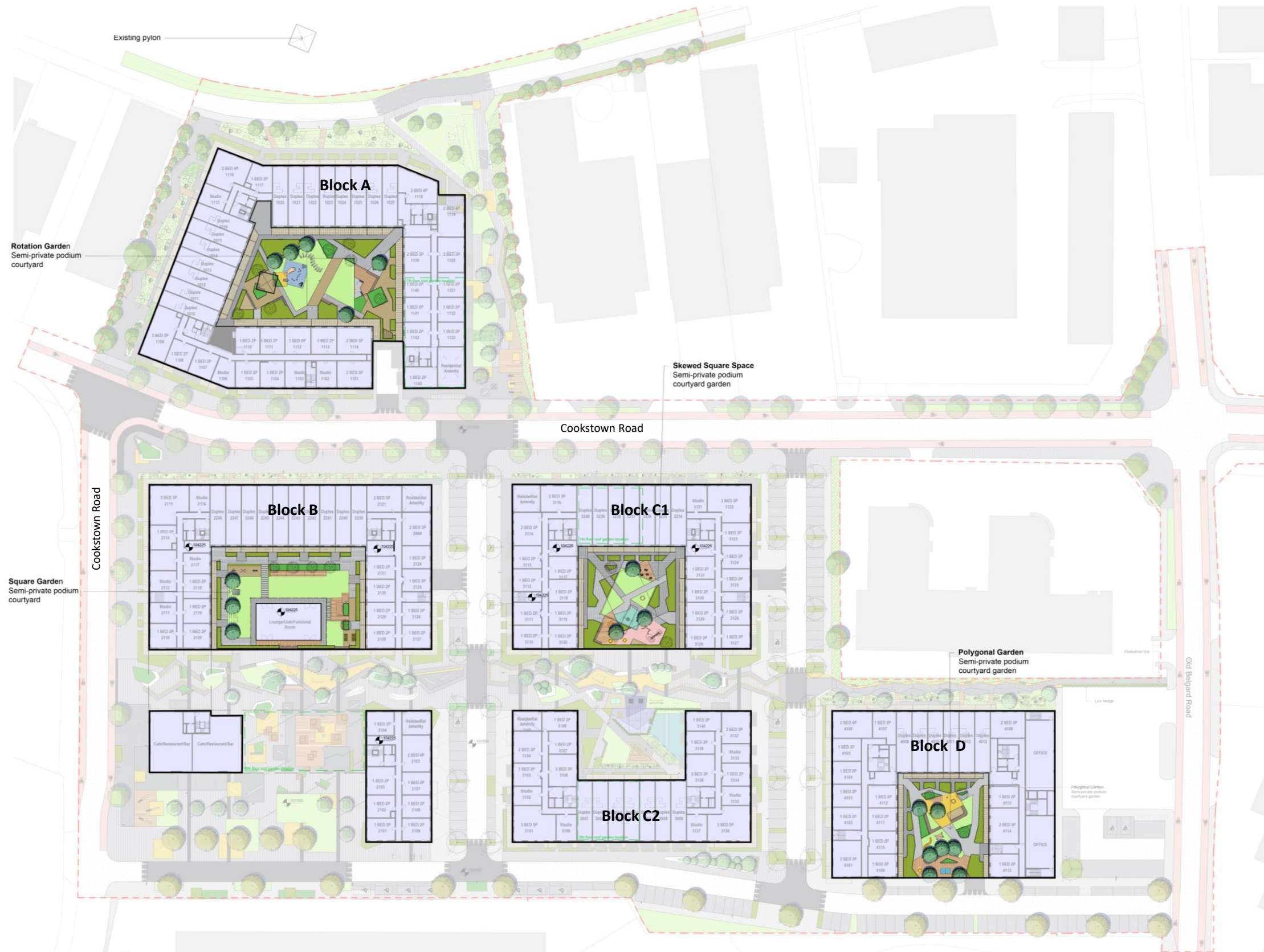
See the scaled drawings 16408-2-100 - 102 for detail

Ground Floor

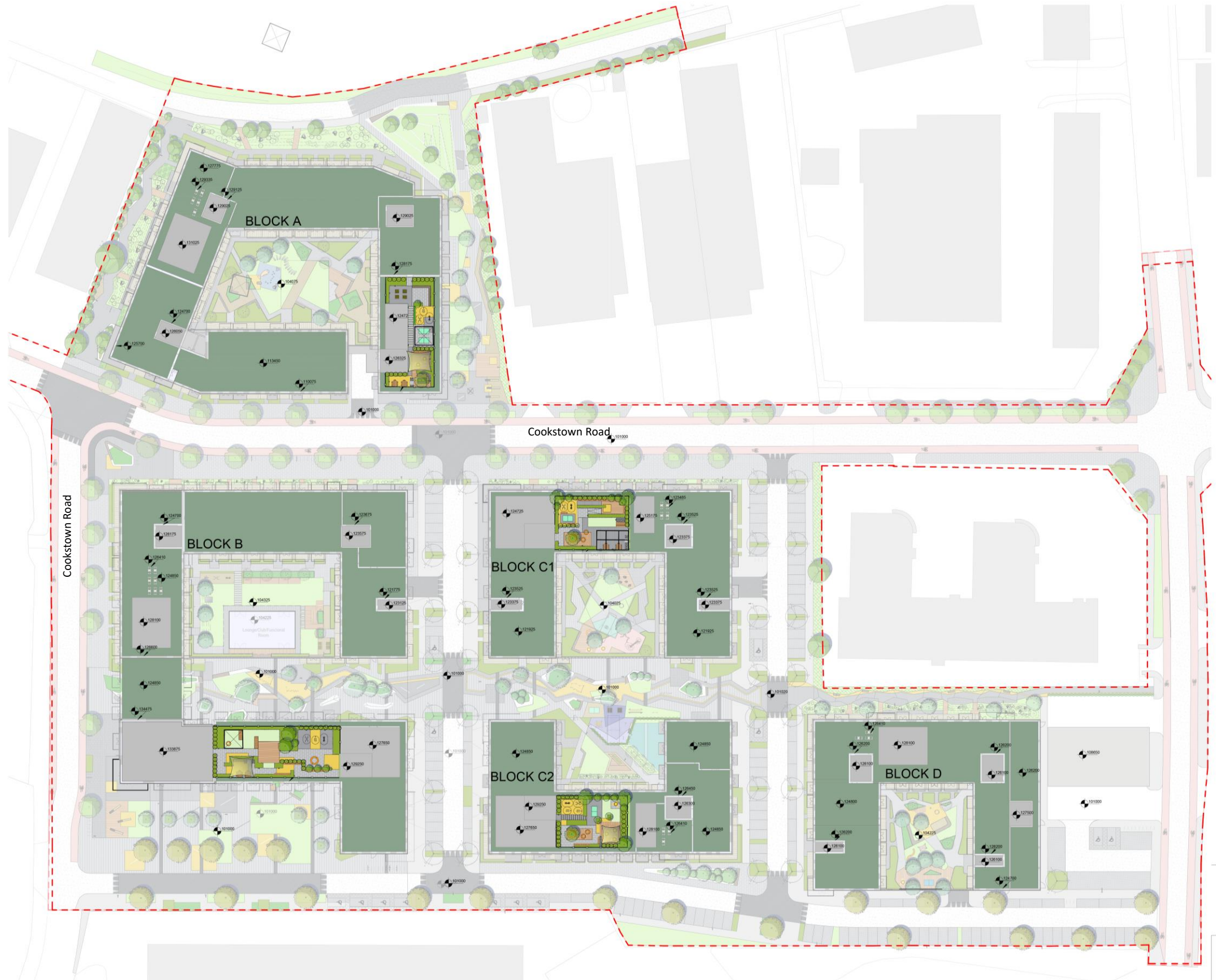


Proposed park under Tallaght Town Centre Local Area Plan 2020

First floor

















Roof Gardens













This legend is relevant to all reproductions of the landscape masterplan present in this report. Landscape details and specification are included in section 4.0.

LEGEND








PROPOSED MATERIALS

-  **4 Feature paved areas** - PCC paviors E-W alignment or as shown. Edging and banding in poured & polished concrete
-  Contrast banding of PCC paviors in a darker tone / **expansion joints**
-  Standard PCC units in courtyards
-  Poured concrete paving - brushed finish
-  PCC units on private terraces
-  Yellow coloured bound aggregate
-  Asphalt Road - black top tarmacadam
-  Raised table in Black asphalt with rolled aggregate or other approved surface
-  Tactile paving
-  Pedestrian path - Poured concrete **with feature expansion joints**
-  Pedestrian path - PCC units - 600x900mm
-  Car parking spaces - PCC paviors
-  Rolled dust / self-binding gravel in a natural / buff colour
-  Timber decking























PROPOSED FURNITURE & STRUCTURES

-  Timber seating platforms
-  Low concrete wall with timber seating
-  Coursed gabion walls 400mm high
-  Coloured playful ring seats
-  Stone pebbles seats
-  Movable seats and tables
-  Raised white concrete planters with timber seat capping
-  Pergola structures - treated timber stained black
-  1.2m high strengthened glass balustrade
-  Community planting beds - treated timber painted black

PROPOSED PLAY AREAS & FEATURES

-  Rubber play surface
-  Sand pit
-  Play equipment
-  Natural play elements
-  Parkour equipment
-  Fitness equipment
-  Table tennis tables

OTHER PROPOSED MATERIALS & HARD ELEMENTS

-  **Proposed lighting columns & bollards / uprights**
*see lighting engineer drawings for full specs
-  Feature strip light in paving
-  LED strip light integrated with structures / planters/low walls
-  **Proposed Medium-Large street trees**
-  Tilia henryana 16-18cm
-  Acer rubrum 16-18cm
-  Pyrus calleryana 'Chanticleer' 16-18cm
-  **Small-medium public realm and courtyard trees**
-  Birch grove
-  **Native urban woodland mix**
-  Proposed native scrub and scattered trees
-  Proposed low-medium height native scrub (Outside application lands)
-  Hedge
-  **Structural Planting**
-  **Herbaceous drift planting**
-  **Swale Planting**
-  **Proposed meadow grassland**
-  **Woodland understorey + Bulbs**
-  **Public Grass Area**
-  **Communal Grassed Area**
-  **Grass mounding**
-  **Existing vegetation to be retained**

3.2 PLACES & SPACES

Cookstown Plaza

Cookstown Plaza is a contemporary urban plaza which will become a hub of activity. It will be a place to meet, play, exercise, rest, be entertained, move through and to pause. The plaza contains;

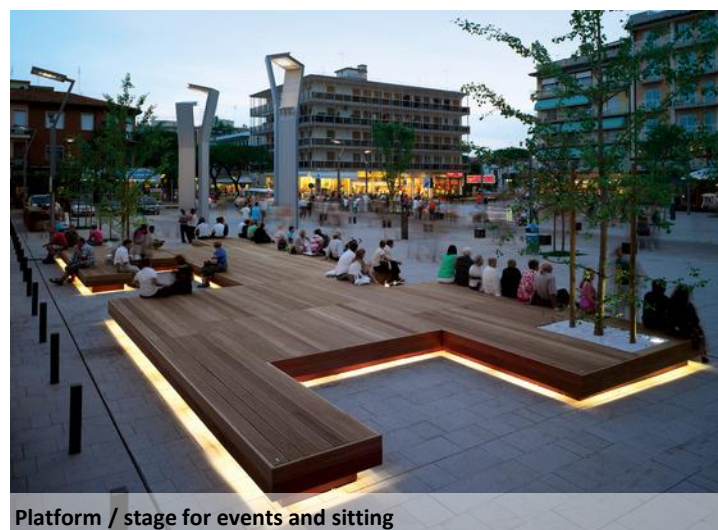
- A series of lawns and micro-plazas
- A strong grid of trees
- Seating areas
- An outdoor events space called Cookstown Squared.

Here, a series of squares overlap and interrelate to create pocket lawns and micro-plazas for groups of people to use flexibly – to meet a friend, to check emails, as a place to meet for a playdate or a place for an organised activity. They are carefully placed to facilitate good access and movement through the plaza and to and between commercial and community buildings. They make the most of the square’s south-facing aspect and are set-back slightly from local streets.

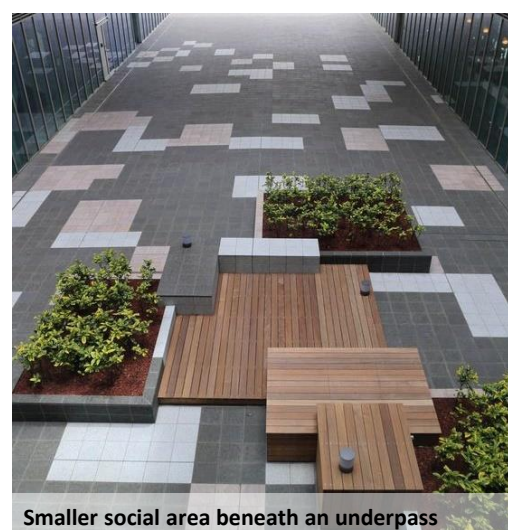
The scattered and interconnected placement of the squares creates a contemporary and energetic urban landscape. Planting is used to punctuate the plaza and wrap around seating spaces creating a sense of enclosure. Light-canopied trees create a strong grid within the plaza creating coherence, emphasising movement routes.

Cookstown Squared can be used for formal events and activities such as films nights, yoga, performance and provides an all-weather place to play, meet and explore. The permeant in-situ concrete stage area is simple and robust. There is potential for an outdoor screen to be attached top the underpass. The timber cubes can be used for sitting, lounging and playing on and will be constructed from long-lasting hardwood, which will be protected from the weather by the well and creatively lit underpass.

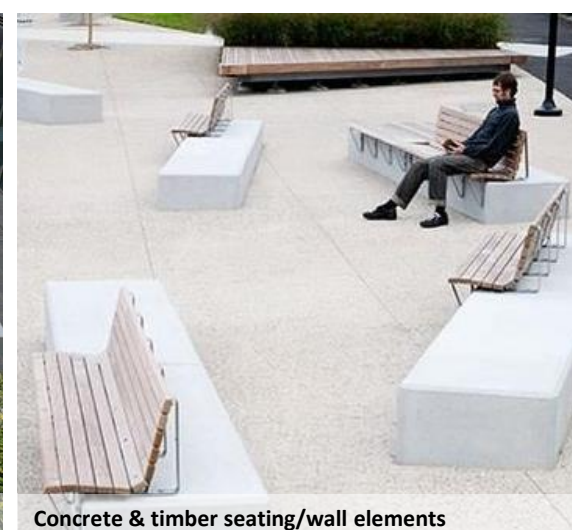
CGI of proposed Cookstown plaza



Platform / stage for events and sitting



Smaller social area beneath an underpass



Concrete & timber seating/wall elements



Deck and integrated seating, Wisconsin, US

Cookstown Plaza *1st floor plan and drawings not to scale. Please refer to drawing 16408-2-403-BLK-B2



Geometricity Linear Park

Geometricity is a contemporary, active, linear urban park which provides users with a daily dose of access to an artful, engaging open space as they move through the Cookstown area. The linear park is designed around the provision of movement and pauses. The pauses will contain a variety of different features including;

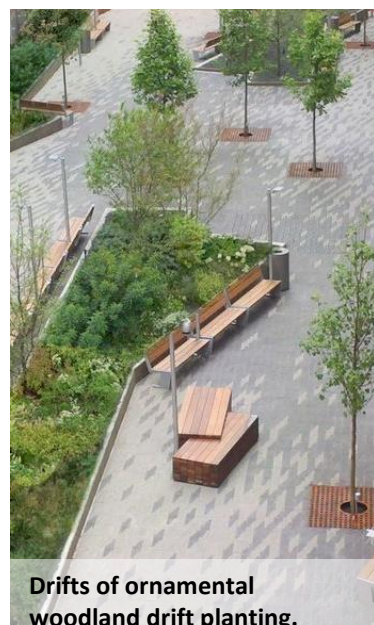
- Play spaces
- Planting
- Seating
- Parkour equipment
- Trees

The name Geometricity reflects the strong geometry of the design and the energy that it creates. The bold yellow colour will make the park look exciting even on the greyest of days and tones in with the yellow used on the building. Tallaght already embraces colour in the urban landscape and this scheme ties in with that. The angles and forms have been developed to;

- Create a sense of enclosure around seating areas
- Orientate seating areas towards interesting areas to look at
- Facilitate free and permeable movement through the spaces and between the commercial and community buildings
- Direct movement away from residential ground floor units.

