

BS 5837 Arboricultural Report

(Pre-Planning)



at
Braemar Avenue Baptist Church
Wood Green
Haringey
London
N22 7BY

Dated
25th August 2022

Contents

1.	Introduction	3
1.1.	Instruction	3
1.2.	Purpose of this Report	3
1.3.	Survey Details	3
1.4.	Author	3
2.	Site Overview	4
2.1.	Brief Site Description	4
2.2.	Coordinates	4
2.3.	Survey Extent	4
3.	Vegetation Overview (independent of proposals)	5
3.1.	Preliminary Management Recommendations	5
3.2.	Work Priority and Future Inspections	5
3.3.	Species Present – Additional Information	6
4.	Local Geology and Soils	7
4.1.	Desktop Research	7
4.2.	Site Investigations	7
4.3.	Conclusion and Relevance	7
5.	Statutory Protection – TPOs and Conservation Area Status	8
5.1.	Desktop Research	8
5.2.	Felling Licences	8
6.	Implications for Development	9
6.2.	Retention Categories	9
6.3.	Root Protection Areas	9
6.4.	Tree Canopies	10
6.5.	Arboricultural Impact Assessment	10
6.6.	Tree Protection During Construction	10
7.	Photographs	11
	Appendix 1: BS 5837: 2012 – Guidance Notes	14
	Appendix 2: Survey Methodology	16
	Appendix 3: Explanation of Tree Data & Glossary	17
	Appendix 4: Author's Qualifications	20
	Appendix 5: Further Information	21
	Appendix 6: Tree Data Schedule and Drawings	22

1. Introduction

1.1. Instruction

1.1.1. We are instructed by Hannah Mullane of Nicholas Taylor + Associates to:

- Undertake a Tree Survey to BS 5837 at Braemar Avenue Baptist Church and assess all trees potentially within influencing distance of proposed development within the site.
- Plot the trees on a Tree Constraints Plan and record the data in a Tree Data Schedule.
- Provide an overview of the site and any management recommendations.
- Determine if any trees are growing within a conservation area or are protected by a tree preservation order.

1.2. Purpose of this Report

- 1.2.1. This report is produced according to the guidance and recommendations within *BS 5837: 2012 - Trees in Relation to Design, Demolition and Construction*. It is tailored to inform the reader of the trees and how they might constrain any potential development of the site. It does not consider specific design proposals, so will not validate a full planning application.
- 1.2.2. This document should not be used to inform management decisions relating to liability or risk management. Such decisions should be based on a more detailed inspection of the trees than was carried out for this report.

1.3. Survey Details

- 1.3.1. A visual ground-level assessment of all trees was undertaken on the 24th of June 2022 by Carl Lothian. No climbed inspections or specialist decay detection were undertaken. Details of how the survey was undertaken can be found in Appendix 1.
- 1.3.2. The tree locations shown on the accompanying drawings are based on a measured drawing of the site supplied to Crown Tree Consultancy. This drawing had the tree positions already plotted. Where applicable, additional trees have been plotted by us according to measurements taken on site.

1.4. Author

- 1.4.1. This report was compiled by Carl Lothian - BSc (Hons). Details of the author's experience that qualify him to produce such a report are detailed in Appendix 4.

2. Site Overview

2.1. Brief Site Description

- 2.1.1. The survey area encompasses Braemar Avenue Baptist Church and an associated detached outbuilding. To the west of the church is a public park known as *Nightingale Gardens*. To the north and east are public highways, and to the south are residential properties.
- 2.1.2. Within the church boundaries grow nine trees. These include four Retention Category B trees (T6, T7, T11 and T13) and five Retention Category C trees (T4, T5, T12, T14 and T16). Four relatively small elders grow on the boundaries of the church (T3 and G9).
- 2.1.3. Immediately adjacent to the site are three Retention Category A trees within *Nightingale Gardens* (T9, T10 and T15). The roots of these trees are likely to extend into the site.
- 2.1.4. The Tree Constraints Plan and Tree Data Schedule (see Appendix 6) should be referred to for descriptions and locations of all trees.

2.2. Coordinates

- 2.2.1. The site coordinates are 51°36'2.63"N 0° 7'2.65"W and the altitude is approximately 37m above sea level¹.

2.3. Survey Extent

- 2.3.1. The area indicated below² shows the extent of the survey. Our survey included all trees within the curtilage of the property and those adjacent to it.



¹ To access satellite imagery and street views of the site these co-ordinates may be entered into: <http://maps.google.co.uk/>

² Image taken from Google Earth and may not be current

3. Vegetation Overview (independent of proposals)

This section summarises all the recommendations within the Tree Data Schedule regardless of whether trees are to be retained, felled, or pruned to facilitate the proposed development. It does not specify works that may be required to facilitate the development proposals.

3.1. Preliminary Management Recommendations

- 3.1.1. The following recommendations are made to maintain the trees in an acceptable condition:
- 3.1.2. T3 and T4 have dead and broken branches overhanging the public footway. We recommend these are removed.
- 3.1.3. The mature limes, T9 and T10 that grow within the adjacent public park and contain minor to significant deadwood throughout their canopies. Given the public use of the park, we recommend that T11 and T12 are reduced by 20%, and the deadwood is removed from the canopies of both trees. Epicormic shoots were also present at the stem base of T11, T12 and T17 which prevented a detailed inspection. Given that structural defects can be easily hidden by such growth, it is recommended that these shoots are completely removed to allow for a more detailed re-inspection of each tree.
- 3.1.4. T13, growing adjacent to the park boundary, also contained significant deadwood throughout which is recommended for removal. Furthermore, this tree could not be fully inspected due to a covering of ivy. It is recommended that the ivy is removed so that the stem may be re-inspected to ascertain its structural condition.
- 3.1.5. Trees T13, T14 and T16 all show symptoms of the terminal disease chalarash dieback. We recommended that the condition of these trees is monitored.
- 3.1.6. All other trees were deemed to be in an acceptable condition.

