Amenity Tree Care

Tree Survey and Constraints Report

John Dalton House, Manchester

Report prepared for LAYER

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Contents

3.0 Introduction 3
2.0 Report Limitations 4
3.0 Methodology and data collection 5
4.0 Arboricultural constraints 6
5.0 Study area 6
6.0 Summary 7
Appendices 8
Appendix 1 Survey key .....
Appendix 2 BS5837 Cascade Chart .....
Appendix 3 Survey Schedule .....
Appendix 4 Tree Constraints Plan .....

1.0 Introduction

1.1 Instruction

1.2 Amenity Tree Care has been instructed by LAYER to prepare the following Tree Constraints Report for those trees located around the circumference of John Dalton House.

1.3 The survey was conducted using the client supplied topographical data, which was issued by Simon Tugby of LAYER.

1.4 The tree constraints report will be carried out in line with the recommendations in BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations* and will evaluate the direct and indirect impacts of the current tree population.

1.5 The constraints assessment considers constraints posed above and below ground and should be used to inform any future design layout.

1.6 Further consideration will be required at the design stage in the form of an impact assessment that evaluates the direct and indirect effects of any proposed design and where necessary will recommend mitigation.

1.7 Below ground constraints are influenced by the root protection area and are determined in line with the recommendations set out in BS 5837:2012. These recommendations quantify the root protection area based on a measured stem diameter in accordance with Annex C, and the root protection area determined from Annex D.

1.8 It is important to understand that when considering the root protection area with regards to the circular plot as delineated on the tree protection plan that a number of site factors can influence root morphology and disposition of tree roots. Root morphology will be taken into account when determining the impacts of the proposed development on existing woody vegetation.

1.9 Above ground constraints are considered in line with the recommendations in BS 5837:2012 and include shade dominance, current and future crown spread as well as the ultimate height of those retained trees.

2.0 Report Limitations

2.1 The inspection has been carried out from ground level only, using visual observation methods as this is a preliminary report as requested by the client, should a more detailed inspection be required then this will be highlighted in the recommendations.

2.2 Trees are living organisms whose health and condition can change rapidly, the health, condition and safety of trees should be checked on a regular basis, preferably at least once a year. The conclusions and recommendations in this report are only valid for a period of six months from the date of this report. This period of validity may be reduced in the case of any change in conditions to or in proximity to the tree.

2.3 I have contacted the local planning authority to determine whether any Tree Preservation Order (TPO) covers the tree(s) and to determine if the site is a Conservation Area. I can confirm that the trees located within the boundaries of 15 Broad Lane are not covered by a tree preservation order.15 Broad Lane falls within the South Hale Conservation Area it would be necessary to give six weeks' notice of intent) before undertaking any tree work.

2.4 No analysis of soil samples was undertaken.

2.5 Any legal descriptions or information given to the consultant are understood to be accurate.

2.6 No responsibility is assumed by Amenity Tree Care Ltd for legal matters that may arise from this report and the consultant shall not be required to give testimony or to attend court unless subsequent contractual arrangements are made.

2.7 Any alteration or deletion from this report will invalidate it as a whole and the conclusions of this report will remain valid for six months from the date of the inspection.

2.8 The responsibility for any tree work(s) undertaken on the surveyed trees rests with the land managers.

3.0 Methodology and data collection

3.1 The site was visited as indicated above and the trees were assessed visually utilising the Visual Tree Assessment methodology.

3.2 Each individual tree has been assessed with general regard to condition, health and structural suitability and commented upon in the report.

3.3 An individual and group schedule is appended to this report and includes detailed information relating to tree height *both current and future*, stem diameters, crown dimensions and estimated remaining contribution.

3.4 Where dimensions have been recorded the following measurement conventions have been observed

a) Height, crown spread and crown clearance have been recorded to the nearest half metre (crown spread has been rounded up) for dimensions up to 10m and the nearest whole meter for dimensions over 10m.

b) Stem diameters have been recorded in millimetres and rounded to the nearest 10mm

c) Where dimensions have been estimated *(e.g. for those trees located off site or where access is restricted and accurate data cannot be recorded) these trees will be suffixed with #.*

3.5 Recommendations for remedial tree works (Preliminary Management Recommendations) have been provided on the basis of the tree(s) current condition.

3.6 Trees growing as groups or woodland will be identified and assessed by the arboriculturist. An assessment will be undertaken of the individual trees within the group/woodland in order to determine the category score and aid future management plans.

3.7 Where trees have not been identified on the topographical survey these will be plotted by eye on site and identified as such on the tree survey schedule.

