



Report No: LTM0244.PAA.01 Date: 02/07/2021 Project: Ryebank Fields, Chorlton-cum-Hardy, Manchester M21 9NS

## BS 5837:2012 Preliminary Arboricultural Assessment



### **Inspection Record.**

Date of Inspection	Surveyor
24/06/2021	Matthew Lally. FdSc MArborA

### Lally Tree Management.

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Revision	Date	Prepared by	Status
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### **Executive Summary**

This report is not a traditional Preliminary Arboricultural Assessment as it is not the owner of the land who has commissioned the works. There was therefore no access granted to the land to conduct a full assessment. All trees were observed from either the road or from Longford Park. No official plans or topographical surveys have been made available and therefore all trees have been plotted by eye and represented on an OS map.

The brief was to assess the trees inside Ryebank Fields boundary that could be seen from outside of the boundary, in line with BS5837 guidance, and also to assess any positive benefits that the trees may offer to the wider environment. It was decided to include I-Tree data which assesses ecosystem services and also CAVAT data to assess the potential replant value of the trees, only 45 trees were included in this data as group data such as woodlands and hedges cannot easily be input into these systems and is therefore deemed not useable in this project.

The trees assessed are located to the southern and eastern boundaries of the site with a small section to the north also included in the report. It was not possible to ascertain the boundary lines with Longford Park so some trees within the park have been included for good measure. The assessed trees are highly visible from public viewpoints and contribute a great deal of amenity to the area. A large linear poplar group is located on the eastern boundary with the park and is considered to be a high value landscape feature, its loss would significantly affect the look of the area. There is also a native Wild Black Poplar located within this group which is noted on the Woodland Trust Ancient Tree Register as a notable tree, native Wild Black Poplars are rare in Britain on account of disease issues and loss of suitable places for them to grow among other issues, but they do offer a good level of environmental benefit and should be retained where possible.

CAVAT values for the 45 assessed trees came back with a replant value in excess of £1.6m.

I-Tree data for the 45 assessed trees confirms good levels of ecosystem services provided by these trees including carbon sequestration, carbon storage, oxygen production, pollution removal and avoided surface water runoff.

Category A	Category B	Category C	Category U	
	1 x Woodland			
1 x Group	11 x Trees	2 x Trees	1 x Troo	
1 x Tree	4 x Groups	3 x Groups	TX TIEE	
	1 x Hedge			

Trees present that could be potentially affected by the development are as follows:



## **1.0 Introduction**

- 1.0.1 The author of this report is Matthew Lally (MAborA) FdSc. Matthew is a professional member of the Arboricultural Association, The Consulting Arborist Society and an Associate member of the Institute of Chartered Foresters and is therefore required to uphold ethical standards laid out by these institutions.
- 1.0.2 This Arboricultural Impact Assessment has been commissioned by Mrs Julie Ryan and is prepared in relation to the proposed development at Ryebank Fields.

An outline of the site assessment boundary can be found in figure 1.



Figure 1. Assessment Boundary Plan

- 1.0.3 The tree survey & assessment of existing trees has been guided by the recommendations within British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction Recommendations'. The recommendations set out a structured assessment methodology to assist in determining which trees would be deemed either as being suitable or unsuitable for retention.
- 1.0.4 British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction -Recommendations' includes guidance for considering the relationship between existing trees and how to integrate their needs into a successful development. A harmonious and sustainable relationship between any retained trees and new structure and/or hard surfaces is at the heart of the guidance.



- 1.0.5 The survey was carried out on 24/06/2021 by means of inspection from ground level by an experienced and qualified arboriculturalist. The inspection can be restricted in cases where trees were Ivy clad or surrounded by dense vegetation.
- 1.0.6 Due to the size and nature of the site, it was decided that the survey methodology would include broadly grouping trees that share very similar characteristics. This method is in line with point 4.2.4 of BS 5837:2012 that states 'Trees forming groups should be identified and considered as groups where the arboriculturist determines that this is appropriate. It may be appropriate to assess the quality and value of trees as a whole, rather than individuals.'
- 1.0.7 British Standard 5837:2012 recommends the assessment of trees is made as objectively as possible, but the findings will always remain the opinions of the surveyor. The tree categorisation method identifies the quality and value of the existing tree stock, allowing informed decisions to be made concerning development design layout.
- 1.0.8 Table 1 provides a summary of the documents that have been made available by the client:

Document Type	Reference No.	Author	Date
Site Plan	Promap-1440127- 1540674-720-0.DWG	Ordnance Survey	-

- 1.0.9 The supplied drawing did not include tree positions. Access to the land was not permitted. All tree locations have been made by eye and should not be relied upon.
- 1.0.10 Weather conditions during the survey were dry and still.
- 1.0.11 Assessing the potential influence of trees upon load bearing soils, beneath existing and proposed structures resulting from water abstraction by trees or rehydration of shrinkable soils was not included in the contract brief and is therefore not considered in the report. The consultant cannot be held responsible for damage arising from such action.
- 1.0.12 Potentially hazardous trees are not highlighted as it was not possible to fully assess any tree due to no access.
- 1.0.13 All metrics for the BS 5837 part of this report are estimated by eye. These metrics should be treated as indicative and not literal. The data collected will give a good indicator only of the outcomes of a survey whereby more accurate information could be collected.
- 1.0.14 All CAVAT and I-TREE data is estimated and therefore the outputs by these methods should be treated as indicators of benefits and values exhibited by the trees that have been included.



### 2.1 National Planning Policy Framework (NPPF)

- 2.1.1 When determining planning applications, Local Planning Authority's (LPA) should apply the following principles:
  - If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternate site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.
  - Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused unless there are wholly exceptional reasons, and a suitable compensation strategy exists.
  - Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity (paragraph 175).

