Landscape Design Rationale Report and Landscape Specification

Residential Development
Stocking Lane
Dublin 16

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landscape architects and site planners

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Page 3 INTRODUCTION

Page 5 DEVELOPMENT STANDARDS

Page 6 DESIGN OBJECTIVES

Page 7 CONCEPT IMAGES

Page 8 CONCEPT LAYOUT

Page 9 DESIGN STRATEGY

Page 10 DESIGN PROPOSALS

Page 15 ECOLOGICAL ENHANCEMENTS

Page 20 LANDSCAPE SPECIFICATION

Page 31 TIMESCALE AND PROGRAMME OF LANDSCAPE WORKS

INTRODUCTION

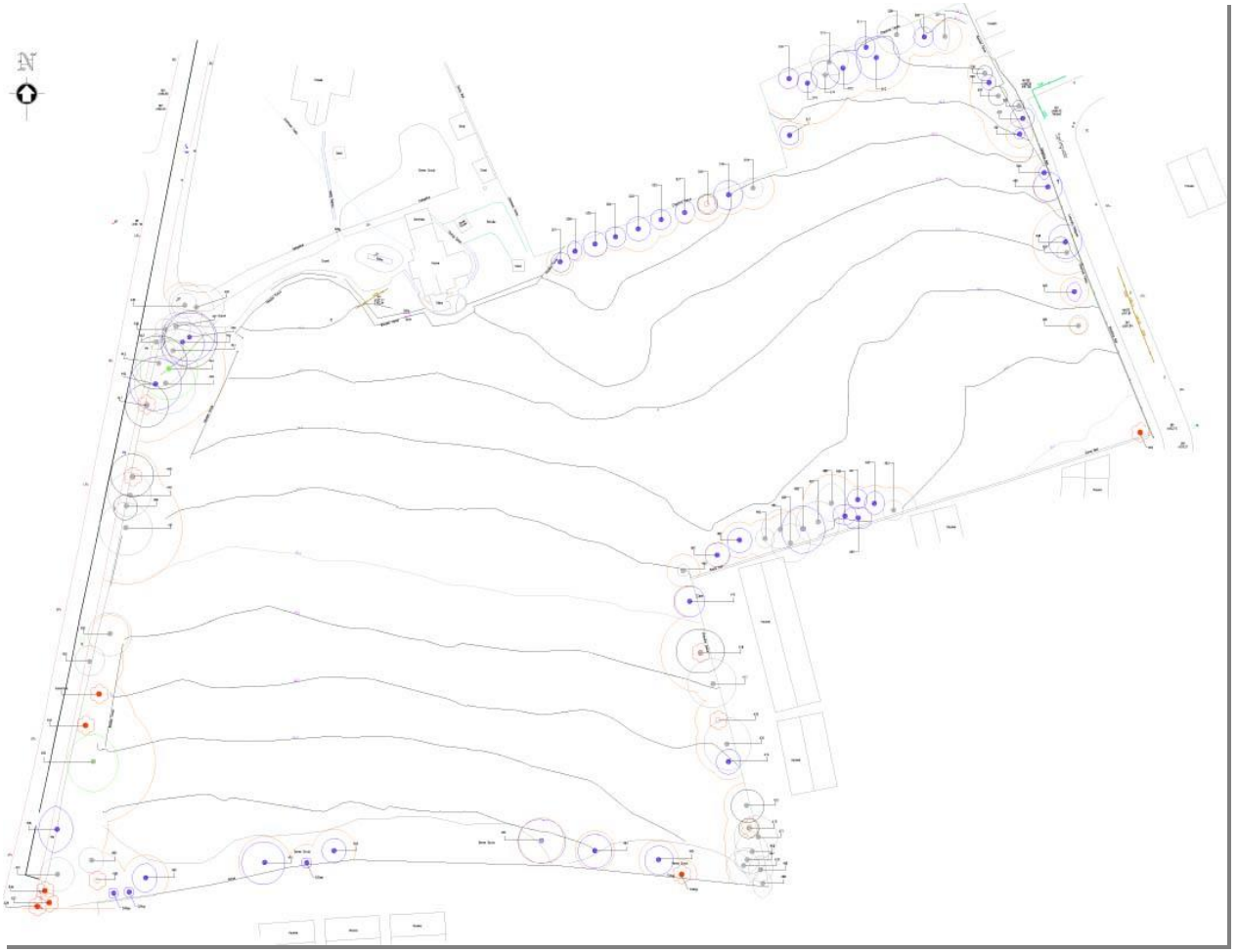
The proposed development at this site c.2.47ha on lands at Stocking Lane, Dublin 16, consists of:

- 131 residential units including:
  - 21 houses (1 no. 3-bed; 11 no. 4-bed; 9 no. 5-bed) of up to two-storey plus roof storey.
  - 51 duplex apartment units (11 no. 1-bed; 23 no. 2-bed; 17 no. 3-bed) in seven blocks of up three- storeys.
  - 59 apartment units (18 no. 1-bed; 38 no. 2-bed; 3 no. 3-bed) in three apartment blocks up to four-storeys.
- A creche of c. 128 sqm at the ground floor of Block L.
- A shop of c. 65 sqm at the ground floor of Block G, with associated storage.
- A total of 167 car parking spaces, of which:
  - 88 are at surface level and 79 in the basement under apartment Blocks F and G.
  - 5 are dedicated visitor parking spaces.
- A total of 288 cycle parking spaces and 5 no. motorcycle spaces.
- A new vehicular access onto Stocking Lane.
- A new pedestrian and cycle access to the Springvale estate to the east.
- New roads, footpaths and cycle paths and connections within the site
- A new pedestrian crossing on Stocking Lane to the north west.
- The expansion and upgrade of the existing pedestrian crossing on Stocking Lane to the south west.

