Amenity Tree Care

Tree Survey and Constraints Report

Manchester International Office Center

Report prepared for TPM Landscape

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1.0 Introduction

Instruction

1.1 Amenity Tree Care has been instructed to prepare the following Tree Constraints Report for those trees located on the land at Manchester International Office Centre.

1.2 I (Simon Brain) surveyed the site and I am a chartered arboriculturist with 25 years' experience holding the LANTRA Professional Tree Inspection certificate.

Arboricultural constraints

1.3 The tree constraints report has been 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 constraints of the current tree population on the site.

1.5 The constraints assessment considers trees on site as well as above and below ground constraints such as canopy extent, Root Protection Area (RPA) / extent of any likely modifications to RPA position, first significant branch and crown height. The constraints report provides a retention value category (appendix 2 BS5837 cascade chart) that shall also be used to inform any future design layout as these constraints can have a direct influence on the use of the site. Above ground, constraints are considered in line with the recommendations in section 5.2 of BS 5837:2012. No assessments are made of potential direct sunlight obstruction.

1.6 Whilst further consideration will be required at the design stage in the form of an Arboricultural Impact Assessment (AIA) the tree constraints survey and report shall be used to inform and influence the design of the development scheme prior to the AIA being undertaken. This shall facilitate an opportunity for trees identified as meriting retention within the constraints report to be included in an assessment of any modifications to scheme that need to be made to achieve tree retention. This process shall avoid uncontrolled arboricultural impacts because of improper planning referred to in BS5837:2012 sections 4.4.1.2 and 4.4.1.3.

1.7 Below ground constraints are influenced by the 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.

1.8 It is important to understand that when considering the RPA with regards to the circular plot as provided by BS5837:2012 and delineated on the Tree Constraints Plan (TCP) that many site factors may influence root morphology because of the prevailing local conditions at site level.

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 valid for a period of two years 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/s.

2.3 No analysis of soil samples was undertaken.

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

2.5 Any alteration or deletion from this report will invalidate it and the conclusions of this report will remain valid for twelve months from the date of the report.

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

2.7 The survey has been undertaken using OS data and GPS plotting which can be +/- 1m minimum.

2.8 The Local Planning Authority have not been contacted for Tree Preservation Order (TPO) or Conservation Area.

3.0 Methodology and data collection

3.1 The site was visited, and the trees were assessed visually utilising the Visual Tree Assessment (VTA) methodology. The survey system and report are based on BS5837:2012.

3.2 Each individual tree has been assessed with general regard to condition, health and structural suitability, retention value and commented upon in the report within Appendix 3 survey schedule. The survey schedule contains individual, group, and woodland records which includes detailed information relating to tree species, height, stem diameters, crown dimensions, crown height, age class, four cardinal point canopy measurements and estimated remaining contribution. The RPA is provided as a radius and total square meter coverage.

3.3 Where dimensions have been recorded trees 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

3.4 The use of tree groups is referred to in BS5837:2012 in reference 4.4.2.2 where it is noted that within groups some individual trees will be assessed where there is a need to differentiate the tree from the group attributes. Within the tree groups the largest stem diameters have been recorded, assuming they are a reasonable representation of the entire group. The term “group” is intended to identify trees forming cohesive features by means of planting, visually or culturally including biodiversity factors.

3.5 Recommendations for remedial tree works (Preliminary Management Recommendations) have been provided based on the tree(s) current condition. Management recommendations are provided in the survey sheets.

3.6 Tree positions have been taken using in field GPS and the supplied OS base and are therefore indicative.

3.8 Included in the sites survey sheets contained in appendix 3 is a comments section. During the survey comments have been based on the following arboricultural and landscape considerations and constraints:

- Whether the reference formed part of group shelter / cohesive feature
- The visual amenity and strategic landscape position
- Development constraints (residential/commercial/other)
- Species suitability for environment (given the site prominence)
- Third party vegetation
- Arboricultural longevity

- Site specific constraints
- Future maintenance
- An assessment of the applicability of any modified RPA

4.0 Arboricultural Constraints

4.1 The principle arboricultural constraints are listed in the site survey sheets and shown on the TCP contained within appendix 4. These principle constraints used in design are; tree canopy extent, RPA extents and retention value.

4.2 It is important to understand the significance of cohesive arboricultural features which are often linked and afford mutual shelter to their component parts. In many areas of the site continuous groups of vegetation are formed by tree groups, woodlands and even hedgerows. The loss of areas of trees within continuous groups can have a disproportionately negative affect on the stability of those retained trees growing within the remaining areas.

