

Tree Survey & Development Implications

**Site: Land to rear of The Oaks Public House, Lingmell Road,
Liverpool.**

Prepared for Mr. F. Strode

December 2015

Prepared By L. Small (FdSc Arboriculture)

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1.0 INTRODUCTION

The site on the land to the rear of The Oaks Public House, Lingmell Road, Liverpool, has historically been used as a bowling green, which has since been made vacant. It is proposed to develop the site into 4 no. semi-detached houses.

On the site, running adjacent to Lingmell Road there are a number of trees which would be directly affected by the development.

The proximity of the development to the trees necessitates that a tree survey and development implications report is produced as required by Liverpool City Council.

The full tree survey was carried out in December 2015.

This report identifies the trees present, together with their position and condition together with information which is recommended in the British Standard "Trees in relation to design, demolition and construction – Recommendations" (BS5837:2012). This report aims to provide information to assist with the planning of the development given the trees which are present.

Misplaced enthusiasm for the retention of inappropriate trees can create as many problems as poor tree management. Recommendations are also included for tree replacement, protection and management during construction.

1.1 Terms of Reference:-

I have been instructed to prepare the report by Mr. Francis Vaudrey on behalf of Mr. Francis Strode.

The trees are to be surveyed and a report prepared which will provide sufficient details as required in pursuance of Planning Permission to the Local Authority.

2.0 SUMMARY

The development of the buildings will affect a number of trees, four of which will require removal to allow access to the proposed buildings.

The tree survey has identified ten trees, mostly early mature specimens in generally poor condition.

Four of the trees, running adjacent to Lingmell Road, have structural defects, more details are provided in Appendix II. A fifth tree labelled T2 on the site plan is deceased. Any attempt to retain these trees would be unfeasible due to their location and condition.

The remaining trees on the site are in a condition suitable for retention and will require protective fencing during development in accordance with the recommendations in BS5837: 2012.

There is an opportunity to replant replacement trees in the garden at the rear of the proposed development.

3.0 IDENTIFICATION OF TREES

The trees are identified on the plan in Appendix I.

3.1 Survey Methods:-

The purpose of this report is to identify the major trees present on the site.

The condition of each tree was assessed in order to provide recommendations for future long-term tree management. This survey is of a preliminary nature and does not include detailed investigative methods.

Each tree was visually assessed from the ground and evaluations were made in accordance with BS 5837: Trees in relation to design, demolition and construction - Recommendations (2012).

The diameter at 1.5m of each tree was measured, as was its height and crown spread. Only trees over 7cm DBH were surveyed.

The age range of each tree was assessed and classed as:-

Young (Y) – Up to 15 years old

Early Mature (EM) – Up to one third of the trees mature age

Semi Mature (SM) – Up to half the trees mature age

Mature (M) – A tree where no further growth is expected

Overmature (OM) – A tree which is in decline

The tree's category rating identifies the quality and value of the tree stock present.

Using this system there are four categories:-

U – A tree which should be removed due to its arboricultural condition

A – A tree of high quality and value with a life expectancy of >40years

B – A tree of moderate quality and value with an expectancy of >20years

C – A tree of low quality and value with a life expectancy of 10 years,

This category includes trees with a DBH of <15cm.

Further details of tree quality assessment method can be found in Appendix II. Each tree was also given a "Physiological Condition Score" ranging from 1-5. In determining each tree's Condition Score a number of factors were evaluated such as:-

*Age

*Location

*Number of stems and forks

*Crown health including crown symmetry

*Incidence of disease and pruning wounds

*Bark and root damage

*Angle of tree and stability factors

*General Health i.e. whether suppressed

Based on the information collected, maintenance recommendations can then be made for the future of each tree with regard to the surrounding environment of people, property and conservation interests.

3.2 Description of Trees:-

A description of each tree is given in Appendix II which relates to the trees detailed on the plan in Appendix I.

