Tree Survey

Grange Castle
Clondalkin
Dublin

BSM
Est. 1968

Brady Shipman Martin
Built. Environment.

Survey
Assessment
Built Environment

CLIENT: **South Dublin County Council**

DATE: **08 June 2017**

Brady Shipman Martin

www.bradyshipmanmartin.com

DUBLIN
Canal House
Canal Road
Dublin 6

+353 1 208 1900

CORK
Penrose Wharf Business Centre
Penrose Wharf
Cork

+353 21 242 5620

LIMERICK
11 The Crescent
Limerick

+353 61 315 127

mail@bradyshipmanmartin.com

DOCUMENT:
6393 – Tree Survey Report

This document has been issued and amended as follows:

Issue	Revision	Description/Status	Date	Prepared by	Checked by
01	00	Tree Survey	07/06/17	JM	AP

TABLE OF CONTENTS

1 TABLE OF CONTENTS

1 INTRODUCTION

South Dublin County Council has plans to re-develop the area around the ruins of Grange Castle, Grange Castle Business Park. The old castle is surrounded by trees and hedges growing along a series of ditches; this report has been commissioned to provide an Arboricultural assessment of these trees and hedges to assist with the plans for the development of the area. The survey data was collected and collated in accordance with BS5837: (2012) *Trees in relation to design, demolition and construction – Recommendations*.

The accompanying drawing 6393-305 shows the locations of the individual trees and hedges identified on the site during the survey.

2 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.

Many of the trees around the survey site were surrounded by dense vegetative suckering and thick undergrowth; this prevented full assessment of the structural condition of the stem bases.

Some of the trees included in the survey were not located by topographic survey methods and their positions on the site drawing should be regarded as indicative; this includes the trees labelled 1005-1010, 1012, 1018, 1024 and 1025.

3 METHODOLOGY

The trees were accessed on foot and assessed using Visual Tree Assessment (VTA) techniques only. Groups of trees were assessed collectively in accordance with BS5837: (2012) *Trees in relation to design, demolition and construction – Recommendations*.

4 SURVEY KEY

4.1 Tree Tag, Tree Group and Hedge Number

Individual trees were tagged with alloy tags on site where it was considered appropriate; hedges (prefix H) were allotted reference numbers to allow for identification and cross reference with the survey schedule and site drawings.

4.2 Species

The specific tree species identified using both common and botanical names for individual trees and those present within each tree group.

4.3 Age Class

Y: Young tree – yet to reach biological maturity
SM: Semi-mature - tree now well established and developing
EM: Early-Mature - tree not yet fully grown
M: Mature – Tree fully grown and in full maturity
LM: Late Mature – in the later stages of maturity
OM: Over mature - tree now declining from natural causes
Vet: Veteran - tree of value due to old age and ecological/cultural significance

4.4 Stem Diameter, Tree Height and Crown Size Measurements

Ht: Total Tree Height in metres
Dbh: Diameter (in mm) at breast height measured at 1.5m from ground level
NSEW: Crown spread (in metres) for all 4 cardinal points

4.5 Condition

Condition refers to both physiological condition (good, fair, poor, dead.) and structural condition.

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
Dead: Tree now completely dead

4.6 Comments

Additional description/commentary on individual trees where appropriate.

4.7 Recommendations

Preliminary management recommendations are noted, these pertain to current site conditions unless otherwise stated.

4.8 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.

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.

4.9 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 (rad) in metres measured from the tree stem and is shown on tree survey drawings 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.

a) For trees with two to five stems, the combined stem diameter should be calculated as follows:

$\sqrt{((\text{stem diameter 1})^2 + (\text{stem diameter 2})^2 \ldots + (\text{stem diameter 5})^2)}$

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 FINDINGS

The trees were assessed during a site visit on the 6th of June 2017. The field survey findings are detailed in the survey schedule appended to the report and include the data for 27 individual trees and 1 hedge.