5.0 Survey area

5.1 The survey area consists of a commercial office facility, Manchester International Office Center (MIOC). The subject site comprises a managed amenity grassland sward, car parking and existing landscape plantings.

5.2 The trees growing on the site consist of mainly of low value arboricultural assets to the north, west and east of the amenity grassland sward. However those trees growing to the south of the subject site are growing in a collective group and exhibit significant visual amenity in the wider landscape.

6.0 Summary

6.1 Forty-three records are provided for the site, including three tree groups.

6.2 In summary the following retention values have been recorded:

A (15 records)	T22;T24;T25;T26;T27;T29;T30;T31;T32;T33;T34;T35;T36;T37;T38
B (19 records)	T2;T6;T7;T8;T9;T10;T11;T12;T15;T16;T18;T19;T20;T21;T23;T39;T40;G2;G3
C (8 records)	T3;T4;T5;T13;T1;T17;T28;G1
U (1 record)	T14

6.3 There are several category A records, all located on the southern boundary of the study areas all forming significant visual amenity in the wider landscape.

6.4 There are also Category B trees that form wider visual amenity around the access the northern access areas. The category B records are important arboricultural assets as they provide amenity value in the local landscape and exhibit arboricultural quality and longevity.

6.5 There are some records that have been categorised as retention value 'C' due to their limited arboricultural merit or impaired condition which are unlikely to pose as a constraint to development, 8 in total. Their loss could be mitigated by replacement planting.

6.5 A single Category U tree has been recorded on the site.

7.0 Concluding statement

7.1 The sites main arboricultural interest is located around the several high and medium value category A/B trees located on the site's southern boundary.

7.2 Every design effort is required to retained medium and high value trees and if such trees are to be removed then adequate mitigation planting will be required.

7.3 The remaining trees growing across the site are of little arboricultural significance.

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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Appendix 3 Survey schedule

Appendix 4 Tree Constraints Plan

Tree No.	Common Name	Latin name	Age	Diameter(mm)	Stems	Height (m)	Crown Height (m)	North (m)	South(m)	East (m)	West (m)	Category	Life Exp	Comments	Recommendations	RPA-R	RPA-Sqm
T1	Ash	Fraxinus excelsior	SM	275	1	9	3	3	3	3	3	C2	40+	Low bud/leaf density.		3.3	34
T2	Ash	Fraxinus excelsior	SM	240	1	8	3	3	3	3	3	B1	40+			2.9	26
T3	Holly	Ilex aquifolium	SM	150	1	5	3	1	1	1	1	C1	40+			1.8	10
T4	Ash	Fraxinus excelsior	SM	255	2	8	3	3	3	3	3	C1	40+			3.1	29
T5	Wild Service Tree	Sorbus torminalis	SM	160	1	7	3	2	2	2	2	C1	40+			1.9	12
T6	Laburnum	Laburnum anagyroides	M	435	1	9	3	3.5	3.5	3.5	3.5	B1	40+			5.2	86
T7	Yew	Taxus baccata Fastigiata	M	325	1	9	3	2	2	2	2	B1	40+			3.9	48
T8	Yew	Taxus baccata	M	234	2	9	3	3.5	3.5	3.5	3.5	B1	40+			2.8	25
T9	Wild Cherry	Prunus avium	M	331	3	9	3	4	4	4	4	B1	40+			4	50
T10	Hawthorn	Crataegus monogyna	M	330	1	6	3	4	4	4	4	B1	40+			4	49
T11	Yew	Taxus baccata Fastigiata	M	325	1	9	3	3	3	3	3	B1	40+			3.9	48
T12	Wild Cherry	Prunus avium	M	331	3	9	3	4	4	4	4	B1	40+			4	50
T13	Ash	Fraxinus excelsior	Y	90	1	6	0.5	1	1	1	1	C1	40+			1.1	4
T14	Lilac	Syringa vulgaris	Y	226	2	6	0.5	3	3	3	3	U	40+	Stem divides at ground level leading to split at abse. Included bark present in main fork.		2.7	23
T15	Cappadocian Maple	Acer cappadocicum	M	363	5	8	0.5	4	4	4	4	B2	40+			4.4	60
T16	Cherry Plum	Prunus pissardii	M	250	2	8	0.5	4	4	4	4	B2	40+			3	28
T17	Lilac	Syringa vulgaris	SM	283	3	6	0.5	3	3	3	3	C2	40+			3.4	36
T18	Silver Birch	Betula pendula	M	375	1	9	0.5	4.5	4.5	4.5	4.5	B2	40+			4.5	64
T19	Silver Birch	Betula pendula	M	290	1	9	0.5	3	3	3	3	B2	40+			3.5	38
T20	Silver Birch	Betula pendula	M	260	1	9	0.5	3	3	3	3	B2	40+			3.1	31
T21	Crack Willow	Salix fragilis	M	485	1	17	0.5	4	4	4	4	B2	40+	Part of linear group		5.8	106
T22	Wild Service Tree	Sorbus torminalis	M	460	1	12	0.5	4.5	4.5	4.5	4.5	A2	40+	Part of linear group		5.5	96
T23	Crack Willow	Salix fragilis	M	585	1	17	0.5	5	5	5	5	B2	40+	Part of linear group		7	155
T24	Copper Beech	Fagus sylvatica 'Purpurea'	M	440	1	15	0.5	3	3	3	3	A2	40+	Part of linear group		5.3	88
T25	Copper Beech	Fagus sylvatica 'Purpurea'	M	545	1	15	0.5	4.5	4.5	4.5	4.5	A2	40+	Part of linear group		6.5	134
T26	Wild Service Tree	Sorbus torminalis	M	480	1	15	0.5	4.5	4.5	4.5	4.5	A2	40+	Part of linear group		5.8	104
T27	Copper Beech	Fagus sylvatica 'Purpurea'	M	440	1	15	0.5	4.5	4.5	4.5	4.5	A2	40+	Part of linear group		5.3	88

