Lee Lane
Barnsley

Strategic Land Group Ltd

TREE SURVEY REPORT

tba
landscape architects

Landscape Architecture
Arboriculture

1st floor, Building 2
The Wharf Business Centre
Lower Wharf Street
Ashton-under-Lyne
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1.0 INTRODUCTION

1.1 This site consists of a large area of agricultural land off Lee Lane, Royston, Barnsley. The tree cover is typical of this type of site concentrated along field boundaries. The trees within the site are generally of moderate value hedge line trees. A full schedule containing the tree details are included in a schedule in Section 10.0.



1.2 This report is to act as an aid to layout by identifying the better trees, specifying protective measures and also any work that might be necessary to maintain the trees in an improved or safer condition.

1.3 This survey complies with British Standard 5837:2012 Trees in relation to design, demolition and construction– Recommendations. All significant trees or groups within the site have been inspected, identified and detailed. An assessment of condition is included and any work considered necessary to put the trees into a safer or improved condition. Also recorded is the minimum recommended area of protection for each tree, within which no activity should take place (this is generally the position for protective fencing to be erected before development starts).

1.4 Site visit 27th July 2012 and re-visited on 20th August 2013. Surveyor: Dan Farnworth Bsc (Hons) Arboriculture. Weather conditions: Clear.

1.5 Limitations.

1) Due to the changing nature of trees – and possibly other site circumstances – this report and recommendations are limited to a two year period. Similarly, this report could be invalidated if any alterations are made to the property that could change the conditions as seen at time of inspection.

2) Under certain circumstances, roots can affect foundations, drains and other underground services. These issues have not been addressed by this report.

3) Trees are dynamic structures that can never be guaranteed 100% safe; even those in good condition can suffer occasional damage under only average weather conditions. A lack of recommended work does not imply that a tree will never suffer damage.

2.0 METHOD

2.1 Site. The survey was carried out from ground level and without the use of special diagnostic equipment (unless otherwise stated). Lower-grade material may be treated as numbered groups, for example where in rows or dense groupings.

Schedule. The following information is given in the schedule, to BS5837:

- Number.
- Tree Name. Species (common and Latin).
- Height (metres).
- DBH 1.5m (millimetres).
- Crown spread N E S W (metres).
- Crown clearance (height of lower branches above ground) (metres).
    - Age class (**Y**oung, **E**arly-**M**ature, **S**emi-**M**ature, **M**ature, **O**ver-**M**ature, **V**eteran).
- Physiological condition (**G**ood, **F**air, **P**oor, **D**ead). An assessment of vitality (leaf or bud size/colour/density, annual extension growth, lack of die-back etc).
- Structural condition (**G**ood, **F**air, **P**oor, **D**amaged)
- Estimated remaining contribution (years, 0-10 10-20 20-40 40+).
- Category grading:

    U = Remove (irremediable or with less than 10 years contribution).
    A = High quality and value, preferably with min. 40 years contribution.
    B = Moderate quality and value.
    C = Low quality and value. Also young trees with stem diameter below 150mm (these may be considered for relocation).

  Subcategory:

    1 = mainly arboricultural merit.
    2 = mainly landscape merit.
    3 = mainly cultural or conservation merit.

- Root Protection Area from BS 5837: 2012 (area in square metres and as a radius in metres). This is the basis of the Root Protection Area marked as a circle on the Tree Constraints Plan (may have been modified in light of site circumstances). This is generally the minimum position for protective fencing.

- Comments and recommendations.

3.0 TREES AND CONSTRUCTION: OVERVIEW

3.1 Tree rooting is widely misunderstood and it is a surprising fact that, typically, about 80% of roots will be found in the upper half metre of soil and often extending well beyond the canopy spread. The threat to the trees by development comes from (a) root severance or fracture (b) compaction of the soil, preventing gaseous exchange and moisture percolation (c) possible change to moisture gradients due to surface water run-off or interception as well as (d) physical damage to low branches and trunk.

The consequences for the tree of such damage are (i) instability, if severe enough, (ii) entry points for pathogenic fungi at wounds / fractures (iii) loss of vitality due to reduced oxygen, mineral and moisture take-up; all leading to (iv) root death and (v) a general decline or possible death of the tree.

