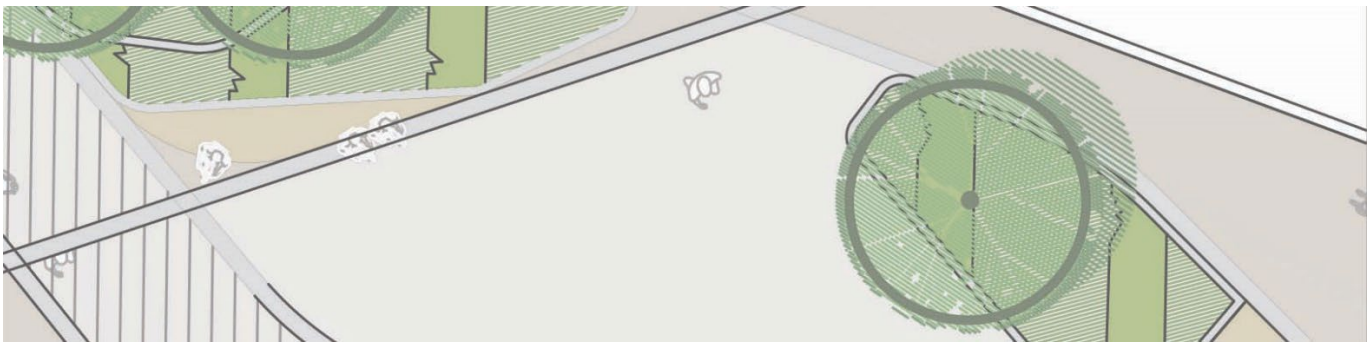


Mixed Use Development at Former Blakes and Esmonde Motors Site, Stillorgan, Co. Dublin

Planning Submission



Landscape Report & Outline Landscape Specification

25th March 2022

Landscape Report

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Outline Landscape Specification

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Kevin Fitzpatrick Landscape Architecture Ltd. has been commissioned by Cairn Homes Properties Ltd. to provide landscape architectural consultancy in relation to a planning application for the proposed mixed-use development at the former Blakes and Esmonde Motors Site, Stillorgan, Co. Dublin. This report should be read in conjunction with the following documents:

Kevin Fitzpatrick Landscape Architecture Drawing, 0286-101 – Landscape Masterplan Sheet 1
Kevin Fitzpatrick Landscape Architecture Drawing, 0286-102 – Landscape Masterplan Sheet 2
Kevin Fitzpatrick Landscape Architecture Drawing, 0286-103 – Landscape Sections
Kevin Fitzpatrick Landscape Architecture Drawing, 0286-104 – Blocks 3 + 4 Gardens
Kevin Fitzpatrick Landscape Architecture Drawing, 0286-105 – Blocks 1 + 2 Gardens
Kevin Fitzpatrick Landscape Architecture Drawing, 0286-106 – Open Space Allocation and Access Management
Kevin Fitzpatrick Landscape Architecture Drawing, 0286-107 – Play Detail and Activity Diagram
Kevin Fitzpatrick Landscape Architecture Drawing, 0286-108 – Roadside Planting Plan
Kevin Fitzpatrick Landscape Architecture Drawing, 0286-109 – Boundary Details
Tree File Ltd Drawing, Blakes Site – Tree Constraints Plan
Tree File Ltd Document –Tree Survey + Report, Trees at Blakes , Stillorgan

1. Existing Landscape

1.1 Overview

The site is located to the south of the city in the District Centre of Stillorgan, approximately 2km inland from the coastline. The site is a triangular shaped area formed by the surrounding roads. It is bounded to the east primarily by a continuous steel railing, a wall and belt of deciduous trees beyond which lies the N11 dual carriageway. This boundary treatment creates a visually impermeable screen along most of the eastern site boundary (fig 1). The northern boundary allows views into the site from the Lower Kilmacud Road where the boundary treatment is a low stub wall and railing. The western boundary of the site, The Hill, is made up by a low stone wall at the northern section and timber hoarding. The streetscape of the hill in general is of poor quality being made up of various degraded and low-quality surface materials with little aesthetic value. On the opposite side of the street at the hill a number of the properties are used for commercial purposes, including a number of pubs and restaurants. Due to the shape of the site the southern boundary is the shortest at only 50m in length. This boundary is formed by the residence directly to the south and current boundary walls.

In the wider landscape, the lands are situated between the commercial centre of Stillorgan to the north and west and the wider residential landscape of low density detached housing to the east and south. The N11 dual carriageway forms a barrier that creates a level of separation between the site and the landscape to the east. Across the site the levels fall by approximately 6m from a high point of 52.96 in north west corner to a low point of 46.60 in the centre of the site. The level changes are most severe in the northern section of the site with the landform becoming flatter in the southern section. The gradient along the Hill is very steep at the upper part of the street where it falls towards the south-east at a slope of 1/15 however this levels out to a relatively flat plateau in the middle part of the street.



