

Arboricultural Assessment

(Tree survey)

To assess the trees

On the site at

Frankfort Court Castle
Old Frankfort
Dundrum
Dublin 14

June 2021

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PART ONE – ARBORICULTURAL ASSESSMENT

Introduction

The purpose of this report is to set out the findings following the inspection of trees on site at, **Frankfort Castle and No. 97A Highfield Park, Old Frankfort, Dundrum, Dublin 14** and set out their condition. The survey work was undertaken 27th March 2019 and the 2nd September 2019 (97a Highfield Park) and up dated in January 2021 by the undersigned a qualified arboricultural consultant. The term of reference for the report is a planning application on the site. The following categories have been used within the tree report tables and, where appropriate, the criterion used to define each category is defined.

- **Tree No.** : refers to the identification tag attached to a tree [also identified as such on the accompanying survey drawings]
- **Species** : refers to the common and scientific name given to the tree.
- **Stem diameter** : refers to the diameter of the tree stem in millimetres, as measured at 1.5 metres above ground level and above the root flare for multi-stemmed trees.
- **Height** : refers to the total height of the tree in metres. (Heights measured with a TruPluse® 200)
- **Crown spread** : refers to the width of the crown in metres, measured at each cardinal point on the compass. [Dimensions marked with # are estimates as per 4.4.2.6 c) – BS 5837:2012]
- **Condition** : refers to the physiological condition of the tree as a whole described as:
 - Good** – Full healthy canopy but possibly including some suppressed or damaged branches
 - Fair** – Slightly reduced leaf cover, minor dead wood or isolated major dead wood
 - Poor** – Overall sparse leafing or extensive dead wood
- **Age** An estimation of the age of the tree described as;
 - V- Veteran, trees, which by recognized criteria, show features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to individuals surviving beyond the typical age range for the species concerned.
 - OM – Over Mature, trees reaching the end of their life, in decline and senescent.
 - M – Mature, fully grown, with only small annual increments.
 - EM – Early Mature, one-third to two thirds of total life expired.

Y – Young, recent planting, with up to one third of total life expired.

- **Remarks:** Descriptive comments about the health (physiological) or form (structural) of the tree, its environment or external influences and may include preliminary management recommendations.

Category grade

- **U** -Those trees in such a condition that any existing value would be lost within 10years and which should be in the correct context, be removed for reasons of sound arboricultural management.
 - **A** –Those trees of a high quality and value in such a condition as to be able to make a substantial contribution.
 - **B** - Those trees of a moderate quality and value in such a condition as to be able to make a significant contribution.
 - **C**- Those trees of a low quality and value currently inadequate condition to remain until new planting could be established, or young trees with a stem diameter below 150mm
- **Estimated remaining contribution in years (ERC):** Expressed as less than 10, 10+, 20+, more than 40

Glossary of terms used:

Basal: The base of the tree close to the ground, (basal shoots are those emanating from the base).

Crown (canopy): The leaves and branches of a tree.

Co-dominant: Stems or branches of near equal diameter, often weakly attached.

Decay: Degradation of wood by fungi and/or bacteria.

Defect: Any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment.

Dieback: The death of part of a plant, usually starting from a distal point and often progressing in stages.

Epicormic : Pertaining to shoots or roots, which are initiated on mature woody stems; shoots may form in this way from dormant buds or they may be adventitious.

Dysphotic zone : A zone within the canopy which does not have enough light to carry out photosynthesis.

Included Union: bark of adjacent parts of a tree (usually in forks, acutely angled branches or basal flutes), which is in face-to-face contact, so that there is weakness due to the lack of a woody union.

Lean: Departure of the trunk from the vertical.

Scaffold limbs: The branches, which form the main framework of the crown of a tree with a decurrent growth habit.

Shoot: A shoot derived from a dormant or adventitious bud on the main stem or branch.

Stub/peg: A short section of a branch, which may have, been left after previous pruning or storm damage.

Wound: Injuries on the surface of a trunk or branch.

Full: A canopy, which extends to the ground or nearly to the ground

Natural suppressed deadwood: Deadwood in conifers, which died as the crown height extended and the lower branch no longer have a function in the production of foliage.

Pathogens: Fungal and /or bacterial infections, which degrade the wood and render trees liable to failure

Wound wood: Wood with atypical anatomical features, formed in the vicinity of a wound or the occluding tissue around a wound

Hazard Limb: An upwardly curved part in which strong internal stresses may occur, cause wood to crack

Burr: Woody protuberances, especially those derived from the mass proliferation of adventitious buds.

Root protection area (RPA) : layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.

Survey Results

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1535	Lawson cypress <i>Chamaecyparis lawsoniana</i>	11.8	220x 4 250 x 1	N 3.0 S 3.0 E 3.0 W 3.0	Fair	EM	20+	This tree has a full canopy to ground level, it has multiple stems. It has overhead wires through its crown which has been cut back. It has scattered deadwood, lower crown die back and deadwood in its dysphotic zone.	C
1536	Lawson cypress <i>Chamaecyparis lawsoniana</i>	7.9	350	N 3.0 S 3.0 E 3.0 W 3.0	Fair	EM	20+	This tree has a full canopy to ground level, it has a single stem. It has overhead wires through its crown. It has scattered deadwood, lower crown die back and deadwood in its dysphotic zone.	C
1537	Holm Oak <i>Quercus ilex</i>	12.2	450	N 7.0 S 6.0 E 8.0 W 9.0	Fair	EM	20+	A tree with a single stem, it has multiple scaffolds forming its upper crown. It has a open canopy. It has been topped and has regrowth. It has split branches with stubs and die back. It has an overhead in its canopy. It has poor form.	C
1538	Himalayan birch <i>Betula utilis</i> ' <i>Jacquemontii</i> '	11.5	250	N 4.0 S 3.0 E 4.0 W 1.0	Good	EM	40+	A tree with a single stem, one of group of three trees with asymmetric canopies, share with adjoining trees. It has minor scattered deadwood in its lower canopy.	C

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1539	Himalayan birch <i>Betula utilis</i> ' <i>Jacquemontii</i> '	11.7	250	N 5.0 S 1.0 E 4.0 W 3.0	Good	EM	40+	A tree with a single stem, one of group of three trees with asymmetric canopies, share with adjoining trees. It has minor scattered deadwood in its lower canopy. The support stake is still in place.	B
1540	Himalayan birch <i>Betula utilis</i> ' <i>Jacquemontii</i> '	11.5	200	N 4.0 S 3.0 E 3.0 W 30	Good	EM	40+	A tree with a single stem, one of group of three trees with asymmetric canopies, share with adjoining trees. It has minor scattered deadwood in its lower canopy. The support stake is still in place.	B
1541	Dove tree <i>Davidia involucrate</i>	7.1	150	N 3.0 S 1.5 E 3.0 W 2.5	Good	Y	40+	A tree with a single stem, it has a well-formed crown with good vigor and vitality. Lower branches have been pruned off.	C
1542	Corsican Pine <i>Pinus nigra</i> ' <i>maritima</i> '	16.3	1000	N 6.0 S 8.0 E 10.0 W 9.0	Good	M	40+	A tree with a single stem and three main scaffolds in its upper crown. It is carry deadwood. It has three support braces. It has some truncated branches in its lower stem, some minor naturally suppressed deadwood. All major deadwood has been pruned off and lower branches have been removed.	B

