



Independent Tree Surveys

Tree Survey Report
Residential Development
Clonkeen
Blackrock
Co. Dublin

August 2021

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Tree Survey Schedule

Tree Survey/Constraints Plan Drawing 19029_TS

Tree Protection Drawing 21049_TPP

1.0 Introduction

There are plans to develop land adjoining Clonkeen College, Blackrock, Co. Dublin. There are a number of trees and hedges on and around the proposed site and this report has been commissioned to provide an Arboricultural assessment of the trees to help the design and planning process for the new development.

2.0 Instruction

To carry out a Tree Survey, Arboricultural Impact Assessment and Arboricultural Method Statement compliant with BS5837: *Trees in relation to design, demolition and construction (2012)* of the trees located on and adjacent to land adjoining Clonkeen College, Blackrock, Co. Dublin.

3.0 Report Limitations

- The inspection has been carried out from ground level using visual observation methods only.
- Trees are living organisms whose health and condition can change rapidly. Trees should be checked on a regular basis, preferably once a year. The conclusions and recommendations of this report are valid for one year.
- The fruiting bodies of some important species of decay fungi only emerge at certain times of the year and may not have been visible during this inspection.
- There is no such thing as a 100% safe tree in all conditions, since even perfectly healthy trees may fall or suffer branch break.
- Climbing plants such as Ivy can obscure structural defects and some symptoms of disease, where such plants prevent a thorough examination it is recommended that the climber be cut at ground level and the tree re-inspected when it has died back.
- Most of the trees located outside the site limits were not plotted by topographic survey methods and were not directly accessed during the field survey. Their positions on the survey drawing and dimensions should be regarded as approximate; tree condition should be regarded as preliminary.
- The emergence of Ash Dieback disease (ADB) and the resurgence of Dutch Elm disease means that the condition of these species may decline rapidly if infected.

Report Prepared by

John Morgan
BSc (Hons) Tech Cert (Arbor A) M Arbor A (Membership number PR407)

August 6th 2021

4.0 Survey Methodology

The significant individual trees inside and adjacent to the site were assessed from ground level using Visual Tree Assessment (VTA) techniques and relevant observations and findings were recorded in compliance with the industry standard document BS5837: *Trees in relation to design, demolition and construction (2012)*. Tree groups and hedges were assessed and described collectively. Trees outside the site boundary or located behind locked fences were not directly accessed; tree dimensions and condition assessments were based on what parts of the tree were visible to the surveyor.

4.1 Survey Key

Tree Numbers

The individual trees (prefix T), hedges (prefix H), shrubs (prefix S) and tree groups assessed (prefix G) were allocated numbers; these numbers are used to identify the trees and hedges in the Survey Schedule and Tree Survey Drawing.

Tree Species

Common and botanical names of the tree species were recorded.

Tree Crown Dimensions

Tree height (Ht), crown clearance (Cl) and crown-spread (NESW cardinal points) measurements are in metres and are estimated.

Stem Diameter (Dbh)

Measurements are in millimetres and taken at 1.5m from ground level, multiple stems (St) are recorded as a function of the BS:5837 RPA formulae described below.

Tree age classes

Age classes were recorded as:

Y	Young	Within 3 years of establishment
SM	Semi-Mature	Well established young tree
EM	Early Mature	Established tree not yet fully grown
M	Mature	Full or near full grown tree
LM	Late Mature	Older specimen in full maturity
OM	Over Mature	Reached full maturity now declining through natural causes
Vet	Veteran	Notable due to large size, old age, ecological importance

Tree Physiological and Structural condition

Tree condition was graded as

Good:	No obvious defects visible, vigour and form of tree good.
Fair:	Tree in average condition for its age and the environment.
Poor:	Tree shows signs of ill health/structural defect
Bad:	Tree in seriously bad health/major structural problem

Work Recommendations

Preliminary management recommendations are made where necessary and pertain to current site conditions unless otherwise stated.

Useful Life Expectancy (ULE)

The approximate number of years that a tree should continue to live and contribute amenity, conservation or landscape value to the site under current site conditions.