4.0 Arboricultural Constraints

4.1 Below ground constraints are influenced by the root protection area (RPA) and are determined in line with the recommendations set out in section 4.6 of BS 5837:2012. These recommendations quantify the RPA based on a measured stem diameter in accordance with Annex C, and the RPA determined from Annex D. those trees with two to five stems are calculated using the calculation in 4.6.1. It is important to understand that when considering the RPA with regards to the circular plot that a number of site factors can influence the root morphology and disposition of tree roots as stated in section 4.6.3 of BS 5837:2012. Trees that form the leading edge of groups/woodland will be recorded at intervals along the woodland/group edge in order to an accurately plot a root protection area. All these factors must be considered when contemplating the impacts of the proposed development on existing woody vegetation.

4.2 Above ground constraints posed by existing trees can significantly affect the proposed land use and the subsequent condition will be considered by the planning officer should the development be allowed to proceed. Above ground, constraints are considered in line with the recommendations in section 5.2 of BS 5837:2012 and include shade dominance, current and future crown spread as well as the ultimate height of those retained trees.

5.0 Survey area

5.1 The survey area is located in central Manchester at the junction of John Dalton Street and Deansgate. The trees are located around the circumference of the buildings within the public highway with the exception of a large plane tree located within a raised planter at the junction of Ridgefield and Mulberry Street.

6.0 Summary

6.1 Twelve individual trees have been surveyed. In summary, retention value A (7), retention value B (3), retention value C (2).

6.2 Those trees located on the Junction of John Dalton Street and Deansgate with the exception of T8 & T9 are important arboricultural assets, and have been awarded high retention values (A1-B1).

6.3 A large plane tree (T1) is located in a small courtyard at the junction of Ridgefield and Mulberry St. This tree is a notable landscape tree that has been allowed to establish to maturity without the impacts of built structures or excessive pruning. The tree has been reduced within the last three years however; this has been carried out sympathetically and is not likely to be detrimental to the long-term health of the tree.

6.4 Two trees have been categorised as 'C' due to their limited arboricultural merit or impaired condition and are unlikely to pose as a constraint to the site. Their loss could be mitigated by replacement planting

7.0 Concluding statement

7.1 The site is important for its arboricultural merit and the impact the trees have on the urban landscape character both in its local and wider context. The trees/groups that constitute the site form a major part of the local green infrastructure. In addition, any future development should give full consideration into the retention of all Category 'A' & 'B' trees on the site.

Note: *Please refer to tree survey schedule for detailed dimensions and specific site comments*

Appendix 1

Survey Key

Tree No. Sequential reference number e.g. T1, T2 for individual trees, where trees are determined to be a group they will be denoted as follows G1, G2 and W1, W2 for woodlands.

Species: Recorded and listed by both common name and scientific name

Stem: Principal above ground structural component(s) of a tree that supports its branches.

Height: Provides indication of the height of the tree and is measured in meters from ground level to the upper canopy edge and is recorded up to the nearest half meter for heights up to 10 meters and the nearest meter for heights over 10 meters.

Stem diameter: Measured at a height of 1.5 meters from ground level using a diameter tape and recorded in millimetres. Where the stem cannot be measured at 1.5 meters due to irregular swellings on the stem or low branching then the position of measurement will be taken in accordance with the specification in Annex C of BS 5837:2012

Crown spread: Measured at the four cardinal points of a compass (north, south, east, and west) from the centre of the stem and rounded up to the nearest meter in order to provide an accurate representation of the crown spread in order to show above ground constraints.

Crown height: Measured distance between the lowest points of the crown from ground level.

Life stage: A method of age estimation e.g. young - the first one third of the estimated life expectancy, middle mature- the second third of the estimated life expectancy, mature- The last third of the estimated life expectancy , over mature- trees showing obvious signs of senescence

First significant branch (FSB): The direction of growth of the first significant branch from the point of attachment.

Comments: A brief evaluation and description of the tree in order to inform on significant defects or characteristics relating to tree form. Where comments are not present it should be assumed that no relevant features were exhibited.

Recommendations: Arboricultural recommendations based on the current land use only and are provided where action is required in order to aid in the long term management of the tree or for reasons of site safety.

Survey restrictions: It may be necessary on occasion to estimate tree dimensions where access is not available or where structure(s) or vegetation is precluding the visual assessment. Where dimensions are estimated it will clearly be marked in the tree survey schedule and be suffixed with #.