The development also includes landscaped private and public open space, boundary treatment, lighting, play area, an ESB substation, site drainage works and all ancillary site development works above and below ground.

The site is in a mature setting with developed gardens and natural landscapes. The mature gardens are typical of this setting and have a mixed range of trees and shrubs. The trees in the surrounding gardens vary in age from young to mature. Gardens in many of the surrounding residential sites are mature and are generally in a well-maintained condition. The sites boundaries are hedging, fencing and walls in varying stages and conditions of repair.

The landscape design report sets the rationale and objectives achieved in this application. The general site layout is set out to maintain the sylvan character of Stocking Lane to provide a soft landscape to the urban edge of the proposed residential development.



SITE SURVEY

DEVELOPMENT STANDARDS

In the preparation of the landscape proposals cognisance is taken of the.

- County Development Plan, South Dublin County Council 2016 – 2022
- Hard Landscaping, materials, street furniture, boundaries
- Soft Landscaping,
- Existing trees tree survey and tree protection to BS 5837;2012
- Tree works recommendations to BS 3998;2010
- New trees planting and maintenance to BS 8545; 2014
- Department of the Environment, Community and Local Government 2015
- Sustainable Urban Housing; Design Standards for New Apartments
- National Pollinator Plan
- WHO +UN Environmental Programme
- Ready Steady Play, A national Play Policy, National Children's Office
- Biodiversity for Low and Zero Carbon Buildings, Dr Carol Williams
- A Guide to Landscape Treatments for National Road Schemes in Ireland,
- Biodiversity by Design, Town and Country Planning Association 2004
- Wildlife Act, Ireland, 1976, 2000
- Green City Guidelines, UCD Urban Institute Ireland

DESIGN OBJECTIVES

The objective of the landscape proposals is to provide this proposed residential development with a range of high-quality materials and finishes that reflect the quality of the site's environment and the architectural proposals. Materials that will integrate the development into the surrounding environment that are sensitive to the historical context of the site and to nearby properties and developments.

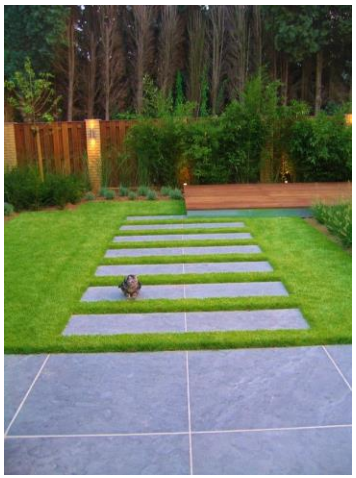
Develop a landscape that is:

- Attractive and practical and will provide an environment that is encouraging to residents to partake in its development as it matures.
- Of high quality, with hard and soft landscape materials those are sensitive to the site's location and historical context.
- Using native plant material or plant materials that are adopted and long established in the area and that are suitable in terms of mature size.
- Acknowledging long term maintenance and sustainability.
- Planting that will contribute to wildlife development and movement both within the site and along its edges.
- Providing a palette of trees and shrubs to develop a seasonal variety of visual, physical, and sensorial experience throughout the site.
- Develop a permeable circulation pattern for pedestrians and cyclists through the site to connect to the wider community
- Provide Greenway link within site's boundaries
- Retain existing trees in reasonable condition
- Provide integrated play facilities that have passive supervision and a range of activities to accommodate an age group from 1 year old to young teens
- Integrate the landscape proposals with SUDS features

CONCEPT IMAGES





Images of proposed design objectives with,

Integrated SUDS features
screened seating courts,
subtle landscape lighting,
pollinator and foraging plants and sward areas,
natural stone paving

Landscape proposals.

- Residents secure and covered bicycle storage with electric charging outlets to allow residents with electric bicycles, charge depleted batteries
- Pedestrian and bicycle link to the adjoining site
- Residents outdoor exercise courts
- Visitors bicycle parking
- Junior play area and creative natural play areas
- Native wildflowers and bulb planting
- Car parking bays
- Motorbike parking spaces
- Amenity planting
- Fruit tree, vegetable, and herb planting
- Vehicular speed movement curtailed within the site
- Access and usage of amenity lands
- Accommodate engineered swales with the landscape
- Seating courts for casual users and residents meeting courts

