DUCKWORTHS
ARBORICULTURE

BS:5837 ARBORICULTURAL METHOD STATEMENT

TOLMER'S SQUARE
LONDON
NW1 2NJ

JUNE 2020
Ref: SCD 05365 / 2020 R3

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1. EXECUTIVE SUMMARY

The report provides detailed and site specific information on the steps which will be undertaken to prevent damage to trees growing within the grounds of Tolmer's Square, London NW1 2NJ, during the course of the proposed landscaping works.

From the early stages of this project, the design brief has been directed towards the protection and preservation of the significant, mature trees within site which include three specimen London Plane trees.

The Landscape Scheme proposed includes the removal of a number of existing structures and areas of hard surfacing within the rooting areas of trees, which, in conjunction with works to de-compact and rejuvenate the soil with nutrient rich topsoil will greatly enhance the growing conditions for the retained trees on site. Retaining walls will be reinforced where they are close to large trees and identified as being critical for tree stability.

Poorer grade trees planted under the canopies of the Planes are to be removed where they are unlikely to thrive and to remove the risk of younger trees outcompeting the older Plane trees in the future. Removing these trees will also open up the public space and discourage anti-social behaviour.

The Arboricultural Method Statement which accompanies this report outlines the steps will be undertaken to prevent damage to the retained trees where they may be at risk during the course of the proposed landscaping works.

Provided the methodology specified within the Arboricultural Method Statement is followed during these landscaping works I am satisfied that this application will not compromise the health or stability of retained trees at Tolmer's Square.

2. CONTENTS

3. INTRODUCTION

3.1 INSTRUCTION

3.1.1 I have been instructed by Liz Cronin, Landscape Architect for Groundwork London to survey the trees at Tolmer's Square in accordance with the guidelines and recommendations in the BS:5837 (2012) 'Trees in Relation to Design, Demolition and Construction.'

3.1.2 The Arboricultural data has been used to provide a site-specific Arboricultural Method Statement and Tree Protection Plan which details the steps which will be taken in order to ensure significant trees within the grounds of Tolmer's Square can be successfully protected and retained during and on completion of the proposed landscape works.

3.2 SCOPE

3.2.1 The trees were surveyed on Saturday 21st March 2020 from ground level only.

3.2.2 The weather conditions were clear and bright. Visibility was considered to be good. Soil samples were not taken.

3.2.3 The tree survey identified 23 individual trees growing within the site which are relevant to this planning application. The trees were assessed for their quality and benefits within the context of the proposed development and categorised in accordance with the recommendations in the BS:5837:2012.

3.3 PLANNING CONSTRAINTS

3.3.1 I have confirmed with Camden Council that at the time of this report the trees on site are not subject of a Tree Preservation Order and the property is not within a Conservation Area.

3.3.2 This status can change therefore you are advised to reconfirm the status of the trees before carrying out any pruning work or tree removal on site.

3.3.3 Under the 1967 Forestry Act, anyone felling more than $5m^3$ of timber in any calendar quarter may require a Felling License from the Forestry Commission (certain exemptions apply). More information on Felling Licenses is available on the Government website: www.gov.uk/government/publications/felling-licence-online-user-guide-operations-note-45

3.4 DOCUMENTS

3.4.1 I have had been provided with a topographical survey of the site Ref: *Tolmers Square Topo 21006se-01_GWL* from which gave the positions of the trees has been plotted.

3.4.2 Ground data and levels have been taken from Landscape Sections drawings Sheets 1-4.

3.4.3 The Tree Protection Plan which accompanies this report is illustrative and should only be used for dealing with tree issues only. The precise location of all tree protective measurements should be confirmed with a pre-commencement site meeting before any demolition or construction activity takes place.

3.5 CAVEATS

3.5.1 The British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction' is designed to assist those concerned with trees in relation to construction to form balanced judgments. This report does not therefore seek to put arguments for or against development but provides a means of protecting the trees which will may be affected during development.

3.5.2 This report is for planning purposes only and does not constitute a detailed health and safety survey. A quotation for this service can be provided upon request.

3.5.3 Trees are dynamic living organisms subject to change, whose health and condition can be subject to significant change influenced by internal and external factors. The assessment of trees in this report are based on their condition assessed at the time of inspection and is valid for 18 months.

3.5.4 If the condition of the trees evidently changes or the trees are subject to extreme weather conditions further assessment may be required. No tree is ever absolutely safe due to the unpredictable laws and forces of nature.

3.5.5 The report is for the sole use of the client and its reproduction or use by anyone else is forbidden unless written consent is given by the author.