Fig 1 – View from the N11 to eastern perimeter of site with belt of trees screening views of the site



Fig 2 – View from the Lower Kilmacud Road into the site



Fig 3 – View from 'The Hill' towards the Lower Kilmacud Road with the site on the right of the view.

1.2 Landscape Character

A large portion of the site is currently taken up hard standing, made up of asphalt and sections of rubble and crushed stone. All of which are not used and in a state of disrepair. Some small remnants of overgrown ornamental vegetation still exist on the boundary with the Hill however the majority of the trees and vegetation on site are in the tree belt on the eastern perimeter.

Due to the local topography and the nature of the surrounding built up landscape there are no extensive views from the site over the surrounding landscape. The character of the landscape would be considered that of a transitional landscape.

1.3 Existing Trees and Vegetation

The trees and hedgerows on the subject lands have been surveyed by a qualified arborist (The Tree File Ltd) and the arborist's report forms part of this submission. Most of the trees on the site are classed as category C (poor, limited value) or B (moderate) with a number of trees classed as U (dead, dying or dangerous) by the Arborist. There are no Category A trees listed in the report. Most of the larger specimens are in the stand of trees located along the eastern boundary with the N11, within application boundary. This is a belt of trees mostly classed category B condition and consisting of Norway Maples with the occasional Ash and Lime.



Fig 4 – View of stand of large trees between the site perimeter and the N11

2 Landscape Strategy

2.1 General Aims

The landscape strategy aims to integrate the new built development with the existing landscape and create a high quality public realm incorporating a significant civic space. Throughout the scheme a series of attractive and usable open spaces are created that respond to the needs of future users.

2.2 Spatial Uses



Fig 5. Landscape masterplan

The useable landscape space in the scheme is provided through a range of different landscape typologies aimed at providing for different uses. These spaces are evenly distributed throughout the scheme, with all spaces physically connected to each other and the surrounding public realm and open space network. A further two enclosed courtyard spaces are provided within the northern building. The courtyards overlook the central landscape space and the landscape design accommodates that visual link.

In all the open spaces the levels have been carefully considered to accommodate easy circulation and create suitably flat areas for activities and uses. Careful consideration of the levels has been central to the site and landscape design with the aim to provide universal access wherever possible.

The landscape typologies within the scheme can be described as follows:

- Civic space and public realm
- Central open space
- Communal courtyard garden spaces

2.3 Area A – Public Realm



Fig 6. Northern section of scheme, public realm and civic space

The public realm scheme includes a large civic space which is focused on the corner of the Hill and the Lower Kilmacud Road. The civic space wraps around the commercial section of the scheme and provides a high-quality streetscape to the commercial buildings. The space is mostly pedestrian only, however a bus set down area is accommodated along the Lower Kilmacud Road.

The corner of The Hill and the Lower Kilmacud Road is celebrated in the scheme by a feature planter that responds to the levels through its tilted and tiered form. This planter incorporates seating platforms into the scheme with ornamental trees and groundcover planting. The form generated by the planter is repeated in similar smaller features that are designed to create a spatial hierarchy and control views and circulation throughout the space. This geometry set by the circulation and movement is continued throughout the scheme by the surface design in the civic space areas. This treatment wraps around the northern section of the scheme along The Hill as far as the southern plaza space.

The landscape typology changes at the plaza space to the south of the commercial buildings. This space is designed as a flexible civic space with a central area suitable for events, markets, exhibitions etc. The surface treatment and level design intend to create a flat central platform providing flexibility of use. The steps and seating are designed to control pedestrian circulation to accommodate possible events, outdoor dining and retail frontage. A static seating space is provided with benches and planters and reinforces the spatial hierarchy by defining the sub space on the east used as a dining terrace.

Where the street frontage along the Lower Kilmacud road interfaces with the buildings the public realm design aims to facilitate the built architecture's engagement with the street and accommodate circulation. The natural stone used in the feature spaces is carried through the streetscape and arranged to highlight building entrances and circulation.

On the corner with the N11 a large landscape space is provided. A partial visual buffer with the N11 is proposed to improve the environment in this space and create a comfortable staying space. This buffer is created by a raised planter with a dense belt of birch and pine trees used to create the screen. The birch trees will be clear stemmed to allow partial views. Within this space a sub space is created that will provide for outdoor dining. The landscape design at the corner block is intended to enhance the buildings engagement with the street.