3.2. Work Priority and Future Inspections

- 3.2.1. The table below suggests a schedule for completing the works recommended in the Tree Data Schedule based on the perceived risk:

Work Priority	Definition	Tree Number
Urgent	As soon as possible	None
Very High	Within 1 Month	None
High	Within 3 Months	T9, T10, T15
Moderate	Within 1 year	T3, T4, T13, T14, T16
Low	Within 3 years	None

- 3.2.2. The table below suggests a schedule of future inspections based on the condition and location of each tree:

Inspection Frequency (years)	Tree Number
0.5	T9 and T10
1	T13, T14, T15 and T16
1.5	None
3	All other trees

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

3.3. Species Present – Additional Information

- 3.3.1. The table below contains general information about the tree species (rather than the actual tree specimens) included in the survey. Its purpose is to assist readers who are unfamiliar with the characteristics of the various species.

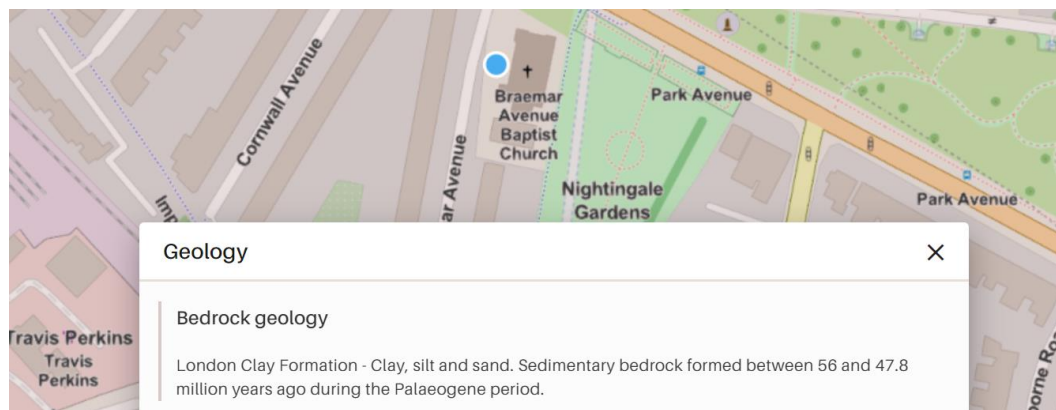
Species	Typical Height at Maturity (m)	Typical Canopy Spread at Maturity (m)	General Notes
Ash	25	18	Large deciduous tree with a straight bole and a high open domed crown. Native to Britain and commonly found in woodlands and adjacent roadsides. Not suitable for small gardens. Easily identified by its oppositely arranged pinnate leaves and black buds. Branches are relatively brittle resulting in a fairly high incidence of small branch failure in windy conditions. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Fraxinus+excelsior for more info.
Ash-leaved Maple	16	12	Also called Box Elder. Native across N. America. Often untidy looking with steep younger stems. Has pinnate leaves which is unusual for an Acer. Flowers in showy hanging plumes before the leaves emerge. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Acer+negundo for more info.
Elder	8	8	Deciduous tree native throughout Europe, N Africa and W Asia. Untidy, shrubby habit. Very fast growing. Covered in dense creamy flowers and deep red berries which are excellent for making wine. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Sambucus+nigra for more info.
Holly Oak	25	20	Also called Holm Oak or Evergreen Oak. So named because of its evergreen vaguely holly-like leaves. Originating in the Mediterranean region. Mulched leaves are said to repel slugs and grubs. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Quercus+ilex+ballota for more info.
Lime	25	12	Very common street tree. Several species exist; the one most often found in woods is 'common lime' which produces a mass of suckers at the stem base, making it very cheap to propagate. Limes have non-symmetrical heart shaped leaves which are much loved by aphids (hence the sticky honeydew on cars parked beneath). Limes are tolerant of heavy pruning and are often managed as pollards. Old limes tend to support a lot of small dead branches. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Tilia+x+europaea for more info.
Plum	6	8	Small fruit tree. Many varieties available. Usually white flowering. Fruits may be green, yellow, red or dark purple. Often quite an untidy looking tree.
Rowan	14	12	Deciduous tree native across Europe and N Africa. Also known as mountain ash due to its pinnate leaves and ability to grow at high altitudes. Attractive autumn colour and berries along with spring flowers. Good wildlife tree. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Sorbus+aucuparia for more info.

The figures quoted regarding typical height and canopy spread should be treated as approximate. Actual heights and spreads vary according to several environmental factors such as soil conditions, climate and the presence of competing vegetation. The figures quoted are not the maximum dimensions that the species may attain.

