



APPENDIX 3-6

LANDSCAPE REPORT



Knocknacarra District Centre,
Rahoon, Galway
Landscape Report

Prepared for Glenveagh Living Ltd.

Prepared by:

Richard Jolly MILI
Andrew Davis

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1.0 Site Context

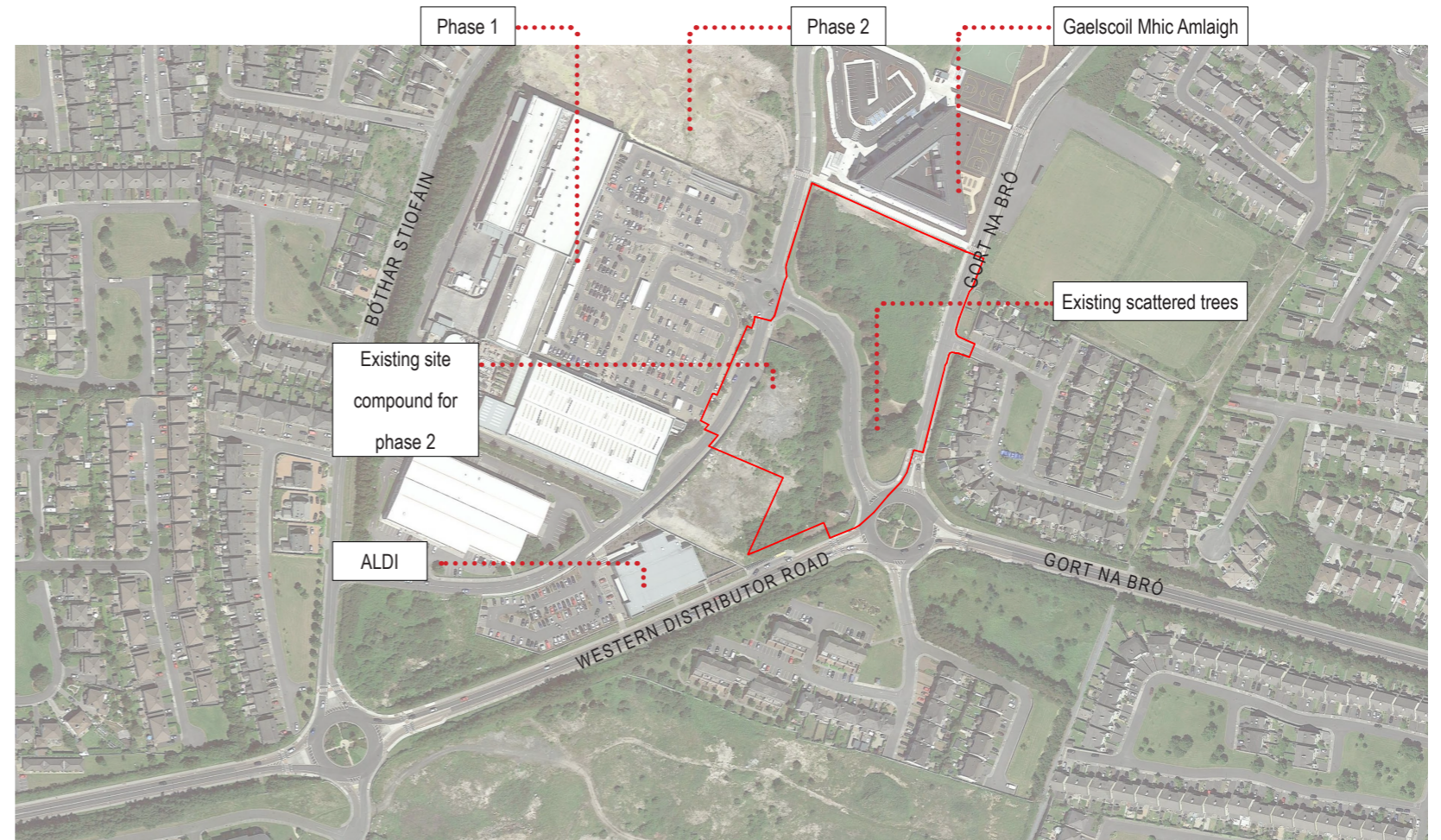
1.1 Brief Description

The proposed site is located within the Gateway Development, located in Knocknacarra, approximately 3km west of Galway City. The proposed development consists of a mixed used scheme of residential apartment and ground floor retail units. The existing Gateway Phase 1, located immediately west of Gateway Phase 2, is comprised of a large retail facility with key anchor tenants Dunnes Stores, Next and B&Q with substantial underground and overground car parking facilities. Gateway Phase 2, immediately north of Gateway Phase 1, comprises of contiguous lands and is currently under construction.

To it's south and east the site is bounded by the Western Distributor and Gort Ná Bro roads respectively with an existing pedestrian link footpath and Gaelscoil Mhic Amlaigh at the boundary to the north. To the south the site neighbours an existing Aldi supermarket with an approx 2.0m high blockwork boundary wall.

The development site is bisected by a section of the Gort Ná Bro road, which effectively splits the site north and south. A number of existing trees are located on either side of the link road. The semi-mature trees are mainly birch, beech and willow, amongst other low value specimens These trees are likely to have been planted as part of the road construction works. Further details on existing trees and habitat designations can be found in the Ecological Impact Assessment report accompanying this submission.

The southern part of the site is currently used as a site compound for construction works at Phase 2 and is enclosed by hoarding, it has been largely cleared for site offices, car parking and materials storage. The northern portion of the site is covered in high vegetation such as wild grasses, gorse and bramble.



Aerial photograph of the site taken from Google Earth 2018.

Note: Red line shown for illustrative purposes and should not be regarded as planning boundary

1.2 Existing Site Images



Image taken looking west from the south-western site boundary. Phase 1 retail units appear in the background with the Aldi site boundary wall to the left



A photograph of site hoarding and the road running along the western site boundary



An image taken from the existing mini roundabout looking north towards existing scattered trees & parkland



View of existing link road from within bank of scrub and tree planting - *Fagus* & *Betula* spp.



An image taken from within the site hoarding looking from the south-west to the north

1.2 Existing Site Images



An image showing a view across the northern part of the site from Gort Ná Bro looking towards Gaelscoil Mhic Amhlaigh



Existing scrub and rough grass species within northern part of site



Existing stone faced blockwork wall along Gort Ná Bro/ Western Distributor Roads



Image of the existing trees on the current link road on the northern part of the site



An image of the existing pedestrian crossing on the Western Distributor Road located near the recycling bins



Image taken from within the northern part of the site looking south down Gort Na Bró



Existing recycling banks and set down on Western Distributor Road

2.0 Landscape Proposals

2.1 Landscape Strategy & Concept

Principal Design Objectives

- To provide for a multi-functional public plaza which caters for the needs of both the existing community and the future ground floor food and beverage units, with potential additional use for social and cultural events.
- To provide for both semi-private and private landscaped areas which will enhance the quality of life for future residents.
- To provide a sense of place through different character areas which are catered towards specific end users.
- To complement the architectural design with appropriate materials robust for the proposed uses.
- To enhance the existing public realm and streetscape.

Development Overview

The proposed development will deliver a newly formed district centre for Knocknacarra and will comprise of approx. 332 no. residential units spread across 5 development blocks with a ground floor retail offering proposed for blocks C, D & E.

Block C & D's ground floor units are proposed to serve primarily as food and beverage outlets which will face onto and animate the public plaza to be delivered as part of the scheme. Block E will provide a local retail unit.

The current access road spur off of Gort Ná Bro will be realigned, effectively creating two development blocks. The smaller of the two, in the north, will contain Blocks E & F while the southern one block contain Blocks A to D and the newly proposed Public Plaza.

A series of external spaces have been created within the development ranging in hierarchy from the civic amenity of the public plaza which will be designed

to provide a vibrant and robust heart to the quarter, through to communal residential courtyards envisioned as comfortable and attractive spaces for residents and down to the small, private garden spaces of individual apartment units. The various spaces will be clearly defined and identifiable as public, semi private and private space.

The development has been laid out to deliver this hierarchy of quality spaces while providing linkages for pedestrians and cyclists through the site and maintaining connections to the surrounding neighborhoods, schools and retail areas.

The newly aligned link road will cater for safe and comfortable pedestrian and cycle movements with an off-road cycle track providing a segregated space for cyclists. The new link road itself will be fronted by own door access units with private amenity garden space creating an attractive residential street.

Public Realm Areas

The overarching approach for the public realm areas of the proposed development is to create spaces which are safe, secure and of a robust and attractive design.

Where practicable the ground floor facing residential units throughout the development are proposed to be own door access with front gardens facing onto the street. These active frontages will provide animation and overlooking onto the public realm. The new link road is intended to feel like a residential streetscape with ground floor gardens and terraces facing the public realm on both sides.

The public plaza will have ground floor retail on three sides creating an active and animated public realm; the plaza will also be over looked from apartments above.

A strong pedestrian link is proposed on an east-west axis linking the newly formed public plaza, Gort Ná Bro/ Western Distributor Road and the retail centre at Phase 1 via a new pedestrian crossing.

The new pedestrian link will have some own door units facing onto it at the eastern end. A community use building and retail will front towards the western.

The existing pedestrian route which traverses the site east to west will form the northern boundary of the proposed development. This edge will be treated as a planted buffer with a landscaped embankment forming the edge to the proposed podium. This embankment will be planted with large tree species and a woodland under storey mix comprised of ferns and seasonal bulbs.



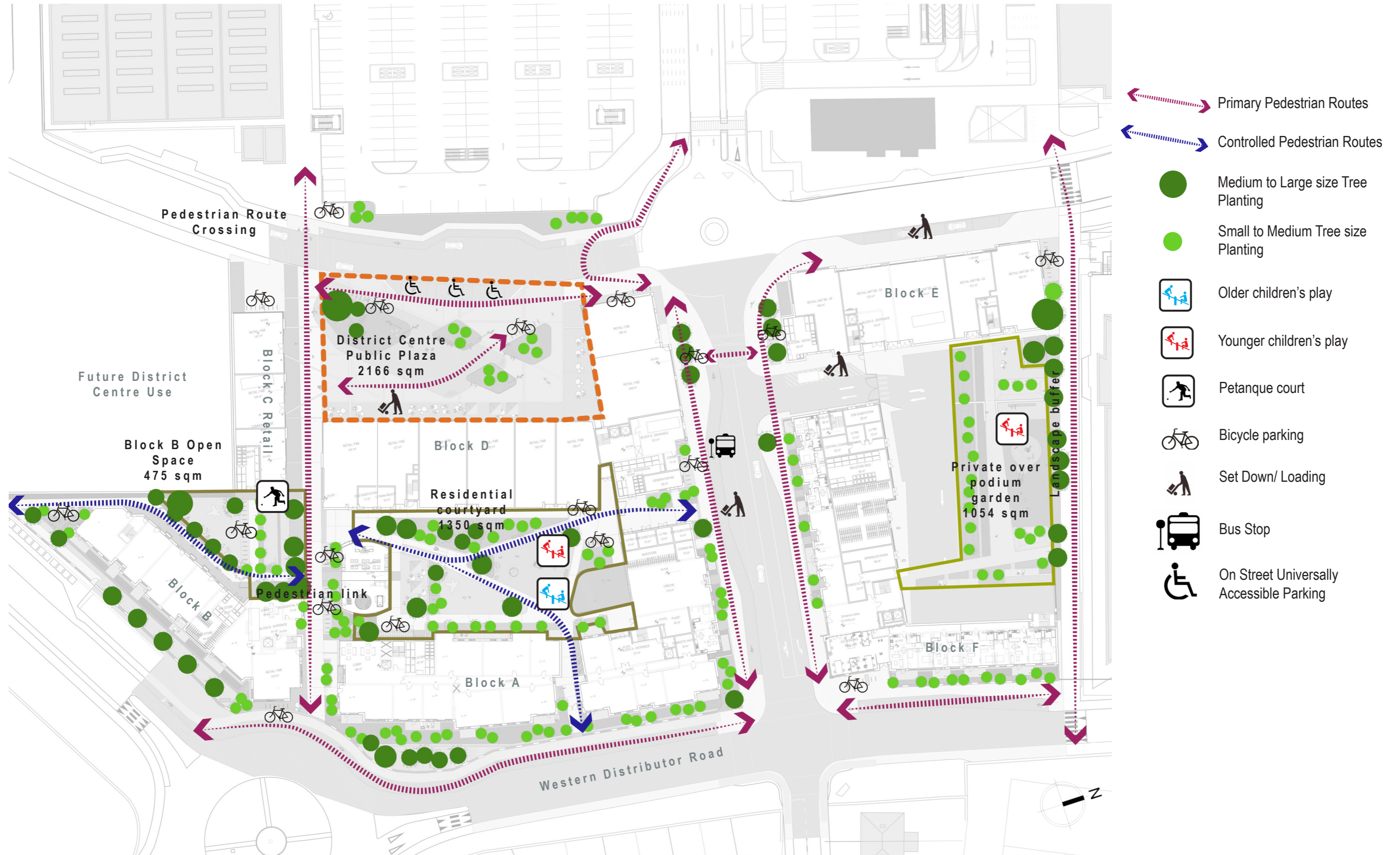
Private courtyard with lush planting over looked by residential units

Residential Communal Areas

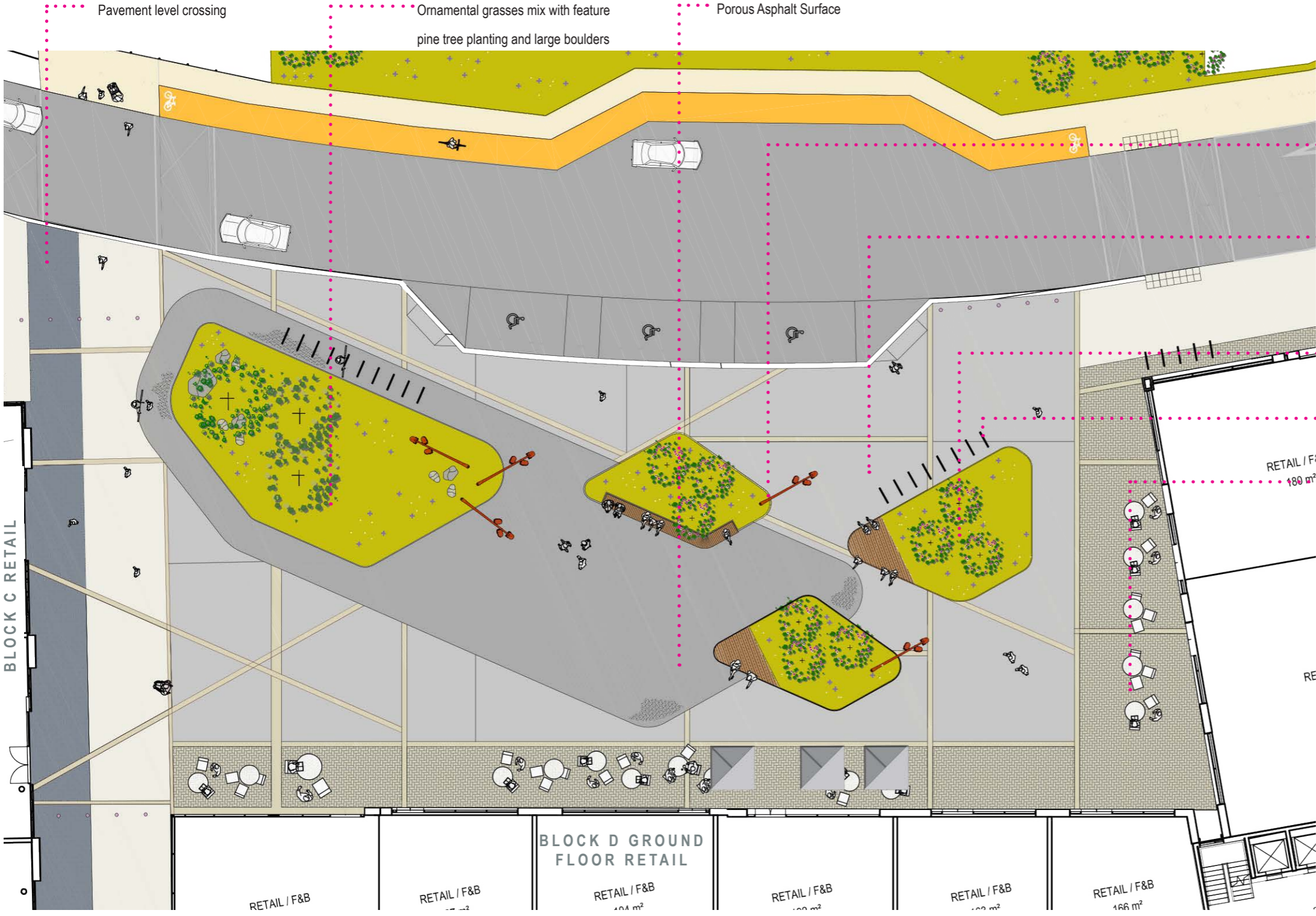
Secure and comfortable communal amenity spaces will be provided for residents of the development across three primary spaces at Block B, the courtyard between Blocks A & D and the over podium garden at Block E & F.

The proposed residential amenity areas will contain high quality planted areas with play and recreational facilities. Formal play areas with a range-of play equipment are proposed for the courtyard and podium gardens with a petanque court proposed within the public space at Block B.

2.1.1 Overall Landscape Strategy



2.2 District Centre Public Plaza



- Pavement level crossing
- Ornamental grasses mix with feature pine tree planting and large boulders
- Porous Asphalt Surface
- Civic Plaza feature lighting columns
- Robust, high quality pavement treatment: Insitu ground concrete with exposed aggregate finish and saw cut expansion joints
- Raised planter with public seating edge
- Bicycle stands
- Activated ground floor cafe/ restaurant seating area with precast concrete block paving

BLOCK C RETAIL

RETAIL / F&B 180 m²

BLOCK D GROUND FLOOR RETAIL

RETAIL / F&B 180 m²

RETAIL / F&B 180 m²

RETAIL / F&B 180 m²

RETAIL / F&B 180 m²

RETAIL / F&B 180 m²

KEY PLAN



Scale 1:250



Public Plaza Precedent Images



Large civic space utilising asphalt surface.



Attractive, sculptural lighting columns are proposed to create strong vertical elements within the square while providing adequate light levels through high quality LED fittings.



A stand of feature pines tree is proposed to bring year round visual interest and a structural form to the proposed planting on the plaza.



Public seating on the plaza will primarily be in the form of bespoke seating edges along the proposed planter islands. Seating will be located in the northern end of the square to take advantage of the favorable solar aspect.



Ephemeral event use. Image shows evening outdoor cinema screening on civic plaza



The civic space is designed to cater for regular weekend or seasonal markets. A market comparable with the St Nicolas market in Galway City Centre could be accommodated.

2.2.1 District Centre Public Plaza Strategy

District Centre Plaza

The proposed District Centre Plaza is envisioned to be a robust and flexible contemporary public space. It will act as a setting for everyday civic life in the development and for the wider Knocknacarra area.

The District Centre Plaza will comprise a civic square of approx. 2166sqm area with a robust & long lasting materiality of precast and ground, in-situ concrete paving allowing for a flexibility of use which may include seasonal and weekend markets as well as catering for local community fairs and small annual cultural events. The robust materiality will also facilitate day to day use being traffic-able for loading purposes. Further details of hard and soft landscape materials can be found with section 4 & 5 of this report.



District Centre Public Plaza overlooked by residential units & ground floor retail

Retail units which overlook the plaza will form an activated edge to the space with outdoor café/ restaurant seating at ground floor and residential apartment units above providing passive surveillance over the newly created public realm.

Planted islands referencing the islands of nearby Galway Bay will provide a green visual amenity to the plaza. Ornamental grasses planted with feature 'erratic' boulders will aim to bring through the character of the local rural and coastal landscapes. Specimen pine trees will bring year round green vertical element.

Throughout the plaza a number of the planters will provide seating edges to cater for primary public seating. These benches, positioned at the northern end of the plaza will make best use of the sunniest aspect of the plaza in this location.

Function & Use

In the following pages a series of function and use diagrams are laid out to show potential activities to be associated with the civic space and a view on how the design has been rationalised to cater for pedestrian circulation and solar aspect in the case of public seating.