Plant communities are proposed in medium-large swathes. Lush drifts of ornamental woodland planting will soften tis landscape and provide habitats.

CGI of proposed Geometricity linear park



Drifts of ornamental woodland drift planting.



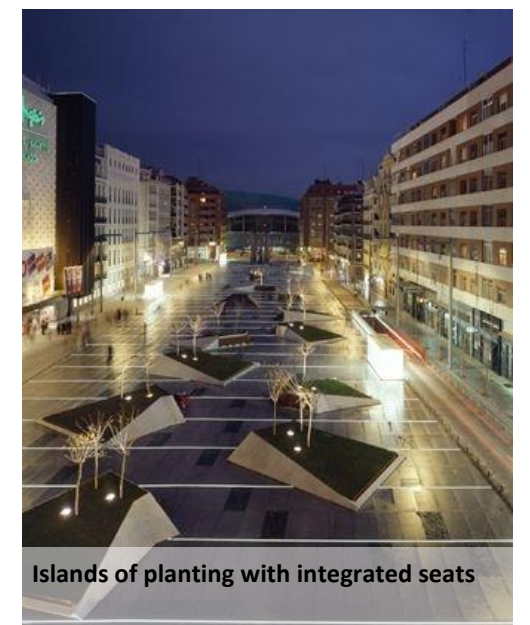
Low walls with integrated seating and yellow strips



Robust yellow public realm treatment



Forms and shapes for active play/ parkour etc.



Islands of planting with integrated seats

Geometricity Linear Park - West side only. For the full park see 16408-2-100-LMP-LVL0



Pyramid Park

Pyramid Park connects Belgard Station down to Cookstown Plaza. The sculptural pyramid landform has an important role in the landscape. Building on cultural traditions of using landform to mark important places, the pyramid captures views from the LUAS and from the south and draws people through the landscape. It is a waymarker and a placemaker. The pyramid is formed from a series of staggered terraces that are 400mm in height for sitting on and balancing along. There is an accessible slope for maintenance / buggy access.

Other important features within the park include;

- A pocket plaza to the south of the park, which captures views from the south and along Cookstown Road.
- Defensible space and lawns adjacent to the apartments.
- Rain gardens and planted swales along the northern façade of the building with crossing boardwalks.
- Boundary tree planting.
- Bold contemporary sculpture that reflects the history of Cookstown
- Terraces to the north of the pyramid that opens the space around the access road improving the sense of security experienced here.
- A planted swale connects Pine Tree Walk and Pyramid Park.

Future interventions on off-site lands north of the development could include;

- A skatepark integrated into lands beneath the overhead power cables.
- Native low-medium scrub planting to replace existing hedgerow habitat.

CGI looking south of proposed 'Pyramid Park' -

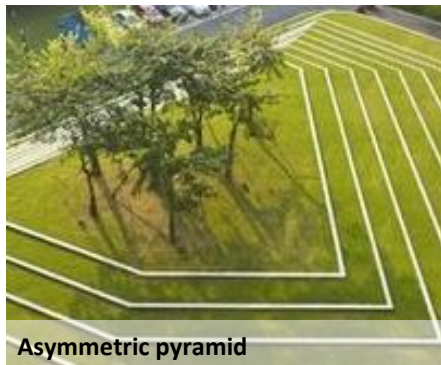


CGI zoom in of proposed pyramid terrace feature



CGI looking north from Cookstown Way of proposed 'Pyramid Park'.

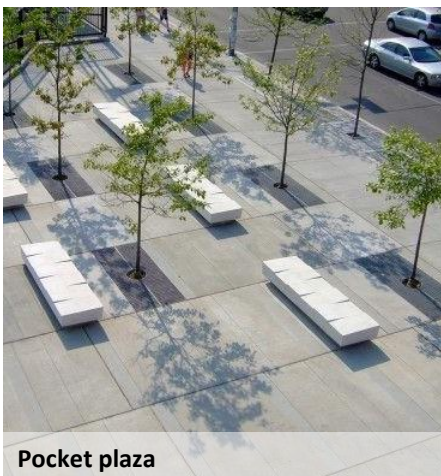
Pyramid Park



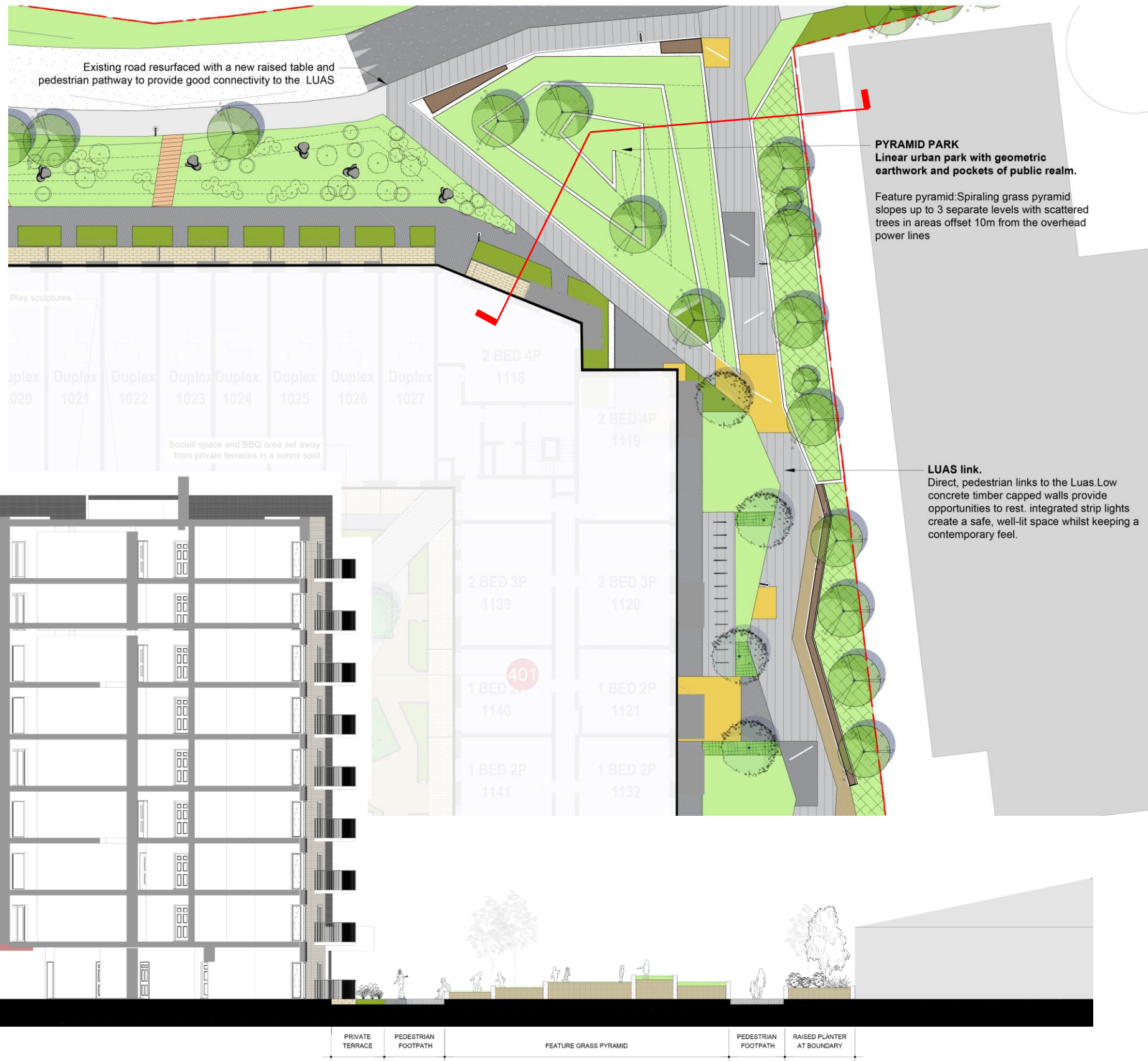
Asymmetric pyramid



Simple treatments – strong forms



Pocket plaza



Pocket Plazas and Green Links

Pocket Plazas

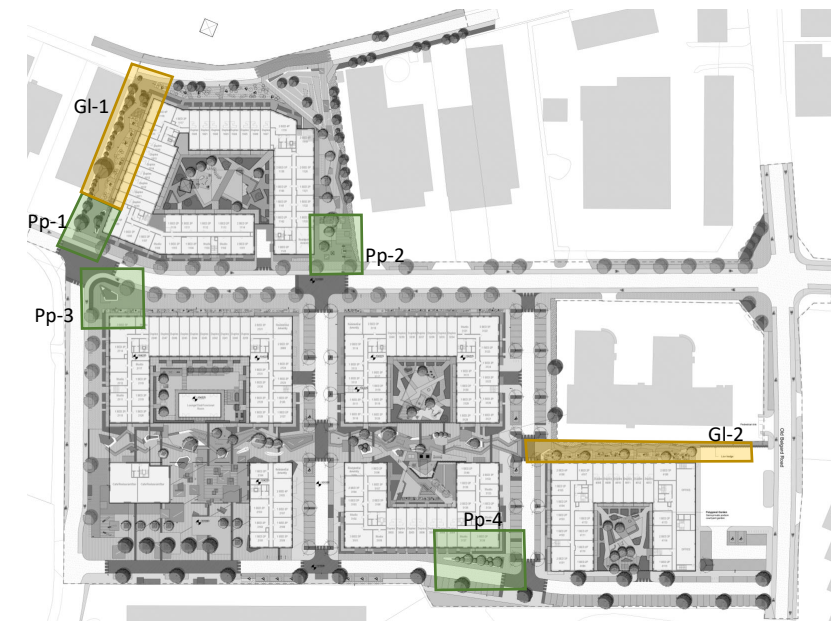
There are four pocket plazas proposed within the scheme located to capture views and provide a place to pause at key intersections. These pocket plazas provide positive public realm outside community or commercial buildings. Typically, they all,

- Are located where there are important corners of buildings which provide a sense of enclosure. This is then further reinforced with tree planting, which sometimes creates a focal point in the plaza.
- Include somewhere to sit. Some seats are integrated with other street furniture and places to sit – which may be integrated into planters.
- A focal point – which could be a single tree or a piece of sculpture.
- Some element of the trademark yellow – which could be in the form of planting.

Green Links

Two pedestrian green links are proposed as shown on the adjacent plan. These both;

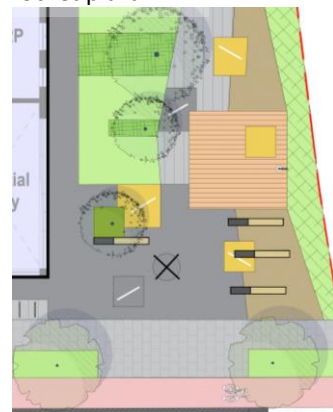
- Incorporate native planting
- Are realised using the geometric, angular characteristic of the scheme which serves to create identity and places to sit and play
- Include defensible space adjacent to apartment units.



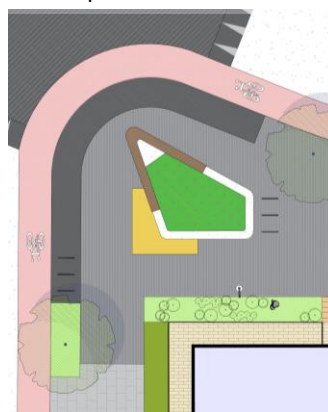
Pocket plaza 1



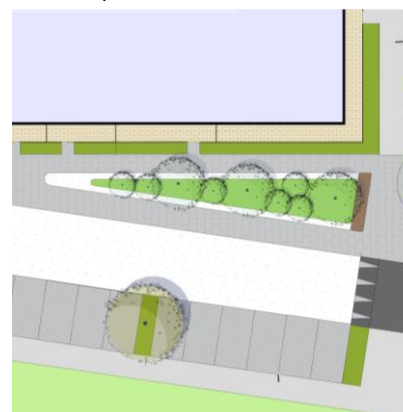
Pocket plaza 2



Pocket plaza 3



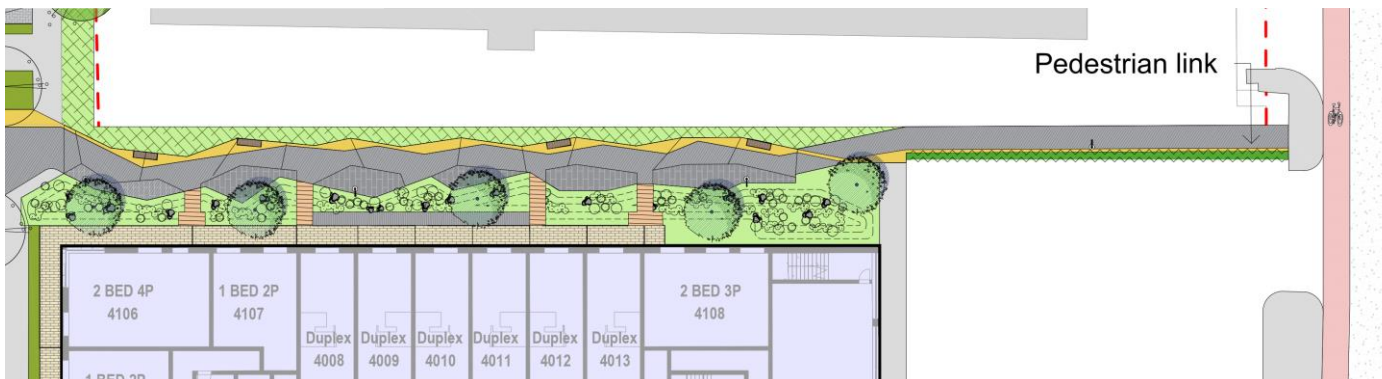
Pocket plaza 4



Green link 1 – Pine tree Walk



Green link 2



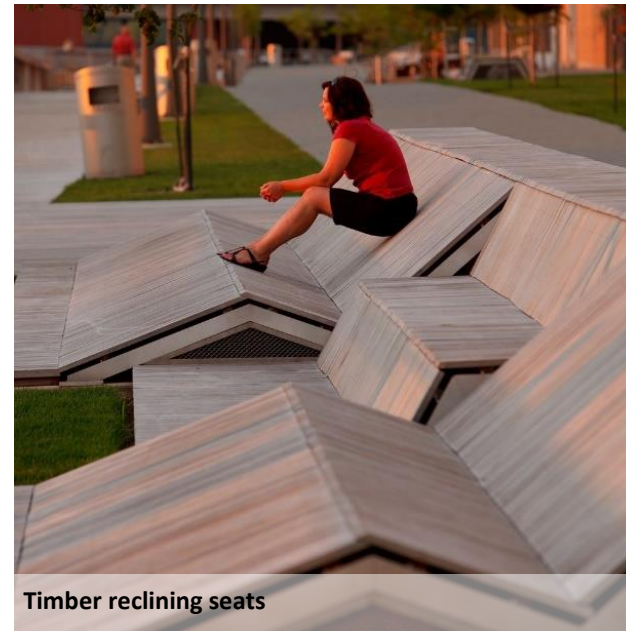
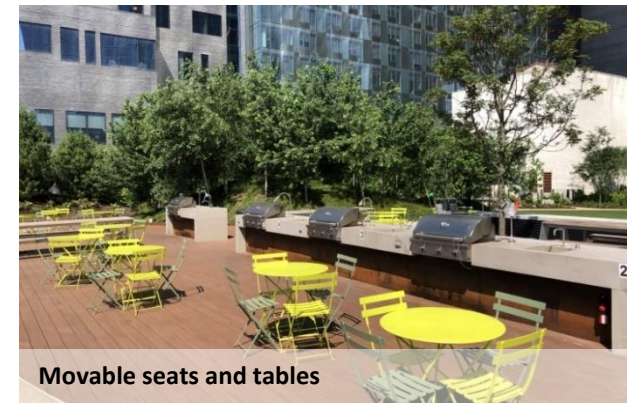
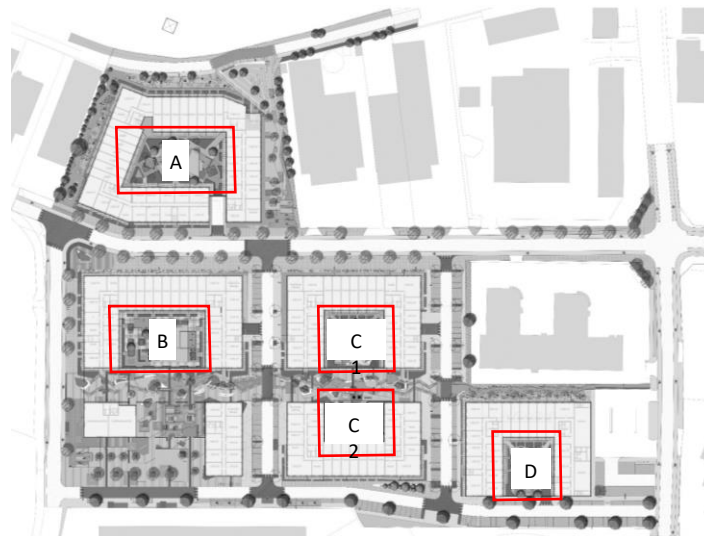
Courtyard Gardens