2.4 Area B - Central open space and Residential Terrace Garden



Fig 7. southern section of scheme - central open space and residential garden

The spatial design of this space is focused on a series of seating spaces located around a central lawn and a natural play area. The space is primarily soft and green with curved and flowing forms throughout the design of the hard surfaces and features. A planted backdrop is provided around the perimeter to visually soften the hard edges created by the buildings and basement car parks. A poured concrete surface provides the surface for the main circulation routes. The various staying spaces are located around this circulation route and are defined by a change in surface to a fine compacted gravel. Seating spaces are provided adjacent to the playground offering seating options with benches and tables and seats in spaces off the main circulation paths. The circulation has been designed to allow full pedestrian connectivity through the space while accommodating universal access to all areas.

The trees scheduled for retention between the site and the N11 are to be retained and protected during construction of the scheme. The site boundary in this area is currently formed by a boundary wall. Ground investigations on the site side of the wall have shown only a limited number of smaller tree roots. This would lead to the conclusion that the strip foundations to the boundary wall has created a barrier to root spread from these trees into the site. Any impact on the Root Protection Area and consequently the long term health of these trees by the building works would be significantly reduced due to the limited amount of root spread into this area.

This existing boundary with the N11 will be further enhanced with a biodiversity rich native tree and ground cover planting scheme. A steel railing will be located on the foundations of the existing boundary railing to limit the impact on the trees to be retained. The boundary to The Hill will also be formed using a steel railing and gate with planting on either side of the railing to visually integrate it into the open space landscape.

Within the raised terrace section of the open space (over podium), two further small secluded seating spaces are created using planting and trees to create a comfortable staying space. A strip of buffer planting is provided to create a separation between the circulation paths and the ground floor windows.

2.5 Open Space Access Management



Fig 8. Open Space Access Management Diagram

2.6 Pedestrian circulation and Links



Fig 9. Pedestrian circulation diagram

2.7 Planting Strategy

The plant species are chosen to respect the local environment while providing suitable vegetation that is harmonious with the public realm and communal garden spaces and will be successful through all stages of its maturity. Therefore, the planting palette has a limited number of species chosen for their space making role and the visual attributes they can contribute to the intended atmosphere of each space. .

In the public realm areas a limited palette of planting is used to create a visual cohesiveness throughout the scheme. Along the Lower Kilmacud Road the street trees are primarily *Pinus sylvestris* 'Norska' with a second tier or *Malus* 'Evereste' to tie in with the first phase of the 'Stillorgan Public Realm Upgrade'. On The Hill, street variety flowering trees are used with a tight habit and a tall clear stem. A small number of varieties are used and planted in single species groups to create a visual character for each space. Contrasting band of single species groundcover is used in the civic space areas as a visual pattern making feature. The groundcover while robust and evergreen is chosen to provide texture, softness and movement to the otherwise visually hard spaces.

In the central open space a perimeter of robust shrub planting is used to create a visual backdrop of soft muted green. Closer to paths and staying spaces groundcover is used providing texture and colour to create variation

within the space and to reinforce the spatial design concepts. The medium sized trees used are planted in small groups to add vertical spatial elements within the space that will make the space feel larger as the user moves throughout it. The positions of the trees also allow the views to the south from the residential courtyards to be maintained.

With the courtyard gardens a buffer zone of groundcover planting provides a comfortable setback distance between the pedestrian circulation and the ground floor windows. This privacy strip is reinforced by the bands of tall bamboo planting and specimen shrubs that will provide a small element of canopy cover. Specimen plants will be planted through the cobble that are suitable for occasional flooding and contribute to the rain garden atmosphere. These various planting elements are pulled together band a band of colour and texture planting weaving through the courtyard space and enveloping the seating areas.

Formal evergreen hedges are used throughout the development to define spaces and create boundaries. The hedge species is chosen to complement the landscape character of each space.



Pinus sylvestris 'Norska'



Malus domestica 'Everste'



Prunus 'Chanticleer'



Sorbus intermedia 'Brouwers'



Mault trilobata

Fig 10. Proposed Street Tree Species

Planting List

Medium Tree Planting

To be planted as 14-16cm, 3xtr, wrb, 4-4.5m high, 2m clear stem. To be of the following species:

Alnus glutinosa (Alder)
Betula pendula (Birch)
Malus domestica 'Evereste'
Plnus sylvestris 'Norska'
Prunus avium (Wild Cherry)
Pyrus chanticleer (Ornamental Pear)
Prunus kanzan (Ornamental Cherry)
Sorbus intermedia 'Brouwers'

Small Trees Specimen Shrubs

To be of the following species:

Aralia elata, min 3 breaks, 3xtr, br, 3m, 1.25m clear stem
Amelanchier lamarkii, feathered, min 5 breaks, 3xtr, wrb, 2.5-3m
Rhus typhina, min 3 breaks, 3xtr, br, 4m, 1.5m clear stem
Corylus avellana, feathered, min 5 breaks, 3xtr, wrb, 2.5-3m,

Shrub Planting

To be selected from following:

Abelia x grandiflora
Buxus sempervirens (Box)
Cistus x hybridus (Rock Rose)
Cornus alba 'Sibirica' (Red Barked Dogwood)
Calamagrostis 'Karl Foerster'
Hypericum 'Hidcote' (St Johns Wort)
Ilex aquifolium (Holly)
Ligustrum japonicum (Japanese Privet)
Ligustrum vulgare (Common Privet)
Mahonia x media
Prunus lusitanica (Portugese Laurel)
Prunus laurocerasus (Common Laurel)
Salix brtizensis (Willow)
Stipa gigantea

Formal Hedge Planting

To be selected from following:

Carpinus betulus
Cotoneaster lacteus
Fagus sylvatica
Prunus lusitanica

Groundcover Planting

To be selected from following:

Groundcovers planted at 5 per m2 in single species groups
Herbaceous plants to be planted throughout in groups of 3 and 5. Bulbs to be planted throughout in groups of 7 and 9
To be selected from following:

Groundcover + Grasses

Carex testacea
Hedera helix 'Hibernica' (Ivy)
Lavandula stoechas (Lavender)
Libertia formosa
Lonicera pileata (Honeysuckle)
Lonicera nitida 'Maigreen' (Honeysuckle)
Luzula nivea (Snowy Woodrush)
Molinia caerulea (Purple Moor Grass)
Persicaria affinis 'Superba'
Schizostylus coccinea (Crimson Flag)
Stipa calamagrostis
Stipa tenuissima
Tulbaghia violacea (Society Garlic)
Vinca minor(Periwinkle)

Herbaceous Plants

Allium spp.
Anemone japonica 'Honorine Jobert' (Windflower)
Ligularia 'Przewalskii'
Rudbeckia fulgida 'Goldsturm' (Black Eyed Susan)

Bulb Planting

Narcissus spp
Crocus spp.
Gladiolus murielae

Low Carpet Planting

Planted in single species swathes. with groups of bulbs and perennials throughout:

Deschampsia cespitosa
Festuca scoparia
Pachysandra termianallis
Persicaria affinis 'Superba'

2.7 Natural Play Area Design

The play area is designed as a 'Natural Play Area', this is where a preference is given to natural play features, materials, and objects over the standard manufactured play equipment. There is a greater emphasis on building, creation, exploration and pretending as activities to extend the interest in the play area for users that visit regularly, as is common in a residential landscape space. One of the other benefits of this type of play facility is that the appearance of the space is more harmonious with a landscape space as it is primarily made up of grass mounds, sand, gravel, timber and stone. As no large structures or moving parts are used the safety risks and requirements for appropriate safety surfaces etc. are reduced.

The play area featured in fig 10 is an example of the type to be created in this space. The surfaces will be primarily grass, gravel and sand. Level changes, grass mounds and steps will be incorporated into the scheme as a central feature of the space. Within the space created many activities are facilitated such as balancing, jumping, climbing, crawling.



Fig 12 - Precedent image for Natural Play area ('Ringfort' play space, Lucan by Playscapes) demonstrating proposed design typology