Tree No.	Common Name	Latin name	Age	Diameter(mm)	Stems	Height (m)	Crown Height (m)	North (m)	South(m)	East (m)	West (m)	Category	Life Exp	Comments	Recommendations	RPA-R	RPA-Sqm
T28	Crack Willow	Salix fragilis	M	510	1	15	0.5	4	4	4	4	C2	40+	Broken branches in crown. Unbalanced crown shape. Crown distorted due to group pressure.		6.1	118
T29	Copper Beech	Fagus sylvatica 'Purpurea'	M	565	1	16	0.5	5	5	5	5	A2	40+	Part of linear group		6.8	144
T30	Copper Beech	Fagus sylvatica 'Purpurea'	M	520	1	16	0.5	5	5	5	5	A2	40+	Part of linear group		6.2	122
T31	Wild Service Tree	Sorbus torminalis	M	375	1	16	0.5	3	3	3	3	A2	40+	Part of linear group		4.5	64
T32	Copper Beech	Fagus sylvatica 'Purpurea'	M	430	1	16	0.5	4	4	4	4	A2	40+	Part of linear group		5.2	84
T33	Copper Beech	Fagus sylvatica 'Purpurea'	M	410	1	16	0.5	4	4	4	4	A2	40+	Part of linear group		4.9	76
T34	Wild Service Tree	Sorbus torminalis	M	400	1	12	0.5	3	3	3	3	A2	40+	Part of linear group		4.8	72
T35	Copper Beech	Fagus sylvatica 'Purpurea'	M	520	1	16	0.5	5	5	5	5	A2	40+	Part of linear group		6.2	122
T36	Copper Beech	Fagus sylvatica 'Purpurea'	M	390	1	16	0.5	3.5	3.5	3.5	3.5	A2	40+	Part of linear group		4.7	69
T37	Wild Service Tree	Sorbus torminalis	M	370	1	12	0.5	3	3	3	3	A2	40+	Part of linear group		4.4	62
T38	Copper Beech	Fagus sylvatica 'Purpurea'	M	420	1	12	0.5	4	4	4	4	A2	40+	Part of linear group		5	80
T39	Holly	Ilex aquifolium	M	200	1	6	0.5	2	2	2	2	B2	40+			2.4	18
T40	Holly	Ilex aquifolium	M	250	1	6	0.5	2.5	2.5	2.5	2.5	B2	40+			3	28
G1	Ash	Fraxinus excelsior	SM	190	1	9	0.5	3	3	3	3	C2	40+			2.3	16
G2	Hybrid Black Poplar	Populus serotina	M	800	1	20	0.5	6	6	6	6	B2	40+			9.6	290
G3	Ash	Fraxinus excelsior	M	325	1	11	0.5	4	4	4	4	B2	40+	LPA street trees, off site.		3.9	48



TREE CONSTRAINTS PLAN

Retention value key

(RETENTION VALUE A)

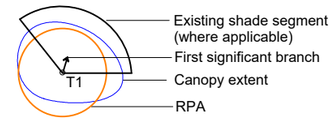
(RETENTION VALUE C)

(RETENTION VALUE B)

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. RPA's have been shown as a red polyline.



Client:
TPM Landscape

Project:
Manchester International Office Center

Detail:
TREE CONSTRAINTS PLAN - Overview

Drawn By:	Date:	Scale:
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