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1543	Himalayan Cedar <i>Cedrus deodara</i>	20.3	1250	N 8.0 S 4.0 E 13.0 W 11.0	Good	M	40+	A large twin stem, it has moderate to dense ivy cover. It has dense asymmetric canopy with scattered deadwood. It has long lateral in its lower canopy. It has scattered deadwood.	B
1544	Lime <i>Tilia cordata</i>	10.3	300	N 4.0 S 4.0 E 5.0 W 4.0	Good	M	40+	A tree with a single stem with multiple scaffolds in its upper crown. It has a dense branch structure with good vitality and vigour.	A
1545	Lawson cypress <i>Chamaecyparis lawsonina</i>	12.0	500	N 3.0 S 3.0 E 3.0 W 3.0	Fair	M	20+	This tree has a main stem and sub-dominant upright lateral. It has a weak union. It has a reasonable canopy with dysphotic deadwood.	B
1546	Dawn redwood <i>Metasequoia glyptostroboides</i>	11.4	250	N 3.0 S 3.0 E 3.0 W 3.0	Good	Y	40+	A tree with a single stem with an upright stem, it has a well formed canopy with minor scattered deadwood.	B
1547	Tibetan cherry <i>Prunus serrula</i>	6.5	250	N 3.0 S 3.0 E 4.0 W 3.0	Good	EM	20+	A tree with a single stem, it has a dense symmetric canopy. It has some small truncated stubs with epicormic shoots on its stem. Ivy has been killed off.	B

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Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1548	Purple Cherry-plum <i>Prunus cerasifera</i>	7.9	200	N 3.5 S 2.0 E 4.0 W 2.0	Fair	EM	20+	A tree with co-dominant leaders after the stem bifurcates, it has a symmetric crown.	C
1549	Rose bud cherry <i>Prunus subhirtella</i>	6.5	200	N 4.0 S 4.0 E 4.0 W 4.0	Fair	EM	20+	A tree with a leaning stem, it has a distorted canopy with two main scaffolds. It has a one sub-dominant lateral which is rubbing. It has minor scattered deadwood. It has an open crown.	C
1550	Hawthorn <i>Crataegus monogyna</i>	6.7	200/ 200	N 3.0 S 3.0 E 3.0 W 6.0	Fair	M	20+	A twin stem with dense ivy cover, it has recently had the ivy severed.	C
1551	Oak <i>Quercus robur</i>	9.7	250	N 3.0 S 4.0 E 4.0 W 4.0	Good	EM	40+	A tree with a single stem and a well formed canopy, it has good vigour and vitality with very minor scattered deadwood.	A
1552	Tibetan cherry <i>Prunus serrula</i>	7.0	200	N 3.0 S 7.0 E 4.0 W 1.0	Fair	EM	20+	A tree with a single stem, it has co-dominant stems forming a wide canopy. It is suppressed by adjoining large trees. The centre stem has been pruned out. It has minor scattered deadwood.	B

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Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1553	Hornbeam <i>Carpinus betulus</i>	9.4	250	N 3.0 S 3.0 E 3.0 W 3.0	Fair	EM	40+	A tree with a single stem with good form. It has a branch structure with a tight included union.	A
1554	Sycamore <i>Acer pseudoplatanus</i>	17.1	500	N 6.0# S 6.0 E 8.0 W 5.0	Fair	M	20+	This tree has been topped, the canopy is formed by regrowth multiple scaffolds. It has a large basal suckers with moderate to dense ivy cover.	C
1555	Monterey cypress <i>Cupressus macrocarpa</i>	20.9	1200	N 3.0 S 14.0 E 6.0 W 9.0	Poor	M	<10	A mature hedge of four mature trees, they have been cut back hard to the north side and no canopies on that side with large dysfunctional timber. They have one sided canopies with dense dysphotic deadwood. They have long low laterals to the south. They appear free from Seiridium canker.	C
1556	Apple <i>Malus domestica</i>	5.0	300	N 2.0 S 4.0 E 2.0 W 4.0	Poor	OM	<10	This tree has two distorted scaffolds, they have poor formed open canopy. It has one large truncated scaffold near its base. It has crossing and rubbing branch with die back and large deadwood.	C

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Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1557	Birch <i>Betula pendula</i>	13.5	450	N 6.5 S 5.0 E 7.0 W 5.0	Good	M	20+	A tree with a single stem with an open crown with multiple and two old cobra branch supports. It has minor deadwood.	B
1558	Birch <i>Betula pendula</i>	13.7	450	N 5.0 S 4.0 E 6.0 W 5.0	Good	M	20+	A single stem to 1.8 metres then it forms multiple scaffolds forming an open canopy. It has two old cobra branch supports.	B
1559	Birch <i>Betula pendula</i>	17.3	800	N 5.0 S 5.0 E 6.0 W 3.0	Good	M	20+	This tree's stem bifurcates at 1.1 metres forming a open canopy with multiple scaffolds. A low branch has been removed, there is no wound wood. It has some witches broom growth. It has two old cobra branch supports.	B
1560	Dawn redwood <i>Metasequoia glyptostroboides</i>	11.7	300	N 4.0 S 3.0 E 3.0 W 3.0	Good	EM	40+	A tree with a single stem, which is slightly distorted, it has good form with good vigour and vitality.	B
<i>The next group are in the second property starting in the rear garden.</i>									
1561	Sycamore <i>Acer pseudoplatanus</i>	17.0	600	N 5.0# S 8.0 E 4.0 W 3.0	Fair	EM	20+	A tree with multiple stems from the base. It has tall drawn up stems with dense ivy cover. It has an asymmetric canopy being suppressed by tree 1562. It has scattered deadwood.	C