### 2.2 Local Planning policy - Guide to Development in Manchester Supplementary Planning Document and Planning Guidance Adopted April 2007

**4.15**: DP Part 1 Policies E2.3 and E2.4 require the protection of wildlife, wildlife habitats, and where possible, the creation of new nature reserves and features which will sustain wildlife.

Part 1 Policy E2.6 states that the City Council wishes to prevent the loss of existing trees. Developers will need to contribute to Manchester's Biodiversity Strategy by demonstrating in their Environment Standards Statement how they have taken full account of the effect of their proposed development on biodiversity.

This should highlight how existing species and habitats would be protected and how the proposed development would enhance the ecological value of the site. Mature trees and hedges should be retained on site wherever possible. Where this is not possible, developers will be expected to agree an appropriate scheme for replanting with the Development Control case officers.

Developments should result in no net loss in overall biodiversity value and maximise opportunities to meet and exceed our target to achieve a 10%net increase in tree cover across new developments. In exceptional cases, where planting is unachievable on site, permission may be granted to plant elsewhere in the City to ensure no overall net loss in tree resources.

Existing green links across the site should be maintained and the opportunity taken to create new links as appropriate. Landscaping and new planting should include species appropriate for the proposed development that will encourage wildlife. Full plans should be included in the report showing retained, enhanced and new ecological features, the number of on-site trees pre and post development, and a 5 year management plan. Wood and wood products should come from Forest Stewardship Council sources. Tropical hardwoods should be avoided.



## 3.0 Legislation

### **Statutory Considerations**

- 3.0.1 A Tree Preservation Order (TPO) is an order made by a local planning authority to protect specific trees, groups of trees or woodlands in the interests of amenity. A TPO prohibits the:
  - cutting down
  - topping
  - lopping
  - uprooting
  - willful damage
  - willful destruction

of trees without the local planning authority's written consent. If consent is given, it can be subject to conditions which have to be followed. In the Secretary of State's view, cutting roots is also a prohibited activity and requires the authority's consent. Anyone found guilty of such an offence is liable and in serious cases, may result in prosecution and incur an unlimited fine.

### 3.0.2 Statutory controls

If the trees on site are subject to any Tree Preservation Orders (TPO's) or are encompassed within a Conservation Area, then statutory permission from the Local Planning Authority (LPA) will be required before any tree works take place.

### 3.0.3 Felling Licence

- 3.0.4 Tree felling is also restricted under the Forestry Act 1967. Under this act, there is an exemption from the need for a felling licence for "Felling trees immediately required for the purpose of carrying out development authorised by planning permission (granted under the Town and Country Planning Act 1990) ..."
- 3.0.5 If full planning permission is granted, then any trees which require felling to implement the approved plans are exempt from this statutory protection. Outline planning permission does not provide an exemption to the regulations that control tree felling in the Forestry Act 1967.

## 4.0 Survey Methodology

- 4.0.1 The trees were surveyed in accordance with Chapter 4 of BS5837:2012. The tree metrics have been recorded in the tree schedule in appendix one. Where groups of trees and woodland groups have been recorded, average height, average crown spread and average diameter at breast height (DBH) are reported. Where access to the base of any trees was limited then measurements were estimated.
- 4.0.2 Trees have been assessed as individual trees (T), groups of trees (G), hedgerows (H) or woodland Groups (W) where it has been determined appropriate.



- The term group has been applied where trees form cohesive arboricultural features either aerodynamically, visually or culturally.
- For the purposes of this assessment, a hedgerow is described as any boundary line of trees or shrubs less than 5m wide at the base and are managed or have been managed under a regular pruning regime.
- For the purposes of this assessment, woodland is described as a habitat where 'trees are the dominant plant form. The individual tree canopies generally overlap and interlink, often forming a more or less continuous canopy'.
- 4.0.3 All the trees were assessed using: a grading A to C (retention) and U (removal); condition and age class as defined in appendix two.
- 4.0.4 Where appropriate, canopy spread for each tree was recorded at four cardinal points in order to reproduce an accurate representation of the crown shape of the tree on the tree plan in appendix four.
- 4.0.5 The survey included all trees within the proposal area and trees near to the proposal.

## **Veteran and Ancient Trees**

- 4.0.6 Veteran trees and Ancient Woodland are important components of the landscape, their importance can be for a number of reasons including that of their ecological, social, cultural and historic value.
- 4.0.7 Veteran Trees and Ancient Woodlands are material considerations within the planning process and their importance is specifically recognised within the National Planning Policy Framework (NPPF) 2019
- 4.0.8 Ancient Tree Guide No4 Published by the Woodland Trust and the Ancient Tree Forum states that:

'An ancient tree is one that has passed beyond maturity and is old, or aged, in comparison with other trees of the same species. Its canopy may be small. It will probably have a very wide trunk relative to other trees of the same species and it is very likely that it will be hollow'

### AND

'Veteran is a term describing a tree with habitat features such as wounds or decay. The terms ancient and veteran have been used interchangeably in the past, however, it is important to know what the differences between them [are]. A veteran tree is a survivor that has developed some of the features found on an ancient tree, not necessarily as a consequence of time, but of its life or environment. Ancient veterans are ancient trees, not all veterans are old enough to be ancient. A veteran may be a young tree with a relatively small girth in contrast to an ancient tree but bearing the 'scars' of age such as decay in the trunk, branches or roots, fungal fruiting bodies, or dead wood. These veteran features will still provide wildlife habitat'

- 4.0.9 Different methodologies are available for the defining of Veteran & Ancient trees in the field. Lally Tree Management use RAVEN (Recognition of Ancient, Veteran and Notable Trees) allowing quick and easy assessments to be made, whilst trying to ensure these valuable assets to our environment do not go un-noticed.
- 4.0.10 No Veteran Trees or Ancient Trees were identified on this site; however, a Wild Black Poplar was noted on the boundary with Longford Park. This tree is registered on the Woodland Trusts Ancient tree register as a Notable Tree. Follow the below Link.

