Belcamp Design Strategy

PUBLIC REALM STRATEGY

BELCAMP SHD

Issue 7

REPORT

CONTENTS

Report contents and appendix

INTRODUCTION

Vision Statement

The vision for Belcamp SHD is to

'Create a sustainable, high quality neighbourhood for a new community at the edge of the city, with strong linkages to nature, established communities, local education, employment and recreation'.

SITE ANALYSIS

SITE ANALYSIS

SITE ANALYSIS

Desktop and field anaylsis of the existing site

1.1 SITE LOCATION AND DESCRIPTION

The subject site (Belcamp Lands) comprising 15.3 hectares, is located off the Malahide Road, approximately 8 kilometres from Dublin City Centre.

1.2 SITE DESCRIPTION

The site comprises an existing house (and associated additions) and walled garden accessed by an internal access road off the Malahide Road (R107). The site is of irregular shape as a result of its being a composite of pre-existing landscape features of equally irregular shapes. Much of the site is relatively level. However, the lands to the south of Belcamp Hall is divided by the Mayne River, the course of which forms a substantial change in level between the main site to the north and the adjoining lands to the south and contains significant woodland.

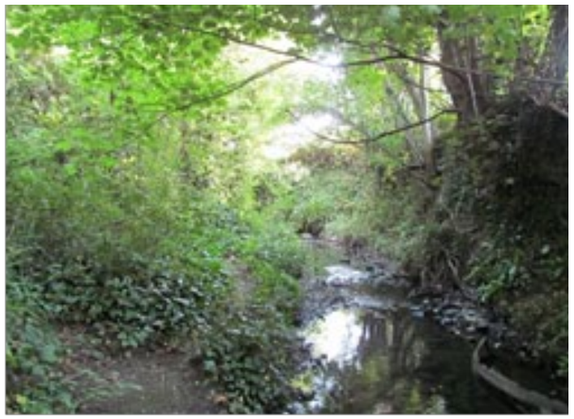
The lands include the original environs of Belcamp Hall as well as a substantial amount of agricultural land. Whilst the agricultural lands support few trees, other than those arising from field demarcations, the lands that surround Belcamp Hall supports substantial woodland. The cumulative effect is an extensive but highly variable landscape across the site, from clear arable agricultural lands to significant woodland within the river valley and environs.

Figure 1 - Aerial Image highlighting SHD lands

SITE IMAGES

SITE ANALYSIS





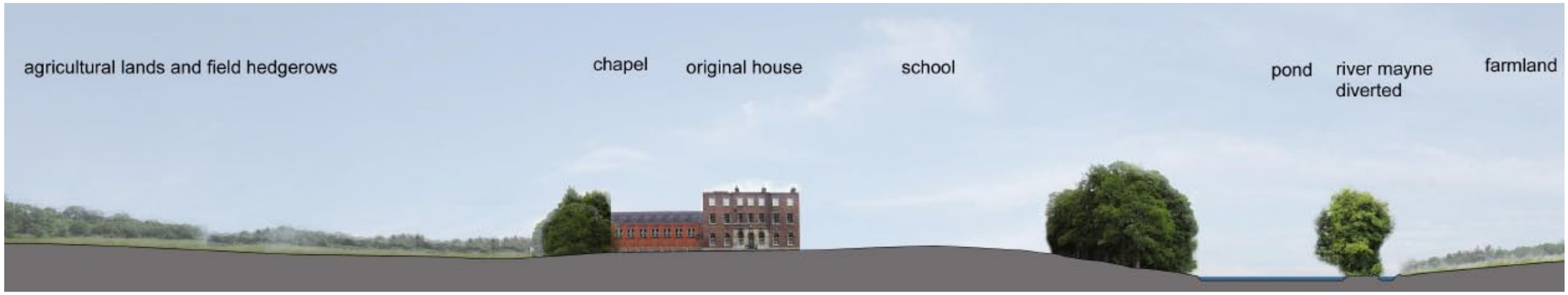

ANALYSIS

SITE ANALYSIS

ANALYSIS SECTIONS

SITE ANALYSIS

SECTION A-A



SECTION B-B

SECTION C-C

CONCEPT VISION

PUBLIC REALM CONCEPT VISION

CONCEPT VISION

The design approach of the public realm within the SHD lands was to produce a scheme with a strong identity and distinctive sense of place. This has been achieved through careful design considerations including:

- Well defined and overlooked public spaces
- Usable spaces with varying character, dynamics and emphasis
- Retention of existing hedgerows where possible
- Provision of passive and active recreational opportunities for a variety of age groups and abilities
- Connectivity and permeability providing pedestrian (and cycle pathways) that link the various strategic spaces and pocket parks within the scheme and to the wider environment, the existing schools, civic plaza, as well as to the adjoining residential developments
- Provision of cycle/pedestrian access - providing pedestrian and cycle routes within and through the SHD lands

To create a legible environment for people to live within and move through, a hierarchy of materials (paving, street furniture etc.) and planting will be employed to create different zones and provide visual cues to how people may move through or use these spaces. While different paving materials and textures will be used to demarcate changes in levels, verges, pedestrian priority zones, cycle paths and to guide the visually impaired, it is proposed that materials including paving, lighting, street furniture and tree planting will be chosen from a limited palette to encourage visual cohesion within the scheme. Focal points, such as sculptural elements, specimen tree planting and plazas, will also be incorporated at appropriate locations within the lands to enhance this sense of place and to assist with way-finding through this scheme.

In order to create a highly legible and therefore self-regulating environment, signage and barriers will be kept to a minimum, thereby reducing physically intrusive measures, enhancing pedestrian and cyclist movement and creating a more attractive public realm.

A key objective of the landscape strategy for the proposed scheme is to provide opportunities for passive and active recreation, by way of fitness areas/exercise stations, kick-about areas, play facilities and pathways through the public spaces. These proposed spaces in addition to providing recreational opportunities, will also promote connectivity within the overall lands and adjoining areas.

The proposed layout successfully utilises the existing landscape elements including the topography where achievable. The primary design consideration within the landscape was to consider the requirements of the future residents, through the provision of high quality public spaces with a strong landscape character. The proposed landscape strategy forms part of the overall public space network within the overall development. The public spaces are distributed throughout the development to complement and enhance the site layout plan, with the main public spaces located within the centre of the development. The proposed public spaces contain a number of elements including:

- The retention of key field hedgerows incorporated into proposed GI corridors
- Pedestrian/cycle routes
- Informal play space
- Natural play facility
- High quality paving materials and furniture to streets/spaces/squares
- Surface water attenuation wetland features and SuDs components
- Native trees/hedgerow enhancement/wildflower meadow

PUBLIC REALM CONCEPT VISION

CONCEPT VISION

LANDSCAPE STRATEGY

CONCEPT VISION

The primary aim of the landscape strategy is to identify the important elements within the Belcamp lands to expose the aspects of the approach to its space, character and consequent proposal. The primary landscape components within the SHD lands include:

Belcamp Hall and setting/views/entrance gates
Red bricked house c.1785 designed by James Hoban. Further additions include chapel and residential accommodation. Extensive fire damage and vandalism has occurred to the buildings within the last 5-10 years and a programme of restoration work is currently being prepared (Refer to Sheehan Barry Design Report).

Walled Garden

The walls of the garden remain intact and enclose a significant space (110x80m approx). The future proposals for the walled garden have been prepared by TBS. It is noted that the high enclosing walls and potential lack of passive supervision may encourage anti-social activity within a new residential community. As such, it was considered appropriate that the walled garden contain a well designed building with an agreed use, that would overcome this problem and allow residents to take greater 'ownership' of the space.

Washington Monument
Washington Tower was built in honour of the first president of the US (George Washington) and built during his lifetime (1778). It was restored in 1984 but has suffered from recent vandalism and general neglect. Intention to refurbish and allow for public access to and around within the public realm.