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1562	Sycamore <i>Acer pseudoplatanus</i>	17.0	800	N 6.0# S 8.0 E 3.0 W 8.0	Fair	EM	20+	A tree with a single stem with very dense ivy cover, the canopy has multiple scaffolds with scattered deadwood throughout.	C
1563	Lawson cypress <i>Chamaecyparis lawsonina</i>	8.7	300	N 3.0 S 3.0 E 3.0 W 3.0	Fair	EM	20+	A tree with a single stem with a full canopy to the ground level, it has slightly sparse foliage cover. It has an open canopy with slight ivy cover, it is suppressed by tree 1564.	C
1564	Sycamore <i>Acer pseudoplatanus</i>	15.9	600	N 5.0 S 4.0 E 4.0 W 6.0#	Fair	EM	20+	This tree has multiple scaffolds with dense ivy and a one sided crown. It has an open canopy with scattered large diameter deadwood.	C
1565	Sycamore <i>Acer pseudoplatanus</i>	17.3	600	N 7.0 S 6.0 E 7.0 W 2.0	Fair	EM	20+	This tree has multiple scaffolds with dense ivy and a one sided crown. It has an open canopy with scattered large diameter deadwood.	C
1566	Sycamore <i>Acer pseudoplatanus</i>	14.1	300	N 1.0 S 4.0# E 3.0 W 3.0	Fair	EM	20+	A tree with a single stem, it has a one sided crown to the south. Beside it is an over-mature Elder which has partially collapsed.	C

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1567	Cherry <i>Prunus kasan</i>	9.0	400	N 6.0 S 3.5# E 5.0 W 6.0	Poor	OM	<10	A twin stem it has decay on its lower stem, it has dense ivy cover. It has major scattered deadwood, it is infected with bacterial canker and has tip die back.	C
1568 1569	Sycamore <i>Acer pseudoplatanus</i>	11.4	350/ 350	N 4.0 S 4.0 E 7.0 W 7.0	Fair	EM	20+	A pair of trees with dense ivy cover and shared canopies and a dense branch structure. They have minor scattered deadwood and good vigour. <i>The next group are in the front garden.</i>	C
1570	Western red cedar <i>Thuja pilcata</i>	15.0#	1100	N 4.0 S 10.0 E 10.0 W 8.0	Good	M	40+	A large specimen, it has a main stem and a large lateral to the west and sub-dominant stems and layered branches to the east and south. It has slight ivy cover and dysphotic deadwood.	B
1571	Cherry <i>Prunus kasan</i>	13.1	500	N 6.0 S 8.0 E 7.0 W 4.0	Fair	M	20+	A tree with a leaning stem, it has dense ivy cover and a distorted stem. It has scattered deadwood, it has tip die back. It appears to have revert to its root stock.	C
1572	Hornbeam <i>Carpinus betulus</i>	8.0	200	N 2.0 S 2.0 E 2.0 W 2.0	Good	EM	40+	A recently planted tree, it has a full canopy to ground level, it has no defects and still has its supporting stake.	B

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Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1573	Hornbeam <i>Carpinus betulus</i>	7.2	150	N 1.5 S 1.5 E 1.5 W 1.5	Good	EM	40+	A recently planted tree, it has a full canopy to ground level, it has no defects and still has its supporting stake.	B
1574	Hornbeam <i>Carpinus betulus</i>	9.4	200	N 4.0 S 4.0 E 2.0 W 2.0	Good	EM	40+	A recently planted tree, it has a full canopy to ground level, it has no defects and still has its supporting stake.	B
1575	Hornbeam <i>Carpinus betulus</i>	10.2	200	N 2.0 S 2.0 E 2.0 W 2.0	Good	EM	40+	A recently planted tree, it has a full canopy to ground level, it has no defects and still has its supporting stake.	B
1576	Hornbeam <i>Carpinus betulus</i>	9.5	200	N 1.5 S 1.5 E 1.5 W 1.5	Good	EM	40+	A recently planted tree, it has a full canopy to ground level, it has no defects and still has its supporting stake.	B
1577	Birch <i>Betula pendula</i>	10.9	200	N 4.0 S 3.0 E 2.0 W 2.0	Fair	EM	20+	A tree with a single stem, it has a tall drawn up crown with slight ivy cover.	B

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Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1578	Birch <i>Betula pendula</i>	10.9	200	N 2.0 S 3.0 E 2.0 W 4.0	Poor	EM	10+	A tree with a distorted suppressed tree with an asymmetric crown.	C
1579	Birch <i>Betula pendula</i>	11.3	300	N 4.0 S 3.0 E 4.0 W 3.0	Good	M	20+	A tree with a single stem, it has very good form and vigour. It has co-dominant leaders	B
1580	Birch <i>Betula pendula</i>	9.6	200	N 3.0 S 4.0 E 3.0 W 4.0	Good	M	20+	A tree with a single stem, it has very good form and vigour. It has co-dominant leaders. It has moderate ivy on its lower stem	B
1581	Whitebeam <i>Sorbus aria</i>	7.8	200 X3	N 3.0 S 3.0 E 5.0 W 2.0	Poor	EM	10+	A group of three trees, two have pronounced leans, they have dense canopies, one has dense ivy cover and basal suckers.	C
1582	Blue atlas cedar <i>Cedrus atlantica</i>	5.1	300	N 3.0 S 3.0 E 3.0 W 5.0	Poor	EM	10+	This tree has no apical leader, it has scattered deadwood, it has poor vigour and vitality. It has some minor tip die back.	C

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1583	Sycamore <i>Acer pseudoplatanus</i>	18.1	400/ 500	N 9.0 S 5.0 E 6.0 W 8.0	Fair	EM	20+	A twin stem with moderate ivy on the lower stems. It has minor scattered deadwood. One stem has sub-dominant scaffold.	B
<i>The next group are in the third property.</i>									
1584	Cherry <i>Prunus kasan</i>	14.5	1000	N 7.0 S 4.0 E 6.0 W 9.0	Fair	M	20+	A large mature specimen with dense ivy cover, it has multiple scaffolds with an open wide canopy. It has scattered deadwood. At its base to the east is an old Beech hedge which is overgrown.	C
1585	Elm <i>Ulmus minor syn. Procera</i>	13.2	300	N 3.0 S 3.0 E 3.0 W 4.0	Fair	EM	10+	A sucker regrowth, it has tall single stem with good form. It has moderate ivy cover. It has limited potential and is at risk of contracting Dutch Elm Disease.	C
1586	Beech <i>Fagus sylvatica</i>	11.2	800	N 6.0 S 7.0 E 6.0 W 9.0	Fair	M	20+	This tree's crown is formed by the main stem and a large sub-dominant lateral. It has a wide decurrent canopy with dense ivy cover. It has scattered deadwood. It has long laterals in its lower crown. It has truncated branches.	B