Fig 13 – Robinia Stilits by Kompan Ltd



Fig 14 – Concrete or stone stepping stones



Fig 15- Robinina Balance Beam unit by Kompan Lt

2.8 Materials



Fig 16 - Exposed aggregate concrete footpaths

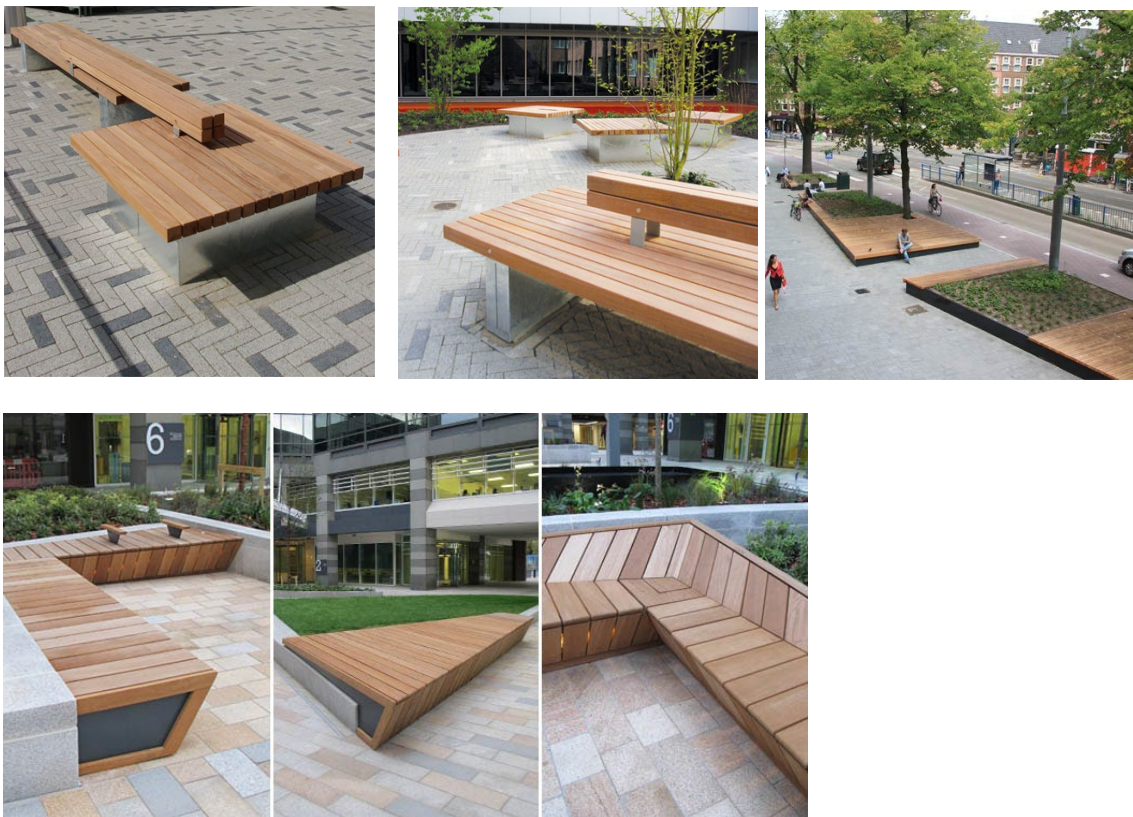


Fig 17 - Hardwood and steel street furniture design typologies



Fig 18 – Stone Paving, Silver Granite Slabs (Gris Alvo)



Fig 19 – Ballylusk Gravel Surface



Fig 20 – Silver Granite Setts (Gris Alvo)



Fig 21 – Coloured Asphalt Surface

2.9 Landscape Design and Flood Risk Mitigation

A detailed Flood Risk Assessment for this site has been undertaken by JBA Consulting and their report can be found with this planning submission. The landscape design has been cognisant of the flood risk mitigation measures and has been designed to accommodate these requirements. The central open space is maintained at a level of 46.8m to accommodate the flood storage required in the event of the 1 in 100 year flood event. The unobstructed flow path required to accommodate a flood event runs through the central open space and the landscape proposal does not result in any obstructions to this flow path (refer to figure 22)



Fig 22 – Unobstructed flow path through landscape space

1.0 EARTHWORKS SPECIFICATION

1.1 STRIPPING AND STORAGE OF TOPSOIL

1.1.1 Weather and Soil Conditions

All work involving topsoil shall not be carried out, unless the engineer permits otherwise;

- a) where areas have been exposed to a cumulative rainfall exceeding 60mm over the preceding 28 days measured at a point approved by the engineer; or
- b) where moisture content is wetter than the Plastic Limit (PL) of the soil less 3%. The PL of the soil can be assessed in the field as the minimum moisture content at which the soil can be rolled and moulded into a thin thread approximately 3mm in diameter without breaking or cracking and in a laboratory according to BS 1377:Part 2.
- c) when heavy rain is falling.

Topsoil shall not be stripped, excavated or worked in way when frozen or waterlogged.

1.1.2 Stripping

Prior to stripping existing, all vegetation will be cut to a maximum height of 100mm and sprayed with an approved systemic herbicide.

Existing topsoil to a maximum depth of 150mm shall be stripped from all areas liable to disturbance of any kind including building works, all temporary access routes, underground services, permanent mounding areas, ponds, compounds and storage areas.

Do not run machinery over ground before stripping. Strip the full depth of the sod and topsoil, but avoid extending the stripping into the subsoil layers. Doubling handling/working of all material shall be avoided.

1.1.3 Stockpiles

Stockpiles shall be kept as low as possible, and shall not exceed 1.5m metres in height. Avoid running machinery over stockpiles, if this is compatible with the operation of the machines employed. In all cases, minimise the running of machinery over stockpiles. Do not compact them. In formation of stockpiles, soil should be loosely dumped and stockpiles should be shaped to shed water. Any temporary stockpiles, made before loading, shall not exceed 1.5 metres in height. Do not run machinery over the surface of stockpiles.