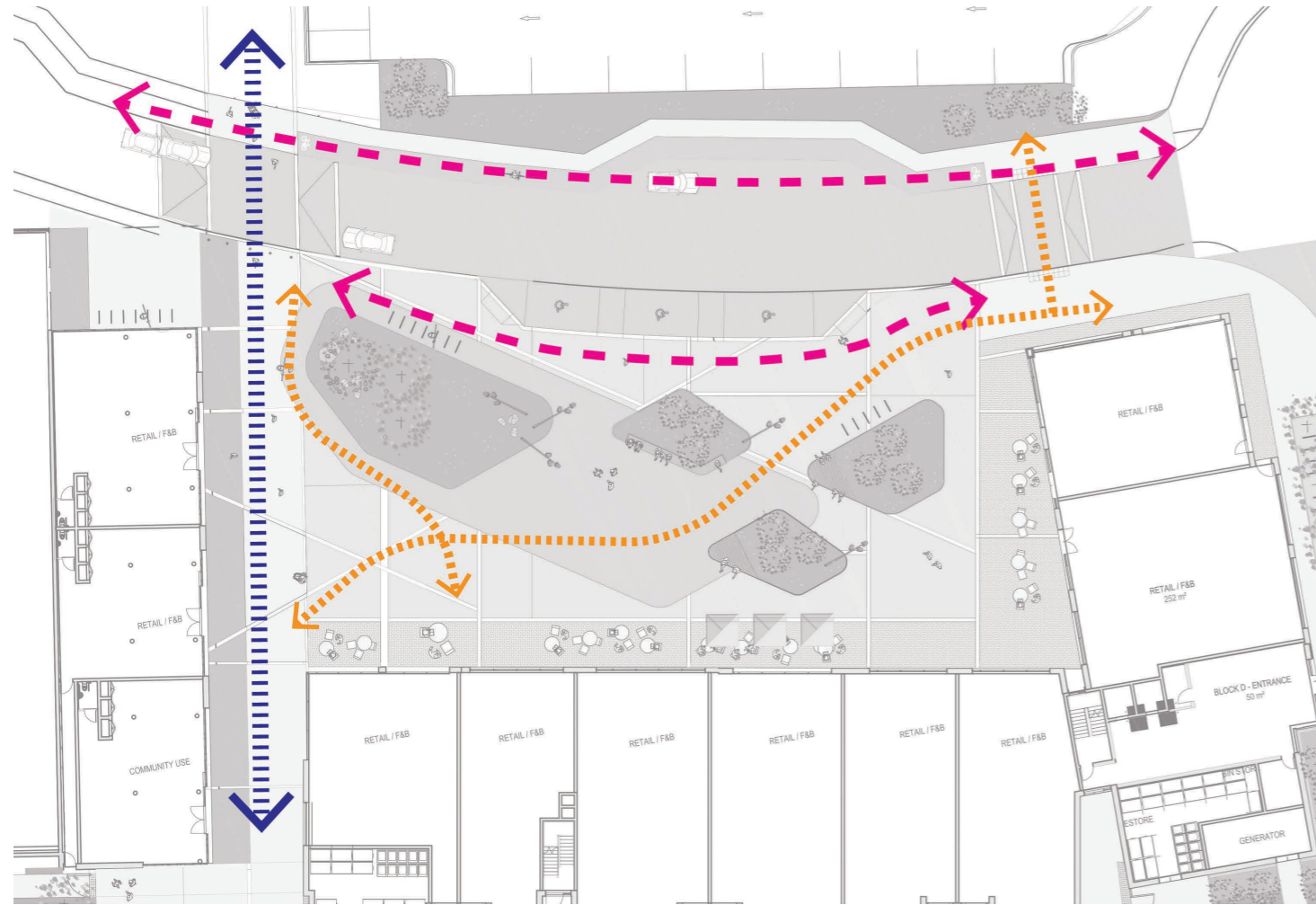
- **Circulation:** The proposed public plaza is laid out to facilitate pedestrian / cyclist desire lines criss crossing the square and running along the existing road. The main east-west Pedestrian Link route, running alongside the plaza connects to the Phase 1 Retail Development across a raised pedestrian crossing facilitating ease of movement for pedestrians and traffic calming.
- **Planting:** Planted 'islands' will be a prominent design feature of the plaza. The 'islands' placement in the space works in tandem with the circulation strategy allowing for pedestrian desire lines criss-crossing the plaza. Planting within the plaza will reference the character of the local rural and coastal landscapes through mixes of ornamental grasses combined with flowering herbaceous perennials providing forage for invertebrates and pollinators. Feature pine trees will bring year round interest.

- **Seating:** The proposed plaza will feature primary and secondary seating. The public seating will primarily be in the form of seating edges on the proposed planter islands; located to the northern end of the plaza for most the favourable solar aspect. Secondary seating located outside café and food outlets at the plaza's edge.
- **Market Space:** The proposed civic plaza is designed to be a robust and flexible space. Year round seating, lighting and planting elements are located to facilitate more ephemeral events such as weekend or seasonal markets. The Market Space diagram shows the arrangement for a typical weekend market with 2.0 x 2.5m market stalls. Water and electrical points are proposed to enhance the variety and type of market stalls being catered for.
- **Screen Event:** The flexible civic space may also facilitate outdoor screen events such as a summer cinema series or free screening of sports events.
- **Marquee Events:** The open and flexible nature of the plaza may also facilitate the placing of marquees for cultural uses such as part of the Galway Arts Festival or local community events*. The following diagram shows an arrangement of commercially available marquees ranging in sizes from 2.5x4m to 5x10m.

* The management company shall be responsible for organising the events or delegating this to a suitable organisation in the area.

2.2.2 District Centre Public Plaza Diagrams

Circulation



Planting

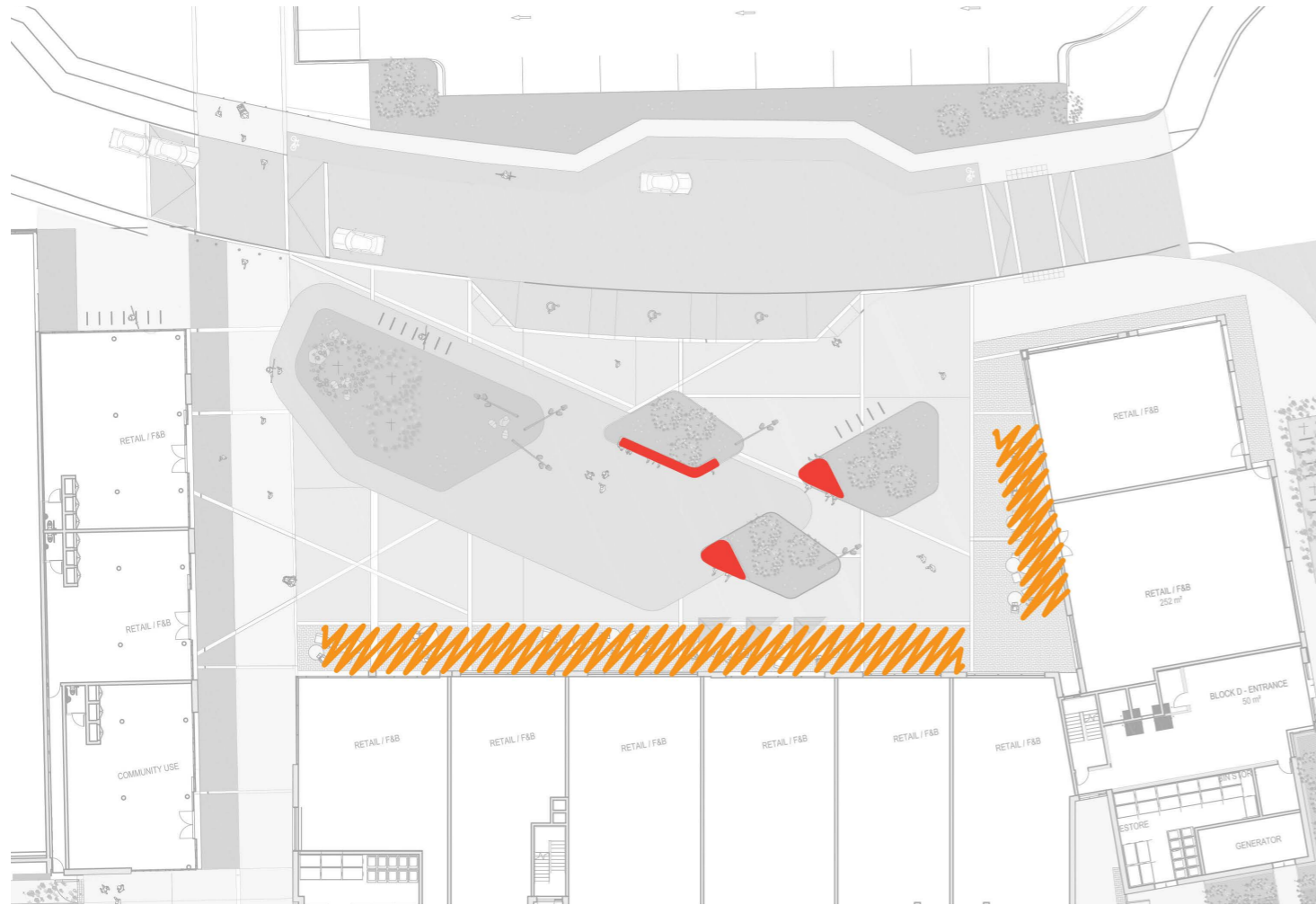


Raised table crossing
- Pedestrian priority &
traffic calming



Planting Islands: Ornamental grasses mix

Seating



Public Seating Café Seating Edge

Market Space



2.5 x 2.0m market stalls

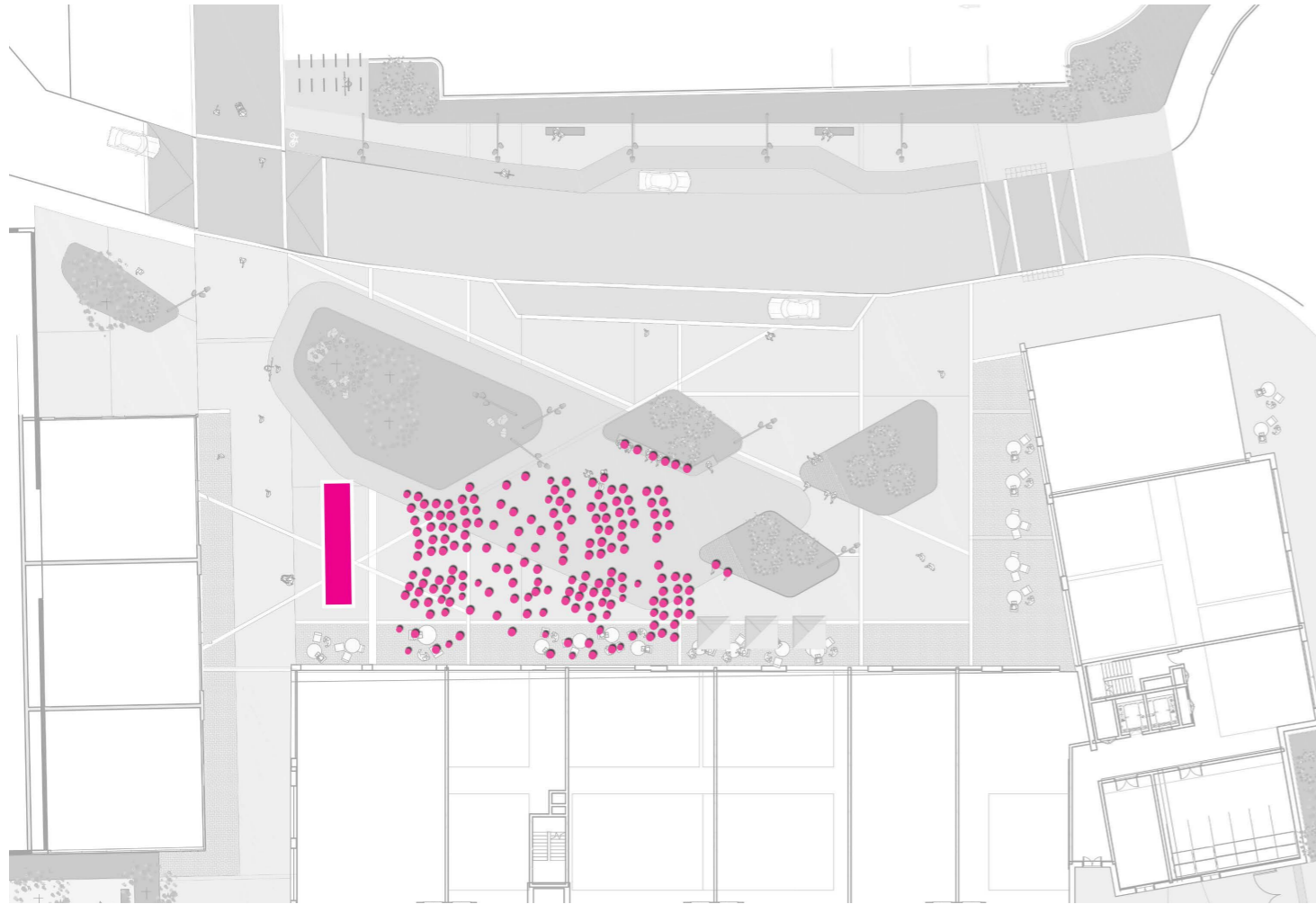


Planting Islands: Public seating edges



Market use: St. Nicholas Market, Galway

Screen Event



Temporary screen/ stage

Marquee Event



Marquee tents



Cinema screening on civic plaza



Community event in civic space

2.3 Residential Courtyard



External residential amenity space - hard-binding gravel & outdoor seating

Hardwood bench seating edge

Bicycle stands

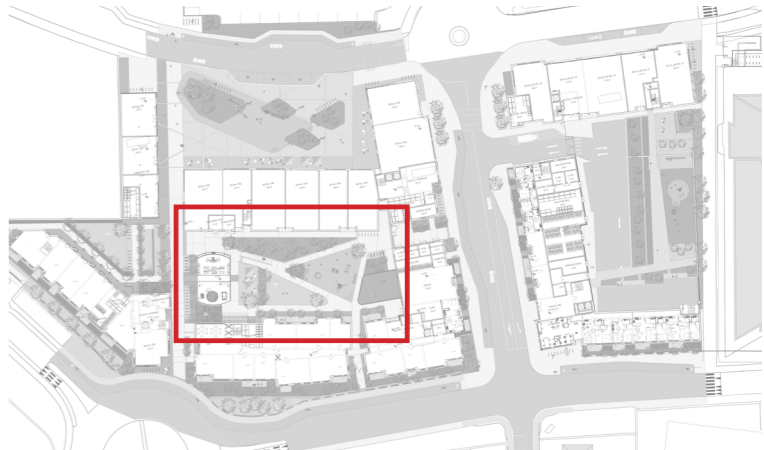
Communal open space play area on soft pour surface

Formal lawn with trees and bulb planting

Crèche garden enclosed by timber panel fence

Privacy planting to ground floor residential units

KEY PLAN



Scale 1:250

Residential Courtyard

1,350sq.m of private communal courtyard is located between Blocks A & D with controlled access from the south via the pedestrian link and the north onto the newly aligned link road.

The communal open space will provide residential amenity through a 215 sqm play facility catering for older children with adventure pieces like rope pyramids and for younger children, with combination units and springers, as well as universally accessible pieces such as an in-ground roundabout.

At the courtyard's southern end, a single storey shared residential amenity pavilion building will act as a focal point for community activity in the development. The pavilion building will be complimented within the courtyard by an external breakout space with outdoor seating area and planting.

The courtyard will be overlooked by residential units and provide a comfortable and safe space for residents. Generous planted beds allowing for large tree planting and a formal central lawn is designed to contribute to the creation of a quality green amenity for residents.

At the courtyard's northern end, the ground floor crèche in Block A will have a outdoor garden space separated from the surrounding courtyard by a high quality timber panel fence.

Robust material choices like tough weathering hardwood timber benches, pre-cast and insitu concrete paving and stainless steel bicycle stands will ensure a longevity to the proposed hardscape areas reducing the requirement for ongoing maintenance and replacement.



Younger children play - springer

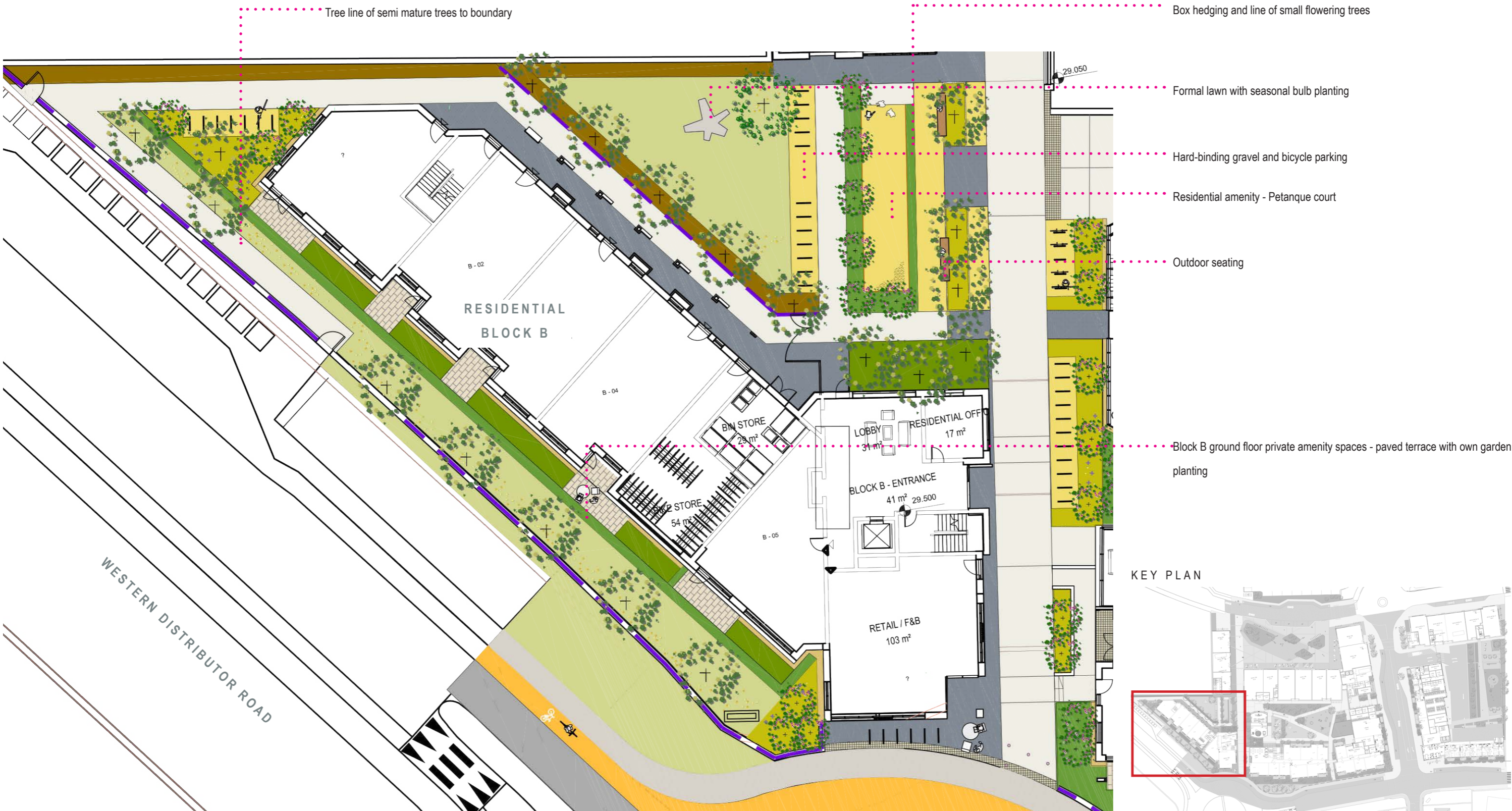


Small flowering trees - Amelanchier. An appropriate species choice for courtyard planters.



Older children play - rope pyramid

2.4 Block B Residential Amenity Areas



Scale 1:250

Block B Residential Amenity Areas

A small pocket park, of 475sqm is proposed for the rear space of the own door accessed units in Block B. A simple lawn with specimen semi-mature tree planting is proposed for this space. The public and private areas will be separated by a plinth wall with railing and beech hedge. A controlled gated route will allow residents access from the development's main pedestrian spine to Block B and through to the Western Distributor Road .

Complimenting the formal lawn proposed for the open space, a gravel surfaced petanque court is proposed to provide a level of active recreation catering for older residents. The court area will be enclosed by a formal clipped box hedge and public bench seating with ornamental herbaceous planting beds providing an opportunity for respite.

Along both the Western Distributor Road and Gort Ná Bro, ground floor apartment units will have private amenity space in the form of paved terraces and private garden planting. A soft landscape buffer strip will be maintained to the front of these residential units providing further separation from the main road and increasing the privacy for residents.

A stone faced plinth wall with railing top is proposed as formal boundary along the Western Distributor Road and Gort Ná Bro respectively. Boundary details for the proposed wall and railing appear later in this report (See 6.0 Boundary Details).



Petanque Court - Public space animation and active use for a variety of ages

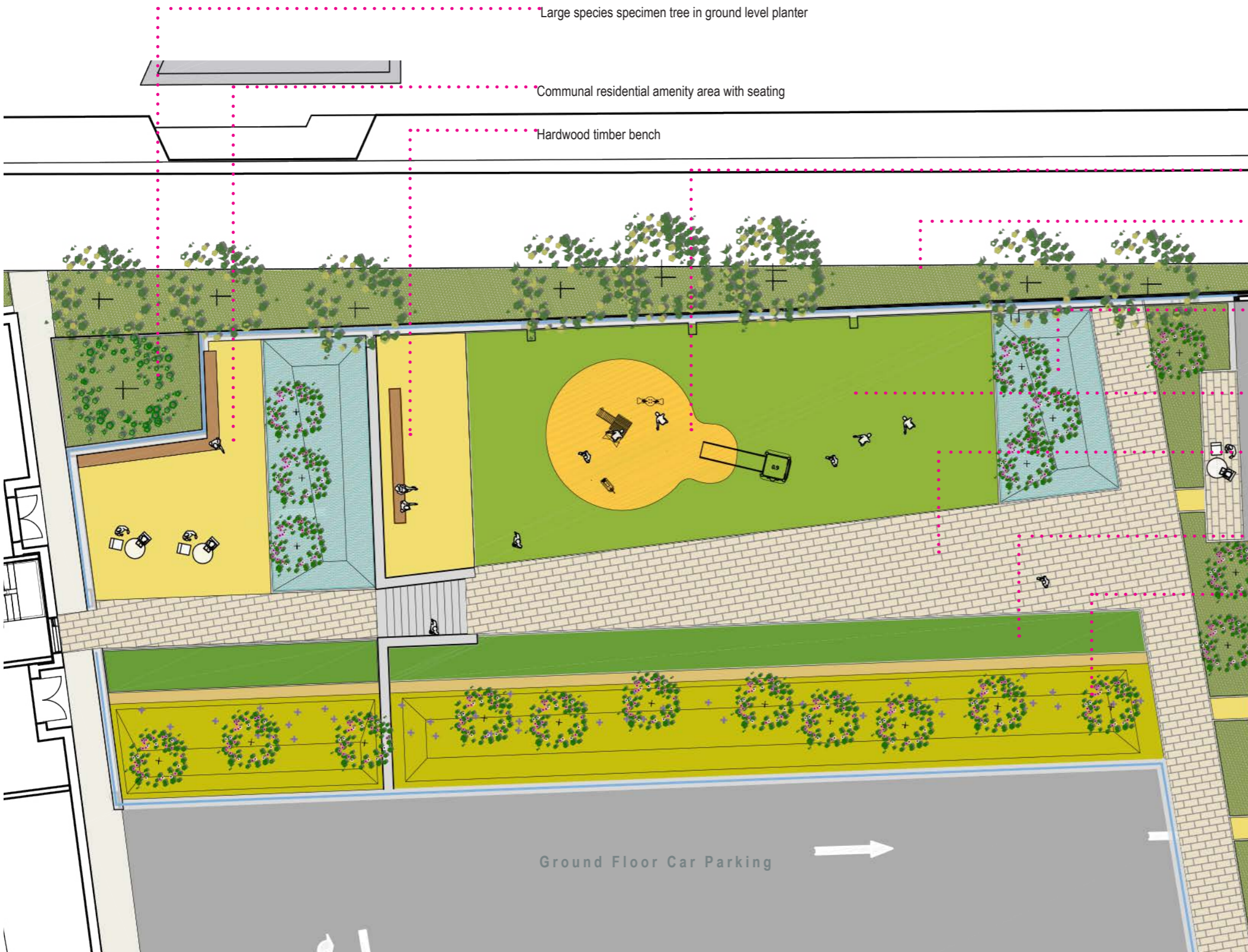


Hardwood timber bench seating



Ground floor residential with defensible space garden planting

2.5 Over Podium Garden



Large species specimen tree in ground level planter

Communal residential amenity area with seating

Hardwood timber bench

Play area on soft fall surface

Podium edge - landscape buffer with large trees

Planting bed with sensory planting mix

Artificial lawn turf

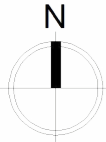
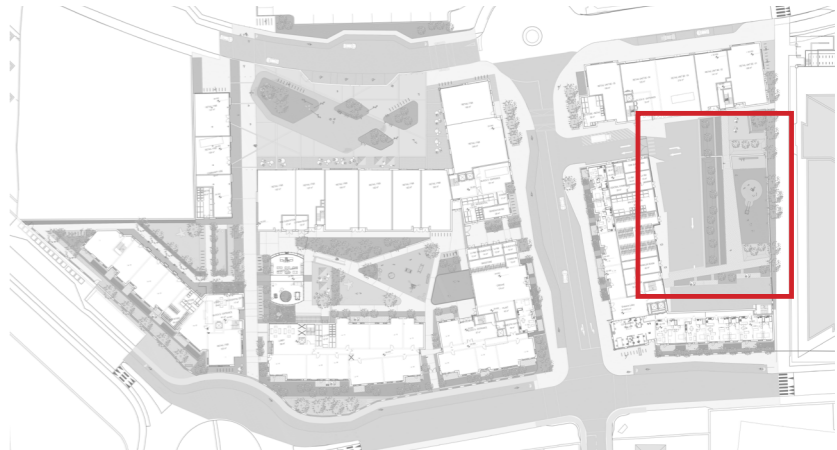
Precast concrete paving to primary circulation areas

Clipped evergreen hedging

Ornamental grasses & herbaceous mix

Ground Floor Car Parking

KEY PLAN



Scale 1:200



Over Podium Garden

The over podium communal open space will contain planting, areas of robust artificial lawn and a younger children's play area. The courtyard, overlooked from the surrounding residential units, will be primarily accessed at 1st floor via the Block E & F cores and provide a secure residential space for residents.