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1587	Grey poplar Populus x canescens	17.1	1000	N 8.0 S 4.0 E 9.0 W 3.0	Poor	M	<10	A tree with a leaning stem, it is infected with Sulphur fungus (<i>Laetiporus sulphureus</i>). It has a high canopy and has suffered major storm damage. It has extensive deadwood and crown die back.	U
1588	Sycamore Acer <i>pseudoplatanus</i>	14.2	300/ 350	N 4.0 S 5.0 E 6.0 W 3.0	Fair	EM	20+	The canopy is suppressed by tree 1589, it has dense ivy on its lower twin stems. It has minor scattered deadwood and basal suckers	C
1589	Sycamore Acer <i>pseudoplatanus</i>	16.8	500	N 5.0 S 4.0 E 5.0 W 4.0	Fair	EM	20+	A self-seeded tree with multiple scaffolds, it has dense ivy on its lower stem, it has minor scattered deadwood.	C
	Sycamore Acer <i>pseudoplatanus</i>	-	-	-	Fair	EM	20+	Outside the site boundary, is a small area with a stand of self-seeded early mature trees. It includes a single Elm. The trees have dense ivy cover , some have large basal suckers.	C
1590	Sycamore Acer <i>pseudoplatanus</i>	16.8	500	N 4.0 S 4.0 E 3.0 W 6.0	Fair	EM	20+	A self-seeded tree, it has a tall drawn up crown with co-dominant leaders. It has large sub dominant lateral. It has dense ivy cover and scattered deadwood.	C

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Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1591	Sycamore <i>Acer pseudoplatanus</i>	14.1	500	N 5.0 S 5.0 E 4.0 W 6.0	Fair	EM	20+	A self-seeded tree, it has a single leaning lower stem with dense ivy on its stem which bifurcates. It has scattered deadwood. <i>The next group are in 97a Highfield Park.</i>	C
1963	Sycamore <i>Acer pseudoplatanus variegatum</i>	12.6	750	N 6.0 S6.0 E6.0 W5.0	Fair	M	20+	A tree with multiple stems, it has a high well form crown, It has had lower branches pruned, the wounds have wound wood.	B
1964	Lawson cypress <i>Chamaecyparis lawsonina</i>	11.4	500	N 3.0 S3.0 E2.5 W3.0	Fair	M	20+	This tree has a main stem and a sub-dominant lateral branch forming an uneven canopy shape. The stem in the upper crown is bifurcates with multiple leaders.	B
1965	Cherry <i>Prunus sps.</i>	9.3	130 X2	N 2.0 S3.0 E2.0 W2.0	Poor	EM	10+	A twin stem tree which bifurcates near the base, it has been topped, it has an infection of bacterial canker and has minor scattered deadwood.	C
1966	Himalayan birch <i>Betula utilis 'Jacquemontii'</i>	8.3	150	N3.0 S3.0 E3.0 W3.0	Good	EM	20+	Growing in a raised planter, it has good form and good vigour.	B

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1967	Himalayan birch <i>Betula utilis</i> 'Jacquemontii'	9.5	150	N3.0 S0.0 E3.0 W1.0	Good	EM	20+	Growing in a raised bed, it has good form and good vigour.	B
1968	Holly <i>Ilex aquifolium</i>	8.4	200	N3.0 S1.0 E2.0 W2.0	Good	M	40+	A tree with a single stem, it has good form and good vigour, it appears free from defects.	B
1969	Himalayan birch <i>Betula utilis</i> 'Jacquemontii'	7.0	80	N4.0 S0.0 E1.0 W2.0	Fair	EM	10+	A weak specimen, it is suppressed by trees on the adjoining property. It has multiple scaffolds forming its canopy.	C
1970	Himalayan birch <i>Betula utilis</i> 'Jacquemontii'	8.3	140	N3.5 S1.0 E2.0 W3.0	Fair	EM	20+	A tree with multiple scaffolds with good vigour, it has a an asymmetric canopy.	B
1971	Norway maple <i>Acer platanoides</i> Crimson King	12.0	350	N4.0 S3.0 E3.0 W4.0	Fair	EM	20+	A tree with a single stem with a large sub-dominant lateral stem. The foliage has mildew. It has multiple scaffolds with a dense branch structure.	B

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Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
1972	Silver wattle <i>Acacia dealbata</i>	6.3	200	N3.0 S3.0 E3.0 W2.0	Fair	EM	20+	A tree with a single stem, it has been topped in the past. Kit has multiple scaffolds forming its canopy. It has some minor deadwood. It has root suckers in the lawn area.	C
1973	Silver wattle <i>Acacia dealbata</i>	6.6	160	N 3.0 S3.0 E3.0 W2.0	Fair	EM	20+	A tree with a single stem, it has been topped in the past. Kit has multiple scaffolds forming its canopy. It has some minor deadwood. It has a long low lateral to the northeast. It has root suckers in the lawn area.	C
1974	Silver wattle <i>Acacia dealbata</i>	6.9	170	N3.0 S2.0 E3.0 W2.0	Fair	EM	20+	A tree with a single stem, it has been topped in the past. Kit has multiple scaffolds forming its canopy. It has some minor deadwood. It has root suckers in the lawn area.	C

Assumptions and Limitations

This tree survey was carried out from the ground, no invasive or destructive evaluation techniques were used; all findings observations and recommendations are based on the knowledge and experience of the undersigned a qualified Arboriculturalist. Information contained in this report covers only those items that were examined and reflects the condition of those items at the time of the inspection.

Findings are based on a visual report from ground level only and it should be borne in mind it is subject only to faults visible at the time of inspection, certain pathogens only produce seasonal fruiting bodies and consequentially may not have been noted during this assessment. All trees should be monitored on a regular basis for signs of defects and should be reported to a person qualified to diagnose them and to recommend treatment.

In the event of adverse weather conditions, there is the possibility of any tree, despite having a good report, falling over or suffering crown damage. In the event of a falling tree causing damage to residential or non residential buildings in their proximity, or to any person, any property public or private, or any mechanical vehicle or otherwise no liability will attach to this firm.

There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees in question may not arise in the future. The author takes no responsibility for any actions taken by the landowner or their agents by reasons of this report unless subsequent contractual arrangements are made.

This report is intended solely for the benefit of the parties to whom it is addressed and no responsibility is extended to any third party for the whole or any part of its contents. All trees mentioned in this report should be subject to reassessment every two years to assess physiological and environmental changes.

PART TWO - ARBORICULTURAL IMPACT ASSESSMENT

General Description of Site and Surroundings

The site is comprised of four separate properties which were previous a single property and have been sub divided and a separate residential prperty, they cover approximately 0.9 hectares incorporating No. 1 Frankfort Castle, Old Frankfort, Dundrum, Dublin 14, D14 HY03; No. 2 Frankfort Castle, Old Frankfort, Dundrum, Dublin 14, D14 DE72; Frankfort Lodge, Old Frankfort, Dundrum, Dublin 14, D14 C9P2; and Elsinore, No. 97A Highfield Park, Old Frankfort, Dundrum, Dublin 14, D14 P710.

