

Arboricultural Report

for planning purposes
at

**16 Daleham Gardens
London
NW3 5DA**

on behalf of

Mr Matthew Bellamy

produced by

Crown Consultants Ltd



*Arboricultural
Consultants*

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1. Introduction

1.1. Instructions and References

1.1.1. Crown Consultants are instructed by Mr Matthew Bellamy of 16 Daleham Gardens to undertake an Arboricultural Survey to British Standard 5837: 2005 guidelines, at the same address and produce our findings in a report.

1.1.2. We have plotted tree positions according to measurements taken on site.

1.1.3. A résumé of my qualifications and experience are included within Appendix 3.

1.2. Scope and Purpose of the Report

1.2.1. This report is designed to accompany a planning application for development proposals at the above site. Its purpose is to assist and inform the planning process according to guidelines laid out in BS 5837 (2005). It is written independently of development proposals.

1.2.2. This report is based on the findings of a survey carried out from ground level. No climbed inspections or specialist decay detection were undertaken. Only trees with a stem diameter over 75mm were included, which lie within the site boundary or relatively close to it.

1.2.3. Where appropriate, potentially hazardous trees have been highlighted and appropriate recommendations made. However, this report should not be seen as a substitute for a full *Safety Survey* or *Management Plan* which are specifically designed to minimise risk and liability associated with responsibility for trees.

1.3. Report Format

1.3.1. The main body of the report contains predominantly site specific information. Generic information can be found in the Appendix and Section 5 to help the reader interpret the Tree Constraints Plan which can be found in Appendix 6. Photographs of the site can be viewed in Section 7.

2. Site Overview

2.1. Location

2.1.1. The site lies within a moderately populated residential area. The co-ordinates are, 51°32'55.05"N 0°10'25.91"W the OS reference is: TQ 2671884884 and the altitude is 73m above sea level.

2.1.2. Our survey was limited to the site boundaries and those trees overhanging or potentially having roots within the site.

2.2. Site Use

2.2.1. The site comprises a detached house and rear garden. An attached garage is situated on the south side of the property. Vehicular access exists from the adjacent road, Daleham Gardens. Within the front garden there are five small pollarded trees and several shrubs. Within the rear garden, bordering a lawn, are several small garden variety trees and shrubs, with two larger trees close to the property which provide the main focus of this report (T2 and T6).

2.3. Topography

2.3.1. The site is approximately flat with no abrupt level changes. There exists a retaining wall on the eastern boundary which separates the property from a row of terraced houses. The predominate surface is grassed lawn with areas of flagging.

2.4. Vegetation Overview







- 2.4.1. The visual amenity value of any tree is dependent on several factors, including size, prominence of location, proximity of other trees, and attractiveness of form. Within the site, the trees having the highest amenity value are the two larger specimens (T2 and T6) located close to the house. Smaller trees located internally to the site are considered to have a low amenity value.
- 2.4.2. There are no trees of high amenity within the site due to the enclosed rear garden.

3. Tree Data Schedule

The following pages contain information gathered for each tree during the survey conducted on 15th February 2010.

The Schedule includes scaled tree images based on measurements recorded for stem diameter, crown spread, crown height and overall height. Their purpose is to indicate, at a glance, the relative dimensions of each tree

The reader should also refer to the appendices in order to correctly interpret the tree data.

| Reference G = Group H = Hedge | Age & Species | Height (m) | Crown Ht (m) | Diameter (cm) | Crown Spread (m) N W E S | Scaled Tree Diagram (m) | Notes | Recommendations | | Vigour | Amenity Value |
|-------------------------------------|---|------------|--------------|-----------------|--|---|---|-------------------------------------|--------------------|----------------------------------|---|
| | | | | | | | | | | Physiological Condition | Life Expectancy (yrs) |
| | | | | | | | | Priority | Inspect Freq (yrs) | Structural Condition | Retention Category |
| G1 | Early-Mature Lime Tilia sp. | av 7.5 | av 2.5 | av 35 | 4.5 3 1 4 each |  | Position: Adjacent east boundary, overhanging the boundary. Form: Single and twin-stemmed, vertical with poorly formed crowns. History: Previously topped at 3m and fused together; multiple pruning wounds. Defects: Poor specimens with ivy on one stem. | Crown clean & monitor. | | Moderate Fair Poor | Low 10-20 C - |
| | | | | | | | | Moderate | 1 | | |
| T2 | Semi-Mature Scots Pine Pinus sylvestris. | 16 | 4 | av 39 | 3 3.5 2.5 3 |  | Position: Adjacent east boundary, overhanging the boundary. Form: Single stemmed and vertical with a slight kink and a balanced crown. History: No evidence of significant pruning. Defects: No significant defects. | No action required. | | High Good Fair | Moderate 40+ B |
| | | | | | | | | n/a | 3 | | |
| G3 | Young Mixed Group | av 4 | av 1 | av 19 | 5 3 2 each |  | Position: Small garden specimens, overhanging the boundary. Form: Occasional pruning wounds due to crown lifting, healing well. History: No evidence of significant pruning. Defects: No significant defects observed. Other: Poorly formed specimens. | No action required. | | Low Poor Poor | Low <10 C - |
| | | | | | | | | n/a | 1 | | |
| T4 | Early-Mature Elder Sambucus nigra. | 8 | 3 | 30 @ Base | 5 2 4 3 |  | Position: Situated on third party land, overhanging the boundary. Form: Twin-stemmed at ground level with a balanced crown. History: Occasional pruning wounds due to crown lifting (healing slowly). Defects: Minor deadwood to lower crown. Other: Typical elder form. | No action required. | | Moderate Fair Poor | Moderate <10 C |
| | | | | | | | | n/a | 1.5 | | |
| T5 | Young Maple Acer sp. | 5 | 2 | av 11 | 2 2 2 |  | Position: In centre of rear garden. Form: Single stemmed and vertical with a well-formed crown. History: No evidence of significant pruning. Defects: No significant defects. | No action required. | | High Good Fair | Low 10-20 C |
| | | | | | | | | n/a | 3 | | |
| T6 | Mature Silver Birch Betula pendula. | 18 | 5 | av 36 | 4.5 4 4 |  | Position: Adjacent west boundary, overhanging the boundary significantly. Form: Single stemmed with a slight lean and a well-formed crown. History: No evidence of significant pruning. Defects: No significant defects. | Reduce canopy over both properties. | | High Good Good | Moderate 20-40 B + |
| | | | | | | | | Low | 3 | | |

4. Tree Condition and Recommendations

This section gives an overview of the trees surveyed and highlights any safety concerns. Recommendations are made for management purposes only and are independent of development proposals. The Tree Data Schedule within the previous section should also be consulted as this gives a detailed description of individual specimens.