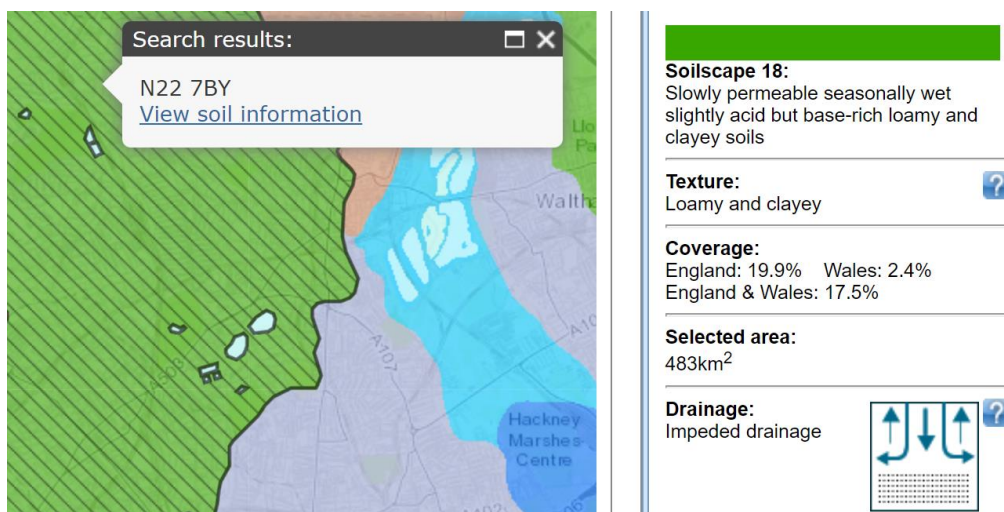
4. Local Geology and Soils

4.1. Desktop Research

4.1.1. Desktop research into local geology based on the postcode N22 7BY obtained the following results:



Source: <https://geologyviewer.bgs.ac.uk/>



Source <http://www.landis.org.uk/soilscales/>

4.2. Site Investigations

4.2.1. We are unaware of any specific investigations into soil properties at the site.

4.3. Conclusion and Relevance

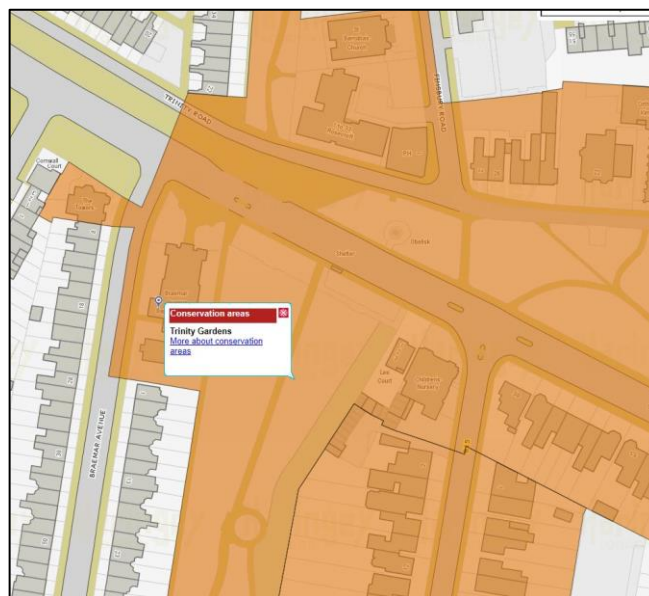
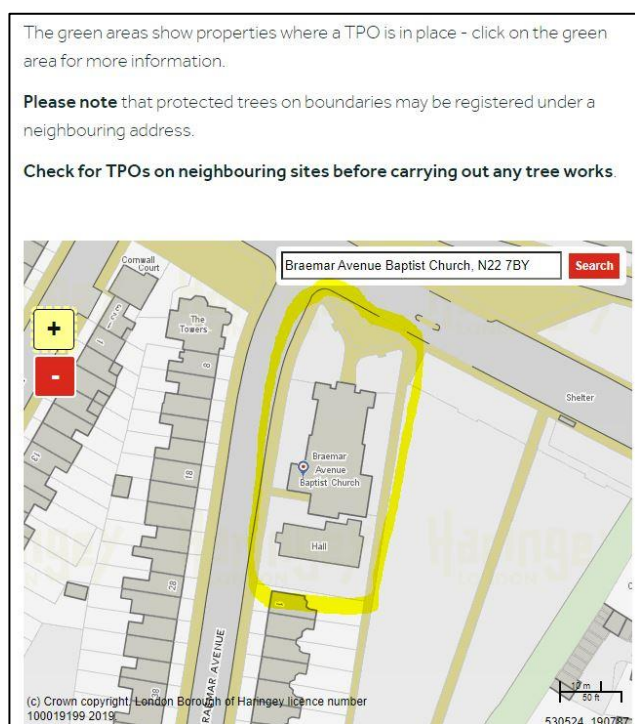
- 4.3.1. Based on the information reproduced in Section 3.1, local soils are assumed to have a loamy and clayey texture.
- 4.3.2. Loamy soils contain a mixture of clay and sand. Soil compaction may occur due to vehicular activity on building sites, so ground protection is recommended wherever vehicles operate. Most tree species will grow well in loamy soils.
- 4.3.3. Clay soils may be especially prone to compaction and slurring caused by general construction activity. Both of which significantly impair root function. This must be guarded against by the use of boards to protect any soils where roots are growing. When planting new trees, species should be selected that can tolerate heavy soils.
- 4.3.4. Trees of most species are less likely to root deeply in clay soils. Any new surfacing should avoid deep excavation and have good load spreading properties.

5. Statutory Protection – TPOs and Conservation Area Status

Before undertaking most works on trees protected by a tree preservation order³, consent needs to be formally obtained from the local authority. Where trees are located in a conservation area (but not protected by a TPO), works are generally not permitted without first giving the local authority six weeks' notice of intention⁴. Unauthorised works to protected trees, or trees in a conservation area, may result in criminal prosecution and a fine. Where works are required to implement a fully approved development, no such consent or notice is required.

5.1. Desktop Research

5.1.1. On 22nd June 2022, we accessed the local authority website. Screenshots are produced below:



5.1.2. This indicates that:

5.1.3. The site is within the Trinity Gardens Conservation Area.

5.1.4. There are no tree preservation orders affecting trees within the site.

5.1.5. There are no tree preservation orders on trees immediately adjacent to the site.

5.2. Felling Licences

5.2.1. A felling licence is not required for works on trees in churchyards, regardless of the scale of the operation. However, before undertaking significant works on churchyard trees, a faculty should be granted by the archdeacon. We understand this applies to all churchyard trees regardless of whether they are in a conservation area or protected by a tree preservation order. (*Care of Churches and Ecclesiastical Jurisdiction Measure 1991*).

³ <https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas>

⁴ 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 six weeks, then the intended work may be undertaken. Note: the local authority cannot refuse consent for works to trees within a conservation area; they may only create a tree preservation order if they wish to have further control over what works are undertaken.

6. Implications for Development

- 6.1.1. This section of the report offers general advice on dealing with tree-related constraints. It is intended to assist designers working with the Tree Constraints Plan. Examples of mitigation strategies are included which may reduce potential impacts on trees. Persons familiar with BS 5837 Arboricultural Reports (e.g. tree officers) may wish to skip this section and go straight to the following Section.