There are five courtyards gardens included in the scheme across the four blocks. Four of the five courtyards are at podium level. The fifth is at ground level. Each courtyard has been developed to have its own identity linked to the floating geometry concept. These are;

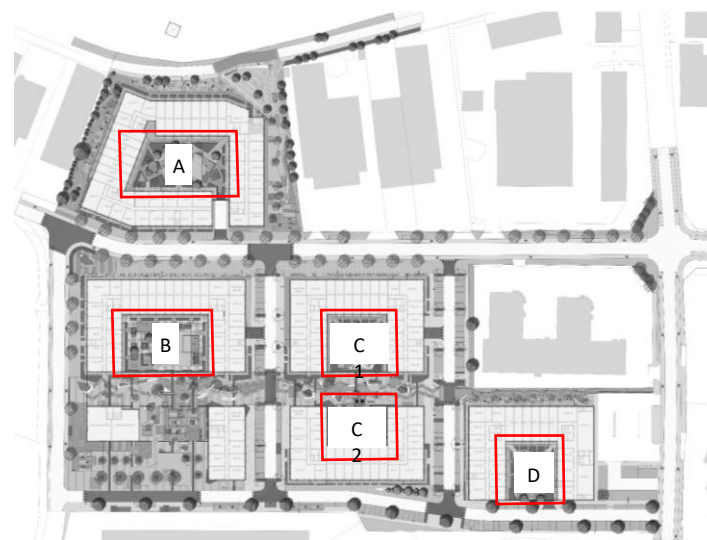
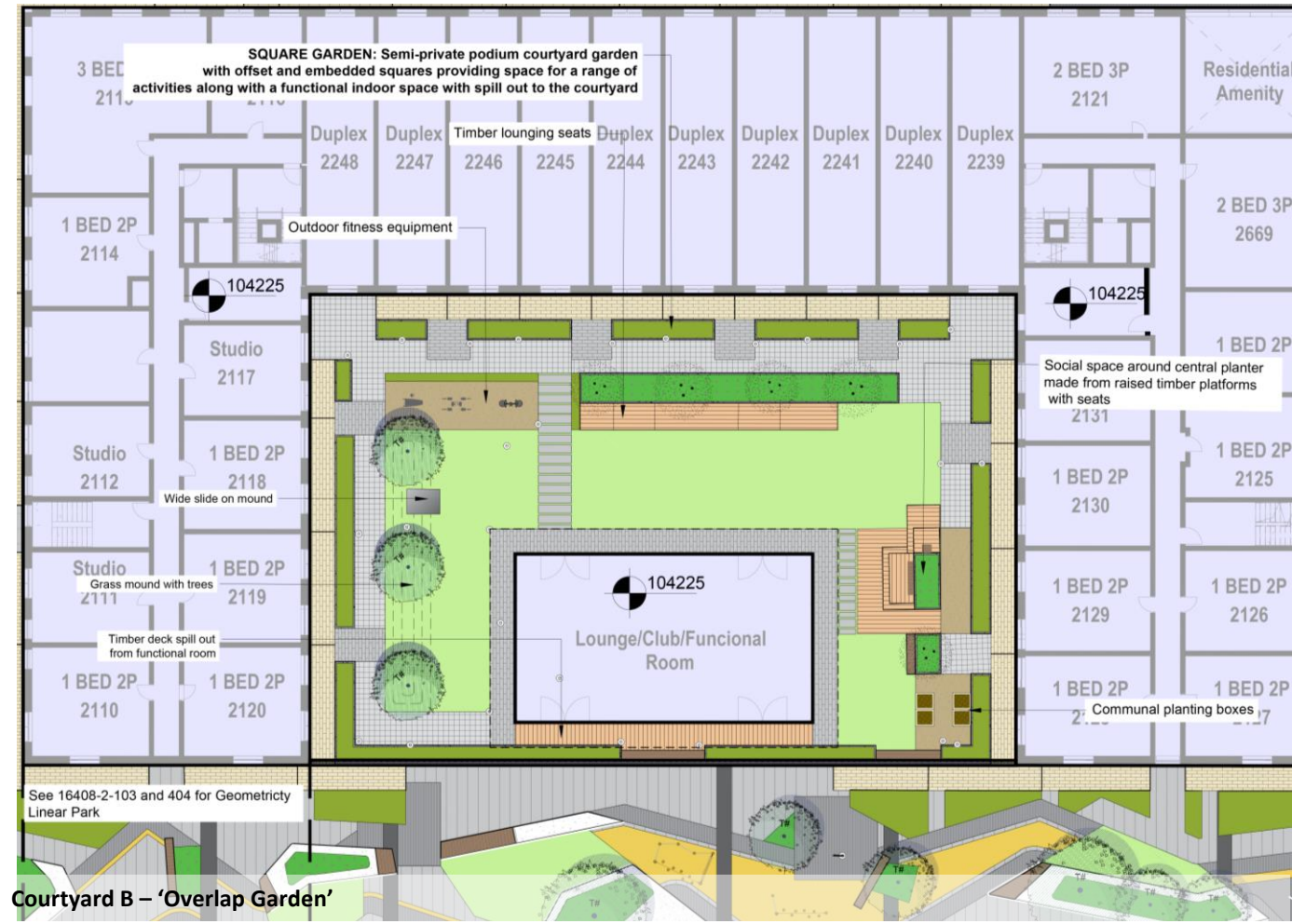
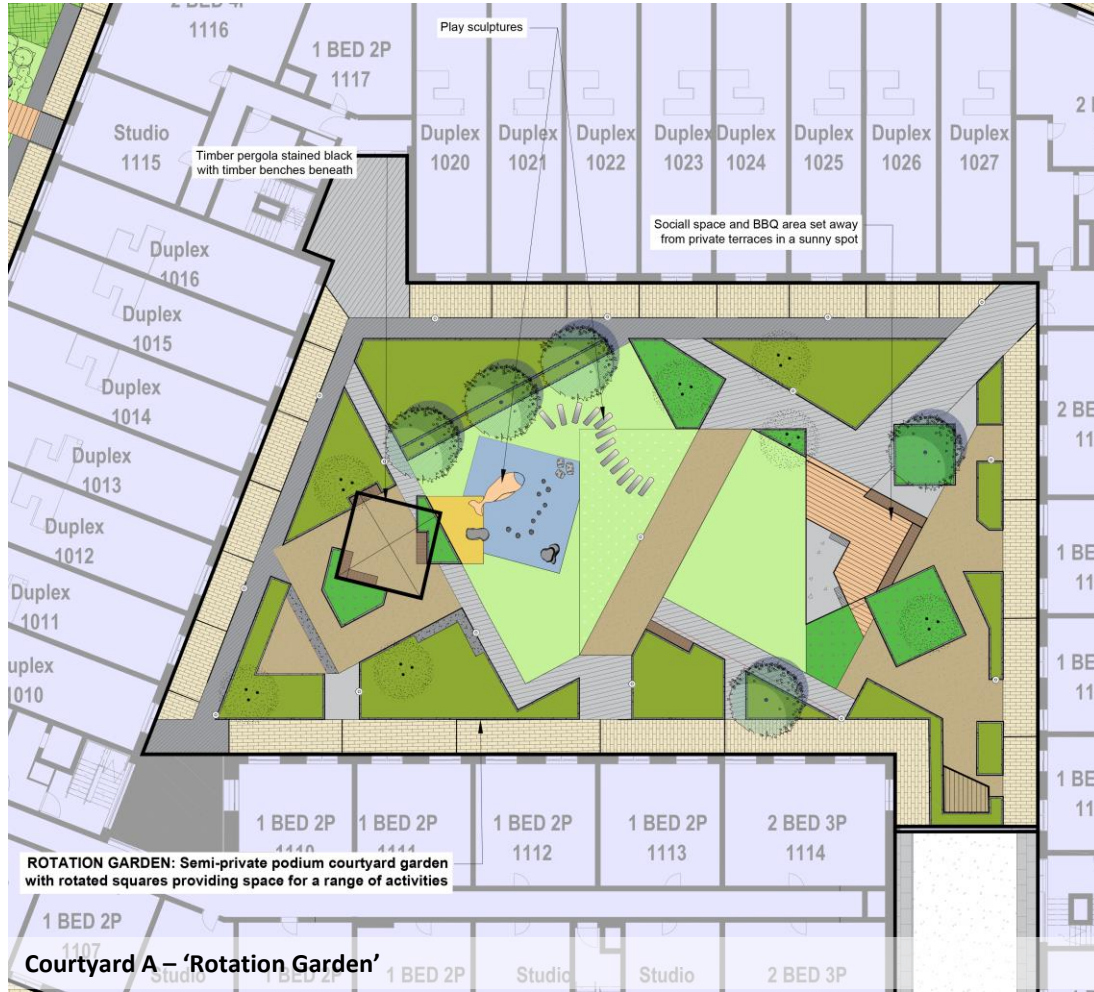
- Block A – **Rotation Garden** – this courtyard has been developed along the idea of rotating and repeating squares
- Block B – **Overlap** – this courtyard contains a series of overlapping squares
- Block C1 – **Skewed Square** – two rectangles offset and skewed are the focus within the garden
- Block C2 – **Rhomboid Garden** – Parallelograms repeat to form spaces here
- Block D – **Polygonal Garden** – sharp edges of the irregular polygons are tumbled and filleted.

All of the courtyards have been designed to;

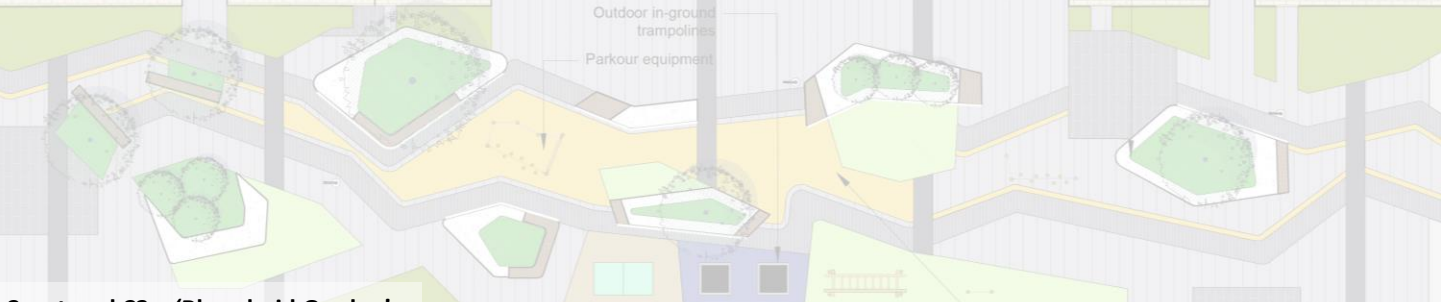
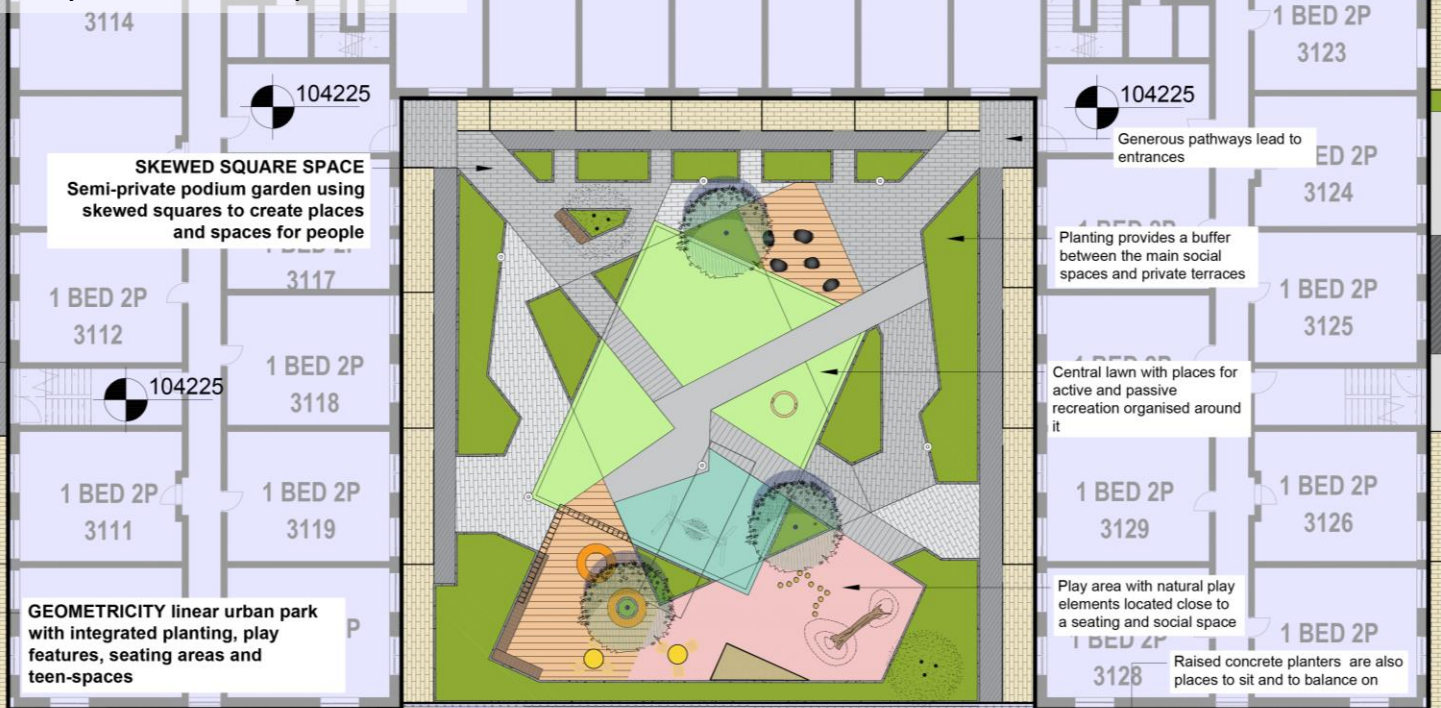
- Provide places to sit alone, in pairs or in groups
- Make the most of the sunshine by placing lawns and seating areas in the sun
- Use planting to create defensible space adjacent to apartment blocks
- Adopt a playful approach for all with integrated play opportunities and activities for all ages of people – children to adults
- Provide places for small group activities
- Include community planters
- Define spaces with changes of high-quality materials
- Define some social spaces with simple timber structures / pergolas
- Provide places to overlook the street while also limiting access to the edge of the podium.
- Adopt its own colour palette which will be expressed in the planting palette.