Stockpiles shall be located on dry, free draining ground, not subject to temporary standing water. If water ponds against the stockpile, temporary drains shall be cut to relieve it.

Topsoil stockpiles shall not be covered or contaminated by subsoil, rock, rubble, remains of trees, site debris, fuel or chemical pollution. Any contaminated soil stripped from the site shall not be incorporated into the stockpile. Where space is short, or where there is any risk of contamination or of topsoil and subsoil stockpiles intermingling, the topsoil stockpile shall be surrounded with a temporary fence.

Temporary yards or hardstandings, or any area where fuel or chemicals are stored shall not drain towards topsoil stockpiles.

1.1.4 Maintenance of Topsoil Stockpiles

Stockpiles of One Year's Duration or less: Treat growing weeds with 'Roundup' applied to manufacturer's recommendation and to the approval of the Engineer, diluted and applied in accordance with the manufacturers recommendations for the equipment used, when they are growing strongly. Noxious weeds (Docks, Thistle, and Ragwort) shall be treated before they flower.

Stockpiles of up to Two Year's Duration: Roughly grade top and slopes of topsoil to reasonably even slopes (no flat areas). Sow Italian Ryegrass at 50 kg. per hectare as a temporary grass cover. Control noxious weeds (Docks, Thistle, Ragwort) with a proprietary selective weedkiller such as 'Bandock', diluted and applied in accordance with the manufacturer's instructions for the equipment in use, when they are growing strongly.

1.2 **SPREADING OF TOPSOIL**

1.2.1 Decompaction

Prior to subsoiling or topsoiling all disturbed areas (excluding engineered slopes) shall be decompacted using a back-actor of a 'Hymac' to a depth of 450mm and only during dry weather conditions.

1.2.2 Subsoil Formation

Formation levels shall allow for the following depth of Class 5A topsoil, after settlement and cultivations:-

Grass Areas:	200 mm.
Shrub Planting	350 mm

Make up excessive depth with subsoil material before topsoiling. This material shall be clean subsoil (soil layer extending between the natural topsoil and the parent material), free draining, free from rubbish, building contamination, large stones/rocks greater than 250mm. Subsoiling operations shall be carried out in layers with each layer being lightly consolidated with a maximum depth of 250-300mm per layer.

Allow for topsoil to stand 30 mm proud of all kerbs, paths, edgings and manhole covers etc.

1.2.3 Topsoil - General

Topsoil for use in all landscape areas shall be subject to the inspection and approval of the landscape architect before spreading.

Topsoil will be premium grade topsoil of high intrinsic fertility, loamy texture and good structure and shall conform to BS3882. It shall be free from pernicious weeds including dock, thistle, stinging nettle, ragwort and couch grass. It shall not have been compacted and shall not be in an inert state.

It shall be acidic, pH 5.5-6.5 and free from stones over 50mm in diameter. It shall be free from subsoil, sods, roots of trees and shrubs, plastics, metals, paper, brick, concrete or any other foreign object. Topsoil shall be from the original surface layer of grassland or cultivated land, to a maximum depth of 200 mm. Soils from woodland, heathland, bog or contaminated land will not be acceptable. Do not strip from under the canopy of any tree, nor closer than 4 metres to a hedge.

The organic content shall not be less than 5% (dry weight). Where the soil contains more than 60% sand, the organic matter shall not be less than 6% (dry weight).

1.2.3 Topsoiling

Topsoil shall not be spread over any area of the site indicated until preliminary ripping operations are complete.

Once the topsoil has been spread, **no access** will be allowed for construction plant and machinery. Site preparation and soiling operations shall take place only in suitable dry site and weather conditions.

Final grading is to be carried out to ensure a true specified level and slope and to avoid dishing or other depressions where water may collect.

The use of a heavy roller to roll out humps will not be permitted and any area that becomes unduly compacted during the grading operations shall be loosened by forcing or harrowing.

The level of the topsoil is to be at least 30 mm above all paved areas to allow for shrinkage or settlement.

Finished Levels

Localised hollows and mounds are to be levelled out and areas so finished that they drain to hard standing areas or elsewhere as indicated.