4.1. Summary of our Findings:

- 4.1.1. Trees within G1 are in an acceptable condition at present but require works in order to prevent future defects from developing. Such work is generally less of a priority. One tree in G1 could not be fully inspected due to the presence of dense ivy. It is recommended that the ivy is removed and the stem is inspected to ascertain its structural condition.
- 4.1.2. Trees which are considered to be in an acceptable condition at present but which have defects that require monitoring include G1 and T6. The Tree Data Schedule indicates the recommended inspection frequency.
- 4.1.3. The canopy of T6 is growing close to the house and the neighbouring property. It is recommended that the canopy be reduced.
- 4.1.4. All other trees and shrubs are deemed to be in an acceptable condition and no further works have been recommended.

4.2. Work Priority and Future Management

- 4.2.1. The Tree Data Schedule in Section 3 details what works are required to individual trees in order to ensure that they are in an acceptable condition. The table below indicates a suggested schedule for completing these works based on the associated risk:

| Work Priority | Definition | Tree Number: |
|---------------|---------------------|--------------|
| Urgent | As soon as possible | None |
| Very High | Within 1 Month | None |
| High | Within 3 Months | None |
| Moderate | Within 1 year | G1 |
| Low | Within 3 years | T6 |

- 4.2.2. Upon completion of any recommended works, the trees shall be in an acceptable condition from a safety perspective. However, they should be regularly inspected in case their condition deteriorates. Below is our suggested inspection schedule based on the condition and location of each tree:

| Inspection Frequency (years) | Tree Number: |
|------------------------------|--------------|
| 0.5 | None |
| 1 | G1, G3 |
| 1.5 | T4, |
| 3 | T2, T5, T6 |

- 4.2.3. The trees should be inspected sooner if there is a noticeable decline in their condition, or following extreme weather events.

4.3. Tree Protection Status– Site Specific

- 4.3.1. On 5th January 2011, we were informed, by Rebecca Kelly in Customer Services of London Borough of Camden that:

- The site is within Fitzjohn Netherhall conservation area.
- There are no TPO's affecting trees within the site.

4.4. Tree Protection – General Notes

- 4.4.1. Heavy fines exist for carrying out unauthorised works to protected trees so we advise that further checks are made in case new Orders have been created since the time of writing this report.

- 4.4.2. Before undertaking works to trees protected by a Tree Preservation Order, consent needs to be obtained from the local authority which will provide application forms and advice to potential applicants. The removal of dead wood is exempt.

- 4.4.3. Where the works are proposed for reasons of safety or ill health, a report from a suitably qualified arborist will usually be required. Trees that are dead, dangerous or dying are technically exempt from protection, though it would be prudent to give the local authority 5 days notice of intention and take photographs before undertaking works without prior consent being granted. Fines of up to £20 000 per tree exist for unauthorised works to protected trees.

- 4.4.4. Where planning permission is granted and tree removal has been approved as part of the planning consent. No further application is required in respect of protected trees.
- 4.4.5. Where trees are located in a Conservation Area, works are not permitted without first giving the local authority 6 weeks notice of intention. During this time the local authority may elect to create a Tree Preservation Order or to inform the applicant that they have no objection to the proposed works. If the local authority does not respond within 6 weeks, then the intended work may be undertaken.

5. Tree Related Constraints

5.1. Site Specific Issues

- 5.1.1. I understand that it is proposed to construct an extension to the rear and to the side of the property.
- 5.1.2. There exists a significant window for such a development since the majority of trees are situated close to the site boundaries. Those trees deemed to be in such a condition that their removal is recommended in Section 4, would not be affected by such proposals.
- 5.1.3. Special care will be needed when constructing near to the Root Protection Areas (RPAs) of T2 and T6 due to their proximity to the house and development area. In addition, the laying of new surfaces must also take into account these RPAs.
- 5.1.4. Trees on adjacent land will need to be considered during the design stages. The plan at Appendix 6 indicates the extent of the canopies and Root Protection Areas of these trees.
- 5.1.5. The remainder of this section offers general advice on dealing with tree related constraints on construction sites; it is not specific to this site.

5.2. Retention Categories

- 5.2.1. The plan at Appendix 6 indicates the BS 5837 Retention Categories for each tree. These should be taken into account during the design stage of any development proposals according to the following criteria:
- 5.2.2. Wherever possible, Category A trees should be retained. These are usually large trees with a relatively high amenity value. They are generally in good condition, well suited to their surroundings and with a significant life expectancy.
- 5.2.3. The majority of Category B trees should also be retained, as these are also substantial trees or smaller trees of particular merit.
- 5.2.4. The retention of Category C trees should be seen as optional. These are usually small trees or trees of no particular merit.
- 5.2.5. Category R trees have been recommended for removal due to their poor condition, and should be removed regardless of development proposals.

5.3. Root Protection Areas

- 5.3.1. The plan at Appendix 6 indicates the Root Protection Areas of each tree. This does not represent the maximum extent of rooting activity; rather, it defines the area within which the majority of roots are expected to be confined. Wherever possible, this should be left undisturbed for all trees to be retained. Significant disturbances such as changes in ground level, soil compaction caused by vehicles, excavation of trenches, or interference with oxygen and rainwater exchange may have a significant impact on the health of the tree.
- 5.3.2. Some disturbance of the Root Protection Area may be acceptable but must be kept to a minimum. Construction methods should be adopted that are sympathetic to root requirements:

-
- 5.3.3. Concrete strip foundations should be avoided except at the very extremity of the Root Protection Area. Instead, pile/pier and beam foundations or raft foundations should be utilised. These will minimise root severance.
- 5.3.4. Hard surfaces should be installed with the minimum of excavation. The majority of roots lie within the upper soil horizons and are relatively fine. Roots do not need to be as thick as branches, since they do not have to combat gravity and high winds etc. A root as thin as a finger is able to transport a lot of nutrients. Thus, excavation as shallow as 30cm can have a significant impact on the health of a tree even though large roots might not be severed. Cellular confinement systems help to reduce the amount of excavation required to give a driveway adequate strength.
- 5.3.5. Hard surfaces should ideally be porous to allow rainwater and oxygen to pass into the soil. Gravel is the ideal medium and can be retained in a cellular system to prevent rutting. Block paving and flagstones without mortar joints are a good alternative. Tarmac is not very porous; the use of a no-fines tarmac is preferable.
- 5.3.6. Trenches for underground services are commonly overlooked but can cause major damage to trees. Further arboricultural advice should be sought if underground services are to pass within Root Protection Areas. Trenchless techniques can sometimes be utilised but are not usually practical for installing drains.
- 5.3.7. If ground levels are to be raised, this should always be done with a loose granular material such as gravel or coarse sand. Ground levels must never be raised against the trunks of trees as this may cause them to rot.
- 5.3.8. It is sometimes possible to mitigate against root disturbance, by above ground pruning or by improving rooting conditions for existing roots. The introduction of mycorrhizal fungi and earth worms significantly improves rooting conditions, as does the removal of competing vegetation such as grass.
- 5.3.9. Soil compaction occurs when vehicles repeatedly pass over rooting areas without some kind of structure to disperse their weight. Healthy soils will contain approximately 25% airspace. When soils become compacted these air spaces disappear and roots are unable to respire. It is possible to de-compact soils but this is an expensive operation. It is preferable to avoid compaction, by spreading the load of traffic passing over Root Protection Areas with the use of metal road plates or suitable boards.

5.4. Tree Canopies

- 5.4.1. Where trees are to be retained, adequate space should be allowed between buildings and tree canopies. A minimum distance of 3m is recommended. For high quality trees (Category A or B) which have not yet reached maturity a further allowance should be made to allow the canopies to mature without the need for extensive pruning.
- 5.4.2. For residential dwellings, the shade cast by trees should be also taken into account. Particularly where buildings are located north or north-east of sizeable trees. Some species e.g. birch, have light airy canopies so shade is less of an issue. Commonly occurring trees which cast quite dense shade include beech, oak, ash, chestnut, sycamore, lime and most evergreen species. Shade constraints are less of an issue for garages and other non-residential buildings.

5.4.3. The Tree Constraints Plan within Appendix 6 indicates the shade constraint defined within BS 5837 which is determined according to the existing tree heights. This represents an approximation of the areas most affected by shade throughout the year. It does not reflect the actual shade cast at any one time of the day or at any one time of the year. Ideally, the windows of high occupancy living quarters (kitchens, living rooms and dining rooms) should be located outside of the BS 5837 shade constraints. Where they are located within the shade constraints it is advised that a more detailed assessment is undertaken to ascertain the availability of skylight and sunlight available at key windows. Consideration should also be given to allowing adequate amenity space within gardens that will enjoy some sunshine.

5.4.4. More sources of information regarding the above points can be found within Appendix 5. Crown Consultants will gladly offer any further advice, and you are invited to contact the author of this report on 01422 316660.

5.5. Arboricultural Impact Assessment

5.5.1. When development proposals are available we recommend that an Impact Assessment is carried out before submission to the Local Planning Authority. This will identify any potential issues so that they may be resolved or mitigated against.

5.6. Tree Protection During Construction

5.6.1. BS 5837 recommends that an Arboricultural Method Statement is adhered to which ensures that all retained trees are adequately protected during the construction phase. This should be highly site specific and take into account such things as hard surface design, implementation of services and foundations, storage of materials, scaffolding, use of heavy plant such as cranes or excavators, fencing specification, and necessary tree works. Adherence to such a Method Statement will help to minimise the impact of the development.

7. Photographs

Photo 1. Showing G1.



Photo 2. Showing T2.



Photo 3. Showing T6 & the north boundary.



8. Signature

This report represents a true and factual account of the trees at

16 Daleham Gardens
London
NW3 5DA

Signed



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Ivan Button N.C.H. (Arb), FDS_c (Arb), BSc (Hons), P.G.C.E., M. Arbor. A.

on behalf of

Crown Consultants Ltd

Dated

16th February 2011



*Arboricultural
Consultants*

Appendix 1: Understanding BS 5837: 2005

Aimed predominantly at arboriculturalists, architects, developers and planners, this Standard offers a balanced approach to harmonising development with existing trees. It acknowledges the positive contribution trees may offer to a site, as well as the negative aspects of retaining inappropriate trees. The stresses that development may place on existing trees are recognised, and guidance is offered regarding solutions. The Standard suggests a three stage approach:

A1.1 Stage 1: Initial Survey and Report

This identifies the existing trees and allocates to each a **Retention Category** which takes into account amenity value, condition and realistic life expectancy. The categories are allocated independently of development proposals. Our interpretation of the retention categories is explained below:

A1.1.1 Retention Categories

A Category: Trees of high quality and amenity. Usually, mature trees with a significant life expectancy which would enhance any development. Retention of these trees is strongly encouraged.

B Category: Trees of moderate quality and amenity. Usually mature trees, or younger trees with exceptional form. Retention of these trees is desirable though the removal of occasional specimens may be acceptable.

C Category: Trees of low quality and amenity. The removal of these trees should generally be seen as acceptable in order to facilitate development.

R Category: Trees whose structural condition is such that they should be removed if development is to proceed.

A1.1.2 Occasionally trees are borderline and do not fall neatly into one of the categories A, B or C. In such cases we apply a superscript (^{+/}) such that:

C⁺ Indicates borderline C/B, though Category C is deemed to be the most appropriate.

B⁺ Indicates borderline C/B, though Category B is deemed to be the most appropriate.

A1.1.3 The British Standard suggests that each of the A, B and C categories may be further subdivided (A1, A2, A3, B1, B2, B3 etc) such that subcategory 1 denotes mainly arboricultural values, subcategory 2 denotes mainly landscape values and subcategory 3 denotes mainly cultural values (including conservation). Multiple subcategories may be used.

Our experience suggests that these subdivisions lack clarity and can confuse the reader. Within this report subcategories are **not** denoted. Where appropriate, the use of phrases such as 'Part of a formal group', or 'Has a high ecological value', or 'Offers good screening to the site' are incorporated into the observation section of the Tree Data Schedule. We believe this conveys all relevant landscape and cultural information without unnecessary confusion. Any person wishing clarification regarding subcategories of any trees surveyed should contact the author.

A1.1.4 Tree Constraints Plan (TCP). This indicates the position, crown spread, retention category and root protection area (RPA) of each tree and is used to inform where development may proceed without causing damage to trees.

The RPA marked on the TCP is the area within which the majority of roots are expected to lie. No significant detrimental effects are expected if the RPA can be completely avoided. The Standard suggests a simple formula whereby “radius of RPA” = “12 x stem diameter”. This is modified (according to the Standard) to take into account specific factors which influence rooting activity, e.g. underground structures. In exceptional circumstances it may be acceptable to make incursions into the RPA, though this should be discussed with an arboriculturalist and may ultimately lead to the refusal of planning consent.