6.2. Retention Categories

- 6.2.1. The Tree Constraints Plan 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:
- 6.2.2. 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.
- 6.2.3. The retention of Category B trees is also desirable, though these trees are of lesser quality, or have a reduced life expectancy or are smaller than category A trees.
- 6.2.4. The retention of Category C trees should be seen as optional. These are usually small trees or trees of no particular merit and are not considered a material planning consideration.
- 6.2.5. Category U trees have been recommended for removal due to their poor condition and should be removed regardless of development proposals.

6.3. Root Protection Areas

- 6.3.1. The Tree Constraints Plan indicates the Root Protection Areas of each tree. This does not represent the maximum extent of rooting activity; instead, 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. In which case, the trees shall be unharmed. Significant disturbances such as changes in ground level, soil compaction, excavation of trenches, or interference with oxygen and rainwater exchange may have a substantial impact on the health of the tree. (Soil compaction may be caused by vehicles, plant machinery, excessive pedestrian usage, storing of materials/spoil or by the installation of a new vehicular surface.)
- 6.3.2. 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. These are discussed below:
- 6.3.3. 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.
- 6.3.4. Hard surfaces should be installed with a 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.
- 6.3.5. 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 good alternatives. Tarmac is not very porous; the use of a no-fines tarmac is preferable.
- 6.3.6. 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.

- 6.3.7. If ground levels are 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.
- 6.3.8. 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 earthworms significantly improves rooting conditions, as does the removal of competing vegetation such as grass.
- 6.3.9. 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.

6.4. Tree Canopies

- 6.4.1. 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.
- 6.4.2. For residential dwellings, the shade cast by trees should also be considered, especially where buildings are located north or northeast of sizeable trees. Some species, e.g. birch, have light, airy canopies, so shade is less of an issue. Commonly occurring trees that cast 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.
- 6.4.3. More sources of information regarding the above points can be found in Appendix 5. Crown Tree Consultancy will gladly offer any further advice, and you are invited to contact the author of this report on 01422 316660.

6.5. Arboricultural Impact Assessment

- 6.5.1. When development proposals are available, we recommend carrying an Impact Assessment before submission to the Local Planning Authority. This will identify any potential issues so that they may be resolved or mitigated.

6.6. Tree Protection During Construction

- 6.6.1. A site-specific Arboricultural Method Statement will be required to ensure that trees are protected during the construction phase. This should specify tree protection barriers, ground protection boards, foundations and hard-surface design, services installation, materials storage, and plant machinery use.

7. Photographs

Refer also to the Tree Constraints Plan for photo locations

Photo 1.



Photo 2.



Photo 3.



Photo 4.



Photo 5.



Photo 6.



Photo 7.



Photo 8.



Photo 9.



Photo 10.



Photo 11.



Photo 12.

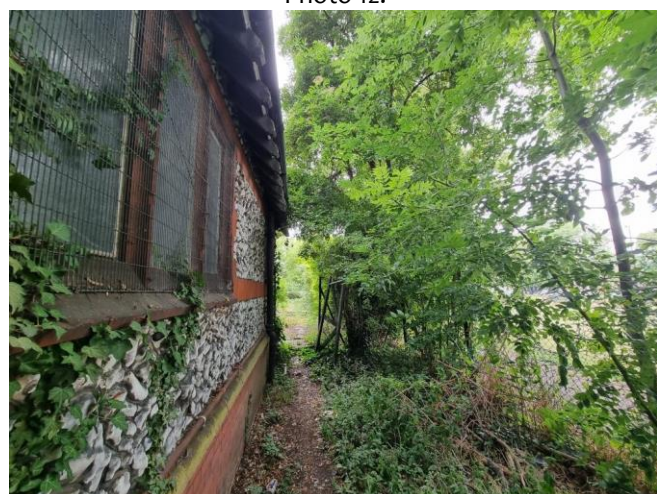


Photo 13.



Photo 14.



Photo 15.



Appendix 1: BS 5837: 2012 – Guidance Notes

This Standard prescribes the principles to be applied to achieve a satisfactory juxtaposition of trees and structures. It sets out to assist those concerned with trees in relation to design, demolition and construction to form balanced judgements.

It acknowledges the positive contribution trees may offer to a site, as well as the negative aspects of retaining inappropriate trees. It addresses the negative impacts that construction activity may have upon trees and offers mitigation strategies to minimise these impacts.

The Standard suggests a three stage approach to ensure best practice is followed when developing close to trees:

A1.1 Stage 1: Survey Details and Notes

A ground level visual survey was undertaken. No climbed inspections or specialist decay detection were undertaken. Only trees with a stem diameter over 75mm, which lie within the site boundary or relatively close to it, were included.

Where applicable, trees with significant defects have been highlighted and appropriate remedial works have been recommended. 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.

Wherever practicable dimensions were obtained using diameter tapes, logger's tapes, distometers and clinometers. Where obstacles prevent accurate measurement, dimensions are estimated. Trees on privately owned third party are surveyed from the best available vantage point and observations relating to the condition of these trees should be treated accordingly. All height measurements should be regarded as approximate.

Data is recorded for each tree and is presented in a Tree Data Schedule. Each tree is allocated a **Retention Category** according to its size, amenity value, condition and safe useful 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 value. 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 value. Usually these are maturing 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 or small specimens with a relatively low amenity value. These trees are not considered to be a material planning constraint and their removal will generally be seen as acceptable in order to facilitate development.

U Category: Trees of such low quality that their removal is recommended regardless of development proposals.

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 most appropriate.

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

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 be confusing. 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 any confusion.

Tree Constraints Plan (TCP). This indicates the position, crown spread, Retention Category and Root Protection Area of each tree. It is used to inform where development may proceed without causing damage to trees.