Of the 27 individual trees assessed, 0 were graded category A (high value), 3 category B (moderate value), 16 were category C (low value0 and 8 were classed as category U (poor quality or <10 years contribution left).

The 1 hedge assessed was graded category C (low value).

The survey site included a hedge extending north from the castle compound towards the internal business park road and the roughly circular ring of trees and scrub that follows the deep ditch network that surrounds the castle compound itself.

The trees around the ditches would seem to be the remnants of a more continuous tree-line or hedge that has become fragmented over time as trees have died off and the area overgrown through lack of management activity. Sycamore was by far and away the dominant canopy tree species present, with small numbers of Ash and Elm also represented; the hedge and scrub areas were dominated by Hawthorn, Elder and younger Elm suckering.

The older Sycamore trees show signs of repeated coppicing, with very wide old stool bases and multiple stems, these trees however have not been re-cut for some years and may become liable to stem break-out (as has happened to tree T1013). Most of the Sycamore trees showed signs of bark gnawing by Grey Squirrels; this has caused growth abnormalities and branch losses in many instances.

The younger self-sown Sycamore trees growing next to the old wall to the north of the compound are of poor quality and are now starting to impact on the masonry of the wall; this impact will become more significant if the trees are allowed to mature.

The Elm trees around the site are suffering badly from the effects of Dutch Elm Disease and are either infected or dead as a result; it is likely that the disease has been killing off Elms along the ditches for some time; creating more gaps in the tree-line.

Overall the trees surrounding the old castle are of limited Arboricultural value as individuals, however collectively they contribute amenity and landscape value and help frame the old castle into the local landscape, adding character to this old and historic feature.

It was also noted during the field survey that numerous birds were actively nesting in many of the trees, with several nesting in the decay cavities on Sycamore tree T1011 in particular.

6 RECOMMENDATIONS

Preliminary management recommendations for the trees and hedge under present site conditions are listed in the tree survey schedule.

The Elm trees within the old tree-lines around the old castle are now dying as a result of Dutch Elm Disease. These trees should all be cut back to stump without undue delay; this will encourage new growth to sprout from the stump before the disease works its way down to the rootstock and kills the tree completely.

The Sycamore trees that have colonised the ground adjacent to the old walls should be cut to stump and the stumps treated with herbicide to prevent any regrowth.

Many of the Sycamore coppice stools located around the perimeter ditch should be re-coppiced over the next 5-10 years. Undergrowth should be cleared to allow re-enforcement planting of mixed species (preferably native such as Hawthorn, Hazel, Holly, Blackthorn, Oak etc.) to in-fill and re-establish the tree-lines along the ditches.

The planting of tree species such as Sycamore, Maple, Beech etc. should be avoided because of the damage being caused by Grey Squirrels.

The Grey Squirrel and Rabbit populations should be controlled or excluded from the area where practicable to prevent further damage to existing and newly planted trees.

Any major demolition or construction works should be carefully managed to prevent any unintended damage being caused to the trees intended for retention. The root protection areas of the trees are shown on the survey drawing and should be protected by effective barriers should any significant works be undertaken on the site.

7 SITE PHOTOGRAPHS

Photo 1. Hedge H1 extending north from the castle compound.

Photo 2. Semi-mature and early mature Sycamore trees growing out of or very close to the old masonry wall along the northern perimeter of the site.

Photo 3. Mature Sycamore coppice (T1005) in centre, with Elder scrub and dying Elms to right in the north-western corner of the site.

Photo 4. Mature tree-line along the south-western edge of the site (from right to left; T1006-1009, 1012-13)

Photo 5. Trees 1019-1023 along the eastern boundary ditch.

Photo 6. Sycamore tree T1023 in centre of picture; note dead and dying Elm trees to the left and right.