The British Standard suggests that shading should be indicated on the TCP, denoted as a circle-segment drawn northwest to due-east with a radius equal to the height of the tree. We deem this to be misleading since it does not reflect true shading patterns which vary dramatically according to tree form, time of year and time of day. For these reasons we do not generally illustrate shade constraints according to this formula, though if requested we will provide them.

A1.2 Stage 2: Arboricultural Impact Assessment

This type of report identifies and evaluates the impact that development may have on existing trees and vice versa.

A1.3 Stage 3: Arboricultural Method Statement

This type of report indicates the necessary methodology required to protect trees from potential damage during the development process. Typical issues addressed are direct damage to trunk and branches, by cranes or other equipment, damage to roots caused by installation of underground services or foundations, and the use of chemicals which are hazardous to tree health, e.g. cement.

One of the primary concerns of this type of report is soil compaction caused by traffic passing over tree rooting areas. This is easily overlooked by developers, though it prevents roots from accessing oxygen and may lead to a significant deterioration in tree health.

A *Method Statement* is often requested by local authorities during the latter stages in the planning process and may be enforceable as part of the planning conditions. It is essential that a realistic proposal is put forward which balances tree protection requirements with the practicalities of construction or demolition.

Crown Consultants Ltd
Author: Ivan Button

Appendix 2: Survey Methodology

- A2.1 A ground level visual survey was carried out using the *Visual Tree Assessment* technique described by Mattheck and Broeler (1994) and endorsed by the Arboricultural Association (LANTRA Professional Tree Inspection course, 2007).
- A2.2 Structural condition is assessed by inspecting the stem and scaffold branches from all angles looking for weak branch junctions or symptoms of decay. Particular attention is paid to the stem-base. Cavities are explored using a metal probe in order to assess the extent of any decay. If this is not possible further inspection is recommended in the form of a climbed inspection or using specialist decay detection equipment.
- A2.3 The physiological condition is assessed by inspecting the stem, branches and foliage for symptoms of disease. The overall vigour of the tree is also taken into account.
- A2.4 Where the condition of a tree is deemed to be unacceptable, recommendations are made according to a scale of priority in order to reduce the liability of the owner. The position of the tree and its potential targets are taken into account.
- A2.5 Measurements are obtained using a diameter tape, clinometer, distometer and loggers tape. Where this is not practical measurements are estimated.
- A2.6 Some trees are surveyed as groups, though this is avoided close to areas likely to be developed.
- A2.7 Finally, a *Retention Category* was allocated as described in Appendix 1.1.1.

Appendix 3: Author's Qualifications

Qualifications & Experience of Ivan Button N.C.H. (Arb), FDS (Arb), BSc (Hons), P.G.C.E., M. Arbor. A.

Construction

Between 1983 and 1990 Ivan worked within the construction industry and received training in a broad range of practical building skills and general construction principles. In 1989 Ivan obtained a BSc (Hons) at Leeds University followed by a P.G.C.E at The University of Wales in 1990. Ivan returned to work within the construction industry and expanded his understanding of construction principals.

Arboriculture

In 1996 Ivan obtained a NCH (Arboriculture) at the University of Lincoln and became a member of the Arboricultural Association. He then trained as an Arboricultural Consultant before establishing a tree surgery and landscaping business in 1998. In 2005 Ivan commenced full time employment with a leading Arboricultural Association approved consultancy and soon adopted a senior role responsible for five consultants.

Ivan is now the Director and Principal Consultant of Crown Consultants Ltd.

Ivan has produced numerous Arboricultural Reports for the purposes of Development, Safety, Management, Mortgage, Subsidence, Mitigation and Litigation.

He is accredited as a LANTRA *Professional Tree Inspector*. A qualification produced in association with the Arboricultural Association and generally recognised as appropriate for all levels of tree inspection.

He obtained a foundation degree in arboriculture at the University of Lancashire, which he passed with distinction.

He is a member of the Consulting Arborist Society and is listed within their areas of professional expertise for QTRA and as an expert witness.

Ivan is a professional member of the Arboricultural Association and the International Society of Arboriculture.

He is a licensed Quantified Tree Risk Assessment user.

Ivan has undertaken professional expert witness training accredited by the University of Cardiff and is registered as a Sweet and Maxwell Checked Expert Witness 2008.

Ivan currently acts as Local Authority Tree Officer for Barnsley Metropolitan Borough Council.

Appendix 4: Explanation of Tree Data and Glossary

This section explains the terms used in the **Tree Data Schedule** within Section 3.