DISCLAIMER: This is an independently produced Arboricultural Report. I have no connection with any of the parties involved in this site or application that could influence or bias the opinions expressed in this report.

3.6 CONTACTS

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4. ARBORICULTURAL METHOD STATEMENT

4.1 INTRODUCTION

4.1.1 This Arboricultural Method Statement specifies the detailed methodology that will be employed to prevent damage to the trees growing within the grounds of Tolmer's Square London, NW1 2NJ during the approved landscape improvement works.

4.1.2 The correct and timely installation of tree protection measures such as tree protection barriers and ground protection surfaces are critical to ensure the long-term retention of a healthy tree stock on or adjacent to the development.

4.1.3 This method statement will be read, approved and agreed to by all key personnel prior to the commencement of works within the site.

4.2 PHASING OF WORKS

STAGE 1 (PRE-COMMENCEMENT)

TREE REMOVAL WORKS

↓

ERECTION OF TREE PROTECTION FENCING AROUND T5 (PLANE)
& SITE HOARDING WHERE REQUIRED

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PRE-COMMENCEMENT SITE MEETING
(NOTIFY LOCAL AUTHORITY -MIN 5 DAYS)

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STAGE 2 (DEMOLITION & CONSTRUCTION)
- SITE MONITORING EVERY 2-4 WEEKS

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HARD LANDSCAPING WORKS FOLLOWING
DETAILED METHODOLOGY TO PROTECT TREE ROOTS

↓

STAGE 3 (POST DEVELOPMENT)

REMOVE TREE PROTECTION FENCING, SITE HOARDING
NOTIFY LOCAL AUTHORITY -MIN 5 DAYS)

↓

MANUAL SOIL DECOMPACTION, TOPSOIL
AND PLANTING OPERATIONS

4.3 SITE SUPERVISION AND MONITORING.

4.3.1 The schedule proposed here for site supervision and monitoring is considered reasonable and proportionate to the arboricultural issues and intensity of development within the site.

Fig. 1 Schedule for site supervision

Timings	Comments	Attendees	Action
Pre-commencement	Site Manager is to be provided with a copy of the Arb Method Statement to read. He or she will raise any questions they may have regarding Tree Protection requirements with the appointed Landscape Architect and Arboricultural Consultant.	N/A	Site Manager and Arboricultural Consultant to agree tree protection measures on site. In the event that this discussion results in the need for any deviation or changes to the recommendations in the Arboricultural Method Statement will be highlighted to the Local Authority.
Pre-commencement	Site visit to be held once the Tree Protection Measures are instated as identified in this report	Landscape Architect Arb Consultant – Site / Project Manager (LA Tree Officer)	Confirm the position and suitability of the Tree Protection Measures and ensure a common understanding of the requirements for Tree Protection within the site – LA updated.
Mid-construction	Arb Consultant or appointed Landscape Architect to make spot checks every 4 weeks or during times of high risk such as the removal of hard surfacing in order to confirm Tree Protections remains rigid and in place and methodology being followed.	Landscape Architect / Arb Consultant	Confirm Tree Protection Measures are still rigid and in place. Advise on any modifications required. LA to be updated following each visit.
Post construction	Prior to the removal of Tree Protection	Landscape Architect / Arb Consultant – Site / Project Manager (LA Tree Officer)	Retained trees inspected. Further landscaping operations and restrictions to be agreed if necessary. LA updated.

4.3.2 The designated Site Manager will be responsible for ensuring no works are undertaken on site except in complete accordance with the approved Arboricultural Method Statement.

4.3.3 A pre-commencement site visit will be held once the Tree Protection Fencing is installed as shown on the Tree Protection Plan and prior to the commencement of landscape works on site.

4.3.4 This will be attended by the Landscape Architect or the appointed Arboricultural Consultant for the development and the Site Foreperson. The Local Authority Tree Officer will be given a minimum of five days' notice of the time and date of the meeting so that they may attend should they wish to do so.

SITE SUPERVISION AND MONITORING (continued).

4.3.5 The purpose of the pre-commencement meeting will be to confirm the location and construction of the Tree Protection Measures and ensure a common understanding of the requirements for Tree Protection within the site.

4.3.6 If the Local Planning Authority is unable to attend, photographic evidence of the tree protection fencing will be emailed to the appointed planning officer once it has been erected.

4.3.7 The following inspection schedule will be employed in order to monitor the site ensure the trees are adequately protected during the course of the landscape works.

4.3.8 A copy of the Arboricultural Method Statement and Tree Protection Plan will be available on site for reference.

4.3.9 The appointed Site Manager will notify the Local Authority Tree Officer five days prior to the tree protection measures being removed on completion of development.