The site is set among other residential properties. On the entrance to the first house along the drive are tall and dwarf ornamental conifer shrubs with heather ground cover. The front garden has a shrub bed with shrubs and small trees including; Western red cedar, Cotoneaster, Japanese maple, Cornus, dwarf Spruce, Phorium, Euonymus, Holly, Pittosporum, Bamboo, Vinca, Yew, Mahonia, Fatzia, Butchers broom, Ferns, Skimma, Cordylin, Fuchsia, Aucuba, Viburnum tinus and Photinia. The rear garden is well maintained with shrubs and perennials which include; Cystis, Fatzia, Mahonia, Eleagnus, Pieris, Butchers broom and Euonymus with old apple trees. The property at 97a Highfield Park has a landscape garden with paving, trellis, raised bed with shrubs which include; Berberis, Fatzia, Phormium, Euonymus, Hazel, Ribes, Cherry-laurel, Magnolia, Choisya, Photinia, Bay laurel, Hypericum and Virburnum davidii.

In the rear garden of the second property is a young self-seeded red Oak, it has a asymmetric canopy with moderate ivy on its stem. There are two recently planted birch, which appear sound. To the west outside the boundary wall are multiple stemmed self-seeded Sycamore with dense ivy alongside the LUAS line. There is a dense shrubbery close to the house with Pear, Cypress, Thuja, an over mature Cherry in decline with dense ivy and decay, Pyracantha, Prunus otto luyken, Griselinia, Philadelphus and Weiglea. In the front garden near the large Western red cedar are Mahonia, Pittosporum, Cypress, Aucuba and Viburnum. Along the drive way are a line of upright Thuja's with shrubs including; Viburnum davidii, euonymus, Phormium, Juniper, Cystis and Spiriea. On the other side of the drive way is a mature Privet hedge.

The rear garden of the third which is derelict has brambles, Holly, Pittosporum, Lonicera and dense ivy on the walls. The front garden is overgrown with self-seeded Birch, Buddleia, Elm, Sycamore and Cordyline. The side boundary to Frankfort Court is well maintained on north side and is comprised of Lonicera, Prunus otto luyken, Holly, Berberis, Privet, Weiglea, with Sycamore and Elder. At the bottom of the front garden are a group of self-seeded Sycamore with Elm suckers and some Holly.

Description of Proposed Development

The proposed development will consist of 115 no. residential units comprising 45 no. one-bed units and 70 no. two-bed units. The proposed units will be accommodated in the partially retained Frankfort Castle building and in 3no. blocks with a maximum height of 5 storeys. Additional works proposed include the provision of a childcare facility (80sqm), car and cycle parking at surface and basement levels, hard and soft landscaping, surface water drainage infrastructure and attenuation tank, and all associated site development and infrastructure works."

Designations Relating to Trees

There are no Tree Preservation Orders on the site. There is no objective in the Dun Laoghaire – Rathdown County Development plan 2016-2022 to protect and preserve trees and Woodlands at locations within the site.

Implications of Proposed Development

The current proposal under consideration has the following impact on the existing trees.

(1) Loss of Trees

The following trees will have to be removed; 1535, 1536, 1538, 1539, 1540, 1541, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1552, 1553, 1556, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1964, 1965, 1966, 1967, 1968, 1969 and 1970.

Site Analysis of tree loss

The site is comprised of four residential properties with planted gardens. Frankfort Castle, formally Frankfort Lodge has mature trees to the front of the house, these are associated with the Victorian era landscaping of the site. These mature trees are being retained and incorporated in the new layout.

There are some 68 trees on the site. The majority of the trees being removed (55%) are early mature or young and are comprised of typical small scale garden trees, Birch, Cherry and Hornbeam, with a few small specimens trees such as Oak and conifers as well as self-seeded Sycamore. These young and early mature trees are being replaced with 74 new trees which will address the balance of losing 73.5% of existing trees.

One tree is being removed due to its condition, a diseased mature Grey poplar. Seven of the trees being removed are in poor condition which is 10% of the tree population. There are also two over mature trees included in those being removed, an apple and a Cherry, which 3% of the tree population.

Of the existing tree population 73.4% of the trees are being removed, of those 58.8% are either young, early mature, overmature or category U. The planting of 74 new trees will provide a sustainable tree cover into the future.

Summary Table of survey trees

Grade	Total No.	No. to be removed	% of all trees (69)
U (worst – remove)	1	1	1.44%

Grade	Total No.	No. to be removed*	% of grade	% of all trees (69)
'V' Veteran	0	0	0	0
'A' (best quality)	3	2	33%	2.89%
'B' (moderate quality)	30	22	73.3%	31.8%
'C' (low quality)	35	29	82.8%	42.0%
Total	69	54		78.1%

(2) Indirect Impacts

Changes in Ground Level / Changes in Ground Surface within Root protection area (RPA).

The construction of the basement, is proposed very slightly within the RPA of 1570 and 1571. Sections of the building footprint are planned within the slightly within the RPA of 1542, 1543, 1557, 1558, 1559, and 1964.

Services

The water main is routed through the RPA of trees 1542, 1543, and 1570. Foul and surface water services are routed within the RPA's of trees; 1542, 1543, 1555, 1570

Condition

Tree 1587 is in such a condition that it needs to be removed irrespective of the proposed development.

Change in Site Use and Tree Management Implications

Above ground constraints

The majority of the retained trees are in locations where they will not be affected by the proposed buildings. The group of Monterey cypress (1555) have wide asymmetric canopies, the canopies will need to be cut back. Tree 1570 a Western red cedar, is located close to surface carpark. It has a canopy to ground level formed layered and reiterated branches, these will have to be prune off to achieve canopy clearance where the proposed surface car park access is beneath the canopy.

Potential Root Damage to Infrastructure

Modern construction techniques, soil types together with the species and age of the retained trees and their location make damage to infrastructure unlikely.

Potential Nuisance

The proposed development is being constructed within an existing residential setting, there will be no risk of potential nuisance from retained trees that might cause concerns and a requirement to remove them. All retained trees will have appropriate remedial tree surgery works, to remove all deadwood and potential hazard branches from their canopies prior to the development being occupied and will have normal ongoing arboricultural management.

Construction Implications

General precautions in storage or mixing of materials that may be injurious to trees will need to be taken. All toxic materials, (cement, mortar, bitumen, diesel, bonding agents, etc) will be stored 10m from root protection areas. No wash out facilities will be provided for ready mix concrete/mortar deliveries. All fuels stored on site will be banded to prevent spillage or leakage.

Proposals for tree management

All retained trees will have necessary remedial tree surgery to ensure there are no hazard branches, deadwood and weak limbs. All retained trees will be subject to regular inspections.

PART THREE - ARBORICULTURAL METHOD STATEMENT

Introduction

This document sets out the methodology for all proposed works that affect trees on and adjacent to the site. Compliance with this method statement will be a requirement of all relevant contractors associated with the development proposals. Copies of this document will be available for inspection on site. The developer will inform the local planning authority within twenty-four hours if the arboricultural consultant is replaced.