8 SCHEDULE OF TREES

Tree Survey Schedule
Grange Castle, Clondalkin, Dublin
June 2017

	Tag	Species	Botanical Name	Age	Dbh	St	Ht	Cl	N	S	E	W	Cat	ULE	Condition/Comments	Preliminary Management Recommendations	RPA
T	1001	Sycamore	*Acer pseudoplatanus*	SM	381	12	6.5	0	3.5	3	3	2.5	U	<10	Fair. Good vitality. Small sized multi-stemmed coppice stool. Self-sown tree right next to old wall pier. Ivy on stem.	Tree liable to undermine old wall in future. I would recommend removal.	4.6
T	1002	Sycamore	*Acer pseudoplatanus*	SM	283	8	6.5	0	3	2	2.5	3	U	<10	Fair/Poor. Low vitality. Small multi-stemmed coppice stool with compression fork at stool base. Self-sown tree right next to old wall pier. Significant squrrel damage to lower stems.	Tree liable to undermine old wall in future. I would recommend removal.	3.4
T	1002.1 No tag	Sycamore	*Acer pseudoplatanus*	SM	283	8	7	0	3	2	2.5	3	U	<10	Fair. Average vitality. Small multi-stemmed coppice stool; self-sown tree right next old wall. Some squrrel damage.	Tree liable to undermine old wall in future. I would recommend removal.	3.4
T	1002.2 No tag	Sycamore	*Acer pseudoplatanus*	SM	283	8	7	0	3	2	2.5	3	U	<10	Fair. Average vitality. Small multi-stemmed coppice stool; self-sown tree right next old wall. Some squrrel damage.	Tree liable to undermine old wall in future. I would recommend removal.	3.4
T	1003	Sycamore	*Acer pseudoplatanus*	EM	450	1	7.5	0	3.5	4	4	3.5	U	<10	Poor. Average vitality. Self-sown tree growing out of wall. Significant decay in lower stem. Ivy on stem and excessive Ivy growth in crown.	I would recommend removal.	5.4
T	1004	Sycamore	*Acer pseudoplatanus*	SM	250	2	6.5	1	2.5	2.5	3.5	3	U	<10	Fair/Poor. Low vitality. Small self-sown tree dividing into twin stems below 1.5m. Tree very close to wall. Squirrel damage in crown.	Tree liable to undermine old wall in future. I would recommend removal.	3
T	1005	Sycamore	*Acer pseudoplatanus*	M	804	9	11	0	6	6.5	4	5.5	C2	10+	Fair. Good vitality. Large multi-stemmed coppice stool with a broad spreading form. Very wide old stool around 4-5m wide at edge of ditch. Previously cut at 1.5m. Bark wounds to branches in tree crown from Grey Squirrel gnawing. Decay in old wound to northern stem.	Cut back undergrowth and suckering around stool base and review. Tree likely to benefit from re-coppicing within the next 5-10 years.	9.6
T	1006	Sycamore	*Acer pseudoplatanus*	M	500	1	10	0	3	5	4	4	C2	10+	Fair/Poor. Low vitality. Suckers around stem base. Historic wounds on stem. Small leaf size for species. Sparse crown.	Cut back undergrowth and suckering around stool base and review. Monitor tree condition.	6
T	1007	Sycamore	*Acer pseudoplatanus*	M	522	3	10	0	5	5	4.5	4.5	C2	10+	Fair/Poor. Good vitality. Multi-stemmed coppice stool. Eastern stem is growing out of severely decayed stump.	Coppice eastern stem; I would recommend coppicing whole stool.	6.3