https://ati.woodlandtrust.org.uk/treesearch/tree?treeid=219413&from=3523&v=1904568&ml=map&z=15&nwLat=53.456668 59640308&nwLng=-2.319840174668981&seLat=53.43778065107891&seLng=-2.237442713731481#/

### 5.0 Capital Asset Value for Amenity Trees (CAVAT)

- 5.0.1 CAVAT provides a method for managing trees as public assets rather than liabilities. It is designed not only to be a strategic tool and aid to decision-making in relation to the tree stock as a whole, but also to be applicable to individual cases, where the value of a single tree needs to be expressed in monetary terms.
- 5.0.2 It is intended particularly for councils and other Public Authorities and primarily for publicly owned trees. However, it may be used by other public bodies, including the courts, and by private institutions and individuals. It complements other tools of arboricultural analysis, such as single tree hazard assessment systems. So far as possible it draws upon objective evidence and published data, but it also relies on expert arboricultural knowledge and in some cases assessments that are specific to CAVAT.
- 5.0.3 The values produced by CAVAT are estimated replant values for trees only. These values are not fixed values for the trees. It must also be pointed out that the input values in this report have been estimated. CAVAT values have been included in this report to highlight the hypothetical costs involved in trying to re-create the tree scape that exists at this location. In reality it would be almost impossible to replant some of the larger trees due to their very large sizes. The value produced by this system is based on the 45 trees that were input into the software as woodlands and groups that do not have individual tree metrics could not be input. See appendix five for data input values.
- 5.0.4 The Cumulative Total Value for the 45 trees is £1,641,989. It is likely that if all the trees on this site were individually assessed and input into this system, the overall re-plant value would be higher than the value shown above.



### 6.0 i-Tree Eco v6

- 6.0.1 Eco v6 is a model that uses tree measurements and other data to estimate ecosystem services and structural characteristics of the urban or rural forest. Tree measurements and field data are entered into the Eco application either by web form or by manual data entry, they are merged with local pre-processed hourly weather and air pollution concentration data. These data make it possible for the model to calculate structural and functional information using a series of scientific equations or algorithms.
- 6.0.2 i-Tree Eco is designed to give estimations on multiple ecosystem services, this report will be utilising only some of these and are listed below:
  - Pollution reduction Hourly amount of pollution removed by the urban forest, and associated percent air quality improvement throughout a year. Pollution removal is calculated for ozone, sulphur dioxide, nitrogen dioxide, carbon monoxide and particulate matter 2.5 (<2.5 microns).
  - Carbon Total carbon stored and net carbon annually sequestered by the urban forest.
  - Values Compensatory value of the forest, as well as the estimated economic value of ecosystem services.

### 6.0.3 Pollution Removal & Oxygen Production.

Pollution removal<sup>1</sup> by trees in Ryebank was estimated using field data and recent available pollution and weather data available. Pollution removal was greatest for ozone (Figure 7). It is estimated that trees remove 12.94 kilograms of air pollution (ozone (O3), carbon monoxide (CO), nitrogen dioxide (NO2), particulate matter less than 2.5 microns (PM2.5)<sup>2</sup>, and sulfur dioxide (SO2)) per year with an associated value of £317



Annual pollution removal (points) and value (bars) by urban trees, Ryebank



### V. Oxygen Production

Oxygen production is one of the most commonly cited benefits of urban trees. The annual oxygen production of a tree is directly related to the amount of carbon sequestered by the tree, which is tied to the accumulation of tree biomass.

Trees in Ryebank are estimated to produce 3.301 metric tons of oxygen per year.<sup>4</sup> However, this tree benefit is relatively insignificant because of the large and relatively stable amount of oxygen in the atmosphere and extensive production by aquatic systems. Our atmosphere has an enormous reserve of oxygen. If all fossil fuel reserves, all trees, and all organic matter in soils were burned, atmospheric oxygen would only drop a few percent (Broecker 1970).

The top 20 oxygen pro	duction species.			
Species	Oxygen (kilogram)	Gross Carbon Sequestration (kiloaram/vr)	Number of Trees	Leaf Area (hectare)
Populus x canadensis	1,901.12	712.92	12	0.98
Acer pseudoplatanus	335.06	125.65	9	0.28
Tilia x europaea	279.00	104.62	2	0.15
Betula pendula	213.64	80.11	4	0.10
Populus nigra	195.01	73.13	1	0.08
Acer platanoides	130.00	48.75	3	0.12
Acer saccharinum	124.42	46.66	4	0.15
Salix fragilis	74.51	27.94	1	0.10
Fraxinus excelsior	27.38	10.27	2	0.02
Quercus	15.85	5.94	1	0.01
Carpinus betulus	3.60	1.35	1	0.02
Salix caprea	1.06	0.40	4	0.02
Sambucus nigra	0.43	0.16	1	0.00

### The top 20 oxygen production species.



### 6.0.4 Carbon Storage and Sequestration

Trees in Ryebank are estimated to store 85.7 metric tons of carbon (£5.14 thousand). Of the species sampled, Populus x canadensis stores and sequesters the most carbon (approximately 68.8% of the total carbon stored and 57.6% of all sequestered carbon.)



Trees reduce the amount of carbon in the atmosphere by sequestering carbon in new growth every year. The amount of carbon annually sequestered is increased with the size and health of the trees. The gross sequestration of Ryebank trees is about 1.238 metric tons of carbon per year with an associated value of £74.3.



the greatest sequestration, Ryebank

### 6.0.5 Structural Value

The structural value of an urban forest tends to increase with a rise in the number and size of healthy trees (Nowak et al 2002a). Annual functional values also tend to increase with increased number and size of healthy trees. Through proper management, urban forest values can be increased; however, the values and benefits also can decrease as the amount of healthy tree cover declines.

