Arboricultural Assessment Report

Grand Canal to Lucan Urban Greenway

South County Dublin

June 2022

TREESPACE

Trees • Woodland • Urban Forestry

DOCUMENT CONTROL SHEET

PROJECT NAME: Arboricultural Assessment – *an assessment of trees in relation to development.*

PROJECT REFERENCE: Grand Canal to Lucan Urban Greenway

PROJECT LOCATION: Lucan, South County Dublin

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1. INTRODUCTION

1.1. Instructions and Brief

1.1.1. Tree-space has been instructed to undertake a tree survey and arboricultural impact assessment for a proposed new cycle route linking the Grand Canal Way near the Grange Castle Business Park to Lucan village. The proposed scheme is to provide new cycle infrastructure and upgrade the existing cycle infrastructure along the proposed route through the Griffeen Valley Park.

1.1.2. The report addresses the potential impacts of the proposed scheme on the existing tree population. The field assessment was completed between the 23rd and 27th of May 2022. The following documents were provided to Tree-space to inform the tree survey and report:

Table 1: List of drawings to inform the tree survey and report

Document Title	Document/Drawing Number	Originator
Extent of the tree survey	TSK0009	ARUP
Topographical Survey	22045-1-10	Tir3D
Proposed Route Layout	284399-ARUP-ZZ-XX-DR-C-0001-21	ARUP

1.1.3. The report should be read in conjunction with the following Tree-space plans:

- Scheme Sheet Overview: TS_SL_29_6_22
- Tree Constraints Plans: TS_TCP_2_6_22 (sheets 1 – 6)
- Tree Assessment Plans: TS_TAP_4_6_22 (sheets 1 – 6)
- Tree Removal & Protection Plans: TS_TPP_14_6_22 (sheets 1 – 6)

1.2. Aims and Approach

1.2.1. The purpose of this assessment is to quantify and categorise the arboricultural features on the site and assess the potential constraints to development. Trees are a material consideration for local authorities and tree owners. Whether they have statutory protection or not the potential impacts of construction must be considered. Construction activities often exert pressures on pre-existing trees and in some cases trees that have taken decades to mature can be damaged irreparably. The assessment and implementation of protection measures is therefore critical to mitigate against any potential negative impacts.

1.2.2. The arboricultural impact assessment was carried out in accordance with the British Standard *BS 5837:2012 Trees in relation to design, demolition, and construction –*

Recommendations[1]. The British Standard sets out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and structures. The assessment process undertaken for this report is described in table two below.

Table 2: Arboricultural Impact Assessment Process

TASK	DESCRIPTION
Topographical survey	Record the position of all trees within the site with a stem diameter of 75mm or more, measured at 1.5m above highest adjacent ground level.
Tree survey	Collect relevant information on all trees included in the topographical survey, as well as any that might have been missed. The parameters of the tree survey are set out in BS5837:2012 section 4.4 and are described in more detail in appendix 2 of this report.
Tree categorization	Identify the quality and value of the existing tree population. The categorization method set out in table 1, BS5837:2012 allows informed decisions to be made concerning which trees should be removed or retained in the event of a development occurring. The tree quality assessment table is included in appendix 2 of this report.
Impact assessment	Identify the requirements for the successful retention of the retained trees and detail the measures necessary for protection during the development process. Root protection areas (RPA's) are calculated in accordance with section 4.6, BS5837:2012. The RPA is the minimum area around a tree that needs to remain undisturbed to maintain the tree's viability. The RPAs of each categorised tree will be plotted on relevant scaled drawings.
Tree protection plan	The tree protection plan indicates the precise location of the protective barriers to be erected to form a construction exclusion zone around the retained trees. The plan will be superimposed on the layout plan, based on the topographical survey.
Arboricultural method statement	The arboricultural method statement (AMS) sets out the measures required for the successful protection of the retained trees during the construction phase. The AMS will address some or all of the following: Pre-development tree works, site supervision, protective fencing, ground protection, boundary treatments, services and drainage, and monitoring.

[1] The British Standards Institution (2012) *Trees in relation to design, demolition, and construction – Recommendations.* BSI Standards Limited.

1.3. The Limitations of the Report

1.3.1. Only those trees specified in the scope of work were assessed. The observations that were made are limited to the requirements of planning and development. The survey is not a tree risk assessment.

1.3.2. The trees were visually assessed from ground level only. No climbing inspections were carried out. No invasive or other detailed internal decay detection devices were used.

1.3.3. Where trees were not recorded on the topographical survey, their positions were recorded using a GPS receiver and GIS software package. The target accuracy for the tree positions was 300 mm, however the tree locations are open to discrepancies as the target accuracy could not always be attained.

1.3.4. The conclusions relate to the conditions found at the time of survey. Trees are living organisms that are subject to the stresses of climatic extremes, decay fungi and injurious diseases. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees in question may not arise in the future.

2. THE SCHEME

2.1. Description of the Scheme

2.1.1. The scheme comprises of a new cycle path approximately 4.5 km in length linking the Grand Canal Way near Grange Castle Business Park to Lucan Village. The proposed route travels north from the Grand Canal entering Hayden's Lane and crossing over an existing road and railway bridge. The scheme enters Griffeen Valley Park in the southwest corner near Hayden's Lane and travels north through the park on existing cycle and pedestrian infrastructure towards Esker Cemetery. The final section of the scheme connects Esker Lawns to Lucan Village through two wooded areas north and south of Lucan Road.

2.2. Spatial Scope

2.2.1. The tree survey targeted the trees within the orange hatched areas on the tree survey extent drawings provided by ARUP (TSK0009 sheets 1 – 3). Where trees were established close to the boundaries of the orange hatched areas but had the potential to be impacted upon, these trees were included in the tree survey.

2.2.2. The areas that were assessed are divided into three sections. The first section is the link between Grand Canal Way and Griffeen Avenue. The second section is from Griffeen Avenue through Griffeen Valley Park to the bridge over the N4. The third section links the bridge over the N4 to Lucan village.

Figure 1: *Aerial image of section 1 of the tree survey extent. The areas highlighted with orange hatch define the extents of the tree survey. The tree numbering begins with a tree group; TG1440 in the far left of the image. The tree numbers continue sequentially to T1480 on Griffeen Avenue. Image (ARUP, 2022).*

Figure 2: *Aerial image of section 2 of the tree survey extent. The orange hatch defines the boundaries of the tree survey. The tree numbering continues from T1480 on Griffeen Avenue to Tree Group 1588 at the bridge over the N4. Image (ARUP, 2022).*

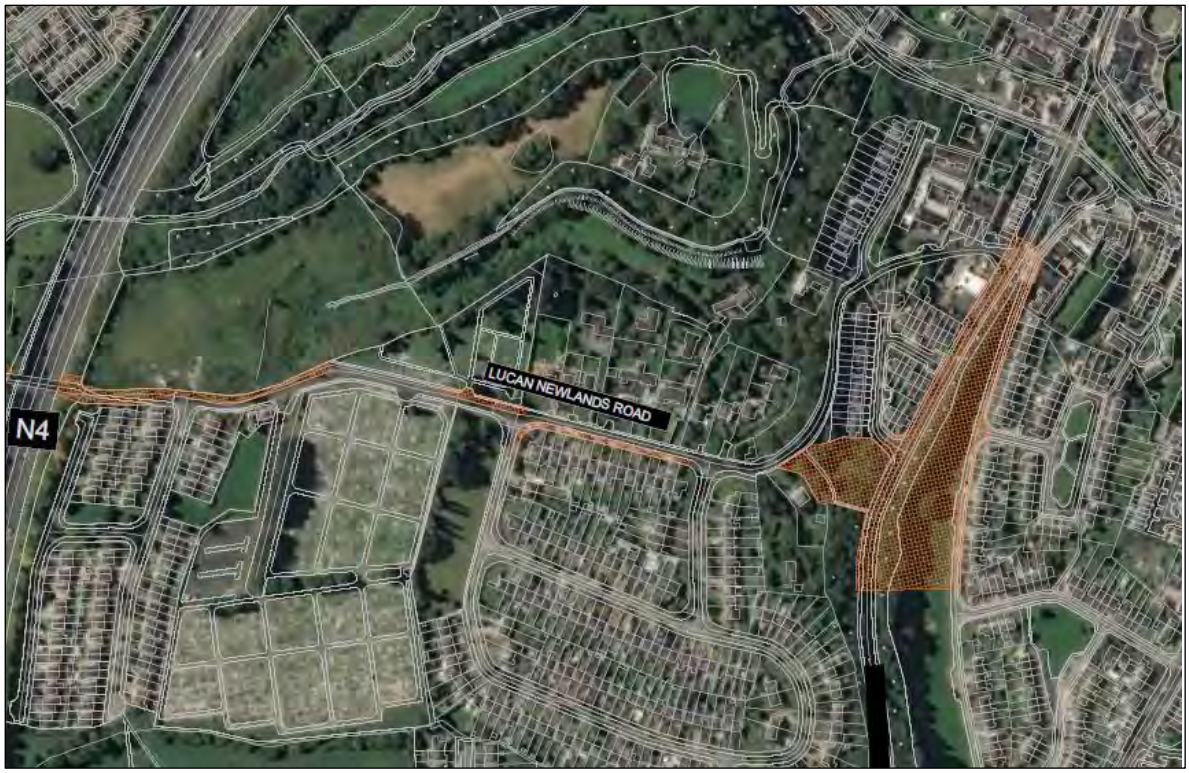


Figure 3: *Aerial image of section 3 of the tree survey extent. The orange hatch defines the extent of the tree survey. The tree numbering continues on the northern side of the N4 bridge on T1589 finishing in the wooded area beside Lucan Road on T1618. Image (ARUP, 2022).*

3. THE TREES

3.1. General Description of the Trees

3.1.1. In total 167 individual trees, 11 tree groups and 8 woodland areas were assessed along the proposed route. There is a great deal of tree interest in the area with a number of high amenity trees, thirty-five different tree species identified, and an age class range from young to veteran. The trees are established in lines and small groups scattered around the parkland area. The woodlands form a patchwork of linear strips along the Griffeen River and the external boundaries of the parkland.

3.1.2. Seventy-one percent of the surveyed trees are in the semi-mature to early-mature life-stage. There are 41 mature trees, one late-mature tree and one veteran. The veteran is an old elder (*sambucus nigra*) tree in a wooded area close to Esker Manor Road. Elder trees are relatively fast growing and are not recognized for a long-life span (average 60-70 years), however the tree is old for its species and has a number of habitat features like deadwood and rot sites. The woodland area close to the Griffeen

River where the elder tree is established appears to have been wooded at least in part for almost 200 years. It is unknown if any of the original tree stock remains, however, it is an interesting area with a number of arboricultural features present.

Figure 4: *Historic 6-inch colour map (1829-1841) of the wooded area between Esker Manor Road and the Griffeen River. There appears to be trees established along the riverbank and behind Esker Villa. Subsequent historic maps and aerial imagery of the site suggests that the tree canopy remained in part over time. Image (OSI, n.d).*

3.1.3. The two most common species identified during the tree survey were ash (*Fraxinus excelsior*) and sycamore (*Acer pseudoplatanus*) accounting for 30% of the surveyed tree population. The limes (*tilia*) and weeping willows (*salix babylonica*) made up a further 20% of the surveyed tree population. The other tree species occurred in smaller numbers, adding a rich diversity of trees along the route.

3.1.4. The physiological assessment determined that 80% of the surveyed trees had normal to good condition. The high percentage of trees with normal to good vitality ties into the high proportion of trees in the semi to early mature life-stage.

3.1.5. Many of the individual trees, tree groups and woodlands have high amenity value. The weeping willows are particularly attractive and there is a prominent beech tree established in Esker Cemetery on the Lucan-Newlands Road. Table 3 below presents a selection of some of the notable trees along the route.

Table 3: *Selection of notable trees.*

Tree Number - Category *T1532 – A2* ***Species*** *Hawthorn (*Crataegus monogyna*)* ***Location (ITM coordinates)*** *X: 703857.568 Y: 733616.674* ***Interest*** *Locally notable[2](Lonsdale's chart of girth in relation to age and developmental classification of trees), seasonal flowering, location next to the bridge over the Griffeen River.*	
Tree Number - Category *T1547 – A2* ***Species*** *Weeping willow (*Salix babylonica*)* ***Location (ITM coordinates)*** *X: 703893.979 Y: 733961.74* ***Interest*** *High amenity value.*	

[2] Lonsdale, David (2013). *Ancient and other veteran trees: further guidance on management.* The tree council.

Tree Number - Category *T1573 – B3* ***Species*** *Elder (*Sambucus nigra*)* ***Location (ITM coordinates)*** *X: 703976.4 Y: 734238.157* ***Interest*** *Old for its species, veteran features, habitat value.*	
Tree Number - Category *T1594 – A3* ***Species*** *Common beech (*Fagus sylvatica*)* ***Location (ITM coordinates)*** *X: 703599.433 Y: 734844.096* ***Interest*** *Ancient[2], high amenity value, estimated age[3] approximately 250 – 260 years old.*	

[3] White, John (1998). *Estimating the age of large and veteran trees in Britain.* Forestry commission.

3.2. Tree Population Analysis

3.2.1. The following tables provide a brief analysis of the surveyed tree population. The data in the tables refers to the individual trees only. The trees within the tree groups and woodlands were not individually assessed.

Species	Count of Species	Percentage of the Total
Ash	35	21.0%
Sycamore	14	8.4%
Large-leaved Lime	13	7.8%
Small-leaved Lime	11	6.6%
Weeping willow	10	6.0%
Field maple	9	5.4%
Wild Cherry	9	5.4%
Norway maple	7	4.2%
Hawthorn	6	3.6%
Silver Birch	5	3.0%
Penduculate oak	5	3.0%
Rowan	4	2.4%
Silver Maple	3	1.8%
Pinus spp	3	1.8%
Copper Beech	3	1.8%
Common Beech	3	1.8%
Hornbeam	2	1.2%
Swamp Cypress	2	1.2%
False acacia	2	1.2%
Scots pine	2	1.2%
Elder	2	1.2%
Horse chestnut	2	1.2%
Monterey Cypress	2	1.2%
Malus spp	2	1.2%
Intermediate oak	1	0.6%
Alder	1	0.6%
Western red cedar	1	0.6%
Hazel	1	0.6%
Cappadocian Maple	1	0.6%
Holm Oak	1	0.6%
Western Balsam-poplar	1	0.6%
Grey willow	1	0.6%
Japanese larch	1	0.6%
Snakebark Maple	1	0.6%
Common Yew	1	0.6%
Grand Total	**167**	**100.00%**

Table 4: *Surveyed species list with count of each species and the percentage of the total.*

Life Stage	Count of Life-stage	Percentage of the Total
Semi-mature	77	46.1%
Early-mature	42	25.1%
Mature	41	24.6%
Young	5	3.0%
Late-mature	1	0.6%
Veteran	1	0.6%
Grand Total	**167**	**100.00%**

Table 5: *Count of the life-stage category and percentage of the total.*

Remaining Contribution in years	Count of Remaining Contribution in Years	Percentage of the Total
40+	73	43.7%
20-40	71	42.5%
10-20	19	11.4%
<10	4	2.4%
Grand Total	**167**	**100.00%**

Table 6: *Count of the remaining contribution in years with the percentage of the total.*

Retention Category	Count of Retention Category	Percentage of the Total
A	72	43.1%
B	72	43.1%
C	19	11.4%
U	4	2.4%
Grand Total	**167**	**100.00%**

Table 7: *Count of the BS 5837:2012 retention category and the percentage of the total.*

4. ARBORICULTURAL IMPACT ASSESSMENT

4.1. Tree Loss to Facilitate Development

4.1.1. The table below describes the trees and tree groups that will be directly affected by the proposed scheme alignment. The tree number, the tree species, the BS5837 retention category and a short description of the impact are included. The table is divided into three sections: section 1, section 2, and section 3. The three sections correspond to the three areas described in figures 1 – 3 of this report.

Tree No	Tree Species	CAT *BS5837*	Description of Impact
Section 1			
TG1440	*Populus trichocarpa* Western Balsam-poplar. *Alnus cordata* Italian alder.	B2	Approximately 130m² (7% of the total tree group area) is in direct conflict with the new scheme alignment.
T1441-T1443 (3 x trees)	*Fraxinus excelsior* Ash	U	Direct conflict with the proposed scheme alignment. Not suitable for retention.
TG1445	*Salix cinerea* Grey willow. *Fraxinus excelsior* Ash. *Alnus glutinosa* Alder	B2	Approximately 500m² (33% of the total tree group area) is in direct conflict with the proposed scheme alignment.
Section 2			
T1465-T1466 (2 x trees)	*Acer platanoides* Norway maple	A2, B2	Direct conflict with the proposed scheme alignment.
T1467-T1469 (3 x trees	*Prunus avium* Wild Cherry *Fagus sylvatica* Common Beech	C2, U	Direct conflict with the proposed scheme alignment.
T1478	*Tilia cordata* Small-leaved Lime	A2	Direct conflict with the new crossing ramp over Griffeen Avenue.
T1497	*Acer campestre* Field maple	A2	Direct conflict with the proposed scheme alignment.
T1499	*Fagus sylvatica* 'Purpurea' Copper Beech	A2	Direct conflict with the proposed scheme alignment.
T1512	*Fraxinus excelsior* Ash	B2	Direct conflict with the proposed scheme alignment.
T1580-T1581 (2 x trees)	*Fraxinus excelsior* Ash	B2	Direct conflict with the proposed scheme alignment.
Section 3			
W7	*Fraxinus spp, Quercus spp, Acer spp*	B2	Approximately 2000 m² (0.2 ha) of woodland in direct conflict with the proposed scheme alignment.

Tree No	Tree Species	CAT *BS5837*	Description of Impact
TG1607	*Fraxinus excelsior* Ash	C2	35 m² of the tree group in direct conflict with the proposed scheme alignment.
TG1608	*Fraxinus excelsior* Ash *Quercus intermedia* Intermediate oak	C2	31 m² of the tree group in direct conflict with the proposed scheme alignment.
T1609	*Fraxinus excelsior* Ash	C2	Direct conflict with the proposed scheme alignment.
W8	*Acer spp, Betula spp, Fraxinus spp, Sorbus spp, Robina spp.*	B2	Approximately 900 m² (18% of the total assessed woodland area) to be removed to facilitate the construction of a new boardwalk.
Summary of Direct Loss of Trees			
▪ **In total 15 individual trees (9% of the total surveyed trees), approximately 700 m² of the tree groups and 2900 m² (0.29 ha) of woodland will need to be removed to facilitate the construction of the proposed scheme.**			
▪ **5 category A trees (7% of the total), 4 category B trees (5% of the total), 3 category C trees (16% of the total) will need to be removed. 4 category U trees (100% of the total) will also be removed.**			

Table 8: *Direct Loss of Trees to Facilitate Construction of the Cycle Scheme.*

4.2. Tree Pruning Works

4.2.1. The tree pruning works for the scheme are described in the tree works schedule in Appendix 4 of this report. None of the specified tree works are urgent, however there are some headroom issues over the existing cycle infrastructure on Esker Manor Road. Tree number 1576 has a fractured branch in the crown which should be removed, and target pruned.

4.2.2. The removal of ivy around the base of the tree trunks has been recommended on a number of trees. Management of ivy facilitates more accurate future tree inspection work. The introduction of new infrastructure around trees generally requires increased tree management.

4.2.3. Some tree work has been outlined on trees on adjacent lands e.g., Esker Cemetery. The tree owner should be notified in advance of any potential tree works.

4.3. Construction Activities & The Retained Trees

4.3.1. In total 152 individual trees, 9 tree groups and 7 woodland areas will be retained along the scheme. Many of these trees have the potential to be negatively impacted upon

during the construction phase. To mitigate against any potential negative impacts during the construction of the scheme the retained trees will be protected by barrier fencing. The layout of the protective fencing is detailed on the Tree Removal & Protection drawings. The contractor in charge of constructing the scheme will have a responsibility to ensure that the tree protection measures are installed correctly, and the retained trees are not negatively impacted upon.