4.2 Tree Retention Category (Cat) (BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations)

The tree retention category system grades a tree's suitability for retention within a development:

- A** Indicates a tree of high quality and value. These are trees that are particularly good examples of their species, which also provide landscape value. These trees are in such a condition as to be able to make a substantial contribution. (A minimum of 40 years is suggested)
- B** Indicates a tree of moderate quality and value. Trees that might be included in the high category, but are downgraded because of impaired condition. These trees are in such a condition as to make a significant contribution. (A minimum of 20 years is suggested)
- C** Indicates a tree of low quality and value - trees with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter of below 150mm and/or <10m in height.
- U** Trees that are in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

Sub Categories

Tree categories may be further categorised using the following sub-categories (e.g. C1, C2 or C3) - 1 mainly Arboricultural qualities, 2 mainly landscape qualities, 3 mainly cultural values.

4.3 Root Protection Area

The Root Protection Area (RPA) is the minimum area around individual trees to be protected from disturbance during construction works; RPA is recorded as a radius in metres measured from the tree stem and is shown on the tree survey drawing as a circle with the tree stem in the centre.

For single stem trees, the root protection area (RPA) should be calculated as an area equivalent to a circle with a radius 12 times the stem diameter.

For trees with more than one stem, one of the two calculation methods below should be used. The calculated RPA for each tree should be capped to 707 m².

a) For trees with two to five stems, the combined stem diameter should be calculated as follows:
 $\sqrt{((\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots + (\text{stem diameter } 5)^2)}$

b) For trees with more than five stems, the combined stem diameter should be calculated as follows:

$\sqrt{((\text{mean stem diameter})^2 \times \text{number of stems})}$

5.0 Survey Findings

The trees and hedges were assessed during a site visit on the 18th July 2019; the field data for the trees and hedges is contained in the accompanying Tree Survey Schedule. Approximate tree location, BS5837 category, RPA and crown shape are shown on the Tree Survey/Constraints Plan drawing 19029_TS.

A total of 23 individual trees, 3 hedges, 1 shrub group and 13 tree groups were assessed as part of the survey fieldwork. Of the individual trees none was classed as category A tree (high value), 4 as category B trees (moderate value), 18 trees were classed as category C (low value) and 1 was classed as a category U (unsuitable for long term retention). The hedges and shrub group were classed as category C, the 13 groups were classed as 12x category C and 1x category B.

The site covers land to the south and east of the grounds of Clonkeen College, Clonkeen Rd, Deansgrange, Blackrock, Co. Dublin. The vast majority of the site is currently open grassland, with a small area close to the access point in from Clonkeen Road covering the ERST premises, which includes some established trees and some more recent planting.

Some young trees have been planted around the southern and eastern boundary areas of the main field in recent years; however, the most prominent trees are located outside the boundaries of the site in the adjacent properties. The approximate locations and preliminary assessments of these trees were included in the survey report as additional information to those plotted inside the site during the topographic survey. Many of the individual trees within the tree-lines and hedges on the adjacent lands are graded as category C trees in the schedule; when assessed collectively they be regarded as category B on the basis of the combined group screening services they provide to both the site and the surrounding properties.



1. South-eastern boundary of the site viewed from the north-west; the larger trees and hedge-line originate outside the site.



2. Southern boundary area; all significant tree and hedge growth originates on the southern side of the boundary ditch



3. Trees and conifer hedges close to the ERST premises; viewed from the south



4. Young trees established in the front garden of the ERST premises.

6.0 Arboricultural Impact of New Development

The layout of the proposed development is shown overlain with the tree survey findings on the Tree Protection Plan Drawing 21049_TPP. The development of the site will require that most of the existing woody vegetation will need to be removed to facilitate the new layout, this will include the trees and shrubs labelled T24, T26-27, T29, T31-38, G25, G28, G39-40 and S30. All of the trees and shrubs to be removed are of relatively low value, with all being graded category C.