CONCEPT LAYOUT

- Entrance to the site is from the existing and developed road network
- The layout is set out in a series of clusters utilizing a single entrance roadway and a shared circulation approach.
- Residents will have access to their homes from the paved shared pedestrian surface.
- Accommodate car, motorbike, and bicycle parking.
- Each residential cluster is set out to accommodate.
    - Sitting courts
    - Junior play area that are overlooked and supervised with passive supervision
    - Bicycle storage both permanent and for visitor short term bicycle parking
    - Tree and shrub planting
    - Outdoor exercise courts
    - Hard landscaping materials that allow surface water to dissipate naturally
- Providing additional planting with semi mature trees of native and adopted species all to contribute to the integration of the proposal into the sites and the wider communities' environment. Materials that will contribute to a sustainable environment that encourages the development of wildlife movement in and around the site.
- Provide a permeable and connective pedestrian and cyclists route to adjoining lands on the Site's south western boundary


LEGEND
See Road engineers draw for road crossing
Potential future connection
Road 1
Road 2
Road 3
Road 4
Public open space 1: 1026m2
Public open space 2: 1270m2
Public open space 3: 760m2
Public open space 4: 440m2
Block H 3-storey
Block J 3 storey
Block K 3 storey
Block L 4 storey
Block M
Block F 4 storey
Block G 4 storey
Creche
See Road engineers draw for junction

Management controlled and community plaza

- Pedestrian and bicycle dominate the entrance surface to encourage slow traffic movement
- Shared surface with coloured finish as contrast to local vehicular approach roadway
- Paved entrance for pedestrians and cyclists with natural stone slabs
- Led uplighters to highlight main entrance areas to residential zone
- Mild steel self-closing gates with glass block infill panels to community courtyard
- Car parking on porous surface finish
- Grass areas with native wildflower mix with early flowering bulbs
- Planting with semi mature native trees and sensorial shrub plants to open space area
- Planting with smaller growing trees, sensorial shrub's, and hedging
- Raised basement ventilation with planting and bird boxes
- Play area with seating areas
- Existing trees retained

Detail layout to courtyard controlled by management company

Site entrance and residential units

- Pedestrian and bicycle routes with secure bicycle storage
- Shared surface with coloured finish to visually define public circulation and semi-private routes
- Pedestrian and bicycle route link to lands west of site over controlled platform
- Grass areas with native wildflower mix with early flowering bulbs
- Planting with semi mature native trees and shrubs to open space areas to visually screen private areas within residential dwellings
- Planting with smaller growing trees, sensorial shrub's, and hedging
- Residents link to main open space over coloured home zone vehicular route
- Seating areas
- Mixed shrub planting to provide 'defensible' space immediately outside residential unit
- Bat and bird boxes with hedgehog shelters

Detail layout to entrance area and residential dwellings

Layout to main open space

- Pedestrian routes with bicycle storage at play area and kickabout pitch
- MUGA area with enclosing mild steel railing with self-closing gates
- Play equipment for 1 year old to young teens with basketball throwing court on certified safety surface
- Kickabout pitch marked out
- Grass areas with native wildflower mix with early flowering bulbs
- Planting with semi mature native trees and sensorial shrubs to open space areas
- Residents link to main open space over raise platforms with vehicular pitch points
- Swale with mixed native wildflower and flowering bulbs
- Swale surface water outlet pond with enclosing screen and aquatic tolerant plants
- Seating areas
- Bat and bird boxes with hedgehog shelters

Layout to main open space

Layout to secondary open space

- Pedestrian routes to kickabout pitch
- Kickabout pitch marked out
- Grass areas with native wildflower mix with early flowering bulbs
- Planting with semi mature native trees and sensorial shrubs to open space areas
- Residents link to main open space over raise platforms with vehicular pitch point
- Seating areas
- Bat and bird boxes with hedgehog shelters
- Vehicular link with controlled stainless-steel bollard
- Low lighting level to prevent light overspill and to reduce impact on bats and wildlife
- Bat and bird boxes with hedgehog shelters set into native mixed shrub and tree planted areas
- Contoured open space to promote casual residential interaction in natural native wildlife meadow grassed and bulb areas and to encourage neighbouring residential users into open space

Layout to secondary open space to the east of the site

ECOLOGICAL ENHANCEMENTS

- Grass areas with native wildflower mix with early flowering bulbs
- Planting with semi mature native trees and sensorial shrub plants to open space areas and dwelling gardens
- Planting with smaller growing trees, sensorial shrub's, and hedging to community areas and the eastern site boundary
- Native plants incorporated in planting proposals and in the grass seed mix
- Placing bat boxes within the existing trees and retained panting along by the River Suir edge.
- Bat boxes will also be placed into the mixed planted areas
- Bird boxes will be placed throughout the planted areas with the objective of encouraging a healthy bird population and reinforce the ecological and educational resources for the residents.
- Hedgehog shelters will be placed within the shrub planted areas. The shrub planting to provide natural screening and protection
- Wildlife corridors will develop through the mixed native shrub planting and hedgerows
- The ultimate number of bat and bird boxes along with hedgehog shelters to be agreed with the ecologist
- Minimise existing topsoil movement through detailed setting out and noting retained soil areas