The contractor shall take all precautions to ensure that any trees, which are to be retained, shall remain undisturbed and undamaged.

All works to trees and all operations adjacent to trees should be undertaken in accordance with the Method Statement. The contractor shall undertake no works to trees unless instructed by the Contract Administrator. All works within or close to the protected tree zones are to be supervised by the appointed Consultant Arboriculturalist. Two working days' notice of intention to undertake such works to be given prior to any works commencing.

Root Protection Area

In accordance with the Method statement and as per the issued drawings protective fences shall be erected before the commencement of building works any works on site (other than remedial tree works and erection of the boundary fence). The area within the tree fencing should be clearly identified with signage as the 'Protected Tree Zone'. The local planning authority will be notified in writing once the fencing is in place. Strictly no access should be permitted to this zone unless instructed by the CA. The appointed Consultant Arboriculturalist should be notified of any works or access to this zone. The fencing will remain in place until completion of the main construction phase and then only removed with the consent of the local planning authority to permit completion of the scheme.

Other than works detailed within this method statement or approved in writing by the local planning authority, no works including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing. No fires should be lit close to or within 20 metres of the trunk of any tree that is to be retained. No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10 metres of the trunk of a tree that is to be retained.

Code of Practice for the preservation of trees

The following code of practice is intended for the preservation of existing trees. These guidelines will help sustain vigour and minimise adverse growing conditions, for trees set out for retention.

This code will be brought to the attention of all site personnel including Main Contractor, sub-contractors and engineering specialists associated with the project. As appropriate this method statement should be translated. All operations are to be in accordance with BS 5837: 2012, *Trees in relation to design, demolition and construction*. The main contractor should purchase and make available on site a copy of the above.

Prior Notice and Tree removal

All necessary tree works are to be undertaken prior to the commencement of any other works on site. Trees must only be removed with the necessary licenses (*Forestry Act 2014*)¹ or permits. All necessary licenses and permits should be inspected by the appointed Consultant Arboriculturalist prior to commencement of works.

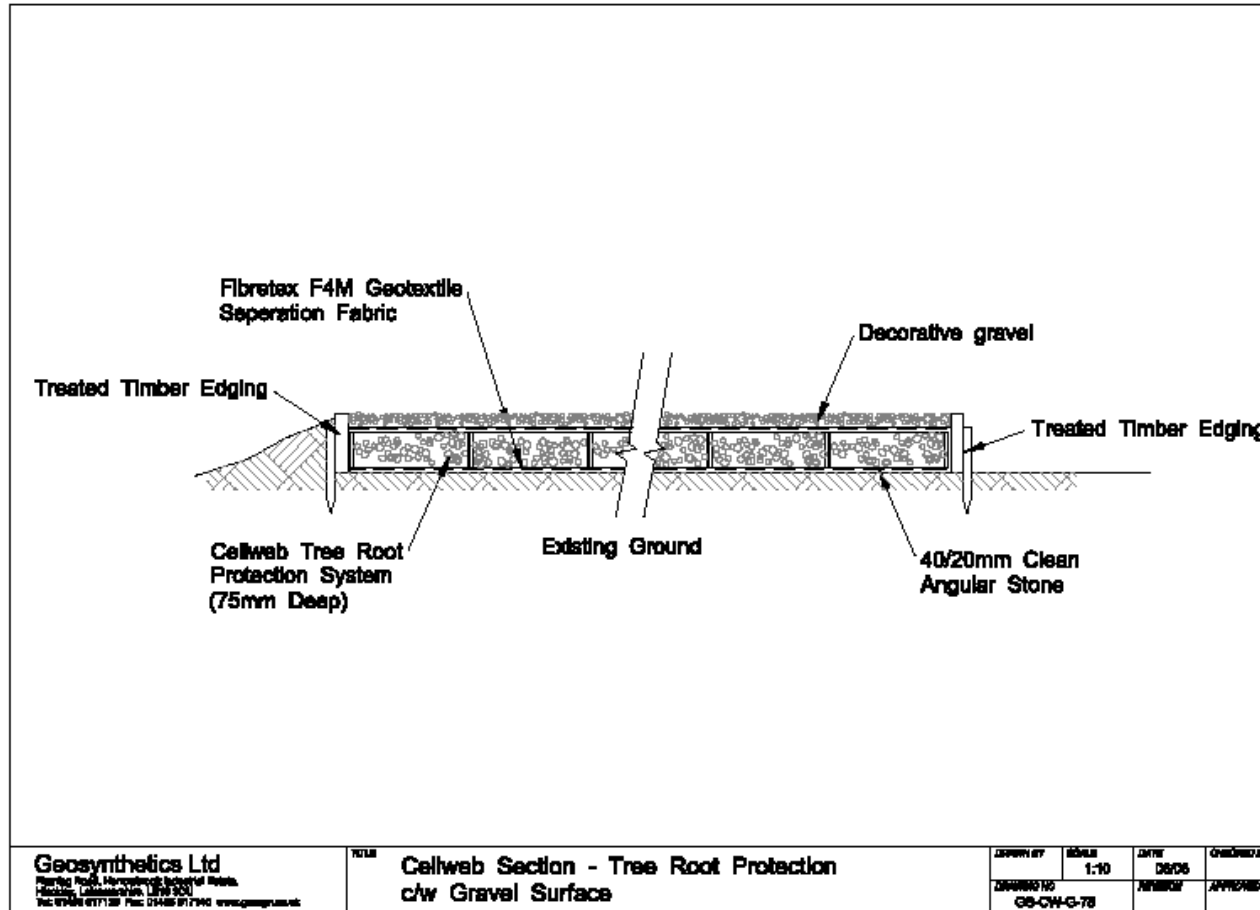
The Arboricultural Consultant will:

- Liase with the relevant authorities during the project.
- Constantly monitor the project with regard to tree health to ensure that no damage is caused to the subject trees during the operational works.
- Report any negligent damage to trees, which will prejudice their health.
- Monitor works carried out by the Arboricultural Contractor and Main Contractor within the 'Root Protection Area'.

Construction access

In areas where there is site access (scaffolding), permanent car parking and access for construction near trees, the ground shall be covered with Fibertex or similar geo textile fabric and a three dimensional cellular confinement system such as geoweb should be laid over the fabric. Where access is required within the root protection area of trees a cellular confinement system shall be put in place prior to use of the area. See construction detail attached.

¹ Note that under the Forestry Act 2014, no felling licence will be required on receipt of planning permission.



The construction of part of the internal road and some foot paths are within the Root protection area of trees on the site, the construction shall be undertaken using a no dig method, a minimum amount of top soil shall be removed, and existing ground level shall be maintained. Once the soil is graded and lightly compacted it shall be over laid with geo fabric and a 3 dimensional cellular confinement system. Paving within root protection areas shall be in accordance Clause 7.4 of BS 5837 : 2012.