1.2.3 Topsoil for Tree Pits

Planting pits for standard trees will be dug and backfilled with Class 5B topsoil. Volume of topsoil to be as follows:-

Extra Heavy Standard Trees	1.2 cubic metres
Standard Standard Trees	1.0 cubic metres

1.2.6 Reinstatement Work

Reinstate all ground driven over and otherwise disturbed to even flowing gradients. Match reinstated levels to those of surrounding ground. Finished levels shall be free of humps, depressions and vehicle tracks. Rainwater shall not lie on reinstated ground nor on adjacent areas

2.0 PLANTING SPECIFICATION

2.1 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 Part 1: 1965 Trees and Shrubs section of B.S. 3936, Specification for Nursery Stock.

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.

2.2 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

Bundles of plants shall be marked in conformity with the relevant part of B.S. 3936. 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.

2.3 Trees

Selected standard trees shall have a minimum girth as specified at 1.00 m above ground level, a clear stem to 1.8m high and a total height of 3.0 to 3.5 metres.

Selected standard trees shall have a minimum girth as specified at 1.00 m above ground level, a clear stem to 2.0m high and a total height of 4.0 to 4.5 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 rootballed unless otherwise scheduled. All trees shall have been regularly undercut or transplanted. Root balled trees shall be supplied with a rootball made from a mechanical 'Damcon' undercutter or similar approved, shall be 90cm diameter, wrapped in bio-degradable burlap and tightened with a 90cm diameter tempered steel root ball cage.

Bare root trees 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.

2.4 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.

2.5 Herbicides

All herbicides will be approved under current regulations and proof of compliance provided where requested by the Landscape Architect

2.6 Weedkiller Application

All weedkiller shall be applied with properly designed equipment, maintained in good working order and calibrated to deliver the specified volume, evenly and without local over-dosing. Measure all quantities of weedkiller with a graduated measuring vessel.

2.7 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.

2.8 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.

2.9 Stakes for Extra heavy 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. Size shall be 2700 x 75 mm diameter.

Set stakes vertically in the pit and drive before planting. Drive stake with a drive-all, wooden maul or cast-iron headed maul, not with a sledgehammer.

2.10 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 mm 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.

2.11 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 been 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 or subjected to any stress likely to break fine roots.

2.12 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.

2.13 Vine Weevil

Line out all container grown plants on level ground. Drench pots with 40 g of 40% Diazinon W.P. in 100 litres water. Allow to stand for at least three days before planting.

2.14 Setting Out

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

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.

2.15 Site Preparation

Preliminary Weedkilling: 'Roundup' @ 5.0 litres per hectare, in water @ 200 litres per hectare, and application pressure not exceeding 2 bars.

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

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

Cultivate beds 225 mm deep, incorporating ameliorants evenly. Remove stones, rubbish over 50 mm dia.

2.16 Extra Heavy + Select Standard Tree Planting

Excavate tree pits to 1.2 cubic metres volume (1.2 m diameter x 1.0 m deep). The base of the pit shall be broken up to a depth of 15 cm and glazed sides roughened. Supply and drive 2nr stakes.

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):-

Soil ameliorant:	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.

2.17 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.

2.18 Replacements

The planting will be inspected in April and September following planting (refer to implementation programme). Any tree or shrub found to have died from any cause shall be replaced. Replacement planting shall conform in all respects with this Specification, including all specified excavation, provision and incorporation of all fertilizers and ameliorants, and weedkiller treatments.

3.0 MAINTENANCE SPECIFICATION

3.1 Performance Standards (Detailed at end of Aftercare Section)

General

Woodland Planting

Noxious weeds (Dock, Thistle, Ragwort) shall not be allowed to establish.

Stone or debris over 50 mm diameter shall be removed or buried at each visit.

Tree stakes, ties and any tree shelters shall be secure and correctly adjusted.

Weeds shall not exceed 150 mm in height and all weeds shall be killed at each aftercare visit.

Trees

Weed-free circles around trees shall be 1000 mm diameter in grass areas.

Weeds shall not cover more than 10% of each circle at any time after the first scheduled weedkilling.

All weeds in the circles shall be killed at each aftercare visit.

Weeds shall not exceed 100 mm in height at any stage.

Hedges

Weed free band 750 mm wide along hedge, with hedge in the centre of the band. Include the bottom of any adjacent fence.

Weeds shall not exceed 100 mm in height and all weeds shall be killed or removed at each visit.

Shrubs and Ground Covers

Soil surfaces shall be generally free of weeds at all times and, on the Critical Dates shall be entirely free of all weeds.

No encroaching grass in soil area.

All Plants

Shall be alive, healthy, free of minor defects and free of weedkiller or cultivation damage.

Planting areas shall be free of litter and debris from weeding, cultivation or pruning.

Mulches, where present, shall be maintained in continuous cover.

3.2 Inspections

The Landscape Architect will inspect the works on each critical date, or as soon as possible thereafter.