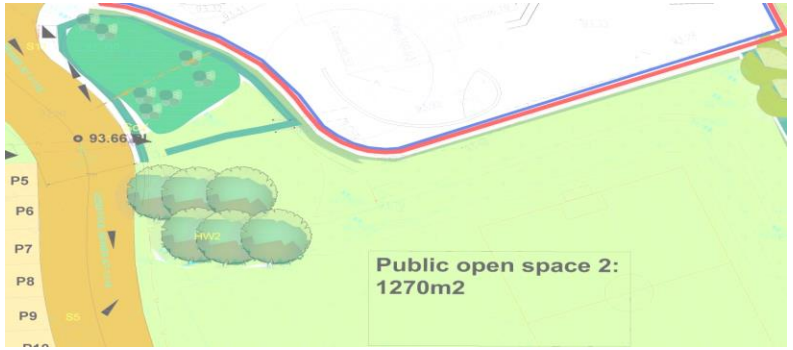
- Insect hotel with debris from site construction clearance waste
- Pallet to form hotel base and platforms with various construction clearance waste
- Pond to open space with planting of
    - Native mixed woodland trees and shrubs
    - Meadow grasses mix with native seed types
    - Wildflower mix native seed types
    - Early flowering bulbs planted in scatter pattern

Surface water Pond and swale

Pond with liner on sand bed depth of water to have various depths, refer to engineer's layout and details. Pond liner wrapped and fixed to edge beam and secured to subsoil base.

Swale to retain and to channel surface water run off towards engineered pond with 1 in 6 gradients to edges. This allows easy access across the swale it also allows regular grass cutting maintenance. Swale to have meadow grass mix with native wildflower mixture and early flowering bulbs.

Ecological swale and pond contribution include the layers, a) pond edge and surface b) surface layer c) shallow under water layer d) deeper under water layer



Layout to open space with swale and engineered pond area

Bat on site survey

- Recent detailed research on site of bat habitat and usage, indicated on the site map
- Objective, to protect and avoid any impact on the existing on-site bat usage
- Retain existing tree foliage and reinforce with tree planting to maintain the quality and quantity of tree cover
- Lighting proposals to minimize light pollution in bat usage areas with

Figure 3	Suggested dark zones
Location	Stocking Lane, Ballyboden
Applicant	MacCabe Durney Barnes Ltd
Date	16-09-2021

NM Ecology Ltd - Ecological Consultants
Website: www.nmecology.com
Email: info@nmecology.com
Tel: 087-6839771

Bat mitigation
Suggested dark zones

Bat activity
Leisler's bat
Common pipistrelle
Soprano pipistrelle

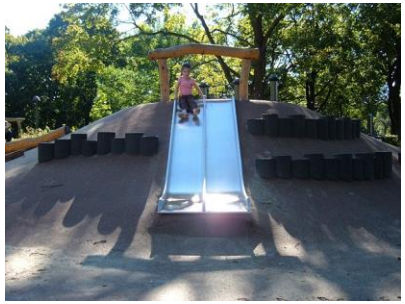
Layout of site with areas of usage and recommended low level light areas




Open space objective with trees and sensorial shrub planting, subtle landscape lighting, seating courts to encourage social interaction.




Play area with natural play materials to encourage free play with visual appeal

LANDSCAPE MATERIAL AND PLANT IMAGES, sheet 1



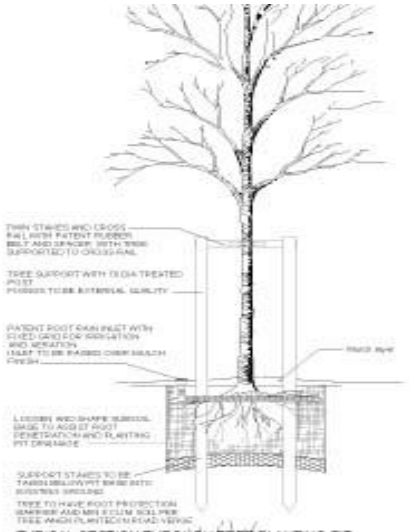

Sensorial shrub and vegetable planting to encourage residents to interact with the proposed planting objectives



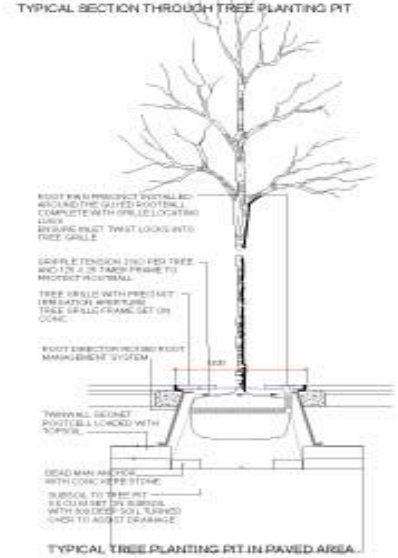

Open space grasses with native wildflower mix, mixed shrubs, tree planting with native species and fruit trees.
To encourage wildlife habitat development and circulation within the site.