4.3.2. The root protection areas for the recorded tree population have been highlighted with magenta on the Tree Removal & Protection Plans. The root protection area (RPA) is the area around the tree which needs to remain undisturbed to maintain the trees viability. The tree protection fencing should be in place before the construction activities commence. The onsite storage of materials and all plant and machinery movements should be directed outside of the RPAs.

4.3.3. The proposed new scheme generally follows the alignment of existing pedestrian infrastructure. The existing hardscape intersects the RPAs of retained trees in a number of locations. The intended design of the new scheme should seek to retain the existing hardscape within the RPAs of any retained trees. Where the existing hardscape needs to be removed within the RPA it should be excavated using hand tools e.g., pneumatic hammer, pick, spade. The sub-base should be left undisturbed. Where the sub-base needs to be removed, hand tools or air-spades should be utilized for the excavation work. If tree roots are encountered within the sub-base small trowels may be required so that the roots are not damaged. If the exposed tree roots are less than 25 mm in diameter they can be pruned safely with a sharp secateurs or handsaw without further consultation. If the exposed tree roots are greater than 25 mm in diameter advice should be sought from the retained consulting arborist. The arboricultural method statement in Appendix 1 of this report provides further guidance.

4.3.4. The construction of the boardwalk in woodland eight (W8) has the potential to create a unique experience for the end users of the scheme. However, it is recommended that a detailed assessment of the alignment of the boardwalk is carried out at the detailed design stage so that the highest quality trees are retained.

4.4. Replacement Tree Planting

4.4.1. The landscape design proposal considers tree loss along the proposed cycle route. It is considered that sufficient mitigation measures are in place. In particular, 295 individual trees will be planted in compensation for the 15 trees being lost, which greatly exceeds the target of one for one replacement. Additionally, the boundary woodland areas in Griffeen Valley Park are to be extended by approximately 3,230 m² to compensate for the total woodland area lost along the cycle route.

5. CONCLUSIONS

- The tree loss to facilitate the construction of the scheme is not considered significant. 91% of the individually surveyed trees will be retained.
- The number of new trees to be established as part of the landscape design proposal far exceeds the number of trees being lost.
- The removal of some woodland is necessary; however, a new woodland of similar area will be created in the landscape design proposal.
- There are many high amenity, high value trees along the proposed scheme alignment. The contractor that constructs the scheme will have a responsibility to ensure that the retained trees are protected, and no unnecessary negative impacts occur.
- The outline arboricultural method statement in Appendix 1 of this report addresses the following: preconstruction site briefing, tree works, tree protection fencing, excavations within the RPAs, roots and root pruning, and monitoring & compliance.

Appendix 1

Outline Arboricultural Method Statement

The following arboricultural method statement outlines the order of works and tree protection measures for the Lucan Canal Loop Cycle Scheme. The method statement should be read in conjunction with the Tree Removal & Protection Plans (TS_TPP_14_6_22).

Pre-Construction Site Briefing

- Prior to the construction phase of the scheme a briefing should be arranged between the principal contractor and the retained consulting arborist. The objectives of the briefing will be to clarify the following:
    - Confirm the tree works to be undertaken.
    - Confirm the location of the tree protection fencing.
    - Review and raise awareness of sensitive areas on the site where important mature trees are being retained.

Pre-Construction Tree Works

- The necessary tree works to facilitate the proposed development are described in the tree works schedule (appendix 4 of this report).
- The tree works schedule should be presented to the tree owner prior to any work being carried out. The tree owner must agree to the proposed works.
- All tree works will be carried out in accordance with the recommendations given in BS 3998 (2010).
- Prior to the commencement of any tree works, the trees and their surroundings should be assessed for the presence of any seasonal nesting sites, potential roost features or protected species.

Protective Fencing

- The tree protection fencing is designed to create a construction exclusion zone around the retained trees to protect the critical root mass from negative impacts.
- The alignment of the tree protection fencing largely follows the perimeter of the RPAs in sections along the route. The layout of the fencing should resemble what is detailed in the tree protection plans (TS_TPP_14_6_22).
- The tree protection fencing should be fit for purpose and well braced to resist impacts. It is acknowledged that the fencing configuration detailed in the British Standard (see image on page 3 of the Appendix) might be impractical to install along the entire route. Two alternative fencing types have been provided.
- Signs will be erected on the fences stating ‘CONSTRUCTION EXCLUSION ZONE – NO ACCESS’.
- The main contractor will inform the client that the tree protection fencing, and signage is in place before construction activities commence.

Excavations within the Root Protection Areas (RPAs)

- Excavation work within the RPAs of retained trees should generally be avoided.
- Where excavation work is necessary it should be carried out with hand tools e.g., pneumatic breaker, crowbar, pick, mattock, spade.
- Excavations of soft surfaces or sub-bases can be undertaken with air spades or smaller hand tools e.g., trowels.
- The area to be excavated should be clearly marked out on the ground.
- The spoil arising from the excavation should be positioned outside of the RPA.
- Avoid damaging the bark of any exposed roots.

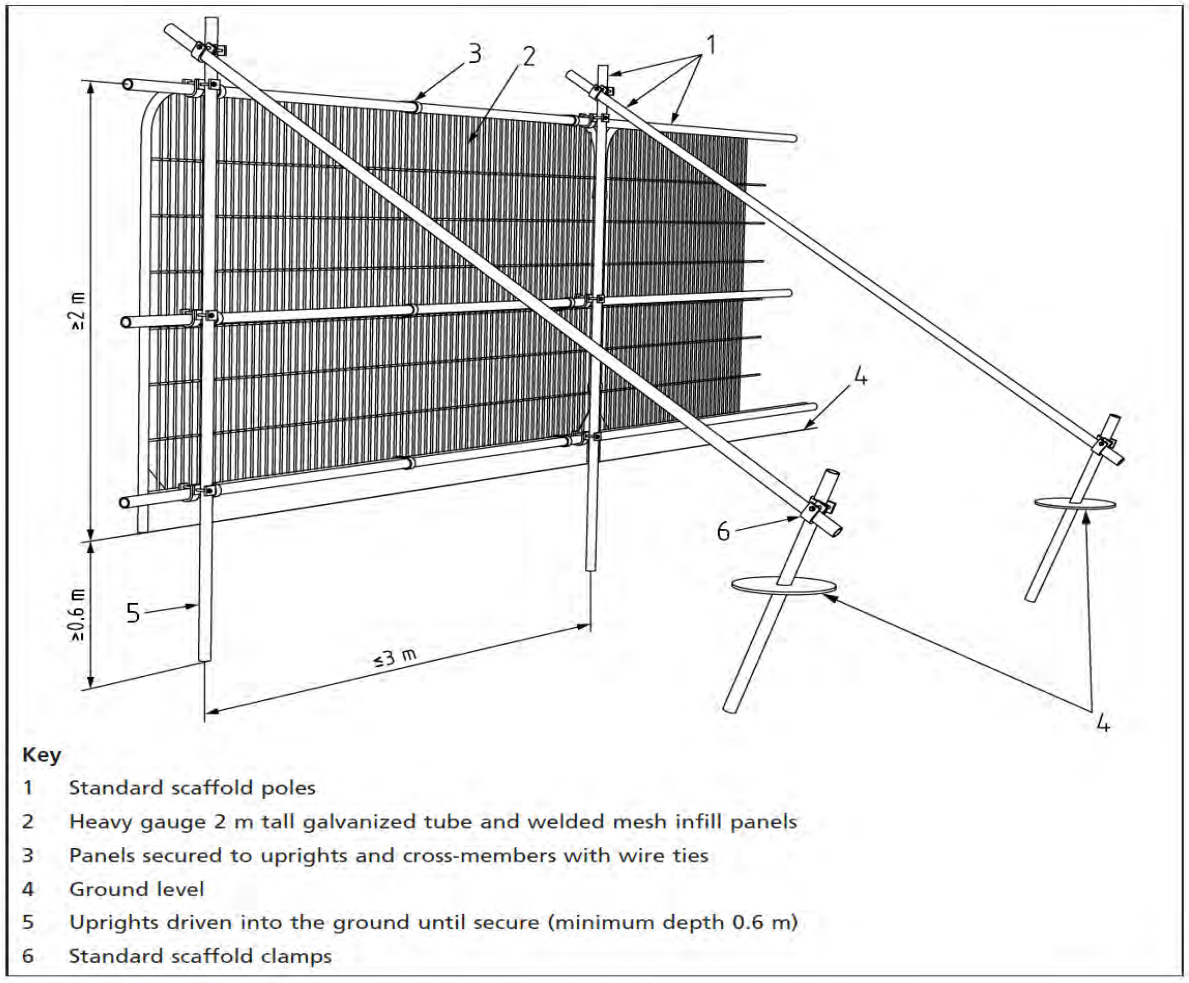
Roots & Root Pruning

- Where tree roots are encountered after ground works begin it is recommended that rolls of hessian/jute are stored on site. The hessian can be used to cover any exposed roots and protect them from drying out and desiccation occurring.
- Where tree roots are encountered in the working areas and cannot be moved out of the construction profile root pruning may be required (see guidance point below). The roots should be target pruned with a sharp secateurs or handsaw. Once pruning is complete the cut ends should be recovered with topsoil or hessian.
- **General guidance:** if the exposed tree roots are less than 25 mm in diameter, they can be pruned by the on-site construction staff. If the tree roots are greater than 25 mm in diameter advice should be sought from the retained consulting arborist.

Monitoring & Compliance

- It is recommended that a qualified arborist is assigned to the project for the duration of the construction phase.
- The responsibilities of the assigned arborist will include:
    - Bi-weekly checks on the tree protective fencing.
    - Monitoring the health and vitality of the retained trees.
    - Monitoring soil disturbance and root disturbance in the working areas.
    - Carry out any potential root pruning operations if necessary.

British Standard BS 5837: TREE PROTECTIVE FENCING



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

ALTERNATIVE FENCING

Appendix 2

Tree Schedule Key

Tree/Group number	Reference number for individual trees or groups of trees, prefixed by T (Tree), TG (Tree Group), W (Woodland), H (Hedge) or S (Shrub) to indicate the type of feature
Tree Count	Number of trees of a particular species recorded within a group feature, with the default value of 1 for single trees.
Species	Scientific name followed by common name
Height (m)	Tree height to the nearest metre, measured with a Haglofs Clinometer or estimated.
Stem Count	Number of stems. Stem count indicates whether the tree is single-stemmed or multi-stemmed and informs the RPA calculation.
Stem Diameter	Stem diameter measured at 1.5m above ground level in accordance with Annex C of BS5837:2012.
Crown Spread	Distance from the stem position to the crown periphery in the four cardinal directions.
First Significant Branch Height (m) – Direction of growth	Distance between the ground and lowest significant branch and the direction of growth.
Canopy Clearance Height (m)	Distance between the ground and the lowest point of the crown periphery, estimated to the nearest half metre.
Life-stage	Young, Semi-mature, Early-mature, Mature, Late Mature, Ancient or Veteran
Physiological Condition	Good, Normal, Fair, Poor, Dead
Observations	General description of the tree or tree group, including basic features and morphology, structural and physiological condition, growing conditions and surroundings.
Recommendations	Management recommendations for tree works to address immediate unacceptable risks, or to facilitate development proposals.
Estimated Remaining Contribution (years)	Estimated number of years for which the tree will continue to make a positive contribution to the site, banded as <10yrs, 10-20yrs, 20-40yrs, 40+.
Retention Category	Quality and value category as defined in table 1 of BS5837:2012 (see following page for full description)
Retention Sub-category	One or more sub-categories as defined in table 1 of BS5837:2012 (see following page for full description)

RPR (m)	Radius of the RPA, in metres, when this is plotted as a circle around the tree stem
RPA (m^3)	Root protection area calculated from the stem diameter according to the formula in BS5837:2012. The RPA is the minimum area required to maintain tree viability.

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those 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	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix 3

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m) N	NE	E	SE	S	SW	W	NW	First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years:	Retention category	Retention Sub-category	RPR (M)	RPA(M²)
TG1440	35	*Populus trichocarpa* Western Balsam-poplar. *Alnus cordata* Italian alder.	n/a	n/a	25	see drawings								0-s	0	Mature	Good	Tree group with 90% popular, 10% alder. Mixed life stage from early mature to mature. Evidence of suckering.	Crown raise to improve headroom on southern side of group.	20-40	B	2	####	####
T1441	1	*Fraxinus excelsior* Ash	2	494	12	4		4		4		4		5-w	5	Mature	Poor	Structural condition-poor, trunk is obscured by ivy, 90% of the crown is dead, heavy deadwood in the crown overhanging existing path. Fungal fruit bodies visible.	Remove	<10	U		5.93	110
T1442	1	*Fraxinus excelsior* Ash	1	350	12	4		5		2		4		2-w	5	Mature	Poor	Structural condition-poor, 60% of the crown is dead, heavy deadwood in the crown overhanging existing path.	Remove	<10	U		4.2	55
T1443	1	*Fraxinus excelsior* Ash	1	300	12	4		3		1		3		3-n	4	Mature	Dead	Tree is dead	Remove	<10	U		3.6	41
T1444	1	*Fraxinus excelsior* Ash	1	240	8	2.5		2.5		2.5		2.5		3-n	2	Semi-mature	Good	Trunk is heavily obscured by bramble.	None	20-40	B	2	2.88	26
TG1445	n/a	*Salix cinerea* Grey willow. *Fraxinus excelsior* Ash. *Alnus glutinosa* Alder	n/a	avg 100	8	see drawings								0-n	0	Early-mature	Good	Dense tree group with 40% willow, 40% ash, 10% alder.	None	20-40	B	2	####	####
T1446	1	*Populus trichocarpa* Western Balsam-poplar	1	220	12	3		3		3		3		2-n	2	Early-mature	Good	Structural condition-good, single stem with clear leader.	None	40+	A	2	2.64	22
TG1447	7	*Fraxinus excelsior* Ash. *Crataegus monogyna* Hawthorn *Salix cinerea* Grey willow.	n/a	avg 200	12	see drawings								0-w	0	Early-mature	Good	The ash trees within the group have fair physiological condition and are in decline. The hawthorn is good with one high amenity tree at the edge of the group.	None	20-40	B	2	####	####
T1448	1	*Pinus sylvestris* Scots pine	1	260	8	3.5		3.5		1.7		2		1-n	0.5	Semi-mature	Normal	Structural condition-good, single stem with clear leader, crown is slightly asymmetrical weighted to the north.	None	20-40	B	2	3.12	31
T1449	1	*Pinus spp*	1	180	8	3		3		3		3		0.5-w	0	Semi-mature	Normal	Structural condition-moderate, trunk is obscured by ivy, slight sweep in the trunk.	None	20-40	B	2	2.16	15
T1450	1	*Salix babylonica* Weeping willow	1	120	5	3		2		2		3		2-w	0	Semi-mature	Normal	Structural condition-moderate, wound at the base of the trunk occluding, natural lean in stem.	None	20-40	B	2	1.44	7
T1451	1	*Salix babylonica* Weeping willow	1	200	8	4		4		2.5		4		2.5-w	0	Semi-mature	Normal	Structural condition-good, natural lean in stem.	None	40+	A	2	2.4	18

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m)								First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years:	Retention category	Retention Sub-category	RPR (M)	RPA(M²)
						N	NE	E	SE	S	SW	W	NW											
T1452	1	*Salix cinerea* Grey willow	8	80	6	4		4		4		4		0-s	0	Early-mature	Normal	Multi-stem willow established beside the stream, most likely self-seeded.	None	20-40	B	2	0.96	3
T1453	1	*Salix babylonica* Weeping willow	1	140	6	3		3		2		2		2-w	0	Semi-mature	Fair	Structural condition-fair, co-dominant 1.5m from ground level, union appears good.	None	20-40	B	2	1.68	9
T1454	1	*Salix babylonica* Weeping willow	1	250	10	4		3.5		4		4		0.5-w	0	Early-mature	Normal	Structural condition-good, natural lean in trunk, co-dominant 3 m from ground level, union appears good.	None	40+	A	2	3	28
T1455	1	*Malus spp*	4	207	6	3.3		3.3		3.3		3.3		0.5-w	0	Early-mature	Good	Multi-stem at the base of the trunk, crown is partially suppressed by neighbouring trees.	None	40+	A	2	2.48	19
T1456	1	*Salix babylonica* Weeping willow	1	250	10	3		3		3		4		0.5-e	0	Early-mature	Normal	Structural condition-moderate, co-dominant 2 m from ground level, union appears good.	None	20-40	B	2	3	28
T1457	1	*Salix babylonica* Weeping willow	1	180	8	4.4		4		2		3		2.5-e	0	Early-mature	Normal	Structural condition-good, minor Co-dominance, union appears good.	None	20-40	B	2	2.16	15
T1458	1	*Malus spp*	1	170	7	4		4		4		4		0.3-e	0	Early-mature	Good	One dominant main stem with multiple small stems.	None	40+	A	2	2.04	13
T1459	1	*Salix babylonica* Weeping willow	1	180	8	3.5		3.5		3.5		3.5		1.5-s	0	Early-mature	Normal	Structural condition-good, minor Co-dominance, unions appear good.	None	20-40	B	2	2.16	15
T1460	1	*Salix babylonica* Weeping willow	1	190	12	3.8		3.7		2		3.7		0.5-s	0	Early-mature	Normal	Structural condition-good, minor Co-dominance, unions appear good.	None	20-40	B	2	2.28	16
T1461	1	*Salix babylonica* Weeping willow	1	310	10	3.2		4.3		3		3.5		2-e	2	Early-mature	Normal	Structural condition-good, minor Co-dominance, unions appear good.	None	40+	A	2	3.72	43
T1462	1	*Fagus sylvatica* 'Purpurea' Copper Beech	1	100	4	1.5		1.5		1.5		1.5		1.5-e	1.5	Semi-mature	Normal	Structural condition-good, wounding at the base of the stem from grass cutting operations.	None	20-40	B	2	1.2	5
T1483	1	*Fagus sylvatica* 'Purpurea' Copper Beech	1	130	8	2		2		2		2		2-e	1	Semi-mature	Normal	Structural condition-good	None	40+	A	2	1.56	8
T1464	1	*Acer platanoides* Norway maple	1	270	10	4		3.5		4		3.5		3-e	2	Early-mature	Good	Structural condition-moderate, co-dominant stems with partial bark inclusion.	None	40+	A	2	3.24	33
T1465	1	*Acer platanoides* Norway maple	1	170	9	3.2		3		3.2		3		3-e	2	Early-mature	Good	Structural condition-good	None	40+	A	2	2.04	13
T1466	1	*Acer platanoides* Norway maple	1	160	8	2.3		3		2.3		1.2		2.5-e	3	Early-mature	Fair	Structural condition-good. Evidence of aphid on the leaves.	None	20-40	B	2	1.92	12