Root protection area (RPA) Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability. All stem diameters are calculated in line with the guidance given in BS 5837:2012 Annexe D

Tree categorisation: a method of apportioning a value (non-fiscal) to trees in order to identify the quality and value of existing tree stocks, allowing for informed decisions to be made regarding which trees are to be retained or removed dependant on development occurring. Category U-Those in such a condition that cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. Category A-Trees of a high quality with an estimated life expectancy of at least forty years. Category B-Trees of a moderate quality with an estimated remaining life expectancy of at least 20 years. Category C-Trees of a low quality with an estimated remaining life expectancy of at least 10 years.

Please refer to Table 1 Cascade chart for tree quality assessment, including subcategories, reference BS 5837:2012

Estimated remaining contribution: estimated remaining life expectancy e.g. <10, 10+, 20+, 40+

Statutory wildlife obligations: The Wildlife and Countryside Act 1981

The Wildlife and Countryside Act 1981 as amended, the Countryside and rights of Way Act 2000 and the Conservation (Natural Habitats) Regulations 1994.

These regulations protect all wild birds and make it an offence to intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Furthermore the Act makes it an offence (with exception to species listed in Schedule 2) to intentionally:

- kill, injure, or take any wild bird,
- take, damage or destroy the nest of any wild bird while that nest is in use or being built (also [take, damage or destroy the nest of a wild bird included in Schedule ZA1] under the Natural Environment and Rural Communities Act 2006), or
- take or destroy an egg of any wild bird

Bats are protected under Schedule 2 of the Conservation (Natural Habitats) Regulations 1994 making it an offence to damage or destroy a roost site even if the roost is not occupied at the time. The potential fines for each offence is £5000 and if more than one bat is involved in the incident then the fine can be extended to £5000 per bat. A prison sentence can be issued with offenders serving up to six months in prison.

Appendix 2

Table 1 cascade chart

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**		
	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)
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
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

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Tree No.	Common Name	Botanical Name	Age	Diameter(mm)	Stems	Height(m)	Crown Height(m)	North(m)	South(m)	East(m)	West(m)	Category	Life Exp	Comments	Recommendations	RPR(m)	RPA(m)
T1	London Plane	Platanus X hispanica	M	810	1	19	9	8	9	9	6	A1	40+	T1 is a large mature plane tree located within a raised planter within a courtyard setting. The tree has recently been reduced around its entire circumference in order to prevent the tree impacting on adjacent buildings.		9.7	297
T2	Common Lime	Tilia X europaea	M	270	1	13	3	3	3	4	2	B1	40+	A large cavity is present at the base of the tree on the north side of the stem. The wound is significant and is likely to reduce the lifespan of the tree.		3.2	33
T3	Common Lime	Tilia X europaea	M	265	1	11	3	4	3	3	2	A1	40+			3.2	32
T4	Common Lime	Tilia X europaea	M	245	1	9	3	5	3	3	3	A1	40+			2.9	27
T5	Common Lime	Tilia X europaea	M	280	1	13	3	5	2	4	3	A1	40+			3.4	35
T6	Common Lime	Tilia X europaea	M	225	1	11	3	4	2	2	2	A1	40+			2.7	23
T7	Common Lime	Tilia X europaea	M	265	1	11	2	2	4	3	5	A1	40+			3.2	32
T8	Common Lime	Tilia X europaea	M	145	1	8	3	1	2	1	2	B1	40+			1.7	10
T9	Common Lime	Tilia X europaea	M	140	1	8	3	1	2	3	1	B1	40+			1.7	9
T10	Common Lime	Tilia X europaea	M	210	1	11	3	3	3	2	4	A1	40+			2.5	20
T11	Sweetgum	Liquidambar styraciflua	M	320	1	11	3	4	4	6	3	C1	40+	T11 is located within a large raised shrub bed. The tree has major bark damage around it lower stem predominately on the western side. The stem divides at 1m from ground level. Included bark is visible around the stem union.		3.8	46
T12	Rowan	Sorbus aucuparia	M	220	1	11	3	4	4	5	2	C1	40+			2.6	22



TREE CONSTRAINTS PLAN

Retention value key

(RETENTION VALUE A)

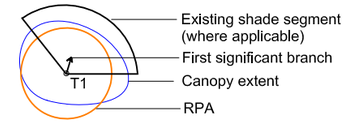
(RETENTION VALUE B)

(RETENTION VALUE C)

Trees to be removed (RETENTION VALUE U)

Root Protection Areas (RPA)

Root Protection Areas (RPA's) have been identified and are based on BS5837:2012.



Note: The original of this report was produced in colour - a monochrome copy should not be relied upon.

Client:
LAYER

Project:
John Dalton House

Detail:
Tree Constraints Plan

Drawn By:	Date:	Scale:
SS	21/03/2016	1:500@A3

Drg No:	Revision:
TR-01	V1