Four early mature trees consisting of two Ash, a Beech and a Field Maple are located adjacent to Lingmell Road. These trees are in poor condition and shed leaves onto the footpath along Lingmell Road. Due to lack of maintenance, the trees have become entangled with overhead telephone lines.

The remainder run along the rear and left side when viewed from Lingmell Road. These trees are early mature, consist of two Ash, two Beech, Apple and one specimen in an advanced state of decay thought to be Beech.

There are no Tree Preservation Orders (TPO) in place on the site nor is there any Conservation Area legislation.

4.0 TREE CONSTRAINTS PLAN

4.1 Introduction:-

Trees contribute to the overall amenity of the site. The Tree Constraints Plan (TCP) is a design tool which shows the below ground constraints which is represented by the Root Protection Area (RPA), and the above ground constraints the trees pose by virtue of their size and position.

4.2 Root Protection Area (RPA):-

The root protection area (RPA) aims to avoid damage to the roots and the rooting environment of the trees which are to be retained. It is defined as the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where protection of roots and soil structure is treated as priority.

In single stem trees this is defined as an area equivalent to a circle with a radius of 12 times the stem diameter. If the crown of the tree extends beyond the RPA then the edge of the crown should be considered the edge of the RPA.

Any deviation in the RPA from the original circular plot should take into account factors such as tree species and age, root morphology, topography and soil type.

Several trees on the site labelled T1, T3, T4, T5, and T6 would require protective fencing in accordance with the recommendations in BS5837 :2012.

4.3 Above Ground Constraints:-

In the planning phase developers and architects should be aware that trees close to properties can cause problems which include lack of light, leaves and the worry of a possible branch drop. Any property should be positioned outside the crown spread of a tree so that the tree can be allowed to develop without it causing contact with the building.

Architects should be aware that a mature tree will show no major increase in crown spread.

The existing and future growth of the crown can cause unreasonable obstruction of sunlight where the development is close to a tree. This is represented by a segment which is of a radius from the centre of the stem which is equal to the height of the tree drawn from due NW to East. This indicates the shadow pattern through the main part of the day.

The proposed position of the building is such that the trees to be retained are of significant distance to have no immediate impact on the development.

5.0 RECOMMENDATIONS FOR TREE WORK

5.1 Trees and Development Implications:-

Different tree related work will be required at various stages throughout the development; these are given below in a rough chronological order.

Prior to development all the necessary tree work should be completed and any trees which are to be retained should be suitably protected by fencing in accordance with the recommendations in BS5837 :2012.

Additional tree planting should be undertaken at the end of the development. Further details for this are given in 5.4

5.2 Tree Work:-

A number of trees should be removed due to their condition which are detailed in Appendix II and section 3.2

All the approved tree work should be carried out prior to any ground work.

5.3 Protective Fencing:-

Any development on the site should take into account the extent of any tree roots. The spread of a tree's roots varies with age, species and soil conditions. Care should be taken, where possible, not to change the physical structure or levels of the soil by compaction or dumping.

The ideal situation is to erect a stout fence which encompasses the Root Protection Area (RPA) as detailed in section 4.2. The position of this fencing is shown on the plan in Appendix I. The RPA should be regarded as a construction exclusion zone. All protective fencing should be erected prior to the main contractor commencing any construction work. Any work within the RPA should only commence once a suitable arboricultural method statement has been prepared. This procedure should be followed in order to ensure that the work has no adverse effects on the health of the trees.

This fencing should be to the specification as given in BS 5837: Trees in relation to design, demolition and construction – Recommendations.

This should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees.

In most cases the fencing should take the form of a scaffold or timber framework to which weldmesh or plywood panels should be securely fixed. The framework should be strong enough to resist impacts with upright posts being at a maximum spacing of 3m. The fencing

should be a minimum of 2.3m high and should be retained until the end of the development. Further details of the protective fencing are given in Appendix IV.

The protective fencing should be erected after the completion of the approved tree work and before any groundwork commences.

5.4 Replacement Planting:-

Eight trees should be planted to replace those which have been removed. These can be planted in the rear gardens of the proposed development.