4.0 PROTECTION OF RETAINED TREES

4.1 Protection is afforded to the tree by defining a Root Protection Area (RPA) within which no development activity should take place. The size of the RPA is defined in the British Standard and relates to trunk diameter. The RPA is normally the minimum position for protective fencing.

4.2 Where considered appropriate by the arboriculturalist, and for individual open grown trees only, BS 5837 allows for a displacement of the Root Protection Area by up to 20%. The area may also vary from an exact circle, to allow for specific site conditions.

4.3 Where the LPA agrees to activity taking place within the RPA then it is likely that special measures will be required, such as a 'no dig' construction method for drives.

4.4 To give the best chance of continued good health of the retained trees, it will be essential to prevent root severance or compaction of the soil in the Root Protection Area. To achieve this, a stout fence should be erected at the position shown on the plan (or if this is not indicated, at the limit of the Root Protection Area). This should be done before any site materials or machinery are brought onto site, and should comprise a scaffold frame with steel mesh panels securely attached (eg Heras). Mesh is preferred to boarding as it can be seen through and should be re-useable. Use of rubber or concrete feet instead of a frame is not acceptable as these can easily be moved. Once in place, the fence must be regarded as sacrosanct with no storage of materials/spoil or access by machinery within the protected area.

4.5 All weather notices should be fixed to the barrier reading "Root Protection Area – No Access".

4.6 Where temporary access within the Root Protection Area is agreed, the fence may need to be re-aligned and the ground surface protected. For vehicular access this protection will need to be specifically detailed and agreed.

4.7 Site operations such as deliveries, site machines, crane jibs etc should be organised to avoid damaging the trunk or crown of trees. Where this conflict is unavoidable then facilitation pruning should be carried out in advance, rather than after damage has occurred. This may be required to allow demolition operations.

4.8 Material which could contaminate the soil eg concrete mixing, fuel, vehicle washings etc should not be discharged within 10m of the stem of any tree, and not on ground beyond sloping down to the tree.

4.9 Fires should either not be permitted, or else not lit where flames could extend to within 5m of the foliage, branches or trunk.

4.10 No notice boards, cables, nails or other items should be attached to any part of the tree.

5.0 ARBORICULTURAL METHODS

5.1 The arboricultural consultant (or local authority Tree Officer) should be consulted whenever an unexpected issue occurs that involves any tree on site including access within the Protection Area.

5.2 All tree work should be carried out to the highest standards, based on British Standard 3998:2010 '*Recommendations for Tree Work'* and current best practice.

5.3 To ensure standards are met it is recommended that a contractor from the Approved List of the Arboricultural Association be used (01794 368717 www.trees.org.uk).

5.4 It is recommended that when the final layout is agreed with the LPA, a final Arboricultural Method Statement and Tree Protection Plan be drawn up. This will bring together many of the items above in a simpler document.

6.0 WILDLIFE ISSUES AND TIMING OF OPERATIONS

6.1 Bats. Under current legislation it is an offence to 'intentionally or recklessly disturb a bat' or 'damage, destroy or block access to the resting place of any bat' (Countryside and Rights of Way Act 2001 and further strengthened by other legislation). Where work is being carried out and bats are present, or if the tree is a known roost, consultation must be made with the Statutory Nature Conservancy Organisation (Natural England, 0300 060 1842 www.naturalengland.org.uk). A European Protected Species Habitat Regulations Licence is likely to be required. Work to trees with the potential for roosting bats is best done from late August to early October. March through to April is also suitable although this may conflict with nesting birds (see below).

6.2 Birds. It is also likely to be an offence to kill, injure or take any wild bird; or take, damage or destroy the nest of any wild bird while it is in use or being built. Therefore work likely to disturb nesting birds should be avoided from late March to August.

6.3 All trees requiring work here should be evaluated prior to work starting, and ideally work should be carried out during August – early October.