3.3 Weedkilling

Weedkillers and their application shall be as specified under 'Planting' above.

Protect foliage of all plants during applications of a non-selective foliar-acting herbicide with an 'Arboguard', 'Politec' guard, or equivalent to the satisfaction of the Architect. No plant, foliage or stem, shall be directed sprayed, even in winter. Take particular care when using Glyphosate.

3.4 Weed Control in Shrubs and in Hedges

Weed shall be controlled by a combination of hand weeding and herbicide application. If foliar-acting weedkillers are applied, all plants shall be protected during their application, as specified. **No residual herbicides shall be used in the first season after planting.**

3.5 Weeding

Remove weeds by surface hoeing and pulling. Dig out all roots of deeply rooted or noxious species. Remove all weeds from site each day and dispose. Make good disturbance to mulch.

3.6 Watering

All trees, hedges, shrubs, ground-cover, herbaceous and annual bedding will be watered as necessitated by dry weather. Apply water as a fine spray, to moisten full depth of root run. Avoid washing or compaction of the soil surface.

3.7 Firming

Firm any plant loosened by frost, wind or cultivation.

3.8 Pruning

Any shoot damaged or found to be dying back on a periodic visit shall be cut back neatly to sound growth with a sharp pruning knife. Prune off wind-damaged shoots to sound growth.

3.9 Fertilizer: Trees and Shrubs

Osmocote 18:11:10, applied @ 50 g/sq.m., and lightly raked in through mulches.

3.10 Hypericum Rust

Apply 'Bayleton 5' in accordance with manufacturers instructions.

3.11 Grass Mowing

Mowing shall be carried out with machines in good repair, sharp and evenly set, avoiding laying or pulling of the grass.

Mowing shall be carried out in dry conditions.

Mow swards evenly. At each visit, mow all areas of equivalent standard at the time, to ensure an even appearance and finish. Include for completion of each cut around obstacles. Leave grass cuttings evenly spread. Sweep up mowings on hard surfaces and remove from site

3.12 Selective Weedkiller: Clover

All herbicides will be approved under current regulations and proof of compliance provided where requested by the Landscape Architect

3.13 Fertilizer: Grass

10:10:20. Apply in two equal passes in transverse directions at a combined rate of 17 g/m. sq. (0.5 oz. per square yard). Avoid any 'banding'.

3.14 Litter

Prior to mowing, remove litter. Remove all litter in all planting when weeding or spraying.

3.15 Defects Arising

Any defect noted at an aftercare visit, e.g. plants loosened by wind, tree shelters fallen or stakes broken, fence wires loose or posts rocking will be remedied before the next inspection visit.

3.16 Pests and Diseases

Any outbreak or build up of insect pest, fungus disease or disorder affecting the plants, or grass shall be notified to the LA as soon as it is noticed.. The Architect shall issue instructions for treatment of the outbreak.

3.17 Vandalism

A provisional sum has been inserted in the schedule of quantities to cover costs of prompt repair and reinstatement of vandal damage.

3.18 Access

Access to the site must be arranged in advance and clearance at security will be required for each visit.

3.19 Protection

Any overhead and underground services shall be protected during works.

Protect paving, roads, kerbs, channels, gullies, walls, fences, structures, furnishings and existing vegetation during the course of his works. Include where necessary temporary coverings, planked barrow runs, etc. Clean mud and soil of all hard surfaces and surroundings to the work.

3.20 Tidiness and Clearance

All areas of work and access routes shall be kept in a tidy condition. All areas of the site will remain in use by the public and/or building users during the course of the contract. Clean all debris from beds and surrounding surfaces daily during his visits to site, and at more frequent intervals if necessary for the safety of users of the site.

3.21 Safety

All safety standards will be adhered to.

4. PLANTING PERFORMANCE STANDARDS

4.1 Shrubs - General

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.

4.1.1 Maintenance Objective

Maintain shrub growth to cover as much as possible of the border 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.

4.1.2 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 borders 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.
- d) Immediately after planting or, when and where subsequently directed, mulch the surface of the border with a 50 mm layer of pulverised bark (maximum particle size 40 mm), or other approved equivalent. Thereafter, top dress the mulch as necessary and at least once a year to maintain effective cover. Spot treat or remove any emergent weeds as specified in c) above but do not cultivate or incorporate the mulch into the soil.

3.2 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.

4.2.1 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.

4.2.2 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.

4.4 Care of Newly Planted Trees - General

Young trees will need regular attention to ensure establishment. Either guards or fencing have been used to protect the plant against rabbits, etc. 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.

4.4.1 Maintenance Objective

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

4.4.2 Maintenance Operations

- a) Maintain a 1 m 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) 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.
- 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.