The replacement trees should be of a 10-12 girth (Selected Standard) and should be supported by a short stake and tie. All planted trees should have a 1m diameter weed free spot maintained by using a composted woodchip mulch to a depth of 15cm. Any tree loses should be replaced in the following planting season and should be planted in accordance with

BS 4428. All trees should be planted during the winter and should be positioned so as to avoid any potential shading of windows and garden areas.

5.5 General Recommendations:-

All work should be carried out by trained and competent arborists with the necessary equipment and public liability insurance. Any tree work should also meet the published British Standards (BS 3998)

Recommendations for Tree Work (2011) and (BS 5837) Trees in relation to design, demolition and construction – Recommendations (2012).

Surface drainage and contaminants (diesel, concrete mixings etc) should not be discharged within 10m of a tree stem. No items should be fixed to

the retained trees and care should be taken so any fires do not damage the foliage/branches.

Service lines and underground utilities should be planned so as to minimise any potential damage to the trees.

Care should be taken so as not to change the existing soil levels around the trees since this can lead to tree death.

Appendix I – Plan Showing Location of Trees

Attached

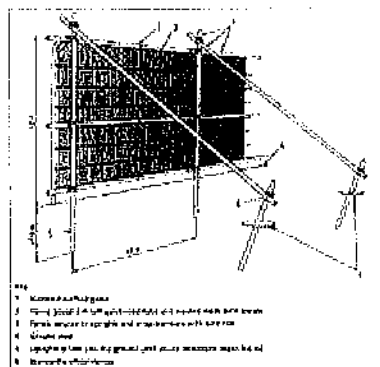
Appendix II - Detailed Description of Trees