A4.1 General Observations

| | | |
|---------|---------------------------------|---|
| A4.1.1 | Numbering System: | Each item of vegetation has its own unique number prefixed by a letter such that T1=Tree 1, G2=Group 2, H3=Hedge 3 and W4=Woodland 4, S5=Shrub 5. |
| A4.1.2 | Age Categories: | |
| | Young | Usually less than 10 years old. |
| | Semi-Mature | Significant future growth to be expected, both in height and crown spread (typically below 30% of life expectancy). |
| | Early-Mature | Full height almost attained. Significant growth may be expected in terms of crown spread (typically 30-60% of life expectancy). |
| | Mature | Full height attained. Crown spread will increase but growth increments will be slight (typically 60% or more of life expectancy). |
| | Veteran | A level of maturity whereby significant management may be required in order to keep the tree in a safe condition. |
| | Over Mature | As for veteran except management is not considered worthwhile. |
| A4.1.3 | Species: | Common names and Latin names are given. |
| A4.1.4 | Height: | Measured from ground level to the top of the crown. |
| A4.1.5 | Stem Diameter: | Taken at 1.5m above ground level where possible. On multi-stemmed trees this measurement may be taken at ground level, though usually an indication of the number of stems and average diameter is given, e.g. 3 x 30cm. |
| A4.1.6 | Crown Height: | Measured from ground level to the height at which the main crown begins. Where the crown is unbalanced it is measured on the side deemed to be most relevant. This is usually the side facing the area of anticipated development. |
| A4.1.7 | Tree Diagram: | This scaled drawing is computer generated based on measurements taken for stem diameter, crown height and spread, and overall height. It is designed to help the reader rapidly assess the data. It is not an accurate representation of the form of the tree. |
| A4.1.8 | Crown Spread: | Measured N, E, S & W, taken from the centre of the stem and usually rounded up to the nearest metre. |
| A4.1.9 | Observations: | If a tree's position is considered to be relevant it will be commented upon (e.g. overhanging a children's play area). Tree form and pruning history are also recorded along with an account of any significant defects. Defects and descriptive terms are dealt with in more detail at the end of this section. |
| A4.1.10 | Recommendations: | Usually based on any defects observed and intended to ensure that the tree is in an acceptable condition. |
| A4.1.11 | Priority Scale: | Depending upon the threat posed by the tree, and the likelihood of failure, recommendations should be carried out according to the following priority scale: |
| | Urgent | To be carried out as soon as possible. |
| | Very High | To be carried out within 1 month. |
| | High | To be carried out within 3 months. |
| | Moderate | To be carried out within 1 year. |
| | Low | To be carried out within 3 years. |
| A4.1.12 | Inspection Frequency: | An interval of 6 months, 1 year, 1.5 years or 3 years is allocated before the next inspection is due. Wherever practical, consideration should be given to seasonal changes so that deciduous trees are not always surveyed in winter when they have no leaves, or in summer when leaves may obscure branches within the upper crown. |
| A4.1.13 | Vigour: | An indication of growth rate and the tree's ability to cope with stresses: |
| | High | Having above average vigour. |
| | Moderate | Having average vigour. |
| | Low | Having below average vigour. |
| | Very Low | Tree is struggling to survive and may be dying. |
| A4.1.14 | Physiological Condition: | |
| | Good | Healthy and with no symptoms of significant disease. |
| | Fair | Disease present or vigour is impaired. |
| | Poor | Significant disease present or vigour is extremely low. |
| | Very Poor | Tree is dying. |
| A4.1.15 | Structural Condition: | |
| | Good | Having no significant structural defects. |
| | Fair | Some defects observed though no high priority works are required. |
| | Poor | Significant defects found. Tree requires monitoring or remedial works. |
| | Very Poor | Major defects which will usually require significant remedial works or tree removal. |
| A4.1.16 | Amenity Value: | |
| | Very High | Exceptional specimen, observable by a large number of people. |
| | High | Attractive specimen, observable by a significant number of people. |
| | Moderate | One of the above factors is not applicable. |
| | Low | Unattractive specimen or largely hidden from view. |
| A4.1.17 | Life Expectancy: | The estimated number of years before the tree may require removal. Classified as (<10), (10 – 20), (20 – 40), or (40+). |
| A4.1.18 | Retention Category: | These are explained in detail in Appendix 1. |

A4.2 Evaluation of Defects

A4.2.1 Cavities, wounds, deadwood etc are all evaluated as follows:

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| Major | Such that structural integrity is, or will become, compromised and the tree is, or will inevitably become, hazardous. |
| Significant | A defect that may over time become a major defect, though not necessarily so. This will depend on the vigour of the tree and its ability to deal with decay etc. |
| Minor | A defect that is not likely to compromise the tree's structural integrity. |

General Glossary

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|-------------------------|---|
| Adaptive growth | In tree biomechanics, the process whereby wood formation is influenced both in quantity and quality by the action of gravitational forces and mechanical stresses on the cambial zone. |
| Aerobic | Conditions in which oxygen is freely available, or to biomechanical processes that depend on the presence of oxygen. |
| Anaerobic | A condition marked by the absence of oxygen; Generally such areas are unsuitable for normal life and growth of plant tissues. These sites tend to be populated by bacteria capable of surviving low oxygen conditions often associated with Slime Flux. |
| Arboriculture | The culture and management of trees as groups and individuals primarily for amenity and other non-forestry purposes. |
| Arborist | A person possessing the technical competence through experience and related training to provide management of trees or other woody plants in a landscape setting. Generally involved with the development or management of trees for visual amenity or land management rather than the growth of trees for product or profit. |
| Barrier zone | A layer within an annual increment of wood which contains abnormal xylem cells, laid down by the cambium in response to wounding or other trauma. |
| Body language | In trees, the outward display of growth responses and or deformation in response to mechanical stress. |
| Bole | Or Trunk, the main stem of a tree below its first major branch. |
| Bracket | A type of fruiting body produced by various fungal species, plate like to hoof like in shape and often a one sided attachment to the wood or bark. |
| Branch bark ridge | A ridged area located at the union of a branch to a trunk or stem. |
| Branch Collar | Trunk tissue that forms around the base of a branch between the main stem and the branch, or between a main branch and a lateral branch. As a branch decreases in vigour or begins to die, the collar usually becomes more pronounced and completely encircles the branch. |
| Brown Rot | Form of decay where cellulose is degraded, while lignin is only modified. |
| Buttress Root | Roots that emerge from the base of the tree stem, normally large and well developed that rapidly reduce in diameter to create the Root Plate this offers structural support for the tree. Buttress roots divide rapidly forming the connection between the stem and the transport roots. |
| Cabling Bracing | Installing cables within the crown of a tree to prevent collapse. |
| Callus | Undifferentiated cells often formed at the edges of recent injuries. This tissue quickly becomes differentiated, forming cells of the type characteristic of that position on the tree (e.g. forming wood, bark, roots, etc.) see wound response tissue. |
| Cambium | A thin layer of actively growing and dividing cells, located between the xylem (sapwood) and bark of a plant; the part responsible for radial growth of a tree stem or branch. |
| Canopy | The topmost layer of twigs and foliage in a woodland, tree or group of trees. |
| Canker | A localised area of dead bark and cambium on a stem or branch, caused by fungal or bacterial organisms, characterised by woundwood development on the periphery. This may be annual or perennial. |
| Cavity | An open and exposed area of wood, where the bark is missing and internal wood has been decayed and dissolved. |
| Chlorotic | Also Chlorosis. A condition of the plant marked by yellowing of normally green foliage, often indicating nutrient deficiency or plant dysfunction. |
| Clinometer | Devices that measures vertical angles, and provides direct height measurements of objects by triangulation. |
| Co-dominant stems/trunk | Are forked branches or trunks of nearly the same size in diameter and lacking a normal branch union. |
| Compacted soils | Soils in which the air-space (oxygen space) has been reduced or eliminated, reducing water infiltration and percolation, reducing root presence and inhibiting new root development. |
| Compartmentalisation | The physiological process that creates the chemical and mechanical boundaries that act to limit the spread of disease and decay organisms. |
| Compression Failure | Localized buckling of fibres and other longitudinal elements produced by compression of wood along the grain; compression failures sometimes develop in standing trees. |
| Compression Strength | The ability of a material or structure to resist failure when subjected to compressive loading; measurable in trees using special drilling devices |
| Compression Wood | Abnormal wood formed on the lower side of branches and curved stems, with physical properties different from normal wood. |
| Conservation Area | In Great Britain, designated areas of architectural or historical interest, in which there are special procedures for planning applications. Additionally tree works cannot generally be undertaken without prior notification (Currently 6 weeks) to the relevant local planning authority. See also Tree Preservation Orders. |
| Core Sample | A sample of wood extracted from a trunk or branch, using an increment borer tool. The resulting core can be analysed for characteristics of growth, wood strength, structure, decay, and for species identification. |
| Crotch | The union of two or more branches; the auxiliary zone between branches. |
| Crown | The upper canopy of a tree, including upper trunk, scaffold branches, secondary branches, stems and leaves. |
| Crown lifting / raising | Crown Lift The removal of the lowest branches, usually to a given height. It allows more residual light and greater clearance underneath for vehicles etc. |
| Crown reduction | The reduction of a tree's height or spread while preserving its natural shape. |
| Crown thinning | The removal of some of the density of a tree's crown, usually 5-25% allowing more light through its canopy and reducing wind resistance. |
| Deadwood (noun) | Deadwood is often present within the crown or on the stems of trees. It may be an indication of ill health, however, it may also indicate natural growth processes. If a target is present beneath the tree, deadwood may fall and cause injury or damage and should be removed, otherwise deadwood can remain intact for conservation purposes (insects, fungi, birds etc.). |
| Deadwood (verb) | The removal of dead branches from a tree's canopy, usually of a specified size (in diameter). |
| Decay | Progressive deterioration of organic tissues, usually caused by fungal or bacterial organisms, resulting in loss of cell structure, strength, and function. In wood, the loss of structural strength. |
| Decay Detection | The assessment of decay within a tree has been traditionally difficult, but recent advances have made it possible to achieve accurate representations of the internal section of a tree in both 2D and 3D, removing doubt over the condition of the tree and allowing accurate management decisions. |
| Decurrent | In trees a, system of branching in which the crown is borne on a number of major widely spreading limbs of similar size. In fungi relates to toadstools whose gills run down the stem and leaves and other plant organs, which extend down the stem. |
| 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. |
| Defoliation | The losing of plants foliage. |