4.4 TREE WORKS

4.4.1 The following essential tree works will take place prior to the commencement of any landscaping works on site:

Ref:	Species	BS:5837 Category	Comments	Work Schedule
T1	Goat Willow	C1	Growing in raised bed, poor form.	Fell to ground level
T6	Field Maple	C2	Good form and vitality. Retaining wall at base	Fell to ground level
T8	Sargent's Rowan	C1	Poor condition, stem cankers, heartwood decay.	Fell to ground level
T9	Sargent's Rowan	C1	Stem cankers, heavily supressed.	Fell to ground level
T10	Maple	C2	Stakes broken.	Fell to ground level
T11	Maple	C2	Stakes broken.	Fell to ground level
T12	Maple	C2	Stakes broken.	Fell to ground level
T13	Hawthorn	C2	Swept stem.	Fell to ground level
T14	Sargent's Rowan	U	Dead tree (category 'U' tree)	Fell to ground level
T15	Maple	C2	Stakes broken.	Fell to ground level
T16	Hawthorn	C2	Swept stem.	Fell to ground level
T17	Eastern red-bud	C2	Young tree, unlikely to thrive in this location in competition with the Plane	Fell to ground level
T18	Sargent's Rowan	C1	Stem cankers, heavily supressed.	Fell to ground level
T19	Hawthorn	C2	Young tree, still staked.	Fell to ground level
T23	Variegated Western Red Cedar	C2	Growing in raised shrub bed	Fell to ground level

4.4.2 All tree works shall be undertaken in accordance with BS:3998 2010 'Tree Work Recommendations'. No vehicles will be driven beyond the existing areas of hard surfacing onto unprotected ground during the course of the tree work operations.

4.4.3 Chippings arising from the work will not be piled around the bases of trees on or off the site. Wood, brash and any other arisings from the tree work will not be burnt on site.

4.4.4 A properly qualified and experienced company will be employed who carry Public and Products Liability Insurance with a minimum of £2,000,000 cover and the relevant Employers Liability Insurance. A List of approved contractors is available from the Arboricultural Association – www.trees.org.uk.

4.5 PROTECTED SPECIES

4.5.1 In accordance with the Wildlife and Countryside Act - 1981, Conservation - Natural Habitats - Regulations 1994 and Countryside Rights of Way Act - 2000, tree work operations will be scheduled to avoid causing disturbance to any nesting or breeding birds or bat roosts that may be present within trees.

4.5.2 It is an offence (subject to exceptions) to intentionally kill, injure, or take, possess, or trade in any wild animal listed, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places.

4.5.3 Non-urgent major tree work involving tree removal or reduction and hedge cutting operations should not be undertaken during the bird nesting or breeding season, which is considered to be from 1 March to 31 July. However, depending on seasonal temperatures, some birds continue breeding into August and September.

4.5.4 All wild birds, their young, their eggs and active nests are protected under law. It is an offence to damage a nest intentionally while it is in use or being built and hedge cutting is highly likely to damage nests or cause them to be deserted.

4.6 TREE PROTECTION FENCING

4.6.1 Existing areas of hard surfacing and retaining walls will provide sufficient protection for tree roots across most of the site. However, temporary tree protection fencing is required in order to protect the raised grass mound area around T5 (Plane) during the installation of the new pedestrian footpath and removal of the brick boundary wall.

4.6.2 No works in relation to these works will be undertaken, including construction, excavation or demolition, prior to the Tree Protection Fencing being around the rooting area of T5 (Plane) as identified in the Tree Protection Plan.

4.6.3 The Tree Protection Fencing will consist of a vertical and horizontal scaffold framework braced well to resist impact. The vertical tubes will be spaced at a maximum distance of 3m and driven securely into the ground. Onto this framework welded mesh – 'Heras' style fencing panels or similar will be securely fixed.

4.6.4 Alternatively, the Heras panels can also be erected on rubber feet pinned securely into the ground. Each panel must then be securely fastened to the next to prevent the realignment or breaching of the structure.

4.6.5 The Tree Protection Fencing will be located to protect the tree and it's rooting areas. It must be able to resist impact or occasional movement and will remain rigid and complete during the course of development in accordance with Fig 2. (BS:5837 2012) (See Appendix 5).

4.6.6 All-weather signage stating 'TREE PROTECTION AREA – KEEP OUT' will be attached to the outer perimeter of the Tree Protection Fencing. A sample sign is attached in Appendix 6 of this report.

4.6.7 At no time will Tree Protection Fencing be removed or relocated contrary to the recommendations in this report without professional arboricultural advice.