Tree planting using native species together with established long-term approved trees

LANDSCAPE MATERIALS AND PLANT IMAGES, sheet 2



TYPICAL SECTION THROUGH TREE PLANTING PIT



TYPICAL TREE PLANTING PIT IN PAVED AREA

PLANT LEGEND

symbol	plant description	size in cm	comment
GIRTH = centimeter girth, RB = rootballed, CG = container grown, PF = pollinator friendly			
STREET AND STREET FRONTAGE TREES			
CC	CORYLUS COLURNA	12-14 GIRTH	RB
AM	AMELANCHIER G. ROBIN HILL	16-18 GIRTH	RB, PF
SJ	SORBUS JOSEPH ROCK	16-18 GIRTH	RB, PF
GB	GINGKO BILOBA	14-16 GIRTH	RB,
TC	TILIA C. STREETWISE	18-20 GIRTH	RB, PF
OPEN SPACE AND BOUNDARY TREES			
AC	ACER CAMPESTRE	16-18 GIRTH	RB,
PS	PINUS SYLVESTRIS	1.5+ M HIGH	RB
QP	QUERCUS PETRAEA	16-18 GIRTH	RB
BP	BETULA PENDULA	14-16 GIRTH	RB
PA	PRUNUS AVIUM	14-16 GIRTH	RB, PF
BOUNDARY HEDGE PLANTING			
Hedge planting to All Ireland Pollinator Plan, 2015 - 2020 planted in double staggered row, well feathered whips,			
CM	CRATAEGUS MONOGYNA	95+ HIGH	BR, PF
FS	FAGUS SYLVATICA	150+ HIGH	BR, PF
CA	CORYLUS AVELLANA	150+ HIGH	BR, PF
RC	ROSA CANINA	80+ HIGH	BR, PF
SN	SAMBUCUS NIGRA	90+ HIGH	BR, PF
SHRUBS COURTYARD AND MIX PLANTED AREAS			
AN	ANEMONE HONORINE JOBET	1.5 LT PF,	2.5 PER M2
CT	CHOISYA T. SUN DANCE	2.0 LT, PF	2 PER M2
CC	COTINUS C ROYAL PURPLE	3.0 LT	2 PER M2
CR	COTONEASTER REPENS	2.0 LT	2.5 PER M2
FI	FORSYTHIA I. SPECTABILIS	2.0 LT	2.0 PER M2
FJ	FATSIA JAPONICA	2.5 LT	1.5 PER M2
FT	FUSCIA TOM THUMB	3.0 LT, PF	1.0 PER M2
HR	HEBE RAKIENSIS	2.0 LT, PF	2.5 PER M2
HQ	HYDRANGEA Q. SNOW QUEEN	4.0 LT, PF	1.0 PER M2
JM	JUNIPERUS M. OLD GOLD	2.5 LT	2.0 PER M2
LS	LAVANDULA STOECHAS	2.0 LT, PF	2.5 PER M2
PZ	PRUNUS L. ZABELLIANA	2.5 LT	2.0 PER M2
PY	PHORMIUM YELLOW WAVE	3.0 LT	1.5 PER M2
PM	PHYLLOSTACHYS MITIS	3.0 LT	1.0 PER M2 PLANTED IN 900 DIA BOTTOMLESS POTS
PF	PIERIS FOREST FLAME	2.5 LT, PF	2.0 PER M2
RO	ROSMARINUS OFFICINALIS	2.5 LT , PF	2.0 PER M2
SJ	SKIMMIA JAPONICA	2.0 LT, PF	2.0 PER M2
SS	SENECIO SUNSHINE	2.0 LT, PF	2.0 PER M2
SV	SYRINGA V MADAME LEMOINE	2.5 LT, PF	2.0 PER M2
GARDEN HERB PLANTING TO REINFORCE ABOVE			
AM	ALLIUM PURPLE SENSATION	CG, PF	3 PER GROUP
BO	BORAGE OFFICINALIS	CG, PF	3 PER GROUP
MO	MELISSA OFFICINALIS	CG, PF	3 PER GROUP
SN	SILENE NUTANS	CG, PF	3 PER GROUP
SN	SILENE NOCTIFLORA	CG, PF	3 PER GROUP
PH	PETASITES HYBRIDUS	CG, PF	3 PER GROUP
BULBS PLANTED IN MIXED GROUPS AT 100 PER M2			
BULBS SET IN SCATTER PATTERN IN NOMINATED AREAS			
	ANEMONE NEMEROSA		
	CROCUS TOMMASINIANUS		
	NARCISSUS FEBRUARY SILVER		
	NARCISSUS FEBRUARY GOLD		
	NARCISSUS MT HOOD		

NOTES
ALL PLANTING TO BE UNDERTAKEN IN FIRST SEASON FOLLOWING COMPLETION OF SITE AND DEVELOPMENT WORKS TO EACH PHASE OF THE WORKS
SHRUB PLANTED AREAS TO HAVE BARK MULCH LAYER AS SAURFACE FINISH

TREE PT DETAIL AND PLANT SELECTION LIST

1.0 GENERAL

1.1 Description of work

The work consists of general works, soil preparation, grass seeding, shrub, shall satisfy the landscape architect that all works have been carried out to B.S. 4428 General Landscape Operations, B.S. 3936 Nursery Stock and to B.S. 3882, Topsoil and the items stated below.