Mayne River and upper and lower ponds
The Mayne River flows through the site from west to east into Baldoyle Bay. Within the lands the river flows within a wooded valley. 2no. historic amenity ponds are located within the valley south of the house (level of lower pond approx. 1m below upper pond) with the re-aligned Mayne river located within deep ditch to the south of ponds. The perimeter trees around the ponds are younger than the original woodland trees, suggesting that the ponds were constructed after the original house.

The main aims of the ponds include:

- Provide greater 'visual' connection to the ponds
- Utilise the ponds to assist in the SuDs train process
- Provide public access along the river valley
- FCC preference is to avoid use of fencing around perimeter of ponds and to utilize planting to provide 'natural' barrier to water's edge.

Mayne River valley woodland (refer to Tree Survey Report prepared by The Tree File)
The Tree File undertook a tree survey of the lands including the Mayne river valley during late Summer/Autumn 2015 and is currently being updated. In summary, the original primarily Beech trees located on the upper slopes of the Mayne River valley as identified in the 1837 OSi historic map, are in decline with tree fall occurring regularly.
The greatest problem appears to be natural loss and resulting exposure and shelter loss. Whilst the site supports a huge number of trees (primarily within the Mayne river valley), it's the younger Sycamore, Ash and Elm that dominate numerically. These trees are relatively small (typically 5 to 14 metres) and young, most being less than 35-40 years old. The original and mature population (primarily Beech) are deteriorating rapidly, with only a fraction remaining from the original population. Accordingly, these trees are becoming more and more exposed and are subject to increasing rates of mechanical failure, regardless of health. It is possible that, as part of the proposed development of the Belcamp Hall lands, a desire to retain larger, older (and more visually significant) trees will incur contextual and safety/management issues.
Minimal re-generation of the planted Beech has occurred and very few other species have generated any sustainable seedlings (excepting possibly poplar) over and above the ubiquitous Ash, Sycamore and Elm. The combination of these three tree species in combination with bramble thickets tend to dominate the natural re-generation. Without intervention, it would appear that the Ash and Sycamore will dominate the tree population as the existing mature population is lost.

Woodland Management Plan
It is evident that in the absence of a long term management plan, the original woodland may be entirely lost. The process of population culling and augmentation of a more diverse species profile appears well founded.
On this basis, The Tree File were engaged to prepare a Woodland Management Plan for the Belcamp lands. The aim of the Plan is to devise a strategy to provide for the future long term management of the woodland, including:

- To provide a sustainable woodland through the management of existing and new planting.
- To maximise the amenity value of the site
- To address biodiversity and ecological issue
- To address the existing age profile asymmetries
- To regularly review and monitor tree population
- To provide passive surveillance of the river valley lands generally

The Plan identifies a number of different areas and that are addressed by the Woodland Management Plan, including:

- Field edges
- Main woodland (north of upper pond)
- Ornamental tree planting (between old school buildings and derelict outbuildings to west)
- Embankment woodland (between lower pond and stream exit to Malahide Road)

The Plan also considers short, medium and long term management measures/objectives. In addition, there is the potential to provide future public access within the valley through the provision of a pedestrian footpath, as a recreational amenity. The potential to provide activity equipment along this route which could be used by a mixed age group, is also being considered.

ACTIVE RECREATION CONCEPT VISION

PUBLIC REALM

1. MAYNE RIVER GREENWAY

The Mayne River Greenway will provide a strategic new multi functional recreational amenity incorporating GI, which will also provide a setting for biodiversity and water management. The key components of the greenway include:

- Retention and enhancement of existing woodland
- Network of new pedestrian/cycle routes connecting the SHD lands with the existing public space network
- Incorporation of SuDs measures including a SW detention basin to engineer's design details
- A range of active and passive recreation uses. A natural play facility is proposed, which is overlooked by proposed residential properties for the purpose of passive surveillance.

2. BELCAMP GI CORRIDOR

BELCAMP GI CORRIDOR

GREEN INFRASTRUCTURE

A key element of the Belcamp SHD lands has been the incorporation of existing and new GI into the Plan. The principal GI elements existing within the SHD area include the hedgerows and drainage ditches. The new GI elements will comprise the provision of high quality public spaces, creation of key linkages to existing parkland, new tree lines and SuDs (SW detention basins, swales and integrated construction wetlands).
The GI Objectives of the SHD lands are as follows:

•To create high quality public spaces that respond to their environment, are well designed, allow for a mix of active and passive recreation, facilitate ease of maintenance and are visually attractive.
•To create multi-functional public spaces that provide a setting for amenity, biodiversity and water management

•To retain existing hedgerows (where achievable) and create new corridors that will encourage biodiversity and informal recreational use (refer to arborist hedgerow survey as prepared by The Tree File)
•To create surface water elements based on the sites natural drainage that function as semi-natural spaces and sustainable drainage management (refer to engineers dwgs).

The intention is to connect each of the SuDs elements along public space corridors within the SHD lands where existing topography allows. Retained hedgerows will also be incorporated within the public space corridors.

The **Belcamp GI corridor** provides for the retention of the hedgerow trees and drainage ditch along the northern boundary and extends around the perimeter of the SHD lands. The new GI element will comprise the provision of a high quality linear route and the creation of key linkages to other proposed new public spaces within the SHD lands. The GI corridor will provide for enhanced biodiversity and water management, and may contain exercise equipment as part of the Belcamp active recreation strategy.

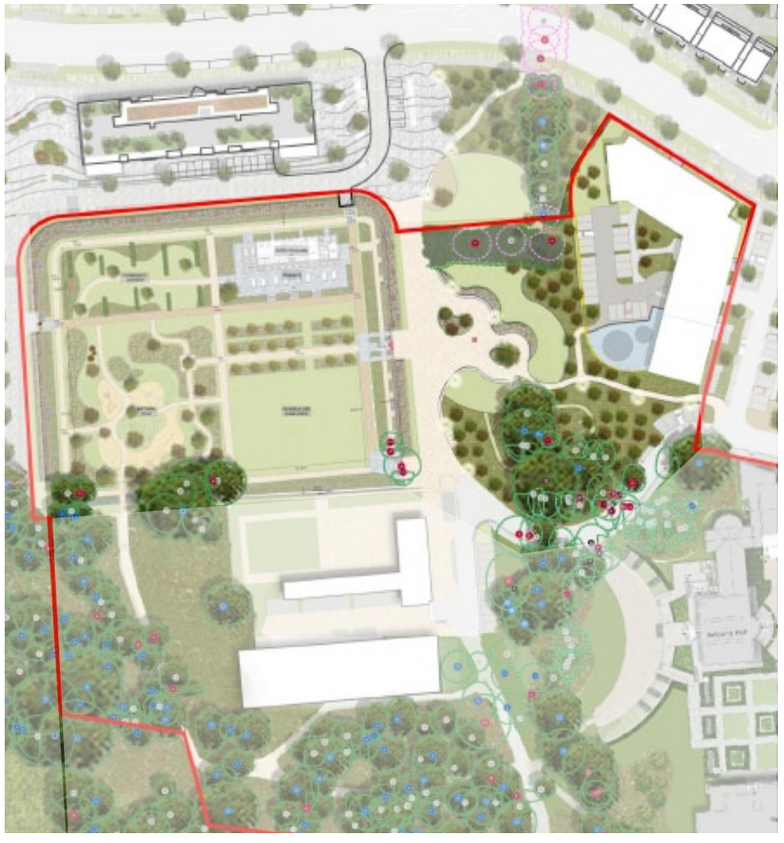
SuDs (refer to engineers dwgs)

The plan identifies SuDs proposals within the SHD lands. The proposed SuDs design measures provides for filtration of all surface water run off from the site into existing/proposed surface water networks incorporating integrated constructed wetlands. SW attenuation may also be considered including 'Stormtech', oversized pipes, green and blue roofs and constructed tree pits. Surface water conveyance systems should utilise existing drainage ditches where possible.