The amenity space is to be situated towards the northern site boundary and will enjoy a good solar aspect for the majority of its area through out the day.

Mature trees proposed along the northern boundary with the existing pedestrian link/ Gael Scoil will provide a privacy screening element and add to the greened aesthetic of the adjacent over podium space.



Over podium courtyard planting: Planting soil depths achieved for tree planting over podium deck through localised mounding.



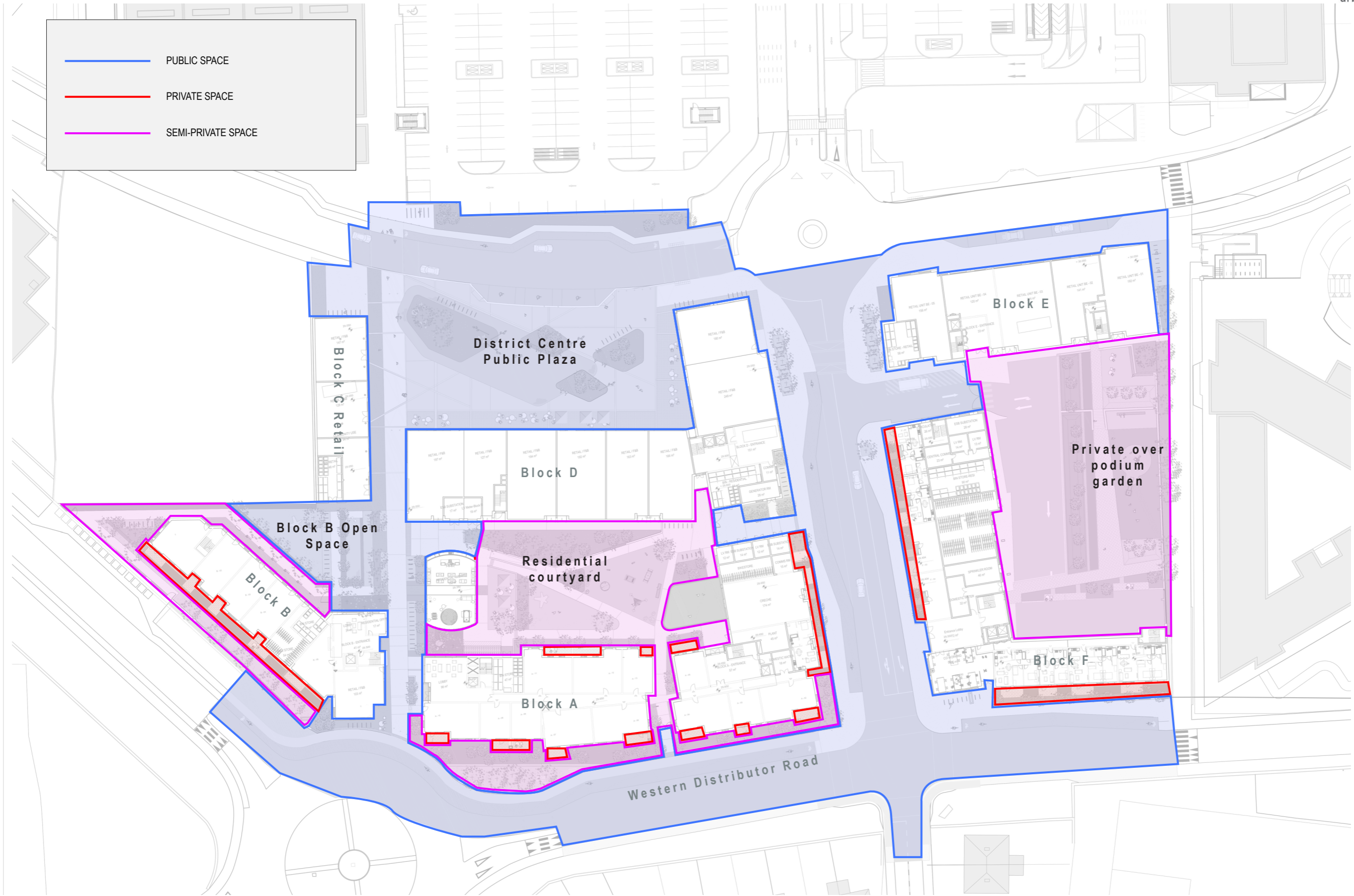
Comfortable & safe residential courtyard space



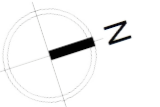
Pollinator friendly lavender and Helichrysum-italicum in sensory planting mix

3.0 Public / Private Space Diagram

— PUBLIC SPACE
— PRIVATE SPACE
— SEMI-PRIVATE SPACE



0m 25m 50m 100m



4.0 Landscape Design Sustainability

Sustainability & Durability

The landscape design for the proposed development is intended to have a robustness and durability ensuring longevity and minimising the requirement for extensive on-going maintenance.

The materiality of hard standing areas such as the public plaza are designed to provide the functionality required while being contemporary & attractive spaces.

Carefully detailed paving treatments, public seating, surface drainage elements & lighting fixtures combined with well designed and detailed planting areas with appropriate tree, shrub and herbaceous planting are designed to give the scheme a high quality visual amenity.

The table opposite provides information on a series of measures carried out as part of the landscape design which have the intention of promoting sustainability and durability and their resultant benefits.

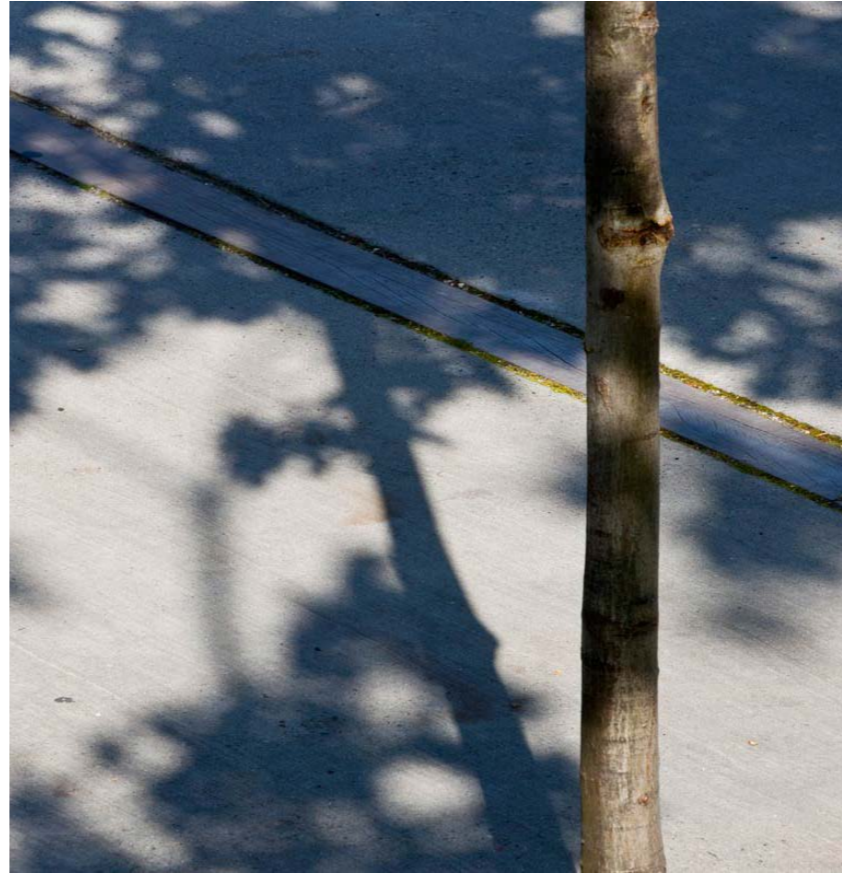
M e a s u r e	D e s c r i p t i o n	B e n e f i t
Site Planning	The layout of the proposed develop site has created a series of attractive and comfortable green spaces with residential courtyards and over podium garden spaces combined with public open spaces and landscaped boundaries.	Soft landscape areas while catering for amenity also provide natural attenuation of storm water, carbon sequestration in trees and create habitats for birds and pollinator species to promote biodiversity.
Hard standing materials	Use of robust materials (natural stone, insitu & precast concrete) with high slip resistance to be used for paving. Durable and robust equipment (e.g. play, exercise, railings etc.) to be used throughout.	Required ongoing maintenance and material replacement significantly reduced through use of robust materials installed with tried and tested tree details.
Planting Details	Tried and tested trees staking details. Shrub, hedging, herbaceous and lawn installation planting details provided. Over podium planting achieved through tried and tested planting bed design and detailing.	Correctly installed planting will develop into well established and robust soft landscape reducing future maintenance.
Landscape Maintenance	It is the intention that the management company will appoint a landscape contractor to maintain the landscape scheme post handover. An outline maintenance & management schedule is included in Section 8 of this report.	Maintaining a landscape, particularly in the first year of establishment will ensure the longevity and success of the scheme
Biodiversity Management	Proposed planting bed design and plant groupings are designed to reduce/eliminate the requirement for herbicide use for weed control. Tight groupings of plants and organic bark mulching are designed to reduce weeds establishing.	Reducing/ eliminating the use of chemical herbicides (& pesticides) promotes invertebrates and pollinators.
Water Conservation	Proposed planting throughout the scheme contains a range of resilient and hardy plant choices. Drought tolerant perennial & grass species feature in the public open space planting mixes and tree planting details provide for direct irrigation/ storage tanks to minimise water loss during watering operations.	Use of irrigation tanks and reservoir/ drainage board for over podium planters minimises water loss during watering. Selection of drought tolerant species ensures survival of planting schemes during periods of prolonged drought .

5.0 Hard Landscape Materials

Examples of Proposed Surface Materials



Residential courtyard - insitu concrete paved circulation with firm gravel to bicycle stands



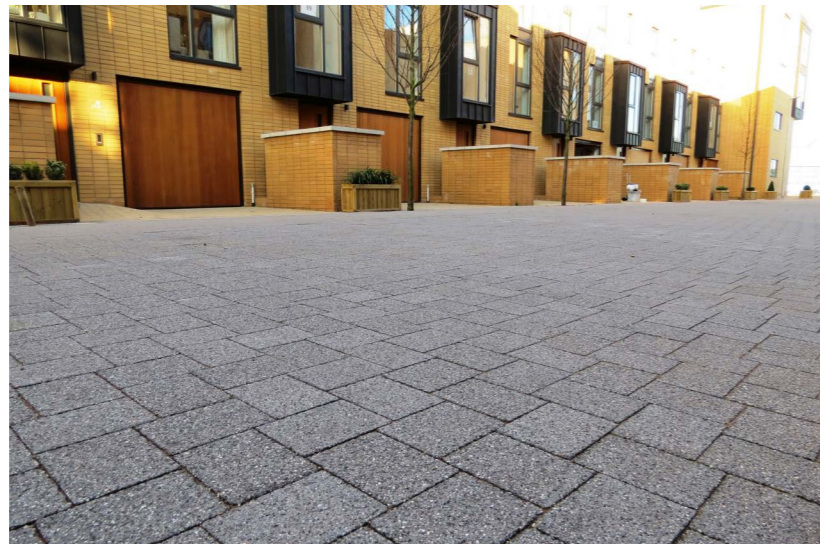
Brushed concrete with flush banding through expansion joints



Natural stone setts to public realm/ private thresholds



Artificial Turf grass to over podium garden



Pre-cast Concrete block paving to cafe/ restaurant outdoor seating area



Sofffall Safety Surface to play areas



Pre-cast concrete paviours to residential terraces and podium garden

Examples of Proposed Play Equipment



Seesaw



Roundabout



Combination units



Springer



Play tower with slide

6.0 Soft Landscape Materials

6.1 POLLINATOR FRIENDLY PLANTING

The decline of wild bees and pollinators that is evident in Ireland can have implications for food production and gardens, as many plants are reliant upon pollinators for the transfer of pollen from one flower to another and to set fruits and seeds. This makes the planting of pollinator friendly species increasingly important. In order for bees to have a healthy balanced diet and to survive throughout their life cycle, they need to be able to feed on pollen and nectar from a range of different flowers from early spring to autumn. Perennial plants provide good sources of nectar and pollen for bees and can have a strong visual impact with colourful and attractive displays over a long period of time. In addition they also provide habitats and nesting material for birds and insects. Many of the suggested species shown below have been chosen from the plant lists from the Pollinator Friendly Planting Code . It is recommended to also include grass species within the planting mix in order to provide structure and colour throughout the autumn and winter months.

Species proposed within the pollinator planting mix are:

Perennials

Aster var.
Allium schoenoprasum
Campanula rapido
Cirsium rivulare 'Atropurpureum'
Echinops var.
Euphorbia amygdaloides
Echinacea purpurea
Helleborus foetidus
Knautia macedonica
Nepeta faassenii
Rudbeckia fulgida
Salvia var.
Sedum telephium

Shrubs

Hebe var.
Hydrangea paniculata
Lavandula angustifolia

Trees

Malus sylvestris
Prunus avium
Pyrus calleryana



Euphorbia amygdaloides



Knautia macedonica



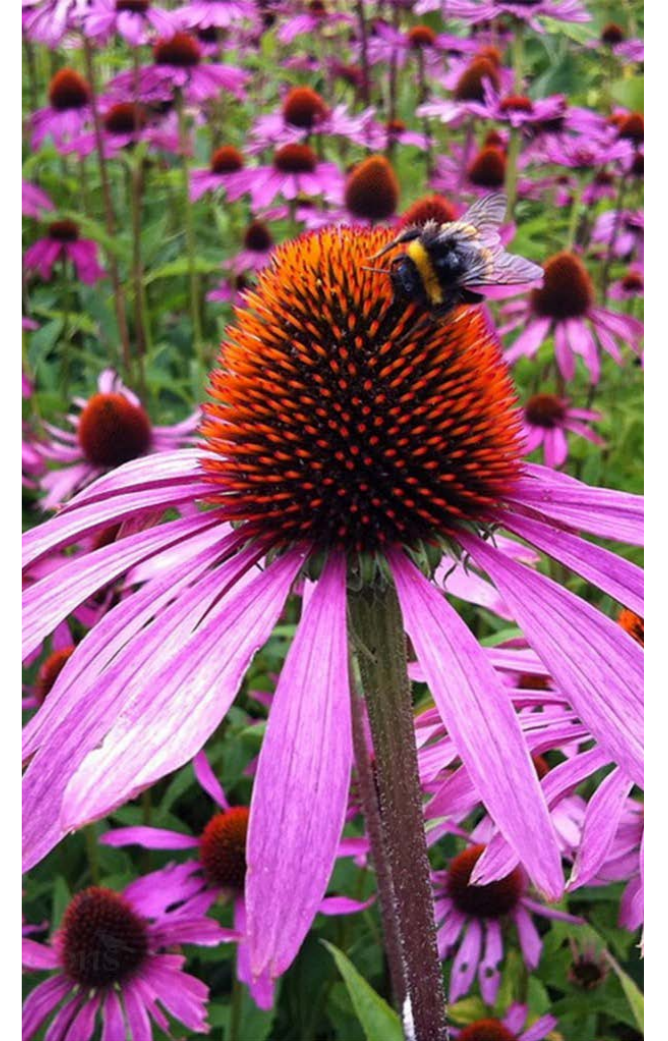
Rudbeckia fulgida



Crocus var.



Echinops var.



Echinacea purpurea



Nepeta faassenii



Campanula rapido



Hydrangea paniculata



Salvia var.



Allium schoenoprasum



Helleborus foetidus



Malus sylvestris



Aster var.



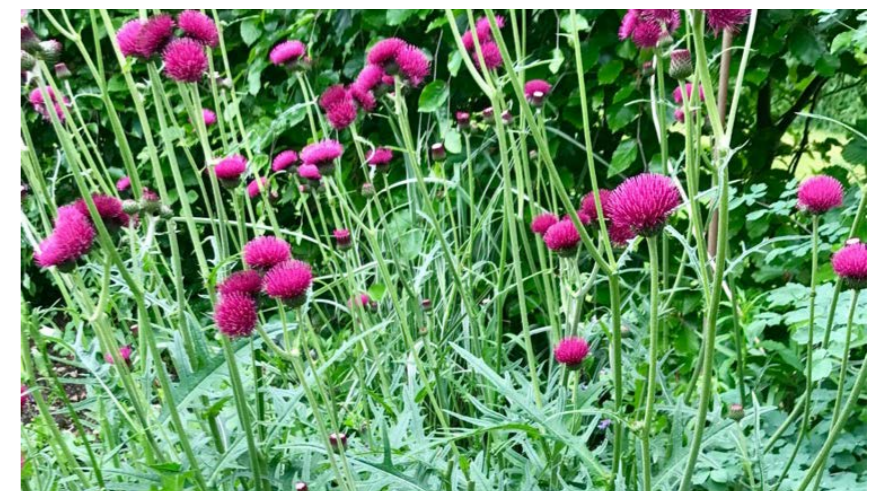
Lavandula angustifolia



Sedum telephium



Hebe var.



Cirsium rivulare 'Atropurpureum'

6.2 Planting Schedule

Specimen Trees

- Ps *Pinus sylvestris*, 4 x tr., 30-35cmg., wrb, 4.0-5.0m ht.
 Qr *Quercus robur*, 4 x tr., 30-35cmg., wrb, 4.0-5.0m ht.

Semi-Mature and Extra Heavy Standard Trees

- Bp *Betula pendula*, standard, 14-16cmg, 3 x tr., wrb, 4.0-5.0m h. min., 1.5ms.
 Bpx *Betula pendula*, multi-stemmed, min 5 breaks, 3 x tr., wrb, 4.0-5.0m h. min., 1.5m s.
 Pa *Prunus avium*, 18-20cmg, 3 x tr., wrb, 4.5-5.0m h. min., 1.5m s.
 Py *Pyrus calleryana* 'Chanticleer', 18-20cmg, 3 x tr., wrb, 4.5-5.0m h. min., 1.5m s.
 Qr *Quercus robur*, 18-20cmg, 3 x tr., wrb, 4.5-5.0m h. min., 1.5m s.
 Tc *Tilia cordata*, 20-25cmg, 3 x tr., wrb, 4.5-5.0m h. min., 1.5m s.

Front Garden Trees

- Honey Locust *Gleditsia tricanthos*, 3 x tr., 12-14cm.g, 4.0-4.5m h., 1.5m s.
 Wild Cherry *Prunus avium*, 3 x tr., 12-14cm.g, 4.0-4.5m h., 1.5m s.
 Crab Apple *Malus sylvestris* 3 x tr., 12-14cm.g, 4.0-4.5m h., 1.5m s.

Small Flowering Trees

- Au *Arbutus unedo*, multi-stemmed, min. 5 breaks, 2 x tr., wrb, 2.0-2.5m h., 1.5m s.
 Al *Amelanchier lamarkii*, feathered, min.5 breaks, 2 x tr., wrb, 2.0-2.5m h., 1.5m s.
 Mk *Magnolia 'Kobus'*, feathered, min.5 breaks, 2 x tr., wrb, 2.0-2.5mh., 1.5m s.
 Pr *Prunus serrulata c.vars*, multi-stemmed, min. 5 breaks, 2 x tr., wrb, 2.0-2.5m h., 1.5m s.

Front Garden Mix:

Specimen shrubs
Cercidiphyllum japonicum
Mahonia eurybracteata 'Soft Caress'
Nandina domestica c. vars
Luma apiculata
 All 10-15 ltr.cg. min

Shrubs:
Cistus x hybrides (white flowering variety)
Hydrangea paniculata
Pittosporum 'Tom Thumb'
Rosa 'Flower Carpet'
Rosmarinus 'Severn Sea'
 All 5 ltr.cg

Heathers:
 All 2-3 ltr. Bushy, min 250mm diameter spread

Erica carnea c. vars
Erica darleyensis c. vars
Erica vagan c. vars

Grasses:
 All 2-3 ltr. cg

Carex elata 'Aurea'
Molinia caerulea subsp. *arundinacea*
Stipa calamagrostis

Perennials:

All 2-3 ltr. cg.