Root Protection Area (RPA). This is the area around each tree likely to contain the majority of roots. It should ideally remain undisturbed to avoid a detrimental impact on tree health. For single stemmed trees It is calculated according to the formula “radius of RPA” = “12 x stem diameter”. Where a tree has more than one stem, the equivalent-single-stem diameter is usually recorded. This is calculated by adding the squares of the stems and then finding the square root of this total. The radius of the Root Protection Area is then calculated by multiplying the equivalent-stem-diameter by 12.

Shade Constraints. The previous Standard (BS 5837 2005) suggested that shade constraints should be indicated on the TCP. These are denoted as a circle-segment drawn northwest to due east with a radius equal to the height of the tree. These do not represent the actual shade pattern which varies through the seasons. Rather, they indicate the area most shaded by the tree throughout the course of the year. Ideally habitable room windows should be located outside of these shade constraints. Where we consider it appropriate, we will include shade constraints information on our Impact Assessment Plan or Proposed Layout Plan.

A1.2 Stage 2: Arboricultural Impact Assessment

After the initial survey and the production of the Tree Constraints Plan, arborists and designers are encouraged to work together to establish a design proposal with minimal impact on the high quality trees. An assessment should be made of all possible impacts including the impact that the trees may have upon the proposal. The arborist may recommend mitigation strategies to minimise these impacts and help achieve a more harmonious juxtaposition between buildings and trees.

A1.3 Stage 3: Arboricultural Method Statement

This type of report specifies the measures necessary to protect trees against damage from construction activity. The Method Statement should be written in a manner that it may be conditioned and enforced by the local authority upon granting of planning permission. The site manager should be familiar with all aspects of the Method Statement and should ensure that all persons working on the site are aware of those aspects which appertain to their work. This includes service installation engineers and operators of plant machinery.

Appendix 2: Survey Methodology

Ground level visual surveys are 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).

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.

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.

Where significant defects are observed, recommendations are made according to a scale of priority in order to reduce the likelihood of structural failure. The position of the tree and its potential targets are taken into account.

Measurements are obtained using a diameter tape, clinometer, distometer and loggers tape. Where this is not practical measurements are estimated.

Some trees are surveyed as groups, though this is usually avoided close to areas likely to be developed.

Finally, a *Retention Category* is allocated as described in Appendix 1.1.1.

Appendix 3: Explanation of Tree Data & Glossary

This section explains the terms used in the **Tree Data Schedule** (see Section 3 and Appendix 6).

A2.1 General Observations

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.
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.
Species:	Common names and Latin names are given.
Height:	Measured from ground level to the top of the crown.
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.
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.
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.
Crown Spread:	Measured N, E, S & W, taken from the centre of the stem and usually rounded up to the nearest metre.
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.
Recommendations:	Usually based on any defects observed and intended to ensure that the tree is in an acceptable condition.
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.
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.
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.
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.
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.
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.
Life Expectancy:	The estimated number of years before the tree may require removal. Classified as (<10), (10 – 20), (20 – 40), or (40+).
Retention Category:	These are explained in detail in Appendix 1.

A2.2 Evaluation of Defects

Cavities, wounds, deadwood etc are all evaluated as follows:	
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 unlikely to develop into a major defect.

General Glossary

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.
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.
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.
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 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.
Defoliation	The losing of plants foliage.
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.
Epicormic shoots	Fast growing, weakly attached shoots/branches that often grow as a response to stress factors upon a tree or branch removal.
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 trees 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.
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.
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.
Limb	A large lateral branch growing from the main trunk or from another larger branch.
Lopping	In trees, a general term that related to the removal of branches from a 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.
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
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
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.
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.
Root Barriers	Both Buildings and services can benefit from the installation of root barriers to protect a soil volume from the ingress of roots.
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 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.
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 from the main network framework of the crown of a tree.
Soft Rot	A kind of wood decay, were 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.
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.
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.
Suppressed	Trees which are dominated by surrounding vegetation and whose crown development is restricted from above.
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 result 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.
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 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.
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
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 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 4: Author's Qualifications

Qualifications & Experience of Carl Lothian – BSc (Hons).

Carl began his career undertaking a Level 3 extended diploma in arboriculture and forestry at Merrist Wood College in 2015. Upon completion of his diploma, Carl worked with several tree surgery firms completing a range of arboricultural works. In 2018 Carl began his BSc (Hons) in arboriculture and urban forestry, graduating with a first-class degree and attaining the Institute of Chartered Foresters student of the year award.

After graduating, Carl worked as a TreeRadar technician where he carried out tree root and decay surveys with specialist ground-penetrating radar equipment. During this time Carl was fortunate enough to work at prestigious sites, such as the Palace of Westminster and the National Maritime Museum.

Whilst working at Crown, Carl has undertaken a range of tree surveys and written reports relating to development, safety, subsidence, and decay detection. Carl is a professional member of the Consulting Arborist Society and an associate member of the Institute of Chartered Foresters.

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: 2012. Trees in Relation to Design, Demolition and Construction – Recommendations.

Bs 3998: 2010. 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 8545:2014. Trees: From nursery to independence in the landscape – Recommendations

BS 3882: 2015. 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/wgself.pdf/\\$FILE/wgself.pdf](http://www.forestry.gov.uk/website/pdf.nsf/pdf/wgself.pdf/$FILE/wgself.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/tpsguide

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

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: Tree Data Schedule and Drawings

The Tree Data Schedule and any drawings accompanying this report follow this page. They are also provided as separate documents for ease of printing and screen viewing.