Tree Survey Schedule
Grange Castle, Clondalkin, Dublin
June 2017

	Tag	Species	Botanical Name	Age	Dbh	St	Ht	Cl	N	S	E	W	Cat	ULE	Condition/Comments	Preliminary Management Recommendations	RPA
T	1008	Sycamore	*Acer pseudoplatanus*	M	1129	4	12	0	8	5	5	5.5	C2	10+	Fair. Good vitality. Very wide old coppice stool along edge of ditch. Previously topped. Some decay in stool base; especially around northern stems. Historic loss of limb from southern stem - decay now established in old wound. Ivy on stem.	Cut back lower coppice growth and review. Consider re-pollarding to previous cutting points or completely re-coppicing entire stool over next 5 years or so.	13.5
T	1009	Sycamore	*Acer pseudoplatanus*	M	762	2	15	0	5	5	5	4.5	C2	10+	Fair/Poor. Low vitality. Twin stemmed tree with possible decay column in main stem. Somewhat sparse upper crown. Some decay evident under western stem, which is now fused with the dominant stem at 2m. Ivy on stem and excessive Ivy growth in crown.	Cut back undergrowth and suckering around tree base and review condition of lower stem.	9.1
T	1010	Sycamore	*Acer pseudoplatanus*	M	577	4	14	0	3.5	5.5	6	4.5	B2	20+	Fair. Average vitality. Stem divides above 1.5m with a fairly tight union as the stem forks into two; the fork however appears stable at present. Slight thinning of upper crown.	Cut back suckering around the tree to allow better access to stem base. Monitor tree condition.	6.9
T	1011	Sycamore	*Acer pseudoplatanus*	M	800	1	16	2	5	5	7	3	U	<10	Poor. Average vitality. Significant decay column in main stem with lower 3m of stem chronically decayed. Further decay cavities on large upright branches. Birds seen nesting in cavities.	Carry out major crown reduction or coppice before tree is subject to wind-snap.	9.6
T	1012	Sycamore	*Acer pseudoplatanus*	SM	250	1	10	2	5	2	4	4.5	C2	10+	Fair. Average vitality. Single stemmed tree with leaning form - possibly part of coppice stool T1013. Ivy on stem. Unbalanced crown shape distorted due to group pressure. Squirrel damage in crown.	No urgent work needed, however coppice if neighbouring stems are coppiced.	3
T	1013	Sycamore	*Acer pseudoplatanus*	EM	420	4	10	0	6	5	4	3	C2	10+	Poor. Good vitality. Multi-stemmed coppice stool with significant decay in stool base. Recent loss of stem to east.	Coppice over next few years to encourage fresh re-growth.	5
T	1014	Sycamore	*Acer pseudoplatanus*	EM	450	1	10	0	5	3	4	3	C2	10+	Fair/Poor. Average vitality. Smaller tree with decay in old wound to stem. Multiple stems above old cutting point at 1.5m. Some Squirrel damage in crown. Excessive Ivy growth in crown.	Coppice over next few years to encourage fresh re-growth.	5.4