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| Dieback | Progressive death of buds, twigs and branch tissues, on individual limbs resulting in Deadwood, or throughout the canopy, extreme cases can result in Stag Heading. |
| Dripline | A projected line on the ground that corresponds to the spread of branches in the canopy; the farthest spread of branches. |
| Epicormic shoots | Fast growing, weakly attached shoots/branches that often grow as a response to stress factors upon a tree or branch removal. |
| Excurrent | In trees, a system of branching that a single leader remains dominant, through the control of lateral branches. |
| Failure | In connection with tree hazards, a partial or total fracture within the wood tissue or loss of cohesion between roots and soil. (In total failure affected parts will snap or tear away completely, Partial failure there is a crack or deformation, which results in an altered distribution of mechanical stress. |
| Feeder Roots | Fine fibrous Water and nutrient absorbing roots located in the outer root system. |
| Flush-Cut | In trees and shrubs, a pruning cut close to the parent stem, which removes the branch bark ridge. |
| Foliage | The live leaves or needles of the tree; the plant part primarily responsible for photosynthesis. |
| Formative pruning | The trimming of a tree to remove weaknesses and irregularities which may lead to problems. The formative pruning operation is aimed at reducing the potential for future weaknesses or problems within the tree's crown. |
| Gall | An abnormal, disorganized growth of plant tissues, caused by parasitic or infectious organisms such as insects, fungi, bacteria, or viruses. |
| Girdling | In woody plants, any form of damage that destroys the bark and / or the Cambium all the way around the stem, branch or root, normally resulting in death of the damaged section. |
| Girdling Root | In woody plants, a root that grows across the buttress, or across other roots, eventually causing constriction of the radial growth. |
| Growth Increment | The incremental growth added as new annual ring develops each season over existing wood. This is seen as (growth) rings in cross-sections of wood. |
| Hazard beam | An upwardly curved branch in which strong internal stresses may occur without the compensatory formation of extra wood (longitudinal splitting may occur in some cases). |
| Heartwood | Inner non functioning tissues that provide structural support to trunk. |
| Heave | In relation to shrinkable clay soils, expansion due to rewetting of a volume of soil previously subjected to the removal or water by plant / trees following felling or root severance. Also in relation to root growth, the lifting of pavements and other structures by radial expansion. Also in relation to tree stability, the lifting of one side of a wind rocked root plate. |
| Herbicide | A chemical compound that causes the death of a plant. |
| Included Bark | Bark that becomes embedded in a crotch between branch and trunk or between co-dominant stems, usually found in narrow or tight crotches, and causes a weak structure. |
| Increment Borer | A tool that cuts and extracts a narrow cylinder of wood from a tree for analysis of the wood tissue and growth increments. |
| Leader | The primary terminal shoot or trunk of a tree. |
| Limb | A large lateral branch growing from the main trunk or from another larger branch. |
| Lion Tailing | Often the result of poor pruning practices; the main leader or branches are largely devoid of side branches, growth is restricted to the end of branches and is likely to suffer damage through end loading. |
| Lopping | In trees, a general term that related to the removal of branches from a tree. |
| Monitoring | Due to the relative life span of trees in relation to our own, long-term monitoring provides a valuable insight to the health of trees, identifying decline and or stabilisation and or improvement. |
| Mulch | A material laid over the root system of a tree to help conserve moisture within the soil. Additionally it may help control the development of weeds close to the tree. |
| Mycelium | A mass of growing filaments (hyphae) formed by fungi. |
| Mycorrhizae | The symbiotic relationship between roots and certain beneficial fungi. Mycorrhizae are the combined root / fungal growth. |
| Natural Pruning | The shedding of a branch or twig that has died back naturally and has become decayed at or near its base. |
| Necrosis | The failure and subsequent death of a branch, leader or tree. |
| Negligence | A failure to take reasonable action to deal with a hazard to prevent damage to property or person. |
| Nutrient | Substances that are absorbed by living organisms for the maintenance of internal processes. |
| Occluding tissue | The general term of wood, cambium and bark that develop around the site of a wound on a woody plant |
| Pathogen | A microorganism that causes diseases within another organism. |
| Phloem | The principle conductive tissue that the products of Photosynthesis are transported around the plant |
| Photosynthesis | The process where light energy is used to create energy (Carbohydrate) for use within the plant. |
| Pollard | A term for a pollarded tree. |
| Pollard head | The swollen section of branch / stem that forms behind the pollarding cut. |
| Pollarding | The complete or partial removal of the crown of a young tree so as to encourage the development of numerous branches either for amenity or historically as fodder, repeated management is required cyclically to maintain the feature |
| Prune or Pruning | Selective removal of woody plant parts of any size, using saws, Loppers, Secateurs, or other pruning tools. |
| Reaction Wood | Wood with distinctive anatomical characteristics, formed in parts of leaning or crooked stems and in branches to provide additional strength / support. In hardwoods, tension wood usually forms. In conifers, compression wood is usually found. |
| Reaction Zone | A zone normally darker than surrounding wood that denoted the boundary often a defensive one between functional sapwood and dysfunctional or decaying wood. |
| Re-grading | The raising or lowering of a soil profile from its original grade. |
| Rejuvenation pruning | Where historically or environmentally important trees are to be retained, their life spans can be significantly extended through the adoption of particular pruning regimes. |
| Rejuvenation root treatment | Management of the root zone can have a significant positive effect upon the health of trees. Physical, mechanical and biological approaches are available and can be prescribed in accordance within the constraints of individual sites. |
| Remedial pruning | The removal of old stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown. |
| Resistograph | Invasive decay detection technique whereby the resistance offered by the timber to a spinning probe is measured and plotted. |
| Rib | In tree body language, a long narrow, axial protuberance which often overlies a crack. |
| Ring Barking | Artificial Girdling of the stem, to result in the death of a tree. May be used in habitat creation where the retention of dead standing trees is required. |
| Rod Bracing / Bolting | Traditionally, this has relied upon the Installation of steel rods or bolts through the stems or limbs, to reduce twisting or splitting of the wood. The installation of such features does require legal interpretation. |
| Root Barriers | Both Buildings and services can benefit from the installation of root barriers to protect a soil volume from the ingress of roots. |

