BS5837 Tree Report

BS5837 Tree Report | Manchester Road,
Buxton | Revision G 31.08.2012
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INTRODUCTION

Instruction
Christians Environmental have been instructed to inspect all trees within the site boundary and trees in adjacent land that may be affected by the proposed development. The aim of which is to prepare the following information to accompany a planning submission for the site:

- Schedule of the relevant trees to include basic data and a condition assessment
- Appraisal of the impact of the proposed development on the trees and any resulting impact that has on local amenity.
- Arboricultural method statement setting out appropriate protective measures and management for trees to be retained.

Purpose of the report
This report provides an analysis of the impact of the proposed development on trees and local amenity with additional guidance on appropriate management and protective measures. Its primary purpose is for the Local Authority to review any tree issues associated with the planning application and use as a basis for issuing a planning consent or engaging in further discussions towards that end. During the planning process, this document and accompanying data will be available for inspection by people including the general public, we aim to present the information in a format that is easily understandable to people without a general knowledge of the subject area.

To make this report easier to use, the context is concise with minimal explanations. Where appropriate we have included further reading and/or explanations within the appendix.

Provided Documents
The following plans have been provided.
- Land Survey, provided in dwg format
- Proposed development layout, provided in pdf & dwg format
- Landscape Master Plan

Tree Data Collection
All Trees on site which are adjacent to any proposed development areas or fall directly into these areas have been numbered and species identified. Each tree has also been inspected as described in British Standard 5837; this includes information on height, diameter, crown spread, maturity, condition and recommendations. Each tree is also classified as a category A, B, C or R (Summary in the Appendix). This categorization reflects the trees material constraint on the proposed development. Collection of information also takes into consideration any low branches, structural or physiological conditions and any remaining contribution that the tree offers to the site.

Interpretation of Tree Data
Within section 5 of the British Standard BS 5837 it recommends that the stem diameter taken at breast height is used to calculate the root protection area. This root protection area can be interpreted to identify any design constraints to the site. Once site design has taken place this data can be used to form the basis of any exclusion zone and position of protective barriers/fencing.

Also included within this report are:
- The Tree Constraints Plan which identifies any arboricultural constraints on site.
- The Tree Protection Plan which shows the location of the protective fencing and area set to exclusion zones.

These plans act as a visual aid in the planning stage and are also designed to aid and instruct contractors on site. The use of these plans should also be implemented on site visits to check on the location of the protective barrier and area.
The site is currently pair of neighbouring residential dwellings.

The surrounding area is mostly residential dwellings.

Buxton is a spa town in Derbyshire, England. It has the highest elevation of any market town in England.

Located close to the county boundary with Cheshire to the west and Staffordshire to the south, Buxton is described as "the gateway to the Peak District National Park".

Built on the River Wye, and overlooked by Axe Edge Moor, Buxton has a long history as a spa town due to its geothermal spring.
Summary of the impact on trees

Within the proposed development area and including adjacent land there is a total of 25 individual trees that have the potential to be affected by the development proposals.

Overview

- 2 trees will be removed due to the development proposal.
- 17 trees lie close to the proposal and will be under protection during the development.

Detailed impact assessment

(Please refer to the Tree Constraints Plan and Tree Data Section when reading the below)

Category A trees and groups.

- 2 Category A trees will be affected by the proposal.

T15 could potentially have some RPA removed in order to allow the widening of the driveway. This should be done with an airspade in order to minimise root damage.

T6 will be subject to some surface change within its RPA. Where surface is changed to hard standing it is recommended a geocell no dig system is used along with a permeable surface to ensure minimal impact on the root system.

Where the hard surface is being removed and replaced with soft landscape. It has been recommended that the existing hard surface is removed by hand so as to ensure minimal disturbance of the root system.

See special construction plan for further information.

Category B trees and groups.

- 2 Category B trees will be affected by the proposal.