Urban trees in Ryebank have the following structural values:

- Structural value: £160 thousand
- Carbon storage: £5.14 thousand

Urban trees in Ryebank have the following annual functional values:

- Carbon sequestration: £74.3
- Avoided runoff: £39.9
- Pollution removal: £317
- Energy costs and carbon emission values: £0

(Note: negative value indicates increased energy cost and carbon emission value)



### Tree species with the greatest structural value, Ryebank



## 7.0 Caveats and Limitations

- 7.1 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.
- 7.2 This is an arboricultural report and as such no reliance should be given to comments relating to buildings, engineering, soils ecological or archaeological data. If either is commented upon within the report further professional advice should be sought.
- 7.3 This is not a Tree Risk Assessment. As such this report should not be taken to mean or imply that any of the inspected trees should be considered safe. A Tree Risk Assessment can be provided but would be subject to additional survey requirement and further fees.
- 7.4 Trees are growing dynamic structures. Whilst reasonable effort has been made to identify defects within the trees inspected, no guarantee can be given as to the absolute safety or otherwise of any individual tree. No tree is ever absolutely safe due to the unpredictable laws and forces of nature. As a result of this, natural failure of intact trees will occur; extreme climatic conditions can cause damage to even apparently healthy trees.
- 7.5 For the purposes of this survey all dimensions of trees, their associated parts and locations are based on estimates viewed by eye from a distance.
- 7.6 Trees are living organisms whose health, condition and structure can change quickly and without warning. Therefore, the contents of this report are valid for a period of one year from the date of this survey.



## Appendix One BS 5837 Tree Survey Data



DATE C		JOB RE	EFERE	NCE	:: L1	M02	244. <b>F</b>	PAA.01		SITE ADDRESS: Ryebank Field, Chorlton						
							Cr	own (I	Spre n)	ead						
Tree No.	Species	Stem Dia (mm)	RPA (m²)	RPA Radius (m)	Height (m)	Age Class	N	Е	S	w	Crown Clearance (m)	Condition	Comments	Recommendations	Remaining Contribution	BS5837 Retention Category
W1. 1	Salix caprea	35	55	4.8	2	EM	1	1	1	1	0	D	A dead standing stump.	No action	Less than	U
W1. 2	Acer saccharinum	40	72	4.8	14	EM	3	4	5	6	2S	А	Good form and vitality. No significant risk features observed.	No action	60+	B2
W1. 3	Acer saccharinum	40	72	4.2	14	EM	3	3	5	5	3S	А	Good form and vitality. Good visibility from public viewpoints.	No action	40+	B2
W1. 4	Acer platanoides	35	55	4.8	12	EM	4	4	4	4	8N	А	Limited visibility from road. Good vitality.	No action	60+	B2
W1. 5	Acer saccharinum	40	72	4.2	14	EM	4	4	4	4	7N	А	Good form and vitality. Reduced visibility from public viewpoints.	No action	60+	B2
W1. 6	Acer platanoides	35	55	4.8	12	EM	4	4	3	3	5N	А	Limited visibility from road. Good vitality.	No action	60+	B2
W1. 7	Acer saccharinum	40	72	3	14	EM	4	4	4	4	5N	А	Good form and vitality. Reduced visibility from public viewpoints.	No action	40+	B2
W1. 8	Salix caprea	25	28	3	12	SM	3	1	4	4	4W	В	Multi stemmed. Good vitality. Good visibility from public viewpoints.	No action	40+	B2
W1. 9	Salix caprea	25	28	1.68	12	EM	4	4	4	4	5N	A	Good vitality. Limited visibility from public viewpoints.	No action	40+	B2
W1. 10	Quercus sp.	14	9	3	8	SM	2	3	2	2	3N	A	A self set tree of good form and vitality. No significant risk features observed.	No action	80+	B2
W1. 11	Acer pseudoplatanus	25	28	3	14	SM	4	4	1	4	3N	A	Asymmetrical crown due to adjacent trees. Good vitality. Good visibility from public <b>No action</b> viewpoints.		60+	B2
W1. 12	Acer pseudoplatanus	25	28	2.16	12	SM	1	4	4	4	3S	А	Good form and vitality. Good visibility from public viewpoints.	No action	60+	B2
W1. 13	Acer pseudoplatanus	18	15	4.8	12	SM	2	1	4	4	3S	А	Good vitality. Good visibility from public viewpoints.	No action	60+	B2



DATE OF SURVEY: 24/06/2021 JOB REFERENCE: LTM0244.PAA.01 SITE ADDRESS: Ryebank Field, Chorlton **Crown Spread** (m) **BS5837** Stem **RPA** Crown RPA Height Age Tree Remaining **Species** Dia Radius E S W **Clearance Condition** Comments Recommendations Retention N Class Contribution No. (m<sup>2</sup>) (m) Category (m) (mm) (m) A tree of good form and vitality. No Tilia x europaea ΕM 0N А significant risk features observed. Good 80+ **B2** W1.14 40 72 3.6 12 5 5 4 No action 4 visibility from public viewpoints. Asymmetrical crown due to adjacent trees. W1.15 Salix caprea 30 41 1.44 10 ΕM 5 5 1 0.5 0N В No action 40+ **B2** Stem lean. Good form and vitality. Limited visibility from 7 3 2N **B2** W1.16 12 8 SM 2 1 2 А 40+ Betula pendula 3 No action public viewpoints. W1.17 Betula pendula 25 28 4.2 12 SM 3 3 3 3N А Limited visibility from public viewpoints. No action 40 +**B2** 3 Good form and vitality. Good visibility from 4S А **B2** W1.18 Acer platanoides 35 55 1.8 12 EM 5 6 5 5 No action 60+ public viewpoints. Boundary tree. Good vitality. Good visibility G2. 1 Fraxinus excelsior 3 7 3S А 40+ C1 15 10 SM 3 3 4 1 No action from public viewpoints. Good form and vitality. No risk features G2. 2 Fraxinus excelsior 25 28 3.6 12 SM 1 4 3 3S А No action 40+ C2 4 observed. ТЗ 30 2S Ivy clad. Limited inspection. Good vitality. 20+ C1 Sambucus nigra 41 5.64 8 3 3 А No action М 3 3 Good form and vitality. No significant 4S В Τ4 Betula pendula 47 100 6.6 11 Μ 3 3 3 3 No Action 40+ **B1** defects observed. Ivy on stem. Good vitality. No significant risk T5 Betula pendula 55 137 2.4 14 6 3N А No Action 40 +**B1** М 5 5 4 future observed. Acer G6.1 20 2.4 9 2 2 1E А A self set tree. Low arboricultural value. No Action 40+ C1 18 SM 2 2 pseudoplatanus A self set tree. Good vitality. Low Acer G6. 2 20 18 16.8 5 SM 2 2 3 3 2N А No Action 40+ C2 pseudoplatanus arboricultural value.