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| Root Collar | The basal area of the tree; transition zone from trunk to root. Also sometimes called trunk flare. |
| Root Plate | The primary support area for the tree; an area of the root system close to the base that structurally anchors the tree to the soil. |
| Root Rot | Either a general term for decay within the wood of the lower stem / buttress roots, or a disease in which the fine roots are killed. |
| Root System | The portion of the tree containing the root organs, including buttress roots, transport roots, and fine absorbing roots; all underground parts of the tree. |
| Root Zone | The area and volume of soil around the tree in which roots are expected. May extend to three or more times the branch spread of the tree, or several times the height of the tree. |
| Sail Area | That area or the tree subjected to wind load. |
| Sanitation | In plant disease control, the removal of material that could be a source of infection by a pathogen. Removal of diseased plant parts, such as fallen leaves and twigs, and pruning of dead and diseased branches. Diseased parts should be burned or buried under soil or active compost. |
| Sapwood | Xylem wood tissue, usually light in colour, representing the outer growth rings of the wood. Usually living, reactive wood tissue, in a healthy tree. See heartwood |
| Scaffold limbs / scaffold Branches | The branches that form the main network framework of the crown of a tree. |
| Senescent | A decline in growth and vigour due to age or stress factors. |
| Shrub | A woody plant that branches at or close to the ground level and so does not have a single stem. |
| Slime Flux | Relating to a toxic condition from the spreading of bacteria or their products from a source of infection; characterized by malodorous gases, or salt deposits upon the bark. If these products enter the sap stream, localised vessel necrosis can result, usually associated with anaerobic conditions. |
| Soft Rot | A kind of wood decay, where a fungi degrades cellulose within the cell wall, without causing overall degradation. |
| Soil Compaction | The compression of soil, causing a reduction of pore space and an increase in the density of the soil. Air is squeezed out and nutrients become locked. Tree roots cannot grow in compacted soil. |
| Soil Profile | The characteristics of a soil as regards to relative depth; the changes in soil texture and composition that occur with depth. |
| Soil Texture | The classification of the constituent particles of soil; includes sand, silt and clay particles. Directly related to soil porosity, permeability, and aeration. |
| Sonic Decay Detection | Non invasive method whereby sound waves are passed through the tree and the speed is measured. Slow speeds indicate decay and a tomography picture representing the inner stem is produced. |
| Stag Heading | In a tree, a state of dieback where dead branches protrude beyond the current living crown. |
| Stress | In plant physiology, conditions where one or more physiological functions are not working within normal parameters. |
| Stump Grinding | The removal of a tree stump using a specialist grinding machine. |
| Subsidence | In relation to vegetation, the removal of water by plant growth resulting in localised shrinkage in the soil volume. |
| Sucker | Same as sprout. |
| Suppressed | Trees which are dominated by surrounding vegetation and whose crown development is restricted from above. |
| Systemic | Affecting the whole plant or organism. A systemic compound is carried throughout the entire plant to all parts through the vascular system. |
| Target | Any person or object within reach of a falling tree or part of a tree that may be injured or damaged. |
| Target Pruning | The pruning of a branch where the wound affects only branch material, often results in a target shaped wound. |
| Tension Wood | Reaction wood typically formed on the upper side of limbs or curved stems; characterized by lack of cell wall lignifications (higher ratios of cellulose to lignin). |
| Tight Union / Tight Crotch | Also, narrow crotch. A crotch with a narrow angle between branches, often having included bark. |
| Tomography | The comparison of sound or stress waves through the tree allows the creation of a 2D or 3D representation of the internal structure of a stem or branch section and highlights areas of damage. Virtually non-injurious. |
| Topography | The configuration of surface features, including the vertical and horizontal relationships of the ground and other features. |
| Topping | Cutting large limbs back severely, without regard to form or habit of the tree. Cuts are usually made between lateral branch nodes. This practice is extremely injurious to trees, and promotes decay and structural weakness within the crown. |
| Tree | A woody plant that typically has a single stem, at maturity has a height of at least 4 metres and a stem diameter at breast height of at least 75mm. |
| Tree Preservation Order | In Great Britain, an order made by the local planning authority, where consent must be gained before undertaking all but exempt works to a tree. |
| Trunk Flare | The basal area of the trunk that flares or widens, and merges with the main roots. See root collar |
| Veteran Tree | Veteran trees are often found in large parks or estates and commonly affected by extensive decay or have been subject to extensive works. These trees are retained for historical importance and often pose greater risk than normal, which is generally justified. They need careful management and often propping or bracing to support them, some require fencing to limit access. |
| Vigour | Active, healthy growth of plants: ability to respond to stress factors. |
| Visual Tree Assessment (VTA) | An assessment of the mechanical condition of trees based upon their 'body language'. Trees are dynamic and respond to faults / decay / environmental factors in various ways, these responses can be indicative of structural integrity. |
| Wetwood | An infection caused by bacteria living inside the plant tissues. The bacteria ferment the plant fluids, resulting in death of nearby cells, and often causing exudations of fluid from the bark, often referred to as a Slime Flux. |
| White Rot | A kind of wood decay where a fungi attacks the lignin within the wood matrix |
| Wind loading | Forces placed upon tree canopy, branches, trunk and roots of a tree under windy conditions. |
| Wind Throw | The failure of a tree due to wind loading. |
| Witches Broom | A deformed or unusual growth of twigs from adventitious buds, caused by insects, disease, or dieback of twigs and buds. |
| Wood | Secondary Xylem; the main structural support and water conducting tissue of trees and shrubs. |
| Wound Response Tissue | Also Occluding Tissue, Wound Wood or Callus. Differentiated wood tissue that grows around the margins of a wound or injury. |
| Wound Wood | Wood with atypical features, formed in the vicinity of a wound and a term to describe the occluding tissues around a wound |
| Xylem | Plant tissues with special function of translocation of water and dissolved nutrients. |

