

# PRELIMINARY TREE SURVEY SCHEDULE

(TO BE FINALISED ON COMPLETION OF LAYOUT PROPOSAL)



**PROJECT:** RUDYARD ROAD, LEEK, ST13 8UX  
**CLIENT:** PARTNERSHIP LOCKSIDE DESIGN  
**REF:** CW/9507-SS6

**SURVEYED BY:** A WHITTINGHAM  
**DATE:** 26 MARCH 2025  
**PAGE:** 1

**REVISIONS:**

| No. | Species     | Age Range | Height (m) | Crown Spread (m) | Stem Dia. (mm) | Vitality | Comments                                                                                                                                                                                                       | Management                                                                 | Visual | Retention Value Existing | Retention Value Proposed | BS5837 RPA Radius (m) |
|-----|-------------|-----------|------------|------------------|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------|--------------------------|--------------------------|-----------------------|
| T1  | Sycamore    | EM        | 12 (EST)   | 13 (EST)         | 575 (EST) (MS) | N        | <ul style="list-style-type: none"><li>Natural colonisation</li><li>Restricted access and limited inspection due to dense bramble and holly</li><li>Ivy-clad stem</li><li>Canopy down to ground level</li></ul> | <ul style="list-style-type: none"><li>No work currently required</li></ul> | 2      | C                        |                          | 6.9 (EST)             |
| T2  | Goat willow | SM        | 9          | 9                | 325            | N        | <ul style="list-style-type: none"><li>Natural colonisation within an area of overgrown and disused ground</li></ul>                                                                                            | <ul style="list-style-type: none"><li>No work currently required</li></ul> | 1      | C                        |                          | 3.9                   |

The sole purpose of the survey was to collect data to inform the design of the current project in relation to trees. Whilst this is not a tree safety inspection record, the surveyor may record obvious defects when they are observed and considered to be significant to safety. Trees may be subject to legal controls, which should be investigated prior to any felling, pruning, or wilful damage. Unless otherwise agreed, data in this schedule are time limited to one year, after which they should be reviewed.

**HEADINGS & ABBREVIATIONS**

|                                    |                                                                                                                                                                                                      |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Age Range</b>                   | Y = young SM = semi-mature EM = early-mature M = mature PM = post-mature V = veteran                                                                                                                 |
| <b>Stem Dia</b>                    | Stem diameter (measured in accordance with Figure C.1 of BS5837: 2012) (MS = multi-stemmed EST = estimated)                                                                                          |
| <b>Crown Spread</b>                | Maximum crown spread (EST = estimated)                                                                                                                                                               |
| <b>Vitality</b>                    | A measure of physiological condition. N = normal range for the species and age R = reduced, P = poor, MD = moribund, D = dead                                                                        |
| <b>Visual (Visual Prominence)</b>  | Broad indication of prominence in the landscape (1 = low up to 4 = very high) (G = contributes to a wider group)                                                                                     |
| <b>Retention Category Existing</b> | Broadly in accordance with Table 1 of BS5837: 2012 (considers the merits of the tree or group in the context of the existing land-use)                                                               |
| <b>Retention Category Proposed</b> | Broadly in accordance with Table 1 of BS5837: 2012 (considers the merits of the tree or group in the context of a development proposal)                                                              |
| <b>BS5837 RPA Radius</b>           | Calculated in accordance with Table D.1 of BS5837: 2012                                                                                                                                              |
| <b>Common Plant names</b>          | Only common names are used in this schedule. For scientific names refer to Mitchell, A. 2001. <i>Collins Field Guide – Trees of Britain &amp; Northern Europe</i> . Harper Collins, London. pp. 420. |

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| No. | Species      | Age Range | Height (m) | Crown Spread (m) | Stem Dia. (mm) | Vitality | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Management                   | Visual | Retention Value Existing | Retention Value Proposed | BS5837 RPA Radius (m) |
|-----|--------------|-----------|------------|------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------|--------------------------|--------------------------|-----------------------|
| T3  | Sycamore     | M         | 14         | 15               | 500 (MS)       | N        | <ul style="list-style-type: none"> <li>Natural colonisation growing on a slight eastward facing embankment</li> <li>Adjacent to World War 2 bunker</li> <li>Ground clearance west is from 1m and this could be raised to 5m by removal of low hanging lateral and sub-lateral branches</li> </ul>                                                                                                                                                                                                | • No work currently required | 1      | C                        |                          | 6                     |
| T4  | Sycamore     | EM        | 12         | 12               | 450 (MS)       | N        | <ul style="list-style-type: none"> <li>Natural colonisation on site of demolished bowling pavilion</li> <li>Ground clearance north and east is 2m, south is down to ground level and west is 1.5m and this could be raised to 5m by removal of low hanging lateral and sub-lateral branches</li> </ul>                                                                                                                                                                                           | • No work currently required | 0      | C                        |                          | 5.4                   |
| T5  | Privet       | M         | 5          | 6                | 250 (MS)       | N        | <ul style="list-style-type: none"> <li>Ornamental boundary planting allowed to grow on</li> <li>Has not seen any recent management other than pruning back on the southwest side to maintain clearance of the public right of way</li> </ul>                                                                                                                                                                                                                                                     | • No work currently required | 1      | C                        |                          |                       |
| T6  | Norway maple | SM        | 8          | 3                | 150            | N        | <ul style="list-style-type: none"> <li>Planted adjacent to garage</li> <li>Ground clearance generally 2.5m</li> <li>Suppressed to the southeast by unmanaged and overgrown ornamental planting</li> </ul>                                                                                                                                                                                                                                                                                        | • No work currently required | 1      | B                        |                          | 1.8                   |
| T7  | Goat willow  | SM        | 7          | 7                | 300 (MS)       | N        | <ul style="list-style-type: none"> <li>Natural colonisation adjacent retaining wall and overhanging adjacent garage</li> </ul>                                                                                                                                                                                                                                                                                                                                                                   | • No work currently required | 1      | C                        |                          | 3.6                   |
| T8  | Goat willow  | EM        | 11 (EST)   | 10               | 550 (MS)       | N        | <ul style="list-style-type: none"> <li>Natural colonisation growing on a steep southeast facing landscaped slope</li> <li>General ground clearance of 2m</li> </ul>                                                                                                                                                                                                                                                                                                                              | • No work currently required | 0      | C                        |                          | 6.6                   |
| G1  | Sycamore     | SM & EM   | ≤17        | SEE PLAN         | ≤750           | N        | <ul style="list-style-type: none"> <li>Contained by a 1.5m high stone retaining wall to the north</li> <li>Canopies overhang Rudyard Road to the north with ground clearance of 5m</li> <li>Minor displacement of dry stone retaining wall possibly due to forces exerted by root growth</li> <li>Ground clearance south is from 1m and could be raised to 5m by removal of low hanging lateral and sub-lateral branches</li> <li>Ivy-clad stems</li> <li>Understorey of rhododendron</li> </ul> | • No work currently required | 3      | A                        |                          | ≤9                    |