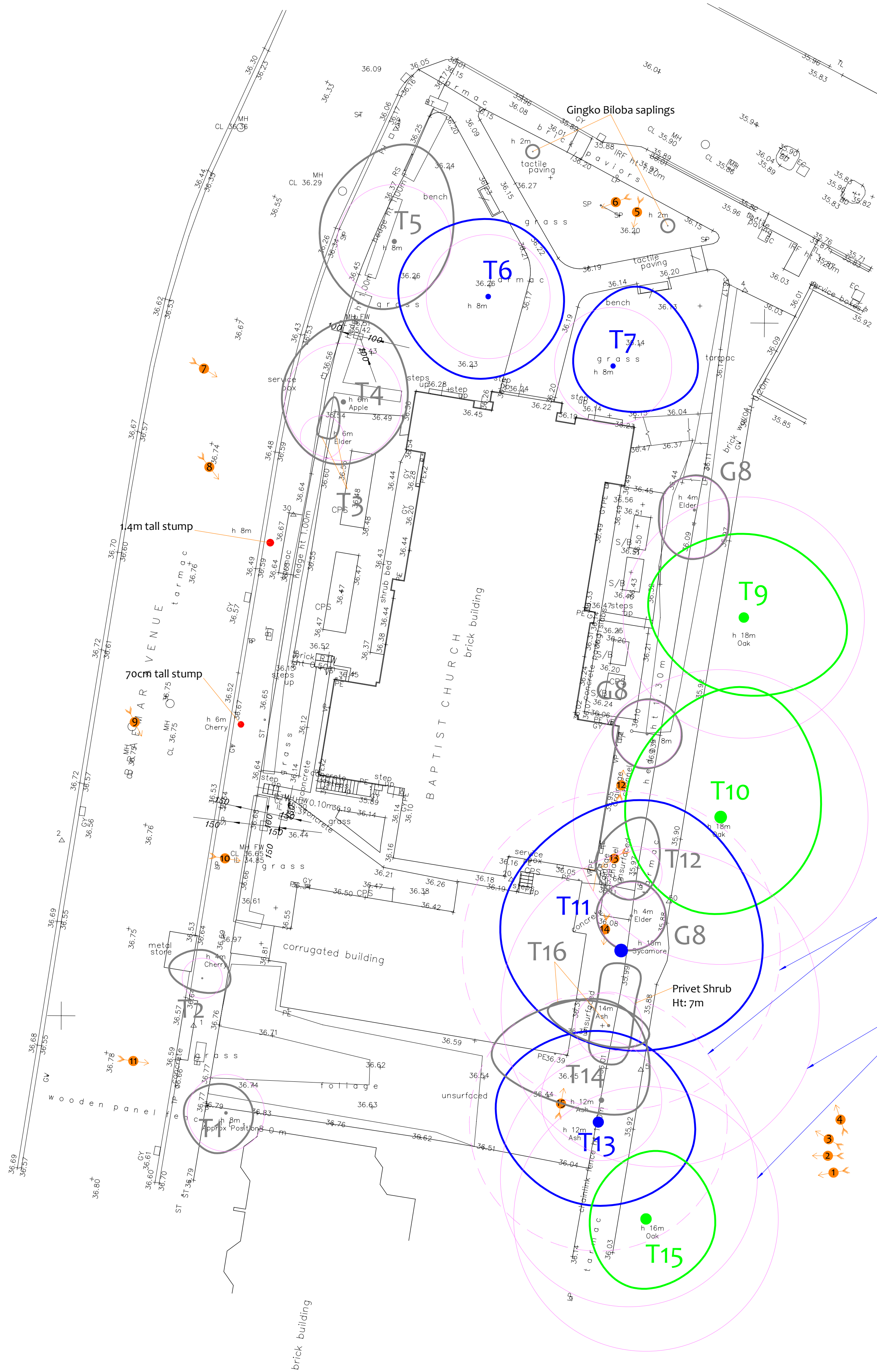
Reference G = Group H = Hedge	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) N W E S	Scaled Tree Diagram (m)	Notes	Recommendations (Independent of any development proposals)		Vigour	Amenity Value
								Priority	Inspect Freq (yrs)	Physiological Condition	Life Expectancy (yrs)
										Structural Condition	Retention Category
T1	Semi-Mature Rowan Sorbus aucuparia.	8	1.5	23	3 2 3		Position: Situated on third party land. Form: Multi-stemmed at 2m with a compact crown. History: No evidence of significant pruning. Defects: No significant defects observed. Other: Limited inspection, dimensions estimated.	No action required.		High Good Good	Low 20-40 C
	n/a							3			
T2	Young Lime Tilia sp.	5.5	1	12	2.5 2 1		Position: Street tree. Form: Single stemmed and vertical with a slightly unbalanced crown. History: No evidence of significant pruning. Defects: No significant defects observed.	No action required.		Moderate Good Good	High 40+ C
	n/a							3			
T3	Early-Mature Elder Sambucus nigra.	4	3	13	0.5 3 0 1		Position: Boundary tree. Form: Multi-stemmed at ground level with a poorly formed crown. History: Southern-most stem removed at 1m. Defects: Dead wood to 4cm over footpath. Other: Hung up in T6. Poor specimen.	Remove dead wood.		Moderate Good Poor	Low 10-20 C -
	Moderate							3			
T4	Semi-Mature Plum Prunus sp.	7	1.5	35	4.5 6 4.5		Position: In church ground. Form: Multi-stemmed at 2m with a slightly unbalanced crown. History: Occasional pruning wounds due to crown lifting. Defects: Broken, hanging branch on south side 5m above ground level.	Remove broken branch.		Moderate Good Good	Low 40+ C
	Moderate							3			
T5	Semi-Mature Ash-leaved Maple Acer negundo.	10	2	34	5.5 7 5 4		Position: In church ground. Form: Twin-stemmed at 1.5m with a balanced crown. History: Occasional pruning wounds due to crown lifting. Defects: No significant defects observed. Other: Significant lean.	No action required.		Moderate Fair Fair	High 20-40 C
	n/a							3			
T6	Semi-Mature Ash-leaved Maple Acer negundo.	10	2	37	5.5 5.5 6		Position: In church ground. Form: Multi-stemmed at 2m with a balanced crown. History: No evidence of significant pruning. Defects: No significant defects observed.	No action required.		Moderate Good Good	Moderate 40+ B
	n/a							3			
T7	Early-Mature Ash-leaved Maple Acer negundo.	9	2	35	3 6 3		Position: In church ground. Form: Multi-stemmed at 2m with a slightly unbalanced crown. History: No evidence of significant pruning. Defects: No significant defects observed.	No action required.		Moderate Good Good	Moderate 40+ B
	n/a							3			