The removal of the existing trees will be mitigated by a comprehensive new planting scheme and some of the younger trees from around the southern edges of the site will be transplanted into the new layout where practicable.

7.0 Arboricultural Method Statement

7.1 Tree Surgery Works

All trees and bushes within the site boundaries highlighted on the Tree protection Plan drawing 21049_TPP for removal will be removed. Where it is judged practicable, some of the young trees planted around the southern edge of the site will be transplanted by *Tree-spade* and relocated within the new layout. All other trees and shrubs will be felled.

These works should be undertaken by professional tree surgeons working to BS 3998 (2010) *Tree Work – Recommendations*.

7.2 Tree Protection Measures

Sturdy tree protection fencing (see figure 1 below) will be erected along the lines shown on the Tree Protection Plan Drawing 21049_TPP to prevent construction work encroaching into the root protection areas of the trees to be retained to the south of the site. The tree protection measures will be put in place *before* construction work commences and should remain in place until their removal is authorised by a qualified arborist.

Where machinery has to encroach the RPAs of the trees to be retained for reasons unforeseen and unavoidable; suitable ground protection will be put in place to prevent any significant soil compaction or root damage near the trees; this should take the form of suitable strength ground protection mats or cellular confinement system capable of supporting the appropriate weight.

All site offices, materials storage, staff parking etc. will located outside of the RPAs of the trees and kept on existing hard surfacing wherever possible.

Any new underground services such as water pipes etc. will be routed away from the root protection areas of the trees to be retained; where this is not possible for reasons unforeseen, the services will be installed using specialist methodology (such as *Airspade* excavation or Mole drilling) that ensures minimal impact on any tree roots.

The tree protection measures and specialist work methods will be overseen by a qualified arborist; the arborist should also make regular visits to the site during the construction process to ensure compliance and be available to provide advice and guidance where necessary. The retained trees should be assessed by a qualified arborist following the completion of the construction works.

General recommendations for tree protection on-site are contained in section 8 below.

8.0 Tree Protection on Construction Sites – General Recommendations

Trees being retained should be protected from unnecessary damage during the construction process by effective construction-proof barriers that will define the limits for machinery drivers and other construction staff. Ground protected by the fencing will be known as the Construction Exclusion Zone (CEZ). Sturdy protective fencing will be erected along the points identified in the Tree Protection Plan **prior** to any soil disturbance and excavation work starting; this is essential to prevent any root or branch damage to the retained trees. The British Standard BS5837: *Trees in relation to design, demolition and construction (2012)* specifies appropriate fencing; see figure 1 below.



Figure 1. Protective fence specification

For light access works within the CEZ the installation of suitable ground protection in the form of scaffold boards, woodchip mulch or specialist ground protection mats/plates may be acceptable.

All weather notices will be erected on the fence with words such as: "Tree Protection Fence — Keep Out". When the fencing has been erected, the construction work can commence. The fencing will be inspected on a regular basis during the duration of the construction process and shall remain in place until heavy building and landscaping work has finished and its removal is authorised by a qualified arborist.

Trench digging or other excavation works for services etc. will not be permitted in the CEZ unless approved and supervised by a qualified arborist using methods outlined in BS5837: *Trees in relation to design, demolition and construction (2012)*.

Care will be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious damage to them and might make their safe retention impossible.

Materials, which can contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, will not be discharged within 10 m of a tree stem.

Fires will not be lit in a position where their flames can extend to within 5 m of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.

Notice boards, wires and such like will not be attached to any trees. Site offices, materials storage and contractor parking will all be outside the CEZ.