#### DATE OF SURVEY: 24/06/2021 JOB REFERENCE: LTM0244.PAA.01 SITE ADDRESS: Ryebank Field, Chorlton **Crown Spread** (m) **BS5837** Stem **RPA** Crown RPA Tree Height Age Remaining Species Dia Radius w **Clearance Condition** Comments Recommendations Retention F S Class Contribution No. $(m^2)$ (m) Category (mm) (m) (m) Good form and vitality. Questionable ownership. No significant risk features observed. Limited inspection due to dense Populus x G7.1 В bramble. Part of a linear group forming No Action 40+ 140 887 14.4 18 М 7 10 10 12 2Scanadensis significant landscape feature. The loss of this group would have a significant effect on amenity. Good form and vitality. No significant risk features observed. Questionable ownership. Populus x G7. 2 652 2S В Part of a linear group forming significant 40+ 120 20 12 8 14 No Action 14.4 Μ 6 canadensis landscape feature. The loss of this group would have a significant effect on amenity. Good form and vitality. No significant risk features observed. Questionable ownership. Populus x G7.3 120 652 14.4 19 Μ 5 10 5 9 1E А Part of a linear group forming significant No Action 40+ canadensis landscape feature. The loss of this group would have a significant effect on amenity. Good form and vitality. No significant risk features observed. Questionable ownership. Populus x G7.4 120 652 14.4 18 7 9 9 12 2W А Part of a linear group forming significant No Action 40+ М canadensis landscape feature. The loss of this group would have a significant effect on amenity. Good form and vitality. No significant risk features observed. Questionable ownership. Populus x G7.5 120 652 15 19 7 10 7 9 5E В Part of a linear group forming significant No Action 40+ Μ canadensis landscape feature. The loss of this group would have a significant effect on amenity.



#### DATE OF SURVEY: 24/06/2021 JOB REFERENCE: LTM0244.PAA.01 SITE ADDRESS: Ryebank Field, Chorlton **Crown Spread** (m) **BS5837** Stem **RPA** Crown RPA Tree Height Age Remaining Species Dia Radius S W **Clearance Condition** Comments Recommendations Retention F (m<sup>2</sup>) Class Contribution No. (m) Category (mm) (m) (m) Good form and vitality. No significant risk features observed. Questionable ownership. Populus x G7.6 125 707 13.8 19 11 13 10 14 3S В Part of a linear group forming significant No Action 40+ Μ canadensis landscape feature. The loss of this group would have a significant effect on amenity. Good form and vitality. No significant risk features observed. Questionable ownership. Populus x G7.7 7 12 8 12 В Part of a linear group forming significant No Action 115 598 12 19 Μ 3N 40+ canadensis landscape feature. The loss of this group would have a significant effect on amenity. Good form and vitality. No significant risk features observed. Questionable ownership. Populus x G7.8 100 452 15.6 19 М 6 11 9 8 3W В Part of a linear group forming significant No Action 40 +canadensis landscape feature. The loss of this group would have a significant effect on amenity. Good form and vitality. No significant risk features observed. Questionable ownership. Populus x G7.9 в 130 765 4.8 20 Μ 9 11 10 11 4N Part of a linear group forming significant No Action 40+ canadensis landscape feature. The loss of this group would have a significant effect on amenity. Acer Supressed. Good vitality. Acceptable Т8 40 72 7.2 7 ΕM 1N В No Action 40+ C1 4 4 3 2 pseudoplatanus condition. Populus x в Т9 60 **B1** 163 6 14 EM 11 0.5 3 9 5N Leaning but appears stable. Good vitality. No Action 40+ canadensis



#### DATE OF SURVEY: 24/06/2021 JOB REFERENCE: LTM0244.PAA.01 SITE ADDRESS: Ryebank Field, Chorlton **Crown Spread** (m) **BS5837** Stem **RPA** Crown RPA Height Age Tree Remaining Species Dia Radius E S W **Clearance Condition** Comments Recommendations Retention Class Contribution No. (m<sup>2</sup>) (m) Category (mm) (m) (m) Stem cavity but of little concern. Good T10 Carpinus betulus 6 7 3S в No cation 40+ **B1** 50 113 9.6 14 EΜ 6 4 vitality. T11 Limited view from park. Good vitality. **B2** Salix fragilis 80 290 14.4 16 М 6 6 6 6 5N А No action 40+ Good vitality. Codominant form. Tight forks at 2.5m. Historical branch failure but of little Populus nigra var T12 120 652 7.2 17 10 9 1N А No Action 40+ М 10 10 concern. High environmental benefit due to betulifolia species, size and location. Acer Good form and vitality. No significant risk T13 60 2N А No Action 163 9.6 18 6 4 6 6 40+ **B1** М feature observed. pseudoplatanus Good form and vitality. No Significant risk Populus x T14 В 1N 80 290 10.2 20 EM 7777 No action 40+ **B1** canadensis features observed. Populus x Good form and vitality. No significant risk T15 85 327 20 9 7 7 9 2E А No action 40+ **B1** 9.6 EΜ canadensis features observed. Acer Good form an vitality. No significant risk T16 80 290 9 1N А No action 40+ **B1** 14 ΕM 6 6 6 6 features observed. pseudoplatanus A multistemmed tree of good vitality. T17 1E В No Action Tilia x europaea 75 255 7.2 16 EΜ 5 6 6 6 40+ **B1** acceptable condition Good form and vitality. No significant risk Acer T18 60 163 1.8 14 ΕM 4 1N А No action 40+ **B1** 4 4 4 pseudoplatanus features observed.