4.6.8 The appointed Site Manager will notify the Local Authority once Tree Protection Measures are installed on site and 5 days prior to the Protection Fencing being removed on completion of development so that a representative from the Local Authority may visit the site if considered necessary.

4.7 CONSTRUCTION EXCLUSION ZONE

4.7.1 The raised grass area behind the tree protection fencing is designated the Construction Exclusion Zone and is to be isolated from all activity during work on the site.

THERE WILL BE NO STORAGE, PARKING, VEHICLE MOVEMENT OR PEDESTRIAN ACTIVITY, TEMPORARY OR OTHERWISE, WITHIN THE CONSTRUCTION EXCLUSION ZONE AT ANY TIME DURING THE COURSE OF THE LANDSCAPING PROJECT.

4.8 TEMPORARY GROUND PROTECTION

4.8.1 Existing areas of hard standing will be retained in order to provide a suitable load-bearing area when working within the rooting areas of trees.

4.8.2 At no time will vehicles or tracked excavators be driven over the unprotected soft landscaped areas within the identified rooting areas of the retained trees during the ground works.

4.8.3 Pedestrian operatives should stand on a load diffusing surface – plyboard or scaffolding plank when post holes are being excavated for the decking pathway within the RPA of T2 (Plane)(refer Section 4.12).

4.8.4 No other temporary ground protection measures are considered necessary.

4.9 INSTALLATION OF NEW PATH OVER GRASS MOUND WITHIN RPA of T5 (PLANE)

4.9.1 The new landscape path will follow the line of the top of the existing stone steps in order to reduce the need for significant excavation within the site. Turf will be removed and the area directly adjacent to the footpath graded by hand, building up ground on the inner side of the curve with sharp sand as necessary in order to create a flat pathway surface.

4.9.2 The edge of the new path will be marked by flexible edging boards which will be pegged or pinned into place.

4.9.3 A porous geotextile fabric will be laid across the path area, overlapping adjacent rolls by a minimum of 150mm. It may be necessary to lightly pin the Geotextile in place until the overlying layers are installed.

4.9.4 A shallow 75mm (lightweight pedestrian grade) Cell web system (manufactured by Geosynthetics or similar) sufficiently low to marry with that of the surrounding planting and connecting hard surfacing levels, will then be opened out and pinned in place between the edging boards.

4.9.5 Pin spacing will vary according to the site conditions but will generally be required at less than 1m centres in order to support the path over the gradient of the mound. The pins will be placed evenly around the perimeter and centrally in the cellweb.

4.9.6 The open cells will be filled with clean, open graded aggregate with particles between 5 and 45mm, (no fines Type 1 Roadstone of a non-marine source) working from one end of the path and then using the filled cells as a platform.

4.9.7 Once the Geo-textile grid has been installed and filled with aggregate as per the manufacturer's recommendation it can be used as for access during the landscape works.

4.9.8 The final, aesthetic porous Ulticolour tarmac will be filled as required to level off the path with that of the connecting areas of hard surfacing.

4.10 REMOVING THE BRICK BOUNDARY WALL SOUTH OF T5 (PLANE)

4.10.1 Although located outside of the BS:5837 Root protection area for T5 (Plane) care must be taken when removing the brick wall south of the grass mound in the event that tree roots are growing in this area.

4.10.2 All work will be undertaken by operatives working from the existing hard standing. The wall will be dismantled by hand and barrowed from the site.

4.10.3 Foundations will be broken up using a manually operated pneumatic drill. Debris will be removed by hand and waste material will be barrowed into the storage areas, away from the retained trees.

4.10.4 Once removed BS:3882 1994 (Specification for Topsoil) – 'Premium' grade topsoil will be poured promptly into the trench covering any roots in the vicinity and levelled using hand tools.

4.11 BRICK WALL WITHIN RPA OF T2 (PLANE)

4.11.1 The construction of a new low-level brick wall within the RPA of T2 (Plane) may require manual excavation for shallow footings below those of the existing brick steps which are to be removed.

4.11.2 All excavations will be undertaken by hand with roots under 25mm within the trench being cut back to the edge of the trench with sharp, clean hand tools. If any roots in excess of 25mm are encountered they are to remain intact and bridged.

4.11.3 Leachate from curing concrete can be toxic to tree roots. The foundation trenches will be lined with an impervious membrane before concrete is poured.

4.12 INSTALLATION OF DECKING WITHIN RPA of T2 (PLANE)

4.12.1 A decking walkway will traverse the new soft landscaped areas within the RPA of T2 (Plane). Post holes for decking will be excavated by hand working from an area of temporary ground protection surface (plyboard or scaffolding planks etc.).