Appendix 5: Further Information

Building Near Trees – General

National Joint Utilities Group publication # 10 (1995), *Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees*. Downloadable at www.njug.demon.co.uk/pdf/NJUG%20Publication10.pdf

NHBC Standards Chapter 4.2., *Trees and Buildings*.

Horticulture LINK project 212. (University of Cambridge, 2004), *Controlling Water Use of Trees to Alleviate Subsidence Risk*.

Tree Planting and aftercare

See www.trees.org.uk/leaflets.php# for downloadable leaflets on selecting a garden tree, planting, aftercare and veteran tree management.

British Standards

BS 5837: 2005. Trees in Relation to Construction – Recommendations.

Bs 3998: 1989. Recommendations for Tree Work.

BS 3936: 1992. Nursery Stock. Part 1: Specification for Trees and Shrubs.

BS 3936: 1992. Nursery Stock. Part 10: Specification for Groundcover Plants.

BS 4043: 1989. Transplanting Root-balled Trees.

BS 8004: 1986. Foundations.

BS 8103: 1995. Structural design of Low-Rise Buildings.

BS 8206: 1992. Lighting for Buildings.

BS 3882: 2007. Topsoil.

BS 4428: 1989. General Landscaping Operations (excluding hard surfaces).

Permission to do Works to Protected Trees / Tree Law

Forestry Commission (Edinburgh, 2003), *Tree Felling – Getting Permission*. Country Services Division - Forestry Commission. Downloadable at [www.forestry.gov.uk/website/pdf.nsf/pdf/wgsfell.pdf/\\$FILE/wgsfell.pdf](http://www.forestry.gov.uk/website/pdf.nsf/pdf/wgsfell.pdf/$FILE/wgsfell.pdf)

Transport and the Regions (Department of the Environment, 2000), *Tree Preservation Orders, A Guide to the Law and Good Practice*. Downloadable at www.communities.gov.uk/publications/planningandbuilding/tposguide

C. Mynors, *The Law of Trees, Forests and Hedgerows* (Sweet and Maxwell, London, 2002)

Communities and Local Government website with numerous downloadable documents, from: <http://www.communities.gov.uk/planningandbuilding/planning/treeshighhedges/>

Lighting Levels

P.J. Littlefair, B.R.E. 209: *Site layout planning for daylight and sunlight A guide to good practice*. B.R.E. Bookshop, London.

British Standards Institution. Code of practice for day lighting. *British Standard BS 8206: Part 2* (1992).

Chartered Institution of Building Services Engineers. *Applications manual: Window Design* (London, 1987).

NBA Tectonics. A study of passive solar housing estate layout. *ETSU Report S-1126*. Harwell, Energy Technology Support Unit (1988).

I.P. Duncan; D. Hawkes, *Passive solar design in non-domestic buildings*. *ETSU Report S-1110*. Harwell, Energy Technology.

P. J. Littlefair, *Measuring Daylight*, *BRE Information Paper 23/93 f3.50*. (Advises on measuring daylight under the real sky or an artificial sky, allowing for the changing nature of sky light).

High Hedges

Communities and Local Government website with numerous downloadable documents, from: <http://www.communities.gov.uk/planningandbuilding/planning/treeshighhedges/>

Tree Specific Websites

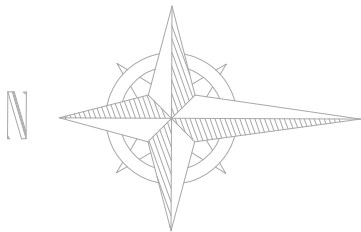
| | |
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| www.crowntrees.co.uk | Crown Consultants site containing useful information |
| www.trees.org.uk | Arboricultural Association |
| www.rfs.co.uk | Royal Forestry Society of England, Wales and N. Ireland |
| www.treehelp.info | The Tree Advice Trust |
| www.woodland-trust.org.uk | The Woodland Trust |
| www.treecouncil.org.uk | The Tree Council |

Appendix 6: Site Plan

The plan(s) referred to within the report follow this page.

Tree Constraints Plan

(Existing Layout)



Poorly formed, low quality holly and labernum trees

Shrubs

T5

Lawn

G3

T4

Small, poorly formed elder tree

Topped lime tree
Ht 4.5m

Small elder

T6

Shrubs

G1

Small, low quality cherry tree

16 Daleham Gardens

BS 5837 Retention Categories

Category A:

Trees of high quality and amenity. Usually, mature trees with a significant life expectancy which would enhance any development. Retention of these trees is strongly encouraged.

Category B:

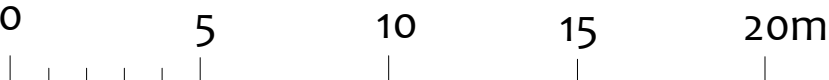
Trees of moderate quality and amenity. Usually mature trees, or younger trees with exceptional form. Retention of these trees is desirable though the removal of occasional specimens may be acceptable.

Category C:

Trees of low quality and amenity. The removal of these trees should generally be seen as acceptable in order to facilitate development.

Category R:

Trees whose structural condition is such that they should be removed if development is to proceed.



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|-----------------------------|----|------------------------------|--|----------------------------------|
| Site: 16 Daleham Gardens | | BS 5837 Shade Pattern | | Stem & canopy of Category A tree |
| Ref No: 08475/TCP | | BS 5837 Root Protection Area | | Stem & canopy of Category B tree |
| Revision: 2 | T1 | Tree number 1 | | Stem & canopy of Category C tree |
| Scale: 1:200 | G2 | Group number 2 | | Stem & canopy of Category R tree |
| Paper Size: A3 | H3 | Hedge number 3 | | |