9.0 Appendices

Tree Survey Schedule

Tree Survey Drawing 19029_TS

Tree Protection Drawing 21049_TPP

Tree Survey Schedule
Clonkeen College, Blackrock, Co. Dublin
July 2019

No.	Species	Age	Ht m	Dbh mm	St	Cr	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Area m2	Cat
G1	Fraxinus excelsior (Ash)	SM	6	120	1	2	2	2	2	2	20+	Good	Good. Good vitality. Cluster of three young trees in corner of field. Good shape/form.	No urgent works needed.	1.44	6.52	C2
T2	Fraxinus excelsior (Ash)	EM	13	400	1	3	5	6	5	5	20+	Fair	Fair. Older tree outside site - not accessed. Recently crown reduced.	No urgent works needed.	4.8	72.4	B2
T3	Fraxinus excelsior (Ash)	EM	9	400	1	0.5	3	4	4	3	10+	Poor	Fair. Older tree outside site - not accessed. Dieback in crown. Thick Ivy growth on tree restricts view of main stem and branch unions.	Monitor tree condition.	4.8	72.4	C2
T4	Fraxinus excelsior (Ash)	EM	13	450	1	1.5	6	5	5	4	20+	Fair	Fair. Older tree outside site - not accessed. Scattered minor deadwood. Thick Ivy growth on tree restricts view of main stem and branch unions.	No urgent works needed.	5.4	91.6	B2
H5	X Cupressocyparis leylandii (Leyland Cypress) Fraxinus excelsior (Ash) Ulmus glabra (Wych Elm) Sambucus nigra (Elder) Crataegus monogyna (Hawthorn)	EM	5	200	1	0	1.5	1.5	1.5	1.5	10+	Fair	Fair. Mixed hedge running along side of ditch on southern boundary of site. Hedge variety appears to reflect different garden ownership in adjacent properties	No urgent works needed.	2.4	18.1	C2
G6	Acer pseudoplatanus (Sycamore) Sorbus aucuparia (Rowan) Alnus glutinosa (Common Alder) Fraxinus excelsior (Ash)	Y	4	80	1	1.5	1	1	1	1	10+	Fair	Good/Fair. Row of young trees planted just over fence-line. Very close to fence; with some trees now rubbing off fence. 2 to 2.5m spacing.	Formative prune as necessary.	0.96	2.9	C2
G7	Fraxinus excelsior (Ash), Ulmus glabra (Wych Elm)	EM	12	300	1	1	3.5	3.5	3	4	10+	Fair	Fair. Linear group of Elm and Ash trees along hedgeline on south/east side of ditch. Trees outside site - not accessed. Thick Ivy growth on many of the trees.	Monitor Elm trees for signs of Dutch Elm Disease.	3.6	40.7	C2

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No.	Species	Age	Ht m	Dbh mm	St	Cr	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Area m2	Cat
G8	Fraxinus excelsior (Ash) Acer pseudoplatanus (Sycamore)	SM	6	100	1	2	2	2	2	2	20+	Good	Good. Small group of young trees close to fence. Good shape/form.	No urgent works needed.	1.2	4.52	C2
T9	Fraxinus excelsior (Ash)	M	16	650	1	1.5	7	7.5	6	6	20+	Fair	Fair. Medium sized tree growing in garden hedge outside site boundary - not accessed.	No urgent works needed.	7.8	191	B2
T10	Fraxinus excelsior (Ash)	M	13	600	1	3	3	5	5	4.5	10+	Poor	Poor. Medium sized tree in neighbouring garden. Unbalanced crown shape. Minor dieback in crown. Decay fungus <i>Inonotus hispidus</i> bracket present on stem indicating internal wood decay.	Crown reduce.	7.2	163	C2
T11	Ulmus glabra (Wych Elm)	EM	10	403	2	2	4	5	5	6	10+	Fair	Fair. Tree inside neighbouring garden. 8m from fence. Thick Ivy growth on tree stem.	Monitor Elm tree for signs of Dutch Elm Disease.	4.84	73.6	C2
G12	Fraxinus excelsior (Ash) Acer pseudoplatanus (Sycamore)	SM	6	100	1	2	2	2	2	2	20+	Good	Good. Row of young trees planted close to fence. Mostly good shape/form.	No urgent works needed.	1.2	4.52	C2
G13	Acer pseudoplatanus (Sycamore)	SM	6	100	1	2	2	2	2	2	20+	Good	Good. Three young trees of good shape/form planted close to fence.	No urgent works needed.	1.2	4.52	C2
H14	Fraxinus excelsior (Ash) Sambucus nigra (Elder)	SM	7	300	1	0	3	3	3	3	10+	Good	Fair. Trees/bushes growing in hedgerow on south side of drainage ditch. Ash trees look to have been topped or coppiced.	No urgent works needed.	3.6	40.7	C2
G15	Fraxinus excelsior (Ash)	M	12	450	1	2	5	5	5	4	10+	Fair/Poor	Fair. Low vitality. Linear group of older trees growing on south side of ditch outside site boundary - not accessed. Thick Ivy growth restricts view of stems and main branch unions. Slight thinning of upper crown. Low bud/leaf density.	Clear around stem base and inspect stem/basal area.	5.4	91.6	C2
T16	Fraxinus excelsior (Ash)	EM	11	354	2	2	4	3	3	4	<10	Poor	Fair. Smaller sized tree on south side of ditch - not accessed. Thick Ivy growth on tree stem. Significant dieback in crown.	Consider coppicing to allow regeneration of fresh growth.	4.25	56.8	U
T17	Fraxinus excelsior (Ash)	M	16	550	1	2	7.5	8	8	7.5	20+	Fair	Fair. Medium sized tree on south side of ditch - not accessed. Thick Ivy growth on tree stem. Some long extended limbs.	Cut Ivy around stem base. Inspect stem/basal area.	6.6	137	B2