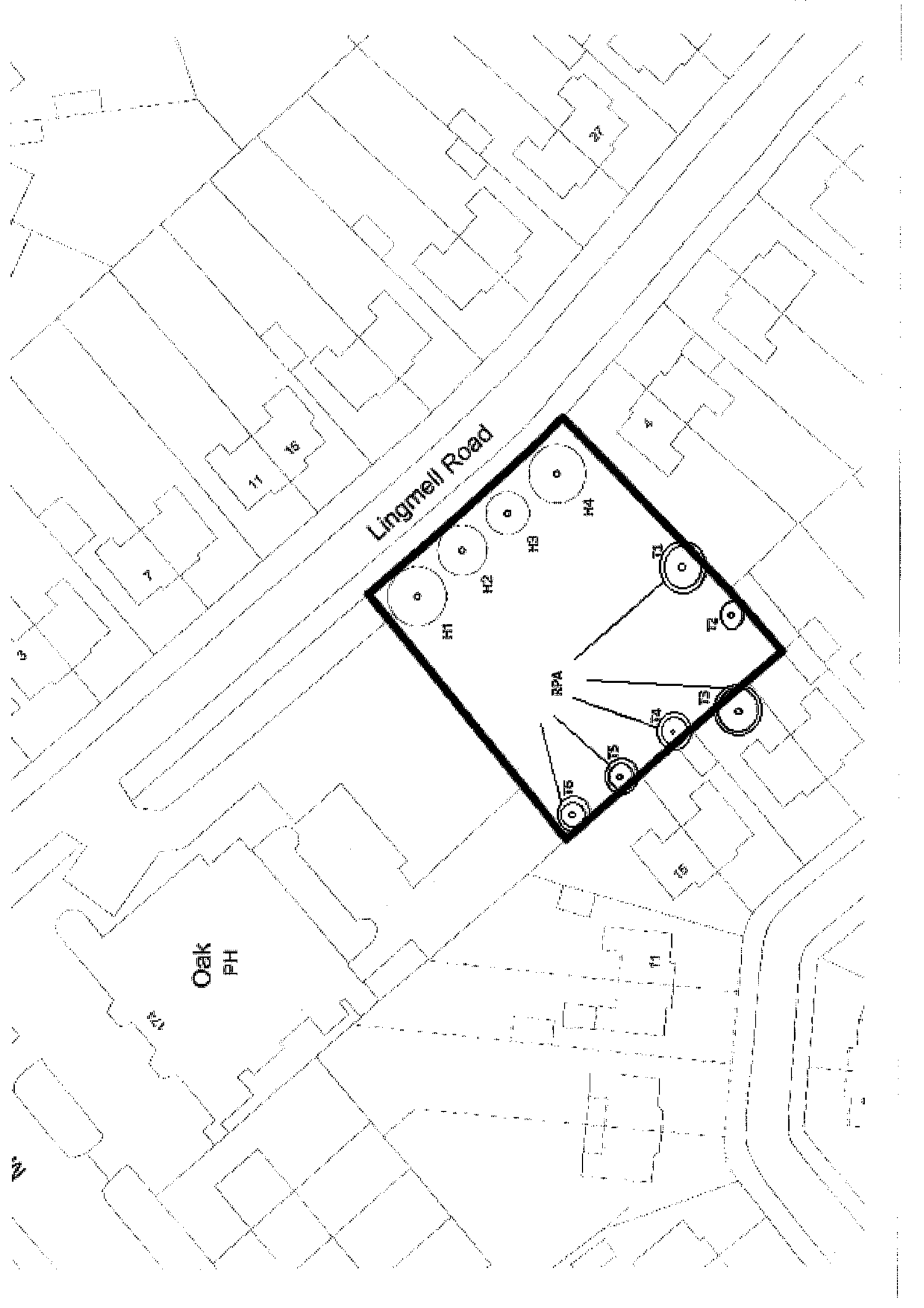
Attached

Appendix III - Chart for Tree Quality Assessment




Attached

Appendix IV - Diagram Showing Construction of Protective Fencing





BS5837:2012 Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan																					
Trees unsuitable for retention (see Note)																									
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none">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 declineTrees 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 <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see [BS5837:2012] 4.5.7.</i></p>																								
<table><tr><th></th><th>1 Mainly arboricultural qualities</th><th>2 Mainly landscape qualities</th><th>3 Mainly cultural values, including conservation</th></tr><tr><td>Trees to be considered for retention</td><td></td><td></td><td></td></tr><tr><td>Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years</td><td>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)</td><td>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features</td><td>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</td></tr><tr><td>Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</td><td>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</td><td>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</td><td>Trees with material conservation or other cultural value</td></tr><tr><td>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</td><td>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories</td><td>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</td><td>Trees with no material conservation or other cultural value</td></tr></table>						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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FLAC Note

The original contents of the column *Identification on plan* have been replaced by FLAC in the version above; spot colours to RGB codes given in BS5837:2012 Table 2

Appendix II - Detailed Description of Trees

Tree No.	Species	Age Range	Pysiological Condition	Height (m)	Ave. Crown Spread (m)	DBH (cm)	Comments/Structural Condition	Category	Maintenance Recommended
H1	Ash	EM/SM	2	8	5	65	Forks at ground level/weak union	U	Fell & replant
H2	Ash	EM/SM	2	8	3	159	Dieback in crown/ivy/poor form	U	Fell & replant
H3	Beech	EM/SM	2	8	5	156	Pruning injuries/decay in trunk/poor form	U	Fell & replant
H4	Field Maple	EM/SM	3	8	5	135	Pruning injuries/decay in trunk/poor form	C	Fell & replant
T1	Beech	EM/SM	2	8	5	124	Large girdling root/pruning injuries	C	Regular Inspection
T2	Beech	EM/SM	Dead	8	1	142	Dead/advanced decomposition	U	Fell
T3	Apple	EM/SM	2	6	5	?	Ivy covered/poor form	C	Remove ivy
T4	Beech	EM/SM	2	7	4	145	Poor form	C	Regular Inspection
T5	Ash	EM/SM	2	6	4	60	Poor form	C	Regular Inspection
T6	Ash	EM/SM	2	7	4	129	Poor structure	C	Regular Inspection