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| No. | Species | Age Range | Height (m) | Crown Spread (m) | Stem Dia. (mm) | Vitality | Comments | Management | Visual | Retention Value Existing | Retention Value Proposed | BS5837 RPA Radius (m) |
|-----|---------|-----------|------------|------------------|----------------|----------|----------|------------|--------|--------------------------|--------------------------|-----------------------|
|-----|---------|-----------|------------|------------------|----------------|----------|----------|------------|--------|--------------------------|--------------------------|-----------------------|

|    |                                               |            |     |          |            |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                              |   |   |  |            |
|----|-----------------------------------------------|------------|-----|----------|------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---|---|--|------------|
| G2 | Laburnum                                      | M          | ≤8  | SEE PLAN | <500 (MS)  | R & MD | <ul style="list-style-type: none"> <li>Three planted trees</li> <li>South westernmost tree contains a failed and hung-up co-dominant stem which has exposed a decaying internal cavity to the main stem and compromised the structural stability</li> <li>Central tree is moribund</li> <li>Northeastern most tree has approx. 40% dieback to the crown</li> <li>A co-dominant stem is dead as are several lateral branches</li> <li>All three trees are of low value</li> </ul>                     | • No work currently required | 2 | U |  | N/A        |
| G3 | Lawson cypress                                | EM         | ≤15 | SEE PLAN | ≤370       | N      | <ul style="list-style-type: none"> <li>Two closely planted trees</li> <li>Canopies down to ground level</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                   | • No work currently required | 1 | C |  | ≤4.5       |
| G4 | Goat willow                                   | EM         | ≤14 | SEE PLAN | ≤430 (MS)  | N      | <ul style="list-style-type: none"> <li>Natural colonisation on an area of overgrown and disused ground</li> <li>South easternmost tree has a failed and hung up included bark union</li> <li>Ground clearance north is 2m, east and west 1m and south 3m, this could be raised to 5m if required by removal of low hanging sub-lateral branches</li> </ul>                                                                                                                                           | • No work currently required | 1 | C |  | ≤5.1       |
| G5 | Hawthorn Oak                                  | Y, EM & M  | ≤8  | SEE PLAN | ≤450 (EST) | N      | <ul style="list-style-type: none"> <li>Part of original field boundary hedgerow which has been allowed to grow on</li> <li>Shrub and ground layer vegetation recently cleared</li> <li>Ground disturbance around the remaining trees, although no significant damage identified</li> </ul>                                                                                                                                                                                                           | • No work currently required | 1 | B |  | ≤5.4 (EST) |
| G6 | Goat willow<br>Wild cherry<br>Hawthorn<br>Oak | Y, SM & EM | ≤9  | SEE PLAN | ≤300       | N      | <ul style="list-style-type: none"> <li>Planted ornamental trees and natural colonisation within and around the perimeter of the old bowling green</li> <li>Shrub and ground layer vegetation recently cleared</li> <li>Ground disturbance around the remaining trees, although no significant damage identified</li> <li>All trees have been allowed to grow on and have seen no recent management</li> <li>Would benefit from some re-spacing to retain trees of better species and form</li> </ul> | • No work currently required | 0 | C |  | ≤3.6       |

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**DATE:** 26 MARCH 2025

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| No. | Species                                                            | Age Range | Height (m) | Crown Spread (m) | Stem Dia. (mm) | Vitality | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Management                                                                                                          | Visual | Retention Value Existing | Retention Value Proposed | BS5837 RPA Radius (m) |
|-----|--------------------------------------------------------------------|-----------|------------|------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|--------|--------------------------|--------------------------|-----------------------|
| G7  | Hawthorn                                                           | EM & M    | ≤8         | SEE PLAN         | ≤400 (EST)     | N        | <ul style="list-style-type: none"> <li>Part of original field boundary hedgerow which has been allowed to grow on</li> <li>Restricted access and limited inspection due to dense bramble</li> </ul>                                                                                                                                                                                                                                                                                  | • No work currently required                                                                                        | 1      | B                        |                          | ≤4.8 (EST)            |
| G8  | Fir, Buddleia<br>Willow<br>Juniper<br>Cypress<br>Hawthorn<br>Rowan | Y, M      | ≤11 (EST)  | SEE PLAN         | ≤350 (EST)     | N        | <ul style="list-style-type: none"> <li>Originally a border area of ornamental shrubs and small trees which has been allowed to grow on and now contains natural colonisation</li> </ul>                                                                                                                                                                                                                                                                                              | • No work currently required                                                                                        | 1      | C                        |                          | ≤4.2 (EST)            |
| G9  | Goat willow<br>Beech                                               | Y, SM & M | ≤10        | SEE PLAN         | ≤350           | N        | <ul style="list-style-type: none"> <li>Linear group of predominantly Goat willow that functions partially as a landscape screen between the site and adjacent hotel</li> <li>Ownership is unclear</li> <li>Ground clearance as low as 0m which could be raised to 3m by shortening and removal of low lateral branches</li> <li>Some trees causing damage to adjacent asphalt surfacing</li> <li>Branches in contact with wooden boundary fence causing structural damage</li> </ul> | <ul style="list-style-type: none"> <li>Monitor surface displacement</li> <li>Prune to clear wooden fence</li> </ul> | 2      | C                        |                          | ≤4.2                  |
| H1  | Leyland cypress                                                    | -         | ≤15 (EST)  | SEE PLAN         | ≤320 (EST)     | N        | <ul style="list-style-type: none"> <li>Screen planting allowed to grow on</li> <li>Has not seen any recent management</li> </ul>                                                                                                                                                                                                                                                                                                                                                     | • No work currently required                                                                                        | 2      | -                        |                          | -                     |
| H2  | Leyland cypress                                                    | -         | ≤15        | ≤4               | ≤250           | N        | <ul style="list-style-type: none"> <li>Screen planting adjacent to footpath</li> <li>Has been allowed to grow on, except on north east side which has been heavily pruned back to stems to facilitate clearance of footpath</li> </ul>                                                                                                                                                                                                                                               | • No work currently required                                                                                        | 2      | -                        |                          | -                     |
| H3  | Leyland cypress                                                    | -         | ≤16 (EST)  | ≤4 (EST)         | ≤350 (EST)     | N        | <ul style="list-style-type: none"> <li>Screen planting around a small ancillary structure</li> <li>Has been allowed to grow on with no recent management</li> </ul>                                                                                                                                                                                                                                                                                                                  | • No work currently required                                                                                        | 1      | -                        |                          | -                     |
| H4  | Beech<br>Yew<br>Cherry laurel                                      | -         | ≤6         | ≤2.5             | ≤100           | N        | <ul style="list-style-type: none"> <li>Young hedge that appears to be maintained by clipping on the western side</li> <li>Ownership is unclear</li> <li>Acts as a landscape screen between the site and adjacent hotel</li> </ul>                                                                                                                                                                                                                                                    | • No work currently required                                                                                        | 2      |                          |                          |                       |