6.4 The pruning of some species should avoid specific times. *Prunus* species (eg flowering and fruiting Cherry, Plum, Almond etc) should only be pruned during June – August in order to minimise the risk of infection by Silver Leaf disease. *Acer* (Maples including Sycamore), *Betula* (Birches) and, *Morus* (Mulberry) should not be pruned February – June due to sap bleeding; also *Juglans* (Walnut) from December – June.

7.0 PLANNING CONSIDERATIONS

7.1 If the site is subject to Tree Preservation Orders (TPO) at present, any pruning work to protected trees (or their removal) will have to be authorised by the Local Planning Authority, and should be the subject of a formal application. Any pruning of felling of trees within a Conservation Area requires a notification to the Local Planning Authority. Certain exemptions apply to these planning provisions. For any trees not already under a TPO, the Local Planning Authority may impose some tree protection as part of the planning process, either as a 'condition of planning' or by the placement of a TPO.

8.0 SCHEDULE EXPLANATION

Tree Group Hedge	Age Class Common Name *Botanical Name*	Height (m)	Trunk Dia. (mm) @ 1.5m	Multiple Stem Dia. (mm) @ 1.5m	Canopy Spread (m) N W E S	Crown Height (m)	Physiological Condition Structural Condition Crown Class	Life Expectancy	Retention Category	Root Protection Area (m)	Root Protection Radius (m)	Comments

Reference No.(Refers to tree survey drawing)

Age Class: Sapling, Young, Semi-mature, Early-mature, Mature, Over-mature, Veteran, Ancient.

Height of tree in metres

Diameter of trunk measured at 1.5m above ground level. This measurement is used to establish Root Protection Radius (dia. x 12)

Diameters of multistem trunks measured at 1.5m above ground level. This measurement is used to establish Root Protection area ($\sqrt{(\text{mean stem diameter})^2}$ X number of stems)

Crown spread of the canopy in metres in the main compass directions

The height of the lowest part of the tree canopy

Estimated life expectancy in years

Value of tree based on four main categories A, B, C, U), and three sub-categories (1,2,3).

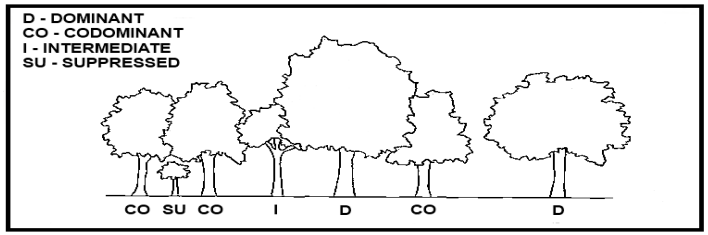
A – High value (Green)
B – Moderate value (Blue)
C – Low value (Grey)
U – Remove (Red)

1 – Arboricultural value
2 – Landscape Value
3 – Wildlife value

Physiological Condition: An assessment of the health and vitality of the tree based on it's biological processes (based on leaf size/colour, twig growth rate etc).

Structural Condition: An assessment of the physical structural integrity of the tree.

Crown Class: Based on the following canopy classes:



Root Protection Area (calculated in square metres), and Root Protection Radius (in metres). This is generally the minimum distance any protective fencing should be placed.

9.0 CASCADE CHART FOR TREE QUALITY ASSESSMENT

TREES FOR REMOVAL			
Category	**Criteria**		
'U' Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.	• 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 (ie 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 (eg Dutch Elm disease) or very low quality trees suppressing adjacent trees of better quality. **NOTE:** Habitat reinstatement may be appropriate (eg 'U' category tree used as a bat roost, installation of bat box in nearby tree)		
TREES TO BE CONSIDERED FOR RETENTION			
	1. Mainly arboricultural values	**2. Mainly landscape values**	**3. Mainly cultural values, including conservation**
'A' **Those of high quality and value:** in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)	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 (eg the dominant and/or principal trees within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (eg avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (eg veteran trees or wood pasture)
'B' **Those of moderate quality and value:** in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (eg presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (eg trees of moderate quality within an avenue that includes better 'A' category specimens) or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits
'C' **Those of low quality and value:** currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested) or young trees with a stem diameter below 150 mm	Trees not qualifying in 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 very limited conservation or other cultural benefits
	NOTE: Whilst 'C' category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation		