T18 and T19 will have a small amount of surface change within their RPA. As this is only a small amount of surface change there will be minimal effect on the trees.

It is recommended that a no dig geocell system along with a permeable surface be used to ensure minimal disturbance of the root system.

See special construction plan for further information.
Impact on local amenity

The Site currently has a number of trees within its boundary or in close proximity to its boundary, the majority of which are in good condition.

As no trees are to be removed there will be no impact on the site amenity in terms of visibility or longevity.

As a lot of the trees have limited RPA’s due to changing levels within the site the majority of the trees will be unaffected.

Protection of retained trees

The successful retention of trees depends on the quality of the protection and the procedures to ensure any protective measures remain in place.

This is carried out by means of an arboricultural method statement contained within this report, this is also accompanied by a Tree Protection Plan and on this occasion a Special Construction Plan to highlight the methods used to install new surfaces which are near to a number of trees.

Prior to the production of the method statement and design of the tree protection measures, a meeting at the site was attended by the LA Tree Officer and lead arboricultural consultant to discuss the measures needed in detail to ensure the tree was adequately protected.
Within this section is the tree survey data, also included is a chart explaining how trees are classed when carrying out a BS 5837:2005 “trees in relation to construction” report. Below is also an overview of acronyms that are commonly used.

Within the appendix is also a glossary of arboricultural terms.

<table>
<thead>
<tr>
<th>Category Grade</th>
<th>Category Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category A:</td>
<td>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)</td>
</tr>
<tr>
<td>Category B:</td>
<td>Those of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)</td>
</tr>
<tr>
<td>Category C:</td>
<td>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)</td>
</tr>
<tr>
<td>Category R:</td>
<td>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</td>
</tr>
</tbody>
</table>

**KEY:**
- Tree Numbers/Tags: Individual tree = T+number, Group of trees = G+number
- Species: Common and or scientific names where appropriate
- Height: Overall tree height
- Crown Clearance: Overall height of lowest branches from the ground level
- Diameter at breast height: Measurement of tree stem
- Canopy spread: Extents of tree branches taken in compass points
- Age Class: (Y=Young) (SM= Semi Mature) (M=Mature) (OM=Over Mature) (V=Veteran)
- Tree Condition: Comments on trees overall health etc
- Comments: Any further details that may be of importance
- Management recs: List of urgent works or further investigation that may be needed
- Remaining contribution: How long the tree will offer a contribution
- Category Rating: See opposite table

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Within this section is the tree survey data, also included is a chart explaining how trees are classed when carrying out a BS 5837:2005 “trees in relation to construction” report. Below is also an overview of acronyms that are commonly used.

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**Tree Survey Data**

**Table:**

<table>
<thead>
<tr>
<th>Tree No</th>
<th>Species</th>
<th>Height (metres)</th>
<th>DBH (cm)</th>
<th>N</th>
<th>E</th>
<th>S</th>
<th>W</th>
<th>Age Class</th>
<th>Physiological Condition</th>
<th>Structural Condition</th>
<th>Condition Comments</th>
<th>Preliminary Management Recommendations</th>
<th>Remaining Contribution</th>
<th>Rec Con Years</th>
<th>Cat Grade</th>
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<td>DBH (cm)</td>
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<td>Rec Con Years</td>
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<td>30-40</td>
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</table>
Trees for removal

- category C: trees which have no significant purpose, such as providing bad shade, being a nuisance, or being diseased

- category B: trees which, although of limited purpose, are relatively free from other problems such as disease

- category A: trees which are in reasonably good condition and are able to make a substantial contribution

Criteria

- category A: trees which are in reasonably good condition and are able to make a substantial contribution (a minimum of 40 years is suggested)

- category B: trees which, although of limited purpose, are relatively free from other problems such as disease (a minimum of 20 years is suggested)

- category C: trees which have no significant purpose, such as providing bad shade, being a nuisance, or being diseased