3 & 4. WALLED GARDEN & COURTYARD

Walled Garden
It is located north-west of Belcamp Hall and was a common feature of the historic stately houses of the past. The walls of the garden remain intact and enclose a significant space (110x80m approx). A historic report and future proposals for the Walled Garden has been prepared by TBS and include: Café / Pavilion, Community garden (re-quired size and specification to be con¬firmed by FCC), Natural play facility, Wild-flower meadow, perimeter boundaries and entrance gates, seating areas and quality lighting provision.

WALLED GARDEN & COURTYARD



Walled Garden Courtyard
The primary design consideration within the courtyard was to consider the require-ments of the future residents through the provision of a high quality 'shared surface' type space within a courtyard character reflecting the historical setting adjacent to Belcamp Hall and the Walled Garden. The courtyard design allows for flexible use areas including carparking which incorporate passive supervision from apartments which overlook the spaces. The courtyard design provides for the following uses:

- Car parking and service access
- SuDs as designed by engineers
- Semi secure space for informal play
- Natural Play
- Pedestrian access to the walled garden
- Sitting areas in sheltered sunny locations around the existing mature trees
- Quality lighting provision to ensure safe night time environment

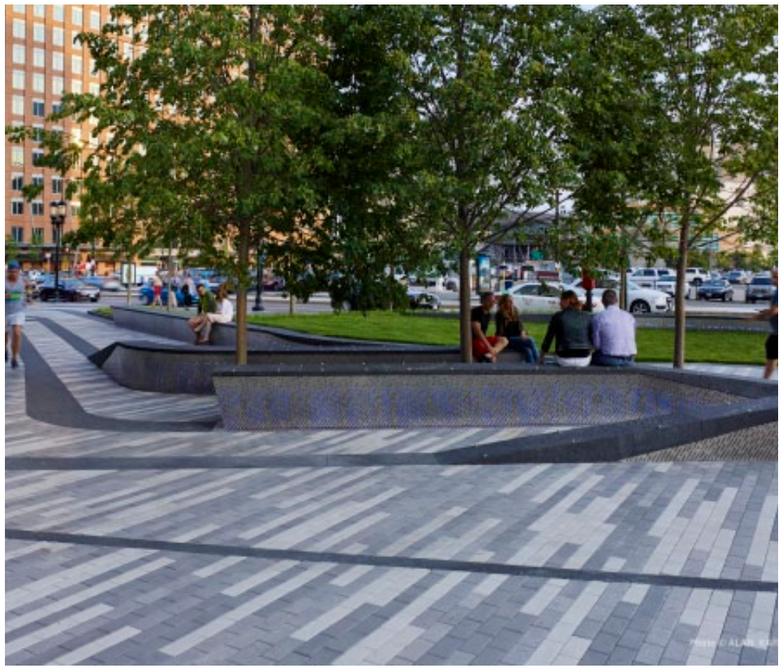
The existing trees to the south of the courtyard are retained within a lawn area and provide both a strong visual reference and a strong enclosing element to the court-yard. Paved surfaces for access and parking have been kept to a minimum with the proposed carparking located away from the main building elevations.

5. TOWN SQUARE

The plan identifies a centrally located public square enclosed by residential blocks and human scale streets that relate strongly to the urban layout. The design philosophy of the public realm was to provide bold, contemporary but above all else a robust public space that has the potential to provide a main focus both within the development as well as the immediate surrounding area.

The new square is located immediately adjacent to the proposed local centre and walled garden and forms one of the main spaces within the SHD lands. The square is enclosed by 3/4 storey buildings of high architectural quality accommodating retail and offices.
The proposed square provides a strong identity and distinctive sense of place, as well as providing a flexible use space incorporating high quality materials.
The design of the square provides for the following uses:
•Meeting place with seating areas in sunny locations
•Opportunity for weekend market/special local events
•Quality lighting to ensure safe night time environment
•Public Art

Level changes were also a consideration in the design of the square. The design successfully creates usable spaces while accommodating the surrounding road levels. It was considered “enough landscape” to incorporate light, native trees , public art and contemporary paving materials and furniture, to ensure that the spaces are of the highest design quality.



6. LOCAL GI CORRIDORS

LOCAL GI COORIDORS

Local GI Corridors
These spaces provide a strategic new multi functional recreational amenity incorporating GI and which will also provide a setting for biodiversity and water management. The key components of the spaces include:

•A range of active and passive recreation uses including natural play
•A pedestrian route connecting Belcamp GI corridor to the Mayne River Greenway
•Incorporation of SuDs measures including roadside SW swales to engineers design details
•Enhancement of existing hedgerows with the provision of new areas of native urban forestry
•Natural play is proposed within these spaces, which is overlooked by proposed residential dwellings for the purpose of passive surveillance.

7. LOCAL PUBLIC SPACES

LOCAL PUBLIC SPACES

Local Public Spaces

The plan identifies a number of smaller 'pocket' type spaces providing a new local amenity incorporating GI and which will also provide a setting for biodiversity and water management. The key components of the spaces include:

- Enhancement of existing hedgerows where retained
- Incorporation of SuDs measures to engineers design details
- Provision of enhanced pedestrian/cycle connection to existing public spaces
- Informal/natural play

Communal Courtyards

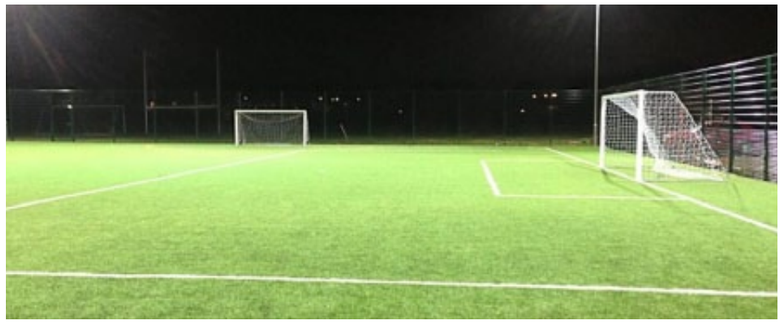
The primary design consideration within the courtyards was to consider the requirements of the future residents through the provision of high quality semi-private spaces. The courtyard designs allow for flexible multi-use areas which incorporate passive supervision from duplexes which overlook the spaces. The courtyard designs provide for the following uses:

- Secure space for children's play with formal and informal play areas
- Sitting areas in sheltered sunny locations
- Opportunity for growing herbs in raised planters
- Potential 'green composting' areas
- Quality lighting to ensure safe night time environment

8. CLASS 1 OS ACTIVE RECREATION

PLAN

- Proposed pitches of multiple sizes
- Changing Rooms
- Proposed parking areas including overflow parking over reinforced grass area
- Proposed tree planting