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m)							First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years:	Retention category	Retention Sub-category	RPR (M)	RPA(M²)
						N	NE	E	SE	S	SW	W	NW											
T1467	1	*Prunus avium* Wild Cherry	1	100	6	1		1		1		1		2.5-n	3	Semi-mature	Fair	Structural condition-poor, co-dominant stems with partial bark inclusion.	Target prune the dead stem and dead branches.	10-20	C	2	1.2	5
T1468	1	*Fagus sylvatica* Common Beech	1	100	7	1		1		1		1		2-e	2.5	Semi-mature	Poor	Structural condition-fair, co-dominant stems. Very low leaf area, growth appears severely stunted.	Consider removal and replacement	<10	U		1.2	5
T1469	1	*Prunus avium* Wild Cherry	1	100	4	1.5		2		1.5		1.5		2-e	2	Semi-mature	Normal	Structural condition-fair, co-dominant stems, trunk is obscured by ivy.	Remove ivy.	10-20	C	2	1.2	5
T1470	1	*Prunus avium* Wild Cherry	1	160	7	2		2		2		1.5		2-e	2	Semi-mature	Normal	Structural condition-good.	None	20-40	B	2	1.92	12
T1471	1	*Acer platanoides* Norway maple	1	180	9	2.7		2.7		2.7		2.7		2.5-e	2	Semi-mature	Good	Structural condition-good, minor Co-dominance, unions appear good.	None	40+	A	2	2.16	15
T1472	1	*Tilia cordata* Small-leaved Lime	1	140	7	1.5		1.5		1.5		1.5		1.7-w	3	Semi-mature	Good	Structural condition-moderate, minor Co-dominance with partial bark inclusion.	None	40+	A	2	1.68	9
T1473	1	*Tilia platyphyllos* Large-leaved Lime	1	200	8	1.5		1.5		1.5		1.5		2-e	2	Semi-mature	Good	Structural condition-moderate, Co-dominant stems, union appears good. Fractured branches in the lower crown.	Target prune the lower fractured branches and the stub cut.	40+	A	2	2.4	18
T1474	1	*Tilia cordata* Small-leaved Lime	1	140	8	1.4		1.4		1.4		1.4		1.7-w	1.7	Semi-mature	Good	Structural condition-moderate, minor Co-dominance.	None	40+	A	2	1.68	9
T1475	1	*Tilia cordata* Small-leaved Lime	1	140	8	1.4		1.4		1.4		1.4		1.7-n	1.7	Semi-mature	Good	Structural condition-moderate, large longitudinal section of the bark damaged on the trunk, most likely from vehicle strike.	None	20-40	B	2	1.68	9
T1476	1	*Tilia cordata* Small-leaved Lime	1	120	6	1.3		1.1		1.1		1.1		1.7-e	1.7	Semi-mature	Good	Structural condition-good.	None	40+	A	2	1.44	7
T1477	1	*Tilia cordata* Small-leaved Lime	1	180	8	1.5		2		1.5		1.5		2-w	1.7	Semi-mature	Good	Structural condition-moderate, minor Co-dominance.	None	40+	A	2	2.16	15
T1478	1	*Tilia cordata* Small-leaved Lime	1	160	7	1.4		2		1		1.4		1.7-e	1.7	Semi-mature	Good	Structural condition-moderate, large wound at the base of the trunk. Wound is occluding.	None	40+	A	2	1.92	12
T1479	1	*Tilia cordata* Small-leaved Lime	1	220	9	2.3		3.8		2.5		3.5		2-e	1.2	Semi-mature	Good	Structural condition-moderate, co-dominant stems with partial bark inclusions.	None	40+	A	2	2.64	22
T1480	1	*Tilia cordata* Small-leaved Lime	1	170	9	1.8		2		1.8		2		2-w	1.7	Semi-mature	Good	Structural condition-good, some epicormic growth at the base of the trunk.	None	40+	A	2	2.04	13
T1481	1	*Tilia platyphyllos* Large-leaved Lime	1	190	9	2.7		2.8		2		2.8		2-w	1.2	Semi-mature	Good	Structural condition-moderate, minor Co-dominance.	None	40+	A	2	2.28	16

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m)								First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years:	Retention category	Retention Sub-category	RPR (M)	RPA(M²)
						N	NE	E	SE	S	SW	W	NW											
T1482	1	*Tilia platyphyllos* Large-leaved Lime	1	150	7	2		2		1.4		2		2-w	0.8	Semi-mature	Good	Structural condition-moderate, minor Co-dominance.	None	40+	A	2	1.8	10
T1483	1	*Tilia cordata* Small-leaved Lime	1	160	8	2.1		2.2		1.4		1.5		2-e	1.8	Semi-mature	Good	Structural condition-good, minor sweep in the trunk.	None	40+	A	2	1.92	12
T1485	1	*Tilia cordata* Small-leaved Lime	1	130	6	1.6		1.6		1.6		1.6		1.5-e	1.8	Semi-mature	Good	Structural condition-moderate, minor Co-dominance.	None	40+	A	2	1.56	8
T1486	1	*Acer pseudoplatanus* Sycamore	1	200	10	3		3		3		3		2-s	2	Semi-mature	Normal	Structural condition-good, minor co-dominance.	None	40+	A	2	2.4	18
T1487	1	*Acer pseudoplatanus* Sycamore	1	80	4	0.5		0.5		0.5		0.5		n/a	2	Semi-mature	Fair	Structural condition-fair, severe sweep in the truck, large wounds in the trunk. Growth appears stunted.	Consider removal and replacement	10-20	C	2	0.96	3
T1488	1	*Acer pseudoplatanus* Sycamore	1	50	3	0.5		0.5		0.5		0.5		n/a	2	Semi-mature	Fair	Structural condition-fair, sweep in the truck. Growth appears stunted.	Consider removal and replacement	10-20	C	2	0.6	1
T1489	1	*Betula pendula* Silver Birch	1	240	10	2.2		2.2		2.2		1.5		2-s	0.5	Early-mature	Normal	Structural condition-good.	None	40+	A	2	2.88	26
T1490	1	*Betula pendula* Silver Birch	1	280	10	2.2		2.2		1.2		2.2		1.8-n	0.5	Early-mature	Normal	Structural condition-moderate, minor Co-dominance, sweep in the trunk.	None	40+	A	2	3.36	35
T1491	1	*Betula pendula* Silver Birch	1	220	10	2		2.2		2.2		2.2		1.8-w	0.5	Early-mature	Normal	Structural condition-good.	None	40+	A	2	2.64	22
T1492	1	*Prunus avium* Wild Cherry	1	180	4	4.8		2.5		3		3.3		1.8-n	1.5	Early-mature	Normal	Structural condition-good.	None	40+	A	2	2.16	15
T1493	1	*Tilia platyphyllos* Large-leaved Lime	1	230	10	3.7		3.7		3.7		3.7		2-s	0	Early-mature	Good	Structural condition-good. High amenity value.	None	40+	A	2	2.76	24
T1494	1	*Tilia platyphyllos* Large-leaved Lime	1	230	10	3.6		3.6		3.6		3.6		0.5-e	0.5	Early-mature	Good	Structural condition-moderate, minor Co-dominance.	None	40+	A	2	2.76	24
T1495	1	*Acer campestre* Field maple	1	140	4	2.6		2.6		2.6		2.6		0.3-s	0	Semi-mature	Good	Structural condition-good.	None	40+	A	2	1.68	9
T1496	1	*Acer campestre* Field maple	1	150	5	2.9		2.9		2.9		2.9		0.5-e	0	Semi-mature	Good	Structural condition-good.	None	40+	A	2	1.8	10
T1497	1	*Acer campestre* Field maple	1	170	8	2.6		2.6		2.6		2.6		0.5-e	0	Semi-mature	Good	Structural condition-good.	None	40+	A	2	2.04	13
T1498	1	*Acer campestre* Field maple	1	120	5	2.2		2.2		2.2		2.2		0.6-e	0	Semi-mature	Normal	Structural condition-good.	None	40+	A	2	1.44	7
T1499	1	*Fagus sylvatica* 'Purpurea' Copper Beech	1	160	8	3.5		3.5		3.5		3.5		0.5-n	0	Semi-mature	Normal	Structural condition-good.	None	40+	A	2	1.92	12
T1500	1	*Taxodium distichum* Swamp Cypress	1	180	10	2.4		2.4		1.2		2.4		2-e	1	Semi-mature	Fair	Structural condition-good, trunk is obscured by ivy. Leaf area is small, growth appears stunted.	Sever ivy	20-40	B	2	2.16	15

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m)								First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years:	Retention category	Retention Sub-category	RPR (M)	RPA(M²)
						N	NE	E	SE	S	SW	W	NW											
T1501	1	*Tilia platyphyllos* Large-leaved Lime	1	210	8	3.1		3.1		3.1		3.1		2-s	1.2	Semi-mature	Good	Structural condition-moderate, minor Co-dominance.	None	40+	A	2	2.52	20
T1502	1	*Tilia platyphyllos* Large-leaved Lime	1	160	7	2.1		2.1		2.1		2.1		2-w	1.7	Semi-mature	Good	Structural condition-good.	None	40+	A	2	1.92	12
T1503	1	*Tilia platyphyllos* Large-leaved Lime	1	210	8	2.9		2.9		2.9		2.9		2-w	1.6	Semi-mature	Good	Structural condition-good.	None	40+	A	2	2.52	20
T1504	1	*Tilia platyphyllos* Large-leaved Lime	1	230	8	3.6		3.6		3		3		2-n	1	Semi-mature	Good	Structural condition-good.	None	40+	A	2	2.76	24
T1505	1	*Tilia cordata* Small-leaved Lime	1	140	8	2.2		2.2		2.2		2.2		1.8-s	1	Semi-mature	Good	Structural condition-moderate, minor Co-dominance.	None	40+	A	2	1.68	9
T1506	1	*Quercus ilex* Evergreen Holm Oak	1	120	4	1.3		1.3		1.3		1.3		n/a	2	Semi-mature	Normal	Structural condition-good.	None	40+	A	2	1.44	7
T1507	1	*Fraxinus excelsior* Ash	1	120	7	1.6		1.6		1.2		1.6		2.5-s	2	Semi-mature	Fair	Structural condition-good. Dieback in the shoot tips.	None	10-20	C	2	1.44	7
T1508	1	*Fraxinus excelsior* Ash	1	210	9	2.5		2.5		2.5		2.5		2.2-n	2	Semi-mature	Fair	Structural condition-moderate, minor Co-dominance. Evidence of dieback in the foliage and shoot tips.	None	20-40	B	2	2.52	20
T1509	1	*Fraxinus excelsior* Ash	1	190	8	2.2		2.2		2.2		2.2		2.8-s	3	Semi-mature	Fair	Structural condition-moderate, minor Co-dominance. Evidence of dieback in the foliage and shoot tips.	None	20-40	B	2	2.28	16
T1510	1	*Fraxinus excelsior* Ash	1	190	8	2.8		2.8		2.8		2.8		3-w	2	Semi-mature	Normal	Structural condition-good.	None	40+	A	2	2.28	16
T1511	1	*Fraxinus excelsior* Ash	1	160	10	2.7		2.7		2		2		3-s	3	Semi-mature	Poor	Structural condition-fair, dieback and deadwood accumulating in the crown.	Consider removal and replacement	10-20	C	2	1.92	12
T1512	1	*Fraxinus excelsior* Ash	1	200	10	2.6		1.8		2.6		2.6		2.5-w	3	Semi-mature	Normal	Structural condition-moderate, Co-dominance.	None	20-40	B	2	2.4	18
T1513	1	*Fraxinus excelsior* Ash	1	210	10	2.5		2.5		2.5		2.5		3-n	3	Semi-mature	Normal	Structural condition-good.	None	20-40	B	2	2.52	20
T1514	1	*Prunus avium* Wild Cherry	2	452	12	6.5		4		6.5		3		n/a	3	Mature	Normal	Structural condition - moderate, trunk is heavily obscured by ivy.	None	20-40	B	2	5.42	92
T1515	1	*Fagus sylvatica* Common Beech	2	425	12	6.8		4		4		6		3-w	2	Mature	Normal	Structural condition-moderate, Co-dominant at the base of the trunk, irregular trunk shape.	None	20-40	B	2	5.1	82
T1516	1	*Crataegus monogyna* Hawthorn	2	312	7	4		4		4		2		n/a	0	Mature	Normal	Structural condition-moderate, Co-dominant at the base of the trunk.	None	20-40	B	2	3.74	44
T1517	1	*Fraxinus excelsior* Ash	1	180	8	3		3		3		3		3-n	3	Semi-mature	Normal	Structural condition-good. Some very minor dieback.	None	20-40	B	2	2.16	15
T1518	1	*Fraxinus excelsior* Ash	1	180	8	3		3.5		3		3		3-s	3.5	Semi-mature	Normal	Structural condition-good. Some very minor dieback.	None	20-40	B	2	2.16	15

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m)								First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years:	Retention category	Retention Sub-category	RPR (M)	RPA(M²)
						N	NE	E	SE	S	SW	W	NW											
T1519	1	*Fraxinus excelsior* Ash	1	180	8	3		3		3		3		3-s	3	Semi-mature	Normal	Structural condition-good. Some very minor dieback.	None	20-40	B	2	2.16	15
T1520	1	*Fraxinus excelsior* Ash	1	180	8	3		3.5		3		3		2.5-e	2	Semi-mature	Normal	Structural condition-good. Some very minor dieback.	None	20-40	B	2	2.16	15
T1521	1	*Fraxinus excelsior* Ash	1	180	8	3		3		3		3		3-n	3.5	Semi-mature	Fair	Structural condition-good. Dieback more pronounced.	None	20-40	B	2	2.16	15
T1522	1	*Fraxinus excelsior* Ash	1	160	6	2		2		2		2		1.5-s	2	Semi-mature	Normal	Structural condition-moderate, Co-dominance. Some very minor dieback.	None	20-40	B	2	1.92	12
T1523	1	*Fraxinus excelsior* Ash	1	180	8	3		3		3		3		2-s	2	Semi-mature	Normal	Structural condition-moderate, Co-dominance. Some very minor dieback, wounds on the lower limbs.	None	20-40	B	2	2.16	15
T1524	1	*Quercus robur 'fastigate'* Penduculate oak	1	150	9	1.3		1.3		1.3		1.3		n/a	1	Semi-mature	Normal	Structural condition-good.	None	40+	A	2	1.8	10
T1525	1	*Quercus robur 'fastigate'* Penduculate oak	1	180	9	1.4		1.4		1.4		1.4		n/a	1	Semi-mature	Normal	Structural condition-good.	None	40+	A	2	2.16	15
T1526	1	*Quercus robur 'fastigate'* Penduculate oak	1	180	9	1.4		1.4		1.4		1.4		n/a	0.5	Semi-mature	Normal	Structural condition-good.	None	40+	A	2	2.16	15
T1527	1	*Acer platanoides* Norway maple	1	50	5	0.5		0.5		0.5		0.5		n/a	1.8	Young	Fair	Structural condition-good.	None	20-40	B	2	0.6	1
T1528	1	*Alnus glutinosa* Alder	3	163	6	2		2		2		2		0.5-s	0.5	Semi-mature	Normal	Structural condition-moderate, Co-dominant at the base of the trunk.	None	20-40	B	2	1.96	12
T1529	1	*Pinus spp*	1	240	7	2.3		2.3		2.3		2.3		1-s	1	Semi-mature	Normal	Structural condition-good.	None	40+	A	2	2.88	26
T1530	1	*Crataegus monogyna* Hawthorn (Pink flowers)	1	75	4	1		1		1		1		n/a	0	Young	Fair	Structural condition-good. Leaf area is small, growth appears stunted.	None	10-20	C	2	0.9	3
T1531	1	*Acer platanoides* 'Crimson King' Norway maple	1	130	8	2.2		2.2		2.2		2.2		2-s	2	Semi-mature	Good	Structural condition-good.	None	40+	A	2	1.56	8
T1532	1	*Crataegus monogyna* Hawthorn	1	430	8	5.2		5.2		4.1		4.1		2-e	1.5	Mature	Good	Structural condition-moderate, trunk is obscured by ivy, co-dominant stems.	None	40+	A	2	5.16	84
T1533	1	*Acer campestre* Field maple	1	220	8	3.3		2		2		2		0.5-n	0.5	Semi-mature	Normal	Structural condition-good.	None	40+	A	2	2.64	22
T1534	1	*Acer campestre* Field maple	1	220	8	2.8		2.8		2.8		2.8		0.5-n	0.5	Semi-mature	Normal	Structural condition-good.	None	40+	A	2	2.64	22
T1535	1	*Acer campestre* Field maple	1	230	8	3		3		3		3		0.5-n	0	Semi-mature	Normal	Structural condition-good.	None	40+	A	2	2.76	24

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m) N	NE	E	SE	S	SW	W	NW	First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years:	Retention category	Retention Sub-category	RPR (M)	RPA(M²)
T1536	1	*Acer campestre* Field maple	1	220	8	2.4		2.4		2.4		2.4		0.5-n	0	Semi-mature	Normal	Structural condition-good.	None	40+	A	2	2.64	22
W1	n/a	*Acer spp, Betula spp, Alnus spp, Crategus spp.*	n/a	n/a	20	see drawings								n/a	0	Early-mature	Normal	Densely populated stand of trees. Canopy is tightly closed.	Consider thinning to release the high-quality trees and allow the woodland to develop.	20-40	B	2	####	####
W2	n/a	*Acer spp, Betula spp, Alnus spp, Fraxinus spp.*	n/a	n/a	20-25	see drawings								n/a	0	Mature	Normal	Small woodland group	None	20-40	B	2	####	####
T1537	1	*Acer saccharinum* Silver Maple	1	630	25	6		8		6		6		4-e	5	Mature	Normal	Structural condition-moderate, co-dominant stems, union appears good.	None	20-40	B	2	7.56	180
T1538	1	*Acer saccharinum* Silver Maple	1	520	25	4.5		5		4.5		4.5		4-e	7	Mature	Normal	Structural condition-moderate, co-dominant stems, union appears good.	None	20-40	B	2	6.24	122
T1539	1	*Acer capillipes* Snakebark Maple	1	50	6	1		1		1		1		n/a	1	Young	Normal	Structural condition-good.	None	10-20	C	2	0.6	1.1
T1540	1	*Acer cappadocian* Cappadocian Maple	1	70	6	2		2		2		2		n/a	0.6	Young	Normal	Structural condition-moderate, Co-dominance.	None	10-20	C	2	0.84	2.2
T1541	1	*Acer pseudoplatanus* Sycamore	3	577	13	5.3		5		3		5		3-e	1.6	Mature	Normal	Structural condition-moderate, Co-dominant at the base of the trunk. Trunk is heavily obscured by ivy.	Remove ivy to 1 m from ground level to facilitate future inspections.	20-40	B	2	6.92	151
T1542	1	*Fraxinus excelsior* Ash	1	390	17	5		3		4.5		5		5-n	4	Mature	Fair	Structural condition-moderate, co-dominant stems, union appears good. Evidence of dieback, moderate leaf area.	None	20-40	B	2	4.68	69
T1543	1	*Fraxinus excelsior* Ash	1	220	13	2.6		3.7		3.5		3.5		3-e	2	Early-mature	Fair	Structural condition-moderate, co-dominant stems, union appears good. Evidence of dieback, moderate leaf area.	None	20-40	B	2	2.64	22
T1544	1	*Fraxinus excelsior* Ash	1	200	13	3		3		3		1		3-s	3	Early-mature	Fair	Structural condition-moderate, co-dominant stems, union appears good. Evidence of dieback, moderate leaf area.	None	20-40	B	2	2.4	18
T1545	1	*Fraxinus excelsior* Ash	1	320	13	4		2.5		3		3		2-s	2	Early-mature	Fair	Structural condition-moderate, co-dominant stems, union appears good. Evidence of dieback, moderate leaf area.	None	20-40	B	2	3.84	46
T1546	1	*Betula pendula* Silver Birch	2	346	13	3		3		3		3		3-w	1.5	Early-mature	Good	Structural condition-moderate, Co-dominance.	None	20-40	B	2	4.15	54.1
W3	n/a	*Acer spp*	n/a	n/a	20	see drawings								n/a	0	Early-mature	Normal	Small woodland group	None	20-40	B	2	####	####