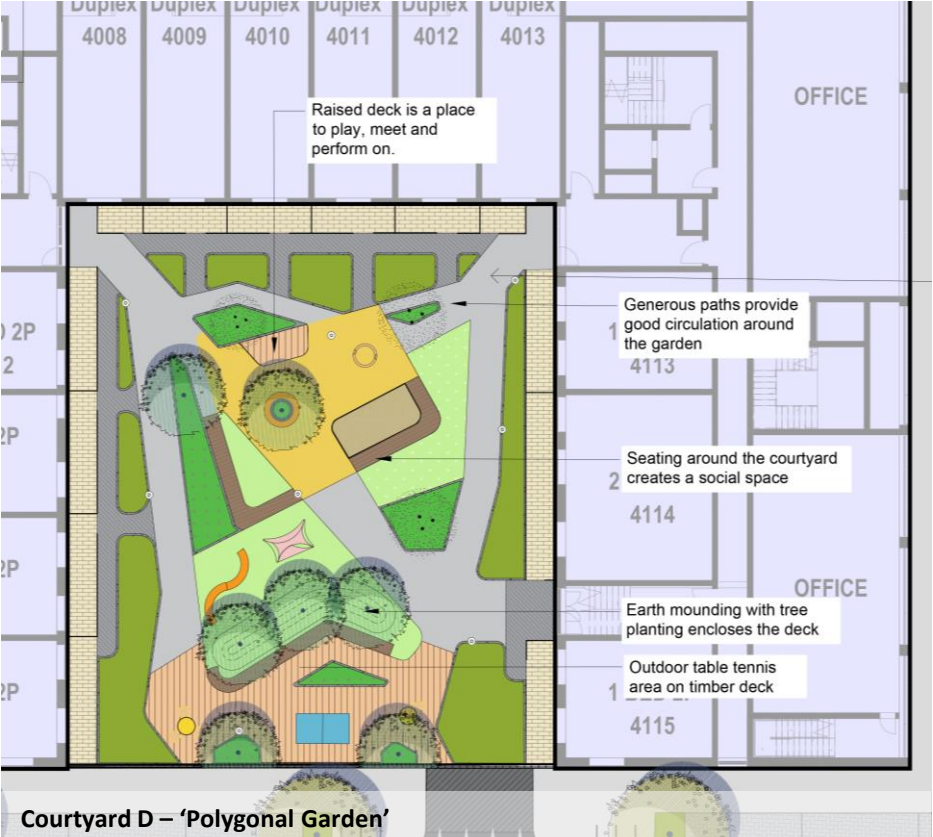
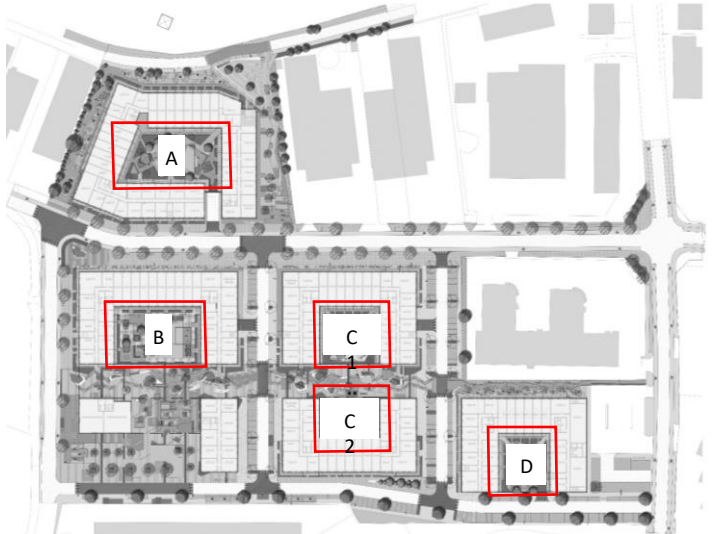
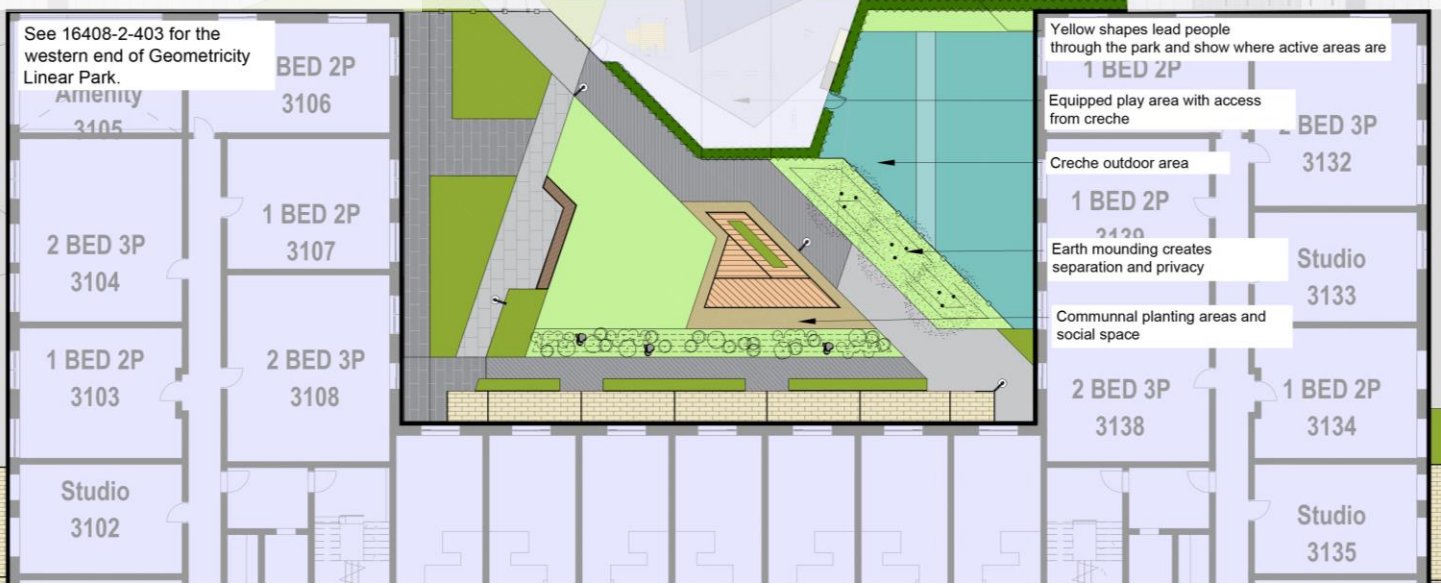
Courtyard Gardens



Courtyard C1 – 'Skewed Square'



Courtyard C2 – 'Rhomboid Garden'



Courtyard D – 'Polygonal Garden'

Roof Gardens

There are four intensive roof gardens included in the scheme. Four of the five courtyards are at podium. Each roof garden has been designed around a series of offset squares and rectilinear shapes to;

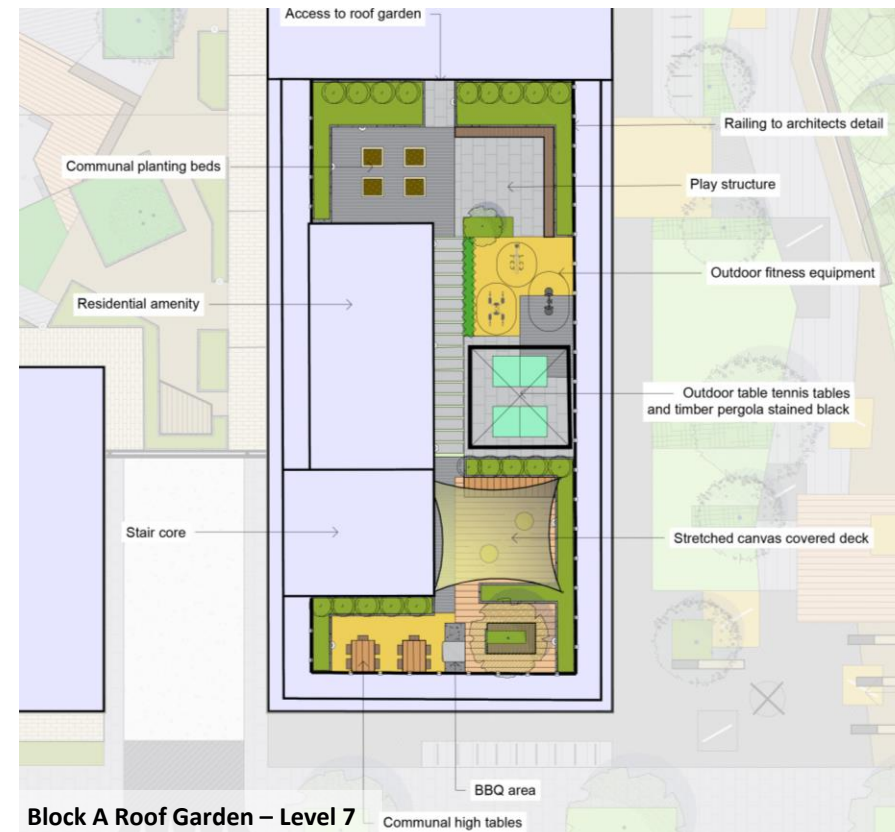
- Provide places to sit alone or in social groups
- Make the most of the sunshine by placing seating areas in the sun
- Use planting to screen views and wind and to create garden roofs and link to the Dublin Mountains
- Include places to exercise, to grow, cook and eat outside
- Provide spatial definition using changes in materials.

All remaining roof space, except for site plant, amenity roof space and the tower is to adopt an extensive green roof system.

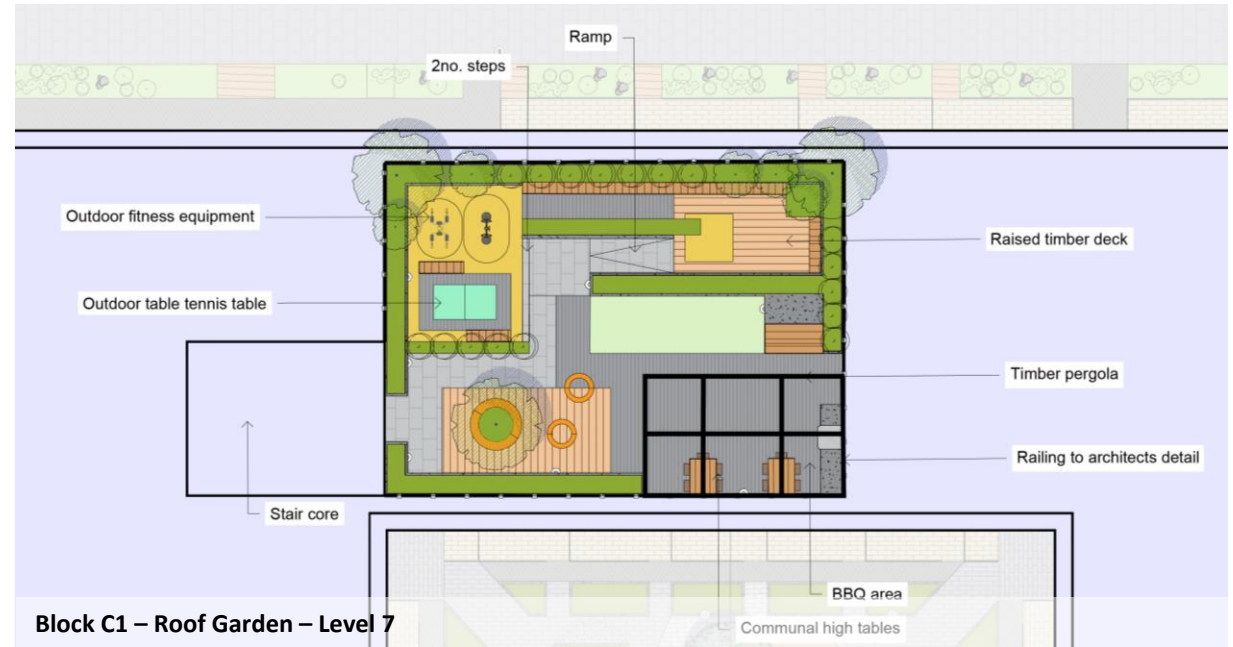
Examples of the look and feel of the roof gardens are provided below.



Raised planters, integrated seats, timber pergolas, playful artwork, planting that breaks up space characterize the elements used in each roof gardens



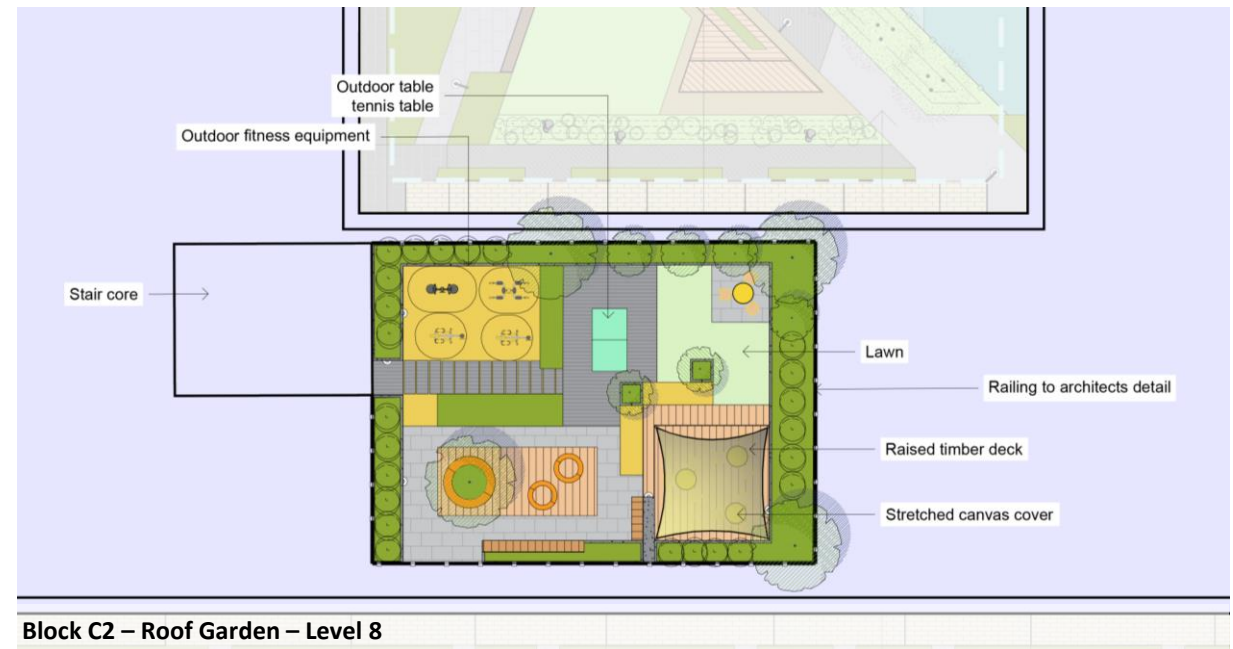
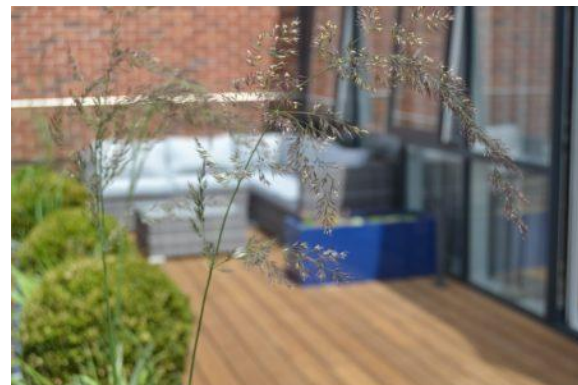
Roof Gardens - continued



Block C1 – Roof Garden – Level 7



Raised planters, integrated seats, timber pergolas, playful artwork, planting that breaks up space characterize the elements used in each roof gardens



Block C2 – Roof Garden – Level 8

Potential Future Parks

There are two areas of the land to the north and south of the application site that have the potential to be developed as local parks.