\* = Average measurement ~ = Estimated measurement # = Position estimated on site



DATE (	<b>OF SURVEY:</b> 24/06	JOB R	EFERE	NCE	E: L7	ГМО	244.	PAA.01		SITE ADDRESS: Ryebank Field, Chorlton						
Crown Spread (m)																
Tree No.	Species	Stem Dia (mm)	RPA (m²)	RPA Radius (m)	Height (m)	Age Class	N	E	s	w	Crown Clearance (m)	Condition	Comments	Recommendations	Remaining Contribution	BS5837 Retention Category
G19	Laurel. Willow. Birch. Elder.	15	10	1.8	4	SM	2	2	2	2	ON	A	A mixed understorey group with boundary hedging. Dense. Highly visible from public viewpoints.	No action	40+	C2
G20	Mixed Species	15	10	5.4	5	Y to M	2	2	2	2	ON	A	A mixed hedge group on boundary of side. Good environmental qualities.	No Action	60+	В3
G21	Mixed Broad leaves	45	92	3.6	18	EM	7	7	7	7	ON	A	Not inspected. Viewed from park. estimated measurements	No Action	60+	B2
G22	Hawthorn. Ash. Sycamore. Silver Maple. Hazel.	30	41	3	14	SM to M	3	3	3	3	0	A to B	A mixed woodland group on boundary of site. Good form and vitality.	No action	80+	B2
G23	Aspen	25	28	1.44	14	Y to M	3	3	3	3	0N	A	An aspen grove. Limited visibility from roadside.	No action	40+	B2
Hedge	Elder. Hawthorn. Privet. Holly.	12	7	1	5	М	2	2	2	2	0N	А	A boundary hedge. Broken in places. Good ecological value.	No action	40+	В3



# Appendix Two Glossary of Terms



The following terms are concurrent with best Arboricultural practice and within the guidelines set by the International Society of Arboriculture (ISA), the Arboricultural Association (AA) and the British Standards Institute (BSI).

### Age Range:

Age is site specific and categorised:

Young (Y)	Out-planted trees that have not yet established.
Semi-Mature	(SM) Established trees up to 1/3 of expected height and crown.
Early Mature	(EM) Between 1/3 and 2/3 of expected height and crown.
Mature (M)	Between 2/3 and full expected height and crown.
Fully Mature	(FM) Full expected height and crown.
Over Mature	(OM) Crown beginning to break-up and decrease in size.
Senescent (S)	Crown in advanced stage of break-up.

Height: Height is estimated and recorded in metres.

- **DBH:** Diameter at Breast Height is measured at 1.5m and recorded in metres. Where a tree becomes multi-stemmed below 1.5m the highest possible diameter is measured and indicated. Alternatively, above 1.5m the diameter of each stem or an average diameter is measured and indicated.
- **Condition:** Assessment of current physiological condition and structural morphology incorporating vigour and vitality and categorised:
- **A** Tree needing little, if any attention
- **B** Tree with minor, but rectifiable defects, or in the early stages of physiological stress
- **C** Tree with significant structural and physiological flaws and/or extremely stressed.
- **D** Tree that is dead, biologically/physically moribund or dangerous.

**Desirability to Retain** – As Outlined in Table 1 of BS 5837:2005 (Trees in Relation to Construction - Recommendations)



### **Definition of Physiological & Morphological Terms**

- Adaptive Growth The process whereby wood formation is influenced both in quantity and in quality by the action of gravitational force and mechanical stresses on the cambial zone.
- **Bifurcation –** Forked or divided union.
- **Brown Rot -** Form of decay where cellulose is degraded, while lignin is only modified.
- **Cankers-** A localised area of dead bark and cambium on a stem or branch, caused by fungal or bacterial organisms, characterised by wound wood development on the periphery. This may be annual or perennial.
- **Cavity -** An open wound, characterised by the presence of extensive decay and resulting in a hollow.
- **Chlorotic Leaf** Lacking in chlorophyll, typically yellow in colour.
- **Compartmentalisation** The physiological process that creates the chemical and mechanical boundaries that act to limit the spread of disease and decay organisms.
- Crack Longitudinal spilt in stem or branch, involving bark and/or underlying wood. These may be vertically and horizontally orientated.
- **Decay -** Process of degradation of woody tissues by fungi and bacteria through decomposition of cellulose and lignin.
- **Deadwood -** Deadwood is often present within the crown or on the stems of trees. In some instances, is may be an indication of ill health, however, it may also indicate natural growth processes. If a target is present beneath the tree, deadwood may fall and cause injury or damage and should be removed, otherwise deadwood can remain intact for conservation purposes (insects, fungi, birds etc.).



- **End Weight -** The concentration of foliage at the distal ends of stems and deficient in secondary branches.
- **Girdling Root** Root which circles and constricts the stem or roots causing death of phloem and/or cambial tissue.
- Hazard Beam An upwardly curved branch in which strong internal stresses may occur without the compensatory formation of extra wood (longitudinal splitting may occur in some cases).
- **Included Bark Union** Pattern of development at branch junctions where bark is turned inward rather than pushed out. Potential weakness due to a lack of a woody union.
- Ivy Growth Ivy growth may ascend into the tree's crown, increasing wind resistance, concealing potential defects and reducing the tree's photosynthetic capacity. Ivy growth is often acceptable in woodland areas as a conservation benefit.
- Live Crown Ratio The relative proportion of photosynthetic mass (leaf area) to overall tree height.
- **Reaction Wood** Specialised secondary xylem, which develops in response to a lean or similar mechanical stress, attempting to restore the stem to the vertical.
- **Root Plate Lift -** The physical movement of the rooting plate causing soils to shift and crack. May occur during adverse weather conditions. Trees may become unstable.
- Structural Defect Internal or external points of weakness, which reduce the stability of the tree.
- **Suppressed -** Trees which are dominated by surrounding vegetation and whose crown development is restricted from above.
- **Topping** A highly disfiguring practise, likely to cause severe xylem dysfunction and decay in major structural parts of the wood.