It is always essential that the site tidy and that the planting appears healthy. The landscape contractor should always be prepared to ensure that such conditions are met and should include for this in his rates. An agreed schedule of phased completion and expected handover dates will be finalised after the contract is awarded.

The construction of hardworks shall be undertaken with the main construction program. Care is to be taken to avoid unnecessary machinery traffic on completed areas.

Top soiling shall be carried out in areas where the underground service work and hardworks elements are completed to avoid disturbance to top soiled areas. Any unnecessary works and disturbance to be reinstated by the contractor at no expenses rot the client.

Planting bare root and rootballed stock to take place in the following planting season from completion of topsoil works, namely between November and March. Container grown stock and grass seeding shall be carried out in the appropriate weather conditions following completion of topsoil works.

1.2 Standards of Workmanship and Materials

The landscape contractor should include for this in his rates.

No existing plants shall be removed or damaged over than those specified by the landscaped architect.

1.3 Notice of Intentions and Recording Actions

The landscape contractor shall give 48 hours' notice of his intentions to commence setting out, planting and maintenance visits.

The landscape contractor shall return a weekly record of all site actions.

1.4 Leaving the Site Tidy
The site shall be left in a neat and orderly condition at the end of each day's work.

1.5 Season
Landscape work shall take place in the appropriate season and only when conditions are suitable i.e. it is dull, moist and mild, without undue risk of frost or drying winds.

There shall be no cultivation or planting when the soil id frozen or waterlogged.

If exceptional weather conditions occur after planting eg heavy frost, measures shall be undertaken as approved by landscape architect.

1.6 Replacement
The landscape contractor shall make good at his own expense any losses of trees and plants which die or appear unhealthy at any time up to practical completion and in the 18 months after planting.

Plant failures will not be charged to the landscape contractor if the failure is due to, damage by hares, rabbits, livestock where not protected by guards or fencing, damage or loss due to theft, vandalism or disturbance by other contractors.

1.7 Damage
All trees and plants are to be adequately and carefully packed and protected to survive transport, whatever means, to the site, during loading, transit or
unloading.

If in spite of these precautions' roots, branches, or shoots suffer slight damage, they are to be carefully pruned.

If major damage has occurred, the plants or tree shall be rejected and replaced at the landscape contractor's expense.

1.8 Defects liability period
The landscape contractor shall be responsible for any plants that fail to take during the first growing season, 18 months, from date of completion.

1.9 Protection
The landscape contractor shall provide adequate temporary protection to the whole of the works and shall include temporary coverings, planked barrow runs and all other measures for protecting the work from damage.

The landscape contractor shall also protect from damage all existing roadways, kerbs, services and other completed works on site.

Any work damaged or soiled by weather, traffic or other causes due to inadequate temporary protection shall be removed and made good at the cost of the landscape contractor. The form of protection is left to the discretion of the landscape contractor.

1.10 Setting out the works:
Setting out shall be in accordance with the landscape architect, and the supplied drawings.

1.11 Finished grading
All area planted be the landscape contractor shall be left in a reasonably even state, with all soil dumps broken up, stones >50mm shall be removed off site.

1.12 Site access
The landscape contractor is to consult with the developer as to the most suitable access point to undertake the works. The contractor to ensure that as little inconvenience as possible is caused to the users of the public road. In this regard arrangements will be agreed with the client as to the times for moving of materials onto or about the site.

1.13 Existing services
The contractor is to make himself aware of the extent of the existing services in so far as they affect his contract area. The contractor to make good at his own expense any damage to services damaged, due to any cause within his control and he shall pay any costs and charges in connection with same.

The landscape contractor is to indemnify the client and the landscape architect against any charge of negligence and cost of repairs caused by the landscape contractor during the course of this contract.

1.14 Plant materials

The landscape contractor is to ensure that plants brought onto the site are grown in Ireland, written proof will be required.

1.15 Nursery stock:

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

All plants shall have been nursery grown in accordance with good practice. They shall have the Habit of growth that is normal for the species. The contractor will be deemed to have advised his/her suppliers of the relevant sections of this in all cases be liable to replace materials brought on site that are not in accordance with this specification

1.16 Species

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

Bundles of plants shall be marked in conformity with B.S. 3936: Part 1 1965 and B.S. 3936: Part 4: 1966. The landscape contractor shall replace any plants, which, on leafing out, are found not to conform to the labels. Definitions of all terms used in accordance with the following British Standards: - B.S. No. 3936: Part 1: 1965 entitled "Nursery Stock- Trees and Shrubs" B.S. No. 3936: Part 4: 1966 entitled "Nursery Stock- Forest Trees" B.S. No. 3936: 1967 entitled "Specification for Nursery Stock"

2.0 TREES

All trees to be to B.S. 3936, Part 1, including orientation, pruning and root systems.

2.1 Tree specification

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

2.2 Setting out

Supply and plant trees in location shown on layout drawing. All plants to be set out for approval.

Minimum tree sizes are indicated on the accompanying layout drawing.

2.3 Planting

Standard and advanced standard trees planted with tie and two number 70 dia. treated stakes set in pit. Each tree to have 70 grams of slow releasing fertilizer mixed with 20 litres of moss peat and good quality topsoil. Bottom of pit to be broken up and turned over to a depth of 350 to assist drainage.