Echinacea purpurea 'Fatal attraction'
Helleborus orientale
Kniphofia 'Nancy's Red'
Libertia grandiflora
Luzula nivea
Luzula sylvatica
Rubeckia fulgida 'Goldstrum'
Salvia nemerosa
Sedum spectabile 'Autumn Joy'

Shade Tolerant Planting Mix

Alchemilla mollis
Asplenium scolopendrium
Astilbe chinensis *Rodgersia pinnata*
Athyrium filix-femina
Brunnera macrophylla
Euphorbia amygdaloides
Polystichum setiferum
Pulmonaria officinalis
Rodgersia podophylla
Rodgersia pinnata 'Fireworks'
Sarcococca hookeriana

All 2ltr. cg, planted at 300-450mm centres.

Ornamental Grass & Perennial Mix

Allium 'Christophii'
Anemanthele lessoniana cvs.
Aster var.
Campanula rapido

Cirsium rivulare 'Atropurpureum'
Calamagrostis x acutiflora 'Karl foerster'
Chionochloa flavicans
Echinops ritro c. vars
Eryngium maritimum
Knautia macedonica
Libertia grandiflora
Molinia caerulea subsp. *Arundinacea*
Nepeta faassenii
Rudbeckia fulgida 'Goldsturm'
Salvia nemerosa c. vars
Schizostylus coccinea cvs.
Sedum spectabile 'Autumn Joy'
Verbena bonariensis

All 2-3 ltr.cg. planted at 300-500mm centres.

Tulipa 'White Triumphator'
Tulipa 'Negrita'
Tulipa 'Shirely'
 Planted as bulbs; Topsize; 12-15 p/m²

Sensory Planting Mix

All 2-5 ltr.cg. planted at 400-500mm centres:

Artemesia absinthium
Helichrysum-italicum
Lavandula angustifolia c.vars
Rosmarinus officinalis c.vars
Salvia argentea
Thulbaghia violacea

Evergreen Shrub Mix

Abelia x grandiflora
Buxus sempervirens
Choisya ternata
Cistus x hybridus c. vars
Convolvulus cnoerum
Hydrangea macrophylla c. vars
Hypericum 'Hidcote'
Lavandula angustifolia c.vars
Mahonia x media c. vars
Rosmarinus 'Severn Sea'
Rosa 'Flower Carpet'
Rosa rugosa c.vars
Sarcococca x confusa

All 2-5 ltr.cg. planted at 500mm centres:

Hedging

Beech Hedging
 All bare roots whips or feathered 900-1200 high. Planted in a double staggered row at 600mm centres.
Fagus sylvatica

Clipped Evergreen Hedging
Buxus sempervirens
Prunus lusitanica
 5 ltr.cg. planted at 500mm centres

Bulb Planting

Planted as bulbs, topsize, sown in drifts of 12-15 bulbs per sqm

Anemone blanda
Allium hollandicum c. vars

Crocus (3 approx.)
Narcissus c. vars (3 approx.)

Turfgrass

10% Highland Browntop Bent	<i>Agrostis castellana</i>
10% Browntop Bent	<i>Agrostis capillaris</i>
40% Meadow Fescue	<i>Festuca pratensis</i>
40% Red Fescue	<i>Festuca Rubra</i>

Abbreviations:

xtr.	number of transplants in nursery
h.	height
s.	spread
wrb	wire root-balled
cmg	girth of tree in centimeters measured 1m above ground
cvs.	cultivated varieties
2ltr cg	plants supplied in 2 litre volume containers

6.3 Proposed Planting Images

Shade Tolerant Planting Mix



Athyrium filix-femina



Astilbe chinensis



Brunnera macrophylla



Asplenium scolopendrium



Rodgersia podophylla

Ornamental Grass & Perennial Mix



Verbena bonariensis



Rudbeckia fulgida 'Goldsturm'



Chionochloa flavicans



Calamagrostis x acutiflora 'Karl foerster'



Allium 'Christophii'



Libertia grandiflora

Evergreen Shrub Mix



Sarcococca x confusa



Lavandula angustifolia c. vars



Hypericum 'Hidcote'



Choisya ternata



Hydrangea macrophylla c. vars



Pinus sylvestris



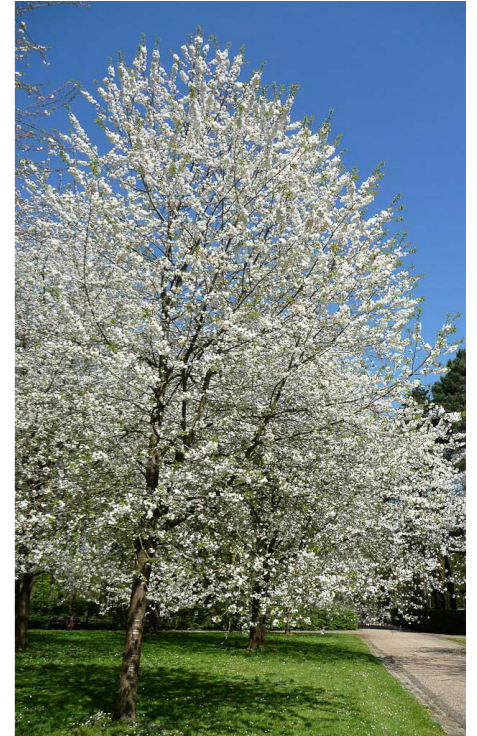
Betula pendula



Quercus robur



Tilia cordata



Prunus avium



Magnolia 'Kobus'



Magnolia 'Kobus' flower



Arbutus unedo



Prunus serrulata c.vars



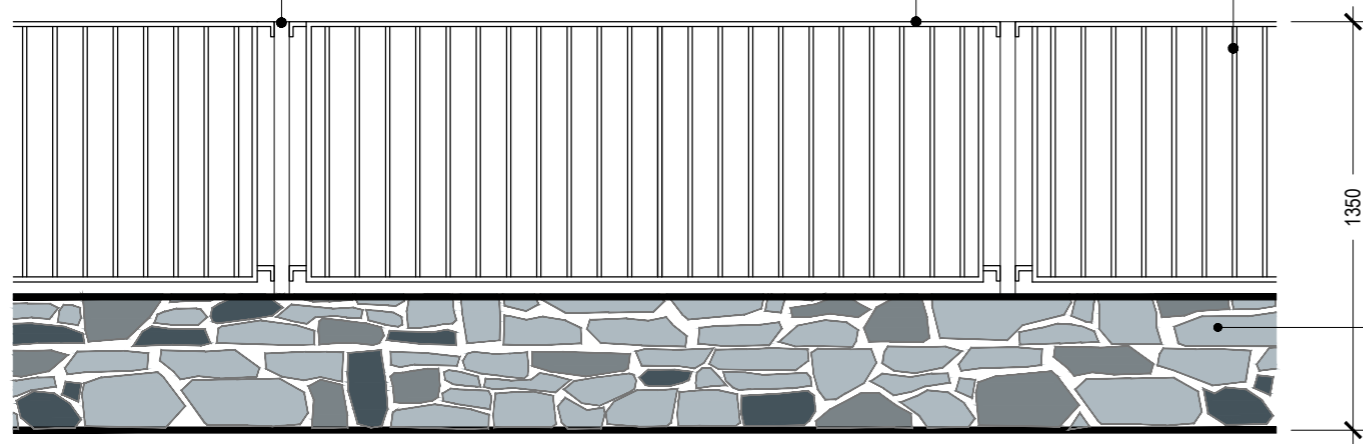
Amelanchier lamarkii

7.0 Boundary Details

Post:
50 x 50mm hollow section
with welded brackets in 6mm
flatbar for mounting railing panels.

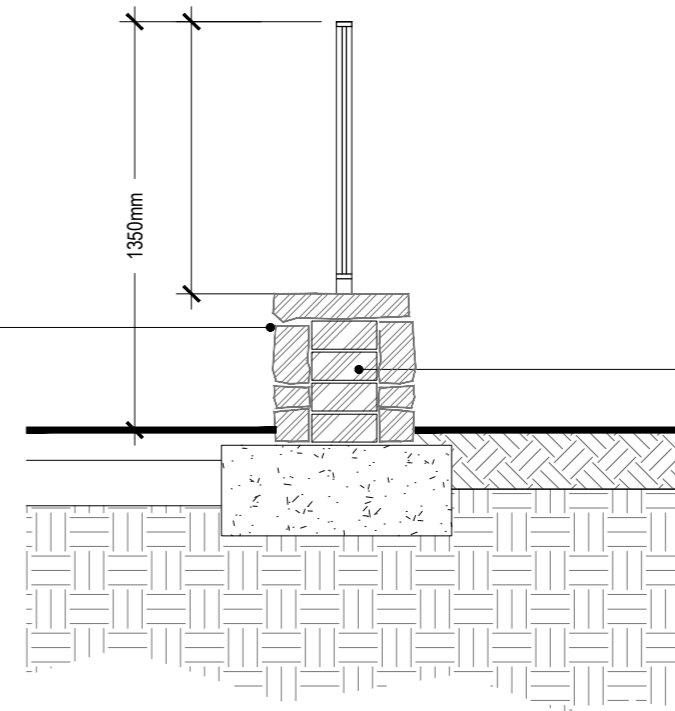
Horizontal bar:
8 x 50mm solid mildsteel flat bar.

Vertical bars:
12mm Ø solid mildsteel.



Wall faced in natural stone:
Stone - Limestone. Wall built
in courses. Mortar jointed,
joints recessed.

Ground level



Blockwork Structure:
to the Engineer's details and specification

E L E V A T I O N

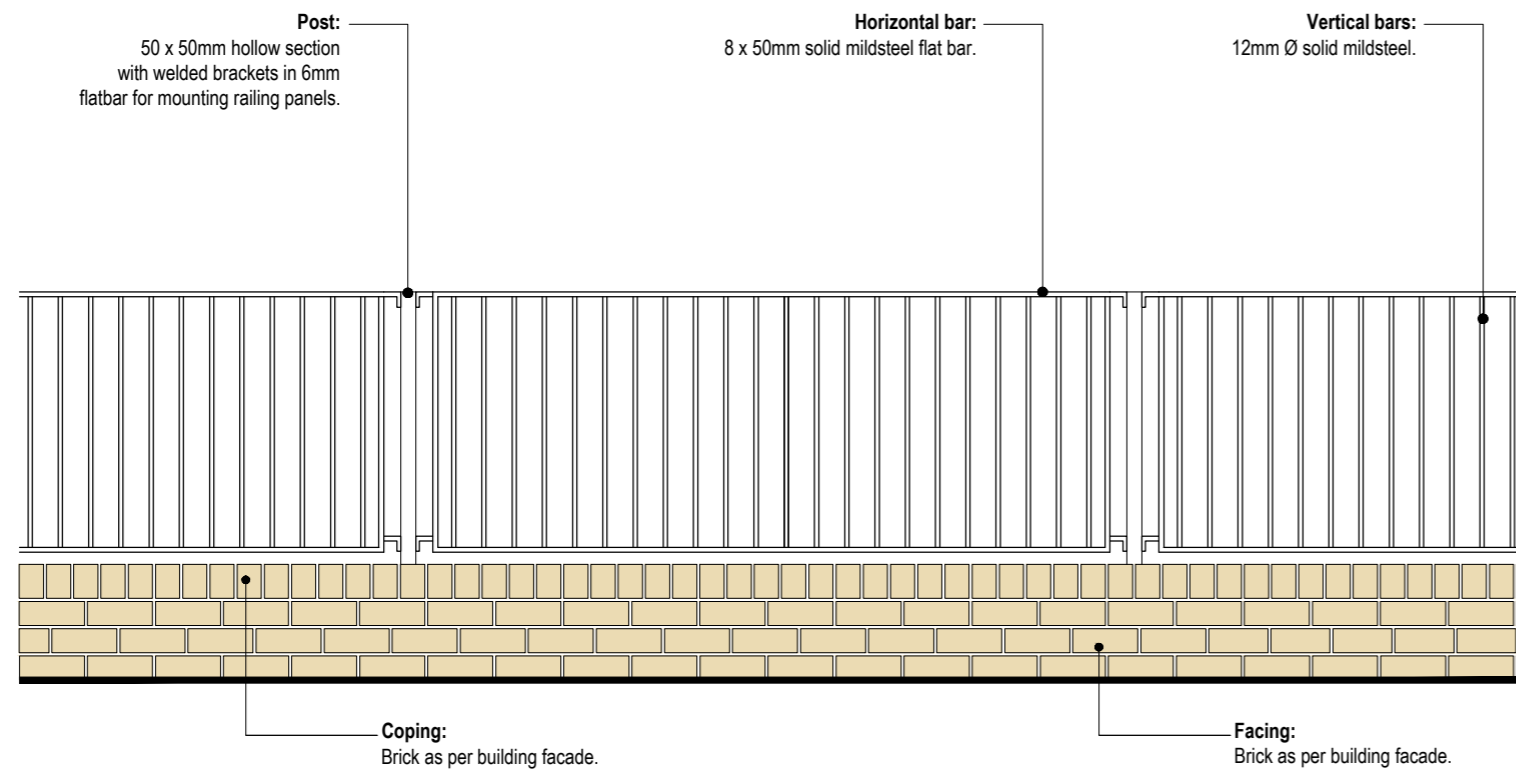
S E C T I O N

01

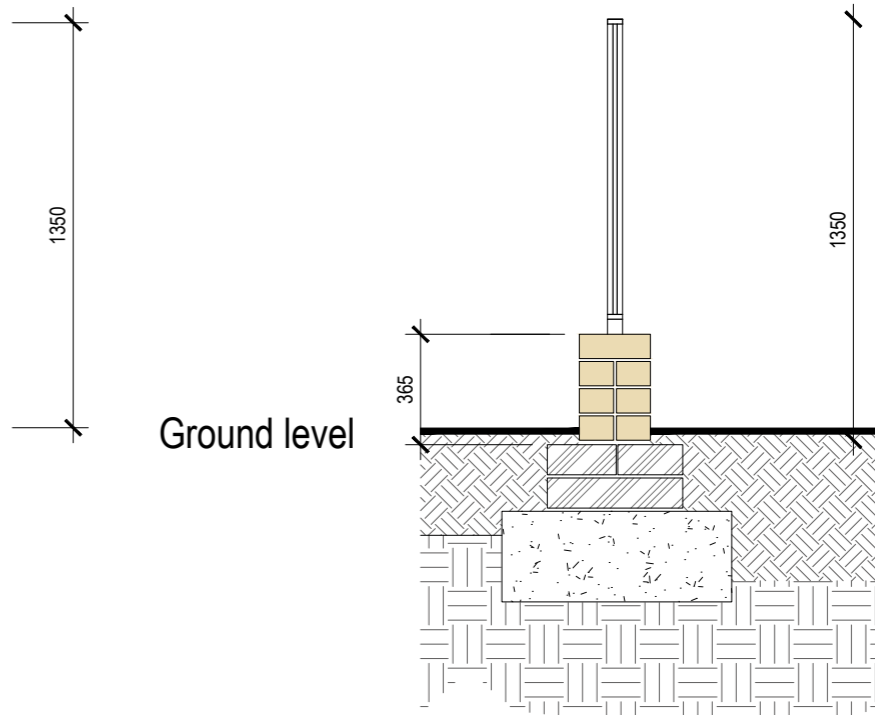
1.35m High Railing & Stone Faced Wall

scale 1:25

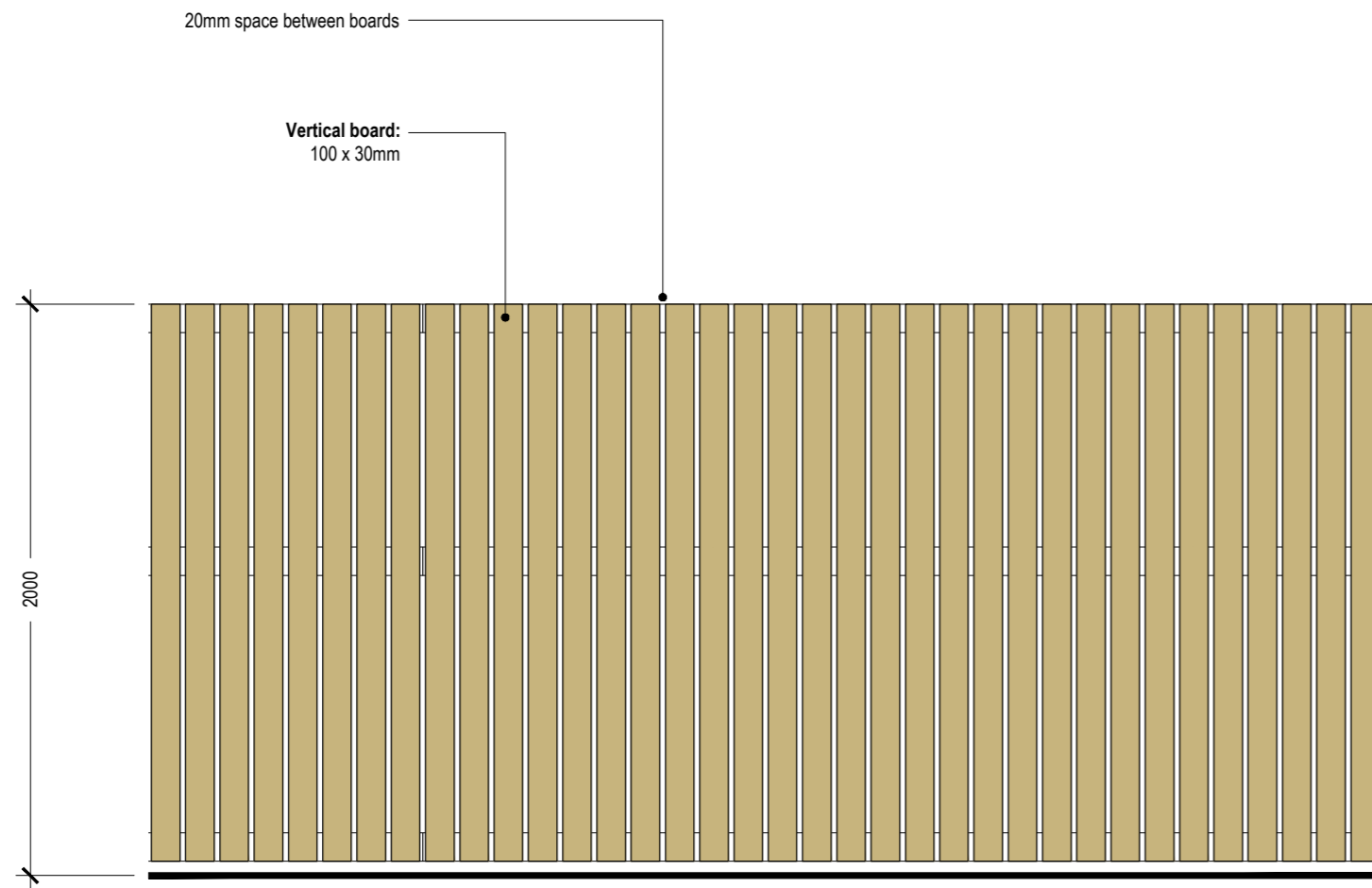
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ELEVATION



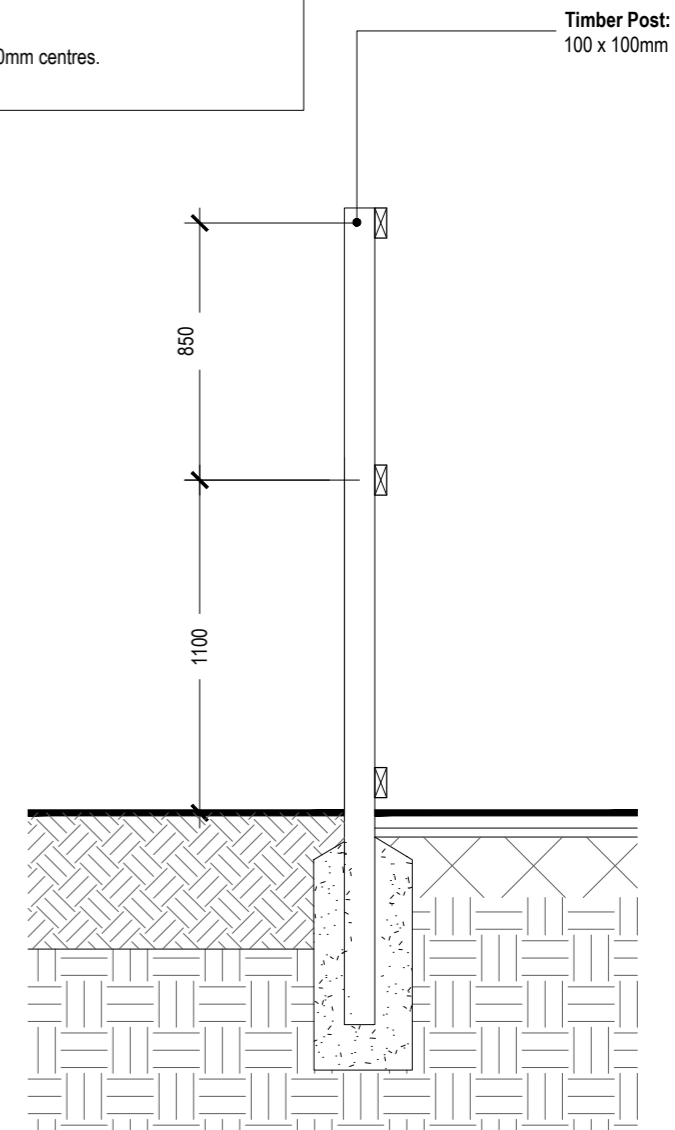
SECTION



ELEVATION

NOTE:

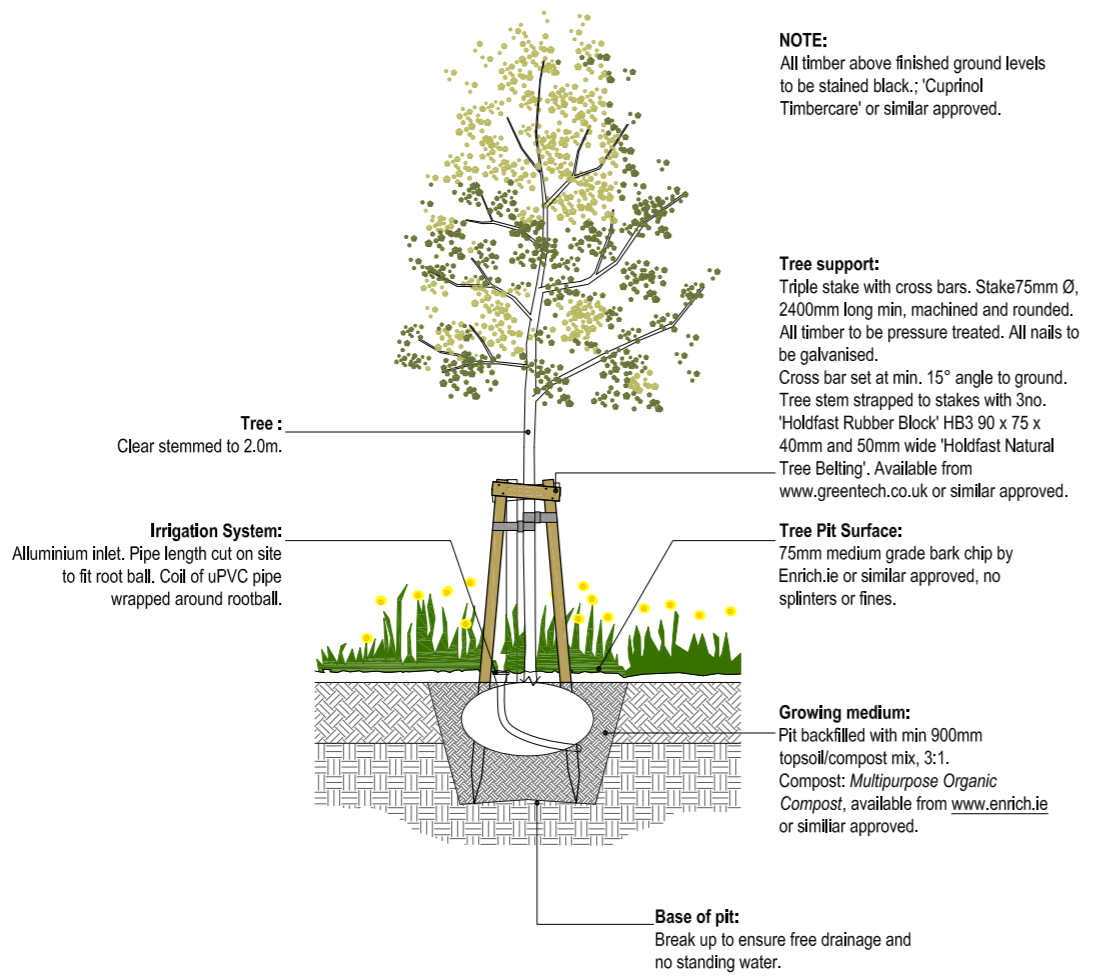
- All timber to be pressure treated and planed Larch.
- Rails always parallel with finished ground.
- All screws, staples, hinges, latches and fixings to be twice galvanised.
- Posts at max 1800mm centres.



Ground level

SECTION

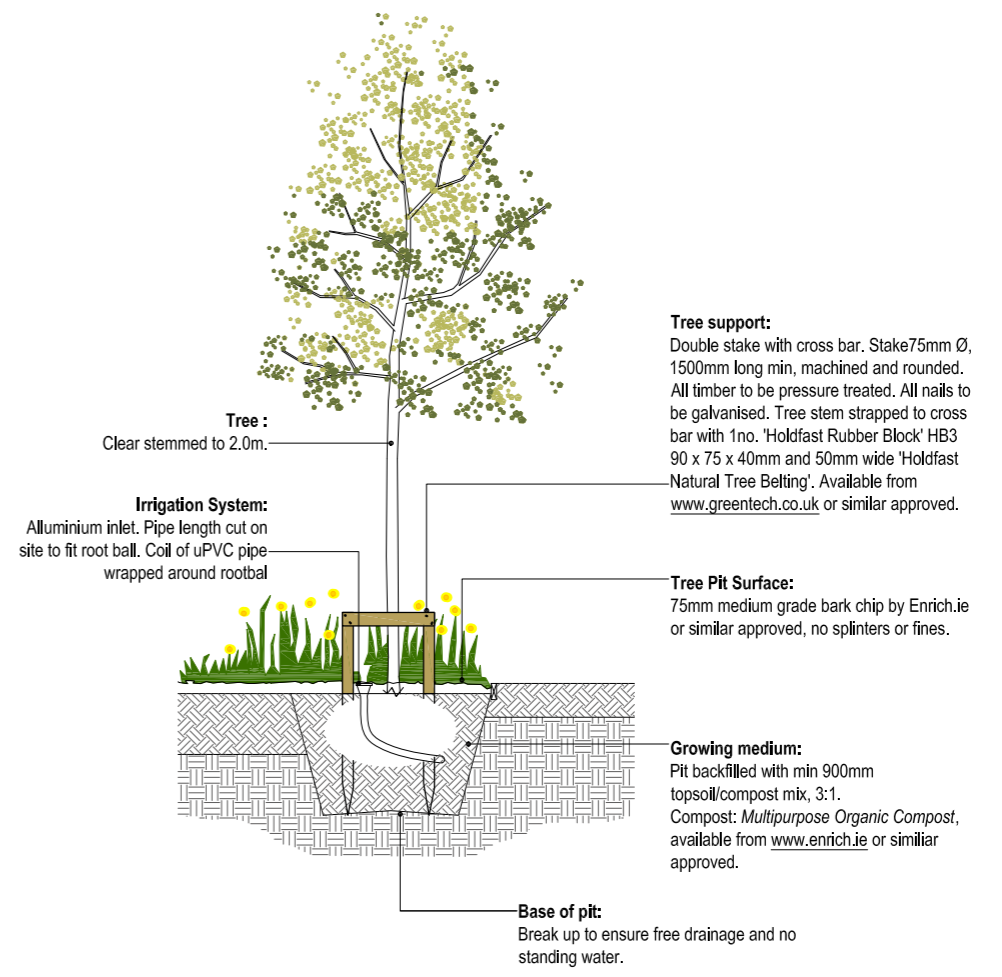
8.0 Soft Landscape Planting Details



NOTE:
All timber above finished ground levels to be stained black.; 'Cuprinol Timbercare' or similar approved.

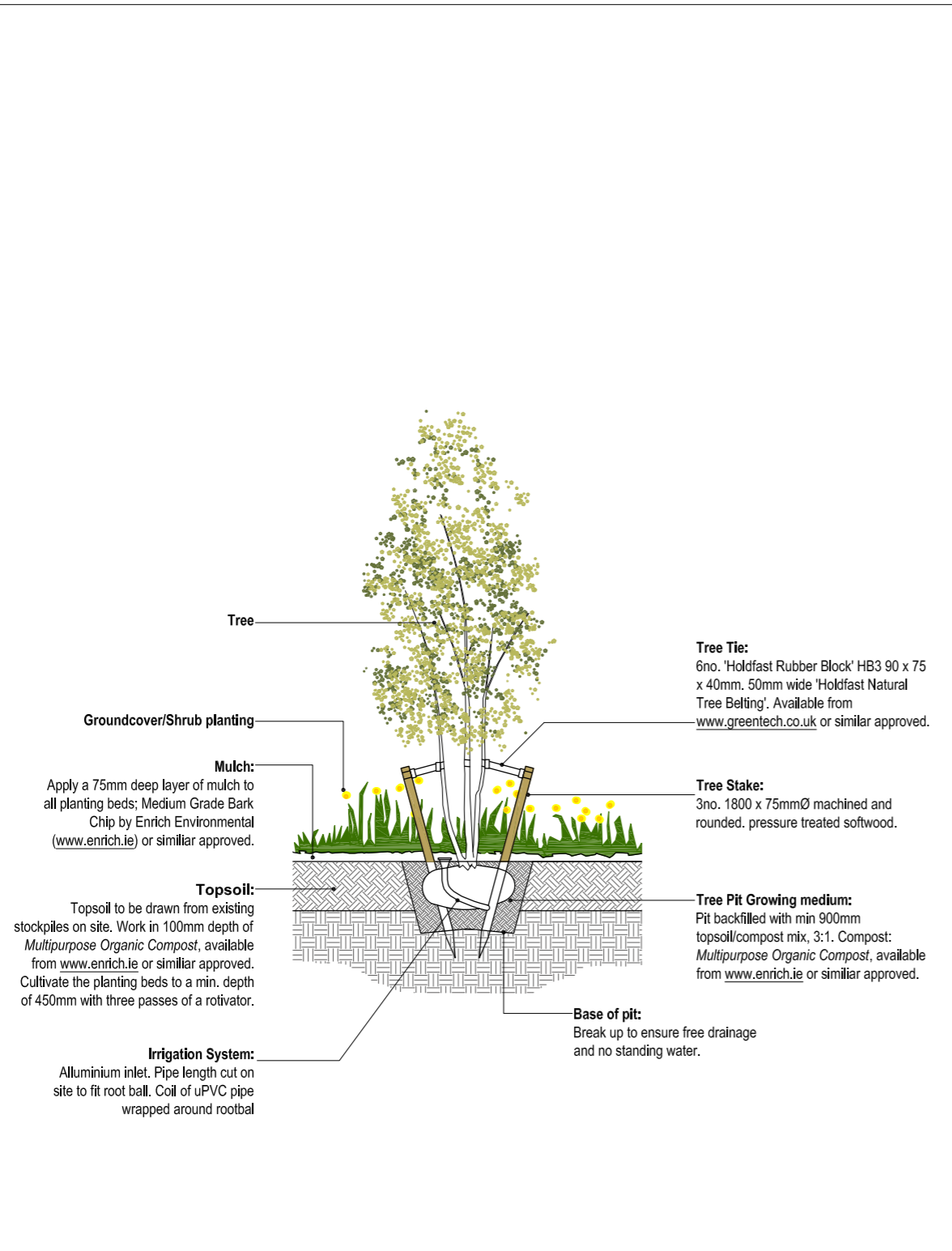
Semi-mature tree planting in soft landscape

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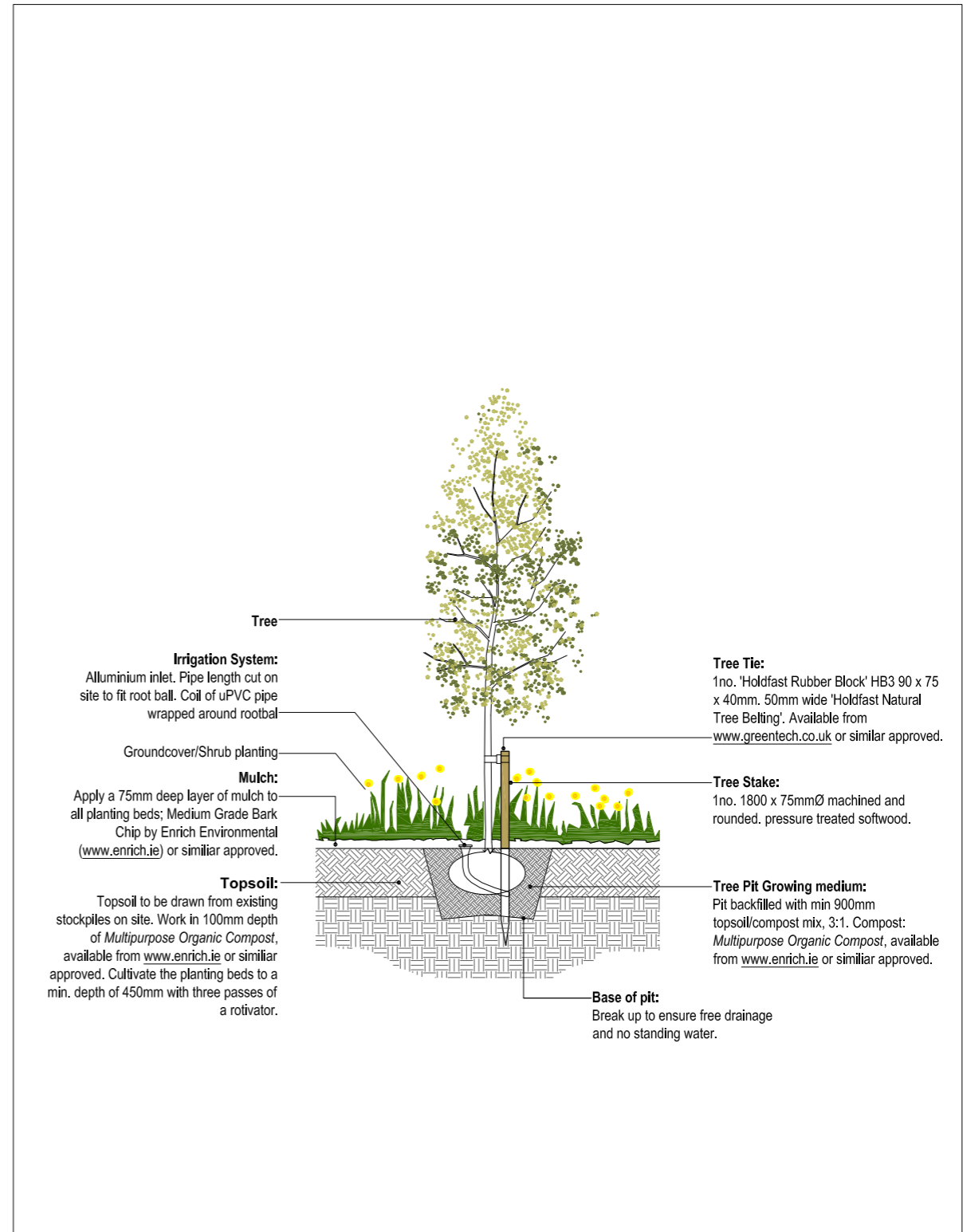
Semi-mature and Heavy Standard tree planting in soft landscape
scale 1:50

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Multi-stem Tree Planting
scale 1:50

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Standard and Feathered Tree Planting in soft landscape
scale 1:50

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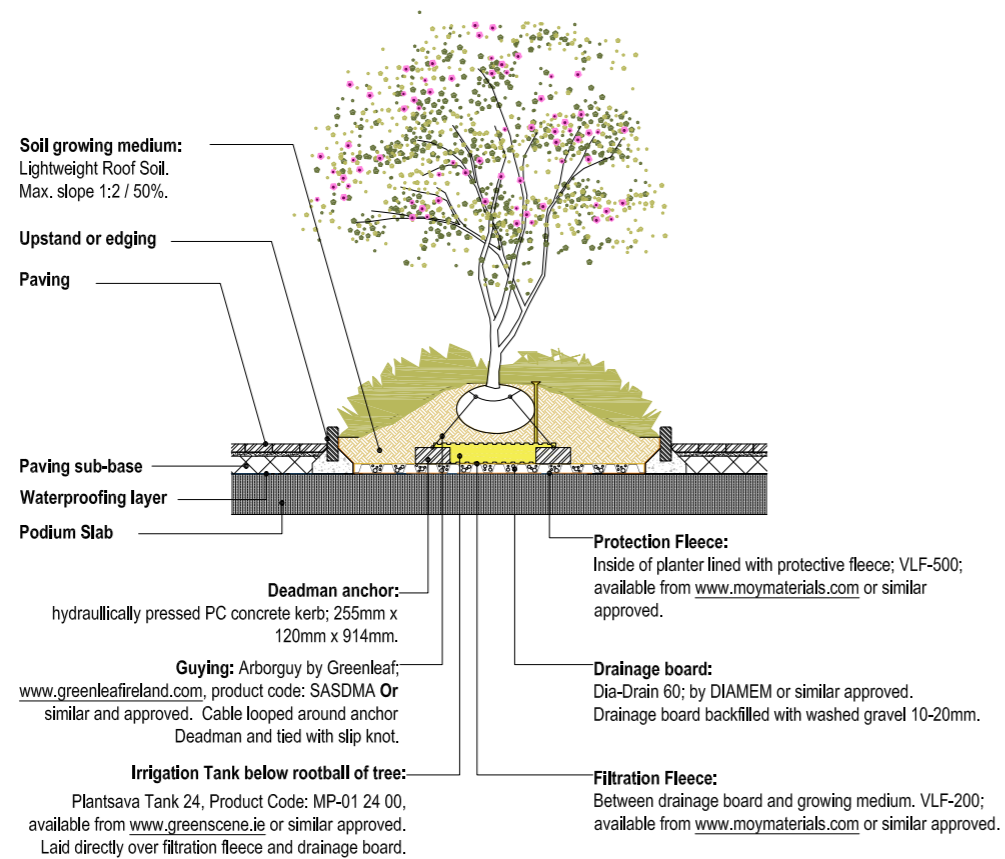
NOTES ON SOIL GROWING MEDIUM:

Lightweight Roof Soil by Enrich.ie

- 25% General Purpose Compost or similar and approved peat free soil ameliorant;
- 10% LECA;
- 65% virgin premium grade free draining sandy loam with pH 5.5-7.8, (55% SAND, 30% SILT, 15% CLAY, to BS 3882).
- Finely screened with no lumps
- Grain size 0-20mm
- Dry weight $\geq 0.9g/cm^3$
- Saturated Weight $\geq 1.2g/cm^3$
- pH 6.9-7.9
- Organic Content 10-25% by mass
- Permeability 25%
- Peat free
- Produced to BS 3882 quality standard.

BACKFILLING GROWING MEDIUM GENERALLY:

- Fill in to required area for planting, saturate the growing medium with water and leave for 24 hours prior to any planting works.
- Top-up growing medium to take account of consolidation. Allow 50mm above finished level for gradual soil settlement.



Typical detail of roof garden planting bed

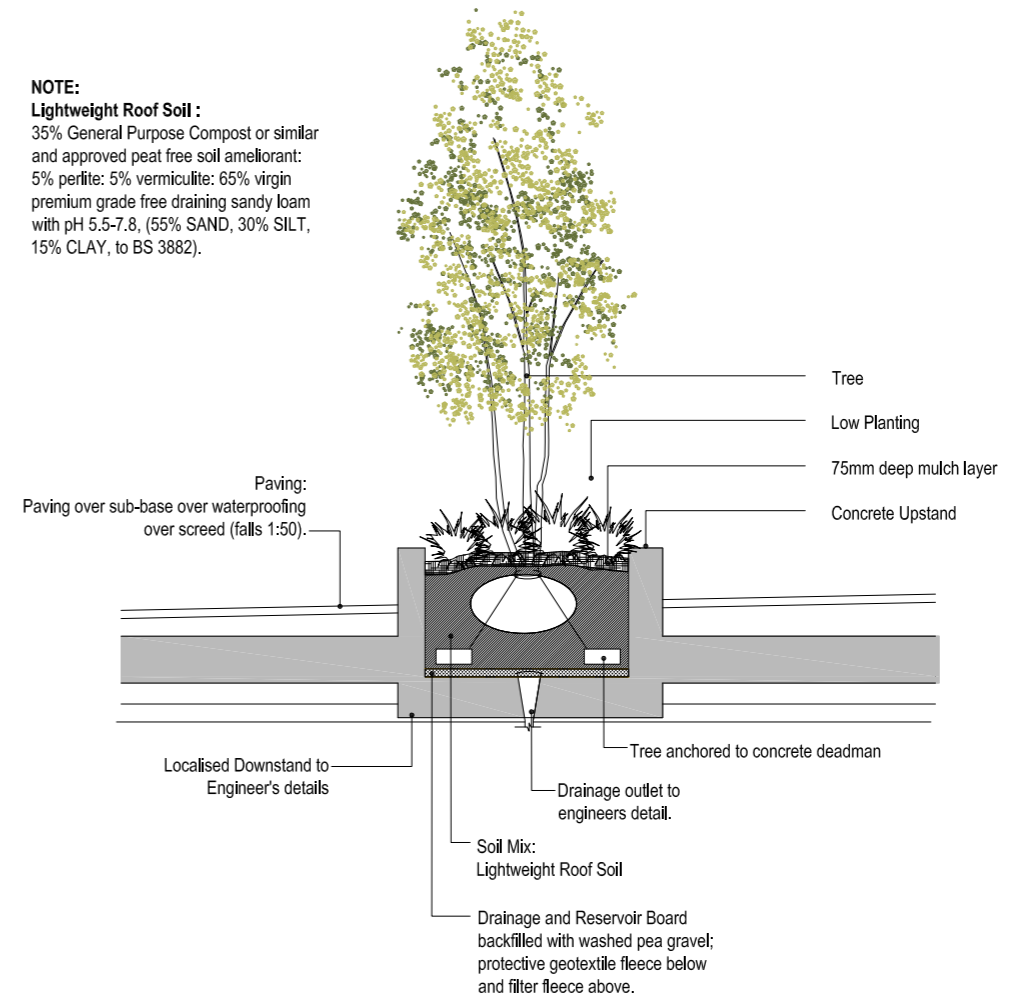
scale 1:50

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NOTE:

Lightweight Roof Soil :

35% General Purpose Compost or similar and approved peat free soil ameliorant; 5% perlite; 5% vermiculite; 65% virgin premium grade free draining sandy loam with pH 5.5-7.8, (55% SAND, 30% SILT, 15% CLAY, to BS 3882).



Typical detail of roof garden planting bed

scale 1:50

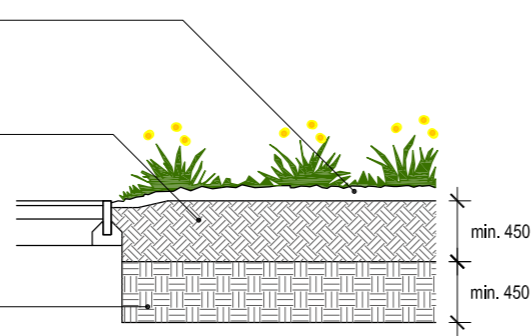
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Groundcover Planting

Mulch:
Apply a 75mm deep layer of mulch to all planting beds;
Medium Grade Bark Chip by Enrich Environmental
(www.enrich.ie) or similar approved.