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m) N	NE	E	SE	S	SW	W	NW	First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years:	Retention category	Retention Sub-category	RPR (M)	RPA(M²)
W4	n/a	*Populus spp, Salix spp, Acer spp, Betula spp, Fraxinus spp.*	n/a	n/a	20-25	see drawings								n/a	0	Mature	Normal	Small woodland group	None	20-40	B	2	####	####
W5	n/a	*Populus spp, Salix spp, Acer spp, Betula spp, Fraxinus spp.*	n/a	n/a	20-26	see drawings								n/a	0	Mature	Normal	Densely populated stand of trees. Canopy is tightly closed.	Consider thinning to release the high-quality trees and allow the woodland to develop.	20-40	B	2	####	####
W6	n/a	*Salix spp, Acer spp, Betula spp, Sambucus spp.*	n/a	n/a	20	see drawings								n/a	0	Mature	Normal	Small woodland group	None	20-40	B	2	####	####
T1547	1	*Salix babylonica* Weeping willow	1	265	13	4.2		3		4.4		4.4		4-w	0	Early-mature	Normal	Structural condition-good.	None	40+	A	2	3.18	32
T1548	1	*Prunus avium* Wild Cherry	1	60	7	1.5		1.5		1		1		n/a	2	Young	Normal	Structural condition-good.	None	10-20	C	2	0.72	2
T1549	1	*Crataegus monogyna* Hawthorn	1	370	8	3.5		3.5		3.5		3.5		2-s	1	Mature	Fair	Structural condition-moderate, co-dominant stems, trunk and union are obscured by ivy.	None	20-40	B	2	4.44	62
T1550	1	*Acer saccharinum* Silver Maple	1	790	20	9.5		10		9		10		3-ne	1	Mature	Normal	Structural condition-moderate, co-dominant stems, unions appear good. Very large crown spread.	None	20-40	B	2	9.48	282
T1551	1	*Crataegus monogyna* Hawthorn	1	260	8	1.5		3		3		3		n/a	0	Mature	Normal	Structural condition-moderate, trunk is obscured by ivy.	None	20-40	B	2	3.12	31
T1552	1	*Acer pseudoplatanus* Sycamore	1	470	15	4		6		4		6		0.5-se	0	Mature	Normal	Structural condition-moderate, trunk is obscured by ivy.	Remove ivy to 1 m from ground level to facilitate future inspections.	20-40	B	2	5.64	100
T1553	1	*Fraxinus excelsior* Ash	1	850	18	9		8		4		8		3-e	0	Late-mature	Poor	Structural condition-fair, trunk is heavily obscured by ivy, evidence of bark necrosis, deadwood accumulating in the crown. Leaf area is poor, dieback is progressing.	Remove ivy to 1 m from ground level to facilitate future inspections. Tree may have to be heavily pollarded in time.	10-20	C	2	10.2	327
T1554	1	*Crataegus monogyna* Hawthorn	1	350	6	3.6		3		3		3.6		1-e	3	Mature	Normal	Structural condition-moderate, co-dominant stems with partial bark inclusion. Despite the minor defect good tree with high amenity value.	None	40+	A	2	4.2	55
T1555	1	*Betula pendula* Silver Birch	1	520	15	5.4		5.4		5.4		5.4		3-s	0	Mature	Good	Structural condition-moderate, co-dominant stems, union appears good. Tree has high amenity value.	None	40+	A	2	6.24	122
T1556	1	*Taxodium distichum* Swamp Cypress	1	110	8	1.2		1.2		1.2		1.2		n/a	1.8	Semi-mature	Normal	Structural condition-moderate, trunk is obscured by ivy.	Remove ivy to 1 m from ground level to facilitate future inspections.	20-40	B	2	1.32	5

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m) N	NE	E	SE	S	SW	W	NW	First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years:	Retention category	Retention Sub-category	RPR (M)	RPA(M²)
T1557	1	*Fraxinus excelsior* Ash	1	390	17	2		5		5.8		5.4		4-s	3	Mature	Normal	Structural condition-moderate, co-dominant stems, longitudinal cracks in the bark, evidence of canker. Northern portion of the canopy in conflict with electricity network.	None	20-40	B	2	4.68	69
T1558	1	*Fraxinus excelsior* Ash	1	380	17	2		4		4.5		4		3-s	2	Mature	Normal	Structural condition-good, some minor Co-dominance, unions appears good. Foliage appears healthy, some very minor dieback.	None	20-40	B	2	4.56	65
T1559	1	*Fraxinus excelsior* Ash	1	410	17	4.7		4.7		4		4		3.5-s	2	Mature	Normal	Structural condition-moderate, co-dominant stems, union appears good. Foliage appears healthy, very minor dieback.	None	20-40	B	2	4.92	76
T1560	1	*Fraxinus excelsior* Ash	1	400	17	2.5		4.7		4.7		4		2.5-sw	2	Mature	Normal	Structural condition-moderate, co-dominant stems, union appears good. Northern portion of the crown in conflict with the electricity network. Foliage appears healthy, very minor dieback.	None	20-40	B	2	4.8	72
TG1561	7	*Acer pseudoplatanus* Sycamore	>7	n/a	15	see drawings								n/a	0	Early-mature	Normal	Structural condition-moderate, some Co-dominance between the stems, trunks are heavily obscured by ivy.	None	20-40	B	2	####	####
TG1562	10	*Acer pseudoplatanus* Sycamore, *Fraxinus excelsior* Ash, *Sambucus nigra* Elder, *Betula pendula* Silver birch	n/a	n/a	12	see drawings								n/a	0	Early-mature	Normal	The elders have good flowering value but generally a low value tree group.	None	10-20	C	2	####	####
T1563	1	*Acer campestre* Field maple	1	460	8	5		5.5		5		4		2-s	0	Mature	Good	Structural condition-good, co-dominant stems but union appears good. Crown is in conflict with the electricity network but still a tree with high amenity value.	None	20-40	B	2	5.52	96
T1564	1	*Sorbus aucuparia* Rowan	1	250	8	2.2		2.4		2.5		2.5		2.5-s	2	Early-mature	Normal	Structural condition-moderate, large wound at the base of the trunk, evidence of decay, partial occlusion occurring. Leaf area and vigour appear normal.	None	20-40	B	2	3	28

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m) N	NE	E	SE	S	SW	W	NW	First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years:	Retention category	Retention Sub-category	RPR (M)	RPA(M²)
T1565	1	*Acer pseudoplatanus* Sycamore	1	400	12	3.3		4.8		5		4.3		2-s	1.5	Mature	Normal	Structural condition-good, some minor Co-dominance, unions appears good.	None	20-40	B	2	4.8	72
T1566	1	*Acer pseudoplatanus* Sycamore	1	450	12	5.6		4.5		4.3		5		2.5-n	1	Mature	Normal	Structural condition-good.	None	40+	A	2	5.4	92
T1567	1	*Sorbus aucuparia* Rowan	1	270	8	3		3		2		3		3-ne	3	Mature	Normal	Structural condition-good.	None	40+	A	2	3.24	33
T1568	1	*Quercus robur* Penduculate oak	1	480	15	7.5		7.5		7		7		3-n	1	Early-mature	Good	Structural condition-good.	None	40+	A	2	5.76	104
T1569	1	*Quercus robur* Penduculate oak	1	490	15	5.8		6		6		4		2.5-e	1	Early-mature	Good	Structural condition-good.	None	40+	A	2	5.88	109
T1570	1	*Acer pseudoplatanus* Sycamore	1	520	15	4.7		4.7		5		5		2.5-w	3	Mature	Good	Structural condition-moderate, co-dominant stems, one union has partial bark inclusion.	None	20-40	B	2	6.24	122
T1571	1	*Acer platanoides* Norway maple	1	380	16	3.9		4.3		3.5		3		2.5-ne	3	Early-mature	Good	Structural condition-moderate, co-dominant stems, v shaped union.	None	20-40	B	2	4.56	65
TG1572	16	*Pinus spp*, *Acer pseudoplatanus* Sycamore, *Fagus sylvatica* Beech, *Quercus robur* oak.	n/a	n/a	25	see drawings								n/a	0	Mature	Fair	Structural condition-fair, evidence of fire damage and wounding. Moderate value tree group.	None	10-20	C	2	####	####
T1573	1	*Sambucus nigra* Elder	3	585	10	4.5		5.4		2.5		5.4		1-e	3	Veteran	Fair	Structural condition-fair, trunk is obscured by ivy, multi-stem at ground level. Potentially a very old tree, maybe in the ancient life-stage. The tree has many veteran features e.g., cavities, deadwood, rot sites. High value tree	None	20-40	B	3	7.02	155
T1574	1	*Corylus avellana* Hazel	11	464	10	4		6		6.5		5		n/a	0	Mature	Good	Multi-stem at the base of the trunk which is normal for the species. Potentially an old tree. Has high amenity value.	None	40+	A	3	5.57	97
TG1575	22	*Acer pseudoplatanus* Sycamore, *Aesculus hippocastanum* Horse chestnut, *Fraxinus excelsior* Ash.	n/a	n/a	20	see drawings								n/a	0	Early-mature	Normal	Structural condition-moderate, trunks are obscured by ivy, some codominant stems. The canopy extends to the east over the pavement where the headroom is currently insufficient.	Crown raise the lower branches over the pavement to 3 m from ground level to improve headroom.	20-40	B	2	####	####

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T1576	1	*Tilia platyphyllos* Large-leaved Lime	1	150	7	2		2		2		2		2-e	1.8	Semi-mature	Good	Structural condition-good, lowest branch is fractured and overhanging cycle lane.	Target prune fractured branch over cycle lane.	40+	A	2	1.8	10
T1577	1	*Tilia platyphyllos* Large-leaved Lime	1	130	7	2		2		2		2		3-s	1.8	Semi-mature	Good	Structural condition-good.	Light crown raise over cycle lane.	40+	A	2	1.56	8
T1578	1	*Tilia platyphyllos* Large-leaved Lime	1	160	7	2		2		2		2		3-e	2	Semi-mature	Good	Structural condition-good.	None	40+	A	2	1.92	12
T1579	1	*Tilia platyphyllos* Large-leaved Lime	1	160	7	2.5		2.5		2.5		2.5		3-se	2	Semi-mature	Good	Structural condition-good.	None	40+	A	2	1.92	12
T1580	1	*Fraxinus excelsior* Ash	1	160	7	2		2		2		2		2-ne	2	Semi-mature	Normal	Structural condition-moderate, minor Co-dominance. Some minor dieback	None	20-40	B	2	1.92	12
T1581	1	*Fraxinus excelsior* Ash	1	150	7	2.5		2		2		2		1.8-e	2	Semi-mature	Normal	Structural condition-moderate, minor Co-dominance. Some minor dieback	None	20-40	B	2	1.8	10
T1582	1	*Fraxinus excelsior* Ash	1	210	7	2.5		2.5		2		2		2-w	1.8	Semi-mature	Normal	Structural condition-good.	Light crown raise over cycle lane.	20-40	B	2	2.52	20
T1583	1	*Fraxinus excelsior* Ash	1	160	7	2.5		2.5		2		2		1.8-e	1.8	Semi-mature	Fair	Structural condition-good. Leaf area is fair, more pronounced dieback.	Light crown raise over cycle lane.	20-40	B	2	1.92	12
T1584	1	*Aesculus hippocastanum* Horse chestnut	1	1082	18	4.2		5.2		8		5.5		4-sw	0	Mature	Normal	Structural condition-moderate, some codominant stems, unions are not visible because of ivy.	Consider removing ivy to 1 m from ground level to facilitate future inspections.	20-40	B	2	13	530
T1585	1	*Aesculus hippocastanum* Horse chestnut	1	986	19	5.8		6		6.2		6		5-s	0	Mature	Good	Structural condition-good.	None	40+	A	2	11.8	440
T1586	1	*Acer pseudoplatanus* Sycamore	1	923	18	4.5		5.9		5.5		5		4-nw	1	Mature	Normal	Structural condition-moderate, trunk and stems are heavily obscured by ivy.	Consider removing ivy to 1 m from ground level to facilitate future inspections.	40+	B	2	11.1	385
TG1587	5	*Sambucus nigra* Elder, *Acer pseudoplatanus* Sycamore, *populus spp*.	n/a	n/a	10	see drawings								n/a	0	Early-mature	Normal	Structural condition-moderate. Tree group of moderate quality.	None	10-20	C	2	####	####
TG1588	n/a	*Alnus cordata* Italian Alder, *Acer pseudoplatanus* Sycamore, *populus spp*	n/a	n/a	10	see drawings								n/a	0	Early-mature	Normal	Structural condition-good.	None	20-40	B	2	####	####
T1589	1	*Sambucus nigra* Elder	1	450	6	3.2		3.2		3.2		3.2		1.5-s	1	Mature	Normal	Structural condition-moderate, some codominant stems, unions are not visible because of ivy.	None	20-40	B	2	5.4	92

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						N	NE	E	SE	S	SW	W	NW											
T1590	1	*Acer pseudoplatanus* Sycamore	1	300	7	3		3		3		3		1-s	0	Early-mature	Normal	Structural condition-fair, co-dominant stems, unions are heavily obscured ivy.	Consider removing ivy to 1 m from ground level to facilitate future inspections.	10-20	C	2	3.6	41
T1591	1	*Fraxinus excelsior* Ash	1	150	7	2.5		2.5		2.5		2.5		2-s	2	Semi-mature	Fair	Structural condition-fair, co-dominant stems, trunk and unions are heavily obscured ivy. Leaf area is fair with evidence of dieback.	Consider removing ivy to 1 m from ground level to facilitate future inspections.	10-20	C	2	1.8	10
T1592	1	*Fraxinus excelsior* Ash	1	210	7	3		3.5		2.5		2.5		2-s	2	Semi-mature	Fair	Structural condition-fair, co-dominant stems, trunk and unions are heavily obscured ivy. Leaf area is fair with evidence of dieback.	Consider removing ivy to 1 m from ground level to facilitate future inspections.	10-20	C	2	2.52	20
T1593	1	*Fraxinus excelsior* Ash	1	360	10	3.7		3.7		3.7		3.7		4-s	2	Early-mature	Normal	Structural condition-moderate, minor Co-dominance, unions appear good. Good leaf area.	None	20-40	B	2	4.32	59
T1594	1	*Fagus sylvatica* Common Beech	1	1318	23	10		10		10		10		6-w	1.5	Mature	Good	Structural condition-good, co-dominant stems at the base of the crown, union appears good. Very broad spreading crown with very good leaf area, minor deadwood in the crown. Crown clearance over the road and footpath is 6-7 m. Bat boxes on the trunk. High amenity value, potentially historic interest.	Consider for tree preservation order (TPO)	40+	A	3	15.8	786
T1595	1	*Pinus sylvestris* Scots pine	1	410	9	5.4		2.5		1		4.1		6-n	2	Mature	Fair	Structural condition-good. Leaf area is small for the life stage.	None	20-40	B	2	4.92	76
T1596	1	*Taxus baccata* Common Yew	5	497	8	4		4		4		4		n/a	2	Mature	Normal	Multi-stem at ground level, unions are not visible. The tree form would be normal for the species. Potentially an old coppice indicating that the life stage is older than the current assessment. The crown is being suppressed by the neighbouring tree.	None	20-40	B	3	5.96	112

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m) N	NE	E	SE	S	SW	W	NW	First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years:	Retention category	Retention Sub-category	RPR (M)	RPA(M²)
T1597	1	*Cupressus macrocarpa* Monterey Cypress	2	1270	24	8.5		8.5		8.5		8.5		2-s	2	Mature	Normal	Structural condition-moderate, co-dominant stems at ground level, union is not visible. One fractured limb hanging in the southern portion of the canopy. Deadwood accumulating in the crown, historic pruning has left stub cuts. Crown clearance over the road and foot path is 4-5 m.	Remove fractured limb in the southern portion of the canopy, clean crown of deadwood any defective branches. Target prune the stub cuts. Crown raise over yew tree to release the crown.	20-40	B	2	15.2	730
T1598	1	*Cupressus macrocarpa* Monterey Cypress	1	200	15	2		2		2		2		6-w	6	Early-mature	Fair	Structural condition-fair, deadwood in the crown. Crown is heavily suppressed by neighbouring tree.	Consider removal.	10-20	C	2	2.4	18
T1599	1	*Prunus avium* Wild Cherry	2	439	12	4		2		2		3.6		2.5-w	2	Mature	Normal	Structural condition-moderate, co-dominant stems, v shaped union.	None	20-40	B	2	5.27	87
T1600	1	*Sorbus aucuparia* Rowan	1	260	7	2.5		3.5		3.5		3		2.3-n	3	Early-mature	Poor	Structural condition-moderate, co-dominant stems, v shaped unions, deadwood accumulating in the crown. Very poor leaf area.	Consider removal and replacement.	10-20	C	2	3.12	31
T1601	1	*Carpinus betulus* Hornbeam	1	250	8	2		2.5		2.5		2.5		2-w	3.5	Early-mature	Normal	Structural condition-good, minor co-dominance, unions appear good.	None	40+	A	2	3	28
T1602	1	*Malus spp*	1	170	4	3		2.3		3		3		1.8-n	1.7	Early-mature	Normal	Structural condition-good	Crown raise over pavement to improve headroom.	40+	A	2	2.04	13
T1603	1	*Carpinus betulus* Hornbeam	1	200	7	2.5		2.5		2.5		2.5		1.2-w	1.2	Early-mature	Normal	Structural condition-good	Crown raise over pavement to improve headroom.	40+	A	2	2.4	18
T1604	1	*Sorbus aucuparia* Rowan	1	120	7	1.8		1.8		1.8		1.8		2-n	1.8	Early-mature	Fair	Structural condition-moderate, co-dominant stems, v shaped union, partial bark inclusion.	None	10-20	C	2	1.44	7
T1605	1	*Quercus intermedia* Intermediate oak	1	670	20	8.3		4.2		4.8		5.5		3-sw	1.5	Mature	Normal	Structural condition-good. High amenity value.	None	40+	A	2	8.04	203
T1606	1	*Larix kaempferi* Japanese larch	1	440	20	3.7		3.1		2.1		2		3-nw	1.8	Mature	Normal	Structural condition-good. Crown is partially suppressed by neighbouring oak.	None	20-40	B	2	5.28	88
TG1607	3	*Fraxinus excelsior* Ash	7	n/a	7	see drawings								n/a	2	Semi-mature	Normal	Structural condition-fair, co-dominant stems.	None	10-20	C	2	####	####
W7	n/a	*Fraxinus spp, Quercus spp, Acer spp*	n/a	n/a	13	see drawings								n/a	0	Early-mature	Normal	Small woodland group with mixed life stage from young trees to early mature trees	None	20-40	B	2	####	####

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m) N	NE	E	SE	S	SW	W	NW	First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years:	Retention category	Retention Sub-category	RPR (M)	RPA(M²)
TG1608	4	*Fraxinus excelsior* Ash, *Quercus intermedia* Intermediate oak	6	n/a	8	see drawings								n/a	1	Semi-mature	Fair	Structural condition-fair, co-dominant stems.	None	10-20	C	2	####	####
T1609	1	*Fraxinus excelsior* Ash	1	110	7	2		2		2		2		1.5-w	1.5	Semi-mature	Normal	Structural condition-moderate, co-dominant stems.	None	10-20	C	2	1.32	5.47
T1610	1	*Thuja plicata* Western red cedar	1	550		4		5		6.2		5		4-s	2	Mature	Good	Structural condition-good	Crown raise over pavement to improve headroom.	40+	A	2	6.6	137
T1611	1	*Prunus avium* Wild Cherry	1	540	10	7		3		8		8		4-n	0	Mature	Normal	Structural condition-good, co-dominant stems but unions appear good.	None	40+	A	2	6.48	132
T1612	1	*Prunus avium* Wild Cherry	1	550	12	7		8		8		3		2-sw	1	Mature	Normal	Structural condition-good, co-dominant stems but unions appear good. Tree has been decorated, likely a memory tree of local importance.	None	40+	A	2	6.6	137
W8	n/a	*Acer spp, Betula spp, Fraxinus spp, Sorbus spp, Robina spp.*	n/a	n/a	20	see drawings								n/a	0	Mature	Normal	Linear strip of woodland	None	20-40	B	2	####	####
T1613	1	*Robinia pseudoacacia* False acacia	1	380	15	3.6		1.2		3.6		3.6		4-w	4	Early-mature	Normal	Structural condition-moderate, trunk is partially obscured by ivy, co-dominant stems. Crown is partially suppressed by neighbouring trees.	Remove ivy to 1 m from ground to facilitate future inspections	20-40	B	2	4.56	65
T1614	1	*Acer pseudoplatanus* Sycamore	1	300	10	4.5		1.3		2.2		1.3		1.8-w	2	Early-mature	Fair	Structural condition-fair, poor tree form, trunk is obscured by ivy. Heavily suppressed by neighbouring trees.	Consider removal	10-20	C	2	3.6	41
T1615	1	*Acer pseudoplatanus* Sycamore	1	470	13	5.1		2		4.4		3.2		2-n	2	Early-mature	Normal	Structural condition-moderate, codominant stems 1 m from ground level, trunk and union are obscured by ivy.	Remove ivy to 1 m from ground to facilitate future inspections	20-40	B	2	5.64	100
T1616	1	*Acer pseudoplatanus* Sycamore	1	500	13	6.5		3.8		4.7		2.7		1-n	1	Early-mature	Normal	Structural condition-moderate, codominant stems 1 m from ground level, trunk and unions are obscured by ivy.	Remove ivy to 1 m from ground to facilitate future inspections	20-40	B	2	6	113
T1617	1	*Robinia pseudoacacia* False acacia	1	450	13	4.3		1.6		5.1		3.6		3-w	3	Early-mature	Normal	Structural condition - moderate, codominant stems, trunk is obscured by ivy.	Remove ivy to 1 m from ground to facilitate future inspections	20-40	B	2	5.4	92
T1618	1	*Acer pseudoplatanus* Sycamore	1	460	13	6.2		3		4.3		2.6		2-s	2	Early-mature	Normal	Structural condition - moderate, codominant stems, trunk is obscured by ivy.	Remove ivy to 1 m from ground to facilitate future inspections	20-40	B	2	5.52	96