4.12.2 Post holes will be kept as narrow as possible (maximum diameter 200mm) by using a post hole digger or post hole auger.

4.12.3 Exploratory post holes shall be dug before committing to post positions. If any roots in excess of 25mm are encountered they are to remain intact and the post hole shall be relocated slightly.

4.12.4 Any roots in excess of 10mm which are severed shall be neatly pruned back to the edge of the hole using sharp, clean hand secateurs.

4.12.5 Leachate from curing concrete can be toxic to tree roots. Post pits will be lined with an impervious membrane before concrete is placed in holes.

4.13 RE-SURFACING PATHWAYS WITHIN TREE ROOTING AREAS

4.13.1 The existing paths around Tolmer's Square are constructed from brick and stone block paving or tarmac.

4.13.2 When working within the identified rooting areas of trees, block paving will be lifted by hand, the tarmac pathways will be broken up using a manually operated pneumatic drill. Debris, slabs, brick walls will be removed by hand, working backwards into the site and barrowing waste material into the storage areas, away from the retained trees.

4.13.3 The existing sub-base of the paths will be retained and reused under the new areas of *Ulticolour* porous coloured tarmac surfaces on site.

4.14 RE-INSTATING SOFT LANDSCAPING WITHIN TREE ROOTING AREAS

4.14.1 A number of hard surfaced areas are to be returned to soft landscaping with the creation of a sunken garden within the rooting area of T2 (Plane).

4.14.2 Block paving, debris, slabs and the sub-base of the existing pathways will be removed by hand, working backwards into the site and barrowing waste material along the retained path into the storage areas, away from the tree.

4.14.3 No excavation will be made any deeper than that of the existing sub-base. Roots exposed during the course of this works will be immediately covered with a light topsoil or damp hessian to prevent desiccation.

4.14.4 Once all concrete, hardcore and debris has been removed, the existing ground level should be irrigated and tined using garden forks to break up the upper soil crust so as to improve aeration. Care must be taken not to damage tree roots.

4.14.5 BS:3882 1994 (Specification for Topsoil) – 'Premium' grade topsoil will be spread promptly on the exposed ground surface and will be levelled using hand tools. New soil depth should not exceed 200mm (with an allowance for settlement). The topsoil should have a high organic matter content in order to encourage earthworm activity to continue de-compacting the soil.

4.15 SOIL AMELIORATION WITHIN THE RAISED BEDS

4.15.1 Existing small trees and shrubs within the raised landscaped beds will be pulled out by hand removing as much of the rooting system as possible.

4.15.2 The ground in these areas is extremely compacted and tree roots are exposed. Decompaction breaks up the soil and improves water flow, aeration, nutrient accessibility, root growth and microsite availability. Decompaction will be necessary to improve water and root penetration and to ensure the new landscape planting will successfully establish and grow in this location.

4.15.3 Prior to the application of topsoil, the existing ground level should be irrigated and tined using garden forks to break up the upper soil crust so as to improve aeration. Care must be taken not to damage tree roots.

4.15.4 Once broken up, 200mm of good quality topsoil will be applied. The topsoil should have a high organic matter content in order to encourage earthworm activity to continue de-compacting the soil.

4.15.5 200mm of topsoil will remain porous and free draining and will not have any adverse impact on tree root growth and respiration. However, care should be taken to ensure the topsoil and mulch do not obscure the root-flare at the base of the trees.

4.15.6 An application of commercially supplied worms will be added to kick start the natural Decompaction process. Species *Dendorobaena veneta* and *Lumbricus terrestris* are recommended as one species burrows vertically and the other horizontally for maximum benefit.

4.16 GENERAL LANDSCAPING

4.16.1 The following rules will be followed during the course of the new landscaping within the rooting areas of the retained trees:

- Most new plants within the identified RPAs of retained trees will be in small pots (nothing larger than 2lt). Specimen shrubs will be in larger pots of 5-10lt. All planting within the RPA of existing trees shall be notched planted by hand and locally adjusted to avoid tree roots. If significant roots are encountered, these will be left undamaged and dug around or the hole relocated.

- Bulbs where specified will be planted in random locations manually using dibbers and bulb planters relocating positions where necessary to avoid tree roots.

- Tree roots can be damaged by severance, compaction, pollution and desiccation. In view of this, aside from the removal of turf, there should be no excavation lowering of ground levels within the identified rooting areas of retained trees.

- 150mm of good quality soil / compost

- New trees or hedges within the root protection areas of retained trees will be planted as bare root where possible in order to keep planting hole sizes to an absolute minimum.

- On completion of the landscape planting, a layer of composted bark chips (60-100mm deep) should be laid to prevent desiccation and erosion of the topsoil.