10.0 SCHEDULE

Tree Group Hedge	Age Class Common Name *Botanical Name*	Height (m)	Trunk Dia. (mm) @ 1.5m	Multiple Stem Dia. (mm) @ 1.5m	Canopy Spread (m) N W E S	Crown Height (m)	Physiological Condition Structural Condition Crown Class	Life Expectancy	Retention Category	Root Protection Area (m)	Root Protection Radius (m)	Recommendations
T27	Early-Mature **Oak** *Quercus robur*	7	270		N 3 W 3 E 3 S 3	2	Fair Fair Dominant	30+	**B2**	32	3.2	Field boundary tree.
T28	Early-Mature **Oak** *Quercus robur*	7		100 100 100 100 100 200 200 200 200 200	N 3 W 3 E 3 S 3		Fair Fair Dominant	30+	**C1**	79	5.0	Field boundary tree.
H7	Mature **Hawthorn Self-sown hedge trees**	<5	<200				Fair Fair Intermediate	20+	**C2**	18	2.4	Road/field boundary hedge with numerous gaps. Predominantly Hawthorn. With self-seeded Birch, Ash, Elder, Hazel and Willow.
T29	Semi-Mature **Crack Willow** *Salix fragilis*	8		100 250 200 250 100 200	N 3 W 4 E 4 S 2	0	Fair Fair/Poor Dominant	10+	**C3**	71	4.7	Multi-stemmed from base. Likely weak branch unions at separation points. Limited value.
T30	Mature **Ash** *Fraxinus excelsior*	9	420		N 6 W 6 E 6 S 6	3	Fair Poor Dominant	10+	**C3**	79	5	Decay and cavity from base to 1.5m. Limited value.
T31	Mature **Oak** *Quercus robur*	9	400		N 5 W 5 E 5 S 5	3	Fair Fair Codominant	40+	**A2**	72	4.8	Good field boundary tree outside fence line. No visible defects.
T32	Mature **Oak** *Quercus robur*	9	500		N 5 W 5 E 5 S 5	2	Fair Fair Codominant	40+	**A2**	113	6	Good field boundary tree outside fence line. No visible defects.

Tree Group Hedge	Age Class Common Name *Botanical Name*	Height (m)	Trunk Dia. (mm) @ 1.5m	Multiple Stem Dia. (mm) @ 1.5m	Canopy Spread (m) N W E S	Crown Height (m)	Physiological Condition Structural Condition Crown Class	Life Expectancy	Retention Category	Root Protection Area (m)	Root Protection Radius (m)	Recommendations
G8	Early-Mature **Lime Maple**	<14	<400				Good Good Codominant	30+	**B2**	72	4.8	Overhang fence line boundary <2m. Decent planted specimens.
G9	Mature **Oak**	<16	<700				Good Good Codominant	40+	**A2**	222	8.4	Good quality mature field specimens. Minor deadwood. No visible defects.
G10	Early-Mature **Birch Oak**	<12	<300				Good Good Codominant	40+	**B2**	41	3.6	Woodland edge overhangs boundary fence line <2m.
G11	Young-Mature **Hawthorn, Willow, Oak, Ash, Hazel**	<10	<300				Fair Fair Codominant	20+	**C2**	41	3.6	Hedge remnants and young self-sown boundary trees. Limited value.
G12	Young-Mature **Hawthorn, Birch, Oak**	<6	<250				Fair Fair Codominant	30+	**B3**	28	3	Dense group of trees along the northern boundary. Predominantly Hawthorn.
G13	Young **Birch, Willow, Oak, Hawthorn**	<4	<100				Fair Fair Codominant	10+	**C3**	5	1.2	Sporadic clumps of self-sown trees recolonising unmanaged field. Limited value.
H8	Mature **Hawthorn Self-sown hedge trees**	<5	<200				Fair Fair Intermediate	20+	**C2**	18	2.4	Road/field boundary hedge with numerous gaps. Predominantly Hawthorn. With self-seeded Birch, Ash, Elder, Hazel and Willow.