Appendix 4

GRAND CANAL TO LUCAN URBAN GREENWAY TREE WORKS SCHEDULE - JUNE 2022

- **In accordance with Section 40 of the Wildlife Act 1976 (as amended 2000) the tree works, and removal of ivy should be scheduled outside of the nesting season (1st of March to 31st of August).**
- **All tree works are to be carried out in accordance with the *British Standard BS 3998: 2010 Tree Work - Recommendations* and current Health and Safety requirements.**
- **The trees that need to be removed are marked with red hatched lines on the Tree Removal & Protection Plans.**
- **Where tree work has been specified on adjacent lands e.g. Esker Cemetery the tree owner should be notified about any potential works.**
- **The removal of ivy should be carried out with handsaws (silky saws) to avoid bark and trunk damage.**

Tree No	Tree Species	CAT	Description of Tree Works
Section 1			
TG1440	*Populus trichocarpa* Western Balsam-poplar. *Alnus cordata* Italian alder.	B2	Fell approximately 130m² of the tree group.
T1441-T1443 (3 x trees)	*Fraxinus excelsior* Ash	U	Fell 3 x trees at ground level
TG1445	*Salix cinerea* Grey willow. *Fraxinus excelsior* Ash. *Alnus glutinosa* Alder	B2	Remove approximately 500m² of the tree group.
Section 2			
T1465-T1466 (2 x trees)	*Acer platanoides* Norway maple	A2, B2	Fell 2 x trees at ground level
T1467-T1469 (3 x trees	*Prunus avium* Wild Cherry *Fagus sylvatica Common Beech*	C2, U	Fell 3 x trees at ground level
T1478	*Tilia cordata* Small-leaved Lime	A2	Fell at ground level

Tree No	Tree Species	CAT	Description of Tree Works
T1497	*Acer campestre* Field maple	A2	Fell at ground level
T1499	*Fagus sylvatica* 'Purpurea' Copper Beech	A2	Fell at ground level
T1512	*Fraxinus excelsior* Ash	B2	Fell at ground level
T1541	*Acer pseudoplatanus* Sycamore	B2	Remove ivy to 1 m from ground level to facilitate future inspections.
T1552	*Acer pseudoplatanus* Sycamore	B2	Remove ivy to 1 m from ground level to facilitate future inspections.
T1553	*Fraxinus excelsior* Ash	C2	Remove ivy to 1 m from ground level to facilitate future inspections.
T1556	*Taxodium distichum* Swamp Cypress	B2	Remove ivy to 1 m from ground level to facilitate future inspections.
TG1575	*Acer pseudoplatanus* Sycamore, *Aesculus hippocastanum* Horse chestnut, *Fraxinus excelsior* Ash.	B2	Crown raise the lower branches over the pavement to 3 m from ground level to improve headroom.
T1576	*Tilia platyphyllos* Large-leaved Lime	A2	Target prune fractured branch over cycle lane.
T1577	*Tilia platyphyllos* Large-leaved Lime	A2	Light crown raise over cycle lane.
		B2	Fell 2 x trees at ground level.

Tree No	Tree Species	CAT	Description of Tree Works
T1580-T1581 (2 x trees)	*Fraxinus excelsior* Ash		
T1582	*Fraxinus excelsior* Ash	B2	Light crown raise over cycle lane.
T1583	*Fraxinus excelsior* Ash	B2	Light crown raise over cycle lane.
T1584	*Aesculus hippocastanum* Horse chestnut	B2	Remove ivy to 1 m from ground level to facilitate future inspections.
T1586	*Acer pseudoplatanus* Sycamore	B2	Remove ivy to 1 m from ground level to facilitate future inspections.
Section 3			
T1590	*Acer pseudoplatanus* Sycamore	C2	Remove ivy to 1 m from ground level to facilitate future inspections.
T1591	*Fraxinus excelsior* Ash	C2	Remove ivy to 1 m from ground level to facilitate future inspections.
T1592	*Fraxinus excelsior* Ash	C2	Remove ivy to 1 m from ground level to facilitate future inspections.
T1597	*Cupressus macrocarpa* Monterey Cypress	B2	Remove fractured limb in the southern portion of the canopy, clean crown of deadwood and any defective branches. Target prune the stub cuts. Crown raise over yew tree to release the crown.
T1598	*Cupressus macrocarpa* Monterey Cypress	C2	Consider removal
T1602	*Malus spp*	A2	Crown raise over pavement to improve headroom.
T1603	*Carpinus betulus* Hornbeam	A2	Crown raise over pavement to improve headroom.
T1610	*Thuja plicata* Western red cedar	A2	Crown raise over pavement to improve headroom.
W7	*Fraxinus spp, Quercus spp, Acer spp*	B2	Remove approximately 2000 m² of the woodland
TG1607	*Fraxinus excelsior* Ash	C2	Remove the tree group

Tree No	Tree Species	CAT	Description of Tree Works
TG1608	*Fraxinus excelsior* Ash *Quercus intermedia* Intermediate oak	C2	Remove the tree group
T1609	*Fraxinus excelsior* Ash	C2	Fell at ground level
W8	*Acer spp, Betula spp, Fraxinus spp, Sorbus spp, Robina spp.*	B2	Remove approximately 900 m² of the woodland along the proposed boardwalk alignment.
T1613	*Robinia pseudoacacia* False acacia	B2	Remove ivy to 1 m from ground level to facilitate future inspections
T1615	*Acer pseudoplatanus* Sycamore	B2	Remove ivy to 1 m from ground level to facilitate future inspections
T1616	*Acer pseudoplatanus* Sycamore	B2	Remove ivy to 1 m from ground level to facilitate future inspections
T1617	*Robinia pseudoacacia* False acacia	B2	Remove ivy to 1 m from ground level to facilitate future inspections
T1618	*Acer pseudoplatanus* Sycamore	B2	Remove ivy to 1 m from ground level to facilitate future inspections

Appendix 5


TG1440


T1441-T1443


T1444


TG1445


T1446


TG1447


T1449
T1448


T1452
T1460
T1450


T1451
T1453


T1455-T1457


T1458-T1459


T1461
T1462
T1463


T1464
T1465
T1466


T1467
T1468


T1469
T1470
T1471


T1472


T1473
T1474
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T1480
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T1491
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T1492


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T1498


T1500


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T1530
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T1532


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T1534
T1536


W1


W2


T1537


T1538


T1539


T1540


W3


T1541


T1542


T1545
T1543
T1544


T1546


W4


W5


T1547


T1548


W6


T1549


T1550


T1551
T1552


T1553


T1554


T1555


T1557
T1556


T1560
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T1559


TG1561


TG1562


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T1564
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T1567


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T1570


T1571


TG1572


T1573


T1574


TG1575


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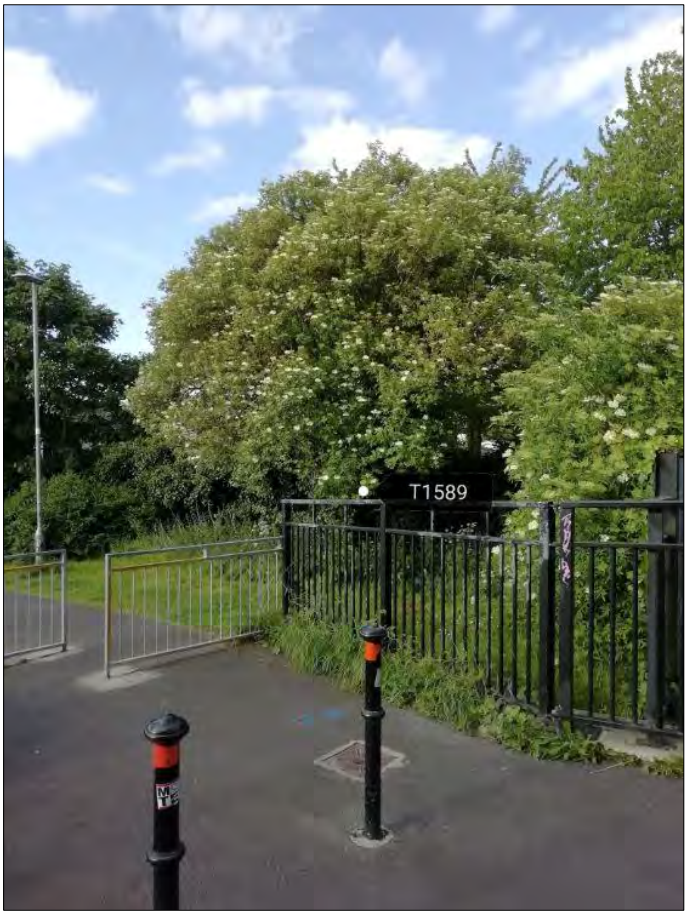
T1586


TG1587


TG1588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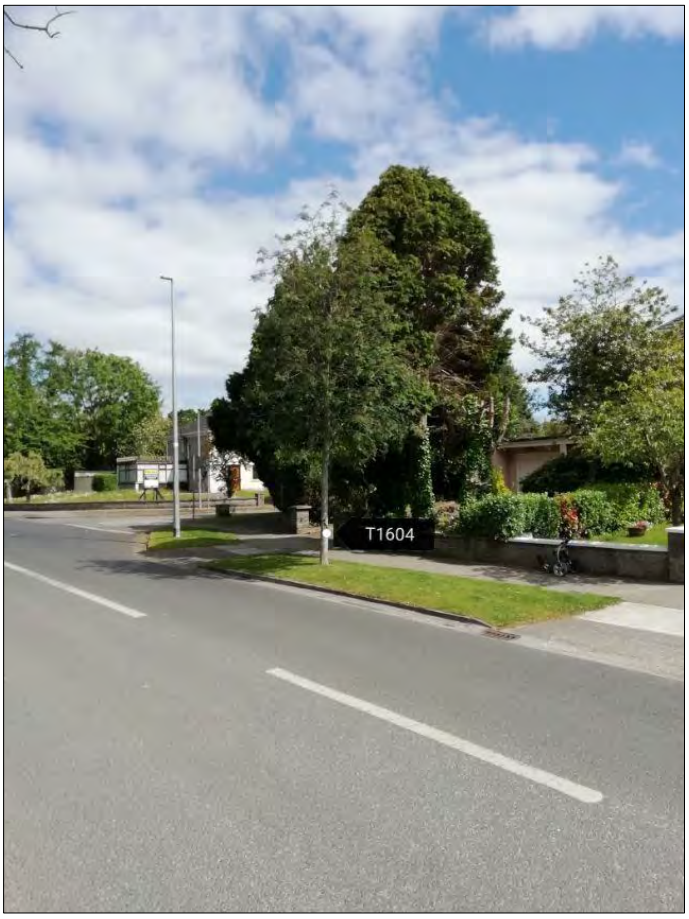
T1600


T1602


T1603


T1604


T1605
T1606


TG1607


TG1608


T1609


W7


Circle K boundary trees.


T1610


W8


T1612
T1611


T1613-T1616


T1617-T1618

Tree Protection Plan

Grand Canal to Lucan Urban Greenway - Sarsfield Park Section

September 2022

TREESPACE

Trees • Woodland • Urban Forestry

DOCUMENT CONTROL SHEET

PROJECT NAME: Tree Protection Plan

PROJECT REFERENCE: Grand Canal to Lucan Urban Greenway – Sarsfield Park Section

PROJECT LOCATION: Sarsfield Park, Lucan Village, Co. Dublin.

PREPARED FOR: South Dublin County Council (SDCC)

PREPARED BY: Conor O Callaghan

POSITION HELD: Arborist

WORK DESCRIPTION: Field Assessor/Author

QUALIFICATIONS: MSc Arboriculture & Urban Forestry, BSc Forestry Management

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Contents

1. INTRODUCTION

1.1. Instructions and Brief

1.1.1. Tree-space has been instructed to undertake an arboricultural assessment of the trees in a section of Sarsfield Park, Lucan Village. There is an existing set of stairs which links Lucan Road to Chapel Hill and Sarsfield Park. The area is part of the wider Grand Canal to Lucan Urban Greenway Project. It is intended to retrofit the existing stairs with a ramp and rail system to allow cyclists to wheel their bikes between Lucan Road and Chapel Hill. There are a number of trees established within the working area of the construction project and have the potential to be negatively impacted upon. The tree survey for this report targeted the trees in proximity to the existing stairs.

1.1.2. The purpose of this report is to outline the workflow that will be required for the successful retention of the subject trees during the construction phase. The report should be available to the main contractor and the tree owner throughout the construction period. The sequence of actions outlined in section three of this report should be followed in the order that they are documented.

1.1.3. The tree protection assessment was carried out in accordance with the British Standard *BS 5837:2012 Trees in relation to design, demolition, and construction – Recommendations*[1]*.* The British Standard sets out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and structures.

1.1.4. The field assessment for this report was completed on the 28th of July 2022. The following documents were provided to Tree-space to inform the tree survey and report:

Table 1: List of drawings to inform the tree survey and report

Document Title	Document/Drawing Number	Originator
Topographical Survey	OS -Map	ARUP
Development Plan Layout	284399-ARUP-ZZ-XX-DR-C-0016	ARUP

1.1.5. The report should be read in conjunction with the following Tree-space plans:

- Tree Constraints Plan: TS_TCP_1_8_22
- Tree Assessment Plans: TS_TAP_2_8_22
- Tree Removal & Protection Plan: TS_TPP_5_9_22

[1] The British Standards Institution (2012) *Trees in relation to design, demolition, and construction – Recommendations.* BSI Standards Limited.

1.2. Tree Survey Approach

Table 2: Tree Survey and Protection Process

TASK	DESCRIPTION
Topographical survey	Record the position of all trees within the site with a stem diameter of 75mm or more, measured at 1.5m above highest adjacent ground level.
Tree survey	Collect relevant information on all trees included in the topographical survey, as well as any that might have been missed. The parameters of the tree survey are set out in BS5837:2012 section 4.4 and are described in more detail in Appendix 2 of this report.
Tree categorization	Identify the quality and value of the existing tree population. The categorization method set out in table 1, BS5837:2012 allows informed decisions to be made concerning which trees should be removed or retained in the event of a development occurring. Category A trees are of a high quality, category B trees are of moderate quality, and category C trees are of a low quality. Category U trees are unsuitable for retention. The subcategories 1, 2 and 3 are intended to reflect arboricultural and landscape qualities, and cultural values, respectively. The tree quality assessment table is included in appendix 2 of this report.
Impact assessment	Identify the requirements for the successful retention of the retained trees and detail the measures necessary for protection during the development process. Root protection areas (RPAs) are calculated in accordance with section 4.6, BS5837:2012. The RPA is the minimum area around a tree that needs to remain undisturbed to maintain the tree's viability. The RPAs of each categorised tree will be plotted on relevant scaled drawings.
Tree protection plan	The tree protection plan indicates the precise location of the protective barriers to be erected to form a construction exclusion zone around the retained trees. The plan will be superimposed on the layout plan, based on the topographical survey.
Tree Protection Method	Address some or all of the following: Pre-development tree works, site supervision, protective fencing, ground protection, boundary treatments, services and drainage, and monitoring.

1.3. The Limitations of the Report

1.3.1. Only those trees specified in the scope of work were assessed. The observations that were made are limited to the requirements of planning and development. The survey is not a tree risk assessment.

1.3.2. The trees were visually assessed from ground level only. No climbing inspections were carried out. No invasive or other detailed internal decay detection devices were used.

1.3.3. The tree positions were not included in the topographical survey. The positions of the trees were recorded using a pole mounted receiver and GIS field capture software. The target accuracy was 10 cm; however, this could not always be achieved because of the heavy tree canopy coverage. No liability of any kind is accepted for any inaccuracies in the tree location survey.

1.3.4. The conclusions relate to the conditions found at the time of survey. Trees are living organisms that are subject to the stresses of climatic extremes, decay fungi and injurious diseases. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees in question may not arise in the future.

2. THE TREES

2.1.1. In total 12 trees and one tree group were included in the field assessment. Five different tree species were identified with a life-stage range from semi-mature to ancient. The table below lists the trees included in the tree survey and details the tree id, the species, the BS 5837 tree category, the life stage, and the quality assessment:

Table 3: Description of the trees included in the field assessment.

Tree No	Tree Species	CAT *BS5837*	Life-stage assessment - Description
T1719	*Acer pseudoplatanus* Sycamore	A2	Late mature – High quality tree with an estimated remaining life expectancy of 40+ years.
T1720	*Aesculus hippocastanum* Horse chestnut	C2	Late mature – Low quality tree with an estimated remaining life expectancy of 10+ years. The crown of the tree has been completely removed leaving an approximately 8 m tall artificial snag. There is a large cavity at the base of the trunk and wood decay fungi are active. The tree is still alive as it has sprouted around the trunk. The snag has a number of potential habitat features.

Tree No	Tree Species	CAT *BS5837*	Life-stage assessment - Description
T1721	*Fagus sylvatica* Common Beech	A3	Ancient[2] - High quality tree with an estimated remaining life expectancy of 40+ years. The tree is locally important with significant conservation and historical value. The girth of the tree measured at breast height is approximately 4.8 m. According to White's[3] age estimation method the tree is close to 300 years old.
T1722, T1724, T1726	*Populus nigra* Black popular	A2 B2 A2	Mature, early mature – High to moderate quality trees with an estimated remaining life expectancy of 20-40 years. The trees are established along the edge of the woodland.
T1723, T1725, T1727	*Acer pseudoplatanus* Sycamore	C2	Early mature – Low quality trees with an estimated remaining life expectancy of 10+.
T1728, T1730	*Fagus sylvatica* Common Beech	B2 C2	Mature, late mature – Moderate to low quality trees with an estimated remaining life expectancy of 10-20 years.
T1729, TG1	*Prunus avium* Wild Cherry *Acer pseudoplatanus* Sycamore	C2	Semi-mature, early mature - Low quality trees with an estimated remaining life expectancy of 10+.

3. TREE PROTECTION MEASURES

3.1. Tree Works to Facilitate Development

3.1.1. All tree works should be carried out in accordance with the recommendations given in BS 3998:2010 Tree work - Recommendations[4] and current Health & Safety guidelines. The planned removal of trees and vegetation should not negatively impact on any of the retained trees or their root protection areas (RPAs). Prior to the commencement of any tree works, the trees and their surroundings should be assessed for the presence of any seasonal nesting sites, potential roost features or protected species.

[2] Lonsdale, David (2013). *Ancient and other veteran trees: further guidance on management.* The tree council.
[3] White, John (1998). *Estimating the age of large and veteran trees in Britain.* Forestry commission.
[4] The British Standards Institution (2010) *BS 3998:2010 Tree work – Recommendations.* BSI Standards Limited.

In accordance with Section 40 of the Wildlife Act 1976 (as amended 2000) the tree works, and removal of hedges and ivy should be scheduled outside of the nesting season (1st of March to 31st of August). The removal of ivy should be carried out with handsaws (silky saws) to avoid bark and trunk damage. Table 4 below describes the list of tree works necessary to facilitate access to the working area, improve headroom and tree safety.

Table 4: Description of the Tree Works.