## PRELIMINARY TREE SURVEY SCHEDULE

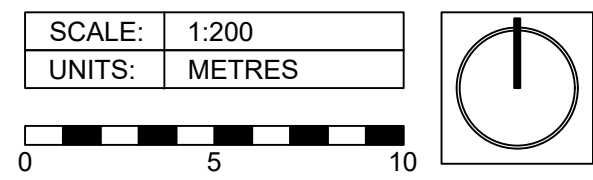
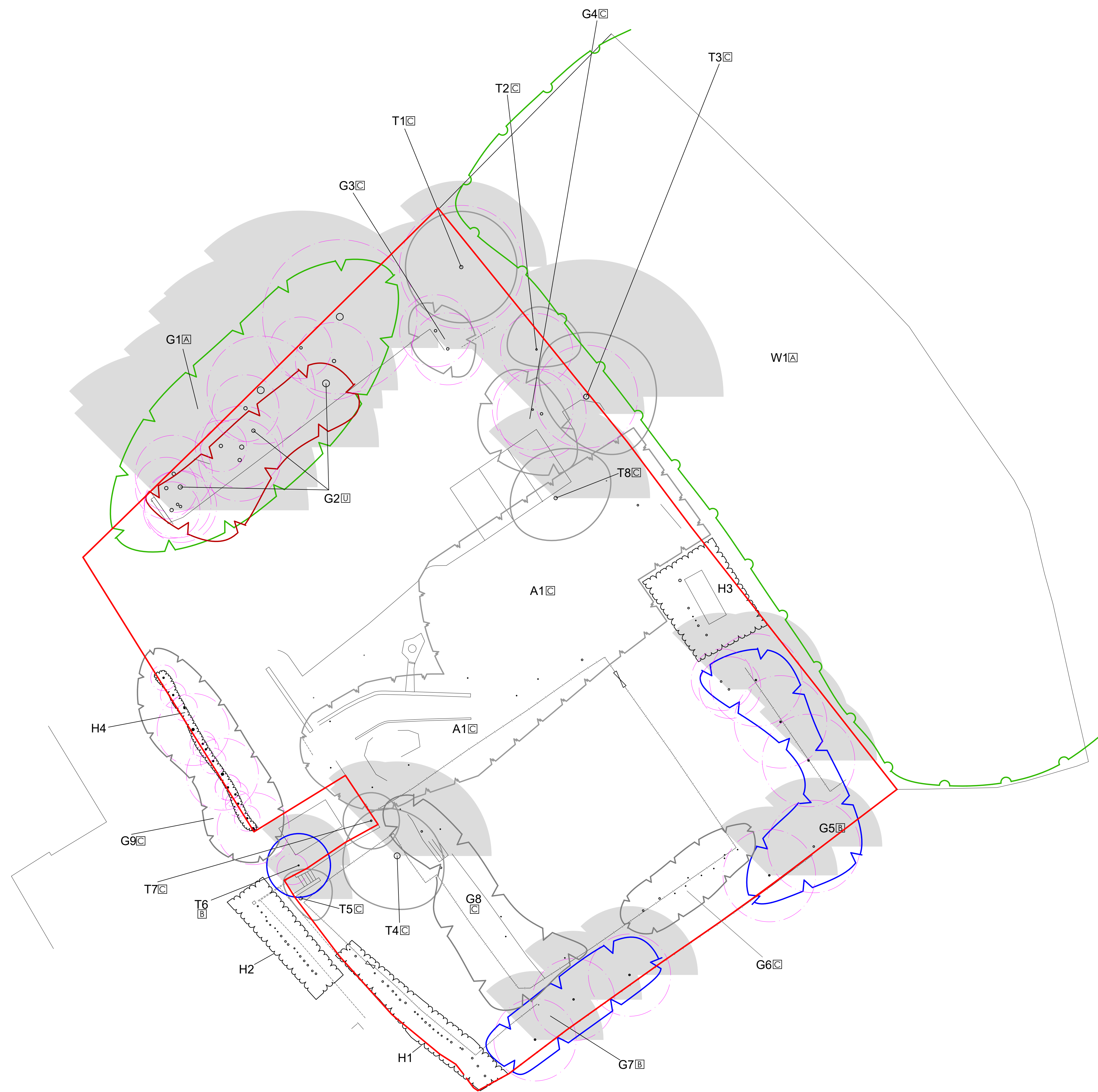
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| No. | Species                                                                           | Age Range | Height (m) | Crown Spread (m) | Stem Dia. (mm) | Vitality | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Management                                                                 | Visual | Retention Value Existing | Retention Value Proposed | BS5837 RPA Radius (m) |
|-----|-----------------------------------------------------------------------------------|-----------|------------|------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------|--------------------------|--------------------------|-----------------------|
| A1  | Goat willow<br>Holly<br>Cedar<br>Hawthorn<br>Spruce                               | Y, SM     | ≤13 (EST)  | SEE PLAN         | ≤380 (EST)     | N        | <ul style="list-style-type: none"><li>Originally a hard and soft landscaped area associated with the bowling green beyond</li><li>Shrubs and ground layer vegetation recently cleared</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"><li>No work currently required</li></ul> | 1      | C                        |                          | ≤4.5 (EST)            |
| W1  | Oak<br>Alder<br>Sycamore<br>Goat willow<br>Holly<br>Hawthorn<br>Beech<br>Laburnum | Y/SM/EM   | ≤19        | SEE PLAN         | ≤450           | N/R/D    | <ul style="list-style-type: none"><li>Within applicants ownership</li><li>Diverse native woodland that functions as a landscape screen between the public footpath along the canal and Rudyard Road</li><li>Main canopy is predominantly alder with oak and some sycamore</li><li>Understory consists of hawthorn, Goat willow and Holly with occasional laburnum</li><li>Open areas in the west of the woodland that present opportunities for new tree planting</li><li>Low quantity of rhododendron becoming established on the northern boundary</li><li>Occasional small dead trees presenting very low risks</li></ul> | <ul style="list-style-type: none"><li>Eradicate rhododendron</li></ul>     | 4      | A                        |                          | ≤5.4                  |