Mainly Arboricultural values

- many of the trees are in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees within the site which are part of the overall design

Mainly landscape values

- the trees are unable to make a significant contribution (a minimum of 20 years is suggested)

Mainly cultural values

- the trees and/or woodlands are not able to make a substantial contribution (a minimum of 40 years is suggested)

1: Mainly Arboricultural values

- most of the trees are 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 of less than 150 mm should be considered for removal

2: Mainly landscape values

- the trees and/or woodlands are unable to make a significant contribution (a minimum of 20 years is suggested)

3: Mainly cultural values

- the trees and/or woodlands are unable to make a substantial contribution (a minimum of 40 years is suggested)

Note:

- etc.
Introduction

This Method Statement has been drawn up to assist the Local Authority and the developer in overseeing the construction of the proposed development at Manchester Road, Buxton.

This document seeks list those trees which are proposed for removal and discuss any tree constraints and implications.

It describes the proposals for ensuring that the trees that are to remain would survive the development and thrive after the development has taken place.

The development and timing of construction operations are described, together with materials which would be used in order to maximize tree protection.

The document also includes a section of useful telephone numbers and addresses.

This statement will be included as part of the specification and schedule of works issued to the building contractor and will form part of the contract. The accompanying arboricultural statement, plans will be available on site for inspection along with this method statement.

Overview of Stages

1) Install tree protection
2) Carryout tree works
3) Carryout Demolition Works
4) Carryout construction works
5) Remove tree protection once the development is complete
6) Final site meeting with LA Tree Officer
Stage 1

Protective Fencing

Following the completion of any tree works and prior to machinery entering the site for any building, levelling or site clearance purposes, all trees listed to be retained within the development will be fenced off in a continuous line around their specified root protection areas in accordance with British Standard 5837:2012

The fencing will be constructed with a framework of scaffolding poles driven 600mm into the ground, braced together and backstays will then be added at 3m centres. Onto this will be attached a continuous line of welded mesh panels (alternatively Ply or corrugated sheet metal panels may be used) to be securely fixed with wire or scaffold clamps in accordance with British Standard 5837:2005. For sample see appendix

Site Notices on fencing will be used in the form of pre-printed laminated waterproof signs A3 in size fixed securely to fencing panels on each enclosure at 9m intervals. The signs will clearly read:

Protected Tree Zone

No Storage or Operations Within Fenced off Areas

Failure to comply with the above requirements could lead to enforcement action, including the issuing of a Stop Notice, until the matter has been remedied. Where damage has occurred to legally protected trees, the owner of the site may be liable for prosecution.

A copy of an appropriate tree protection sign is included within the Appendix; a copy can be supplied direct from Christians Arboriculture upon request.

A diagram/plan of fencing design is included within the Appendix
Stage 2

Carry out agreed arboricultural works.

Tree Removal Works

**Due to the Proposal – None**

**Due to Poor Condition – None**

**Crown Raising – T3, T4, T5, T18, T19 and T20**

Tree/Vegetation Removal

All trees/vegetation marked for removal, are coded on the Tree Retention Plan to aid arboricultural contractors identify the correct trees.

All arboricultural operations on site including tree removal must be carried out by an arboricultural contractor that is able to comply with British Standards 3998.

All arboricultural contractors should be insured to a minimum of £5 million and able to show competency by means of relevant certification and health and safety policy.

Because of the location of this site and characteristics of certain trees it is recommended that the arboricultural contractors have relevant experience of working with protected species, namely bats. Any qualifications or certification of competency should be sort at the tender stage.

A list of suitably QUALIFIED AND INSURED contractors can be supplied by Christians.

Works Near Trees

Prior to the commencement of works in the vicinity of retained trees a meeting will be called, to which the local authority’s tree officer will be invited. This is in order to agree that the methods and new position of the tree protection fencing are adequate and meet with the local authority’s approval.