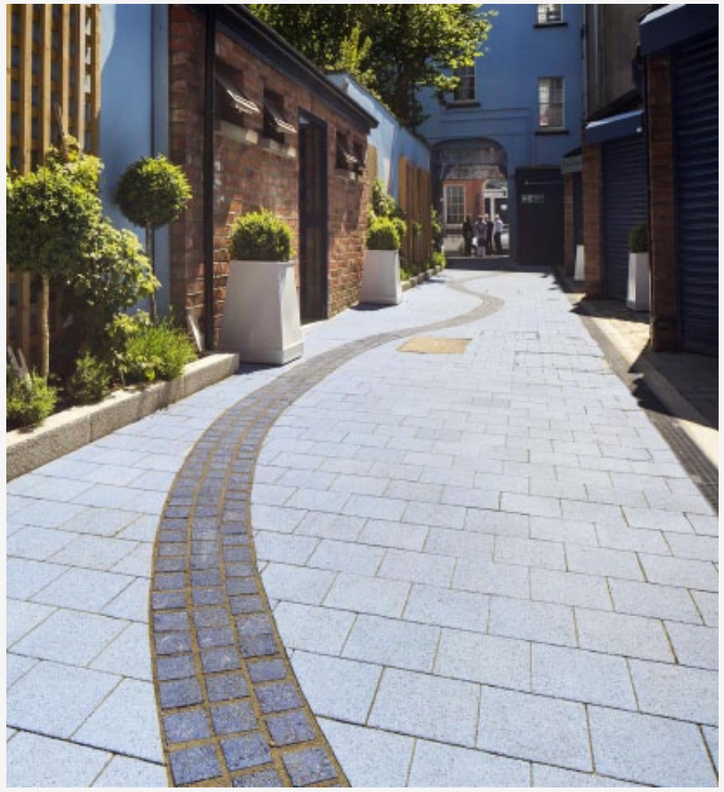


PUBLIC REALM MATERIALS

SURFACE

S1 - Concrete paving flags

Primary surface treatment for central plaza and semi public courtyards



MATERIAL INFORMATION

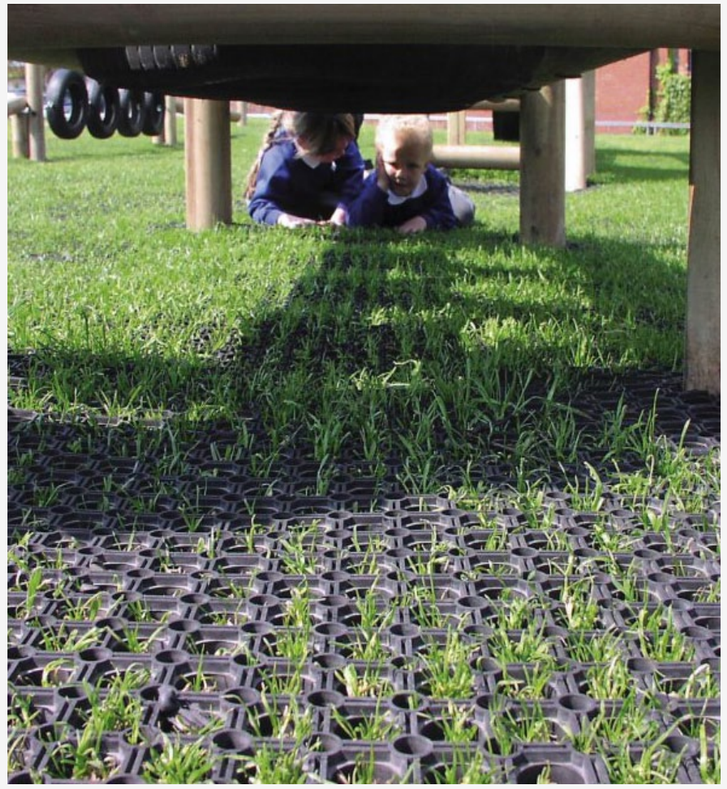
Tobermore fusion concrete paving flags
300 x 200 x 80mm
Textured Finish

IN-SITU EXAMPLES

City Centre Garden of Reflection, Derry, NI

S2 - Safa Grass

Natural play elements in central plaza



MATERIAL INFORMATION

SafaGrass
1000 x 1500 x 30mm
Rubber matt laid over topsoil

S3 - REINFORCED GRASS

MATERIAL INFORMATION

PC Concrete Unit
600 x 400 x 100mm
Natural Finish

IN-SITU EXAMPLES

Holly lane Residental Development, Derry, NI

ELEMENTS

E1 - Corten steel

MATERIAL INFORMATION

Corten Steel planter edge
100x20x1.5mm
Textured Finish

E2 - BENCH SEATING

Free standing timber seating in semi public courtyards

MATERIAL INFORMATION

Omos- S64ms Bench
Varied lengthx460x460mm
Steel frame with hardwood timber bench

E3 - BENCH SEATING

Precast concrete seating with timber inlay in public courtyard

MATERIAL INFORMATION

Precast concrete can be formed into a variety of complex shapes
Cast in a factory controlled setting allows a high quality consistent finish
Variety of aggregate and colours are available

ELEMENTS

E4 - PLAY OPPORTUNITES

Natural play facilities located within a natural environment
Excersice equipment

MATERIAL INFORMATION

Kompan Natural Playscape Equipment
Timber Finish

TREES

T1 - Acer campestre ‘Elsrijk’

Boundary tree planting

TREE INFORMATION

This Dutch cultivar is a meduim size tree with a closed upright structure.
It’s toleration for pollution, compaction and it’s neat canopy makes it ideal for urban settings.
Dark green leaves durinf summer that develop into the autumn display of golden leaves associated with field maple.
Mature Height after 25 years 10m.
Mature Spread 6m after 25 years.
Suggested size at time of planting: 0.8m in height.

T2 - Quercus petraea

Open space areas

TREE INFORMATION

Common tree found in Irish forests known to live up to 1000 years.
Valuable to wildlife.
Easy to distinguish from other oaks as acorns are borne directly to the stem.
Mature Height after 25 years 20m.
Mature Spread 20m after 25 years.
Suggested size at time of planting: 1.2m in height.

T3 - Amelanchier lamarckii

Open space areas

TREE INFORMATION

Suggested to be planted as a multistemmed tree- which is a tree with multiple trunks, emerging from below ground level.
Small tree or large shurb with a bushy spreading habit.
Very ornamental with masses of white blossom in early spring.
Young leaves ar coppery- red and contrast with the blossom.
Mature Height after 25 years 5-8m.
Mature Spread 4m after 25 years.
Suggested size at time of planting: 2.5m in height.

TREES

T4 - Betula utilis jacquemontii

Multi stem tree - Open space areas

TREE INFORMATION

Jacquemontii is a meduim sized, vigorous, fast growing, deciduous tree known for its papery white bark and long catkins.
It produces dark green triangular leaves with good autumn foliage and smaller green female flowers that produce small winged seeds from small cone-like fruits in autumn.
Mature Height after 25 years 9m.
Mature Spread 6m after 25 years.
Suggested size at time of planting: 1.5m in height.

T5 - Ginkgo biloba

Multi stem tree - Open space areas

TREE INFORMATION

Large deciduous tree that is conical shape when young however becomes more of an open irregular shape with age allowing lots of light in.
Known as a living fossil, it is a historic tree known to date back 270 million years.
Leaves are fan-shaped and turn yellow in autumn.
Mature Height after 25 years 18m.
Mature Spread 6m after 25 years.
Suggested size at time of planting: 1.2m in height.

T6 - Liquidambar styraciflua

Multi stem tree - Open space areas

TREE INFORMATION

Large deciduous tree that is broadly conical in outline.
Leaves are maple-like, green and glossy turning an intense purple, crimson and orange colour in Autumn.
Mature Height after 25 years 10m.
Mature Spread 6m after 25 years.
Suggested size at time of planting: 0.9m in height.

TREES

T7 - Prunus avium ‘Plena’

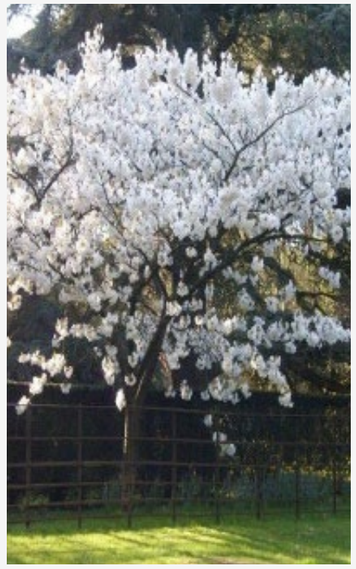
Multi stem tree - Open space areas

TREE INFORMATION

Plena is a meduim sized deciduous tree that grows with a conical open shape and an even symmetrical crown.
Produces masses of pure white, double flowers in Spring and often good autumn foliage colour.
Mature Height after 25 years 10-15m.
Mature Spread 8m after 25 years.
Suggested size at time of planting: Xm in height.

T8 - Prunus serrulata ‘Shirotae’

Multi stem tree - Open space areas



TREE INFORMATION

Shirotae is a small,spreading deciduous tree with a spreading, flat crown.
It produces young green fresh foliage that contrast with its pure white, semi double flowers.
It develops good autumn foliage colour.
Mature Height after 20 years 8m.
Mature Spread 8m after 20 years.
Suggested size at time of planting: 1.8m in height.