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July 2019

No.	Species	Age	Ht m	Dbh mm	St	Cr	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Area m2	Cat
T18	Fraxinus excelsior (Ash)	M	15	520	3	2	5	5	6	6	10+	Poor	Fair. Tree on south side of ditch - not accessed. Thick Ivy growth on tree stem. Multiple stems below 1.5m. Dieback in crown. Excessive Ivy growth in crown.	Cut Ivy around stem base. Inspect stem/basal area.	6.24	122	C2
T19	Fraxinus excelsior (Ash)	M	15	520	3	2	5	5	6	6	10+	Poor	Fair. Tree on south side of ditch - not accessed. Multiple stems below 1.5m. Minor dieback in crown. Recent storm damage. Thick Ivy growth on tree stem and excessive Ivy growth in crown.	Cut Ivy around stem base. Inspect stem/basal area.	6.24	122	C2
T20	Fraxinus excelsior (Ash)	M	11	400	1	3	6.5	7	6	2	10+	Fair	Fair/Poor. Tree on south side of ditch - not accessed. Leaning North-East. Poor shape & form. Thick Ivy growth on tree stem and excessive Ivy growth in crown.	Cut Ivy around stem base. Inspect stem/basal area.	4.8	72.4	C2
G21	Fraxinus excelsior (Ash)	M	16.5	550	1	4	7.5	7.5	8	7.5	20+	Fair	Fair. Poor. Medium sized mature Ash trees on south side of ditch - not accessed. Thick Ivy growth on tree stems. Broken branches in tree crowns. Scattered minor deadwood. Some long extended limbs.	Crown clean. Cut Ivy around stem base. Inspect stem/basal area.	6.6	137	B2
G22	Betula pendula (Silver Birch) Fraxinus excelsior (Ash) Acer pseudoplatanus (Sycamore)	SM	6	120	1	1.5	2	2	2	2	10+	Good	Good. Good shape/form. Line of young trees inside fence. Planted very close (600mm) to fence.	No urgent works needed.	1.44	6.52	C2
H23	Crataegus monogyna (Hawthorn) X Cupressocyparis leylandii (Leyland Cypress) Sambucus nigra (Elder) Salix caprea (Goat Willow)	EM	6	200	1	0	2	2	2	2	10+	Fair	Fair. Bank of mixed species trees and shrubs forming dense landscape screen on south side of ditch - outside site boundary.	No urgent works needed.	2.4	18.1	C2
T24	Populus nigra 'Italica' (Lombardy Poplar)	M	17	650	1	4	3	4	4	3	10+	Fair	Fair/Poor. Medium sized tree. Mostly upright form, however previously topped at around 8m with copious regrowth from cutting point. Thick Ivy growth on tree stem.	Cut Ivy around stem base.	7.8	191	C2
G25	Chamaecyparis lawsoniana (Lawson Cypress)	EM	8	250	1	0	3	3	3	3	10+	Fair	Fair/Poor. Short linear group planting of Cypress. Eastern tree leaning badly.	Remove eastern stem.	3	28.3	C2