Topsoil:
Topsoil to be drawn from existing stockpiles on site.
Work in 100mm depth of *Multipurpose Organic Compost*, available from www.enrich.ie or similar approved. Cultivate the planting beds to a min. depth of 450mm with three passes of a rotivator.

Subsoil:
Rip subsoil to a depth of min. 750mm from finished surface. Min. depth of subsoil 450mm.

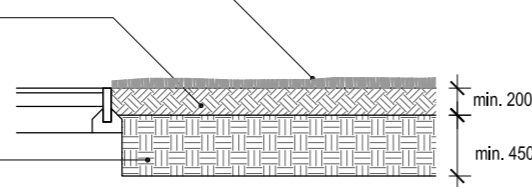


Lawn

Grass Seeding:
Area to be grass seeded. Grade 2, Mixture: 80%
Fescue species, 20% Brown top bent.

Topsoil:
Topsoil to be drawn from existing stockpiles on site.
Cultivate grass seeding areas to a min. depth of 300mm with three passes of a rotivator.

Subsoil:
Rip subsoil to a depth of min. 600mm from finished surface. Min. depth of subsoil 450mm.



Gravel trim building facades

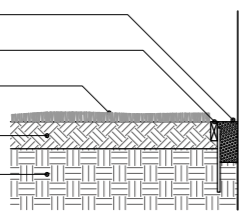
Gravel trim:
min. 300mm depth layer of 10-20mm
washed and graded pebble.

Timber edging: see adjacent detail

Soft landscape

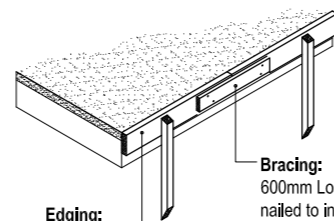
Topsoil

Subsoil



NOTE:

- All timber to be pressure treated Larch.
- Double stakes at change of direction and corners.
- All nails to be twice galvanised.



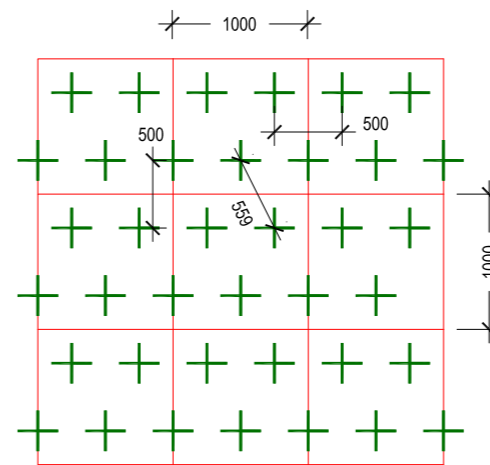
Edging:
150 X 40mm pressure treated
Larch timber edge twice nailed
to 50 X 50 X 750mm stakes
driven at 1200 centres.

Bracing:
600mm Long bracing at joints
nailed to inside of timber edge,
25 mm below top of timber
edge.

Groundcover planting beds, lawn and gravel trims

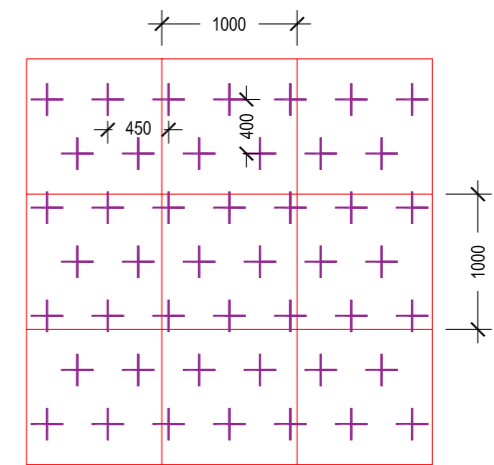
scale 1:50

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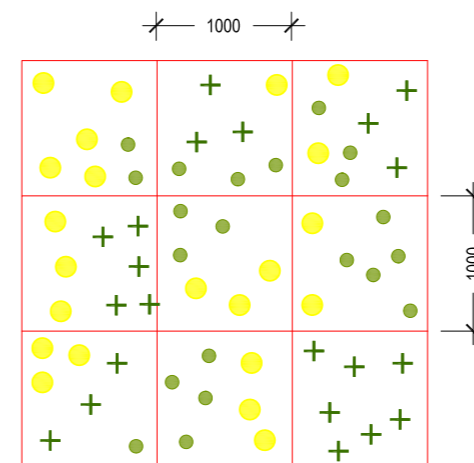


Clipped shrubs:
Density of plants typically 4 per sqm, all 2ltr cg. min.

Clipped Planting - Taxus, Buxus

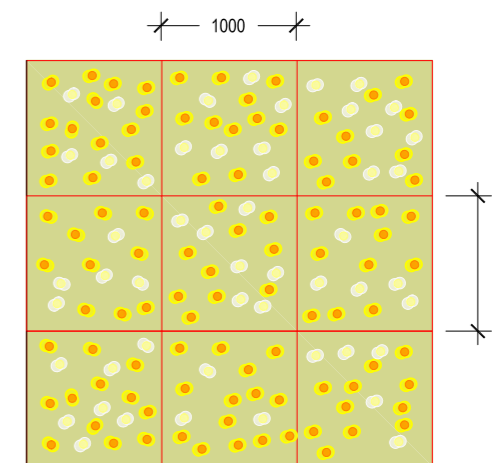


Groundcover shrubs:
Planted at 5 per sqm, all 2ltr cg. min.



Groundcover - mix of grasses and perennials:
Density of plants typically 7 per sqm, all 2ltr cg. min.
Plants to be mixed randomly in clumps of 3-9.

Groundcover Mixes



Density of bulbs typically 15-20 per sqm.

Bulb drifts in grass

Setting out - clipped shrub planting, groundcover planting and bulbs

scale 1:50

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9.0 Landscape Maintenance Schedule

Landscape Maintenance Schedule

Knocknacarra District Centre														
Years 1 & 2. Annual Maintenance														
	In Contract	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Visits per Month		1	1	2	4	4	4	4	4	4	2	1	1	
Amenity grass														
Cutting / Collection	y			2	4	4	4	4	4	4	4	2		
Grass areas with bulbs	y	Don't cut until 3 weeks after flowering												
Fertilising										1				
Scarifying														
Broadleaf weed control	y					1								
Moss Control														
Control along edges.	y				1		1		1		1			
Mechanical edging along curbs														
Maintain clean tree circles	y			1		1		1		1		1		
Meadow Grass Cut				1					1	1				
Shrub, groundcover and hedging														
Pruning	y						1				1			
Hedgecutting	y						1				1			
Fertilising														
Spot treat weed Control	y		1	1	2	2	2	2	2	2	2	1		
Moss Control														
Top up bark Mulching	y				1						1			
Soil Cultivation														
Mechanical edging														
Watering trees, hedge & shrubs	y	Watering as required during the growing season												
Stone Removal (40mm+)														
Hard landscape														
Sweeping All Surfaces														
Cleaning debris from kerb lines														
Cleaning work arisings	y	2	2	3	4	4	4	4	4	4	4	2	2	
Raking Gravel Surfaces														
Weed Control														
Moss Control														
Play Equipment (Note)														
Weekly inspections to be carried out to ensure equipment is safely maintained to manufacturers specification														
Sundry														
Woodland Planting weed control	y			1	1	1	1	1	1	1	1			
Tree stake / Tie Adjustments	y				1									
Firm in any loose plants	y				1					1				
Leaf Clearing from windtraps	y										1	1	1	
Fertilising to woodland plants														
Litter Collection														

10.0 Soft Landscape Specification

Q28 Topsoil and soil ameliorants

To be read with Preliminaries/ General conditions.

SYSTEM OUTLINE

- 115 SOIL SYSTEM FOR GRASS SWARDS FOR ALL GRASSED AREAS
- Composition:
 - Soil: Imported topsoil to BS 3882.
 - Ameliorants: Sanitized and stabilized composted materials.
 - Accessories: None.
- 125 GREEN ROOF GROWING MEDIA SYSTEM TO INTENSIVE GREEN ROOF
- Composition:
 - Topsoil: Imported topsoil from a specified source.
 - Ameliorants: as per specified product.
 - Accessories: as per specified product.
- 135 PLANTING BED SOIL SYSTEM FOR EXTERNAL PLANTING
- Composition:
 - Topsoil: Imported topsoil to BS 3882.
 - Ameliorants: Sanitized and stabilized composted materials.
 - Accessories: None.
- 145 PLANT PIT BACKFILLING SOIL SYSTEM FOR EXTERNAL PLANTING
- Composition:
 - Topsoil: Imported topsoil to BS 3882.
 - Ameliorants: Organic materials and Sanitized and stabilized composted materials.
 - Accessories: None.
- 155 MULCHING AND TOP DRESSING SYSTEM For external planting beds and tree pits
- Composition:
 - Material: Fine grade bark mulch.
- ### PRODUCTS
- 300 PREPARATION MATERIALS GENERALLY
- Purity: Free of pests and disease.
 - Foreign matter: On visual inspection, free of fragments and roots of aggressive weeds, sticks, straw, subsoil, pieces of brick, concrete, glass, wire, large lumps of clay or vegetation, and the like.
 - Contamination: 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.
 - Subsoil: In areas to receive topsoil or planting media, do not use subsoil contaminated with the above materials.
 - Objectionable odour: None.
 - Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil or planting media to be imported.

- 310 MATERIALS NOT PERMITTED
- Materials: Peat and Products containing peat.
- 315 IMPORTED TOPSOIL TO BS 3882 FOR EXTERNAL CONTAINER PLANTING, GRASS SEEDING, TURFING, PLANTING BEDS AND TREE PITS
- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
 - Standard: To BS 3882.
 - Classification: Multipurpose.
 - Soil textural class to BS 3882, Figure 1:
 - Any class;
 - Clay loam; or
 - Sandy loam.
 - Source: Submit proposals.
 - Product reference: Submit proposals.
- 345 AGGREGATES FOR SITE MADE TOPSOIL
- Source: Contractor's choice.
 - Product reference: Submit proposals.
 - Reference, description and grading:
 - Sand: Coarse grained, sharp sand with neutral pH.
 - Grit: 2 mm single size pea shingle.
 - Crushed materials: Not required.
 - Other aggregates or particles: Light expanded clay aggregate.
 - Recycled content: 10% (minimum) to BS EN ISO 14021.
- 360 SANITIZED AND STABILIZED COMPOSTED MATERIALS CERTIFIED TO PAS 100 FOR SITE MADE TOPSOIL
- Standard: In accordance with PAS 100.
 - Source: Submit proposals.
 - Product reference: Enrich Compost.
 - Horticultural parameters:
 - pH (1:5 water extract): 7.0-8.7.
 - Electrical conductivity (maximum, 1:5 water extract): 200 mS/m.
 - Moisture content (m/m of fresh weight): 35-55%.
 - Organic matter content (minimum): 25%.
 - Grading (air dried samples): 99% passing 25 mm screen, and 90% passing: 10 mm screen mesh aperture.
 - Carbon:Nitrogen ratio (maximum): 20:1.
 - Texture: Friable.
 - Objectionable odour: None.
 - Compost Certification Scheme certification: Required.
 - Declaration of analysis: Submit.
 - Additional analyses: Not required.
 - Samples: Supply 5 kg sample before ordering.

EXECUTION

- 610 TOPSOIL ANALYSIS
- Soil to be analysed: Imported topsoil.
 - Soil analyst: Submit proposals.
 - Samples: Collect in accordance with BS 3882.
 - Submit:
 - Declaration of analysis: In accordance with BS 3882, clause 6 and Table 1.
 - Additional analysis: Not required.
 - Report detailing soil analyst's recommendations.
- 620 IMPORTING TOPSOIL
- Give notice: Before stripping topsoil for transfer to site.
 - Notice period: 7 days.
- 625 SAMPLE LOADS FOR IMPORTED TOPSOIL
- Deliver to site a sample load: of 5 kg.
 - Give notice: Allow inspection before making further deliveries to site. Retain for comparison with subsequent loads.
 - Notice period: 7 days.
- 630 DOCUMENTATION FOR IMPORTED TOPSOIL FOR PLANTING BEDS
- Timing: Submit at handover.
 - Contents:
 - Full description of all soil components.
 - Record of source for all soil components.
 - Record drawings showing the location and depth of all soils by type and grade.
 - Declaration of analysis: in accordance with BS 3882, clause 6 and Table 1.
 - Number of copies: Three.
- 635 DOCUMENTATION FOR COMPOST AND COMPOSTED MATERIALS FOR COMPOST
- Timing: Submit at handover.
 - Contents:
 - Full description of all compost components.
 - Record of source for all compost components.
 - Analyst's report for each test carried out.
 - Declaration of compliance: in accordance with PAS 100 and BSI PD CR 13456.
 - Quality Compost Protocol certification: Not required.
 - Number of copies: Three.
- 640 DOCUMENTATION FOR PREPARATION MATERIALS FOR IMPORTED SOIL IMPROVERS
- Timing: Submit at handover.
 - Contents:
 - Full description of all components.
 - Record of source for all components.
 - Analyst's report for each test carried out.
 - Supplier's declaration of compliance with BSI PD CR 13456.
 - Number of copies: Three.
- 650 NOTICE
- Give notice before:
 - Setting out.
 - Spreading topsoil.
 - Applying herbicide.
 - Applying fertilizer.
 - Visiting site during maintenance period.
 - Period of notice: 2 weeks.
- 655 MECHANICAL TOOLS
- Restrictions: Do not use within 100 mm of tree and plant stems.
- 660 GRADING SUBSOIL FOR
- GRASSED AREAS;
 - WILDFLOWER AREAS;
 - ORNAMENTAL PLANTING BEDS;
 - AMENITY PLANTING AREAS; and
 - WOODLAND PLANTING AREAS
 - Standard: In accordance with BS 8601.
 - General: Grade to smooth flowing contours to achieve specified finished levels of topsoil.
 - Areas of thicker topsoil: Excavate locally.
 - Avoid compaction.
 - Excess subsoil: Remove.
- 665 SUBSOIL SURFACE PREPARATION FOR
- GRASSED AREAS;
 - WILDFLOWER AREAS;
 - ORNAMENTAL PLANTING BEDS;
 - AMENITY PLANTING AREAS; and
 - WOODLAND PLANTING AREAS
 - Standard: In accordance with BS 3882.
 - General: Excavate and/ or place fill to required profiles and levels, as section D20.
 - Loosening:
 - When ground conditions are sufficiently dry to allow breaking up of soils, loosen thoroughly to specified depth:
 - Light and noncohesive subsoils: 600 mm.
 - Stiff clay and cohesive subsoils: 600 mm.
 - Rock and chalk subgrades: Lightly scarify to promote free drainage.
 - Wet conditions: Do not loosen subsoils.
 - Stones: Immediately before spreading topsoil, remove stones larger than 50 mm.
 - Remove from site: Arisings, contaminants and debris and Builders rubble.
- 670 INSPECTING FORMATIONS
- Give notice: Before spreading topsoil for areas to receive landscape planting.
 - Notice period: 7 days.

- 675 PREPARATION OF UNDISTURBED TOPSOIL
- Standard: In accordance with BS 4428.
 - Grading and cultivation: To suit cultivation operations specified in Q30.
 - Hard ground: Break up thoroughly.
 - Clearing: Remove visible roots and large stones with a diameter greater than 50 mm.
 - Areas covered with turf or thick sward: Plough or dig over to full depth of topsoil.
 - Fallow period (minimum): Two months.
 - Weed control: At appropriate times treat with a suitable translocated nonresidual herbicide.
- 680 SURPLUS TOPSOIL TO BE RETAINED
- Generally: Spread and level on site:
 - Locations: As directed by Landscape Architect.
 - Protected areas: Do not raise soil level within root spread of trees that are to be retained.
- 685 SURPLUS MATERIALS TO BE REMOVED
- Topsoil removal from site: Topsoil remaining after completion of all landscaping work.
 - Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove.
- 690 TOPSOIL STORAGE HEAPS
- Location: Contractor's choice.
 - Height (maximum): 1.0 m.
 - Width (maximum): 2.0 m.
 - Formation: Loose tip and shape from the side only, without running machinery on the heap at any time.
 - Protection:
 - Do not place any other material on top of storage heaps.
 - Do not allow construction plant to pass over storage heaps.
 - Prevent compaction and contamination, by fencing and covering as appropriate.
- 700 GRADING OF TOPSOIL
- Topsoil condition: Reasonably dry and workable.
 - Contours: Smooth and flowing, with falls for adequate drainage.
 - Hollows and ridges: Not permitted.
 - Give notice: If required levels cannot be achieved by movement of existing soil.
- 705 HANDLING TOPSOIL
- Standard: In accordance with BS 3882.
 - Aggressive weeds: Give notice and obtain instructions before moving topsoil.
 - Plant: Select and use plant to minimize disturbance, trafficking and compaction.
 - Contamination: Do not mix topsoil with:
 - Subsoil, stone, hardcore, rubbish or material from demolition work.
 - Other grades of topsoil.
 - Multiple handling: Keep to a minimum. Use or stockpile topsoil immediately after stripping.
 - Wet conditions: Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall or when it is wetter than the plastic limit less 3%, to BS 1377-2.
- 710 SPREADING TOPSOIL ON GRASSED AREAS and WILDFLOWER AREAS
- Standard: In accordance with BS 3882.
 - Temporary roads/ surfacing: Remove before spreading topsoil.
 - Layers:
 - Depth (maximum): 150 mm.
 - Gently firm each layer before spreading the next.
 - Depth after firming and settlement: 200mm.
 - Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.
- 710A SPREADING TOPSOIL ON SHRUB & PERENNIAL PLANTING BEDS
- Standard: In accordance with BS 3882.
 - Temporary roads/ surfacing: Remove before spreading topsoil.
 - Layers:
 - Depth (maximum): 150 mm.
 - Gently firm each layer before spreading the next.
 - Depth after firming and settlement: 450mm.
 - Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.
- 710B SPREADING TOPSOIL ON TREE PITS
- Standard: In accordance with BS 3882.
 - Temporary roads/ surfacing: Remove before spreading topsoil.
 - Layers:
 - Depth (maximum): 150 mm.
 - Gently firm each layer before spreading the next.
 - Depth after firming and settlement: 1000mm.
 - Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.
- 715 LOOSE TIPPING OF TOPSOIL
- Standard: In accordance with BS 3882.
 - General: Do not firm, consolidate or compact topsoil when laying. Tip and grade to approximate levels in one operation with minimum of trafficking by plant.
- 718 FINAL CULTIVATION FOR GRASS SEEDING & EXTERNAL PLANTING GENERALLY
- Compacted topsoil: Break up to full depth.
 - Tilth: Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
 - Depth: 150 mm.
 - Particle size (maximum): 15 mm.
 - Timing: After grading and fertilizing, and within a few days before seeding.
 - Weather and ground conditions: Suitably dry.
 - Surface: Leave regular and even.
 - Levels: 25 mm above adjoining paving or kerbs.
 - Undesirable material brought to the surface:
 - Remove visible weeds.
 - Remove roots and large stones with any dimension exceeding 50 mm.

- 720 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT
- In relation to adjoining paving, kerbs or hard surfaces: 25 mm above .
 - In relation to dpc of adjoining buildings: Not less than 150 mm below.
 - In relation to adjacent grass areas: 50 mm above.
 - Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
 - Sportsfields: To even levels and within the following permitted deviations:
 - From levels or gradients shown on drawings: ± 75 mm.
 - From line between boning rods 30 m apart: ± 25 mm.
 - Within root spread of existing trees and shrubs to be retained: Do not dig or cultivate.
 - Adjoining soil areas: Marry in.
 - Thickness of turf or mulch: Included.
- 730 GREEN ROOF GROWING MEDIUM INSTALLATION
- Handling: Minimize.
 - Conditions: Handle in the driest condition possible. Do not handle or install when wet or frozen.
 - Layers:
 - Depth (maximum): 150 mm.
 - Sequence: Gently firm each layer before spreading the next.
- 810 APPLYING COMPOST TO IMPORTED OR SITE SOURCED TOPSOIL FOR EXTERNAL PLANTING
- Application rate for trees and shrubs: 50 mm thick.
 - Timing: Apply prior to cultivation.
 - Application rate for grass: 25 mm thick layer.
 - Timing: Apply prior to cultivation.
 - Application rate for planters: 50 mm thick layer.
 - Timing: Apply prior to cultivation.
 - Other requirements: Submit 5kg sample before ordering.
- 825 APPLYING FERTILIZER TO PROPOSED GRASS AREAS TO SEEDED AREAS EXCEPT WILDFLOWER MEADOWS
- Application: Before final cultivation and three to five days before seeding/ turfing.
 - Coverage:
 - Spread evenly, in transverse directions.
 - Rate: 70 g/m².
- 830 APPLYING TOP DRESSING TO GRASS SEEDING
- Rate: 2-4 kg/m².
 - Timing: Apply prior to cultivation.
- 845 APPLYING LOOSE MULCH FOR PLANTING BEDS AND TREE PITS IN SOFT LANDSCAPING
- Timing: Immediately after planting.
 - Preparation: Water soil thoroughly.
 - Coverage of mulch (minimum):
 - Planting beds (depth): 75 mm depth.
 - Trees: 75 litres per tree position, 75 mm depth.
 - Container planting: 75 mm depth.
 - Finished level of mulch: 30 mm below adjacent grassed or paved areas.

COMPLETION

- 910 APPLYING MAINTENANCE FERTILIZER TO GRASS SWARDS TO ALL GRASSED AREAS EXCEPT WILDFLOWER MEADOWS
- Duration: Carry out the following operations from completion of seeding/turfing until the end of the rectification period.
 - Time of year: During April and May.
 - Application: Evenly spread, carefully incorporating below mulch materials.
 - Rate: To manufacturer's recommendations.
- 920 APPLYING MULCH
- Timing: At end of the rectification period.
 - Watering: Ensure that soil is thoroughly moistened prior to mulching, applying water where necessary.
 - Planting beds: Re-mulch.
 - Depth (minimum): 75 mm.
 - Trees: Remulch.
 - Depth (minimum): 75 mm.
 - Container planting: Remulch.
 - Depth (minimum): 75 mm.