- The area will be maintained with irrigation and post planting maintenance as per the landscape specifications.

- Where new posts for fencing or signage is proposed within the RPA of trees, post holes will be dug using a post hole digger to keep hole size to a minimum. Where substantial roots over 30mm are encountered, the location of the hole will be moved in order to avoid them. Post holes will be fully lined in order to prevent concrete coming into direct contact with tree roots.

4.17 GENERAL CONSIDERATIONS

4.17.1 Roots can be killed by pollution of the rooting area by chemicals and leaching. Loose, granular or liquid materials, including cement mix and fuel will be stored in the existing areas of tarmac well away from the porous block paved or soft landscaped areas.

4.17.2 There will be no open fires on site during the landscaping works.

4.18 UNFORESEEN CIRCUMSTANCES

4.18.1 In the event of unforeseen circumstances whereby it is not possible to work in accordance with the Arboricultural Method Statement then advice should be sought immediately from a qualified Arboriculturist.

4.18.2 **THERE SHALL BE NO DEVIATION FROM THIS METHOD STATEMENT WITHOUT CONSULTATION WITH A QUALIFIED ARBORICULTURIST AND / OR THE WRITTEN CONSENT OF THE LOCAL PLANNING AUTHORITY.**

5. APPENDICES

1) Tree Survey Key
2) BS: 5837 (2012) Table 1 Cascade Chart for Tree Quality Assessment
3) Tree Survey Data
4) Tree Protection Plan
5) Tree Protection Specification
6) Tree Protection Signage
7) Qualifications

1) TREE SURVEY KEY

Ref: T1 = Tree 1 G1 = Group 1
A1 = Area 1 W1 = Woodland 1

Species: Common name (Botanical name)

Height: Measured with a clinometer (m) where possible or estimated when part of a group

Stem: Stem diameter taken at 1.5m with girth tape or rule and recorded in millimeters

Branch spread: Paced measurements at compass points or with a laser measure.

Crown clearance: Existing height above ground level of canopy and / or first significant branch direction of growth in metres e.g. 2.4 (N) where relevant.

Epics: Lower canopy created by epicormic growth.

Age Class: Newly planted - 3 years following planting
Young - Tree well established but with juvenile crown form
Young Mature - Tree in first third of usual life expectancy for species
Mature - Tree in second third of usual life expectancy for species
Over Mature - Tree in final third of usual life expectancy for species / exhibiting signs of crown retrenchment & senescence
Veteran - Older than usual for species or with historical/ cultural / ecological value

General Observations: Made with reference to physiological condition (health, vigour) and structural condition, noting evidence of decay, structural weakness and physical defect and preliminary management recommendations.

Estimated Remaining Contribution: Estimated in years - less than 10, 10-20, 20-40, 40+

BS: 5837:2012 category rating: In accordance with the guidelines of the British Standard.

- Category 'A' tree (Green)
- Category 'B' tree (Blue)
- Category 'C' tree (Grey)
- Category 'U' tree – Fell (Red)

RPA Area BS:5837 (2012) Root Protection Area calculation in square metres

RPA Radius BS:5837 (2012) Root Protection Area calculation circle radius in metres. [1]

(e) Estimated where access is not available to measure.

(FEA) Feathered form

(Ave) Average – usually in the case of multi-stem trees.

[1] The root protection area radius is for information only and may not be appropriate in every case. BS:5837 advises that *'the RPA for each tree should initially be plotted as a circle centered on the base of the stem. Where pre-existing site conditions or other factors indicate that rooting may have occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distributions.'*

2) BS:5837 (2012) TABLE 1: CASCADE CHART FOR TREE QUALITY ASSESSMENT

CATEGORY & DEFINITION	CRITERIA (including sub-categories where appropriate)		
Trees unsuitable for retention			
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 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		
	Mainly Arboricultural Qualities	Mainly Landscape Qualities	Mainly cultural values including conservation
Trees considered suitable 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)
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 remedial 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 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 contribution to the wider locality.	Trees with material conservation or other cultural value.
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 150mm.	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.