Tree No	Description of Tree Work
4 x dead trees	Fell 4 x dead trees close to the steps
Scrub	Remove the scrub 1.5 m clear of the existing steps to allow access to the working area.
T1722	Remove ivy to 1 m from ground level.
T1723	Crown raise to improve headroom approximately 2.5 - 3 m above ground level (could be considered for removal).
T1724	Remove ivy to 1 m from ground level.
T1725	Remove ivy to 1 m from ground level. Crown raise to improve headroom approximately 2.5 – 3 m above ground level.
T1726	Remove ivy to 1 m from ground level.
T1727	Remove ivy to 1 m from ground level. Crown raise to improve headroom approximately 2.5 – 3 m above ground level.
T1728	Remove ivy to 1 m from ground level.
T1729	Target prune the eastern limb overhanging the footpath/road. Codominant union with bark inclusion, high risk of failure.
T1730	Remove ivy to 1 m from ground level. Structural assessment within 3 years.

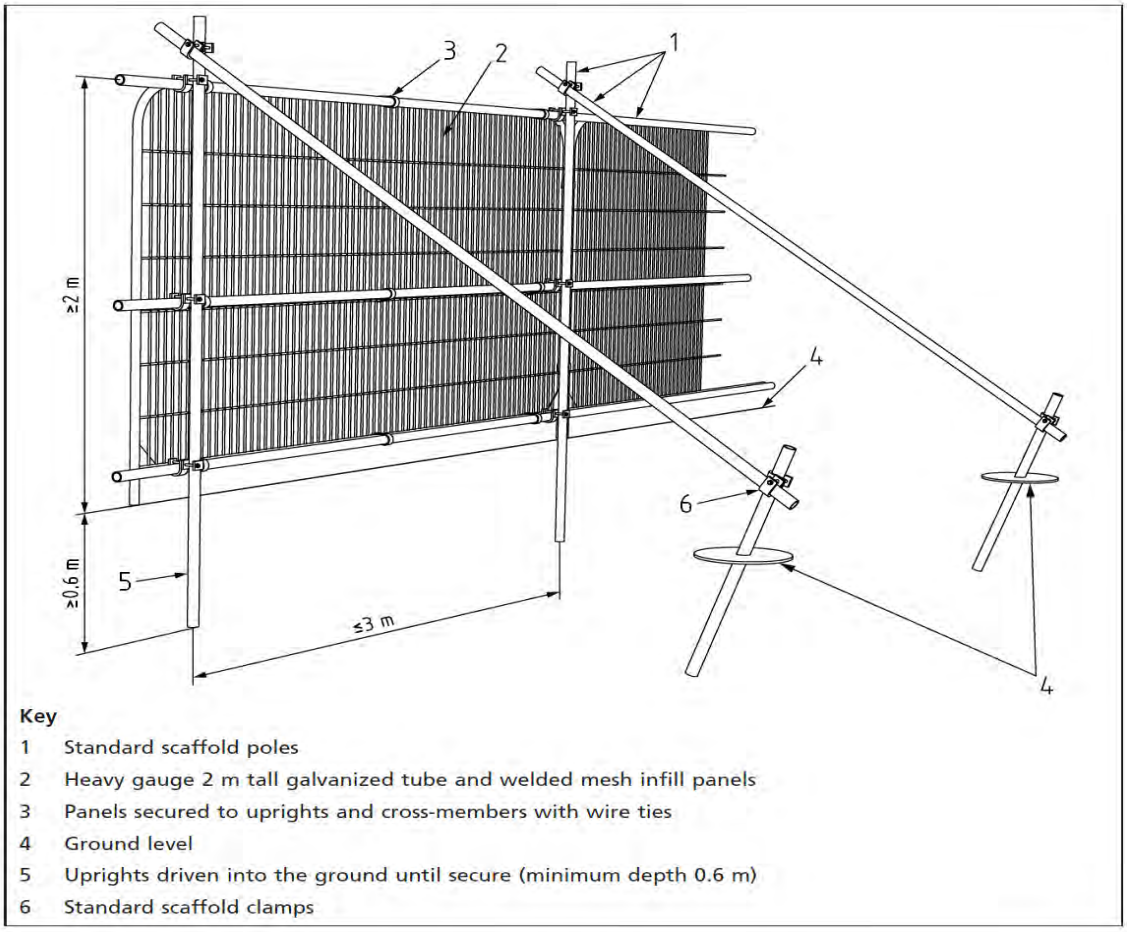
3.2. Tree Protection Fencing

3.2.1. The tree protection fencing is designed to create a construction exclusion zone around the retained trees to protect the critical root mass from negative impacts. The root protection areas are highlighted with magenta on the tree protection plan. The tree protection fencing should be installed before the construction activities commence. The alignment of the tree protection fencing follows the edge of the temporary ground protection and the existing pathways. The layout of the fencing should resemble what is detailed on the tree protection plan (TS_TPP_5_9_22).

3.2.2. The tree protection fencing should be fit for purpose and well braced to resist impacts. Signs will be erected on the fences stating ‘CONSTRUCTION EXCLUSION ZONE – NO ACCESS’. The main contractor will inform the tree owner that the tree protection

fencing, and signage is in place before construction activities commence. The fencing arrangement will be inspected by the site manager and the tree owner and signed off for use if satisfied. The default specification for the protective barriers is shown in figure 1 below. The fencing should remain in place for the duration of the construction period.

Figure 1: British Standard BS 5837: TREE PROTECTIVE FENCING



3.3. Temporary Ground Protection

3.3.1. Where temporary access for construction activities is required in the root protection areas (RPAs) of retained trees, temporary ground protection is necessary. The purpose of temporary ground protection is to prevent disturbance of the underlying soil (rooting environment) and maintain the soils capacity to support existing and new roots.

3.3.2. The existing steps are to be upgraded with a new ramp and rail system, a 1.5 m working area with ground protection has been specified to facilitate access and protect the RPAs. The ground protection measures should be installed after the tree protection measures have been put in place. The ground protection should consist of

a layer of geotextile membrane, 150 mm depth of woodchip, and a final layer of ground protection boards placed on top of the woodchip. The ground protection boards should be pinned into position and suitable to take loads of up to two tonnes. The mixing of cement, washing of tools and any other contaminating activities e.g., fueling should be directed well outside of the RPAs.

Figure 2: *An example of temporary ground protection. The 150 mm woodchip is spread on top of a geotextile membrane and heavy-duty plywood is pinned in place to spread the loading and prevent compaction of the underlying soil.*

3.4. Tree Protection Compliance

3.4.1. The construction site manager will be responsible for ensuring the tree protection and ground protection measures have been installed correctly, and that they remain in place for the duration of the construction phase. Where further clarification on tree related issues is required the site manager can consult with the retained consulting arborist. The stages of compliance with the tree protection measures will include the following:

1) Confirm the trees highlighted for removal with the tree work contractor.
2) Confirm the tree pruning work with the tree work contractor.
3) Confirm the location of the tree protection fencing with the fencing contractor.
4) Sign off on the tree protection fencing once it has been installed in the correct alignments.

5) Confirm the process of temporary ground protection and sign off once installed.
6) Monitor any potential conflicts between trees and construction traffic.
7) Monitor the health and vitality of the retained trees and make provisions for any further mitigation measures that may be required.

Appendix 1


T1719


T1720


T1721


T1722-T1726


T1727-T1728


T1729


T1730


TG1

Appendix 2

Tree Schedule Key

Tree/Group number	Reference number for individual trees or groups of trees, prefixed by T (Tree), TG (Tree Group), W (Woodland), H (Hedge) or S (Shrub) to indicate the type of feature
Tree Count	Number of trees of a particular species recorded within a group feature, with the default value of 1 for single trees.
Species	Scientific name followed by common name
Height (m)	Tree height to the nearest metre, measured with a Haglofs Clinometer or estimated.
Stem Count	Number of stems. Stem count indicates whether the tree is single-stemmed or multi-stemmed and informs the RPA calculation.
Stem Diameter	Stem diameter measured at 1.5m above ground level in accordance with Annex C of BS5837:2012.
Crown Spread	Distance from the stem position to the crown periphery in the four cardinal directions.
First Significant Branch Height (m) – Direction of growth	Distance between the ground and lowest significant branch and the direction of growth.
Canopy Clearance Height (m)	Distance between the ground and the lowest point of the crown periphery, estimated to the nearest half metre.
Life-stage	Young, Semi-mature, Early mature, Mature, Late Mature, Ancient or Veteran
Physiological Condition	Good, Normal, Fair, Poor, Dead
Observations	General description of the tree or tree group, including basic features and morphology, structural and physiological condition, growing conditions and surroundings.
Recommendations	Management recommendations for tree works to address immediate unacceptable risks, or to facilitate development proposals.
Estimated Remaining Contribution (years)	Estimated number of years for which the tree will continue to make a positive contribution to the site, banded as <10yrs, 10-20yrs, 20-40yrs, 40+.
Retention Category	Quality and value category as defined in table 1 of BS5837:2012 (see following page for full description)
Retention Sub-category	One or more sub-categories as defined in table 1 of BS5837:2012 (see following page for full description)

RPR (m)	Radius of the RPA, in metres, when this is plotted as a circle around the tree stem
RPA (m^3)	Root protection area calculated from the stem diameter according to the formula in BS5837:2012. The RPA is the minimum area required to maintain tree viability.

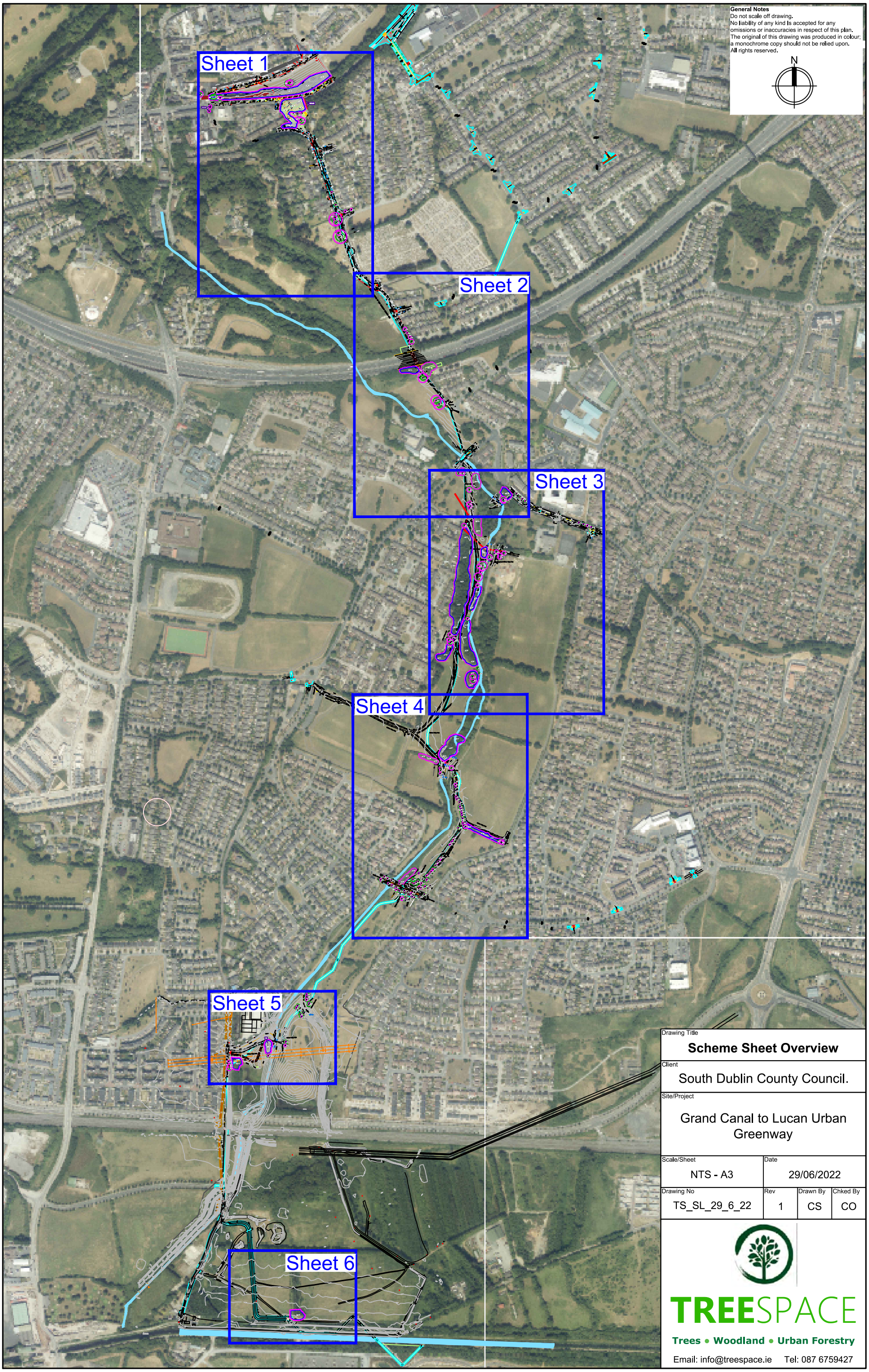
Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those 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	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix 3

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m) N	E	S	W	First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years: <10, 10-20, 20-40, 40+	Retention category	Retention Sub-category	RPR (M)	RPA(M^2)
T1719	1	*Acer pseudoplatanus* Sycamore	1	1095	24	12	6.4	8.6	10	4-s	3	Late-mature	Normal	Structural condition appears good. Ivy has been severed around the base of the trunk, it is beginning to die off. Higher part of the trunk and limbs are still obscured by ivy. There are some cavities and light deadwood in the crown which is normal for the life stage.	none	40+	A	2	13	542
T1720	1	*Aesculus hippocastanum* Horse chestnut	1	1305	8	1.5	1.5	1.5	1.5	0	0	Late-mature	Fair	The whole crown of the tree has been removed leaving an 8 m monolith. There is dense reaction growth around the trunk and base of the tree. Major cavity on the northern side of the trunk with evidence of fire damage. Fungal fruit bodies are active. The remaining outer shell of wood and buttresses appear sound.	Structural reassessment within 3 years.	10-20	C	2	15	707
T1721	1	*Fagus sylvatica* Common Beech	1	1528	25	12	11	11	12	8-s	1	Ancient	Normal	Structural condition generally appears good. Ivy has been severed around the base of the trunk. Co-dominance between the two major stems approximately 6 m from ground level, partial bark inclusion in the union. Tree has been crown raised in the past with one major limb removed, fungal bracket active next to the stump. Some minor deadwood in the crown which is normal for the life stage.	Structural reassessment within 3 years.	40+	A	3	15	707
T1722	1	*Populus nigra* Black popular	1	500	25	4.6	4.9	2.8	3.3	10-s	10	Mature	Normal	Trunk is obscured by ivy, general structural condition appears good. Some minor deadwood below the live crown.	Remove ivy to 1 m from ground level.	40+	A	2	6	113
T1723	1	*Acer pseudoplatanus* Sycamore	1	270	10	5.7	2	2	5.6	0	0	Early-mature	Normal	Crown is heavily suppressed by neighbouring trees. Crown has an asymmetric shape weighted to the northwest. Limbs are over extended.	Crown raise or consider removal.	10-20	C	2	3.2	33

Tree/Tree group number	No. of trees	Species	Stem count	Stem diameter (mm)	Height (m)	Crown spread (m) N	E	S	W	First significant branch (Ht m) - direction of growth	Canopy clearance Ht (m)	Life stage: Y-SM-EM-M-LM	Physiological Condition: G-N-F-P-D	Observations	Preliminary management recommendations	Remaining contribution in years: <10, 10-20, 20-40, 40+	Retention category	Retention Sub-category	RPR (M)	RPA(M²)
T1724	1	*Populus nigra* Black popular	1	400	18	3.8	3	1	3.5	2.5-e	10	Mature	Normal	Trunk is heavily obscured by ivy, minor codominance 3 m from ground level, union is not visible. Some minor deadwood below the live crown.	Remove ivy to 1 m from ground level.	20-40	B	2	4.8	72
T1725	1	*Acer pseudoplatanus* Sycamore	1	230	12	4.2	3	1.5	1.5	3-n	2	Early-mature	Normal	Trunk and limbs are heavily obscured by ivy. Crown is suppressed by neighbouring trees, over extended limbs to the north.	Remove ivy to 1 m from ground level. Consider crown raise.	10-20	C	2	2.8	24
T1726	1	*Populus nigra* Black popular	1	480	27	4.7	5	4.5	4.5	13-e	12	Early-mature	Normal	Trunk is obscured by ivy, general structural condition appears good. Some minor deadwood below the live crown.	Remove ivy to 1 m from ground level.	40+	A	2	5.8	104
T1727	1	*Acer pseudoplatanus* Sycamore	1	240	12	3.5	1.5	3	3.5	0	0	Early-mature	Normal	Trunk and limbs are heavily obscured by ivy. Crown is suppressed by neighbouring trees, over extended limbs to the north.	Remove ivy to 1 m from ground level. Consider crown raise.	10-20	C	2	2.9	26
T1728	1	*Fagus sylvatica* Common Beech	1	900	15	6.5	4	4	6	5-w	3	Mature	Normal	Trunk and limbs are heavily obscured by ivy. Tree has been heavily topped in the past. New crown is beginning to develop from the pruning wound.	Remove ivy to 1 m from ground level.	20-40	B	2	11	366
T1729	1	*Prunus avium* Wild Cherry	1	200	6	3.3	3.2	2	3	2-n	2	Semi-mature	Normal	Most likely a self seeded tree. Co-dominance 1 m from ground level with bark inclusion. Eastern limb is likely to fail and land on the footpath/road.	Remove the eastern limb overhanging the footpath/road	10-20	C	2	2.4	18
T1730	1	*Fagus sylvatica* Common Beech	1	1273	16	7	3	12	7.8	6-w	6	Late-mature	Normal	Trunk and limbs are heavily obscured by ivy. Tree has been heavily topped in the past. Major cavity on the eastern side of the trunk at ground level, fungal brackets active.	Remove ivy to 1 m from ground level. Structural assessment within 3 years.	10-20	C	2	15	707
TG1	13	*Acer pseudoplatanus* Sycamore	13	avg 200	15	see drawings				0	0	Early-mature	Normal	Moderate to low quality tree group with understorey of dense scrub.	none	10-20	C	2	###	###



General Notes
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Drawing Title
Scheme Sheet Overview

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
NTS - A3	29/06/2022		
Drawing No	Rev	Drawn By	Chked By
TS_SL_29_6_22	1	CS	CO

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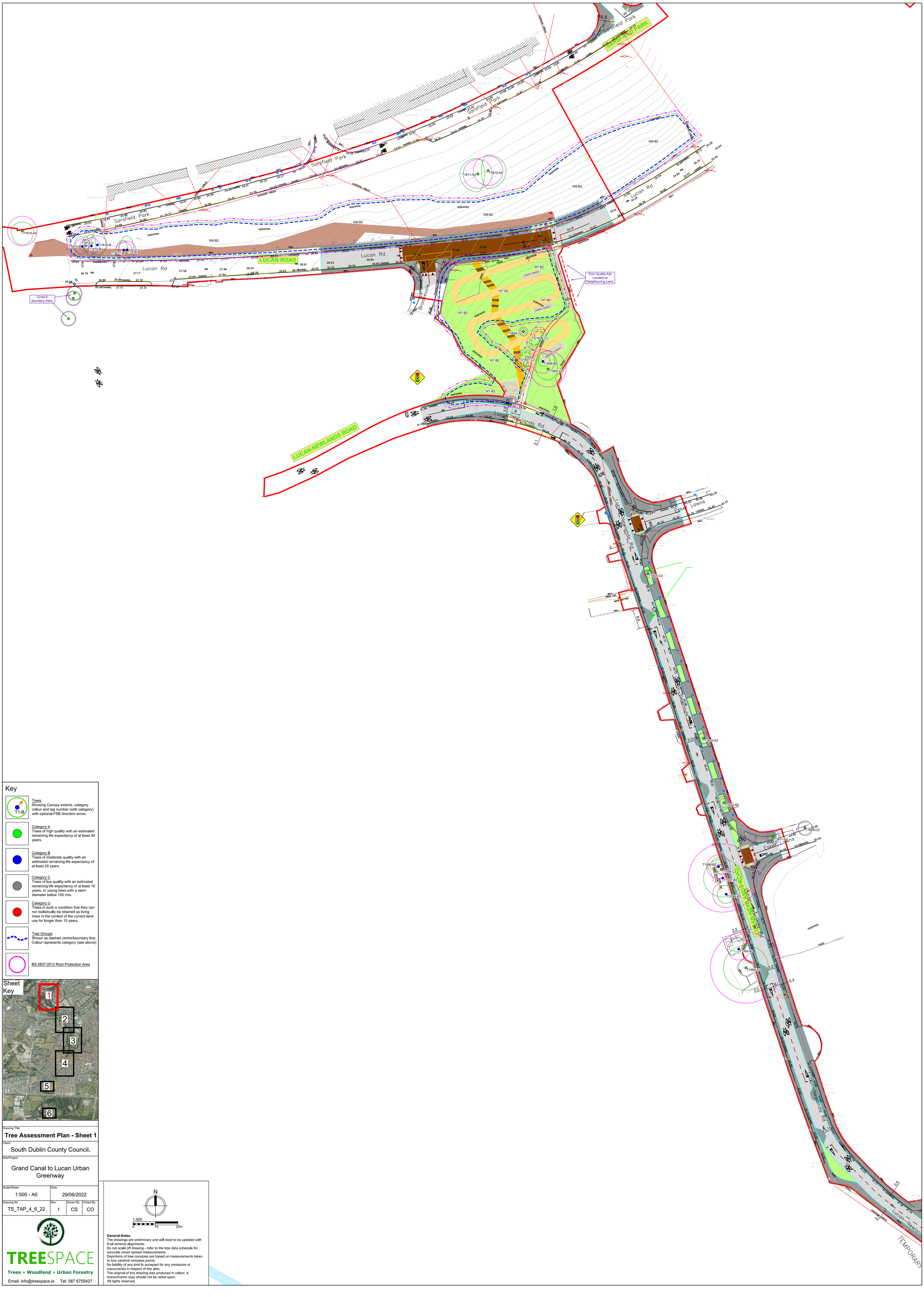

Key

Trees
Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow.

Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

Category C
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.

Category U
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.

Tree Groups
Shown as dashed centre/boundary line. Colour represents category (see above)

BS 5837:2012 Root Protection Area

Sheet Key

Drawing Title
Tree Assessment Plan - Sheet 1

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
1:500 - A0	29/06/2022		
Drawing No	Rev	Drawn By	Chked By
TS_TAP_4_6_22	1	CS	CO

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General Notes
The drawings are preliminary and will need to be updated with final scheme alignments.
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
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TEMPORARY FENCE OF NEW CEMETERY BUILDING SITE

Lucan–Newlands Rd

Cherbury Park Rd

CHERBURY PARK AVENUE

R2

N4 East Bound

N4 West Bound

TG1588-B2

TG1587-C2

TG1572-C2

TG1575-B2

T1593-B2
T1592-C2
T1591-C2
T1590-C2
T1589-B2
T1586-B2
T1585-A2
T1584-B2
T1571-B2
T1570-B2
T1569-A2
T1568-A2
T1567-A2
T1566-A2
T1565-B2
T1564-B2
T1573-B3
T1574-A3
T1576-A2
T1577-A2
T1578-A2
T1579-A2

Esker Ln

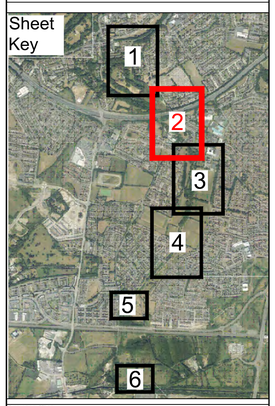
Griffeen Valley Park

UPPER GRIFFEEN VALLEY PARK

Key

- **Trees** — Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow.
- **Category A** — Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- **Category B** — Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- **Category C** — Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
- **Category U** — Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
- **Tree Groups** — Shown as dashed centre/boundary line, Colour represents category (see above)
- **BS 5837:2012 Root Protection Area**

Sheet Key



Drawing Title
Tree Assessment Plan - Sheet 2

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

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Key

Trees
Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow.

Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

Category C
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.

Category U
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.

Tree Groups
Shown as dashed centre/boundary line. Colour represents category (see above)

BS 5837:2012 Root Protection Area

Sheet Key: 1, 2, 3, 4, 5, 6

General Notes
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Drawing Title			
Tree Assessment Plan - Sheet 3			
Client: South Dublin County Council.			
Site/Project: Grand Canal to Lucan Urban Greenway			
Scale/Sheet: 1:500 - A0	Date: 29/06/2022		
Drawing No: TS_TAP_4_6_22	Rev: 1	Drawn By: CS	Chked By: CO

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Griffeen Valley Park

GRIFFEEN VALLEY PARK

GRIFFEEN VALLEY PARK

GRIFFEEN AVENUE

Griffeen Avenue

W1-B2

W2-B2

H1-C2

H2-C2

H3-C2

H4-B2

H5-C2

H6-C2

T1540-C2

T1539-C2

T1538-B2

T1537-B2

T1536-A2

T1535-A2

T1534-A2

T1533-A2

T1532-A2

T1531-A2

T1530-C2

T1529-A2

T1528-B2

T1527-B2

T1526-A2

T1525-A2

T1524-A2

T1523-B2

T1522-B2

T1521-B2

T1520-B2

T1519-B2

T1518-B2

T1517-B2

T1516-B2

T1515-B2

T1514-B2

T1513-B2

T1512-B2

T1511-A2

T1510-A2

T1509-B2

T1508-B2

T1507-C2

T1506-A2

T1505-A2

T1504-A2

T1503-A2

T1502-A2

T1501-A2

T1500-B2

T1499-A2

T1498-A2

T1497-A2

T1496-A2

T1495-A2

T1494-A2

T1493-A2

T1492-A2

T1491-A2

T1490-A2

T1489-A2

T1488-C2

T1487-C2

T1486-A2

T1485-A2

T1484-A2

T1483-A2

T1482-A2

T1481-A2

T1480-A2

T1479-A2

T1478-A2

T1477-A2

T1476-A2

T1475-B2

T1474-A2

T1473-A2

T1472-A2

T1471-A2

T1470-B2

T1469-C2

T1468-U

T1467-C2

T1466-B2

T1465-A2

T1464-A2

T1463-A2

T1462-B2

T1461-A2

47.45 WBL 48.03 WATER LEVEL

47.82 WBL 48.18 WATER LEVEL

47.89 WBL 48.20 WATER LEVEL

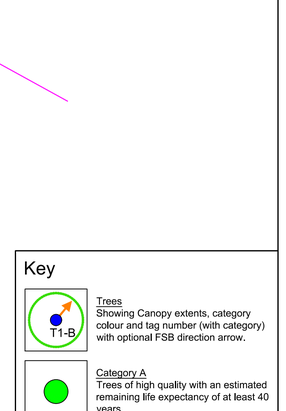
48.28 PIPE

48.26 PIPE

Key

- **Trees** — Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow. (T1-B)
- **Category A** — Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- **Category B** — Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- **Category C** — Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
- **Category U** — Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
- **Tree Groups** — Shown as dashed centre/boundary line. Colour represents category (see above)
- **BS 5837:2012 Root Protection Area**

Sheet Key



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General Notes

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Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
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Drawing Title

Tree Assessment Plan - Sheet 4

Client

South Dublin County Council.

Site/Project

Grand Canal to Lucan Urban Greenway

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General Notes
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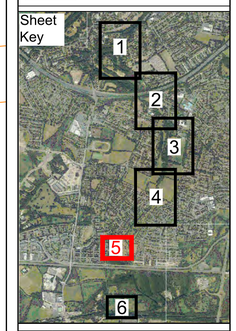
Key

- Trees — Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow.
- Category A — Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- Category B — Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- Category C — Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
- Category U — Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
- Tree Groups — Shown as dashed centre/boundary line. Colour represents category (see above)
- BS 5837:2012 Root Protection Area

Sheet Key



Drawing Title
Tree Assessment Plan - Sheet 5

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
1:400 - A1	29/06/2022		
Drawing No	Rev	Drawn By	Chked By
TS_TAP_4_6_22	1	CS	CO

TREESPACE
Trees • Woodland • Urban Forestry
Email: info@treespace.ie Tel: 087 6759427

N

1:400

0 10 20m

General Notes
The drawings are preliminary and will need to be updated with final scheme alignments.
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No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour; a monochrome copy should not be relied upon.
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Key

Trees
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Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

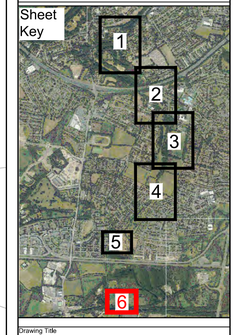
Category C
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.

Category U
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.

Tree Groups
Shown as dashed centre/boundary line. Colour represents category (see above)

BS 5837:2012 Root Protection Area

Sheet Key



Drawing Title
Tree Assessment Plan - Sheet 6

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date
1:400 - A1	29/06/2022

Drawing No	Rev	Drawn By	Chked By
TS_TAP_4_6_22	1	CS	CO

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TG1440-B2

CLONBURRIS SDZ

GRAND CANAL

Vegetation

Edge of Road

Edge of Track

Grass

Slope Top

Slope Bottom

Ditch

Gravel

Asphalt

Footpath

Overhead Wires

PIPE OUTFLOW Ø800

POLE

CCTV

LP

RS

TP

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T1719-A2
T1730-C2
T1720-C2
TG1-C2
T1721-A3
T1727-C2
T1728-B2
T1726-A2
T1725-C2
Dead Trees
T1723-C2
T1724-B2
T1722-A2
R2
R2.3
Lucan Road
26.4
69
14
40
STOP
GIVE WAY
LUCAN HEIGHTS
SARSFIELD PARK
R4.5
3.5

Key

Trees
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Category U
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.

Dead Trees

Tree Groups
Shown as dashed centre/boundary line. Colour represents category (see above)

BS 5837:2012 Root Protection Area

N
1:300
0 5 10m

Drawing Title
Tree Assessment Plan

Client
South Dublin County Council

Site/Project
Grand Canal to Lucan Urban Greenway - Sarsfield Park Section

Scale/Sheet	Date			
1:300 - A2	02/08/2022			
Drawing No	Rev	Drawn By	Chkd By
TS_TAP_2_8_22	1	CS	CO

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Circle K boundary trees.

Poor Quality Ash Located on Neighbouring Land.

Key

Trees
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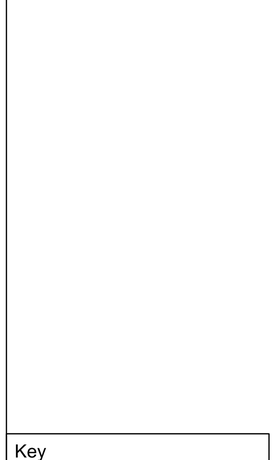
Tree Groups
Shown as dashed centre/boundary line. Colour represents category (see above)

BS 5837:2012 Root Protection Area

Sheet Key



Drawing Title
Tree Constraints Plan - Sheet 1

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
1:500 - A0	29/06/2022		
Drawing No	Rev	Drawn By	Chked By
TS_TCP_2_6_22	1	CS	CO

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N
1:500
0 10 20m

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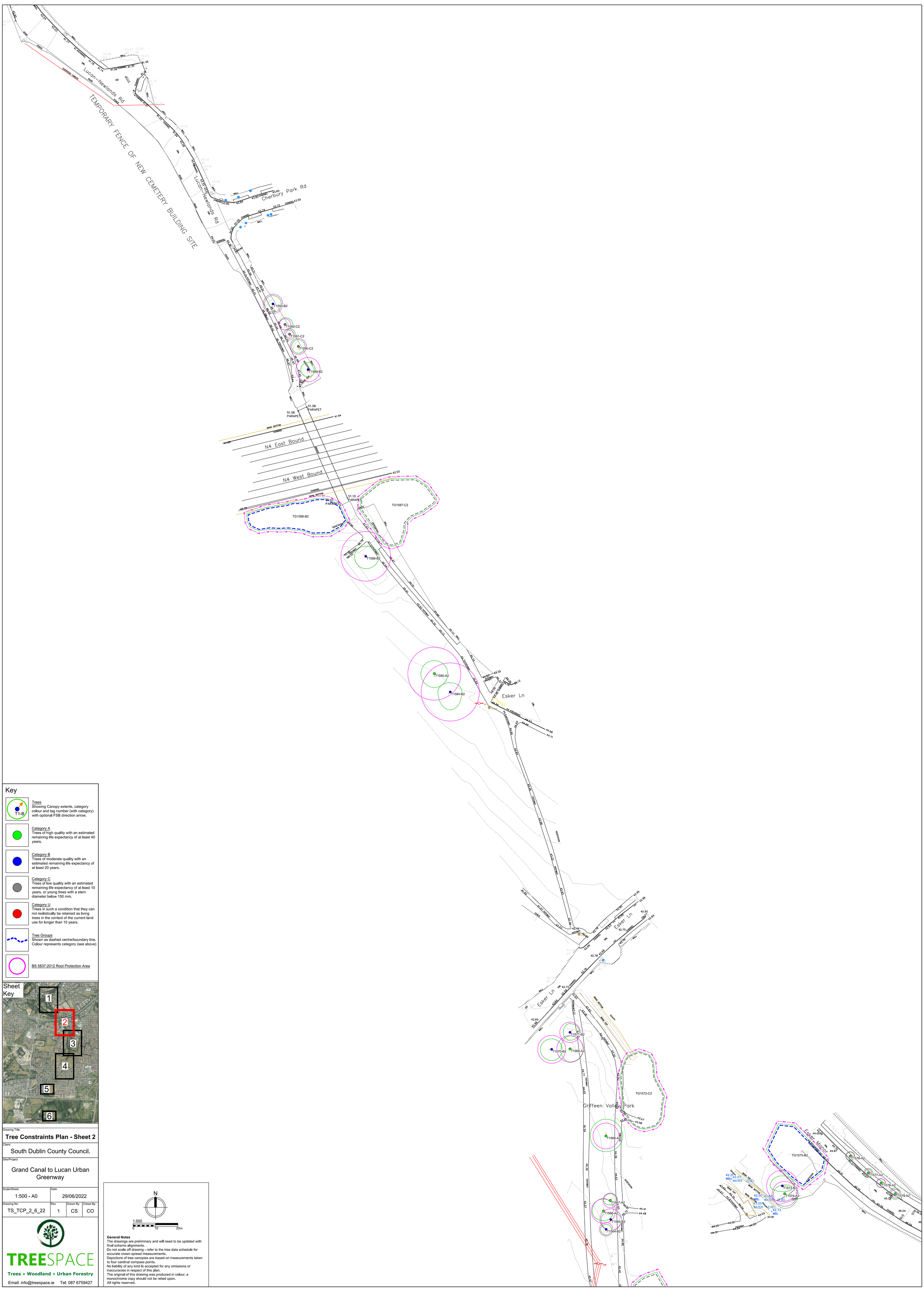

Key

Trees
Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow.

Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years.

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Category C
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Category U
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.

Tree Groups
Shown as dashed centre/boundary line. Colour represents category (see above)

BS 5837:2012 Root Protection Area

Sheet Key

Drawing Title
Tree Constraints Plan - Sheet 2

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
1:500 - A0	29/06/2022		
Drawing No	**Rev**	**Drawn By**	**Chked By**
TS_TCP_2_6_22	1	CS	CO

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N
1:500
0 10 20m

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Key

Trees
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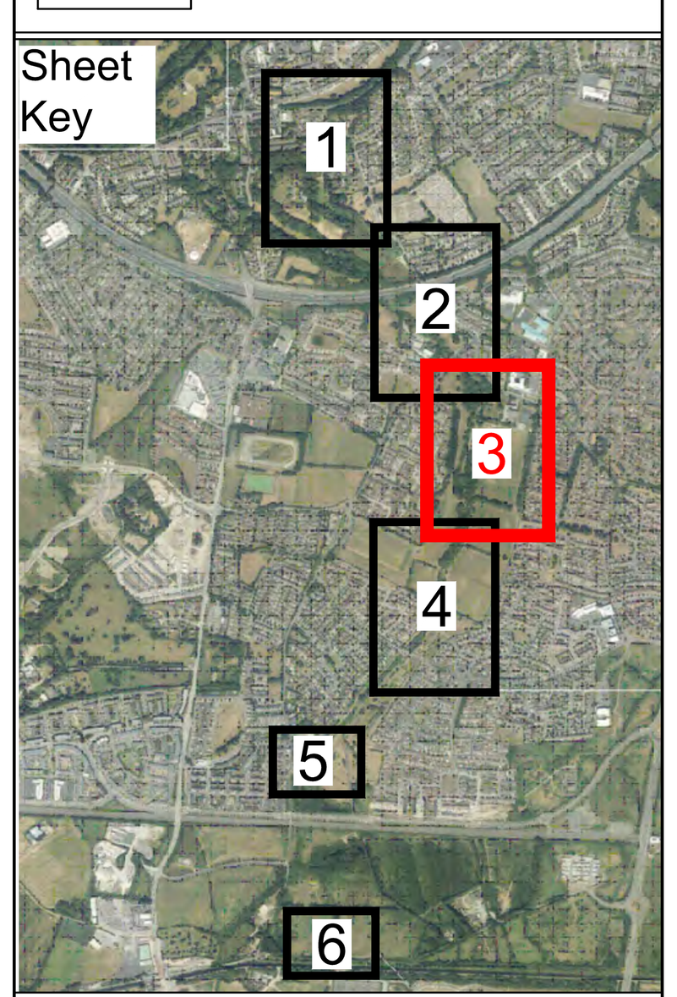
Tree Groups
Shown as dashed centre/boundary line. Colour represents category (see above)

BS 5837:2012 Root Protection Area



Drawing Title
Tree Constraints Plan - Sheet 3

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
1:500 - A0	29/06/2022		
Drawing No	Rev	Drawn By	Chked By
TS_TCP_2_6_22	1	CS	CO

N
1:500
0 10 20m

General Notes
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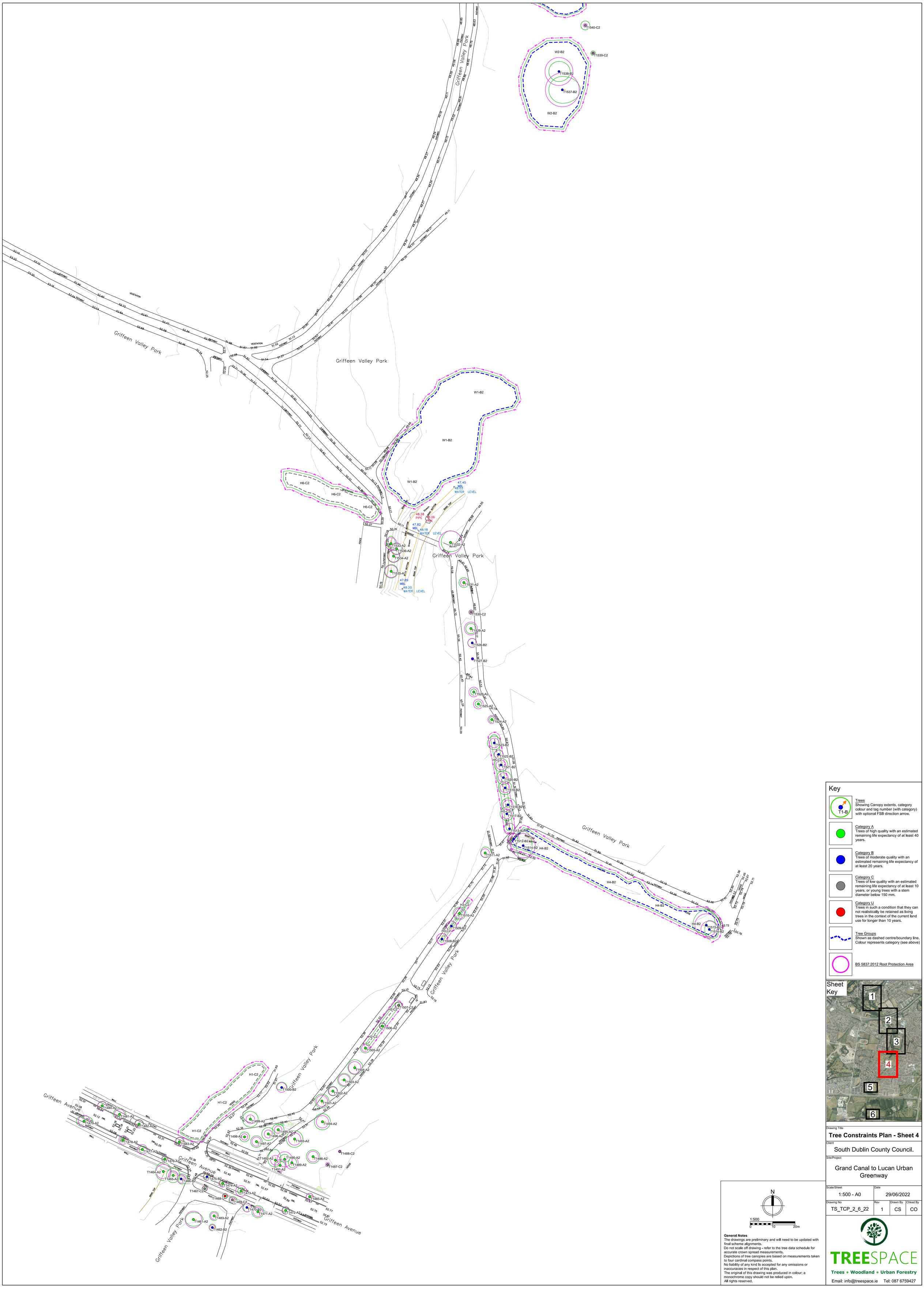

