

Independent Tree Surveys Ltd

Tree Survey Report
Dodder Rapid Deployment Scheme
Fitzwilliam Quay
Dublin

May 2023



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1.0 Introduction

Modifications to existing footpath and road layouts are required as part of plans planning to develop new and improved cycle routes along the Dodder River corridor. The routes pass street and parkland trees in nine sections highlighted on the AECOM Arboricultural Survey Brief; this survey report has been commissioned to provide an arboricultural assessment of the trees highlighted along Fitzwilliam Quay to input into the design and planning of the project and to provide recommendations where appropriate.

2.0 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.

Report Prepared by

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May 22nd 2023

3.0 Survey Methodology

The street trees along the west side of Fitzwilliam Quay 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)*.

3.1 Survey Key

Tree Numbers

The individual street trees were allocated numbers. These numbers identify the trees in the survey schedule and on the supporting survey drawings.

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. Where tree stems could not be directly accessed; the stem diameters were estimated.

Tree age classes

Y	Young	Recently planted (with 5 years or so)
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	Full maturity now declining through natural causes
Vet	Veteran	Notable due to large size, old age, ecological importance

Tree Physiological 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

Work Recommendations

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

Estimated Remaining Contribution (ERC)

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.

3.2 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 younger 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.

3.3 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/constraints 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:

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

4.0 Summary of Findings

The trees were assessed during a site visit in February 2023; the field data for the trees is contained in the accompanying Tree Survey Schedule in the appendices. Indicative tree location, BS5837 category, RPA and approximate crown shape are shown on the Tree Survey/Constraints Drawings 23007_TS sheet 1.

Row of 10 semi-mature Turkish Hazel street trees planted into footpath close to kerb line. Variable condition, with trees in the northern half being of greater size and better condition than those further south along the street. If retained most of the trees will require some light facilitation pruning to crown lift the lower branching to provide the 2.5m clearance required. This will only require the selective pruning of small branching and should not have any significant negative impact on the trees.



1. Row of Turkish Hazel street trees viewed from the north

5.0 Recommendations

Preliminary management recommendations for the trees assessed are listed in the tree survey schedule in the appendices; these pertain to *current* site conditions unless otherwise stated. All tree pruning work should be carried out by qualified and experienced tree surgeons working to *BS3998 (2010) Tree Work – Recommendations*.

Works associated with the new cycle scheme in areas adjacent to trees should be carried out in accordance with the recommendations made in the following two industry standard documents:

NATIONAL JOINT UTILITIES GROUP (NJUG). *Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees*. Volume 4, issue 2. London: NJUG, 2007.

BS5837 (2012) *Trees in relation to design, demolition and construction – Recommendations*
BSI Standards Limited 2012

6.0 Tree Protection Recommendations

The tree protection measures should be in accordance with BS5837 (2012) *Trees in relation to design, demolition, and construction – Recommendations*.

The project managers should appoint a qualified arborist to provide advice and guidance to the contractors carrying out the works. The arborist should meet the contractors on-site prior to works commencing and go through the tree protection measures, explaining the recommended procedures and emphasising the importance of protecting the trees during the course of the project. The project arborist should be available to attend the site on a regular basis to aid and advise the tree protection set up along the route.

The two main areas of importance are the prevention of physical injury to the main stems and branches of the trees close to the work sites, and the prevention of activities at and below ground level within the root protection areas (RPAs) of the trees that could adversely impact on the tree roots systems.

Tree stems and root flare areas of the tree bases should be protected from direct physical damage from adjacent site works by protective wooden panels erected around the trees. Tree protection fencing should be erected around any undisturbed ground within the RPAs of trees being retained to prevent construction activity and machinery encroaching onto exposed soil, where it could cause compaction and root damage. The fencing and protective structures should be erected before site works commence and will not be removed or moved unless authorised by a qualified arborist.

Where site machinery must encroach upon original soil surfaces or ground exposed by the removal of the existing hard surfacing within the RPAs of the trees to be retained for reasons unforeseen and unavoidable; suitable ground protection should 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.

Where an existing hard surface is removed within the RPA of a tree being retained, care should be taken not to disturb tree roots that might be present beneath it. Hand-held tools or appropriate machinery should be used (under arboricultural supervision) to remove the existing surface, working backwards over the area, so that the machine is not moving over the exposed ground. If a new hard surface is to be laid, it might be preferable to leave any existing sub-base in situ, augmenting it where required.