Guidelines for installation of services

Where it is proposed to route underground services near trees all works shall be carried under the supervision of the consultant Arboriculturalist. Guidelines set out in the NJUG(National Joint Utilities Group) Volume 4, Guidelines for the planning, installation and maintenance of utility services in proximity to trees – 2007 will be followed together with section 7.7 Underground and above-ground utility apparatus.

Mechanical trenching for the installation of underground apparatus and drainage severs any roots present and can change the local soil hydrology in a way that adversely affects the health of the tree. For this reason, particular care should be taken in the routing and methods of installation of all underground apparatus. Wherever possible, apparatus should be routed outside RPAs. Where this is not possible, it is preferable to keep apparatus together in common ducts. Inspection chambers should be sited outside the RPA.

7.7.2 Where underground apparatus is to pass within the RPA, detailed plans showing the proposed routing should be drawn up in conjunction with the project arboriculturist. In such cases, trenchless insertion methods should be used (see Table 3), with entry and retrieval pits being sited outside the RPA. Provided that roots can be retained and protected in accordance with **7.2.2**, excavation using hand-held tools (see **7.2.1**) might be acceptable for shallow service runs.

NOTE : The suitability of these for differing applications is summarized in Table 3. (BS 5837 : 2012)

Excavations near trees

Where deep excavations are close to trees, such as for basement car parking the ground will be protected. As significant moisture can be lost from exposed soil profiles the exposed profile shall be protected to conserve moisture within the root zone. In winter, exposed roots are to be wrapped with dry sacking. In summer, exposed roots are to be covered with polythene or similar at all times. A suitable irrigation / drip feed system should be installed to maintain the soil moisture levels around the root zone if deemed necessary by the arboricultural consultant.

Hard Landscaping within the protection zone (footpath)

Where permanent hard landscaping is to be provided within root protection zones, special measure shall be implemented. All existing hollows/ drains shall be filled with 50mm crushed stone, with no fines, and then over laid with geo fabric and a cellular confinement system. The path will be worked around the stems of existing retained trees, so as to preserve existing ground levels. Paving within root protection areas shall be in accordance with APN 12 (2007). See appendix 2 for details.

Soft Landscaping within Exclusion Zones

Preparation of ground in these areas will be carried out under the supervision of the arboricultural consultant.

Guidelines for Root Pruning:

- Roots smaller than 25mm diameter may be pruned back, roots with a diameter greater should only be cut following consultation with an arboriculturist.
- Roots should be cut cleanly after excavation to promote callus formation and wound closure.
- Exposed roots to be protected where an area of work is to be left open, particularly along the face of the excavation for the underground car parking. In winter, exposed roots are to be wrapped with dry sacking overnight.
- In summer, exposed roots are to be covered with damp sacking at all times. A suitable irrigation / drip feed system should be installed to keep sacking wet at all times.
- Back filling materials used around roots are to be of a fine granular material with no toxins and not susceptible to frost heave.

Offences and Penalties

Any damage whatsoever, caused to the protected trees shall be notified to JM McConville + Associates, so that the damage can be assessed and rectified and the main contractor subject to financial penalty as per the Conditions of Contract. Value of damaged tree will be assessed using the 'Helliwell System'.

Supervision and Monitoring

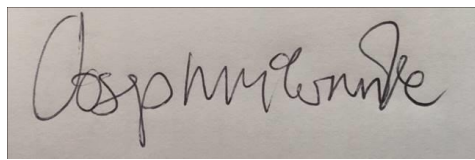
The arboricultural consultant will be responsible for monitoring of all arboricultural works and issuing a certificate of practical completion. In addition, the arboricultural consultant will inspect the protective fencing and monitor any works within exclusion zones.

A record of site visits will be maintained for inspection on site and copies forwarded to the developer / agent and to the local planning authority. The Contractor shall not fell any trees under any circumstances. All works within the protected tree zones are to be supervised by the arboricultural consultant.

Tree Protection Barrier Fencing

Tree protection barriers are to be in accordance with BS 5837:2012, clause 6.2. Barrier fencing to be 2.0 m high, comprising of 'Herras' style fence, each panel to be secured to the adjoining panel fixed to scaffold poles in with a minimum of 2 anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels are to be supported by stabilizers struts on the inside. Barrier fencing is to be installed to an agreed alignment. The Alignment is to be marked out on site and approved by the arboricultural consultant prior to erection of the barrier fencing. 'Construction Exclusion Zone' signage to be securely attached to the fence. Barrier fencing is to be maintained by the main contractor for the duration of the contract. All damage to be reported immediately to the Arboricultural consultant. Damaged fencing is to be repaired within 2 hours of the damage occurring to the satisfaction of the Arboricultural consultant.

All site operations in the vicinity of the damaged fencing are to be suspended until the fencing is repaired. During site inspections the Arboricultural consultant reserves the right to authorise the cessation of all works in proximity to the protected zones with immediate effect. As contract work progresses the protective barrier fence can only be adjusted under the supervision of the arboricultural consultant.



Joseph McConville **B.Agr.Sc., F.Arbor.A. CEnv**
JM McCONVILLE + ASSOCIATES

April 2019
(Revised June 2021)

APPENDIX A (See Full Size Drawing in Architecture Pack)



TREE SURVEY AND EXISTING SITE LAYOUT

- Site Application Boundary [AB] (Gross site area): 0.9 Hc
- 'Area of Works to be provided by or on behalf of Local Authority & subject to agreement. Refer to CS Consulting Group information for further details': 0.5 Hc
- Existing Buildings to be demolished

Recommended Root Protection Area

RPA (root protection area) layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.

KEY - TREE GRADES

- U - TREES
- A - TREES
- B - TREES
- C - TREES

Revision Description	Date	Rev. No.	Issued by

Planning Application Issue	15.01.21	P.03	EL
Redline & Area of Consent Updated	04.09.19	P.02	SH
Area of Consent Added	28.08.19	P.01	SH

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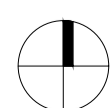


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Project No.: 19012 **Scale** A1: 1:500
Project Lead: SH **Date Printed:** 15-01-2021
Drawn By: ELS **Current Rev.:** P.03
Model No.: 19012-OMP-00-STEX-DR-A-1000_TREE
Purpose: SURVEY
STAGE 3 | PLANNING

Project: Frankfort Castle
Location: Old Frankfort, Dundrum, Dublin 14
Client: Pembroke Partnership Ltd

Drawing Title: TREE SURVEY AND EXISTING SITE LAYOUT
Drawing No.: 19012-OMP-00-STEX-DR-A-1000