The remainder of the tree removal, excavation, and landscaping works including installation of paths and minor structures within the Root Protection Areas shall be monitored by the developer’s arboriculturalist on a regular and frequent basis. Depending on the length of time required to carry out works this may not require a permanent presence but as a minimum they shall be present at the commencement of the following stages of work: (i) tree removal, (ii) excavations, (iii) landscaping, installation of paths and minor structures.

Any pre-approved excavation works within the Root Protection areas should only be carried out with consent and instruction from both the developer’s arboriculturalist and the local authority’s tree officer.
Stage 3

Carryout Demolition Works

Once the tree works have been carried out and the protection is in place the demolition works can begin once the tree protection is deemed correct by the arboricultural consultant.

Any demolition works that are to be carried out in close proximity to trees or within the RPA’s of trees must be done by hand and where possible no digging or excavating can take place.

This could potentially mean leaving foundations in situ as removing them may cause damage to tree roots in or around them.

Once finished the area should have a soil conditioner or mulch placed over the area to encourage adventitious roots to populate the area.

Stage 4

Carryout construction works.

Once the tree protection is in place and assessed and the access roads near to trees are constructed the general construction works can begin once the tree protection is deemed correct by the arboricultural consultant.

During the construction phase it is important that all staff are aware of the tree protection areas and their importance.

If any breach in the tree protection occurs it is the site manager’s responsibility to report this urgently to the arboricultural consultants so the appropriate measures can be taken.

It is recommended that all staff are made aware of the tree protection measures and procedures during a site induction.

Link Bridge

The ground protection and tree works must be implemented before any work can be carried out in the bridge area.

The installation of the supporting steel work should either be lifted from the lower level into position or slid over the ground protection system described on the tree protection plans.

Once the bridge is in place the new geotextile path should be implemented. This is to ensure the bridge and path match in height once both are installed. This should be done under supervision of an arboriculturist.

The ground protection should remain in place around the path whilst construction is going on.

The ground protection and tree protection should then remain in place until all works have finished.

New Driveway and Footpath

There are Four main methods to be used in the construction of the new driveway and footpath

- The widening of the driveway near the entrance should be done by removing any soil with an airspade followed by correct root pruning techniques on any roots that are exposed during this process. Any large roots exposed should be immediately covers with wet hessian to stop them drying out.

- Anywhere hard landscaping is to be removed and replaced with soft landscaping must be done by hand using a breaker to break tar mac and hand tools to remove the surface. Once small roots are encountered excavation should stop and the ground should be made good using top good clean topsoil and finished to the desired effect. This should be done under the supervision of an arboriculturist.

- Anywhere where the driveway is to remain hard landscaping it should be laid over the top of the existing hard surface.

- Any area of new hard landscaping within the RPA of any tree should be done using a geo textile membrane and a minimum dig method as described on the special construction plan.
Stage 5

Remove stem/tree protection.

When the development is complete, all drainage and service runs are in place and the main site machinery has been removed, temporary protective fencing will be dismantled. This must be done with great care and will need to be supervised to avoid heavy machinery being used.

Stage 6

Final site meeting with LA Tree Officer.

Upon completion of all the works specified above and procedures also specified, the developer’s arboriculturist will invite the local authority’s tree officer to meet on site to discuss the process and to agree any final remedial works which may be required.

Additional Notes

Site Storage, Cement Mixing and Washing Points

The onsite storage, mixing and washing points should be situated on the existing hard surfaces situated at the rear of the property.

All efforts must be made to not allow any contamination of the soil from washing and fueling operations.

Services

The trench for the service run in the driveway will need to be dug with an airspade. This is to ensure no structural roots are damaged during the implementation of any pipes/cables.

The pipes/cables should be run at the specified depth either beneath or above any roots under the drive. No roots should be severed in the implementation of this service run.