3) SURVEY DATA

Ref:	Species	Height (m)	Dia. at 1.5m (mm)	Canopy				Crown Clearance	Life-stage	General Observations & Recommendations	Remaining Contribution	BS:5837 Category	RPA Radius	RPA Area
				N	E	S	W							
T1	Goat willow (*Salix caprea*)	6	90	2.8	2.4	2.5	2	0.5	Y	Growing in raised bed, poor form.	20-40	C1	1.1	3.7
T2	Plane (*Platanus x hispanica*)	16-18	750	9.1	9.8	9.5	10.7	5	M	Lapsed pollard, significant tree.	40+	B1	9	255
T3	Plane (*Platanus x hispanica*)	16-18	740	9	10.5	9	8.6	3.5	M	Prolific ivy on trunk.	40+	A1	8.9	248
T4	Tree of Heaven (*Alianthus altissima*)	12-14	300	5.3	4	3.3	3.9	9	Y	Upright form with rapid growth bark cracks growing directly adjacent to brick boundary wall – long term retention possibly unsustainable in this location.	20-40	C1	3.6	41
T5	Plane (*Platanus x hispanica*)	18-20	770	10.3	9.5	10.7	11	3.5	M	Good form and vitality. Retaining wall at base.	40+	A1	9.2	298
T6	Field Maple (*Acer campestre*)	9	130	3.6	3.5	3.6	3.8	2	M	Good form and vitality. Retaining wall at base.	40+	C2	1.6	7.6
T7	Maidenhair Tree (*Ginkgo biloba*)	8-10	200	2.4	2.4	2.4	2.4	4	M	Fair form, palms around base.	40+	B1	2.4	18
T8	Sargent's Rowan (*Sorbus sargentiana*)	7.5	150	2.9	2	2.8	3.2	4	YM	Poor condition, stem cankers, heartwood decay.	10-20	C1	1.8	10
T9	Sargent's Rowan (*Sorbus sargentiana*)	7.5	120	1.7	0	1.9	2.5	4	YM	Stem cankers, heavily supressed.	10-20	C1	1.4	6.5
T10	Maple (*Acer globosum*)	3.5	50	1	1	1	1	2	Y	Stakes broken.	10-20	C2	0.6	1.1
T11	Maple (*Acer globosum*)	3.5	50	1.2	1.2	1.2	1.2	2	Y	Stakes broken.	10-20	C2	0.6	1.1
T12	Maple (*Acer globosum*)	3.5	50	1.2	1.2	1.2	1.2	2	Y	Stakes broken.	10-20	C2	0.6	1.1
T13	Hawthorn *Crataegus m. 'Stricta'*)	4	60	1.4	1.4	1.4	1.4	2	Y	Swept stem.	10-20	C2	0.7	1.6