Indicative Planting Schedule

1520_Belcamo SHD **_Planting Schedule**				
Ref.	Qty.	Name	Density	Size
Supply and Protect the following trees (Rootballed unless specified)				
All Plant material to LA approval				
Street Trees				
TR01		Ac- Acer campestre	As Shown	3xtr.,RB,20-25 cm girth, clear stem
Trees to Public Spaces				
TP01		Ac- Acer campestre	As Shown	3xtr.,RB, 18-20 cm
TP02		Betula pendula	As Shown	3xtr.,RB, 18-20 cm
TP03		Prunus Avium	As Shown	3xtr.,RB, 18-20 cm
TP04		Prunus sylvestris	As Shown	3xtr.,RB, 16-18 cm
TP05		Quercus robur	As Shown	3xtr.,RB, 16-18 cm
TP06		Quercus petraea	As Shown	3xtr.,RB, 16-18 cm
TP06		Tilia cordata	As Shown	3xtr.,RB, 16-18 cm
TP07		Salix alba	As Shown	3xtr.,RB, 16-18 cm
Small Trees to Public Spaces				
ST01		Acer ginnala	MS, RB	2.0-2.5m high
ST02		Acer palmatum	MS, RB	2.0-2.5m high
ST03		Amelanchier lamarckii	MS, RB	2.0-2.5m high
ST04		Magnolia grandiflora	MS, RB	2.0-2.5m high
Hedges to Public Spaces (Double Staggered Row)				
HP01		Cm- Crataegus monogyna	5/l.m	BR, fthd,120-150cm
HP02		Ac- Acer campestre	5/l.m	BR, fthd, 120-150cm
HP03		Ia- Ilex aquifolium	5/l.m	BR,fthd, 120-150cm
Hedges to Site Boundary (Double Staggered Row)- Where required				
HB01		Cm- Crataegus monogyna	5/l.m	BR, fthd,120-150cm
HB02		Ac- Acer campestre	5/l.m	BR, fthd, 120-150cm
HB03		Ia- Ilex aquifolium	5/l.m	BR,fthd, 120-150cm
Woodland Tree Planting				
Standard Tree Planting				
T01		Ac- Acer campestre		2xtr, **BR**, 8-10 cm girth
T02		Ah- Aesculus hippocastanum		2xtr, **BR**, 8-10 cm girth
T03		Fs- Fagus sylvatica		2xtr, **BR**, 8-10 cm girth
T04		Pa- Prunus avium		2xtr, **BR**, 8-10 cm girth
T05		Qr- Quercus robur		2xtr, **BR**, 8-10 cm girth
Whips/Transplants Planting (1.25m c/c)				
T06		Ac- Acer campestre	1.25/sq.m	BR,fthd, **150-180cm** high
T07		Ah- Aesculus hippocastanum	1.25/sq.m	BR,fthd, **150-180cm** high
T08		Cm- Crataegus monogyna	1.25/sq.m	BR,fthd, **90-120cm** high
T09		Fs- Fagus sylvatica	1.25/sq.m	BR,fthd, **150-180cm** high
T010		Ia- Ilex aquifolium	1.25/sq.m	RB,fthd, **60-90cm** high
T011		Ps- Pinus sylvestris	1.25/sq.m	RB,fthd, **60-90cm** high
T012		Pa- Prunus avium	1.25/sq.m	BR,fthd, **150-180cm** high
T013		Qr- Quercus robur	1.25/sq.m	BR,fthd,**150-180cm** high
Native Bulb Planting Mix				
B01		Native bluebells	20-25sq.m	
B02		Wild garlic	20-25sq.m	
Wildflower Planting Mix (native wildflower & grass seed mix as per Sandro Cofolla mix or equivalent)				
Amenity Grass Areas (as per Coburn's Urban Parks Mixture or approved equivalent)				
GR001		Amenity grass	25 g/sq.m.	
Note:				
All tree material must be accompanied by an Irish Provenance Certification				

PLANTING

SHRUB PLANTING

Echinacea purpurea
Common name: White Swan
Herbaceous
H: 0.6m, W: 0.6m

Allium
Common name: Purple Sensation
Summer Flower
H: 0.6-0.7m, W: 0.15-2m

Rudbeckia
Common name: Goldsturm
Late Summer/Autumn Flower
H: 0.6-0.9m, W: 0.5m

Perovskia atriplicifolia
Common name: Blue Spire
Late Summer/Autumn Flower
H: 0.6-0.9m, W: 0.6-0.9m

Libertia grandiflora
Common name: Tukauki
Herbaceous
H: 0.9m, W: 0.6m

Salvia nem.
Common name: Caradonna
Summer Flower
H: 0.5m, W: 0.3m

Stipa tenuissima
Common name: Ponytails
Evergreen
H: 0.6m, W: 1m

Echinops bann
Common name: Blue Globe
Late Summer Flower
H: 1.2m, W: 0.6-0.9m

Verbena bonariensis
Common name: Lollipop
Perennial
H: 0.6m, W: 0.6m

Helleborus orientalis
Common name: Hellebore
Evergreen
H: 0.45m, W: 0.45m

Polystichum
Common name: Herrenhausen
Evergreen
H: 0.5m, W: 0.9m

Alchemilla mollis
Common name: Lady's mantle
Perennial
H: 0.6m, W: 0.75m

Landscape Specification: OUTLINE OF OPERATIONS

Ground preparation will precede planting and will include weed clearance and amelioration where necessary. Intensive landscape aftercare for each area will run for 12 months from the practical completion date using contact herbicides and hand weeding. There will be a period of 12 months defects liability on all planting with plant failures being replaced in the following planting season.
Herbicide and Pesticide usage must be carried out in accordance with:
S.I. 155 of 2012 - European Communities (Sustainable Use of Pesticides) Regulations 2012
S.I. 159 of 2012 - European Communities (Plant Protection Products) Regulations 2012

PLANTING

Materials

All plant material shall be good quality nursery stock, free from fungal, bacterial or viral infection. Aphis, Red Spider or other insect pest, and physical damage. It shall comply with the requirements of the following sections of B.S. 3936, Specification for Nursery Stock, where applicable:

Part 1 - 1992:	Specification for trees and shrubs
Part 2 – 1990:	Specification for roses
Part 4 – 2007:	Specification for forest trees, poplars and willows
Part 7 - 1989:	Specification for bedding plants
Part 9 - 1998:	Specification for bulbs, corms and tubers
Part 10 - 1990:	Specification for ground cover plants

All plants shall have been nursery grown in accordance with good practice and shall be supplied through the normal channels of the wholesale nursery trade. They shall have the habit of growth that is normal for the species.

Except for any cultivated varieties or exotic species which do not set viable seed in Ireland, all plants shall have been grown from seed.

The Contractor will be deemed to have advised his suppliers of the relevant sections of this specification, including all protection required, at the time of enquiry and shall in all cases be liable to replace materials brought on site which are not in accordance with this specification.

Species

All plants supplied shall be exactly true to name as shown in the plant schedules. Unless stipulated, varieties with variegated or otherwise coloured leaves will not be accepted, and any plant found to be of this type upon leafing out shall be replaced by the Contractor at his own expense.

Bundles of plants shall be marked in conformity with the relevant part of B.S. 3936. The contractor shall replace any plants that are found not to conform to the labels. An inspection of plants shall be undertaken prior to planting to ensure quality control.

Extra Heavy Standard and Standard Trees

Extra Heavy Standard trees shall have a total height of 4.0 to 4.5 metres and a girth of 14-16 cm at 1m above ground level. Standard trees shall have a clear stem 1.70 m to 1.85 m in height from ground level to the lowest branch, a minimum girth of 8 cm measured at 1m above ground level and a total height of 2.5 to 3.0 metres.

Trees shall have a sturdy, reasonably straight stem, a well defined and upright central leader, with branches growing out of the stem with reasonable symmetry, or a well balanced branching head according to the Schedule. The crown and root systems shall be well formed and in keeping with the nature of the species. Roots shall be in reasonable balance with the crown and shall be conducive to successful transplantation.