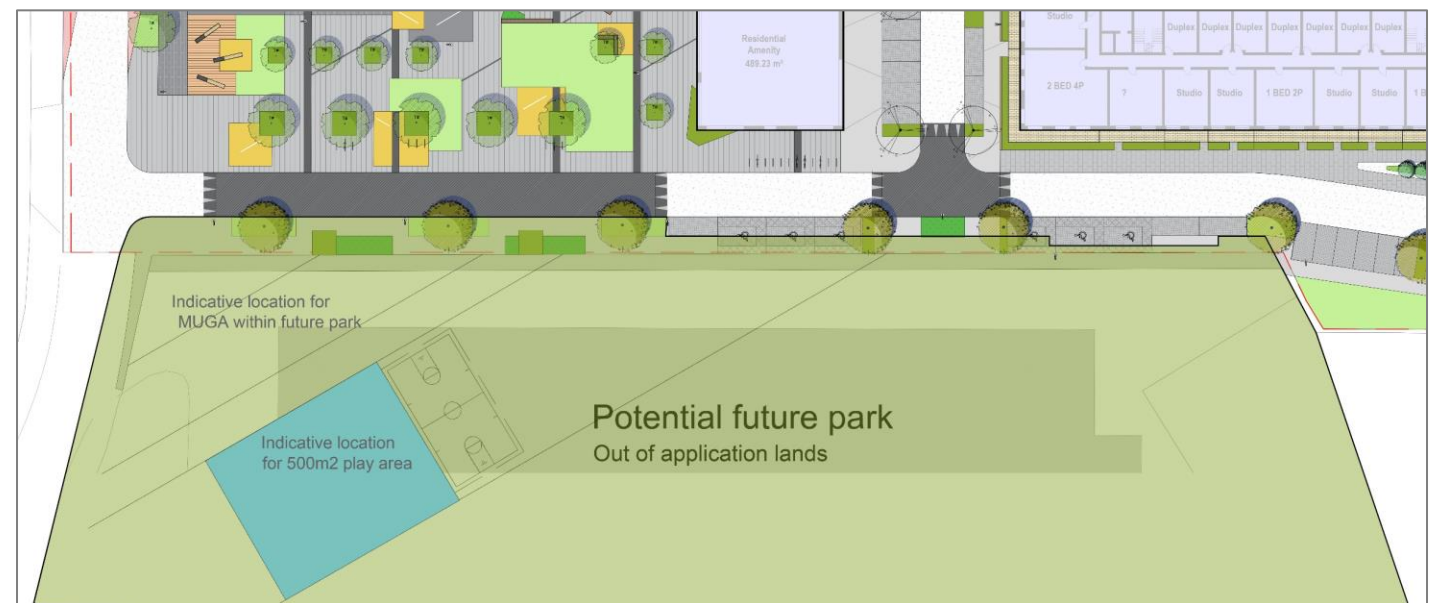
Cookstown Urban Plaza. 6500-7000m² park as per Tallaght Local Area Plan (2020-2026). This will be delivered as part of the block it resides within. Guidance from SDCC;

- The park space shall provide for a minimum area ranging from c. 6,500–7,000sqm,
- The park space shall provide a strong sense of place, providing a green edge at the junction of or in close proximity to the junction of a redesigned urban street along Cookstown Road and Second Avenue,
- The park space shall be designed in a manner which facilitates green connections to adjoining streets,
- The park space shall be overlooked by surrounding buildings providing passive surveillance, safety and security.

It would be expected that a park of this size would contain a play area and MUGA. Indicative sizes for these facilities are shown on the LMP.

Pylon Park. This park could potentially be up to 6000m² and makes use of the lands around the pylon to the north of the application site. It is an ideal place to locate a facility such as a skate park, which needs to be overlooked, but is better sited slightly away from homes. The proposal shown on the landscape masterplan is indicative only. It aims to;

- Provide a great, accessible place to scoot and skate
- Open up the access road to the LUAS to make it a lighter, less enclosed place to walk along by building staggered terraces along its northern edge
- Provide a dense area of habitat to replace the lost hedgerow to the south of the access road. Planting mixes are specified to provide a low-medium growing native scrub within the 10m buffer zone of the overhead electricity wires and the same but with scattered native trees outside of the buffer zone.



Examples of neighborhood playgrounds – with different characters (Mardyke playground, urban active play and Cutsyke Play Forest)

Example of a skatepark with integrated trees, overlooked from apartments

3.3 MOVEMENT, ACCESS AND STREET HIERARCHY

A place that makes getting to, from and through this neighbourhood easy, safe and interesting.

This DMURS compliant proposal is achieved by creating;

Well-designed streets and roads with;

- A connected series of routes with a readable hierarchy leading to and through the wider Cookstown/ Tallaght area. Street hierarchy is emphasised by planting different species on streets with different roles within the network.
- Pedestrian priority features with visual and speed reducing measures, particularly at main pedestrian crossing points

south of the public plaza leading to the adjacent park and centrally to keep the flow of the linear open space

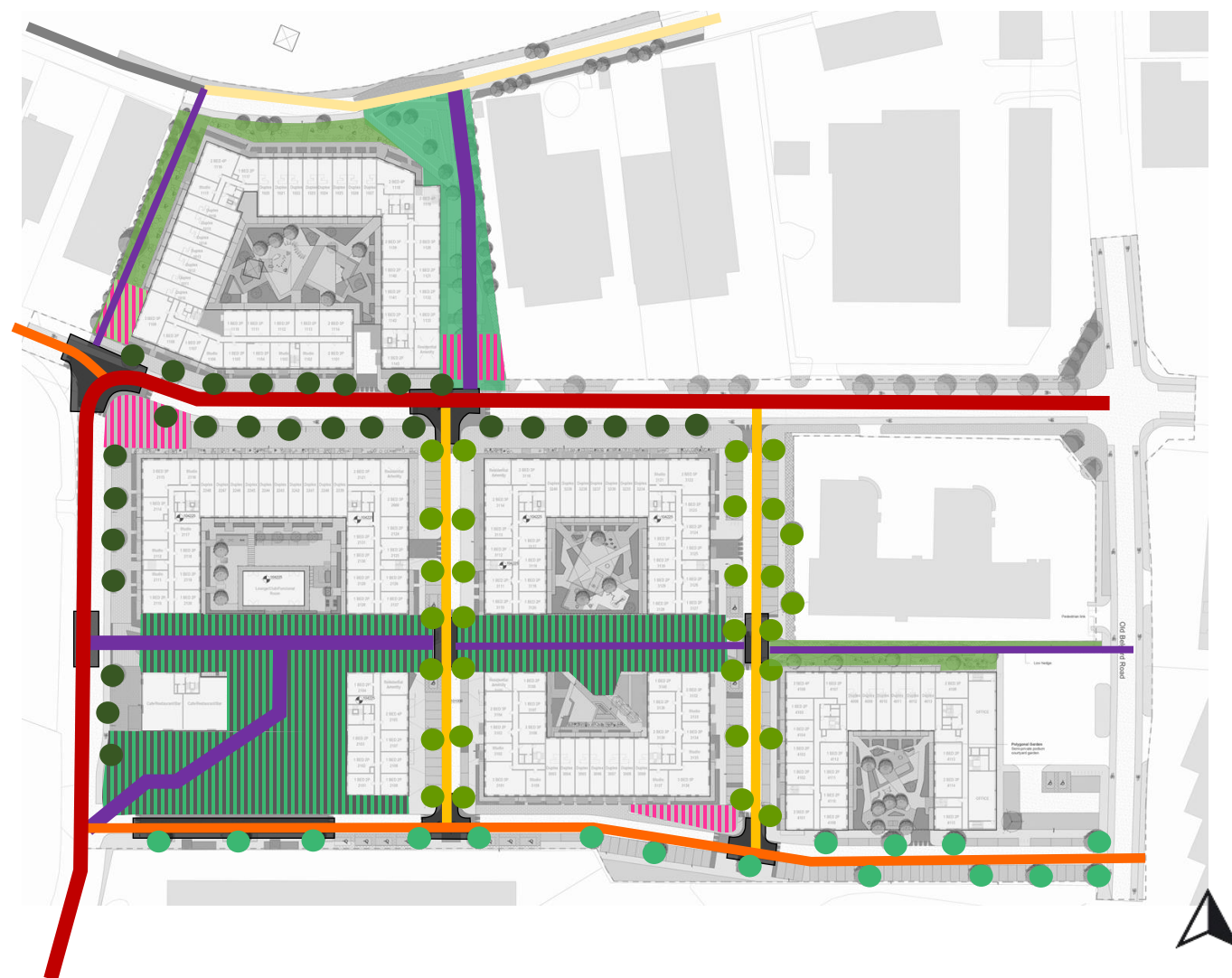
- There will be a hierarchical approach to the use of materials. Changes to carriageway surface material will emphasise transitional zones. Changes in material on raised table junctions will encourage low vehicle speeds.
- Liveable, green, safe streets with a strong sense of place and integrated SuDs measures.

Well-designed pedestrian routes that;

- Increase links to Belgard LUAS stop to the north via new

pedestrian linkages.

- Provide a strong connection between the LUAS and the proposed future park south of the application site.
- Offer high levels of permeability throughout making it easy and comfortable to walk through
- Pocket plazas along main routes that offer a place to rest and sit along with areas for play.



- Primary local street – Cookstown Road
- Secondary local street / through road
- Local access street
- Access road with pavement
- Primary pedestrian route
- Secondary pedestrian route
- Public Open Space / playscape to be taken in charge
- Public Open Space / playspace designed to taking in charge standards but to be maintained by a management company
- Green links to be taken in charge
- Pocket plazas which are part of the public realm
- Raised tables
- Tilia henryana – Henry’s Lime 16-18cm
- Acer rubrum – Red Maple 16-18cm girth
- Pyrus calleryana ‘Chanticleer’ – Callery Pear 16-18cm girth



Tilia henryana



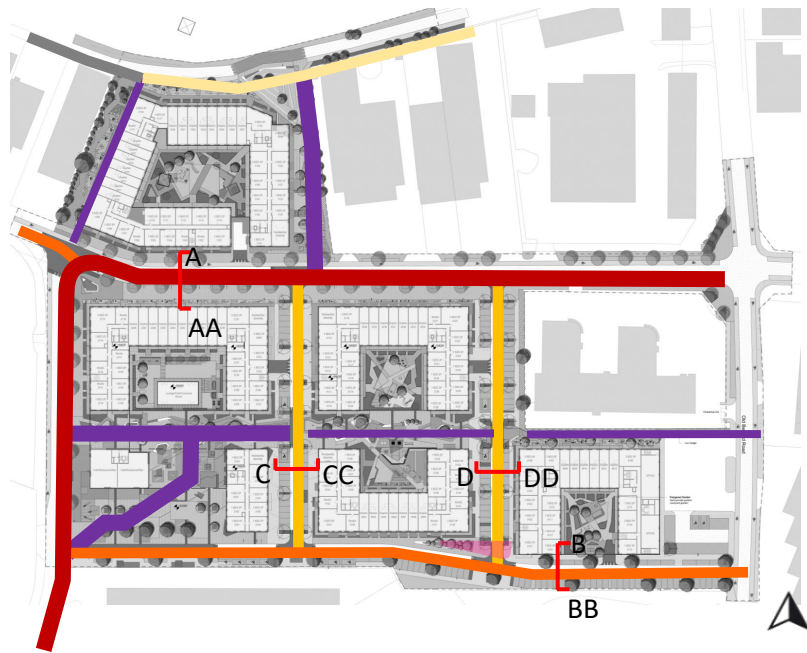
Acer rubrum



Pyrus calleryana ‘Chanticleer’

STREET CHARACTERISTICS

The following sections illustrate the characteristics of each of the four types of streets.

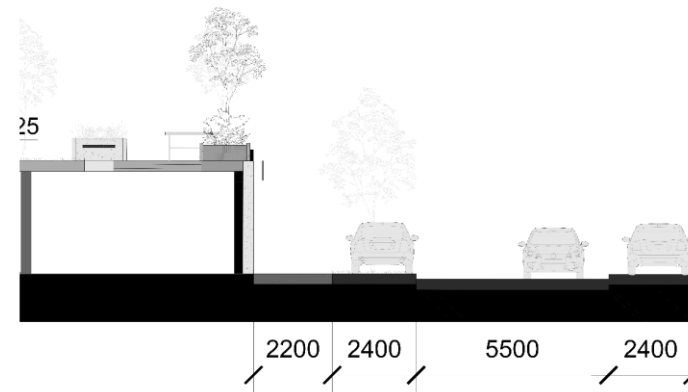


- Primary local street – Cookstown Road
- Secondary local street / through road
- Local access street
- Access road with pavement
- Primary pedestrian route
- Secondary pedestrian route

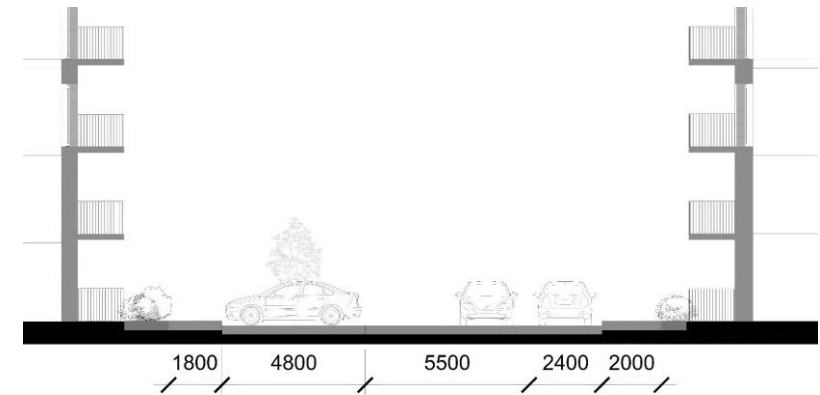
Section A – Primary local street – A spacious paved street with wide pathways, cycle parking and street trees.



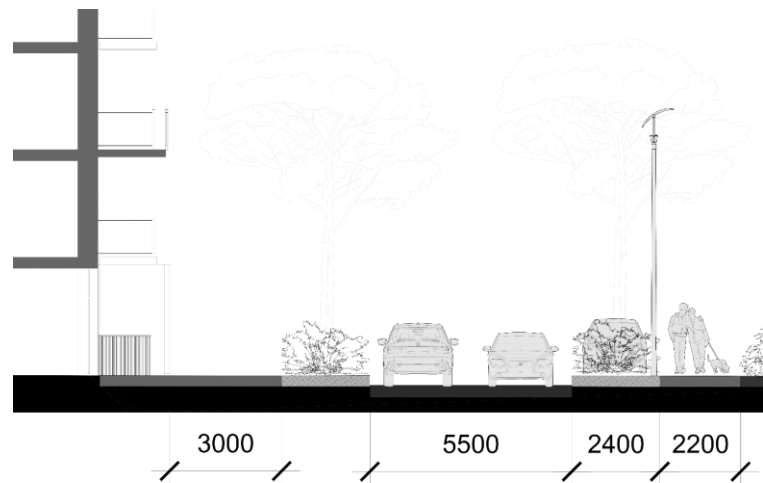
Section B – Secondary local street / through-road – Parkside street adjacent to open space with street trees



Section D – Local access street – Street with perpendicular parking



Section C – Local access street – pedestrian connector – Street with wide pavements to link parks



3.4 PLACE MAKING - PUBLIC REALM, OPEN SPACE & PRIVACY

Public Open Space Provision

The proposed development exceeds the 10% POS requirements set out in the SDDC development plan with 12.1% Public Open Space (6680.7m²). This figure does not include the green links, which provide an additional 1531.6m² publicly accessible land. In total, all publicly accessible land equates to 14.9% (8212.3m²) of the application lands (streets and pavements add to this). All external space is designed to comply with Universal Access Guidelines and Taking in Charge Standards.