|                                                                                              |                                  |
|----------------------------------------------------------------------------------------------|----------------------------------|
| TREE SURVEY PLAN                                                                             |                                  |
| <b>CHESHIRE WOODLANDS</b><br>ARBORICULTURAL CONSULTANCY                                      |                                  |
| 9 LOWE STREET<br>MACCLESFIELD<br>CHESHIRE<br>SK11 7NJ                                        |                                  |
| T. +44(0)1625 669668<br>E. admin@cheshire-woodlands.co.uk<br>W. www.cheshire-woodlands.co.uk |                                  |
| CLIENT                                                                                       | MR O WILCOX                      |
| PROJECT                                                                                      | RUDYARD ROAD<br>LEEK<br>ST13 8UX |
| JOB REF                                                                                      | CW/9507-P-TS4                    |
| DATE                                                                                         | 26 MARCH 2025                    |
| SCALE                                                                                        | 1:200 at A1                      |

|  |                                    |
|--|------------------------------------|
|  | SURVEYED INDIVIDUAL TREE           |
|  | SURVEYED GROUP OF TREES            |
|  | SURVEYED WOODLAND                  |
|  | SURVEYED AREA OF TREES             |
|  | SURVEYED HEDGE                     |
|  | STEM POSITION APPROXIMATED         |
|  | BS 5837 RETENTION VALUE            |
|  | APPLICATION SITE BOUNDARY          |
|  | BS5837 ROOT PROTECTION AREA RADIUS |
|  | BS5837 SHADOW PATTERN              |
|  | BS5837 CATEGORY 'A' TREES          |
|  | BS5837 CATEGORY 'B' TREES          |
|  | BS5837 CATEGORY 'C' TREES          |
|  | BS5837 CATEGORY 'U' TREES          |

## **Guidance Note - Visual Prominence and Tree Categorisation**

### **Visual Prominence**

A broad indication of visual contribution to the landscape. The evaluation considers:

- location
- public views
- landscape function
- tree size
- growth potential
- useful life expectancy

Visual prominence values are classified as follows:

- (1)** Low - visual contribution restricted to the site
- (2)** Moderate - visual contribution to the site and immediate surroundings
- (3)** High - visual contribution to the site, immediate surroundings and neighbourhood, estate or locale
- (4)** Very high - visual contribution to a conurbation, or trees of exceptional landscape value

Groups of trees are assessed as a single unit.

## **Tree Categorisation**

Broadly in accordance with section 4.5 and Table 1 of British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations.

Trees or groups of trees are evaluated twice. Firstly, they are assessed and categorised in the pre-development context to provide a broad valuation of all of their attributes and their contribution to the amenity of the area. Secondly, they are similarly assessed and categorised in the context of a development proposal. The evaluations consider:

- useful life expectancy
- visual prominence (see above)
- landscape function
- numbers of other trees and their maturity (continuity for landscape, amenity, habitat)
- wildlife habitats (including continuity)
- safety
- conflicts with the built environment or other land-use
- cultural, historical or other value

Groups of trees are assessed and categorised as a single unit.

## **Pre-Development assessment**

The tree or group of trees is assessed and placed into one of the following categories (A, B, C or U)

The valuation considers the benefits and disbenefits of retaining the tree or group of trees in the pre-development context

Any specific issues are noted in the tree survey schedule

**(A)** High quality - Trees the retention of which is most desirable and that have an estimated useful life expectancy of at least 40 years

Wholly appropriate and without significant conflict

**(B)** Moderate quality - Trees the retention of which is desirable and that have an estimated useful life expectancy of at least 20 years

Appropriate but not of highest value

**(C)** Low quality - Trees that could be retained and have an estimated useful life expectancy of at least 10 years

Ill-suited but could be retained with moderate conflicts

Trees of no particular merit

**(U)** Trees unsuitable for retention

Could not reasonably be retained for longer than 10 years

## **Post-Development assessment**

The tree or group of trees is assessed and placed in one of the following categories (A, B, C or U)

The valuation considers the benefits and disbenefits of retaining the tree or group of trees in the context of a development proposal

Any specific issues are noted in the tree survey schedule.