Q30 Seeding/turfing

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/REQUIREMENTS

- 115 SEEDED AND TURFED AREAS
- Growth and development: Healthy, vigorous grass sward, free from the visible effects of pests, weeds and disease.
 - Appearance: A closely knit, continuous ground cover of even density, height and colour.
- 120 CLIMATIC CONDITIONS
- General: Carry out the work while soil and weather conditions are suitable.
- 145 WATERING
- Quantity: Wet full depth of topsoil.
 - Application: Even and without displacing seed, seedlings or soil.
 - Frequency: As necessary to ensure the establishment and continued thriving of all seeding/turfing.
- 150 WATER RESTRICTIONS
- Timing: If water supply is or is likely to be restricted by emergency legislation do not carry out seeding/turfing until instructed. If seeding/turfing has been carried out, obtain instructions on watering.
- 160 NOTICE
- Give notice before:
 - Setting out.
 - Applying herbicide.
 - Applying fertilizer.
 - Preparing seed bed.
 - Seeding or turfing.
 - Visiting site during maintenance period.
 - Period of notice: 1 week.
- 170 SETTING OUT
- Boundaries: Mark clearly.
 - Delineation: In straight lines or smoothly flowing curves as shown on drawings.

PREPARATION

- 210 HERBICIDE FOR LAWNS
- Type: Suitable for suppressing perennial weeds.
 - Timing: Allow fallow period before cultivation.
 - Duration: As manufacturer's recommendation.
- 250 SOIL REQUIREMENTS
- Type:
 - Seeded areas: Soil for grass swards, as section Q28.
 - Turfed areas: Soil for grass swards, as section Q28 .
 - Reinforced grass areas: As section Q28.

- 290 PREPARATION FOR HYDRAULIC SEEDING
- Clearance: Remove rubbish, and stones with any dimension exceeding: 50 mm.
 - Herbicide:
 - General weeds: Selective contact herbicide.
 - Pernicious weeds: Selective hormone herbicide.
 - Grading: Smooth, flowing levels.
 - Cultivation: Ensure grass roots can penetrate substrate.
 - Finished surface: Ribbed or rough textured.
 - Reinforcement: As specialist contractor's recommendation.
 - Fixing: As specialist contractor's recommendation.

SEEDING

- 311 GRASS SEED FOR LAWNS
- Supplier: Submit proposals.
 - Mixture reference: 'Utility/Play' mix by Coburns.
 - Application rate: 34-50 g/m².
- 319 QUALITY OF SEED FOR ALL GRASSED AREAS
- Freshness: Produced for the current growing season.
 - Certification: Blue label certified varieties.
 - Standard: EC purity and germination regulations.
 - Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.
 - Samples of mixtures: Submit when requested.
- 322A QUALITY OF WILDFLOWER SEED FOR WILDFLOWER MEADOWS
- Standard: Seed to be sourced from a Department of Agriculture, Food and the Marine registered seed grower and harvester.
 - Germination testing: Not required.
 - Freshness of seed: Produced for the current growing season.
 - Samples: Submit when requested.
- 330 SOWING
- General: Establish good seed contact with the root zone.
 - Method: Manually broadcast, raked and rolled.
 - Distribution: As instructed by seed supplier.
- 335 GRASS SOWING SEASON
- Grass seed generally: April to October.
- 336 WILDFLOWER SOWING SEASON
- Wildflower seed generally: March to May or August to October.
- 340 PRE-EMERGENT HERBICIDE FOR LAWNS
- Standard: Pesticide Safety Directorate approved.
 - Application rate: In accordance with manufacturer's written recommendation.
 - Timing: Immediately after sowing.

350 TURF EDGING TO SEEDED AREAS ADJACENT TO PAVEMENT

- Standard: To BS 3969, with no perennial ryegrass.
 - Seed mix: Similar to seeded area.
- Timing: Before sowing.
- Preparation: Rake back a 750 mm wide margin around prepared seed beds.
 - Level of seed bed: Married in with turf.
- Placement: Single row laid end to end and trimmed to a line.
- Watering: On completion.

352 EDGES TO SEEDED AREAS ADJACENT TO PLANTING BEDS AND TREE PITS

- Timing: After seeded areas are well established.
- Edges: Clean straight lines or smooth curves.
 - Mulch and soil: Draw back to permit edging.
- Arisings: Remove.
- Completion: Respread soil and mulch.

TURFING

405 CULTIVATED TURF FOR LAWNS

- Supplier: Turfgrass Growers Association (TGA) member, to TGA quality standards.
- Seed mixture: 35% Chewings fescue, 35% Slender red fescue, 20% Smooth stalked meadow grass, 10% Brown top bent.
- Properties of soil used for turf production: Peat-free, well drained sandy loam.

420 DELIVERY AND STORAGE

- Timing: Lay turf with minimum possible delay after lifting. If delay occurs, lay turf out on topsoil and keep moist.
- Frosty weather or waterlogged ground: Do not lift turf.
- Delivery: Arrange to avoid need for excessive stacking.
- Stacking height (maximum): 1 m.
- Dried out or deteriorated turf: Do not use.
- Certification:
 - Standard: To BS 3969.
 - Declaration: Species mix, including percentage of specified species.

423 INSPECTION OF TURF FOR LAWNS

- Sampling method: To BS 3969.
- Give notice: Before lifting turf.
 - Period of notice: 1 week.

430 TURFING GENERALLY

- Time of year: To be agreed.
- Timing of laying:
 - Spring and summer: Within 18 hours of delivery.
 - Autumn and winter: Within 24 hours of delivery.
- Weather conditions: Do not lay turf when persistent cold or drying winds are likely to occur or soil is frost bound, waterlogged or excessively dry.
- Working access: Planks laid on previously laid turf. Do not walk on prepared bed or newly laid turf.
- Jointing: Laid with broken joints, well butted up. Do not stretch turf.
- Edges: Whole turfs, trimmed to a true line.
- Adjusting levels: Remove high spots and fill hollows with fine soil.
- Consolidating: Lightly and evenly firm as laying proceeds to ensure full contact with substrate. Do not use rollers.
- Dressing, brushed well in to completely fill all joints: Mulching and top dressing system, as section Q28.
- Watering: Thoroughly water completed turf immediately after laying. Check that water has penetrated into the soil below.

440 TURFING ON BANKS EXCEEDING 30° SLOPE

- Turf configuration: Diagonal or horizontal.
- Securing turfs:
 - Fixings: Pointed softwood pegs, 200 mm long x 25 mm square.
 - Frequency of fixings: Each turf.
- Removal of fixings: Not required.

450 TRIMMING TURF

- Newly planted tree pits: Neatly cut away around individual trees.
 - Diameter: 1200 mm.
 - Tree pit surface: Respread existing mulch.

PROTECTING/CUTTING

530 FIRST CUT OF GRASSED AREAS

- Timing: When grass is reasonably dry.
 - Height of initial growth: 75 mm.
- Preparation:
 - Debris and litter: Remove.
 - Stones and earth clods larger than 25 mm in any dimension: Remove
- Height of first cut: 50 mm.
- Mower type: Contractor's choice.
- Arisings: Remove from site.

550 AREAS NOT TO BE CUT

- Do not cut:
 - Meadow grass containing wildflowers.

- 565 TIMBER/ PLASTICS EDGINGS
- Material: Pressure treated softwood board.
 - Size: 150 mm x 38 mm.
 - Fixings: Nailed.
 - Pegs: 50 mm x 50 mm x 450 mm long.
 - Centres: 1200 mm.
 - Installation height: Flush.
 - Curved boards: Closely spaced vertical grooves cut in the back to achieve smooth flowing lines.
 - Preservative treatment: As section Z12 and Wood Protection Association commodity specification C4.
 - Type: To provide a 15 year service life.

- 590 CLEANLINESS
- Soil and arisings: Remove from hard surfaces.
 - General: Leave the works in a clean, tidy condition at Completion and after any maintenance operations.

MAINTENANCE

- 610 FAILURES OF SEEDING/TURFING
- Duration: Carry out the following operations from completion of seeding/ turfing until: the end of the rectification period.
 - Defective materials or workmanship: Areas that have failed to thrive.
 - Exclusions: Theft or malicious damage.
 - Method of making good: Recultivation and reseeding/ returfing.
 - Timing of making good: The next suitable planting season.

- 620 MAINTAINING LAWNS
- Duration: Carry out the following operations from completion of seeding/ turfing until: the end of the rectification period.
 - Maximum height of growth at any time: 100 mm.
 - Preparation: Before each cut remove all litter and debris.
 - Cutting: As and when necessary to a height of 50 mm.
 - Arisings: Remove.
 - Bulb planting areas: Do not cut until bulb foliage has died down.
 - Trimming: All edges.
 - Arisings: Remove.
 - Weed control: Substantially free of broad leaved weeds.
 - Method: Application of a suitable selective herbicide.
 - Stones brought to the surface: Remove regularly.
 - Size: Exceeding 25 mm in any dimension.
 - Areas of settlement: Make good.
 - Watering: As clause Q30/145.

- 650 MAINTAINING GRASSED AREAS WITH PERENNIAL WILD FLOWERS
- Duration: Carry out the following operations from completion of seeding/ turfing until: the end of the rectification period.
 - Preparation: Before each cut remove all litter and debris.
 - Height and frequency of cut in first growing season:
 - Time of first cut: June/ July.
 - Height of first cut: 100 mm.
 - Frequency of subsequent cutting (minimum): Every 6-8 weeks until autumn.
 - Height of growth permitted (maximum): 100 mm.
 - Height and frequency of cut in second growing season:
 - Time of cut: October, March and August.
 - Height of cut: 100 mm.
 - Trimming: All edges.
 - Arisings: Remove.
 - Watering: When instructed.

Q31 External planting

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/ REQUIREMENTS

- 112 SITE CLEARANCE GENERALLY
- General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
 - Stones: Remove those with any dimension exceeding 50 mm.
 - Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
 - Vegetation: Clear scrub to ground level by flail mowing and remove arisings; retain and protect trees indicated on drawings.
 - Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
 - Additional requirements: none.
- 118 SOIL CONDITIONS
- Soil for cultivating and planting: Moist, friable and (except in aquatic/ marginal planting) not 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.
- 120 CLIMATIC CONDITIONS
- General: Carry out the work while soil and weather conditions are suitable.
 - Strong winds: Do not plant.
- 125 TIMES OF YEAR FOR PLANTING
- Deciduous trees and shrubs: Late October to late March.
 - Conifers and evergreens: September/ October or April/ May.
 - Herbaceous plants (including marginal): September/ October or March/ April.
 - Container grown plants: At any time if ground and weather conditions are favourable.
 - Watering and weed control: Provide as necessary.
 - Dried bulbs, corms and tubers: September/ October.
 - Colchicum (crocus): July/ August.
 - Green bulbs: After flowering in spring.
 - Wildflower plugs: Late August to mid November or March/ April.
 - Aquatic plants: May/ June or September/ October.
- 130 MECHANICAL TOOLS
- Restrictions: Do not use within 100 mm of tree and plant stems.
- 146 WATERING
- Quantity: Wet full depth of topsoil.
 - Application: Even and without damaging or displacing plants or soil.
 - Frequency: As Soft Landscape Pricing Schedule.
- 150 WATER RESTRICTIONS
- General: If water supply is or is likely to be restricted by emergency legislation, do not carry out planting until instructed. If planting has been carried out, obtain instructions on watering.
- 160 NOTICE
- Give notice before:
 - Setting out.
 - Applying herbicide.
 - Applying fertilizer.
 - Delivery of plants/ trees.
 - Planting shrubs.
 - Planting trees into previously dug pits.
 - Watering.
 - Visiting site during maintenance period.
 - Period of notice: Two weeks.
- 170 SOIL REQUIREMENTS
- Type
 - Planted beds: Planting bed soil system, as section Q28.
 - Tree pits, shrub pits and other backfilling: Plant pit backfilling soil system, as section Q28
 - External container planting: Container planting growing media system, as section Q28.
 - Mulch applied after planting: Mulching and top dressing system, as section Q28.
- 200 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.
 - Standard: The relevant parts of BS 3936.
 - Species: True to name.
 - Origin/ Provenance: Irish Grown.
Definition: Origin and Provenance have the meaning given in the National Plant Specification.
- 216 PLANTS/ TREES - SPECIFICATION CRITERIA
- Name, forms, dimensions and other criteria: To the relevant part of BS 3936.
- 225 BULBS/ CORMS/ TUBERS
- Condition: Firm, entire, not dried out or shrivelled.
 - Health: Free from pests, diseases and fungus.
 - Handling: Remove from packaging immediately.
 - Storage: Permitted only when necessary.
 - Location: Well ventilated, dark, covered, rodent proof container, away from exhausts and fruit.
 - Duration: Minimum period.
 - Temperature: 18-21°C.
- 235 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.

- 246 LABELLING AND INFORMATION
- Standard: To BS 3936.
- 255 PLANTS/ TREES RESERVED AT SUPPLIER'S PREMISES
- Types/ Species: As plant schedule.
 - Predelivery inspection: Give notice.
 - Labelling: Identify inspected plants/ trees as reserved for use on this project.
- 260 PLANT/ TREE SUBSTITUTION
- Plants/ trees unobtainable or known to be likely to be unobtainable at time of ordering: Submit alternatives, stating:
 - Price.
 - Difference from specified plants/ trees.
 - Approval: Obtain before making any substitution.
- 265 PLANT HANDLING, STORAGE TRANSPORT AND PLANTING
- Standard: To CPSE '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.
 - Plant packaging: Black polyethylene bags.
 - Packaging of bulk quantities: Pallets or bins sealed with polyethylene and shrink wrapped.
 - Planting: Upright or well balanced with best side to front.
- 280 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.
- 285 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.
- 290 SURPLUS MATERIAL
- Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove.
- PLANT CONTAINERS**
- PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS**
- 300 HERBICIDE TO CLEAR EXISTING VEGETATION
- Locations: All planting areas.
 - Type: Suitable for suppressing perennial weeds.
 - Timing: Allow fallow period before cultivation.
 - Duration (minimum): As manufacturer's recommendation.
- 512 TREE PIT IRRIGATION AND VENTILATION ACCESSORIES
- Locations: As drawing 18KE01-DR-670.
 - Manufacturer: Submit proposals.
 - Product reference: Submit proposals.
 - Type: Perforated plastics irrigation pipe with inlet.
 - Pipe diameter: 60 mm.
 - Ring diameter: 900 mm.
 - Inlet: Black plastics, with cap or cast aluminium where indicated.
 - Installation:
 - Pipe: Lay in loop above root ball with slight fall away from inlet pipe. Trim length to ensure a close fit in the tree pit. Connect both ends of pipe securely into plastics tee junction on inlet.
 - Top cap of inlet: Protruding slightly above finished surround level.
 - Backfill material: Carefully compact in layers.
- 535 TREE STAKES
- Stakes: Softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end.
 - Preservative treatment: Use pressure treated timber stakes.
 - Stake size (minimum): 75 mm diameter.
 - Stake length (minimum): 1800 mm.
- 546 SINGLE VERTICAL STAKING FOR Trees as indicated drawing 18KE01-DR-670
- Staking:
 - Position: Close to tree position on windward side.
 - Driving: Vertically at least 300 mm into bottom of pit before planting.
 - Backfilling: Consolidate material around stake.
 - Firming: Sufficiently firm to prevent movement of the rootball/ rootstock.
 - Height of stakes: Cut off to approximately 600 mm above ground level.
 - Ties: Product Reference - SRC Tree Strap 38mm.
 - Number of ties: One.
 - Tying: Secure tree firmly but not rigidly to stake with ties. Prevent tree from touching stake using spacer blocks or cushions if required.
 - Position: Top tie within 25 mm of top of stake and additional ties equally spaced along the stake.
 - Nails: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.

- 550 DOUBLE STAKING FOR Trees as indicated drawing 18KE01-DR-670
- Staking:
 - Position: Either side of tree position and perpendicular to wind direction.
 - Driving: Vertically at least 300 mm into bottom of pit before planting.
 - Backfilling: Consolidate material around stake.
 - Firming: Sufficiently firm to prevent movement of the rootball/ rootstock.
 - Height of stakes: Cut off to approximately 600 mm above ground level.
 - Horizontal bracing: Timber cross bar, 75 mm x 38 mm x 900 mm.
 - Fixing: Firmly fix using nails on windward side of tree and as close as possible to the stem without making contact with the bark. Position cross bar horizontally and 25 mm from top of stakes.
 - Ties: Product Reference - SRC Tree Strap 38mm available from www.landscapedepot.ie.
 - Tying: Secure tree firmly but not rigidly to cross bar. Prevent tree from touching cross bar using spacer blocks - product reference: SRC Cushion 38mm available from www.landscapedepot.ie.
 - Nails for fixing ties, belts and webbing: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.
 - Nails for fixing cross bars: To BS 1202-1, galvanized round wire, minimum 75 mm long and 3.75 mm gauge.

576 TREE PIT SURFACING - LOOSE FILL

- Surfacing material: Mulch, as section Q28.
- Area: Full extent of tree pit surface.
- Depth: 75 mm.
- Watering: Water soil thoroughly before laying.
- Installation: Ensure the base of the tree stem is kept free from loose filled material.

WOODLAND/ MATRIX/ BUFFER ZONE PLANTING

600 WOODLAND WORK GENERALLY

- Services: Check for below and above ground services, including land drainage, in the vicinity. Give notice if they may be affected and obtain instructions before proceeding.
- Safety: Comply with Arboriculture and Forestry Advisory Group Safety leaflets.

625 CULTIVATION

- General: Rotary cultivate to full depth of topsoil.
- Consolidation: Leave for two months.
- Soil within root spread of trees to be retained: Do not plough or cultivate.

680 SETTING OUT

- Planting density: As drawing 18KE01-DR-671.
- Layout: Random groups of no less than 3 or more than 7 of the same species, ensuring that no three plants are aligned in any one direction.

PROTECTING/ MAINTAINING/ MAKING GOOD DEFECTS

710 MAINTENANCE

- Duration: Carry out the operations in the following clauses from completion of planting until the end of the rectification period.
- Frequency of maintenance visits: In accordance with the agreed maintenance schedule.

720 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.
- Timing of making good: During the next suitable planting season.

740 CLEANLINESS

- 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.

750 PLANTING MAINTENANCE GENERALLY

- Weed control: Maintain weed free area around each tree and shrub.
 - Diameter (minimum): The larger of 1 m or the surface of original planting pit.
 - Keep planting beds clear of weeds: By maintaining full thickness of mulch.
- Planted areas: Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
- Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
- Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
- Trees: Spray crown when in leaf during warm weather.
 - Timing: After dusk.
- Tree accessories: Check condition of stakes, ties, guys, guards and irrigation and ventilation systems.
 - Broken or missing items: Replace.
 - Loose stakes: Re-firm in the ground or replace as necessary to provide support to the tree.
 - Loose guys: Re-firm anchor points and adjust as necessary to provide support to the tree.
 - Ties: Adjust to accommodate growth and prevent constriction or abrasion.
 - Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
 - Frequency of checks: In accordance with the agreed maintenance schedule.
- Watering: In accordance with the agreed maintenance schedule.

760 PLANTING MAINTENANCE - PRUNING

- General: Prune to promote healthy growth and natural shape.
 - Dead, dying, diseased wood and suckers: Remove.
 - Timing: In accordance with the agreed maintenance schedule.
 - Trees: Favour a single central leading shoot.
- Arisings: Remove.

780 MAINTENANCE INSTRUCTIONS

- General: Before end of the maintenance period, submit printed instructions recommending procedures to be established by the Employer for maintenance of the planting work for one full year: Provide a schedule of any ongoing maintenance problems experienced during the rectification period.

790 FINAL MULCHING

- Timing: At end of the maintenance period.
- Watering: Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
- Planting beds: Remulch.
Depth (minimum): 75 mm.
- Trees: Remulch.
Depth (minimum): 75 mm.

Q35 Landscape maintenance

To be read with Preliminaries/ General conditions.

GENERALLY

105 MAINTENANCE OBJECTIVES

- Location: All planting beds.
 - Duration: 18 months.
- Aims: Enhanced landscape quality and Improved landscape visual amenity.
- Restrictions: Refer to the agreed maintenance schedule.
- Results: Refer to the agreed maintenance schedule.

110 NOTICE

- Give notice before:
 - Application of herbicide.
 - Application of fertilizer.
 - Watering.
 - Each site maintenance visit.
- Period of notice: 2 weeks.

130 REINSTATEMENT

- Damage or disturbance to soil structure, planting, grass, fencing, hard landscaping, structures or buildings: Reinststate to original condition.

140 CONTROL OF MAMMALIAN PESTS

- Specialist firms: Submit proposals.
 - Method: Submit proposals.

152 PERFORMANCE CRITERIA FOR CONTROL OF INVASIVE PLANT SPECIES

- Specialist firms: Submit proposals.
- Species: Japanese knotweed.
- Location: Whole site.
- Requirement: Less than 10% cover.
 - Timing: As detailed in Local Biodiversity Action Plan.

155 WATERING

- Supply: Potable mains water or rainwater from storage tank.
- Quantity: Wet full depth of topsoil .
- Application: Do not damage or loosen plants.
- Compacted soil: Loosen or scoop out, to direct water to rootzone.
- Frequency: As necessary for the continued thriving of all planting.

160 WATER RESTRICTIONS

- General: If water supply is, or is likely to be, restricted by emergency legislation, submit proposals for an alternative suitable source of water. Obtain instructions before proceeding.