Trees shall be supplied bare rooted unless otherwise specified. They shall have been regularly undercut or transplanted. They shall have been lifted carefully to avoid tearing of major roots and to preserve a substantial proportion of smaller and fibrous roots. Trees shall have been grown on their own roots. Budded or grafted trees will be rejected.

Transplants

Transplants shall not be less than three years old, and shall have been transplanted at least once. Trees of species not listed in B.S. 3936: Part 4: 1984 shall be sturdy, with a balanced root and shoot development. Sizes shall range from 600-900 and 900-1200 mm.

Trees shall be well furnished with lateral and fibrous roots, and shall be lifted without severance of major roots. Roots shall be of the habit normal for the species.

Salix shall have been stumped and transplanted at the end of the first year in the nursery.

Shrubs

Shrubs shall be of the minimum size specified in the schedules, with several stems originating from or near ground level and of reasonable bushiness, healthy, well grown, and with a good root system. Pots or containers shall be as scheduled. Plants shall not be pot bound, nor with roots deformed or restricted. Bare root material will only be accepted where specified.

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Herbicides

Chemical use such as herbicides, pesticides and fertilizers will need require prior approval by the project ecologist and landscape architect. Where species is deep rooted and cannot be removed manually or is persistent it should be treated with localised and spot application of hormone weed killers.

Weedkiller Application

All weedkiller handling and application should be carried out in accordance with the manufacturer's instructions, COSHH Regulations, using the necessary PPE and by trained personnel only.

Bulky Organic Manure/ Mushroom Compost

Bulky organic manure shall consist either of spent peat compost, mushroom compost, as described above, spent hops, or of well rotted farm manure. Farm manure shall consist of predominantly of faecal matter and shall be free of loose, dry straw and of undigested hay. Manure shall be free of surplus liquid effluent. This shall be used on mounds only. Well spent mushroom compost shall be used in all ornamental planting areas.

Fertilisers

Controlled release fertiliser N:P:K 15:9:11 plus trace elements - Osmocote plus or similar approved applied at specified rates.

Fertiliser shall be supplied in sealed bags or containers bearing the manufacturer's name, the net weight and analysis.

Stakes for Standard Trees

Stakes shall be of peeled larch, pine or Douglas fir, preserved with water-borne copper-chrome-arsenic to I.S. 131, to a net dry salt retention of 5.3 kg. per cubic metre of timber. Stakes shall be turned, and painted one end. Sizes shall be as follows:-

for extra heavy standard trees: 2700 x 75 mm dia.
for standard trees: 2700 x 75 mm dia.

Set stakes vertically in the pit, to the western side of the tree station, and drive before planting. Drive stake with a drive-all, wooden maul or cast-iron headed mell, not with a sledge hammer.

Tree Ties

Tree ties shall be of rubber, P.V.C. or proprietary fabric laminate composition, and shall be strong and durable enough to hold the tree securely in all weather conditions for a period of three years. They shall be flexible enough to allow proper tightening of the tie.
Ties shall be min. 40 min. wide for standard trees. Provide a simple collar, free of rough or serrated edges, to prevent chafing. Provide for subsequent adjustment of the tie either by means of a buckle (nail tie to stake immediately behind it) or by leaving heads of securing nails slightly proud, to permit easy extraction and repositioning. All nails shall be galvanised.

Protection

The interval between the lifting of stock at the nursery and planting on site is to be kept to an absolute minimum. Plants shall be protected from drying out and from damage in transport. All stock awaiting planting on site shall be stored in a sheltered place protected from wind and frost, from drying out and from pilfering. Bare rooted plants not immediately required shall be heeled-in in a prepared trench, the bundles of plants first having being opened, the plants separated and each group separately heeled-in and clearly labelled. The roots shall be covered with moist peat or soil and shall be kept moist until planted. Pots shall not be removed until plants have been carried to their planting station. Plants packed in polythene must be stored in shade.

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

Plants shall be handled with care at all times, including lifting in and despatch from the nursery. Plants or bundles of plants shall not be tossed, dropped of subjected to any stress likely to break fine roots.

Damage

Any roots damaged during lifting or transport shall be pruned to sound growth before planting. On completion of planting any broken branches shall be pruned.

Vine Weevil

Any plants infected with Vine weevil will be rejected

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Setting Out

Setting out shall be from figured dimensions where indicated, and otherwise by scaling.

Transplants shall be planted at the spacings indicated, in staggered rows.

Transplants in mixtures shall be planted at the spacings indicated, in staggered rows or at random according to instructions on the contract drawings. Species shall be planted in groups in each area. Set out groups avoiding obvious repetition, regularity, and single lines of one species.

Shrubs and ground covers planted in mass shall be at the spacing indicated on the drawings. Shrubs shall not generally be planted closer to a kerb or to the edge of a planting area than a distance equal to half the spacing indicated for that species.

Ripping

Rip all disturbed ground a minimum of 600 mm deep with a subsoiler approved by the Landscape Architect in two transverse directions.

Topsoiling

Excavate for shrub beds and hedge trenches to 400 mm below finished levels. Dispose of material to tip off site or to areas of filling on site as directed by the Landscape Architect. Break up base of beds and trenches min. 150 mm deep. Remove topsoil from areas to be sown with wild-flower mix.

Decompact base of planting bed to allow drainage.

Load and carry topsoil from stockpiles on site, and backfill beds/trenches in layers each not more than 150 mm deep, lightly consolidating each as the work proceeds. Leave area slightly mounded, to allow for settlement.

Incorporate ameliorant and fertiliser, as specified.

Site Preparation

Weedkilling for the below areas – herbicide selection and usage will need to be approved by the project ecologist and landscape architect. prior to works taking place onsite.

Preliminary Weedkilling

Transplants: Weedkill full ground area. Apply a first treatment before 15th July, and a second not later than 15th September to kill regrowth.

Hedge Trench: Weedkill. Excavate trench 600 x 400 mm. Add ameliorants as follows, incorporate evenly into excavated material, and backfill:-

Organic Manure	:	75 mm deep
Osmocote plus	:	70 gm/m

Shrub Planting: Weedkill. Spread over all planting areas:-

Organic Manure	:	50 mm deep
Osmocote plus	:	75 gm/msq

Standard and Selected Standard Tree Planting

Excavate tree pits to 0.5 cubic metres volume (1.0 m diameter x 60 cm deep). The base of the pit shall be broken up to a depth of 15 cm and glazed sides roughened. Remove subsoil, stones and rubbish to tip on site as directed by the Architect/Engineer. Supply and drive the stake.

For planting in areas of made up ground, load and carry topsoil from stockpile on site. In undisturbed ground, backfill with excavated material. Mix the following ameliorants evenly throughout the topsoil while it is stacked beside the pit. (Quantities are calculated for a pit of the specified dimensions):-

Organic Manure:	0.047 cubic m (equivalent to manure 6 cm deep over 1 m dia of tree pit).
Osmocote plus:	250 gm

Trees shall be planted at the same depth as in nursery, as indicated by the soil mark on the stem of the trees. They shall be centred in the planting pit and planting upright. The roots shall be spread to take up their normal disposition. Fit tie. Clean a neat circle 1000 mm dia. of all grass.

Planting of Shrubs and C.G. Transplants

Remove all plastic and non-degradable wrappings and containers before planting. Make four vertical cuts with a sharp knife on the quadrants through the edge of C.G. rootballs to sever girdling roots. Excavate hole to min. 10 cm greater diameter than the root spread, and to a depth to allow planting to same depth as in the nursery. Spread out roots of bare root species. Backfill in layers of not more than 10 cm, firming each layer and on completion.

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Replacements

The planting will be inspected in September following planting. Any tree or shrub found to have died from any cause except as provided below or the work of other contractors shall be replaced by the contractor at his own expense. Replacement planting shall conform in all respects with this Specification, including all specified excavation, provision and incorporation of all fertilisers and ameliorants, and weedkiller treatments.

Failures will not be charged to the Contractor in the following cases:-
- Damage by hares or rabbits, where not protected by fencing or shelters.
- Failure solely due to prolonged dry weather, except in where the contractor will be responsible for watering.
- Losses due to theft, vandalism or disturbance by other contractors.