**(A)** High quality - Trees the retention of which is most desirable and that have an estimated useful life expectancy of at least 40 years

Wholly appropriate and without significant conflict

**(B)** Moderate quality - Trees the retention of which is desirable and that have an estimated useful life expectancy of at least 20 years

Appropriate but not of highest value and/or having only minor conflicts

**(C)** Low quality - Trees which could be retained and have an estimated useful life expectancy of at least 10 years

Ill-suited but could be retained with moderate conflicts

Trees of no particular merit

**(U)** Trees for removal

Would need to be removed to accommodate the development proposal, or could not reasonably be retained for longer than 10 years

## **Guidance note - Statutory Controls**

### **Trees and Hedges**

Subject to specified exceptions, an application must be made to the local planning authority [LPA] to carry out work on or remove trees that are protected by a tree preservation order [TPO]<sup>1</sup>

Six weeks' notice must be given to the LPA of intention to carry out work on or remove trees within a conservation area and not protected by a TPO<sup>1</sup>

LPA consent may be required to carry out work on or remove trees, shrubs and hedges that are affected by planning conditions

LPA consent may be required for the removal of hedgerows<sup>2</sup>

**Your Council's planning department will advise whether or not any of the above controls apply to your trees, shrubs and hedges**

Subject to specified exemptions, a licence may be required for the felling of growing trees<sup>3</sup>

**Your nearest Forestry Commission or Natural Resources Wales office will advise whether you require a felling licence**

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<sup>1</sup> <https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas>

<sup>2</sup> <https://www.gov.uk/guidance/countryside-hedgerows-regulation-and-management>

<sup>3</sup> <https://www.gov.uk/guidance/tree-felling-licence-when-you-need-to-apply>

## **Wildlife**

Nesting birds and all species of bat are afforded statutory protection.<sup>4</sup> It is an offence to:

- disturb a nesting bird
- disturb a roosting bat or damage, destroy or block access to a bat roost
- intentionally kill, injure or take a bat
- sell, hire, barter or exchange a bat, dead or alive
- be in possession or control of a bat or anything derived from a bat

**Your local Wildlife Trust or your Council's Ecologist will provide guidance on statutory controls relating to wildlife.**

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<sup>4</sup> <https://www.gov.uk/topic/planning-development/protected-sites-species>

# GLOSSARY OF ARBORICULTURAL TERMS

**Abscission.** The shedding of a leaf or other short-lived part of a woody plant, involving the formation of a corky layer across its base; in some tree species twigs can be shed in this way

**Abiotic.** Pertaining to non-living agents; e.g. environmental factors

**Absorptive roots.** Non-woody, short-lived roots, generally having a diameter of less than one millimetre, the primary function of which is uptake of water and nutrients

**Access facilitation pruning.** One off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site

**Adaptive growth.** In tree biomechanics, the process whereby the rate of wood formation in the cambial zone, as well as wood quality, responds to gravity and other forces acting on the cambium. This helps to maintain a uniform distribution of mechanical stress

**Adaptive roots.** The adaptive growth of existing roots; or the production of new roots in response to damage, decay or altered mechanical loading

**Adventitious shoots.** Shoots that develop other than from apical, axillary or dormant buds; see also 'epicormic'

**Anchorage.** The system whereby a tree is fixed within the soil, involving cohesion between roots and soil and the development of a branched system of roots which withstands wind and gravitational forces transmitted from the aerial parts of the tree

**Ancient tree.** A tree that has passed beyond maturity and is old, or aged, in comparison with other trees of the same species. An ancient tree is one that has all or most of the following characteristics: a) biological, aesthetic or cultural interest, because of its great age; b) a growth stage that is described as ancient or post-mature; c) a chronological age that is old relative to others of the same species

**Arboricultural Method Statement.** Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained

**Arboriculturist.** Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction

**Architecture.** In a tree, a term describing the pattern of branching of the crown or root system

**Axial.** Aligned along the axis of the stem, branch or root

**Axil.** The place where a bud is borne between a leaf and its parent shoot

**Bacteria.** Microscopic single-celled organisms, many species of which break down dead organic matter, and some of which cause diseases in other organisms

**Bark.** A term usually applied to all the tissues of a woody plant lying outside the vascular cambium, thus including the phloem, cortex and periderm; occasionally applied only to the periderm or the phellem

**Bark expansion crack.** The pattern of axial strips of bark on smooth-barked trees that have grown faster than the adjacent bark. A growth response to stretching of the bark by expansion of the underlying xylem

**Basidiomycotina (Basidiomycetes).** One of the major taxonomic groups of fungi; their spores are borne on microscopic peg-like structures (basidia), which in many types are in turn borne on or within conspicuous fruit bodies, such as brackets or toadstools. Most of the principal decay fungi in standing trees are basidiomycetes

**Bolling.** A term sometimes used to describe pollard heads

**Bottle-butt.** A broadening of the stem base and buttresses of a tree, in excess of normal and sometimes denoting a growth response to weakening in that region, especially due to decay involving selective delignification

**Bracing.** The use of rods or cables to restrain the movement between parts of a tree

**Branch:**

- **Primary.** A **first order branch** arising from a stem
- **Lateral.** A **second order branch**, subordinate to a primary branch or stem and bearing sub-lateral branches
- **Sub-lateral.** A **third order branch**, subordinate to a lateral or primary branch, or stem and usually bearing only twigs

**Branch bark ridge.** The raised arc of bark tissues that forms within the acute angle between a branch and its parent stem

**Branch-collar.** A visible swelling formed at the base of a branch whose diameter growth has been disproportionately slow compared to that of the parent stem; a term sometimes applied also to the pattern of growth of the cells of the parent stem around the branch base

**Brown-rot.** A type of wood decay in which cellulose is degraded, while lignin is only modified

**Buckling.** An irreversible deformation of a structure subjected to a bending load

**Buttress zone.** The region at the base of a tree where the major lateral roots join the stem, with buttress-like formations on the upper side of the junctions

**Canker.** A persistent lesion formed by the death of bark and cambium due to colonisation by fungi or bacteria

**Canopy species.** Tree species that mature to form a closed woodland canopy

**Cellulose.** A carbohydrate consisting of glucose molecules joined end-to-end, so as to form long filaments; a principal constituent of plant cell walls

**Chlorosis.** The loss of green pigment from plant tissues, caused by mineral deficiency. Chlorotic (adj.)

**Compartmentalisation.** The confinement of disease, decay or other dysfunction within an anatomically discrete region of plant tissue, due to passive and/or active defences operating at the boundaries of the affected region

**Competent person.** A person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the task being approached.

**Compression fork.** An acute angled fork that is mechanically optimised for the growth pressure that two or more adjacent stems exert on each other

**Compression strength.** The ability of a material or structure to resist failure when subjected to compressive loading; measurable in trees with special drilling devices

**Compressive loading.** Mechanical loading which exerts a positive pressure; the opposite to tensile loading

**Condition.** An indication of the physiological condition of the tree. Where the term 'condition' is used in a report, it should not be taken as an indication of the stability of the tree