Tree stakes to be pressure treated timber to manufactures instructions.

2.4 Stakes:

Round stakes shall be of peeled larch, pine or Douglas fir, preserved with a water-borne Copper chrome arsenic composition in accordance with I.S. 131. Drive stake with a wooden maul or cast-iron headed drive.

Tree ties shall be rubber, PVC or proprietary fabric laminate composition and shall be Strong and durable enough to hold the tree securely in all weather conditions for a period of three years. They shall be flexible enough to allow proper tightening of the tie. Ties shall be min. 38mm wide for standard trees and upward sizes. They shall be fitted with a simple collar spacer to prevent chafing, and with a buckle for adjustment. Nail each tie to the stake with one galvanised nail immediately behind the buckle, leaving the tie free for adjustment

2.5 Tree and shrub planting

2.5.1 Standards

Excavate tree pits to minimum dimensions of 350 mm wider than root ball, minimum tree planting tip to be 800 x 800 x 800deep. The base of the pit shall be broken up to a depth of 450 below root ball and glazed sides roughened. Incorporate slow releasing fertilizer and moist moss peat to each tree pit prior to planting. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plants into position. Supply and drive the stake 800mm into the ground.

Where indicated trees set into precast containers to have prepared backfill with topsoil mixed with patent potting compost and approved loam.

2.5.2 Containerized shrubs and herbaceous

Excavate planting hole to a minimum depth of 350 wider than root ball. The base to be broken to a depth of 350 mm and glazed sides roughened. Apply slow releasing fertilizer and moist moss peat as directed. Where indicated shrubs set into precast containers to have prepared backfill with topsoil mixed with patent potting compost and approved loam.

2.5.3 Container grown shrubs / conifers / bare root shrubs

Excavate planting pit to a minimum depth of 350mm wider than root ball. The base to be broken to a depth of 350 mm and glazed sides roughened. Apply prepared mix of bone meal, moss peat and topsoil to planting pit.

2.5.4 Protection of plants

Plants shall be protected from drying out and from damage in transport. All stock awaiting transport shall be protected from the wind and frost and from drying out.

2.5.5 Damage / Inspection

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

2.5.6 Raking off

Upon completion of planting, all pits shall be raked over lightly to even surface and neat appearance. All stones greater than 50mm dia. to be removed off site.

3.0 WATERING

All bare rooted light standards and selected standards shall be soaked in water overnight, on site. Fertilisers shall conform to B.S. 5581: 1981. In the case of granular fertiliser being added to plantings, it must be mixed though and incorporated into the base of the planting hole and covered over in order to avoid roots of plants coming in direct contact.

4.0 MULCH TO PLANTED AREAS

Supply and spread a 25 mm thick layer of approved and treated mulch. Mulch to be spent hops/brewers waste, set aside for 2 days before using or approved and treated bark.

5.0 GRASSING AND EARTHMOVING

Landscape contractor to allow for removing topsoil to depth of 150 and storing in selected area for re-uses.

Contractor to allow for deep rippling of the sub-base with 300mm deep at 1000mm centre rips. Approved mound of spoil to be spread to achieve levels as indicated on the attached layout drawing, allowing for topsoil finish. Sub-soil to be placed in layers not exceeding 150 thick.

On completion of soil spread contractor to allow for ripping of soil with deep plough at 400 deep and 900 centres. On completion of sub-soil moving the formation level shall be graded with box scraper to even, running contours.

Topsoil to be spread evenly on formation levels to achieve minimum depth of 150mm. Topsoil to be cultivated to crumb size to a condition suitable for blade grading. When the topsoil is reasonably dry and workable grade to smooth flowing contours, with falls for adequate drainage, removing all minor ridges and hollows. Large stones and unwanted material 50mm and over to be picked off and removed from site. Final contouring to be achieved with blade grader to true, flowing contours as indicated on the attached layout drawing.

The use of heavy rubber tyred vehicles shall be governed by weather conditions. All topsoil to be cultivated to a depth of 150mm prior to cultivation. Unless otherwise stated, finished levels of topsoil, after settlement, to be 32mm minimum above adjoining pavements and kerbs.

Landscape contractor to allow for final raking to prevent the development of humps and hollows in grassed areas, preparation to include for raking to encourage surface water runoff, removing stones and all foreign material.

5.1 Grass seed

Grass seed mixture to be,

25% Perennial Ryegrass, Aberelf, Darius
25% Perennial Ryegrass, Bareine, Lorina
25% Chewings Fescue, Bargreen, Baroxi, Darwin, Raisa
25% Slender Creeping Red Fescue, Barcrown.

or other approved.

Pedestrian routes through the open space areas to have a min 1.5 m wide mown grassed verge maintained at between 35 and 75 mm high.

Where indicated the seed mixture to include a selection of native wildflower seeds mixed through and spread by contractor. On completion of seeding and in season following sward establishment a selection of bulbs to be hand scattered and planted into sward.