- LEGEND AND SCHEDULE OF MATERIALS**
- PLANNING APPLICATION SITE BOUNDARY
 - IN-SITU CONCRETE WITH SELECTED DECORATIVE FINISH
 - SMALL FORMAT NATURAL STONE PAVING
 - COLOURED STONE MASTIC ASPHALT TO ENGINEER'S DETAIL
 - SELECTED SELF-BINDING AGGREGATE
 - KERBS LAID FLUSH IN SOFT LANDSCAPE
 - SELECTED HARDWOOD TIMBER DECK SURFACE
 - BESPOKE SEATING
 - LAWN SEEDING
 - HERBACEOUS PLANTING MIX
 - HEDGE PLANTING
 - EXISTING HEDGEROW RETAINED
 - PROPOSED TREE PLANTING
 - EXISTING TREE RETAINED AND PROTECTED IN ACCORDANCE WITH BS5837:2012. ORANGE DASHED LINE REPRESENTS RPA (ROOT PROTECTION AREA). REFER TO TREE SURVEY BY ARBORIST
 - PROPOSED MOUNDING
 - PROPOSED LEVELS
 - EXISTING LEVELS RETAINED
 - APPROXIMATE OUTLINE OF BELOW GROUND ATTENUATION TANK
 - CYCLE PARKING
 - PROPOSED 2.4m HEIGHT GALVANIZED STEEL ROUND BAR RAILING

SCHEDULE OF PROPOSED PLAY EQUIPMENT

REF.	QUANTITY	TYPE:
P1	3	Jumping Disc
P2	1	Rotating Beam
P3	1	Stepping Blocks
P4	1	Balancing Rope

SCHEDULE OF PROPOSED TREE PLANTING

TREE REF.	QUANTITY	SPECIES:
Bp	17	<i>Betula pubescens</i> 3 xtr., wrb., min 3m h., 14-16 cm g. clear stem min 1.5m.
Tc	1	<i>Tilia cordata</i> 3 xtr., wrb., min 3m h., 14-16 cm g. clear stem min 1.5m.
Qr	11	<i>Quercus robur</i> 3 xtr., wrb., min 3m h., 14-16 cm g. clear stem min 1.8m.
Ca	9	<i>Corylus avellana</i> 3 xtr., wrb., 3m h., 1.5 spread, multistem.
QrM	5	<i>Quercus robur</i> (Semi-mature) 5 xtr., wrb., 6-7m h., 35-40 cm g., clear stem min 2.5m.
Ps	3	<i>Prunus serotina</i> 3 xtr., wrb., 2m h., 10-12cm g.
Bpe	3	<i>Betula pendula</i> 4 xtr., wrb., 4-5m h., 1.5-2m spread, 15-20 cm g., feathered.
Psy	3	<i>Pinus sylvestris</i> 4 x tr., wrb., 2.5m h., 1.2 m s.
Mk	15	<i>Magnolia kobus</i> 3 xtr., 2m h., half standard
Cc	3	<i>Cornus controversa</i> 3 xtr., wrb., 2m h., 2.5m spread, multistem
Cs	1	<i>Corylopsis spicata</i> 3 xtr., wrb., 2m h., 2.5m spread, multistem
DI	3	<i>Davidia involucreata</i> 4 xtr., wrb., 4-5m h., 1.5-2m spread, 18-20 cm g., feathered.

- GROUND COVER AND HERBACEOUS MIX, TYPICALLY:**
- Dianella nigra* 2 ltr cg.
 - Dryopteris filix-mas* 2 ltr cg.
 - Convolvulus majalis* 2 ltr cg.
 - Geranium* spp. 2 ltr cg.
 - Hebebovirus foetidus* 2 ltr cg.
 - Luzula sylvatica* 2 ltr cg.
 - Luzula nivea* 2 ltr cg.
 - Echinacea purpurea* 2 ltr cg.
 - Hemerocallis* sp. 2 ltr cg.
 - Hyacinthoides* spp. 2 ltr cg.
 - Narcissus* spp. 2 ltr cg.
 - Pulmonaria officinalis* 2 ltr cg.
 - Verbena bonariensis* 2 ltr cg.
 - Campylosiphon lactiflora* var. *alba* 2 ltr cg.
 - Delphinium formosum* 2 ltr cg.
 - Dicentra spectabilis* 2 ltr cg.
 - Myrrhis odorata* 2 ltr cg.
 - Lippia citriodora* 2 ltr cg.
 - Geranium phaeum* 2 ltr cg.
 - Perovskia* spp. 2 ltr cg.
 - Digitalis purpurea* 2 ltr cg.
 - Rosa* spp. 2 ltr cg.
- HEDGE AND SHRUB PLANTING, TYPICALLY:**
- Crataegus monogyna*, 600-900mm h.
 - Carpinus betulus*, 900-1200mm h.
 - Buxus sempervirens*, 2 ltr. cg.
- Typical native hedgerow mix:
Crataegus monogyna 50%
Prunus spinosa 10%
Corylus avellana 10%
Rosa canina 10%
Ilex aquifolium 10%
Prunus padus 10%
- Planted at 450mm centres in single rows and 600mm centres in double staggered rows.
- Abbreviations:**
- xtr. number of transplants in nursery
 - h. height
 - s. spread
 - wrb. wire root-balled
 - cm g. girth of tree in centimeters measured 1m above ground
 - 2 ltr. cg. plants supplied in 2 litre volume containers



This drawing is the copyright of the Landscape Architect. Unless otherwise stated all dimensions are in millimetres. Where dimensions are not given, drawings must not be scaled and the matter must be referred to the Landscape Architect. If the drawing includes conflicting details/dimensions the matter must be referred to the Landscape Architect. All dimensions must be checked on site. The Landscape Architect must be informed, by the Contractor, of any discrepancies before work proceeds.

NOTES:

APPENDIX B (See full size Drawing in Landscaping Pack)

DATE	REV.	DESCRIPTION	DRAWN BY	CHECKED BY
12.08.2019	A	Accessible car parking spaces added. Surface cycle parking added.	ck	sc
14.08.2019	B	Pedestrian footpath added to southern entrance.	ck	sc
09.09.2019	C	Drawing generally revised.	ck	df
24.09.2019	D	Annotation added.	ck	df
09.07.2021	E	Drawing generally revised.	ks	df

DERMOT FOLEY LANDSCAPE ARCHITECTS
 MALPAS STREET, BLACKPITTS, D08 D056, IRELAND. T+353 1 4545148. WWW.DERMOTFOLEY.COM

CLIENT: PEMBROKE PARTNERSHIP LIMITED
PROJECT: FRANKFORT CASTLE
DRAWING: LANDSCAPE PLAN

ISSUE STATUS: PLANNING
 DRAWING NO. Ha.04-DR-201
 REVISION: E

PROJECT NO: Ha.04
SCALE: 1:250
SHEET SIZE: A1
DRAWN BY: ck
CHECKED BY: df
1st ISSUE: 06.06.2019

NORTH