Any new underground services such as electricity cables, 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 should be installed using specialist methodology (such as *Airspade* excavation, Air Vacuum truck or Mole drilling) that ensures minimal impact on any tree roots.

All exposed roots and/or soil profiles containing roots of trees to be retained should be kept damp in dry conditions by regular watering and be covered with a double layer of hessian fabric to prevent desiccation. Where backfill is required, this should be of good quality topsoil, structural soil, or clean sand.

Root severance should be avoided where possible, with no roots >25mm being cut without consultation with the project arborist. Where roots have to be cut back, they should be pruned with saw or secateurs to leave a clean cut.

All site offices, materials storage, staff parking etc. should be located outside of the RPAs of the trees being retained.

The retained trees should be assessed by a qualified arborist following the completion of the construction works.

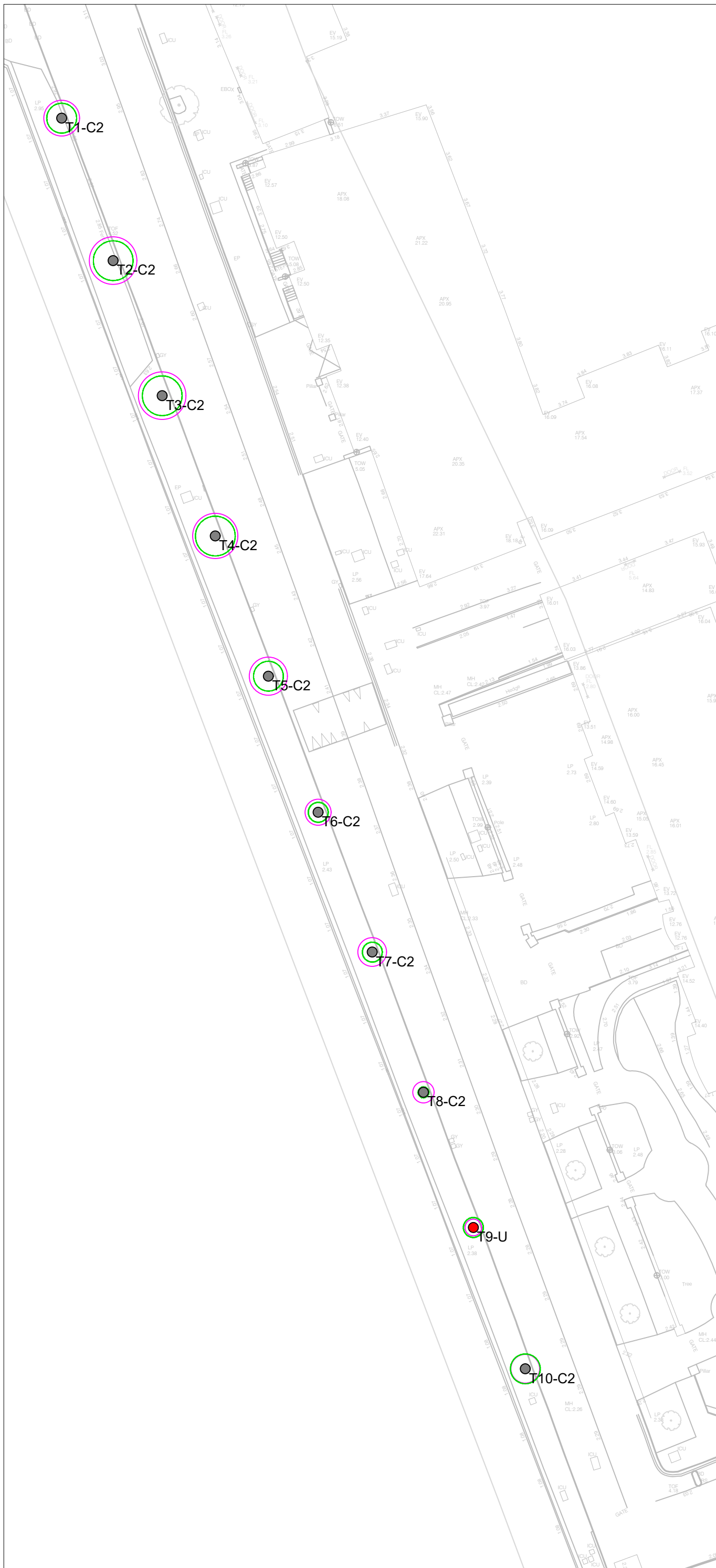
7.0 Appendices

A. Tree Survey Schedule

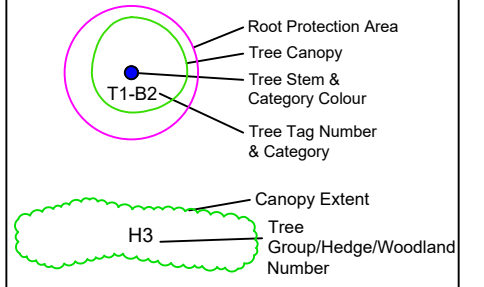
B. Tree Survey Drawing 23007_TS (Tree Constraints Plan) Sheet 1

Tree Survey Schedule
River Dodder Rapid Deployment Scheme
March 2023

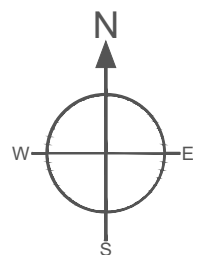
Type	No.	Species	Age	Ht m	Dbh mm	St	Cr	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
Fitzwilliam Quay																	
T	1	Corylus colurna (Turkish Hazel)	SM	6	150	1	1.6	1.5	1.5	1.5	1.5	10+	Fair	Fair. Smaller sized street tree. Average shape/form.	Crown lift to improve clearance.	1.8	C2
T	2	Corylus colurna (Turkish Hazel)	SM	8	200	1	1.6	2	2	2	2	10+	Good	Fair. Smaller sized street tree. Average shape/form.	Crown lift to improve clearance.	2.4	C2
T	3	Corylus colurna (Turkish Hazel)	SM	7.4	200	1	1.6	2	2	2	2	10+	Good	Fair. Smaller sized street tree. Average shape/form.	Crown lift to improve clearance.	2.4	C2