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No.	Species	Age	Ht m	Dbh mm	St	Cr	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Area m ²	Cat
T26	Acer pseudoplatanus (Sycamore)	SM	6	250	2	1	2	2	2	2	10+	Fair	Fair. Smaller sized tree. Twin stem from ground level.	No urgent works needed.	3	28.3	C2
T27	Pyrus communis (Common Pear)	EM	5	173	3	0	1.5	1.5	3.5	2	10+	Fair	Fair. Smaller sized tree. Poor shape & form.	No urgent works needed.	2.08	13.6	C2
G28	Chamaecyparis lawsoniana (Lawson Cypress)	EM	8	300	1	0	3	2	3	2	10+	Fair	Fair. Linear group/hedge of upright form. Stems range between 150- 400mm dbh.	No urgent works needed.	3.6	40.7	C2
T29	Acer pseudoplatanus (Sycamore)	EM	9	350	1	3	5	4	3	4	10+	Fair	Fair. Smaller sized tree. Previously topped.	No urgent works needed.	4.2	55.4	C2
S30	Griselinia littoralis	M	6	346	3	0	4	3	3	4	10+	Fair	Fair. 2 bushes with multiple stems at ground level.	No urgent works needed.	4.15	54.1	C2
T31	Corylus colurna (Turkish Hazel)	EM	4.5	150	1	0.5	2.5	2	2	2	10+	Good	Good. Smaller sized tree. Good shape/form.	No urgent works needed.	1.8	10.2	C2
T32	Prunus cerasifera (Cherry Plum)	M	6.5	200	4	0	2	2	2	2	10+	Good	Fair. Smaller sized tree.	No urgent works needed.	2.4	18.1	C2
T33	Acer campestre (Field Maple)	EM	5	200	1	1	3	2	2	3	10+	Good	Good. Smaller sized tree. Average shape/form.	No urgent works needed.	2.4	18.1	C2
T34	Sorbus aucuparia (Rowan)	SM	4	100	1	2	1	1	1	1	10+	Fair	Fair. Smaller sized tree. Upright form.	No urgent works needed.	1.2	4.52	C2
T35	Prunus spp. (Flowering Cherry)	SM	5	200	1	2	2	3	3	2	10+	Good	Good. Smaller sized tree. Good shape/form. Large surface roots.	No urgent works needed.	2.4	18.1	C2
T36	Acer platanoides (Norway Maple)	SM	4	150	1	1.5	2	2	2.5	2	10+	Good	Fair. Large surface roots. Possible root girdling.	No urgent works needed.	1.8	10.2	C2
T37	Laburnum anagyroides (Laburnum)	SM	4	180	1	1	2	2	2	2	10+	Good	Good. Smaller sized tree. Average shape/form.	No urgent works needed.	2.16	14.7	C2
T38	Acer platanoides (Norway Maple)	EM	8	350	1	1.5	4.5	4	4	4	10+	Fair/Poor	Fair. Low vitality. Smaller sized tree of average shape/form. Some damage to surface roots. Somewhat low bud/leaf density with leaf size small for species. Scattered minor deadwood.	Monitor tree condition.	4.2	55.4	C2
G39	Betula utilis (Himalayan Birch)	SM	4.5	100	1	1.5	1.5	1.5	1.5	1.5	10+	Fair	Fair. Small group of young trees. Upright form.	No urgent works needed.	1.2	4.52	C2
G40	Betula utilis (Himalayan Birch)	SM	6	100	1	0.5	2	2	2	2	10+	Good	Fair. Small group of young trees.	No urgent works needed.	1.2	4.52	C2