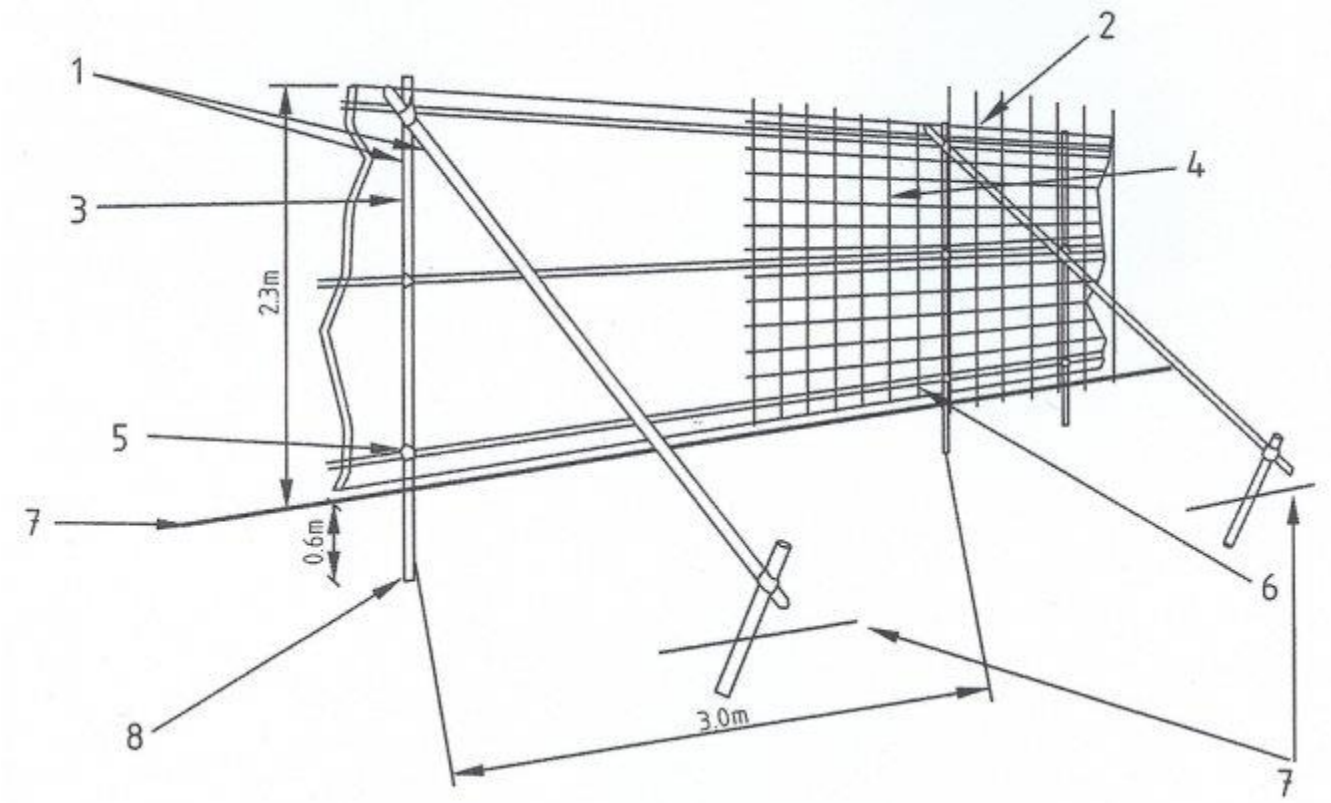
Ref:	Species	Height (m)	Dia. at 1.5m (mm)	Canopy				Crown Clearance	Life-stage	General Observations & Recommendations	Remaining Contribution	BS:5837 Category	RPA Radius	RPA Area
				N	E	S	W							
T14	Sargent's Rowan (*Sorbus sargentiana*)	4.5	120	2.1	0	2.2	2	3.5	OM	Dead tree	/	U	1.4	6.5
T15	Maple (*Acer globosum*)	3.5	50	1.2	1.2	1.2	1.2	2	Y	Stakes broken.	10-20	C2	0.6	1.1
T16	Hawthorn *Crataegus m. 'Stricta'*)	4	40	1.2	1.2	1.2	1.2	2	Y	Swept stem.	10-20	C2	0.5	0.7
T17	Eastern red-bud (*Cercis canadensis*)	3.8	30	1	1	1.5	1	1.5	Y	Young tree, unlikely to thrive in this location in competition with the Plane	10-20	C2	0.4	0.4
T18	Sargent's Rowan (*Sorbus sargentiana*)	7.5	90	1.7	0	1.9	2.5	4	YM	Stem cankers, heavily supressed.	10-20	C1	1.1	3.7
T19	Hawthorn *Crataegus m. 'Stricta'*)	3.2	40	0.5	0.5	0.5	0.5	1.6	Y	Young tree, still staked.	10-20	C2	0.5	0.7
T20	Sycamore (*Acer campestre*)	12	190(e)	2.6	2.6	2.6	2.6	3	Y	Upright canopy, offsite tree.	20-40	C2	2.3	16
T21	Sycamore (*Acer campestre*)	15	400	3.6	3.6	3.6	3.6	5	M	Offsite tree adjacent to brick boundary wall.	20-40	C2	4.8	72
T22	Plane (*Platanus x hispanica*)	13	300	5.2	5.2	5.2	5.2	5	M	Offsite tree, prolific ivy.	40+	B1	3.6	41
T23	Variegated Western Red Cedar (*Thuja plicata 'Zebrina'*)	5.5	90	1.8	1.8	1.8	1.8	0.5	M	Growing in raised bed.	20-40	C2	1.1	3.7

4) TREE PLANS

Attached as separate pdf document ref:

- TREE PLAN 05365 / 2020 – PLAN 05365 2020
- TREE PROTECTION PLAN – TPP 05365 2020 R1

5) TREE PROTECTION FENCING SPECIFICATION



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and, where necessary, standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6m driven into the ground

Figure 2. – Protective fencing for RPA

Extract from BS:5837 (2012) Trees in Relation to Design, Demolition and Construction.

6) TREE PROTECTION SIGNAGE

TREE PROTECTION AREA
KEEP OUT !

(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION.

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY.

7) QUALIFICATIONS

- This Arboricultural report has been prepared by Sarah Duckworth, Independent Arboricultural Consultant, trading as Duckworth's Arboriculture.

- I have over 16 years' experience working in the field of Arboriculture and for the past 14 years I have worked as a Local Authority Tree Officer both directly and independently providing contracted support. Since 2010 I have worked as a private consultant carrying out a range of Arboricultural Reports and Assessments for private clients.

- I hold the Royal Forestry Society's Professional Diploma (Level 6) for which I received the Lockhart Garrett Award commendation in 2009.

- I also hold the Arboricultural Association's Technicians Certificate (with Distinction) and am a LANTRA qualified Professional Tree Inspector.

- I am a Professional Member of both the Arboricultural Association and the Consulting Arborist Society (CAS).