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 (Independent of any development proposals)		Vigour	Amenity Value
								Priority	Inspect Freq (yrs)	Physiological Condition	Life Expectancy (yrs)
										Structural Condition	Retention Category
G8	Semi-Mature Elder Sambucus nigra.	av 4.5	av 1.5	av 20	2.5 2.5 2.5 each		Position: On boundary. Form: Three specimens, all multi-stemmed. History: No evidence of significant pruning. Defects: No significant defects observed.	No action required.		High Good Fair	Low 10-20 C
							n/a	3			
T9	Mature Lime Tilia sp.	17	1.5	72	6 7.5 5.5		Position: Situated on third party land (park). Form: Single stemmed and vertical with a balanced crown. History: No evidence of significant pruning. Defects: Minor deadwood throughout. Significant dead wood over path 12m above ground level.	Remove deadwood, crown reduce by 20% and remove epicormic shoots and reinspect stem base.		Moderate Fair Fair	High 20-40 A
							High	0.5			
T10	Mature Lime Tilia sp.	20	3	88	9.5 7 7		Position: Situated on third party land (park). Form: Single stemmed and leaning with an unbalanced crown. History: Multiple pruning wounds due to crown reduction. Defects: Significant deadwood throughout.	Remove deadwood, crown reduce by 20% and remove epicormic shoots and reinspect stem base.		Moderate Fair Fair	High 20-40 A
							High	0.5			
T11	Mature Ash Fraxinus excelsior.	21	3.5	95	11 9 10 7		Position: In church ground. Form: Multi-stemmed at 1.5m with a balanced crown. History: No evidence of significant pruning. Defects: Minor dead wood throughout. Other: Growing around the fence rail.	No action required.		Moderate Fair Good	Moderate 40+ B
							n/a	3			
T12	Young Holly Oak Quercus ilex.	6	1	16	4 3 1.5 2		Position: In church ground. Form: Single stemmed and vertical with a compact crown. History: No evidence of significant pruning. Defects: No significant defects observed.	No action required.		High Good Good	Low 40+ C
							n/a	3			
T13	Mature Ash Fraxinus excelsior.	17	4	77	6.5 7.5 7 6		Position: In church ground. Form: Multi-stemmed at 4m with a balanced crown. Defects: Significant dead wood throughout. Symptoms of ash dieback. Other: Ivy prevented detailed inspection.	Remove ivy and dead wood then re-inspect stem for defects. Monitor.		Moderate Fair Fair	Moderate 20-40 B -
							Moderate	1			
T14	Semi-Mature Ash Fraxinus excelsior.	14	7	36	7 8.5 3 1		Position: In church ground. Form: Single stemmed and leaning with an unbalanced crown (suppressed). History: No evidence of significant pruning. Defects: Major lean. Symptoms of ash dieback.	Monitor.		Moderate Fair Poor	Low 10-20 C -
							Moderate	1			

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 (Independent of any development proposals)		Vigour	Amenity Value
										Physiological Condition	Life Expectancy (yrs)
								Priority	Inspect Freq (yrs)	Structural Condition	Retention Category
T15	Mature Lime Tilia sp.	19	2	79	4 5 5		Position: Situated on third party land (park). Form: Single stemmed and vertical with a well-formed crown. History: No evidence of significant pruning. Defects: No significant defects observed.	Remove epicormic shoots and reinspect stem base.		High Fair Fair	High 20-40 A
								High	1		
T16	Semi-Mature Ash Fraxinus excelsior.	9	3	20	1.5 4.5 3 1.5		Position: In church ground. Form: Single stemmed and vertical with a compact crown. History: No evidence of significant pruning. Defects: Major lean. Symptoms of ash dieback.	Monitor.		Moderate Fair Good	Low 40+ C
								Moderate	1		