**Construction.** Site based operations with the potential to affect existing trees

**Construction exclusion zone.** Area based on the Root Protection Area from which access is prohibited for the duration of the project

**Crown/Canopy.** The main foliage bearing section of the tree

**Crown lifting.** The removal of limbs and small branches to a specified height above ground level

**Crown thinning.** The removal of a proportion of secondary branch growth throughout the crown to produce an even density of foliage around a well-balanced branch structure

**Crown reduction/shaping.** A specified reduction in crown size whilst preserving, as far as possible, the natural tree shape

**Crown reduction/thinning.** Reduction of the canopy volume by thinning to remove dominant branches whilst preserving, as far as possible the natural tree shape

**Deadwood.** Dead branch wood

**Decurrent.** In trees, a system of branching in which the crown is borne on a number of major widely-spreading limbs of similar size (cf. excurrent). In fungi with toadstools as fruit bodies, the description of gills which run some distance down the stem, rather than terminating abruptly

**Decay.** (of organic tissue) decomposition by fungi or bacteria

**Defect.** In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment

**Delamination.** The separation of wood layers along their length, visible as longitudinal splitting

**Desire-line footpath.** A footpath that has been created by regular use rather than by design and construction

**Dieback.** The death of parts of a woody plant, starting at shoot-tips or root-tips

**Disease.** A malfunction in or destruction of tissues within a living organism, usually excluding mechanical damage; in trees, usually caused by pathogenic micro-organisms

**Distal.** In the direction away from the main body of a tree or subject organism (cf. proximal)

**Dominance.** In trees, the tendency for a leading shoot to grow faster or more vigorously than the lateral shoots; also the tendency of a tree to maintain a taller crown than its neighbours

**Dormant bud.** An axial bud which does not develop into a shoot until after the formation of two or more annual wood increments; many such buds persist through the life of a tree and develop only if stimulated to do so

**Dysfunction.** In woody tissues, the loss of physiological function, especially water conduction, in sapwood

**DBH** (Diameter at Breast Height). Stem diameter measured at a height of 1.5 metres (UK) or the nearest measurable point. Where measurement at a height of 1.5 metres is not possible, another height may be specified

**Deadwood.** Branch or stem wood bearing no live tissues. Retention of deadwood provides valuable habitat for a wide range of species and seldom represents a threat to the health of the tree. Removal of deadwood can result in the ingress of decay to otherwise sound tissues and climbing operations to access deadwood can cause significant damage to a tree. Removal of deadwood is generally recommended only where it represents an unacceptable level of hazard

**Early-wood.** The wood laid down around the time of the main flush of shoot growth in the early part of the growing season

**Endophytes.** Micro-organisms that live inside plant tissues without causing overt disease, but in some cases capable of causing disease if the tissues become physiologically stressed, for example by lack of moisture

**Engineer-designed hard surfacing.** Hard surfacing constructed within the 'Root protection area' of a tree, which will be designed by a structural or geotechnical; engineer in collaboration with an arboriculturist as set out in clause 7.4 of British Standard BS5837:2012. The purpose being to minimise the effects of the construction on the health of the tree.

**Epicormic shoot.** A shoot having developed from a dormant or adventitious bud and not having developed from a first year shoot

**Excrescence.** Any abnormal outgrowth on the surface of tree or other organism

**Excurrent.** In trees, a system of branching in which there is a well-defined central main stem, bearing branches which are limited in their length, diameter and secondary branching (cf. decurrent)

**Fastigate.** Having upright, often clustered branches

**Felling licence.** In the UK, a permit to fell trees in excess of a stipulated number of stems or volume of timber

**Fibre-buckling.** The kinking of wood fibres and failure of other xylem elements when exposed to compressive loading

**Field layer.** Herbs, ferns, grasses and sedges

**First-order branch.** A high order branch, usually arising from a stem

**Flush-cut.** A pruning cut which removes part of the branch bark ridge and or branch-collar

**Girdling root.** A root which circles and constricts the stem or roots possibly causing death of phloem and/or cambial tissue

**Ground layer.** Mosses, ivy, lichens and fungi

**Guying.** A form of artificial support with cables for trees with a temporarily inadequate anchorage

**Habit.** The overall growth characteristics, shape of the tree and branch structure

**Haloing.** Removing or pruning trees from around the crown of another (usually mature or post-mature) tree to prevent it becoming suppressed

**Hazard beam.** An upwardly curved part of a tree in which strong internal stresses may occur without being reduced by adaptive growth; prone to longitudinal splitting

**Heartwood/false-heartwood.** The dead central wood that has become dysfunctional as part of the aging processes and being distinct from the sapwood

**Heave.** A term mainly applicable to a shrinkable clay soil which expands due to re-wetting after the felling of a tree which was previously extracting moisture from the deeper layers; also the lifting of pavements and other structures by root diameter expansion; also the lifting of one side of a wind-rocked root-plate

**High canopy tree species.** Tree species having potential to contribute to the closed canopy of a mature woodland or forest

**Incipient failure.** In wood tissues, a mechanical failure which results only in deformation or cracking, and not in the fall or detachment of the affected part

**Included bark (ingrown bark).** Bark of adjacent parts of a tree (usually forks, acutely joined branches or basal flutes) which is in face-to-face contact

**Increment borer.** A hollow auger, which can be used for the extraction of wood cores for counting or measuring wood increments or for inspecting the condition of the wood

**Infection.** The establishment of a parasitic micro-organism in the tissues of a tree or other organism

**Internode.** The part of a stem between two nodes; not to be confused with a length of stem which bear nodes but no branches

**Laser Rangefinder.** A device that uses a laser beam to measure distance, angle, and height.

**Lateral branch:** A side branch

**Late-wood.** The wood laid down after the time of the first main flush of shoot growth. Usually denser than the early-wood

**Lever arm.** A mechanical term denoting the length of the lever represented by a structure that is free to move at one end, such as a tree or an individual branch

**Lesion.** Death or abnormal change in tissues, usually associated with disease or trauma

**Lignin.** The hard, cement-like constituent of wood cells; deposition of lignin within the matrix of cellulose microfibrils in the cell wall is termed Lignification

**Lions tailing.** A term applied to a branch of a tree that has few if any side-branches except at its end, and is thus liable to snap due to end-loading

**Loading.** A mechanical term describing the force acting on a structure from a particular source; e.g. the weight of the structure itself or wind pressure