- 170 DISPOSAL OF ARISING
- General: Unless specified otherwise, dispose of arisings as follows:
 - Biodegradable arisings: Remove to recycling facility.
 - Grass cuttings: Remove to recycling facility.
 - Tree roots and stumps: Remove from site.
 - Shrub and tree prunings: Remove to recycling facility.
 - Litter and nonbiodegradable arisings: Remove from site.
- 180 CHIPPING OR SHREDDING
- General: Not permitted on site.
- 190 LITTER
- Extraneous rubbish not arising from the contract work: Collect and remove from site.
- 195 PROTECTION OF EXISTING GRASS
- General: Protect areas affected by maintenance operations using boards/tarpaulins. Do not place excavated or imported materials directly on grass.
- 197 CLEANLINESS
- Soil and arisings: Remove from hard surfaces.
 - General: Leave the works in a clean, tidy condition at completion and after any maintenance operations.
- GRASSED AREAS**
- 210 MAINTENANCE OF GRASSED AREAS
- General: Maintain turf in a manner appropriate to the intended use.
 - Soil and grass:
 - Condition: Maintain a healthy vigorous sward, free from disease, fungal growth, discolouration, scorch or wilt.
 - Waterlogging and compaction: Prevent.
 - Damage: Repair trampling, abrasion or scalping.
 - Ornamental lawns: Maintain reasonably free from moss, excessive thatch, weeds, frost heave, worm casts and mole hills.
 - Edges: Neat and well defined, in clean straight lines or smooth flowing curves.
 - Litter and fallen leaves: Remove regularly to maintain a neat appearance.
- 220 GRASS CUTTING GENERALLY
- Before mowing: Remove litter, rubbish and debris.
 - Finish: Neat and even, without surface rutting, compaction or damage to grass.
 - Edges: Leave neat and well defined. Neatly trim around obstructions.
 - Adjoining hard areas: Sweep clear and remove arisings.
 - Drought or wet conditions: Obtain instructions.
- 226 TREE STEMS
- Precautions: Do not allow nylon filament rotary cutters and other mechanical tools closer than 100 mm to the stem of any tree.
 - Operations close to stems: Complete using hand tools.
- 235 BULBS AND CORMS IN GRASSED AREAS
- Before flowering: Do not cut.
 - Interval between end of flowering and start of grass cutting (minimum): 6 weeks.
- 250 LEAF REMOVAL
- Operations: Collect fallen leaves.
 - Special requirements: None.
 - Disposal: Remove from site for recycling.
- 255 FIRST CUT OF ALL GRASSED AREAS
- Height of initial growth: 75 mm.
 - Preparation:
 - Debris and litter: Remove.
 - Stones and earth clods larger than 25 mm in any dimension: Remove
 - Height of first cut: 50 mm.
 - Mower type: Contractor's choice.
 - Arisings: Remove.
- 270 MOWING ROUGH GRASSED AREAS
- Grass height: Maintain between 50 and 75 mm.
 - Arisings: Spread evenly over cut areas.
- 272 MAINTAINING GRASSED AREAS WITH PERENNIAL WILD FLOWERS
- Preparation: Before each cut remove litter and debris.
 - Height and frequency of cut in first growing season:
 - Time of first cut: March/ April.
 - Height of first cut: 75 mm .
 - Frequency of subsequent cutting (minimum): Every 6–8 weeks until autumn.
 - Height of growth permitted (maximum): 150 mm.
 - Height and frequency of cut in second growing season:
 - Time of cut: October, March and August.
 - Height of cut: 75 mm.
 - Trimming: All edges.
 - Arisings: Remove.
 - Watering: As schedule and when instructed.
- 275 CUTTING SUMMER FLOWERING WILD FLOWER MEADOWS
- Times of year/ Frequency of cutting: July and September.
 - Height of cut: 75 mm.
 - Arisings: Leave for 2–3 days after cutting then remove.
- 285 TOP DRESSING
- Location: All lawns.
 - Timing: Following scarification and aeration.
 - Material: Compost/ sand/ loam mix.
 - Supplier: Submit proposals.
 - Product reference: '80/20 Fine Turf Top Dressing' by Pitchcare Ireland.
 - Declaration of analysis: Submit.
 - Additional analyses: Not required.
 - Samples: Supply 5 kg sample before ordering.
 - Application rate: 2-4 kg/m².
- 295 SPIKING
- Location: All lawns where waterlogging occurs, to be used as an initial remediation measure. Where problems persist see clause 307.
 - Timing: As necessary to relieve compaction and waterlogging.
 - Operations: Aerate the soil and improve surface water penetration.
 - Depth (minimum): 100 mm into soil.

- 300 SCARIFYING
- Location: All lawns.
 - Timing: October or November, before top dressing.
 - Operations: Relieve thatch conditions and remove dead grass.
 - Depth (maximum): 25 mm into soil.
 - Arisings: Remove.
- 305 HARROWING
- Location: All lawns.
 - Timing: October or November, after top dressing.
 - Operations: Aerate soil and remove worm casts.
 - Type of harrow: Chain harrow or drag mat.
- 307 HOLLOW TINING
- Location: Where drainage problems persist on recreational lawn areas.
 - Timing: As necessary to relieve compaction.
 - Depth: 100 mm.
- 310 RE-FORMING GRASS EDGES
- Location: Where damage occurs.
 - Edges: Draw back soil and re-form edges to clean straight lines or smooth flowing curves, sloping slightly back from vertical.
- 320 LEVELLING HOLLOW AND BUMPS IN TURF
- Standard: To BS 7370-3, clauses 12.4 and 12.5.
- 325 RELIEVING SURFACE COMPACTION IN TURF
- Standard: To BS 7370-3.
 - Method: Spiking.
 - Top dressing: Medium to fine sand.
 - Depth: 2-3 mm.
- 330 SELECTIVE HERBICIDE
- Location: All lawns.
 - Herbicide: Suitable for suppressing perennial weeds.
 - Areas not to be sprayed: Bulb and corm planted areas when in leaf.
- 345 CONTROL OF JAPANESE KNOTWEED
- Operations: Spot treat in June and September during suitable weather conditions and when plants are growing vigorously.
 - Herbicide: In accordance with the Environment Agency 'Managing Japanese knotweed on development sites. The knotweed code of practice'.
 - Application: In accordance with the Environment Agency 'Managing Japanese knotweed on development sites. The knotweed code of practice'.
 - Arisings: In accordance with the Environment Agency 'Managing Japanese knotweed on development sites. The knotweed code of practice'.
- 350 FERTILIZER - SPRING APPLICATION
- Type: Organic.
 - Application rate: 60 g/m².
- 375 PEST CONTROL
- Location: Ornamental lawns.
 - Treatment: Fungicide.
 - Manufacturer: Submit proposals.
 - Product reference: Submit proposals.
 - Timing: As manufacturer's recommendation.
- 381 REINSTATEMENT OF WORN OR DAMAGED LAWNS
- Worn or damaged areas: Make good by returfing or reseeding:
 - Returfing standard: To BS 7370-3, Clause 12.2.
 - Reseeding standard: To BS 7370-3, Clause 12.6.
 - Turf or seed: To match existing in appearance and quality.
 - Protection and watering: Provide as necessary to promote successful germination and/ or establishment.
- FLOWER BEDS/ SEASONAL BEDDINGS**
- 460 BEDS OF PERENNIALS OR PERENNIALS AND ANNUALS
- Plant supports: Stake and tie plants using bamboo canes and flower canes where required.
 - Length: To suit plant height.
 - Maintain throughout the growing season.
 - Gaps in planting: Refill by replanting.
 - Watering:
 - New plants: Before and after planting out.
 - Ongoing: As necessary for the continued thriving of all planting.
 - Operations at end of growing season:
 - Trim: Older flowering stems of herbaceous perennials.
 - Remove: Redundant plant supports, litter, debris and arisings.
 - Cultivate: Fork over the soil, taking care not to cause undue disturbance to plants.
 - Top dress: Apply fertilizer at a rate of 60 g/m².
- 470 FLOWER BEDS GENERALLY
- Operations:
 - Remove: Dead flower heads, fallen leaves, litter and debris.
 - Weeds: Thoroughly hand weed.
 - Cultivate: Lightly hoe.
 - Trim: Clip grass edges.
 - Fungicide: Not required.
 - Insecticide: Not required.
- SHRUBS/TREES/HEDGES**
- 500 ESTABLISHMENT OF NEW PLANTING
- Duration: 18 months.
 - Weed control:
 - Method: Keep planting beds clear of weeds by maintaining full thickness of mulch.
 - Area: Maintain a weed free area around each tree and shrub, minimum diameter the larger of 1 m or the surface of the original planting pit.
 - Soil condition: Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
 - Watering: In accordance with the agreed maintenance schedule.

- 510 TREE STAKES AND TIES
- Inspection/ Maintenance times: As scheduled and immediately after strong winds.
 - Stakes:
 - Replace loose, broken or decayed stakes to original specification.
 - If longer than half of clear tree stem height, cut to this height in spring. Retie to tree firmly but not tightly with a single tie.
 - Ties: Adjust, refix or replace loose or defective ties, allowing for growth and to prevent chafing.
 - Where chafing has occurred, reposition or replace ties to prevent further chafing.
 - Removal of stakes and ties: When instructed.
 - Fill stake holes with lightly compacted soil.
- 515 TREE GUY WIRES
- Inspection/ Maintenance times: Immediately after strong winds.
 - Operations:
 - Replace or resecure loose or missing guy wires.
 - Adjust to suit stem growth and to provide correct and uniform tension.
 - Removal: When instructed.
- 520 REFIRMING OF TREES AND SHRUBS
- Timing: After strong winds, frost heave and other disturbances.
 - Refirming: Tread around the base until firmly bedded.
 - Collars in soil at base of tree stems, created by tree movement: Break up by fork, avoiding damage to roots. Backfill with topsoil and refirm.
- 535 TREE GRILLES
- Operations: Lift grilles, remove weeds, adjust levels as necessary and lightly compact. Refit grilles, refill interstices and lightly compact to correct level.
 - - Material for making up levels and refilling: Horticultural grit.
- 537 NESTING WILD BIRDS
- Survey: Before starting hedge or tree work during the period of February to August (inclusive), carry out a survey by a qualified ecologist and submit report.
 - Accidental disturbance: Report immediately.
- 540 PRUNING GENERALLY
- Pruning: In accordance with good horticultural and arboricultural practice.
 - Removing branches: Do not damage or tear the stem or bark.
 - Wounds: Keep as small as possible and cut cleanly back to sound wood.
 - Cutting: Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.
 - Larger branches: Prune neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.
 - Appearance: Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance.
 - Tools: Use clean sharp secateurs, hand saws or other approved tools. Trim off ragged edges of bark or wood with a sharp knife.
 - Disease or infection: Give notice if detected.
 - Growth retardants, fungicide or pruning sealant: Do not use unless instructed.
- 545 PRUNING OF EXCESSIVE OVERHANG
- Timing: As instructed.
 - Operations: Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines and road lighting luminaires.
 - Special requirements: None.
- 550 PRUNING OF EXCESSIVE HEIGHT
- Timing: As instructed.
 - Operations: Remove excessive height As instructed.
- 555 PRUNING TREES AND SHRUBS
- Standard: To BS 7370-4.
 - Special requirements: Growth retardants not permitted.
- 570 FORMATIVE PRUNING OF YOUNG TREES
- Standard: Type and timing of pruning operations to suit the plant species.
 - Time of year: Do not prune during the late winter/ early spring sap flow period.
 - Young trees up to 4 m high:
 - Crown prune by removing dead branches and reducing selected side branches by one third to preserve a well balanced head and ensure the development of a single strong leader.
 - Remove duplicated branches and potentially weak or tight forks. In each case cut back to live wood.
 - Whips or feathered trees: Do not prune.
 - Operatives: Approved specialist contractor.
- 575 PRUNING ORNAMENTAL SHRUBS
- General: Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour.
 - Suckers: Remove by cutting back level with the source stem or root.
- 580 PRUNING FLOWERING SPECIES OF SHRUBS AND ROSES
- Time of year:
 - Winter flowering shrubs: Spring.
 - Shrubs flowering between March and July: Immediately after the flowering period.
 - Shrubs flowering between July and October: Back to old wood in winter.
 - Rose bushes: Early spring to encourage basal growths and a balanced, compact habit.
- 600 TRIMMING RAPIDLY ESTABLISHING HEDGES
- General: Allow to reach planned height as rapidly as possible.
 - Form: Trim back lateral branches moderately.
- 605 TRIMMING SLOWLY ESTABLISHING HEDGES
- Operations:
 - Timing: Cut back hard in June and September to encourage bushy growth down to ground level.
 - Form: Allow to reach planned dimensions only by gradual degrees, depending on growth rate and habit.

- 610 TRIMMING TAPERING ESTABLISHED HEDGES
- Time of year: Trim once in July or August.
 - Operations:
 - Form: Trim carefully and neatly to regular line and shape, with the width at the top less than that at the base.
 - Trim: Remove current growth rather than old wood.
 - Tools/ Cutting: Suitable mechanical cutters.
- 611 TRIMMING NONTAPERING ESTABLISHED HEDGES
- Time of year: Trim once in July or August.
 - Operations:
 - Form: Trim carefully and neatly to regular line and shape with vertical sides.
 - Trim: Remove current growth rather than old wood.
 - Tools/ Cutting: Suitable mechanical cutters.
- 620 REMOVAL OF DEAD PLANT MATERIAL
- Operations: At the end of the growing season, check all shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems.
- 625 CLIMBING PLANTS
- Pruning: Remove excess growth, to ensure that signs, light fittings, doors and windows are kept clear at all times.
 - Insecure growth: Attach to supporting wires or structures using Stainless steel wire.
 - Supporting structures: Check and repair as necessary.
- 635 REINSTATEMENT OF SHRUB/ HERBACEOUS AREAS
- Dead and damaged plants: Remove.
 - Mulch/ matting materials:
 - Carefully move to one side and dig over the soil, leaving it fit for replanting.
 - Do not disturb roots of adjacent plants.
 - Replacement plants:
 - Use pits and plants: To original specification or to match the size of adjacent or nearby plants of the same species, whichever is the greater.
 - Additional requirements: None.
 - Dressing: Slow release fertilizer:
 - Type: Organic.
 - Application rate: As manufacturer's recommendations.
- 645 WEED CONTROL GENERALLY
- Weed tolerance: At all times, weed cover less than 5% and no weed to exceed 100 mm high.
 - Adjacent plants, trees and grass: Do not damage.
- 650 HAND WEEDING
- General: Remove weeds entirely, including roots.
 - Disturbance: Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.
 - Completion: Rake area to a neat, clean condition.
 - Mulch: Reinstate to original depth.
- 655 WEED CUTTING BY HAND OR MACHINE
- Undesirable grass, brambles and herbaceous growth: Cut down cleanly to a maximum height of 25 mm.
 - Herbicides: Remove arisings before application.
- 657 HERBICIDE TO KILL REGROWTH
- Type: Suitable foliar acting herbicide to kill regrowth.
 - Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.
- 665 WEED CONTROL WITH WINTER HERBICIDE
- Type: Suitable residual soil acting herbicide.
 - Time of year: Unless otherwise agreed, complete before end of March.
 - Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.
- 670 WEED CONTROL WITH SUMMER HERBICIDE
- Type: Suitable foliar acting herbicide.
 - Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.
- 680 SOIL AERATION
- Compacted soil surfaces:
 - Prick up: To aerate the soil of root areas and break surface crust.
 - Size of lumps: Reduce to crumb and level off.
 - Damage: Do not damage plants and their roots.
- 685A SOIL LEVEL ADJUSTMENT
- Level of soil/mulch at edges of beds: Reduce to 25 mm below adjacent grass or hard surface.
 - Arisings (if any): Spread evenly over the bed.
- 690 MAINTENANCE OF LOOSE MULCH
- Thickness (minimum): 75 mm.
 - Top up: Twice per year.
 - Mulch spill on adjacent areas: Remove weeds and rubbish and return to planted area.
 - Weeding: Remove weeds growing on or in mulch by hand weeding.
- 700 SNOW REMOVAL FROM SHRUBS/ TREES
- Standard: To BS 7370-4.
 - Plants subject to snow removal: As instructed.
 - Timing: Within 24 hours of snowfall.
- 705 WINTER LEAF REMOVAL
- Operations: Take down temporary leaf fences. Collect accumulations of drifted leaves from the vicinity and from planting beds.
 - Arisings: Remove to recycling facility.
- TREE WORK**
- 810 TREE WORK GENERALLY
- Identification: Before starting work agree which trees, shrubs and hedges are to be removed or pruned.
 - Protection: Avoid damage to neighbouring trees, plants and property.
 - Standards: To BS 3998 and Health & Safety Executive (HSE) 'Forestry and arboriculture safety leaflets'.
 - Removing branches: Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.
 - Appearance: Leave trees with a well balanced natural appearance.
 - Chain saw work: Operatives must hold a Certificate of Competence.
 - Tree work: To be carried out by an approved member of the Arboricultural Association.

- 815 ADDITIONAL WORK
- Defective, diseased, unsafe or weak parts of trees additional to those scheduled for attention: Give notice if detected.
- 820 PREVENTION OF WOUND BLEEDING
- Standard: To BS 3998.
- 825 PREVENTION OF DISEASE TRANSMISSION
- Standard: To BS 3998.
- 830 CLEANING OUT AND DEADWOODING
- Remove:
 - Dead, dying, or diseased wood, broken branches and stubs.
 - Fungal growths and fruiting bodies.
 - Rubbish, wind blown or accumulated in branch forks.
 - Wires, clamps, boards and metal objects, if removable without causing further damage and not part of a support structure that is to be retained.
 - Other unwanted objects, e.g. tree houses, swings.
 - Climbing plants Ivy where instructed.
- 835 CUTTING AND PRUNING GENERALLY
- Tools: Appropriate, well maintained and sharp.
 - Final pruning cuts:
 - Chainsaws: Do not use on branches of less than 50 mm diameter.
 - Hand saws: Form a smooth cut surface.
 - Anvil type secateurs: Do not use.
 - Removing branches: Do not damage or tear the stem.
 - Wounds: Keep as small as possible, cut cleanly back to sound wood leaving a smooth surface, and angled so that water will not collect on the cut area.
 - Cutting: Cut at a fork or at the main stem to avoid stumps wherever possible. Large branches: Remove only with prior approval.
 - Remove in small sections and lower to ground with ropes and slings.
 - Dead branches and stubs: When removing, do not cut into live wood.
 - Unsafe branches: Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
 - Disease or fungus: Give notice if detected. Do not apply fungicide or sealant unless instructed.
- 840 CROWN REDUCTION/ SHAPING
- General: Cut back selectively to lateral or sublateral buds or branches to retain flowing branch lines without leaving stumps.
 - Operations: Reduce crown by 15%.
- 845 CROWN LIFTING
- Clearances: Remove branch systems to give clearance.
 - Height: 2.5 m above footpaths.
 - Removing branches: Remove whole branches back to the stem, or cut lower portions of branches back to lateral or sublateral buds or branches. Do not leave stumps.
- 850 CROWN THINNING
- Removing branches: Remove inward growing, crossing, rubbing, dead and damaged branches.
 - Thinning: Selectively remove secondary and small live branch growth evenly throughout the crown.
 - Quantity: 20 %.
 - Cutting: Make no cuts of more than 50 mm diameter.
 - Branches: Cut back to lateral or sublateral buds or branches without leaving stumps.
 - Appearance: Leave a uniform and well balanced structure of branches and foliage.
- 855 CUTTING TREE ROOTS
- Excavating: Use hand tools only.
 - Protected area: Do not cut roots within an area which is the larger of:
 - The branch spread of the tree.
 - An area with a radius of half the tree's height, measured from the trunk.
 - Outside protected area: Give notice of roots exceeding 50 mm in diameter. Do not cut without approval.
 - Cutting:
 - Cutting: Make clean smooth cuts with a hand saw.
 - Wounds: Minimize. Avoid ragged edges.
 - Finishing: Pare cut surfaces smooth with a sharp knife.
 - Backfilling:
 - Protection: Cover cut roots with clean sharp sand.
 - Material: Backfill with original topsoil.
- 860 REMOVING TREES, SHRUBS AND HEDGES
- Standards: To BS 3998 and Health & Safety Executive (HSE)/ Arboricultural and Forestry Advisory Group Safety Leaflets.
 - Existing services: Check for below and above ground services. Give notice if they may be affected.
 - Shrubs and smaller trees: Cut down and grub up roots.
 - Tree stumps:
 - Treatment: Remove mechanically to a minimum depth of 300 mm below ground level.
 - Removal by winching: Give notice. Do not use other trees as supports or anchors.
 - Protection: Avoid damage to neighbouring trees, plants and property.
 - Work near retained trees: Where tree canopies overlap and in confined spaces generally, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.
 - Filling holes:
 - Material: Use as-dug material and/ or imported soil as required.
 - Finishing: Consolidate and grade to marry in with surrounding ground level.
- 865 BARK DAMAGE
- Wounds:
 - Do not attempt to stop sap bleeding.
 - Bark: Remove ragged edges using a sharp knife.
 - Wood: Remove splintered wood from deep wounds.
 - Size: Keep wounds as small as possible.
 - Liquid or flux oozing from apparently healthy bark: Give notice.

- 870 CAVITIES IN TREES
- Investigation: Remove rubbish and rotten wood. Probe the cavity to find the extent of any decay, and give notice.
 - Water filled cavities: Do not drain.
 - Sound wood inside cavities: Do not remove.
 - Cavity openings: Do not cover.

HARD LANDSCAPE AREAS/FENCING

- 900 SNOW CLEARANCE
- Clearance: When instructed.
 - Deicing: To footpaths.
 - Material: Rock salt to BS 3247.
 - Timing: When freezing precipitation is forecast.
 - Application rate: Spread evenly at a rate of As manufacturer's recommendations.
- 910 HARD SURFACES AND GRAVEL AREAS
- Herbicide: Apply a suitable foliar acting or residual herbicide. Allow recommended period for herbicide to take effect before clearing arisings.
 - Hard surfaces: Remove litter, leaves and other debris.
 - Surface gutters and channels: Remove mud, silt and debris.
 - Drainage gullies: Empty traps and flush clean.
 - Gravel areas: Rake over. Remove weeds, litter, leaves and debris, and level off.
 - Repairs to flexible bituminous pavings: In accordance with the original paving specification or BS 7370-2, clause 4.12.
 - Stain removal: In accordance with BS 7370-2, table 4.
- 915 PAVING SEALANT
- Type: Clear solvent based polymer sealer.
 - Manufacturer: Adseal.
 - Product reference: Heavy Duty Sealer.
 - Application method: Spray.
 - Coats: Two coats applied at right angles to each other.
 - Coverage: 5-9 m²/L.
- 920 FENCING
- Fences: Inspect and repair to maintain protection against stock.
- 930 GRAFFITI REMOVAL
- Method: Chemical poultice.
 - Subsequent treatment: Not required.
 - Finish: n/a.



Registered
Landscape
Architect

3rd Floor
Newmarket House
Newmarket Square
Dublin 8

Tel: 01-558 4929
E: hello@ait-place.ie
w: www.ait-place.ie