T	4	Corylus colurna (Turkish Hazel)	SM	6	190	1	1.6	2	2	2	2	10+	Good	Fair. Smaller sized street tree. Average shape/form. Some bark wounds to stem base.	Crown lift to improve clearance.	2.28	C2
T	5	Corylus colurna (Turkish Hazel)	SM	5.5	160	1	1.6	1.5	1.5	1.5	1.5	10+	Fair	Fair/Poor. Smaller sized street tree. Main leader has been snapped off and is hanging in crown.	Target prune broken leader and remove hanging branch. Crown lift to improve clearance.	1.92	C2
T	6	Corylus colurna (Turkish Hazel)	SM	5	110	1	1.6	1	1	1	1	10	Poor	Fair. Smaller sized street tree. Low vitality. Stunted. Upright form.	Crown lift to improve clearance.	1.32	C2
T	7	Corylus colurna (Turkish Hazel)	SM	5.5	120	1	1.6	1	1	1	1	10	Poor	Fair. Smaller sized street tree. Low vitality. Stunted. Upright form.	Crown lift to improve clearance.	1.44	C2
T	8	Corylus colurna (Turkish Hazel)	Y	3.5	90	1	1.6	0.5	0.5	0.5	0.5	10	Poor	Fair/Poor. Smaller sized street tree. Slender form. Stunted.	Crown lift to improve clearance.	1.08	C2
T	9	Corylus colurna (Turkish Hazel)	Y	3	70	1	1.6	1	1	1	1	<10	Poor	Poor. Smaller sized street tree. Slender form. Stunted. Significant dieback in crown.	Consider removal as part of good management.	0.84	U
T	10	Corylus colurna (Turkish Hazel)	SM	5.5	120	1	1.6	1.5	1.5	1.5	1.5	10+	Fair	Fair. Smaller sized street tree. Upright form.	Crown lift to improve clearance.	1.44	C2



LEGEND



- Category A Trees (high value)
- Category B Trees (moderate value)
- Category C Trees (low value)
- Category U Trees (unsuitable for retention)



NOTES:
 Please see Tree Survey Report for further detail.
 All drawings to be read in conjunction with the consulting architects and engineers drawings.

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Project Name: Dodder Rapid Deployment Scheme, Dublin.

Drawing Title: Tree Survey/Constraints Plan

Drawing Number: 23007_TS_Sheet 1
 Fitzwilliam Quay

Client:

Agent:

Date: 03/03/2023

Scale: 1:400@A3