Persistence of weed in planted areas will be regarded as a contributory cause of failure due to drought. Prolonged dry weather will not exonerate the Contractor if the scheduled aftercare operations have not been carried out as programmed.

GRASS SEEDING

Native Grass/ wildflower Mix (50mm depth topsoil)

Seed mix selection
It is important that the correct plant species are selected that are adapted to the local site conditions and resemble the semi-natural plant communities of the local area. The plant species must be matched to soil type (pH), fertility, hydrology and topography. The Contractor shall provide the Landscape Architect with a list of the proposed native grass/ wildflower mix along with the proposed supplier for approval, a minimum of 2 weeks prior to seeding.

Ground preparation
The soil must be prepared for seed sowing to create open areas for the seed to germinate. When creating a native meadow from scratch the aim is to produce a firm weed-free tilth, through soil cultivation, to promote healthy germination.

To remove docks and thistles, nettles and weed grasses, the site shall be treated with approved herbicide (following the manufacturers instructions) prior to seed bed cultivation. Several applications may be required after further cultivation and to remove weed flushes.

Post Emergence Weedkiller

'Actrilawn 10' by May and Baker Ltd., used in accordance with the manufacturer's instructions.

Apply 'Actrilawn' when grasses have reached the two-leaf stage or beyond and when seedlings have emerged and have reached cotyledon or two-leaf stage (approx. 4 weeks after sowing). Do not mow within 7 days of treatment. Do not apply during drought. Apply on a fine, still, warm day.

Machinery

All machinery shall be in good and serviceable condition. Harrows and cultivators shall have their full complement of tines, which shall be sharp, effective, and set to give the specified depth of cultivation. Mowers shall be sharp and evenly set to the specified height, and shall in use avoid pulling or laying the sward.

Tractors for use in ripping shall be four-wheel drive or tracked. All tractors shall be fitted with position control to ensure even cultivation, at the minimum specified depth.

Weather

All work to soil shall be carried out in dry weather and when the soil can be reduced to a friable condition, avoiding smearing or panning, and rutting and compaction by tractors.

Seeding shall be carried out in the fine, still weather. Seed shall not be permitted to fall onto hard surfaces or into planting areas. Any grass germinating there shall immediately be treated with a total weedkiller at the Contractor's expense.

Weedkilling

Application: Killing existing grass pre-seeding, and killing weeds germinating in re-spread topsoil. (For seeding from mid-August onwards, apply not later than 31st July).

Cultivations

Cultivate in transverse directions by disc or tine harrows and/or rotary cultivators, to the minimum depth specified in the operations schedule. Remove weeds and roots, metal items and rubbish. Produce a tilth as follows; Reinstatement areas 50mm and quality areas/verges 50mm and pick off stones and debris over that size.

If rotary cultivators are used, the ratio of tractor speed to tine speed shall be sufficient to avoid smearing at the base of the cultivation.

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Final Grading

During cultivations, grade with a blade, lute or grader, to produce even, flowing surfaces, free from local humps and depressions.

Finishes

Topsoil shall stand 30 mm proud of manholes, paths and kerbs after cultivation and firming.

Sowing
Providing a good tilth can be prepared the optimal time for seed sowing is in late summer/early autumn, which means the seeds are not exposed to rising soil temperatures but will be exposed to cold moist temperatures over winter, which can help break dormancy of some species. If sown too late in autumn seedlings may be killed off by frosts. The months of March/April can also be suitable for sowing in areas of land that are prone to winter flooding.
a. Mix seed - regularly mix to ensure even species distribution
b. Surface broadcast – with a fertilizer spreader
c. Rate – 3-4g/m2, 10-20kg/ha 80:20 grasses: wildflowers, 0.5 - 1.Og/m2/2.5-10kg/ha pure wildflower mixtures. Seeding rates depend on soil fertility and wildflower specification.
d. Sand - bulk up small seeding rates with sand or sawdust
f. Ring Roller - use Cambridge Roller to firm seed bed or use cattle to tread in seed

Summary of ground preparation
a. Treat existing vegetation with herbicide (as above)
b. Shallow cultivate site with a rotovator and roll to consolidate ground to keep in moisture
c. Harrow or treat weed re-growth
d. Power harrow to create fine surface tilth
e. Final spray with approved herbicide, if required
f. Surface sow the seed and roll

Amenity grass (150mm depth topsoil)

Seed Mixture

An appropriate seed mix will be specified for the type of sward and level of maintenance

Fertiliser

10:10:20, N:P:K - supplied in bags bearing the names of the manufacturer, the analysis of the contents and the net weight. The contractor shall produce to the Landscape Architect the original delivery docket or invoice stating the quantity supplied for these works.

Pre-Seeding Weedkiller

Herbicide selection and usage will need to be approved by the project ecologist and landscape architect prior to works taking place onsite.

Non-selective herbicide: Do not apply when rain is forecast within six hours. Do not apply when wind is likely to cause spray drift (over 24 kph/15 mph). Allow leaf symptoms to develop before carrying out any cultivations (at least 7 days).

Post Emergence Weedkiller

Apply selective weedkiller when grasses have reached the two-leaf stage or beyond, and when seedlings have emerged and have reached cotyledon or two-leaf stage (approx. 4 weeks after sowing). Do not mow within 7 days of treatment. Do not apply during drought. Apply on a fine, still, warm day.

Machinery

All machinery shall be in good and serviceable condition. Harrows and cultivators shall have their full complement of tines, which shall be sharp, effective, and set to give the specified depth of cultivation. Mowers shall be sharp and evenly set to the specified height, and shall in use avoid pulling or laying the sward.

Tractors for use in ripping shall be four-wheel drive or tracked. All tractors shall be fitted with position control to ensure even cultivation, at the minimum specified depth.

Weather

All work to soil shall be carried out in dry weather, and when the soil can be reduced to a friable condition, avoiding smearing or panning, and rutting and compaction by tractors.

Seeding shall be carried out in the fine, still weather. Seed shall not be permitted to fall onto hard surfaces or into planting areas. Any grass germinating there shall immediately be treated with a total weedkiller at the Contractor's expense.

Weedkilling

Application: Killing existing grass pre-seeding, and killing weeds germinating in re-spread topsoil. Apply non-selective weedkiller (For seeding from mid-August onwards, apply not later than 31st July).

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If germinating weed grasses are less than 100 mm high and broad leafed weeds have not produced full-sized leaves, do not apply non-selective weedkiller. Apply non-selective herbicide @ 3.0 litres/hectare in water @ 200-300 litres/hectare 4 to 7 days before cultivating.

Ripping

Rip with a subsoiler approved by the Landscape Architect in two transverse directions. The first pass shall be across the maximum fall of the land and the second at right angles to this. Rip at 600 mm maximum centres, at a constant depth of 400 mm. Do not mix subsoil and topsoil layers during ripping.

Cultivations

Cultivate in transverse directions by disc or tine harrows and/or rotary cultivators, to the minimum depth specified in the operations schedule. Remove weeds and roots, metal items and rubbish. Produce a tilth as follows; Reinstatement areas 75mm and quality areas/verges 50mm and pick off stones and debris over that size.

If rotary cultivators are used, the ratio of tractor speed to tine speed shall be sufficient to avoid smearing at the base of the cultivation.

Final Grading

During cultivations, grade with a blade, lute or grader, to produce even, flowing surfaces, free from local humps and depressions.

Finishes

Topsoil shall stand 30 mm proud of manholes, paths and kerbs after cultivation and firming.

Fertiliser

During last stages of cultivation, apply fertiliser evenly over the full area of seeding in two equal passes in transverse directions, and incorporate into the seed bed up to 30 mm deep.

First Cut

Before cutting, pick off stones above the maximum diameter specified on the operations schedule. Roll if specified on the operations schedule to firm sod. The time for cutting and the height of the cut shall be as specified in the operations schedule.