Useful Names And Telephone Numbers

The Arboricultural Consultants –

Christians,

Head Office : BCR House, 3 Bredbury Business Park, Stockport. SK6 2SN
Preston Office : Office 2, 26 Tulketh Rd, Ashton, Preston, Lancashire. PR2 1AQ
Tel: 0161 8500211 Emergency Number: 07925 142793
The first stage of protection, to be implemented before construction or demolition is to occur is the installation of a strong ground protection system.

This system should be installed on top of a 2" bed of fine sand (NOT builders sand) to offer extra protection against compaction.

Before any construction works start this should be checked by an arboriculturist.

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**Safety Considerations:**

- **Protective Ground Covering (DURADECK SYSTEM)**
- **Area Marked Cyan**

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**Do Not Scale From This Drawing. All Dimensions To Be Checked On Site.**

**Key:**

- Location of tree protection fencing
- Location of tree protection fencing (Individual stem)
- Location of ground protection system
- Canopy spread
- Extents of root protection area (RPA)
- Proposed building and/or topographical feature

**Scale:**

1:300 @ A1

**Date:**

31.08.2012
1. Frame constructed out of standard scaffold poles
2. Heavy gauge 2m tall galvanized tube and welded mesh infill panels (heras fencing)
3. Panels secured to uprights and cross members with wire ties and / or clamps. Standard scaffold clamps to secure the frame.
4. Scaffold pole uprights to be driven into the ground until secure (min depth of 600mm)
The installation of the geocell and road/drive/pedestrian surface will not require any excavations into the rooting area of the trees. Care should be taken in this area and no heavy machinery is to be used until the geocell product is installed. See the method Statement for further geocell instructions. See the appendix for geosynthetics product details.

By using the geocell the roots within the existing ground levels will be unaffected as no excavations are required. The geocell will spread the load of any traffic using the area and therefore stop any compaction damage to the roots of adjacent trees. The geocell set in place and installed correctly will offer significant protection within the root protection areas against compaction damage. By including the use of a permeable surface the water availability to existing roots will be unaffected.

Area Marked Blue
This area is a special protection area. Any new surface should consist of a permeable product set on top of a geocell product. Terram Geocell is a product especially made for this application.

www.terram.co.uk
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KEY:
- Area of hard landscaping to be changed to soft
- Existing Hard Surface Edge
- New Path to be laid on top of Existing Hard Surface

1:300 @ A1
31.08.2012
G
BS - MR001

Potential Driveway Widening to be done with Airspade
Canopy spread
Extents of root protection area (RPA)
Proposed building and/or topographical feature
PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.

TREE PROTECTION AREA
KEEP OUT!
(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER. CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION
ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

Tree Protection Warning Sign
Abscission. The shedding of a leaf or other short-lived part of a woody plant, involving the formation of a cortical 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.

Adaptive growth. In tree biomeschanics, 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 stresses.

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

Achae. A pruning cut which removes part of the branch bark ridge and or branch tip collar.

Achae collar. The part of a stem between two nodes; not to be confused with a length of stem which bears adventitious roots.

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.

Bolting. 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. A first order branch arising from a stem.

Brachiation. In trees, a system of branching in which there is a defined pattern of branching of the crown or root system, including the phloem, cortex and periderm; occasionally applied only to the periderm or the phellem.

Basiomycota (Basiomycetes). 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 basiomycetes.

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

Bolting. A term 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.

Branch bark ridge. The raised arc of bark tissues that forms within the acute angle between a branch and the main 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.

Buitress 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.

Cambium. Layer of dividing cells producing xylem (woody) tissue internally and phloem (bark) tissue externally.

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.

Cleaning out. The removal of dead, cracking, weak, and damaged branches, which in this will not damage or spoil the overall appearance of the tree.

Compartmentalization. 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.

Compression strength. The ability of a material or structure to resist failure when subjected to compressive loading; measured 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 vitality 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 exclusion zone. Area based on the Road Protection Area (in square metres) to be protected during development, by the use of barriers and/or ground protection.