5.2 Wild grass mix to include selection

Grasses

Crested Dogstail *(Cynosurus cristatus)*

Sheep's Fescue *(Festuca ovina)*

Flora

Autumn Hawkbit *(Scorzoneroides autumnalis)*

Bladder Campion *(Silene vulgaris)*

Common Sorrel *(Rumex acetosa)*

Cowslip *(Primula veris)*

Lady's Bedstraw *(Galium verum)*

Meadowsweet *(Filipendula ulmaria)*

Perforate St Johns Wort *(Hypericum perforatum)*

Ribwort Plantain *(Plantago lanceolata)*

Tufted Vetch *(Vicia cracca)*

Wild Red Clover *(Trifolium pratense)*

Betony *(Stachys officinalis)*

Cats Ear *(Hypochaeris radicata)*

Common Vetch *(Vicia sativa ssp. segetalis)*

Field Scabious *(Knautia arvensis)*

Meadow Buttercup *(Ranunculus acris)*

Musk Mallow *(Malva moschata)*

Ragged Robin *(Lychnis flos-cuculi)*

Salad Burnet *(Sanguisorba minor)*

Wild Carrot *(Daucus carota)*

White Campion *(Silene latifolia)*

Birdsfoot Trefoil (Lotus corniculatus)

Common Knapweed (Centaurea nigra)

Common Toadflax (Linaria vulgaris)

Greater Hawkbit (Leontodon hispidus)

Meadow Cranesbill (Geranium pratense)

Ox Eye Daisy (Leucanthemum vulgare)

Red Campion (Silene dioica)

Self-heal (Prunella vulgaris)

Wild Marjoram (Origanum vulgare)

Yarrow (Achillea millefolium)

5.3 Grass maintenance

5.3.1 Grass margins and margin to pedestrian routes through open space

Where indicated grass margins to pedestrian routes through open space to be maintained at between 35 to 75 mm high. Grassed roadside verges to be maintained between 35 to 55 mm high.

5.3.2 Open space areas

Where indicated open space areas with a mix of meadow grasses, native wildflowers and early flowering bulbs to be sown in spring or autumn.

Year 1, following planting grass cutting to take place in mid-October. Cut height to be 30 to 50mm. Remove cuttings and remove perennial weeds.
Year 2 and 3, cut to height between 35 to 50 mm in mid-November, leave cut vegetation for 3 days before removing. Remove perennial weeds.
Year 4 and subsequent years, cut to height between 35 to 50 mm in mid-November, leave cut vegetation for 3 days before removing. Remove perennial weeds.

Perennial weeds such as dock or nettles to be removed.

6.0 Bulb planting

Landscape contractor to supply and plant in designated areas indicated on the planting drawing at rate of 20 bulbs per m2. Bulbs planted in scatter pattern in mixed groups.

Anemone nemrosa
Crocus tommasinians
Narcissus February Silver
Narcissus February gold
Narcissus Mt Hood

6.1 Bulb Planting

If planting whilst laying turf, for a naturalised effect, bulbs should be scattered from waist height onto prepared soil (a light tilth) and then covered over with the turf. The turf provides adequate cover so no

additional soil or dibbing is required. Bulb sizes are deliberately small, but care should be taken not to put too much heavy weight on to the turf, so as not to damage the bulbs underneath.

Planting into established wildflower areas, use a handheld bulb planter to a depth of 6-8 cms and plant where they have fallen after scattering them from waist height. A motorised turf cutter can also be used for a larger area, forking over the bared soil to create a light tilth, scattering the bulbs and taking care to lay down the cut turf back into place once the bulbs have been scattered.

Bulbs should be planted between September and December, ideally when the ground temperature is between 4-8° C.

6.2 Densities

For a naturalised effect we recommend planting 20 bulbs per m². Denser looks can be achieved by doubling the rate.

7.0 MAINTENANCE.

Landscape contractor to allow for maintaining the works for a period of 18 months after practical completion,

This work to include -

Grass cutting to maintain sward between 35 to 50 mm as noted above. Cutting of areas with native wildflower seed and bulbs to be agreed.

Fertilizing of grassed areas to commence in late spring/early summer following development of sward. Application and type of fertilizer to be agreed on site with landscape contractor, prior to application.

Replacing all plants, which die or fail to thrive, under circumstances within the contractor control, within the 18 months.

Weeding docks and nettles to be removed by mechanical means from all areas, allow for supplying and spreading an approved herbicide weed suppressing to grassed verges, to manufactures instructions.

Watering all planted areas, including shrubs and trees, allow for standpipe connection and hoses as required.

Resetting and retying all ties to trees.

7.1 Long Term Maintenance.
Long-term maintenance to be undertaken by approved landscape contractor.

8.0 TIMESCALE AND PROGRAMME OF LANDSCAPING WORKS.

Landscaping works to be undertaken in first planting season following completion of site and the development works.

Phased completion of landscaping works to be undertaken to match completion of each phase of the development.

Topsoil spreading and preparation of soft landscaped areas of gardens and open space area including subsoil cultivation shall be agreed and carried out in suitable weather conditions. Avoiding waterlogged and frost weather periods.

Planting of trees and shrubs to be undertaken in dormant period of growth, generally between October and March subject to approval, grassing and surface cultivation between April and September.