Key

- **Trees** — Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow.
- **Category A** — Trees of high quality with an estimated remaining life expectancy of at least 40 years.
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- **Tree Groups** — Shown as dashed centre/boundary line. Colour represents category (see above)
- **BS 5837:2012 Root Protection Area**

Sheet Key

N

1:500
0 10 20m

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Drawing Title
Tree Constraints Plan - Sheet 4

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
1:500 - A0	29/06/2022		
Drawing No	Rev	Drawn By	Chked By
TS_TCP_2_6_22	1	CS	CO

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N

1:400

0 10 20m

General Notes

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Key

- **Trees** — Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow. (T1-B)
- **Category A** — Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- **Category B** — Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
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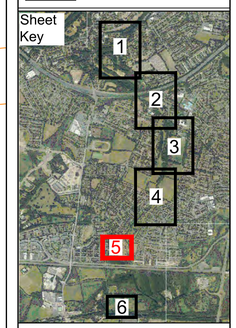
- **Tree Groups** — Shown as dashed centre/boundary line. Colour represents category (see above)
- **BS 5837:2012 Root Protection Area**

Sheet Key



Drawing Title
Tree Constraints Plan - Sheet 5

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
1:400 - A1	29/06/2022		
Drawing No	**Rev**	**Drawn By**	**Chked By**
TS_TCP_2_6_22	1	CS	CO

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N

1:400
0 10 20m

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Key

- Trees — Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow.
- Category A — Trees of high quality with an estimated remaining life expectancy of at least 40 years.
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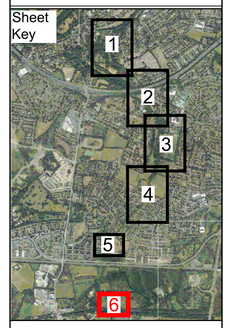
- Tree Groups — Shown as dashed centre/boundary line. Colour represents category (see above)
- BS 5837:2012 Root Protection Area

Sheet Key



Drawing Title
Tree Constraints Plan - Sheet 6

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
1:400 - A1	29/06/2022		
Drawing No	Rev	Drawn By	Chked By
TS_TCP_2_6_22	1	CS	CO

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General Notes
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T1719-A2
T1730-C2
T1720-C2
TG1-C2
T1721-A3
T1727-C2
T1729-C2
T1728-B2
Dead Trees
T1726-A2
T1725-C2
T1723-C2
T1724-B2
T1722-A2
Lucan Road

Key

- Trees (T1-B) — Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow.
- Category A — Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- Category B — Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- Category C — Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
- Category U — Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
- Dead Trees
- Tree Groups — Shown as dashed centre/boundary line. Colour represents category (see above)
- BS 5837:2012 Root Protection Area

N

1:200
0 5 10m

Drawing Title: **Tree Constraints Plan**				
Client: South Dublin County Council				
Site/Project: Grand Canal to Lucan Urban Greenway - Sarsfield Park Section				
Scale/Sheet: 1:200 - A2	Date: 01/08/2022			
Drawing No: TS_TCP_1_8_22	Rev: 1	Drawn By: CS	Chked By: CO	

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LUCAN ROAD

LUCAN-NEWLANDS ROAD

SARSFIELD PARK

Circle K boundary trees.

Boardwalk to be adjusted to retain T1613-T1618.

Approximately 900m2 of Woodland 8 to be removed.

Poor Quality Ash Located on Neighbouring Land.

W7 to be removed.

W7 to be removed.

TG1607, TG1608 and T1609 to be removed.

No-dig Paving Solution.

Tree protection fencing.

Tree protection fencing to follow existing grass verge, Scheme alignment to be adjusted to retain grass verge.

Tree protection fencing to follow existing grass verge, Scheme alignment to be adjusted to retain grass verge.

Tree protection fencing to follow edge of existing grass verge.

TEMPORARY

Key

- **Trees** — Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow.
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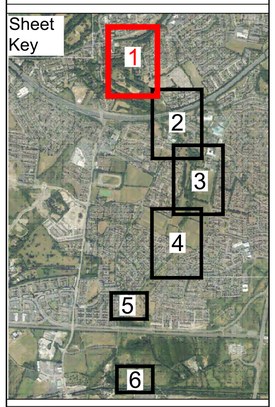
- **Tree Groups** — Shown as dashed centre/boundary line. Colour represents category (see above)
- **BS 5837:2012 Root Protection Area**
- **Tree Protective Fencing**
- **Trees for Removal**
- **No dig Paving Solution**

Sheet Key



Drawing Title
Tree Removal & Protection Plan - Sheet 1

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
1:500 - A0	29/06/2022		
Drawing No	**Rev**	**Drawn By**	**Chked By**
TS_TPP_14_6_22	1	CS	CO

TREESPACE
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N

1:500
0 10 20m

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TEMPORARY FENCE OF NEW CEMETERY BUILDING SITE

Lucan–Newlands Rd

Cherbury Park Rd

CHERBURY PARK AVENUE

R2

N4 East Bound

N4 West Bound

Tree protection fencing to follow edge of existing grass verge.

Tree protection fencing.

Tree protection fencing to follow edge of existing pathways.

T1593-B2
T1592-C2
T1591-C2
T1590-C2
T1589-B2
T1588-B2
T1587-C2
T1586-B2
T1585-A2
T1584-B2
TG1588-B2
TG1587-C2
TG1572-C2
TG1575-B2

Esker Ln

UPPER GRIFFEEN VALLEY PARK

Griffeen Valley Park

T1571-B2
T1570-B2
T1569-A2
T1568-A2
T1567-A2
T1566-A2
T1565-B2
T1564-B2
T1573-B3
T1574-A3
T1576-A2
T1577-A2
T1578-A2
T1579-A2

Key

- **T1-B** — Trees: Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow.
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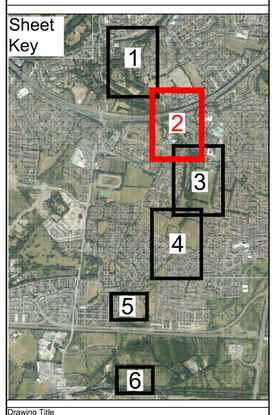
- Tree Groups: Shown as dashed centre/boundary line. Colour represents category (see above)
- BS 5837:2012 Root Protection Area
- Tree Protective Fencing
- Trees for Removal

Sheet Key



Drawing Title
Tree Removal & Protection Plan - Sheet 2

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
1:500 - A0	29/06/2022		
Drawing No	**Rev**	**Drawn By**	**Chked By**
TS_TPP_14_6_22	1	CS	CO

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N

1:500
0 10 20m

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Griffeen Valley Park

Esker Manor

Playground Griffeen Valley Park

Arthur Griffeen Park

Ash Park Avenue

Griffeen Rd

ESKER MANOR

GRIFFEEN VALLEY PARK

PLAYGROUND

Tree protection fencing.

Tree protection fencing to follow edge of existing grass verge.

Tree protection fencing to follow edge of existing pathways.

T1580 & T1581 to be removed.

T1570-B2 T1569-A2 T1571-B2 T1568-A2 T1567-A2 T1566-A2 T1565-B2 T1564-B2 T1563-B2 T1562-C2 TG1562-C2 TG1572-C2 TG1575-B2 T1573-B3 T1574-A3 T1576-A2 T1577-A2 T1578-A2 T1579-A2 T1580-B2 T1581-B2 T1582-B2 T1583-B2 T1584-B2 T1585-B2 T1586-B2 T1587-B2 T1588-B2 T1589-B2 T1590-B2 T1591-B2 T1592-B2 T1593-B2 T1594-B2 T1595-B2 T1596-B2 T1597-B2 T1598-B2 T1599-B2 T1600-B2 T1601-B2 T1602-B2 T1603-B2 T1604-B2 T1605-B2 T1606-B2 T1607-B2 T1608-B2 T1609-B2 T1610-B2 T1611-B2 T1612-B2 T1613-B2 T1614-B2 T1615-B2 T1616-B2 T1617-B2 T1618-B2 T1619-B2 T1620-B2 T1621-B2 T1622-B2 T1623-B2 T1624-B2 T1625-B2 T1626-B2 T1627-B2 T1628-B2 T1629-B2 T1630-B2 T1631-B2 T1632-B2 T1633-B2 T1634-B2 T1635-B2 T1636-B2 T1637-B2 T1638-B2 T1639-B2 T1640-B2 T1641-B2 T1642-B2 T1643-B2 T1644-B2 T1645-B2 T1646-B2 T1647-B2 T1648-B2 T1649-B2 T1550-B2 T1551-B2 T1552-B2 T1553-C2 T1554-A2 T1555-A2 T1556-B2 T1557-B2 T1558-B2 T1559-B2 T1560-B2 TG1561-B2 T1540-C2 T1539-C2 T1538-B2 T1537-B2 T1547-A2 T1548-C2 W1-B2 W2-B2 W3-B2 W4-B2 W5-B2 W6-B2

Key

- **Trees** — Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow. (T1-B)
- **Category A** — Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- **Category B** — Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- **Category C** — Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
- **Category U** — Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
- **Tree Groups** — Shown as dashed centre/boundary line. Colour represents category (see above)
- **BS 5837:2012 Root Protection Area**
- **Tree Protective Fencing**
- **Trees for Removal**

Sheet Key

1 2 3 4 5 6

N

1:500

0 10 20m

General Notes

The drawings are preliminary and will need to be updated with final scheme alignments.
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour; a monochrome copy should not be relied upon.

Drawing Title
Tree Removal & Protection Plan - Sheet 3

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
1:500 - A0	29/06/2022		
Drawing No	Rev	Drawn By	Chked By
TS_TPP_14_6_22	1	CS	CO

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Griffeen Valley Park

GRIFFEEN VALLEY PARK

GRIFFEEN AVENUE

Griffeen Avenue

T1540-C2

T1539-C2

W2-B2

T1538-B2

T1537-B2

W1-B2

H6-C2

H5-C2

H4-B2

H3-C2

H2-C2

H1-C2

Tree protection fencing.

Tree protection fencing to follow edge of tree canopy.

Tree protection fencing to follow edge of existing pathway.

Tree protection fencing, Scheme alignment to be adjusted to the east.

T1512 to be removed.

Tree protection fencing to follow edge of existing grass verge.

T1497 and T1499 to be removed.

T1478 to be removed.

T1465-T1469 to be removed.

47.45 WBL 48.03 WATER LEVEL

48.28 PIPE

48.26 PIPE

47.82 WBL 48.18 WATER LEVEL

47.89 WBL 48.20 WATER LEVEL

Key

Trees
Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow.

Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

Category C
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.

Category U
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.

Tree Groups
Shown as dashed centre/boundary line. Colour represents category (see above)

BS 5837:2012 Root Protection Area

Tree Protective Fencing

Trees for Removal

Sheet Key

1 2 3 4 5 6

N

1:500
0 10 20m

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Drawing Title
Tree Removal & Protection Plan - Sheet 4

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
1:500 - A0	29/06/2022		
Drawing No	Rev	Drawn By	Chked By
TS_TPP_14_6_22	1	CS	CO

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N

1:400
0 10 20m

General Notes
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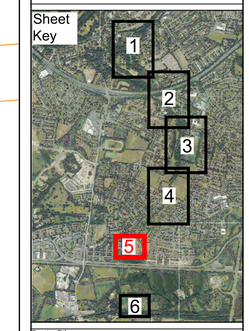
Key

- Trees — Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow. (T1-B)
- Category A — Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- Category B — Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- Category C — Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
- Category U — Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
- Tree Groups — Shown as dashed centre/boundary line. Colour represents category (see above)
- BS 5837:2012 Root Protection Area
- Tree Protective Fencing
- Trees for Removal

Sheet Key



Tree protection fencing to follow outer edge of canopies.

Tree protection fencing to follow outer edge of canopies.

Tree protection fencing to follow outer edge of canopies.

Tree protection fencing to follow edge of existing pathway.

Tree protection fencing to follow edge of tree canopy and scheme alignment.

High Amenity Hawthorn

T1441 - T1443 to be removed.

Approximately 500m2 of TG1445 to be removed.

Tree protection fencing.

Griffeen Valley Park

Hayden Ln

Dead Ash-U

T1457-B2
T1456-B2
T1455-A2
T1454-A2
T1459-B2
T1458-A2
T1453-B2
T1451-A2
T1452-B2
T1450-B2
2.9m
T1460-B2
3.4m
2.7m
T1449-B2
2.2m
T1448-B2
3.1m
TG1447-B2
T1446-A2
T1444-B2
TG1445-B2
T1443-U
T1442-U
T1441-U

51.98 WATER LEVEL 51.32 WBL
52.03 WATER LEVEL 51.70 WBL
51.88 WATER LEVEL

Drawing Title
Tree Removal & Protection Plan - Sheet 5

Client
South Dublin County Council.

Site/Project
Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date		
1:400 - A1	29/06/2022		
Drawing No	Rev	Drawn By	Chked By
TS_TPP_14_6_22	1	CS	CO

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N

1:400

0 10 20m

General Notes

The drawings are preliminary and will need to be updated with final scheme alignments.
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
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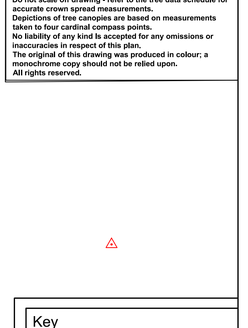
Key

- Trees — Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow. (T1-B)
- Category A — Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- Category B — Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- Category C — Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
- Category U — Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
- Tree Groups — Shown as dashed centre/boundary line. Colour represents category (see above)
- BS 5837:2012 Root Protection Area
- Tree Protective Fencing
- Trees for Removal

Sheet Key



Drawing Title: **Tree Removal & Protection Plan - Sheet 6**

Client: South Dublin County Council.

Site/Project: Grand Canal to Lucan Urban Greenway

Scale/Sheet	Date
1:400 - A1	29/06/2022

Drawing No	Rev	Drawn By	Chked By
TS_TPP_14_6_22	1	CS	CO

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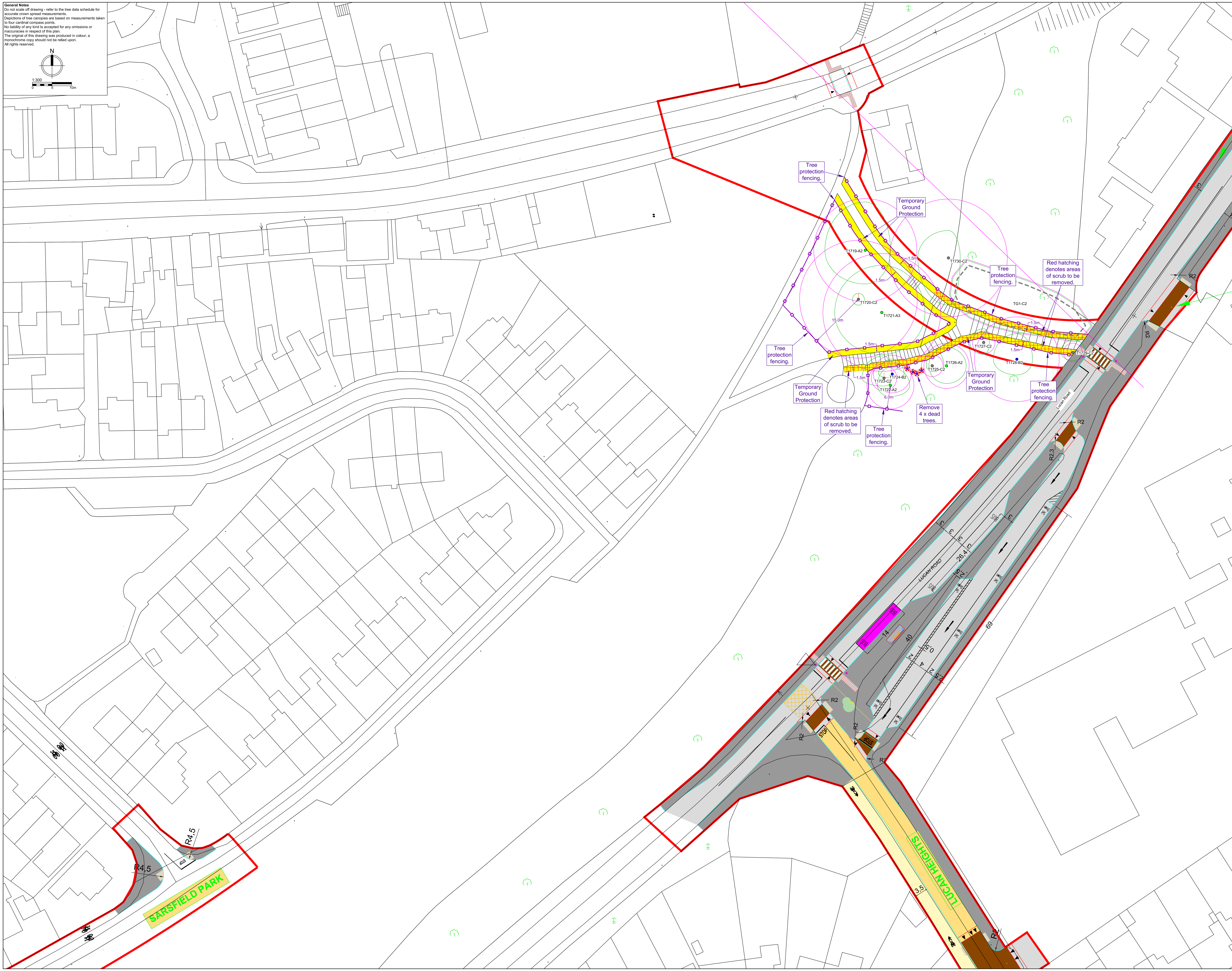
General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind Is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour; a monochrome copy should not be relied upon.



Key

Trees	Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow.
Category A	Trees of high quality with an estimated remaining life expectancy of at least 40 years.
Category B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
Category C	Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
Category U	Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
Dead Trees	
Tree Groups	Shown as dashed centre/boundary line. Colour represents category (see above)
BS 5837:2012 Root Protection Area	
Tree Protective Fencing	
Trees for Removal	
Ground Protection	
Scrub to be Removed	

Drawing Title
Tree Removal & Protection Plan

Client
South Dublin County Council

Site/Project
Grand Canal to Lucan Urban Greenway - Sarsfield Park Section

Scale/Sheet	Date		
1:300 - A2	05/09/2022		
Drawing No	**Rev**	**Drawn By**	**Chked By**
TS_TPP_5_9_22	1	CS	CO

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