**Loam.** A soil with roughly equal proportions of sand, silt, and clay

**Longitudinal.** Along the length (of a stem, root or branch)

**Lopping.** A term often used to describe the removal of large branches from a tree, but also used to describe other forms of cutting

**Marginal browning of leaves.** Death of a tissues to the margin or edge of the leaf

**Mature Heights** (approximate):

- **Low maturing** – less than 8 metres high
- **Moderately high maturing** – 8 – 12 metres high
- **High maturing** – greater than 12 metres high

**Microdrill.** An electronic rotating steel probe, which when inserted into woody tissue provides a measure of tissue density

**Minor deadwood.** Deadwood of a diameter less than 25mm and or unlikely to cause significant harm or damage upon impact with a target beneath the tree

**Mulch.** Material laid down over the rooting area of a tree or other plant to help conserve moisture; a mulch may consist of organic matter or a sheet of plastic or other artificial material

**Mycelium.** The body of a fungus, consisting of branched filaments (hyphae)

**Obvious defects.** Defects that are so apparent that most people, whether specialist or not, would recognise them on taking a general, but not necessarily close view of the tree. Whether an 'obvious defect' is significant depends on both a structural assessment, which may be purely visual, and on the land-use context

**Occluding tissues.** A general term for the roll of wood, cambium and bark that forms around a wound on a woody plant (cf. woundwood)

**Occlusion.** The process whereby a wound is progressively closed by the formation of new wood and bark around it

**Pathogen.** A micro-organism which causes disease in another organism

**Phloem.** Vascular tissue that distributes the products of photosynthesis (sugars) around the plant

**Photosynthesis.** The process whereby plants use light energy to split hydrogen from water molecules and combine it with carbon dioxide to form carbohydrates that are the basic building block for plant growth. Photosynthetic capacity is the plant's ability to produce carbohydrates

**Phytotoxic.** Toxic to plants

**Pollarding.** The removal of the tree canopy, back to the stem or primary branches, usually to a point just outside that of the previous cutting. Pollarding may involve the removal of the entire canopy in one operation, or may be phased over several years. The period of safe retention of trees having been pollarded varies with species and individuals. It is usually necessary to re-pollard on a regular basis, annually in the case of some species

**Primary branch.** A major branch, generally having a basal diameter greater than 0.25 x stem diameter

**Primary root zone.** The soil volume most likely to contain roots that are critical to the health and stability of the tree and normally defined by reference BS5837 (2012) Trees in Relation to design, demolition and construction

**Priority.** Works may be prioritised, 1. = high, 5. = low

**Probability.** A statistical measure of the likelihood that a particular event might occur

**Proximal.** In the direction towards from the main body of a tree or other living organism (cf. distal)

**Pruning.** The removal or cutting back of twigs or branches, sometimes applied to twigs or small branches only, but often used to describe most activities involving the cutting of trees or shrubs

**Radial.** In the plane or direction of the radius of a circular object such as a tree stem

**Rams-horn.** In connection with wounds on trees, a roll of occluding tissues which has a spiral structure as seen in cross-section

**Rays.** Strips of radially elongated parenchyma cells within wood and bark. The functions of rays include food storage, radial translocation and contributing to the strength of wood

**Reactive Growth/Reaction Wood.** Production of woody tissue in response to altered mechanical loading; often in response to internal defect or decay and associated strength loss (cf. adaptive growth)

**Removal of deadwood.** Unless otherwise specified, this refers to the removal of all accessible dead, dying and diseased branchwood and broken snags

**Removal of major deadwood.** The removal of, dead, dying and diseased branchwood above a specified size

**Respacing.** Selective removal of trees from a group or woodland to provide space and resources for the development of retained trees

**Residual wall.** The wall of non-decayed wood remaining following decay of internal stem, branch or root tissues

**Rhizomorph.** A root-like aggregation of fungal hyphae

**Rib.** A ridge of wood that has usually developed because of locally increased mechanical loading. Often associated with internal cracking in the wood of the stem, branch, or root.

**Ring-barking** (girdling). The removal of a ring of bark and phloem around the circumference of a stem or branch, normally resulting in an inability to transport photosynthetic assimilates below the area of damage. Almost inevitably results in the eventual death of the affected stem or branch above the damage

**Ripewood.** The older central wood of those tree species in which sapwood gradually ages without being converted to heartwood

**Root-buttresses.** A buttress-like formation at the transition between roots and stems

**Root-collar.** The transitional area between the stem/s and roots

**Root-collar examination.** Excavation of surfacing and soils around the root-collar to assess the structural integrity of roots and/or stem

**Root protection area (RPA).** Layout design tool indicating a notional minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability and where the protection of the roots and soil structure is treated as a priority

**Root zone.** Area of soils containing absorptive roots of the tree/s described. The **Primary** root zone is that which we consider of primary importance to the physiological well-being of the tree

**Saprophytic fungi.** Fungi that live on dead or decomposing matter (in the tree) as opposed to functional, living tissues

**Sap-run.** Liquid running down a stem, branch, or root buttress and providing a food source or other habitat resource. Originating from phloem or xylem death or infections, or water that has accumulated in or run through decaying material.

**Sapwood.** Living xylem tissues

**Safety factor.** The ratio of the maximum stress that a structural part of a tree can withstand to the maximum stress experienced under normal conditions

**Screef.** To clear surface vegetation (commonly up to a depth of around 20mm)

**Secondary branch.** A branch, generally having a basal diameter of less than 0.25 x stem diameter

**Secondary thickening.** Production of a layer of new xylem (wood) over a pre-existing shoot, branch, stem or root.

**Selective delignification.** A kind of wood decay (white-rot) in which lignin is degraded faster than cellulose

**Senescence.** The condition or process of deterioration with age.

**Service.** Any above- or below-ground structure or apparatus required for utility provision e.g. drainage, gas supplies, ground source heat pumps, CCTV and satellite communications

**Shedding.** In woody plants, the normal abscission, rotting off or sloughing of leaves, floral parts, twigs, fine roots and bark scales

**Shoot.** The elongating region of a stem or branch

**Shrub species.** Woody perennial species forming the lowest level of woody plants in a woodland and not normally considered to be trees