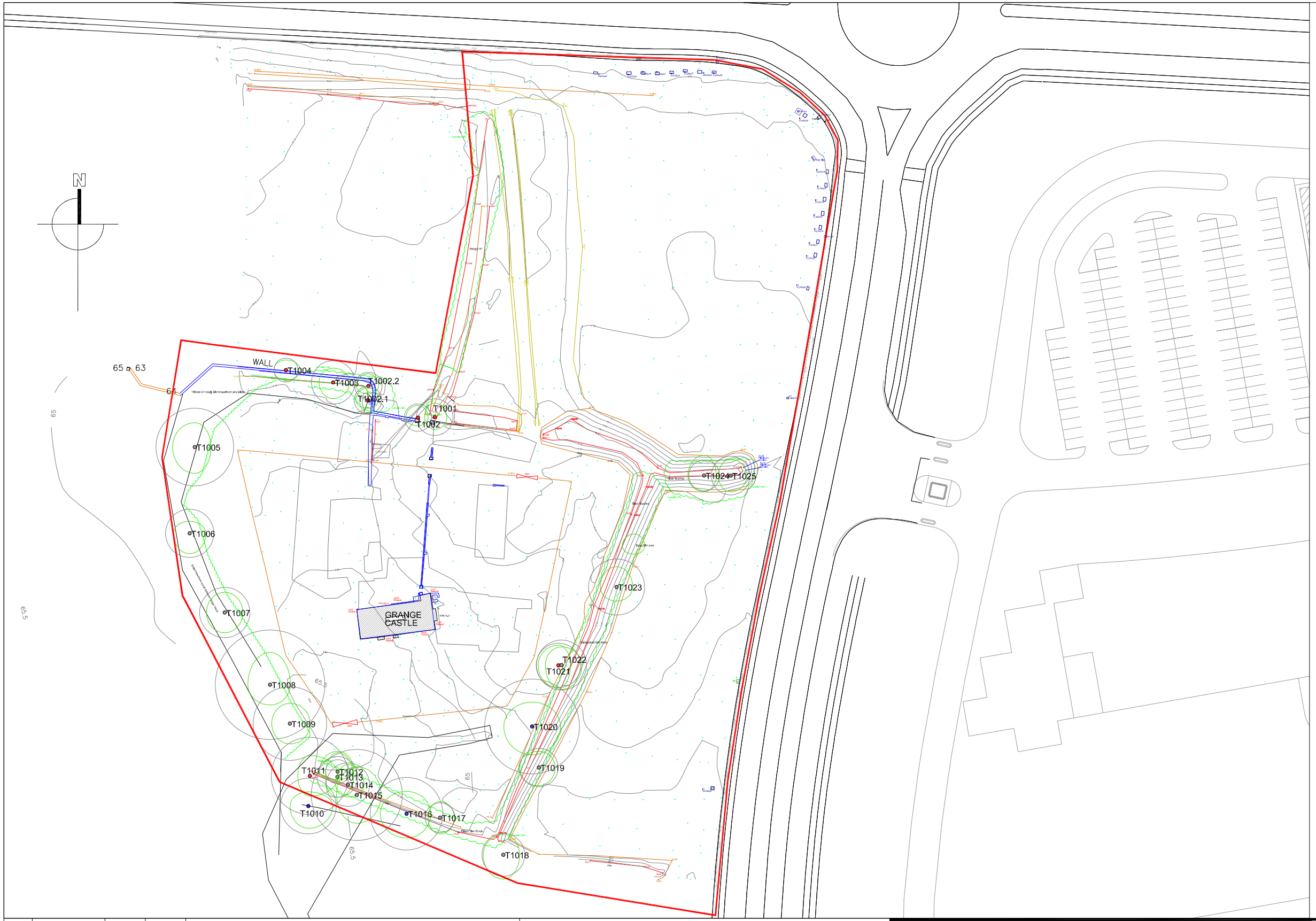
Tree Survey Schedule
Grange Castle, Clondalkin, Dublin
June 2017