### White Rot - Form of decay where both cellulose and lignin are degraded.

### **Wound -** Any injury, which induces a compartmentalisation response.

- **Wound wood -** Wood with atypical anatomical features, formed in the vicinity of a wound and a term to describe the occluding tissues around a wound as opposed to the ambiguous term "callus."
- **Woodland Structure** The vertical and horizontal arrangement of trees within a group or woodland i.e. Dominant - trees with a crown above the upper layer of the canopy, Co-dominant - trees that define the general upper edge of the canopy, Intermediate - trees that have been largely overgrown by others, Suppressed - trees that have been overgrown and occupy an under storey position and grow slowly, often severely asymmetrical.

**Note**: The definitions described above, may not necessarily be included within the Arboricultural Survey Data.



# Appendix Three Cascade Chart



Trees for removal													
Category and definition	Criteria												
<b>Category U</b> 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	<ul> <li>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 U Category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)</li> <li>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.</li> <li>Trees infected with pathogens of significance to the health and/or safety of other trees nearby) e.g. Dutch elm disease), or very low-quality trees suppressing adjacent trees of better quality.</li> <li>NOTE: Category U trees can have existing or potential conservation value which might be desirable to preserve; see section 4.7.5</li> </ul>												
Trees to be considered for retention													
	Criteria and sub-categories												
Category and definition	1) Mainly arboricultural values	2) Mainly landscape values	3) Mainly cultural values										
			(including conservation)										
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 essential components of groups, or of 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-pastures)										
Category B Those 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 area	Trees with clearly identifiable conservation or other cultural benefits										
Category C Those 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 the higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit.	Trees with no material conservation or other cultural value										



# Appendix Four Plans









# **Appendix Five** CAVAT date input values

Project: Name of Surveyor: Date:

Ryebank

ML

07/07/2021

#### CAVAT CALCULATE VALUE OF TREE STOCK

CTI Factor (Please select): Unit Value Factor

100 16.26

Cumulative Total:

£ 1,641,989

#### © Christopher Neilan

Created by Alexandra Sleet and Phillip Handley

Tree Information		Step 1: Basic Va	lue						Step 2: CTI V	alue	Step 3: Locationa	al Value	Step 4: Structu	ral Value	Step 5: Function	al Value	Step 6: Amenity	v Value	Step 5: Final Value	FINAL VALUE
Tree No. Species ID	Location (I.e near tree no. 1)	Stem Diameter (1) Stem Diameter (2)	Stem Diameter (3) Stem Diameter (4)	Stem Diameter (5) Ster Diar (6)	n Sterr Diarr (7)	n S neter D (8	tem Stem Diameter Diameter B (9) (10)	Basic Value	CTI Factor (Please select)	CTI Value	Accessibility Factor (Please select)	Location Value	Structural Factor (Please select)	Structural Value	Functional Factor (Please select)	Functional Value	Amenity Factor (Please select)	Amenity Value	Life Expect. Factor (Please select)	
1 Salix caprea		35						£ 15,644	100	£ 15,644	75	£ 11,733	10	£ 1,173	10	£ 117	0	£117	<5	£12
2 Acer saccharinum		40						£ 20,433	100	£ 20,433	75	£ 15,325	70	£ 10,727	90	£ 9,655	10	£10,620	40 - <80	£10,089
3 Acer saccharinum		40						£ 20,433	100	£ 20,433	75	£ 15,325	70	£ 10,727	80	£ 8,582	-10	£7,724	40 - <80	£7,337
4 Acer platanoides		35						£ 15,644	100	£ 15,644	25	£ 3,911	70	£ 2,738	80	£ 2,190	-10	£1,971	40 - <80	£1,873
5 Acer saccharinum		40						£ 20,433	100	£ 20,433	25	£ 5,108	50	£ 2,554	70	£ 1,788	-10	£1,609	40 - <80	£1,529
6 Acer platanoides		35						£ 15,644	100	£ 15,644	25	£ 3,911	70	£ 2,738	80	£ 2,190	-20	£1,752	40 - <80	£1,665
7 Acer saccharinum		40						£ 20,433	100	£ 20,433	25	£ 5,108	60	£ 3,065	80	£ 2,452	-10	£2,207	40 - <80	£2,096
8 Salix caprea		25						£ 7,982	100	£ 7,982	50	£ 3,991	50	£ 1,995	80	£ 1,596	-10	£1,437	40 - <80	£1,365
9 Salix caprea		25						£ 7,982	100	£ 7,982	25	£ 1,995	80	£ 1,596	90	£ 1,437	-10	£1,293	40 - <80	£1,228
10 Quercus sp.		14						£ 2,503	100	£ 2,503	50	£ 1,252	90	£ 1,126	100	£ 1,126	-10	£1,014	>80	£1,014
11 Acer pseudoplatar	nus	25						£ 7,982	100	£ 7,982	75	£ 5,986	50	£ 2,993	80	£ 2,394	-10	£2,155	40 - <80	£2,047
12 Acer pseudoplatar	nus	25						£ 7,982	100	£ 7,982	75	£ 5,986	50	£ 2,993	80	£ 2,394	-10	£2,155	40 - <80	£2,047
13 Acer pseudoplatar	nus	18						£ 4,138	100	£ 4,138	75	£ 3,103	50	£ 1,552	80	£ 1,241	-10	£1,117	40 - <80	£1,061
14 Tilia x europaea		40						£ 20,433	100	£ 20,433	75	£ 15,325	100	£ 15,325	100	£ 15,325	-10	£13,792	>80	£13,792
15 Salix caprea		30						£ 11,494	100	£ 11,494	25	£ 2,873	50	£ 1,437	70	£ 1,006	-10	£905	40 - <80	£860
16 Betula pendula		12						£ 1,839	100	£ 1,839	25	£ 460	60	£ 276	80	£ 221	-10	£199	40 - <80	£189
17 Betula pendula		25						£ 7,982	100	£ 7,982	25	£ 1,995	90	£ 1,796	90	£ 1,616	-10	£1,455	40 - <80	£1,382
18 Acer platanoides		35						£ 15,644	100	£ 15,644	50	£ 7,822	100	£ 7,822	100	£ 7,822	-10	£7,040	40 - <80	£6,688
19 Fraxinus excelsior		15						£ 2,873	100	£ 2,873	75	£ 2,155	50	£ 1,078	80	£ 862	-10	£776	40 - <80	£737
20 Fraxinus excelsion		25						£ 7,982	100	£ 7,982	75	£ 5,986	70	£ 4,190	90	£ 3,771	-10	£3,394	40 - <80	£3,224
21 Sambucus nigra		30						£ 11,494	100	£ 11,494	100	£ 11,494	80	£ 9,195	70	£ 6,436	0	£6,436	20 - <40	£5,149
22 Betula pendula		4/						£ 28,210	100	£ 28,210	100	£ 28,210	90	£ 25,389	100	£ 25,389	0	£25,389	20 - <40	£20,311
23 Betula pendula		55						£ 38,631	100	£ 38,631	100	£ 38,631	80	£ 30,905	80	£ 24,/24	0	£24,724	20 - <40	£19,779
24 Acer pseudoplatar	lus	20						£ 5,108	100	2 5,108	75	£ 3,831	90	2 3,448	90	£ 3,103	-10	£2,793	>80	£2,793
25 Acer pseudopiatar	lus	20						£ 3,106	100	£ 5,106	100	£ 3,031	70	£ 2,002	80	£ 2,143	-10	£1,931	280	£1,931
26 Populus x cariade	ISIS	140						£ 230,303	100	£ 230,303	100	£ 230,303	60	£ 150,162	90	£ 133,104	10	£ 148,660	40 - <80	£ 141,240
27 Populus x canade	ISIS	120						£ 103,090	100	£ 103,090	100	£ 183,898	50	£ 91,948	90	£ 82,753	10	£91,029	40 - <80	£86,477
20 Populus x canade	neie	120						£ 192 906	100	£ 192 906	100	£ 193,090	50	£ 147 117	00	£ 133,005	10	£145 646	40 - <80	£10,005
20 Populus x canade	neie	120						£ 192 906	100	£ 192 906	100	£ 193,090	80	£ 147,117	90	£ 132,405	10	£145,646	40 - <80	£130,304
31 Populus x canade	nsis	125						£ 100,090	100	£ 100,030	100	£ 109,030	80	£ 159 632	90	£ 143,669	10	£158.036	40 - <80	£150,304
32 Populus x canade	nsis	115						£ 168 891	100	£ 168,891	100	£ 168 891	80	£ 135 113	90	£ 121 601	10	£133,762	40 - <80	£127.073
33 Populus x canader	nsis	100						£ 127 706	100	£ 127 706	100	£ 100,001	70	£ 89 394	80	£ 71 515	10	£78.667	40 - <80	£74,733
34 Populus x canader	nsis	130						£ 215 823	100	£ 215 823	100	£ 215 823	80	£ 00,004	90	£ 155 392	10	£170,932	40 - <80	£162,385
35 Acer pseudoplatar	WS.	40						£ 20,433	100	£ 20,433	100	£ 20,433	70	£ 14 303	80	£ 11 442		£11 442	40 - <80	£10.870
36 Populus x canader	nsis	60						£ 45,974	100	£ 45,974	100	£ 45.974	50	£ 22.987	80	£ 18.390	0	£18,390	20 - <40	£14,712
37 Carpinus betulus		50						£ 31,926	100	£ 31,926	75	£ 23 945	60	£ 14 367	80	£ 11 494	-10	£10,344	40 - <80	£9.827
38 Salix fragilis		80						£ 81 732	100	£ 81 732	25	£ 20,433	90	£ 18 390	90	£ 16.551	-10	£14.896	40 - <80	£14 151
39 Populus nigra var	betulifolia	120						£ 183,896	100	£ 183,896	75	£ 137.922	60	£ 82,753	80	£ 66,203	10	£72,823	40 - <80	£69.182
40 Acer pseudoplatar	IUS	60						£ 45,974	100	£ 45,974	75	£ 34,481	80	£ 27,584	90	£ 24,826	0	£24,826	40 - <80	£23,585
41 Populus x canader	nsis	80		1				£ 81,732	100	£ 81,732	100	£ 81.732	90	£ 73,559	100	£ 73,559	10	£80,914	>80	£80.914
42 Populus x canader	nsis	85						£ 92,267	100	£ 92,267	100	£ 92,267	70	£ 64,587	90	£ 58,128	10	£63,941	>80	£63,941
43 Acer pseudoplatar	ius	80						£ 81,732	100	£ 81,732	100	£ 81,732	100	£ 81,732	100	£ 81,732	10	£89,905	>80	£89,905
44 Tilia x europaea		75						£ 71,834	100	£ 71,834	75	£ 53,876	70	£ 37,713	90	£ 33,942	10	£37,336	>80	£37,336
45 Acer pseudoplatar	nus	60						£ 45,974	100	£ 45,974	75	£ 34,481	70	£ 24,136	90	£ 21,723	0	£21,723	>80	£21,723