**Silviculture.** The practice of controlling the establishment, growth, composition, health, and quality of forests to meet diverse needs and values

**Silvicultural thinning.** Removal of selected trees to favour the development of retained specimens to achieve a management objective

**Single-up.** Removal of stems from a multi-stemmed tree with the aim of developing a tree with a single stem.

**Simultaneous white-rot.** A kind of wood decay in which lignin and cellulose are degraded at about the same rate

**Snag.** In woody plants, a portion of a cut or broken stem, branch or root which extends beyond any growing-point or dormant bud; a snag usually tends to die back to the nearest growing point

**Soft-rot.** A kind of wood decay in which a fungus degrades cellulose within the cell walls, without any general degradation of the wall as a whole

**Soil auger.** A hand-held steel auger 60mm diameter auger used for extracting soil samples.

**Soil horizons.** A layer parallel to the soil surface, whose physical characteristics differ from the layers above and beneath:

- O) Organic matter - Litter layer of plant residues
- A) Surface soil - Layer of mineral soil with accumulation of organic matter
- B) Subsoil - This layer accumulates mineral and organic compounds.
- C) Parent rock - Layer of large unbroken rocks
- R) Bedrock - Partially weathered bedrock at the base of the soil profile

**Soil sample.** A sample of soil extracted for the purpose of either field or laboratory testing to determine mineral, chemical or structural composition, and or moisture content and shrinkability.

**Sounding hammer.** A small plastic or nylon hammer used for assessing the audible signs of decay, cracks and other features in trees

**Spores.** Propagules of fungi and many other life-forms; most spores are microscopic and dispersed in air or water

**Sporophore.** The spore bearing structure of fungi

**Sprouts.** Adventitious shoot growth erupting from beneath the bark

**Squirrel damage.** Stripping of the bark from stems or branches by squirrels. This can result in the death of branches or even entire trees

**Stem/s.** Principle above-ground structural component(s) of a tree that supports its branches

**Stem taper.** The downward tapering of a tree stem out into the flare of the root buttresses

**Stress.** In plant physiology, a condition under which one or more physiological functions are not operating within their optimum range, for example due to lack of water, inadequate nutrition or extremes of temperature

**Stress.** In mechanics, the application of a force to an object

**Strain.** In mechanics, the distortion of an object caused by a stress

**Stringy white-rot.** The kind of wood decay produced by selective delignification

**Storm.** A layer of tissue which supports the fruit bodies of some types of fungi, mainly ascomycetes

**Structural roots.** Roots, generally having a diameter greater than ten millimetres, and contributing significantly to the structural support and stability of the tree

**Structure.** Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork

**Subsidence.** In relation to soil or structures resting in or on soil, a sinking due to shrinkage when certain types of clay soil dry out, sometimes due to extraction of moisture by tree roots

**Subsidence.** In relation to branches of trees, a term that can be used to describe a progressive downward bending due to increasing weight

**Taper.** In stems and branches, the degree of change in girth along a given length

**Target canker.** A kind of perennial canker, containing concentric rings of dead occluding tissues

**Targets.** In tree risk assessment (with slight misuse of normal meaning) persons or property or other things of value which might be harmed by mechanical failure of the tree or by objects falling from it

**Terminal xylem.** The last layers of xylem cells produced at the end of the growing season

**Topping.** In arboriculture, the removal of the crown of a tree, or of a major proportion of it

**Torsional stress.** Mechanical stress applied by a twisting force

**Translocation.** In plant physiology, the movement of water and dissolved materials through the body of the plant

**Transpiration.** The evaporation of moisture from the surface of a plant, especially via the stomata of leaves; it exerts a suction which draws water up from the roots and through the intervening xylem cells

**Tree Protection Plan.** Scale drawing, informed by descriptive text where necessary, based upon the finalised proposals, showing trees for retention and illustrating the tree and landscape protection measures

**Tree Risk Assessment.** An assessment and description of the risks and where appropriate the values associated with a tree or trees. The primary risk being considered is that from falling trees. Other risks, such as damage to infrastructure, interruption of service and building subsidence may also be considered

- Walkover – A general view of the tree population considered in the context of the adjacent land-use to identify trees that present significantly elevated risks
- Drive-by - A general view of the tree population from a moving vehicle and considered in the context of the adjacent land-use to identify trees that present significantly elevated risks
- Individual – the assessment of risks from a single tree considered in the context of the adjacent land-use to identify trees that present significantly elevated risks

**Understorey.** This layer consists of younger individuals of the dominant trees, together with smaller trees and shrubs which are adapted to grow under lower light conditions

**Understorey tree species.** Tree species not having potential to attain a size at which they can contribute to the closed high canopy of a woodland

**Vascular cambium.** Sometimes described simply as 'cambium'. Layer of dividing cells producing xylem (woody) tissue internally and phloem (bark) tissue externally

**Vascular dysfunction.** Dysfunction of water conducting cells

**Vascular wilt.** A type of plant disease in which water-conducting cells become dysfunctional

**Vessels.** Water-conducting cells in plants, usually wide and long for hydraulic efficiency; generally not present in coniferous trees

**Veteran tree.** A tree that has the physical characteristics of an ancient tree but is not ancient in years, compared with others of the same species

**Vigour.** The expression of carbohydrate expenditure to growth (in trees)

**Vitality.** A measure of physiological condition. N = within normal range for species and age, R = reduced from the normal range for the species and age, P = poor

**Volunteer trees.** Trees arising from natural colonisation rather than having been planted

**Weeping lesion.** Exudations from a lesion in plant tissue

**Wet flush.** Where water from underground flows out onto the surface to create an area of saturated ground, rather than a well-defined channel

**White-rot.** A range of kinds of wood decay in which lignin, usually together with cellulose and other wood constituents, is degraded

**Wind exposure.** The degree to which a tree or other object is exposed to wind, both in terms of duration and velocity

**Wind pressure.** The force exerted by a wind on a particular object

**Windthrow.** The blowing over of a tree at its roots

**Wound dressing.** A general term for sealants and other materials used to cover wounds in the hope of protecting them against desiccation and infection; only of proven value against fresh wound parasites

**Woundwood.** Wood with atypical anatomical features, formed in the vicinity of a wound

**Xylem.** Secondary xylem; the main structurally supporting and water-conducting element of trees (refined definition specific to this case)