Tree Data Schedule

Reference G = Group H = Hedge	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m)	N W S E	Scaled Tree Diagram (m)	Notes	Recommendations (Independent of any development proposals)		Vigour Physiological Condition	Assess Value			
									Priority	Inspect Tree (m)		Life Expectancy (yrs)	Retention Category		
T1	Semi-Mature Rowan <i>Sorbus aucuparia</i>	8	1.5	23	2	3		Position: Situated on third party land. Form: Multi-stemmed at 2m with a compact crown. History: No evidence of significant pruning. Defects: No significant defects observed. Other: Limited inspection, dimensions estimated.	No action required.	n/a	3	Good	20-40	C	
	Young Lime <i>Tilia</i> sp.	5.5	1	12	2.5	2		Position: Street tree. Form: Single stemmed and vertical with a slightly unbalanced crown. History: No evidence of significant pruning. Defects: No significant defects observed.	No action required.	n/a	3	Good	40+	C	
T3	Early-Mature Elder <i>Sambucus nigra</i>	4	3	13	0.5	0		Position: Boundary tree. Form: Multi-stemmed at ground level with a poorly formed crown. History: Southern most stem removed at 1m. Defects: Dead wood to 4cm over footpath. Other: Hung up in 16. Poor specimen.	Remove dead wood.	Moderate	3	Good	10-20	C -	
	Semi-Mature Plum <i>Prunus</i> sp.	7	1.5	35	4.5	4.5		Position: In church ground. Form: Multi-stemmed at 2m with a slightly unbalanced crown. History: Occasional pruning wounds due to crown lifting. Defects: Broken, hanging branch on south side 5m above ground level.	Remove broken branch.	Moderate	3	Good	40+	C	
T5	Semi-Mature Ash-leaved Maple <i>Acer negundo</i>	10	2	34	5.5	7		Position: In church ground. Form: Twin-stemmed at 1.5m with a balanced crown. History: Occasional pruning wounds due to crown lifting. Defects: No significant defects observed. Other: Significant lean.	No action required.	n/a	3	Fair	20-40	C	
	Semi-Mature Ash-leaved Maple <i>Acer negundo</i>	10	2	37	6.5	5.5		Position: In church ground. Form: Multi-stemmed at 2m with a balanced crown. History: No evidence of significant pruning. Defects: No significant defects observed.	No action required.	n/a	3	Good	40+	B	
T7	Early-Mature Ash-leaved Maple <i>Acer negundo</i>	9	2	35	5	6		Position: In church ground. Form: Multi-stemmed at 2m with a slightly unbalanced crown. History: No evidence of significant pruning. Defects: No significant defects observed.	No action required.	n/a	3	Good	40+	B	
	Semi-Mature Elder <i>Sambucus nigra</i>	2V 4.5	2V 1.5	2V 20	2.5	2.5		Position: On boundary. Form: Three specimens, all multi-stemmed. History: No evidence of significant pruning. Defects: No significant defects observed.	No action required.	n/a	3	Good	10-20	C	
T9	Mature Lime <i>Tilia</i> sp.	17	1.5	72	6	7.5		Position: Situated on third party land (park). Form: Single stemmed and vertical with a balanced crown. History: No evidence of significant pruning. Defects: Minor deadwood throughout. Significant dead wood over path 2m above ground level.	Remove deadwood, crown reduce by 20% and remove epicormic shoots and reinspect stem base.	Moderate	High	0.5	Fair	20-40	A
	Mature Lime <i>Tilia</i> sp.	20	3	88	7	7		Position: Situated on third party land (park). Form: Single stemmed and leaning with an unbalanced crown. History: Multiple pruning wounds due to crown reduction. Defects: Significant deadwood throughout.	Remove deadwood, crown reduce by 20% and remove epicormic shoots and reinspect stem base.	Moderate	High	0.5	Fair	20-40	A
T11	Mature Ash <i>Fraxinus excelsior</i>	21	3.5	95	11	10		Position: In church ground. Form: Multi-stemmed at 1.5m with a balanced crown. History: No evidence of significant pruning. Defects: Minor dead wood throughout. Other: Growing around the fence rail.	No action required.	n/a	3	Fair	40+	B	
	Young Holly Oak <i>Quercus ilex</i>	6	1	16	3	2		Position: In church ground. Form: Single stemmed and vertical with a compact crown. History: No evidence of significant pruning. Defects: No significant defects observed.	No action required.	n/a	3	Good	40+	C	
T13	Mature Ash <i>Fraxinus excelsior</i>	17	4	77	6.5	7		Position: In church ground. Form: Multi-stemmed at 4m with a balanced crown. Defects: Significant dead wood throughout. Symptoms of ash dieback. Other: Ivy prevented detailed inspection.	Remove ivy and dead wood then reinspect stem for defects. Monitor.	Moderate	1	Fair	20-40	B -	
	Semi-Mature Ash <i>Fraxinus excelsior</i>	14	7	36	6.5	3		Position: In church ground. Form: Single stemmed and leaning with an unbalanced crown (suppressed). History: No evidence of significant pruning. Defects: Major lean. Symptoms of ash dieback.	Monitor.	Moderate	1	Fair	10-20	C -	
T15	Mature Lime <i>Tilia</i> sp.	19	2	79	4	5		Position: Situated on third party land (park). Form: Single stemmed and vertical with a well-formed crown. History: No evidence of significant pruning. Defects: No significant defects observed.	Remove epicormic shoots and reinspect stem base.	High	1	Fair	20-40	A	
	Semi-Mature Ash <i>Fraxinus excelsior</i>	9	3	20	4.5	1.5		Position: In church ground. Form: Single stemmed and vertical with a compact crown. History: No evidence of significant pruning. Defects: Major lean. Symptoms of ash dieback.	Monitor.	Moderate	1	Good	40+	C	



Drawing No: CCL 10033D / TCP Rev: 1
Title: Tree Constraints Plan (Existing Layout)
Site: Braemar Avenue Baptist Church N22 7SR
Scale: 0 5 10m 1:200
Paper Size: A1



Tree Retention Categories
Stems & canopies shown
Category A tree
Category B tree
Category C tree
Category U tree



Trees of high quality with an estimated life expectancy of 40+ years. Usually large trees with significant presence or smaller trees with excellent form. Retention of these trees is highly desirable.
Trees of moderate quality with a life expectancy of 20+ years. Usually mature trees, or younger trees with good form. Retention of these trees is desirable though less than Category A trees.
Unremarkable trees of low quality and merit. Individual specimens are not considered to be a material planning consideration.
Trees unsuitable for retention due to their very poor condition.

Tree Constraints Plan

Status: Final

BS s837 Root Protection Area (radius = 1xstem diameter)
Root Protection Area needing amendment due to site conditions, e.g. presence of existing road or building.
Root Protection Area having been amended to account for site conditions
T1 = Tree No 1 G2 = Group No 2 H3 = Hedge No 3

Photo 1

MN = Measured North:
Canopy spreads are sometimes measured to an approximate N defined by site features. Often more accurate, especially where rows of trees are not aligned N-S or E-W.

Tree Ref.	Species	Height (m)	Root Protection Area		
			Radius (m)	m ²	Square (m)
T1	Rowan	8	2.8	24	4.9
T2	Lime	5.5	1.4	7	2.6
T3	Elder	4	1.6	8	2.8
T4	Plum	7	4.2	55	7.4
T5	Ash-leaved Maple	10	4.1	52	7.2
T6	Ash-leaved Maple	10	4.4	62	7.9
T7	Ash-leaved Maple	9	4.2	55	7.4
G8	Elder	4.5	2.4	18	4.3
T9	Lime	17	8.6	235	15.3
T10	Lime	20	10.6	350	18.7
T11	Ash	21	11.4	408	20.2
T12	Holly Oak	6	1.9	12	3.4
T13	Ash	17	9.2	268	16.4
T14	Ash	14	4.3	59	7.7
T15	Lime	19	9.5	282	16.8
T16	Ash	9	2.4	18	4.3