Quality

The quality of the grass sward shall be even throughout with a constant sward and colour. The contractor shall make good any areas not of this quality. Make up and seed over any depressions which develop after seeding. Re cultivate and re-seed any areas which fail to germinate or which die off.

Bulb planting

When the term “bulb” is used in the general rather than in the botanical sense, it should be taken as applying to both corms and bulbs.

All bulbs and corms shall comply with BS 3936:Part 9. They shall be true to name, size, condition and description. Bulbs shall be dry, frost-free and free from infection by disease or fungi. They shall be kept in a warm store prior to planting and shall not be brought onto the site until twenty four hours prior to planting.

All bulbs should be planted in the appropriate season with a suitable planting tool of appropriate pattern and at the correct depth. The hole formed should be of sufficient diameter to accommodate the bulb which should have the base on contact with the soil at the bottom. A plug of turf should be neatly removed and replaced after planting. Bulbs for naturalising should not be planted in rows, but should be scattered by hand over the area allocated to them and planted where they fall.

AFTERCARE

The operations are grouped under the following headings;
Newly planted trees
Shrub beds
Groundcover
General litter clearance

GRASS AREAS

Amenity Grass Areas

Maintenance Objective

To provide an even stand of vegetation of uniform height and colour comprising predominantly grass species, although a small percentage of dichotyledenous plants - no more than 5 per cent - will be accepted.

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Maintenance Operations

a) Mowing shall be carried out using a cylinder mower to maintain the vegetation length within the limits of 30 mm and 75 mm during April to August inclusive and between 50 mm and 90 mm during the rest of the year. (This will normally require mowing at up to once a week in the peak of the season and up to, 20 times per year).

b) The arisings shall be let fly but must be distributed evenly over the surface and at no time shall the layer of clippings be of such a depth that will affect the growth of vegetation. At no stage must arisings come to rest on paved or planted areas.

Additional Operations

a) All edges of grass areas, against buildings, footpaths, roadways, trees, posts and any other obstruction shall be kept neat, trimmed and tidy.

b) Mowing strips against fences, etc. shall be 100 mm wide and may be maintained by the use of an appropriate approved herbicide.

<u>Native Grass Areas / Wildflower Areas</u>

Maintenance Operations

Grass Cutting:
- First Year: Cut by the end of July. Cut again to height of 10cm (and remove if possible) if grass regrows to a height of 25cm in the first year.
- Second and third years: require two cuts, one in Spring and the Second in July or August, the meadow can again be cut in September if the grasses are still growing strong.
- Fourth year: if the grass is still vigorous - cut in spring and in August of. I the perennials are growing strong there will be no need to cut until July, August or September depending on soil conditions.
- When Established: It will require one cut, mid-end of summer.

The arisings shall be let fly but must be distributed evenly over the surface and at no time shall the layer of clippings be of such a depth that will affect the growth of vegetation. At no stage must arisings come to rest on paved or planted areas.

Care of Newly Planted Trees - General

Young trees will need regular attention to ensure establishment. The most important operation is to keep the soil around the base of the tree free from weeds or grass and to ensure secure and correct staking.

Maintenance Objective

Establish a stable and healthily growing tree with a well-shaped framework for future growth.

Maintenance Operations

a) Maintain a 1m. diameter circle of plant-free soil around the base of each isolated tree by hoeing or the use of approved herbicide other than a residual.

Allow for hoeing up of soil once every 4 weeks in the growing season (5 times per year). Allow for herbicide treatment once in the winter or spring and 3 additional treatments.

Note: In some areas this operation may be replaced by the application of bark mulch as ground cover.

b) Cut back any tall vegetation that is threatening to shade or smother the young tree (i.e. taller vegetation growing from outside the 1 m weed free area). Allow for cutting back regularly (3/4 times a year).

c) Provisional item: Water the newly planted trees throughout the summer months (May to August) as required after any period of 4 weeks without significant rainfall (less than 5 mm). Apply sufficient water to thoroughly wet the top 150 mm of soil around the tree roots. This will normally require approximately 10 litres for a seedling or whip and 20 litres for a standard tree, include transport of water to the site.

d) Check stakes and ties for firmness and support and adjust as necessary. Allow for checking twice a year, preferably in late spring and late summer.

e) Firm the soil around the roots to ensure that the plant is securely planted in the ground and upright. Allow for firming once in the spring after planting.

f) Formative prune to remove any dead, diseased or damaged shoots and create a balanced form for future growth. Allow for pruning once in the season after planting.

<u>Shrub Beds - General</u>

The borders must be kept weed free, particularly of perennial weeds, to allow planting to give early cover. However, the plants may be required to be thinned so that the shrubs that are retained are

able to achieve an attractive form. This may involve removing the intermediate plants soon after shoots are touching.

Maintenance Objective

Maintain shrub growth to cover as much as possible of the bed area and allowing the individual plants to achieve as nearly as possible their natural form. Maintain the borders free of visible weeds and shape and prune the shrubs to avoid obstructing pathways or blocking light to, or adhering to windows.

Maintenance Operations

a) After planting, if appropriate and in season for the species involved, prune shrubs to develop their desirable ornamental characteristics. At the same time remove intermediate plants that are restricting the natural and attractive development of their neighbours. Remove all arisings from site.

b) Lightly cultivate the surface soil, to a depth of approximately 50 mm, remove or bury all annual weed or natural litter and break any surface capping. Take special care to avoid unnecessary damage to the shrub plants and ensure that all the shrubs are firmly bedded in the soil. Leave the surface with a fine and even tilth with soil crumbs of less than 50 mm in diameter. Once a year operation in early winter.

Note: This operation is only essential where the soil is compacted or as a means of incorporating mulch. Not required where the areas are mulched.

c) Maintain the soil surface substantially free of weeds (less than 10 per cent weed cover) by hand removal and spot treating with Glyphosate, or approved equivalent. Spot treatment at approximately four-weekly intervals in the main growing season, to a total of five times per season.
Note: As an alternative the beds can be regularly hand-hoed at up to two-weekly intervals in the main growing season, to 6 times per year. This procedure is recommended for the first year after planting when the plants may be more sensitive to contact herbicide damage and residual herbicides may not be used.

Ground Cover – General
Described as dense, low-growing plants, which cover the ground and smother any weeds. Ground-cover needs careful establishment, to ensure that any perennial weeds are eliminated.

Maintenance Objective

Maintain a dense, weed free cover of healthy growth, clipped or pruned as necessary to give a neat and tidy finish and contained within the planted area.
Maintenance Operations

a) Maintain the area substantially free of weeds (less than 10 per cent of weed cover at maximum) by hand removal or spot treating any emergent weeds during the growing season with Glyphosate, or approved equivalent. Spot treatment or weed removal at approximately four-weekly intervals in the main growing season, to 5 times per year in total. Frequency of sprays to drop, as the plants establish.

b) Trim and tidy the plants once a year in the winter months, to remove dead vegetation or overgrowing branches. Remove all arisings from site. The amount of work will vary according to the species.

Litter Clearance - General
Maintenance Objective
Collect and remove from the site, all extraneous litter and rubbish on a regular within landscape basis so that its presence is not detrimental to the appearance of the site. (This means that the landscape should be free from litter after each visit to site).

Maintenance Operations

a) Collect and remove to the contractor's tip all extraneous rubbish, not arising from maintenance works, which is detrimental to the appearance of the site. This rubbish to include stones (over 50mm dia. which may be buried), bricks, debris, paper, confectionery and other wrappings, bottles, cans and plastic containers.

Allow for this operation to be carried out at regular intervals based in conjunction with other maintenance visits and operations.

Herbicide and Pesticide usage must be carried out in accordance with:
Plant protection products (PPPs) are regulated by Regulation (EU) No. 1107/2009.
Regulation (EC) No. 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC
The main Irish legislation concerning the control, marketing and use of plant protection products (PPPs) are:
S.I. 155 of 2012 - European Communities (Sustainable Use of Pesticides) Regulations 2012
S.I. 159 of 2012 - European Communities (Plant Protection Products) Regulations 2012

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