The distinctions between private, semi-private and public open space are shown in the diagram below. Please note that Public open Space located in Cookstown Plaza, in Geometricity Linear Park and underneath overhanging buildings are not proposed to be taken in charge (although are designed to meet the standards).

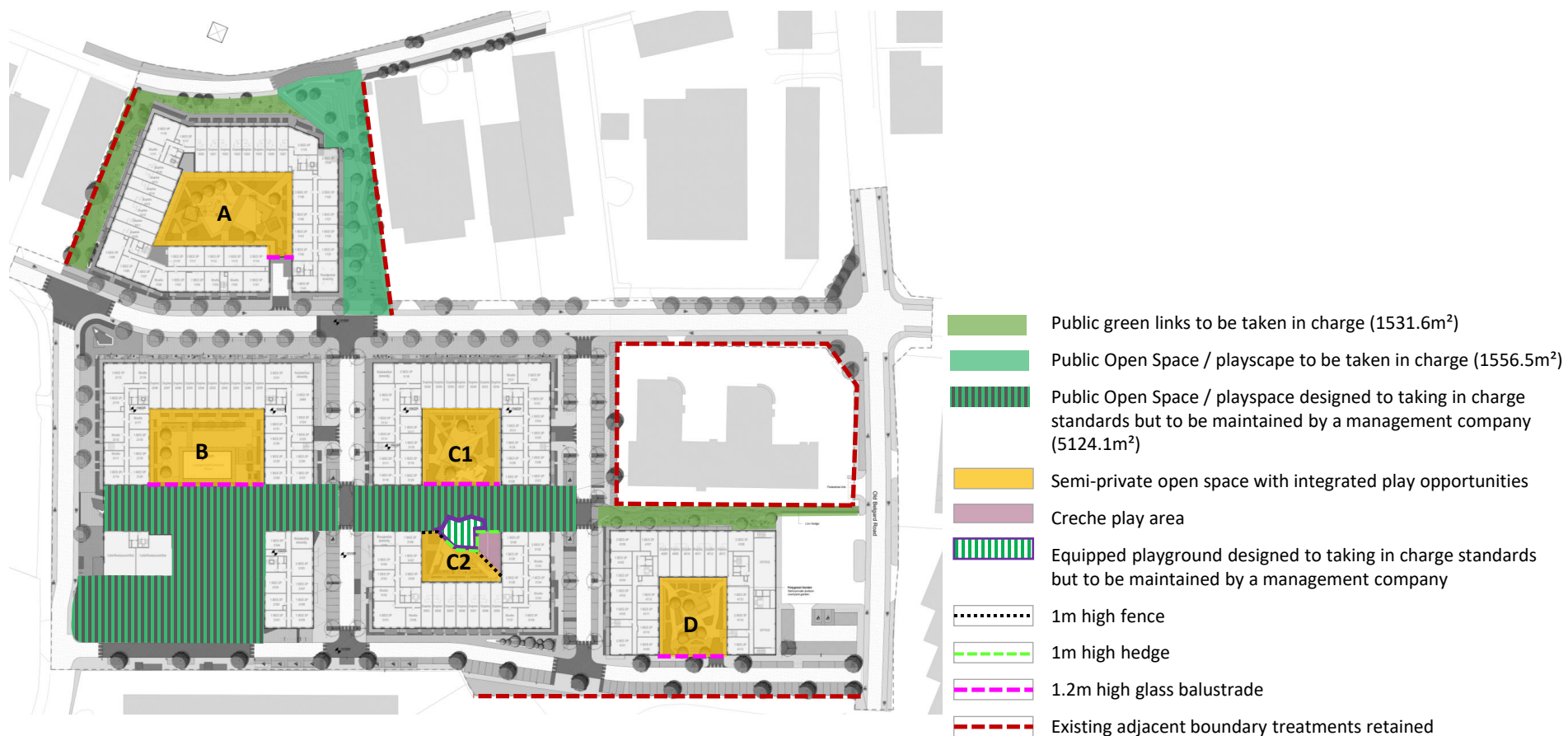
Please also refer to CWOB's Taking in Charge drawing for clarification regarding the management of streets and the public realm.

Boundaries

No new external boundaries around the periphery of the site are proposed. All existing boundaries, on adjacent lands will be retained. Of these, only those shown in a red outline on the adjacent diagram are permanent due to planned development on all other adjacent lands.

There will be very limited internal boundaries proposed for this scheme except for enclosures for private terraces (see the architect's proposals) and the divisions between courtyard C2, the creche and the public realm. This division will be in the form of a 1m high strengthened hedge and fence. Please see images below.

1.2m high strengthened glass balustrades are proposed for all the podium edges. Strengthened glass is proposed to maximise both safety and light penetration. Within the podiums, additional planting strengthens edge treatments.



1m high flat bar railing – dark grey



1m high Euonymus japonicus hedge (good for shade)



1.2m high strengthened glass balustrade

3.5 PLAY AND RECREATION STRATEGY

Play is how children learn about themselves and the world we live in and has been described as *'The work of the child'* by Mary Montessori.

Future Park

There is a future park proposed directly south of the site which would be logical place to site a MUGA and neighbourhood playground (circa 500m²). This play area has the potential to have a catchment area reach of 400m, which covers the whole of the application lands.

Proposed playscape within this development

Within the proposed development there is an equipped play area proposed within 'Geometricity Linear Park'. In accordance with the development plan the toddler play area will be 80- 100m², be 5m from the nearest building façade and have 3-5 pieces of equipment. The likely catchment area for this play area is 100-150m²

This development aims to provide a public realm that is a playful experience in itself with lawns to run on, structures to climb and exercise on, walls to balance on and lines and lights to follow. The following places and spaces will provide nucleus for play activities;

- **Cookstown Plaza** which contains micro-lawns, raised walls and structures, patterns and shapes
- **Cookstown Squared** which contains a stage and timber structures for sitting and climbing on
- **'Geometricity Linear Park'** which contains parkour equipment, table tennis tables, concrete structures for skating and climbing on and a toddler's play space.
- **Pine Tree Walk** which contains a long wall for balancing along
- **Pyramid Park** which contains a spiral earth work, long walls and lawns.

The vibrant, energetic, playful experience will extend through the whole of the public realm as a thread. In addition;

- Each courtyard garden will contain play facilities and features
- An outdoor creche (90m²) is provided in courtyard C2.

Together, the proposed developments will provide an excellent, connected play experience for a full range of people (see map overleaf for catchment areas)

Proposed approach to play design

Play spaces will be designed to act as instigator of natural play rather than a director of what that play will be and to inspire the imagination. It will include for interesting and varied topography, hiding places, trees, shrubs, grass and soft safety surfaces of varying kinds. The play space will challenge the children in relation to running,



Play areas integrated into the streetscape are communal focal points



Play for all ages



Toddler play



Imaginative play



Natural play

jumping, rolling, climbing and balancing, while also experiencing a range of emotions such as opportunities to be powerful/powerless, scared/confident, and in/out of control. It will provide the children with a freedom of chose, spontaneity, and an absence of directly imposed rules.

Teenager/ adult play facilities will centre around activities that will not create large noise volumes within the courtyards. These activities include boules, softball and table tennis.

Furnishings & Surfaces

Furnishings will be similar to what is illustrated in the images displayed. The play lot and crèche will have a low fence and gate and seating will be included. The play area will have a rubber safety surface, grass or rolled dust.

Safety











All furnishings and surfaces within the children's play spaces will be to ISEN 1176/ISEN 1177 standards and meeting the RoSPA, NSC and other appropriate health and safety requirements. The play space has been designed around the Ready, Steady, Play! and Naps, Leaps and Neaps guidelines.

Catchment Areas of Proposed Play Provision

The diagram below illustrates the catchments areas of the:-

- Proposed equipped playground
- Proposed playscape provided within the public realm and public open space
- Proposed future playground located in Cookstown Urban Square
- Potential skate park located in a proposed potential future park

Together, the proposed developments will provide an excellent, connected play experience for a full range of people.

-  Public green links to be taken in charge (1531.6m²)
-  Public Open Space / playscape to be taken in charge (1556.5m²)
-  Public Open Space / playscape designed to taking in charge standards but to be maintained by a management company (5124.1m²)
-  Semi-private open space with integrated play opportunities
-  Creche play area
-  Equipped playground (POS to be taken in charge)
-  100m catchment area of equipped playground
-  100m catchment area of key playscape features
-  400m catchment area of proposed playground in Cookstown Urban Square
-  400m catchment area of the potential skatepark in the potential future park to the north of the application lands



Play Areas in Semi-private Courtyard Gardens

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

‘Sustainable Urban Housing: Design Standards for New Apartment Guidelines’ (March 2018) states that;

- For buildings including over 25 or more units with two or more bedrooms –small play spaces will be provided that are 85-100m²
- For buildings including 100 or more apartments with two or more bedrooms, play areas for older children and young teenagers should also be provided within play areas that are between 200-400m² in size. (p.23)

The application under review is for a build to rent scheme. Such accommodation is less likely to attract families as other, more traditional accommodation. Given that 40% of all tenants have children and 35% of all tenants live in apartments (CSO 2016), it is a reasonable assumption that approximately 13% (35% of 40) of the apartments in this development would be occupied by children. Therefore, the approach taken towards play in the courtyard gardens is to avoid overly large areas of rubber play space but to provide space for spontaneous play (such as a lawn) with several integrated play opportunities such as;

- Balancing walls and sand pits
- A stage
- Hard spaces for scooting around
- Play sculptures for imaginative play
- Structures that can be climbed on or used for seating.
- Limited traditional; play equipment.

There is one courtyard garden located at ground level with shared access from courtyard C2 and the linear park. In addition to play opportunities within the courtyard itself, the playground will contain a small lawn, table tennis tables and equipment for young and mid-aged children.

The look and feel of the play area will be designed to compliment the contemporary, urban look of the linear park while embracing creative play principles already outlined.

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
- Exercise spaces
- BBQ areas
- Communal growing beds
- Table tennis tables
- Social spaces

Apartment Block	Total no. of 2 / 3 bed units	Playspace	Min. playspace required	Playspace provided
A	137 2B + 8 3B	Required	200-400m ²	920m ² courtyard with 200m ² integrated play opportunities
B	152 2B + 11 3B	Required	200-400m ²	835m ² courtyard with 85m ² integrated play opportunities
C1	45 2B = 12 3B	Required	85 – 100 m ²	562m ² courtyard with 200m ² integrated play opportunities
C2	57 2B + 14 3B	Required	85 – 100 m ²	305m ² courtyard with 85m ² integrated play opportunities + access to an equipped play area which is 125m ² .
D	63 2B	Required	85 – 100 m ²	560m ² courtyard with 85m ² integrated play opportunities.



Play sculptures



Natural play

Social play

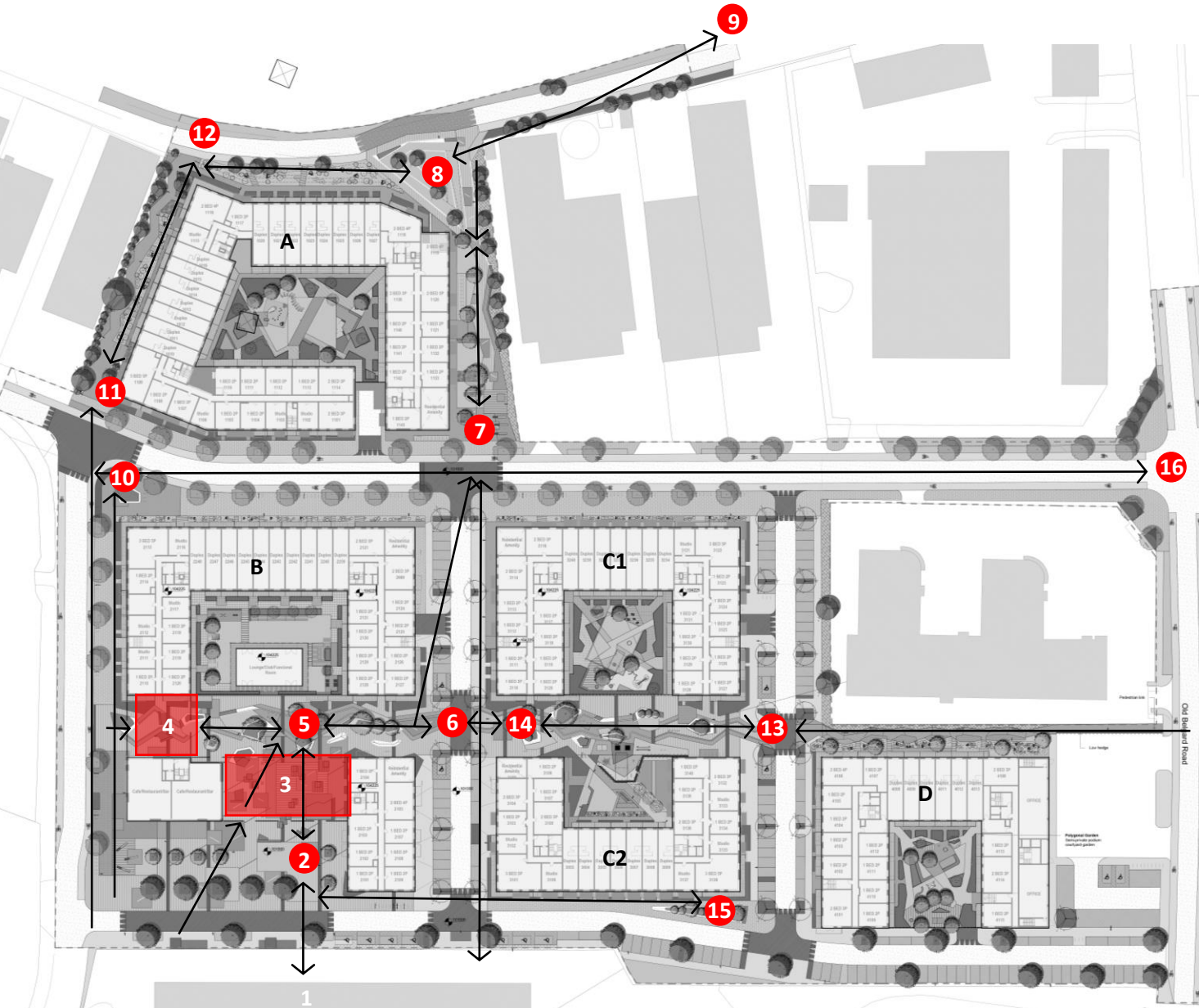


Play for all



3.6 DISTINCTIVENESS, LEGIBILITY & ART

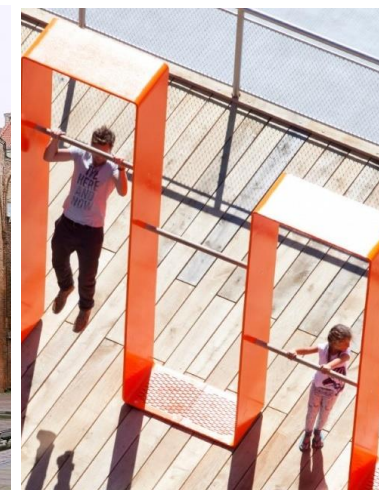
Focal points will be used to make wayfinding self-explanatory. Key visual features are located in the following places and ways as shown on the diagram below and illustrated accordingly.