	Tag	Species	Botanical Name	Age	Dbh	St	Ht	Cl	N	S	E	W	Cat	ULE	Condition/Comments	Preliminary Management Recommendations	RPA
T	1015	Sycamore	*Acer pseudoplatanus*	M	942	9	11	0	7	7	6	5	C2	10+	Fair/Poor. Average vitality. Very large multi-stemmed coppice stool at edge of ditch. Historic loss of main stem at 2.5m with decay established in central stool. Some Squirrel damage in crown.	Coppice at some point over the next 5-10 years	11.3
T	1016	Sycamore	*Acer pseudoplatanus*	M	750	1	15	0	5.5	6	6	6.5	B2	20+	Fair. Average vitality. Multiple small stems surrounding main stem at edge of ditch. Some historic wounds on stem and some Squirrel damage in crown.	Cut back smaller suckering around main stem. Crown clean.	9
T	1017	Sycamore	*Acer pseudoplatanus*	SM	308	7	7	0	4	4	3.5	3	C2	10+	Fair/Poor. Good vitality. Smaller multi-stemmed coppice stool. Squirrel damage in crown.	Coppice to generate fresh re-growth.	3.7
T	1018	Sycamore	*Acer pseudoplatanus*	EM	444	4	10	0	5	6	4	5	C2	10+	Fair. Multi-stemmed coppice stool. Ivy on stem. Some tight unions on upright stems.	Sever Ivy.	5.3
T	1019	Sycamore	*Acer pseudoplatanus*	EM	398	3	8	0	4	4.5	4	5	C2	10+	Fair. Good vitality. Upright form. Some Squirrel damage in crown. Ivy on stem and excessive Ivy growth in crown.	Sever Ivy.	4.8
T	1020	Sycamore	*Acer pseudoplatanus*	M	980	6	12	0	6	7	7	7	B2	20+	Fair. Good vitality. Very wide coppice stool with dense epicormic and Ivy growth in central stool area obscuring view of much of tree. Tree at edge of ditch with a broad spreading form. Some decay from previous stem loss visible in lower stool. Some Squirrel damage in crown.	Cut back suckering and thin out growth from lower 2-3m of stool to allow fuller assessment to be made of central stool area.	11.8
T	1021	Wych Elm	*Ulmus glabra*	EM	460	2	10	1	5	5.5	3	5	U	<10	Poor. Declining. Compression fork on main stem. Slight dieback in crown indicating start of Dutch Elm Disease.	Coppice without undue delay to allow tree to regenerate before it is killed by disease.	5.5
T	1022	Sycamore	*Acer pseudoplatanus*	EM	515	6	9	0.5	4.5	6	5	4	C2	10+	Fair. Average vitality. Multi-stemmed coppice stool intertwined with dead Elm and dying Elm 1021.	Coppice along with neighbouring Elm trees.	6.2
T	1023	Sycamore	*Acer pseudoplatanus*	SM	579	8	9	0	5	3.5	4	4	C2	10+	Fair. Good vitality. Multi-stemmed coppice stool with spreading form. Ivy on stem. Old wire around stool base.	No urgent work needed.	6.9
T	1024 No tag	Ash	*Fraxinus excelsior*	EM	320	3	9	0	5	4	3	4	C2	10+	Fair. Average vitality. multi-stemmed coppice stool. Ivy on stem.	Sever Ivy.	3.8
T	1025 No tag	Ash	*Fraxinus excelsior*	EM	400	1	8	0	4	4	4	3	C2	10+	Fair. Average vitality. Ivy on stem.	Sever Ivy.	4.8

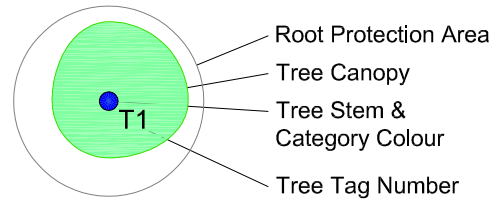
Tree Survey Schedule
Grange Castle, Clondalkin, Dublin
June 2017

	Tag	Species	Botanical Name	Age	Dbh	St	Ht	Cl	N	S	E	W	Cat	ULE	Condition/Comments	Preliminary Management Recommendations	RPA
H	1	Ash Hawthorn Elder	*Fraxinus excelsior, Crataegus monogyna, Sambucus nigra*	M	260	3	5.5	0	2	2	3	3	C2	10+	Fair. Average vitality. Old agricultural field boundary hedge - mostly mature multi-stemmed Hawthorn bushes. Thick ivy on stems and into crowns. No recent management works. Numerous Rabbit burrows into hedge base.	Trim side branching back into shape. Control Rabbits.	3

9 TREE SURVEY PLAN



LEGEND



Category A Trees
(high value)

Category B Trees
(moderate value)

Category C Trees
(low value)

Category U Trees
(unsuitable for retention)

Rev	Date	Drawn	Checked	Description

Project
Grange Castle
Grange Castle Business Park

Project No. 6393

Drg. Tree Survey

Drawing No. 305

Rev.

Scales 1: 1000

Status Planning

Date June 2017

Canal House, Canal Road, Dublin 6
Tel: +353(0)1 2081900
mail@bradyshipmanmartin.com
www.bradyshipmanmartin.com

Drn. JM | Chd. TB | Passed

BSM
Est. 1968