Crown/Capony. 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 along 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 there is a well-defined central main stem, bearing branches which are limited in their length, diameter and secondary branch (cf. Decurion) in fungi with toadstools as fruit bodies, the description of gills which run some distance down the stem, rather than terminating abruptly.

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.

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

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 involving mechanical damage; in trees, usually caused by pathogenic microorganisms.

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 aid the inspection of tree and climbing operations. Access to deadwood can cause significant damage to a tree. Removal of deadwood is generally recommended only where it represents an unacceptable level of hazard.

Endophytes. Micro-organisms which 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.

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

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

Excurrent. In trees, a system of branching in which the crown is borne on a number of major widely spreading and secondarily branched limbs (cf. Decurion).

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

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

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

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

Heartwood/false-heartwood/sapwood. Sapwood that has become dysfunctional as part of the natural aging processes.

Heave. A term mainly applicable to a shrinkable clay soil which expands due to re-wetting after the felting of a clay 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 branch parts of a tree (usually forks, joined branches or basal flutes) which is ingrown within the soil.

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.

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

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.

Lignin. The hard, cement-like consistent 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 ends, 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.

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.

Mature Heights (approximate).– Low maturing – less than 8 metres high

Moderately high maturing – 8 – 12 metres high

High maturing – greater than 12 metres high

Micro drill. 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 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 material or a sheet of plastic or other artificial material.

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

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

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.

Photosynthesis. The process whereby plants use light energy to split hydrogen from water molecules, and combine it with carbon dioxide to form the molecular building blocks for synthesising carbohydrates and other biochemical products.

Phytotoxic. Toxic to plants.

Pollarding. The removal of the tree canopy, back to the stem or primary branches. 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 to Table 1 of BS5837 (1991) Guide for Trees in Relation to Construction.

Priority. Works may be prioritised, 1. = high, 2. = low.

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

BS5837 Tree Report | Manchester Road, Buxton | Revision G 31.08.2012

Appendix

Glossary Of Arboricultural Terms

10.0
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 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 excising 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
Red-rot. A form of decay in which reddish pigments are present but which is biochemically a white-rot; not to be confused with brown-rots which sometimes also have a reddish-brown colour
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 dead wood. Unless otherwise specified, this refers to the removal of all accessible dead, dying and diseased branchwood and broken snags
Removal of major dead wood. The removal of, dead, dying and diseased branchwood above a specified size
Rescaping. 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
Root-collar. The transitional area between the stem/s and roots
Root-collar examination. Excavation of surface and soils around the root-collar to assess the structural integrity of roots and/or stem
Root protection area. An area of ground surrounding a tree that contains sufficient rooting volume to ensure the tree's survival. Calculated with reference to Table 2 of BS5837 (2005) and shown in plan form in square metres
Root zone. Area of soils containing absorptive roots of the tree/s described
Secondary branch. A branch, generally having a basal diameter of less than 0.25 x stem diameter
Selective delignification. A kind of wood decay (white-rot) in which lignin is degraded faster than cellulose
Selection. The removal or cutting back of twigs or branches, sometimes applied to twigs or small branches
Shedding. In woody plants, the normal abscission, rotting of tissues
Shrubs. A kind of woody 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
Spores. Propagules of fungi and many other life-forms; most spores are Shrub species. Woody perennial species forming the lowest level of woody plants in a woodland and not normally considered to be trees
Sporophore. The spore bearing structure of fungi
Sprouts. Adventitious shoot growth emerging from beneath the bark
Topping. The blowing over of a tree at its roots
Understory. A layer of vegetation beneath the main canopy of woodland or forest or plants forming this
Understory 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 wilt. A type of plant disease in which water-conducting cells become dysfunctional
Wound. The removal or cutting back of twigs or branches, sometimes applied to twigs or small branches
Wound dressing. Protective substances applied 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.