1. Cookstown Urban Plaza: Sizable park space draws the eye from all around.
2. Small geometric lawn draws people into and through the plaza from the north and south
- 3/4 Views are framed by the 3rd storey of the buildings that bridge over these spaces.
- 5/6 Small grove of trees draws the eye and suggests the presence of space and light. Parkour equipment emphasises the route through the linear park.
- 7 The corner of the building and a bold sculptural piece draws the eye from the south. The building juts into the view creating interest. The sculpture also draws the eye and movement from the north
- 8 Geometrically shaped earthwork, rising to 1800mm in total, and planted with trees draws the eye from the south, east from the LUAS and west towards the LUAS
- 9 The white tented structure of the LUAS stop draws the eye from the west.
- 10 A raised planter and tree creates a public realm node, visible from the east and south, reassures the pedestrian that using this route is interesting and safe.
- 11 The corner of Block A features in views north along Second Avenue. The line of pines emphasises this node and reinforces the linear north-south route.
- 12 The presence of green and planted trees draws people north.
- 13 Small grove of trees draws the eye and suggests the presence of space and a junction.
- 14 Small grove of trees suggests a place to pause
- 15 The raised planter creates a public realm node which draws people east and communicates the importance of this park-side through-route.
- 16 Large, busy junction draws movement west along Cookstown Way.



(7) Radiator artwork, Berlin. Bold artwork linked to industry.



5/6 – Parkour structures reinforce wayfinding



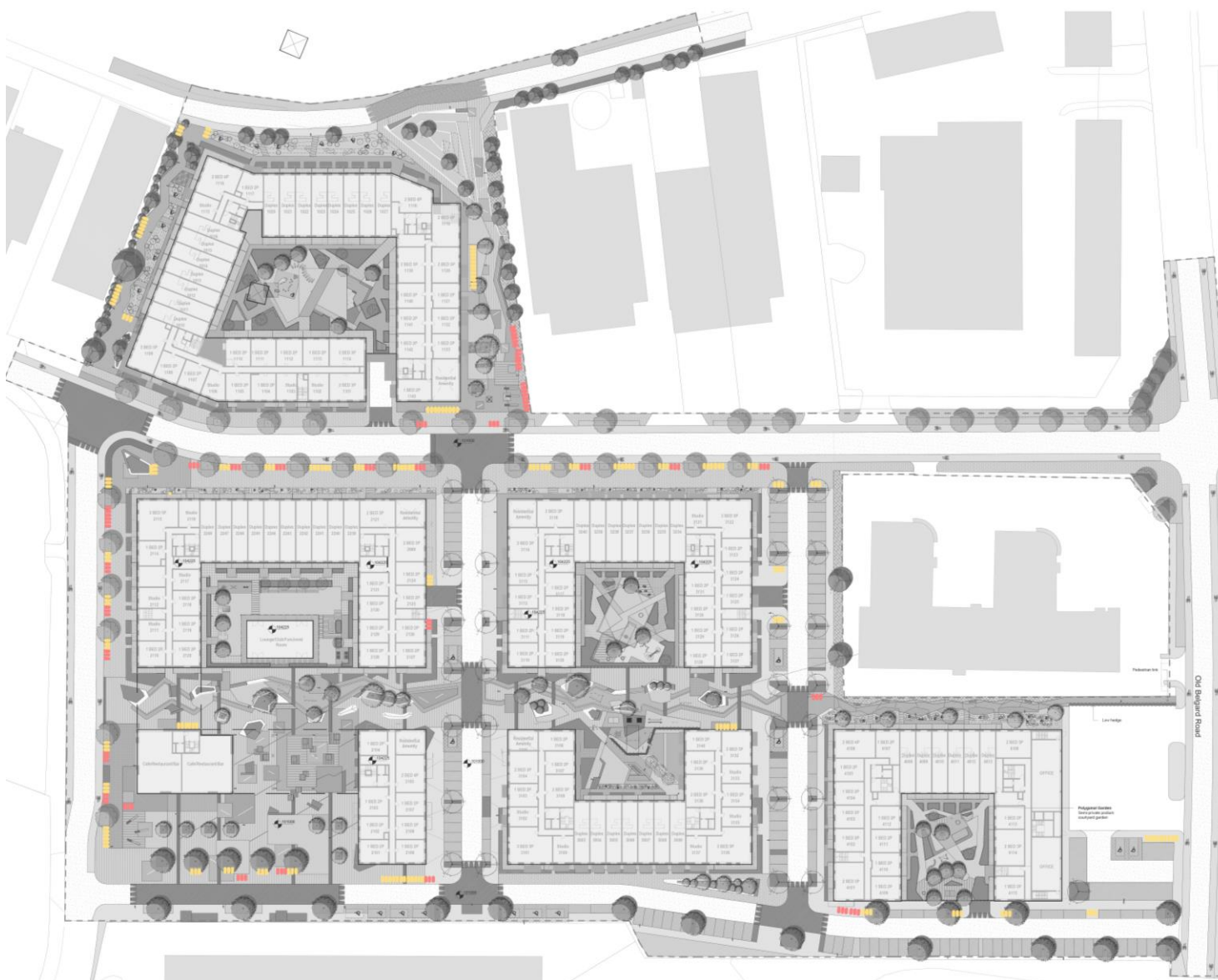
5/6/13/14 – Groves of trees suggests a hub and draws people through and to space.

3.6 BICYCLE PARKING

All bicycle parking for residents will be located within the buildings. All visitor bike parking will be located on the streets. There are 1104 units in total proposed .

The New Apartment Guidelines recommends that 1 visitor cycle stand for every 2 units bike should be provided. The proposal includes adequate space for the provision of this number. However, it is proposed that over 1 stand for every 3 units is accommodated, with space to expand in the future, with only minor modifications to the urban environment, as illustrated in the diagram below.

The proposed bike spaces have been positioned as much as possible on the street or near building entrances so that they are easily accessible by visitors.



Space for future expansion of cycle stands provided
 Cycle stands provided



Double stacked bicycle racks



Steel street bicycle parking

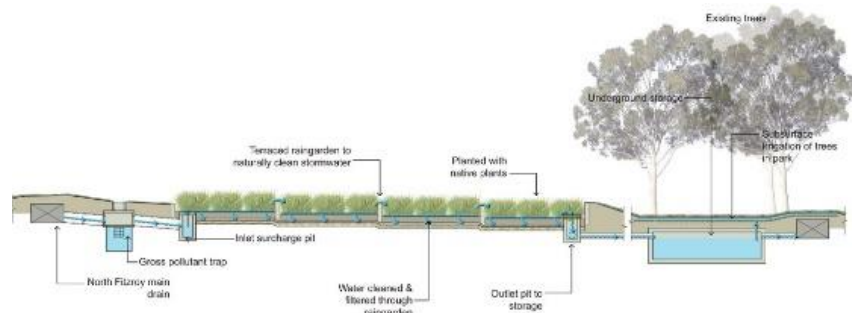
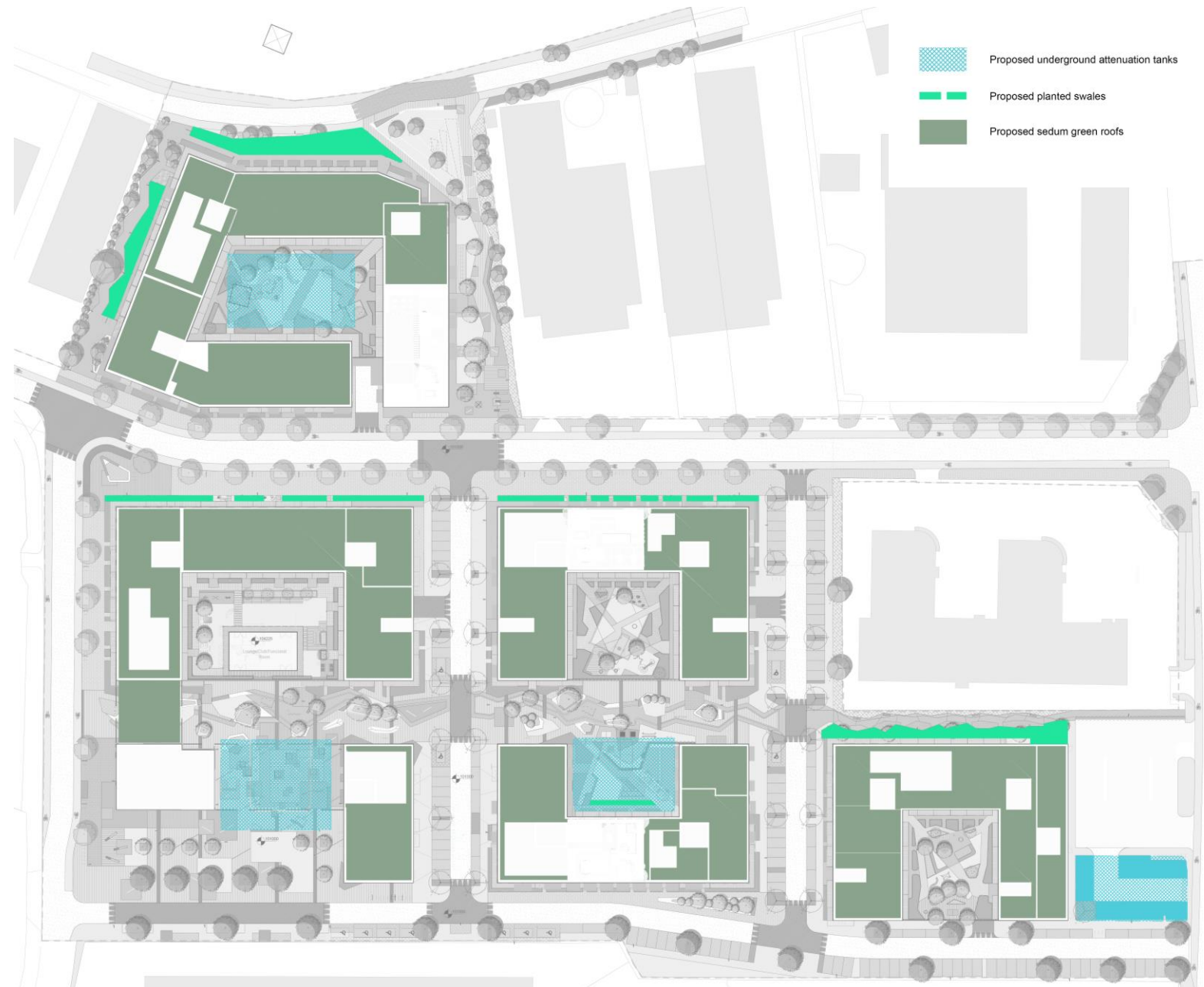
BICYCLE PARKING			
BLOCK	RESIDENT	On street VISITOR SPACES	On street VISITOR STANDS
A	540	552	396
B	336		
C	336		
D	252		
TOTAL	1464	552	396

3.7 SuDS STRATEGY

The proposed Storm Water Drainage System (SuDS) will be incorporated into the landscape through the incorporation of;

- Sedum roofs
- Courtyards gardens with over 50% lawns, planting and trees
- Planting beds integrated into the public realm
- Rain gardens / planted swales
- Permeable paved surfaces in courtyards and some parts of the public realm.
- Stormwater tree pits
- Underground attenuation systems.

Full details for the SuDS system can be found in the engineer's report.



4.1 PLANTING STRATEGY AND SPECIES

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

- Create a strong network of trees
- Create a beautiful and robust landscape that performs all year round
- Maximise the potential of SuDs measures
- Replace the single lost hedgerow along the site’s northern boundary
- Use vegetation to screen 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 strategy diagram illustrates nine proposed types of landscape and describes the rationale behind them and the key characteristics they aim to deliver. This then links to the planting palette presented on the following page showing images of the typical species used. A full species list is available on drawing 16408-2-100-LMP-LVLO .

1. Street Trees

Street trees will support street hierarchy and have been selected based on a right tree – right place philosophy.

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, fastigate species and multi-stems. Clear stemmed trees are located along all streets and where visibility across spaces is important. Fastigate species are sited where space is tight and there is a need to punctuate the landscape. Multi-stem species are sites to create form and structure low to the ground – mainly in courtyards. A number of species have been selected for their pollinating qualities.

The public realm, is an unnatural environment, which is not always the best place for native trees. Therefore, some non-native trees have been specified. Native planting has been suggested for more-semi-natural areas such as the Linear Urban Woodland and Native Scrub and scattered trees.

3. Linear Urban Woodland

This mix aims to provide an element of screening between the existing and proposed development areas, reinforce strong N/S lines of trees already present in area emphasising pedestrian movement networks. The use of Scots Pine and Downy Birch at canopy level and Bilberry and Ferns at ground level creates visual link with the mountains and is a low maintenance mix with high biodiversity value.

Street trees



Tilia henryana



Acer rubrum

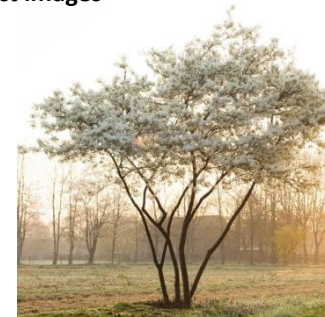


Pyrus calleryana 'Chanticleer'

Courtyard trees – select images



Acer griseum



Amelanchier lamarkii



Betula papyifera



Betula pendula multi-stemmed tree



Cornus kousa



Quercus robur 'Fastigiata'



Sorbus aucuparia*



Robinia pseudoacacia 'Umbraculifera'

Linear Urban Woodland



Pinus sylvestris



Betula pubescens



Vaccinium myrtillus



Dryopteris affinis

4. Birch grove

A small grove of Birch trees has been used to create discrete sense of green enclosure set back from Cookstwon Way and the main pedestrian route to the LUAS.

5. Structural shrubs and plants

The planting in these areas is intended to provide 70% 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. Some species will be allocated to particular courtyards - (see page 35 for more information).

6. Hedgerows

Single species hedges have been selected to create a green structural edge and create a sense of privacy

7. Perennial beds and drifts

Planted to create swathes 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.

8. Planted swales and rain gardens

Located to create streetscape character and to contribute to the SuDs network, plants are selected to withstand prolonged periods of damp and dry spells.

9. Lawns and long grass

Located in sunny spots to create areas to sit on or run around on.

10. Native scrub and scattered trees (outside application lands)

Swathes of low-medium low growing native shrubs could be planted under the ESB pylons and electricity lines to create habitats. Outside of the 10m buffer zone, shrubs could be interplanted with scattered, native trees.

Birch Grove



Urban grove of trees at Jarmers Plads



Betula utilis 'Jacquemontii'

Hedgerows



Fagus sylvatica



Griselinia littoralis

Structural shrubs and plants



Buxus sempervirens



Miscanthus tenuisima



Hebe 'Mrs Winder'



Kniphofia 'Percy's Pride'



Lonicera pileata



Pachysandra terminalis*



Photinia 'Red Robin'



Santolina rosmarinifolia



Sarcococca confusa



Stachys byzantia 'Silver Carpet'

Perennial Beds



Lonicera periclymenum



Calamagrostis Karl Foerster



Verbena bonariensis*



Carex spp.



Knautia macedonica*



Achillea sp*

Typical Swale planting:



Actaea racemose*



Butomus umbellatus*



Iris pseudocorus*



Lythrum salicaria*



Campanula glomerate*



Filipendula vulgaris*

Planting Strategy Plan

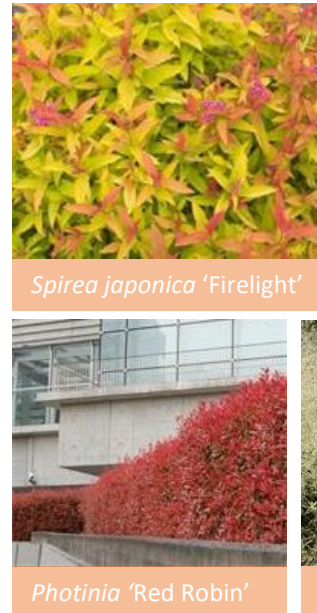


- PROPOSED PLANTING AND HABITATS**
- Proposed Medium-Large street trees**
 - Tilia henryana 16-18cm
 - Acer rubrum 16-18cm
 - Pyrus calleryana 'Chanticleer' 16-18cm
 - Small-medium public realm and courtyard trees**
 - Native urban woodland mix - planted at 2m centres**
 - Single species hedge**
 - Structural Planting**
Medium height ornamental shrubs/plants
 - Herbaceous drift planting**
Low-medium height evergreen/perennial plants.
 - Swale Planting**
Low-Medium height shrubs/plants.
 - Proposed meadow grassland**
 - Woodland understorey + Bulbs**
 - Public Grass Area**
 - Communal Grassed Area**
 - Grass mounding**

LAND PLANNING & DESIGN

Courtyard planting

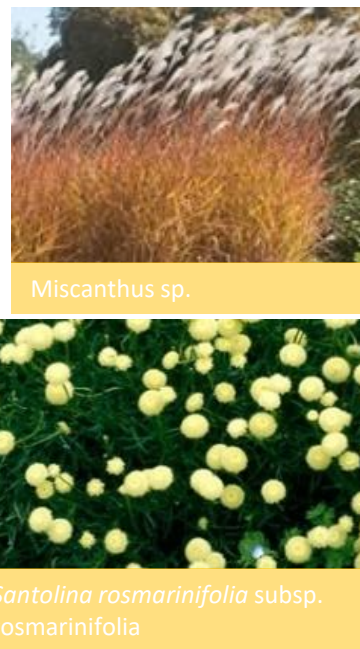
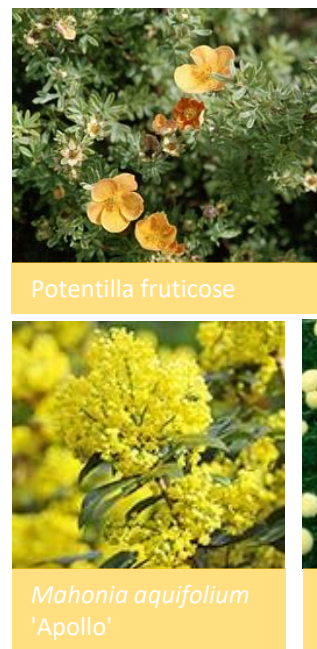
Courtyard A Trees & Shrubs:



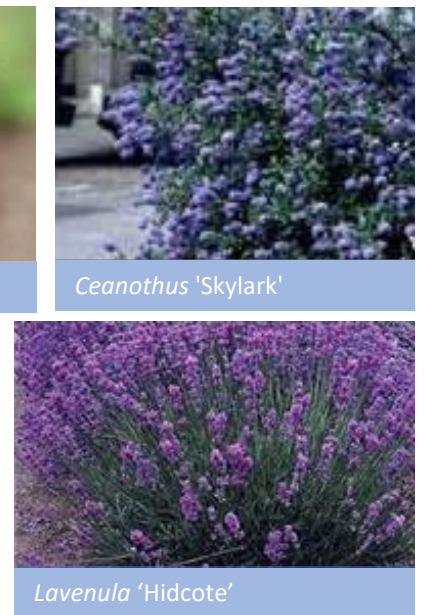
Courtyard C Trees & Shrubs:



Courtyard B Trees & Shrubs:



Courtyard D Trees & Shrubs:



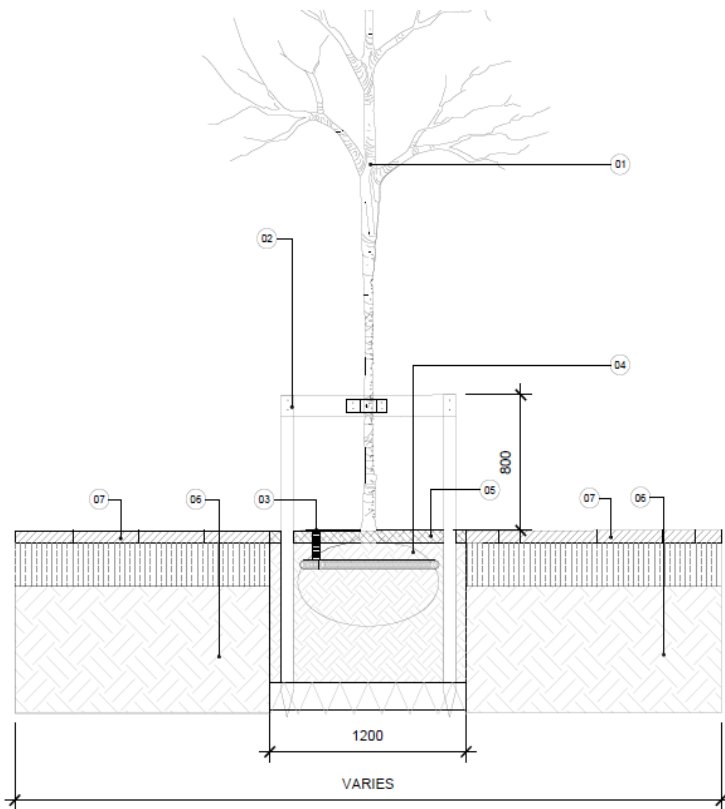
All proposed planting species have been selected based on their suitability for their location. In particular the planting that will be in raised planters above the underground carpark will be suitable for the limited soil depth, be drought tolerant and robust enough for public realm and communal amenity spaces.

All planters will be suitable constructed to provide adequate growing space for the planting and trees will be planted as per the details on the following pages. All landscaping will be implemented and maintained in accordance with the maintenance and management schedule specified.

4.2 TREE PLANTING AND GREEN ROOF PLANTING DETAILS

Trees within the development are all planted in soft areas. However trees located within the courtyard and car park will require constructed tree pits to ensure longevity. The following notes apply to the areas highlighted in pink on the plans below:

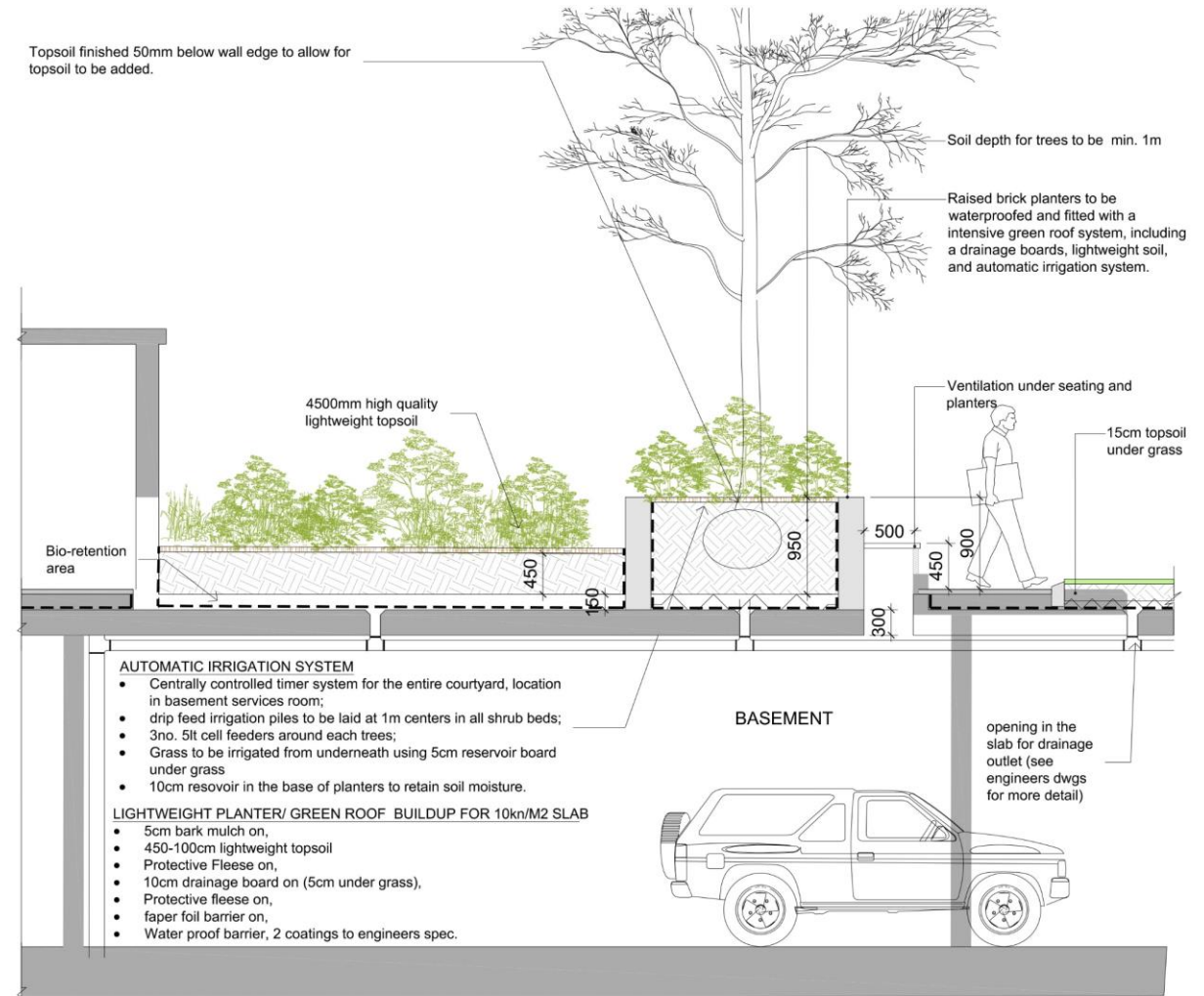
- In general, an area of 16m³ under the pavement is to consist of Amsterdam Tree Sand or similar. This should comprise 50% 70-100mm aggregate, 30% multipurpose compost and 20% grit (20mm down). Please see the indicative detail provided to the right.
- When planting trees in and adjacent to paving laid on a flexible bed, a permeable root protection fabric laid horizontally will prevent heave.
- Where trees are planted in rows, tree trenches are to be used rather than individual tree pits.



V02 Tree Pit Detail – Hard Surface Areas
Scale: 1:25 @ A1 / 1:50 @ A3

NOTES

1. Tree to have a clear stem height of 2000mm.
2. 2no. 75mm diameter stakes pressure treated driven 1300mm below ground 600mm above ground with specified biodegradable adjustable tie affixed to tree & stake.
3. 6cm diameter perforated flexible plastic drainage pipe positioned as shown over rootball with one end open to surface to facilitate watering.
4. Pits to be typically 1200mm x 800mm x 1200 but is dependant on the root ball of the tree. Back fill the pit with fine grain sand mixed with soil ameliorants in 150mm firmed in layers to 400mm below ground level. Backfill the top 400mm of the tree pit with topsoil mixed with soil ameliorants. All planting to receive a minimum of 25lit water per m² immediately after planting.
5. 50mm gravel mulch to base of trunk.
6. Typically 16m³ area root zone under pavement, to consist of urban tree soil; made up of 50% 70-100mm aggregate sizes, 30% multipurpose topsoil and 20% grit (20mm down).
7. Adjoining Surface



- AUTOMATIC IRRIGATION SYSTEM**
- Centrally controlled timer system for the entire courtyard, location in basement services room;
 - drip feed irrigation piles to be laid at 1m centers in all shrub beds;
 - 3no. 5lt cell feeders around each trees;
 - Grass to be irrigated from underneath using 5cm reservoir board under grass
 - 10cm reservoir in the base of planters to retain soil moisture.
- LIGHTWEIGHT PLANTER/ GREEN ROOF BUILDUP FOR 10kn/M2 SLAB**
- 5cm bark mulch on,
 - 450-100cm lightweight topsoil
 - Protective Fleece on,
 - 10cm drainage board on (5cm under grass),
 - Protective fleece on,
 - faper foil barrier on,
 - Water proof barrier, 2 coatings to engineers spec.

V02 Raised Planter Detail with Drainage
SCALE: 1:50@A3

4.3 MATERIALS & FURNITURE

According to the Tallaght Local Area plan “In an urban environment, street surfaces must be of the highest quality to promote a sense of place and legible street environment” (p.132).

All materials will be designed to a high 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 SDCC County Councils standards.

Lights have been positioned so they are 6m 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.



Paved plaza – PCC flags in a range of tones and sizes



Bike Stands - Steel



Gabion walls



Concrete walls



Column Lighting



Yellow strips in Sureset recycled glass aggregate



Bollards - Steel



Ballylusk Gravel



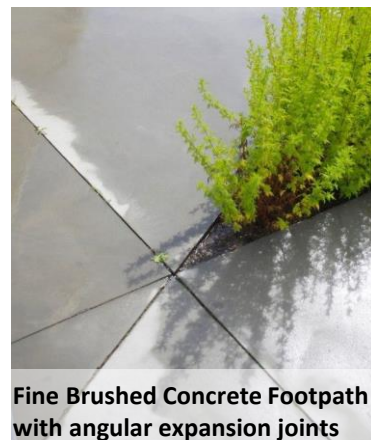
Rubber play surface



Strip Lighting in Paving



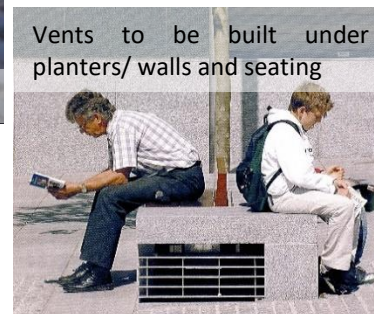
Hardwood cubes and deck



Fine Brushed Concrete Footpath with angular expansion joints



Bins – Aluminium & Steel



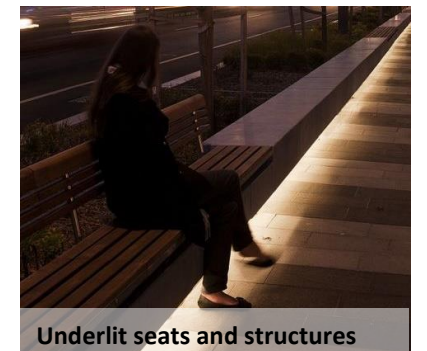
Vents to be built under planters/ walls and seating



Concrete Flags 600x200mm



Hardwood timber seats, flags, LED strip lights



Underlit seats and structures



Raised cushion planters

5.0 MAINTENANCE AND MANAGEMENT

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 | Trees 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 | Fences Specification for mild steel - low carbon steel - fences with round or 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.
- Backfill with fine sand up to 400mm from the proposed ground levels and then fill with topsoil

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: Backfill with fine sand up to 400mm below the proposed ground level. Then fill with 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.

1.26 Grass and Meadow 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.

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 site. 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 Grass

Meadow grass cutting will occur twice in the first year in spring once grass has established and in August/September to improve growth. There after it can be cut annually. Cut grass should be removed from field to stop rotting and damage to grass growth.

Weed Control

Areas of invasive and noxious species in meadow grass areas, shall be spot sprayed.

Fertilizer

Fertiliser is not to be applied to meadow grass areas unless there is no establishment and only then at dilute rates.

2.1.4 Swale

Planting to be kept well-weeded in the first year. Once good vegetation cover is achieved, the annual need for weeding will be reduced. Leave growth standing through winter Cut back in Spring if necessary. Use stems as a mulch. Water upon establishment and in exceptionally dry periods.

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 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 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.

Woodland areas shall be sprayed 3 times per year with a suitable contact herbicide. Contractor to ensure that no damage is caused to trees by herbicide application.

Areas of natural scrub as indicated on the maintenance plans shall be contained by trimming back once per year. The contractor shall spray the perimeter of the scrub areas with a contact herbicide to control noxious weeds. This shall be carried out 2no. times per annum.

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.

2.9 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.

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				*					*			
Application of residual weed killer to footpaths, cycle paths.				*								
Litter Clearance/pick up	***	***	***	***	***	***	***	***	***	***	***	***