

BS 5837:2012 Tree Survey, Arboricultural Impact Assessment, Arboricultural Method Statement and Tree Protection Plan



Applehanger
Lewes Road
East Grinstead
RH19 3SX

Date: 13/07/2026

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1. Instruction

Usherwood Arboriculture have been instructed to provide a tree survey, arboricultural impact assessment, arboricultural method statement and tree protection plan regarding the proposal to construct a detached oak frame garage at Applehanger, Lewes Road, East Grinstead, RH19 3SX. The document has been compiled in accordance with BS5837:2012, Trees in relation to design, demolition and construction-Recommendations.

Drawing/Document Ref.	Title	Drawn/Written by
01 rev: A	Drawings as Existing	Rubix Planning
03 rev: B	Drawings as Proposed	Rubix Planning

Table 1. Key drawings and documents supplied for consideration within this report

2.Executive Summary

This document considers the impact of proposed development upon a single mature Pedunculate oak tree located within the application site.

The proposed garage will be constructed within an area which currently comprises a gravel vehicular parking area set upon an MOT type 1 subbase of approximately 160mm depth.

The garage will be constructed upon a screwpile system in order to minimise potential impacts to tree roots below.

The arboricultural method statement and tree protection plan provide a recognised solution to ensure minimal impact upon tree roots growing beneath the construction zone.

3.The Site

The application site comprises a detached property on the corner of Lewes Road and Luxford's Lane. The application area is confined to a section of the property frontage currently laid to a level gravel driveway and vehicular parking area. The subject Pedunculate oak tree grows to the immediate south within the application site.

Soil conditions

The British Geological Survey, Geology of Britain viewer describes the local bedrock geology as Lower Tunbridge Wells Sand-Sandstone, siltstone and mudstone. There is no specific information available regarding local superficial deposits.

Legal Constraints

Trees can sometimes be the subject of a Tree Preservation Order (TPO) or a property may be situated within a designated conservation area. Both a TPO and conservation area designation require the owner/occupier or those wishing to work on trees to seek the

Council's consent or provide written notice prior to carrying out any works. It is a criminal offence to carry out any works to protected trees without the Council's consent. The site is not situated within a Conservation Area or subject to a TPO.



Image above, courtesy of Google Maps with the application site outlined in red and subject tree in green.

4. Tree Survey

The trees were assessed on 15/05/2026 in accordance with recommendations and guidelines contained within British Standard 5837:2012 - 'Trees in relation to design, demolition and construction-Recommendations' henceforth referred to as BS5837. The survey was carried out in relation to the condition and quality of trees growing either within or near the boundary of the site. Where details have been omitted including the heights of crown break and the direction of the first major lateral branch, these details were not seen as being relevant to this application. Where access allowed, tree heights were measured with a Haglof electronic clinometer and trunk diameters with a diameter tape measure. Crown spreads were measured with a tape measure or paced out at the four cardinal points.

All trees were assessed from the ground utilizing the Visual Tree Assessment method as developed by Mattheck and Breloer (The Body Language of Trees, Research for Amenity Trees No 4 Department of the Environment).

This tree survey should not be treated as a hazard assessment, it has been carried out to inform the planning process with regards to the appropriate retention and protection of

trees as visual and ecological assets within the landscape. However, where clear and obvious defects are observed, the relevant parties would be informed.

Tree Assessment and Categorization

Tree quality ratings have been assessed in accordance with BS5837's Table 1, Cascade chart for tree quality assessment.

U = Trees in such a condition that any existing value would be lost within 10 years and which should in the current context, be removed for reasons of sound arboricultural management. (Trees that have serious, irremediable structural defects, such that their early loss is expected due to collapse or ill health including trees that will become at risk due to the loss of other U category trees).

A = Trees of high amenity quality and value in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).

- 1) Trees that are particularly good examples of their species if rare, unusual or essential components of groups or formal or semi-formal arboricultural features.
- 2) Trees, groups of trees or woodland which provide a definite screening or softening effect to the locality in relation to views in or out of the site, or those of particular visual importance.
- 3) Trees groups or woodlands of significant conservation, historical, Commemorative or other value (e.g. veteran tree or wood pasture).

B = Trees of moderate quality and amenity value: those in such a condition as to be able to make a significant contribution (a minimum of 20 years is suggested).

- 1) Trees that might be included in the high category but are down-graded because of impaired condition (e.g. remediable defects).
- 2) Trees, groups of trees or woodland that form distinct landscape features but do not form essential components of the landscape.
- 3) Trees with clearly identifiable conservation or other cultural benefits.

C = Trees of low quality and amenity value currently in adequate condition to remain until new planting is established (a minimum of 10 years is suggested) or trees under 150 mm stem diameter.

- 1) Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.
- 2) Trees presenting groups or woodlands but not with a significantly higher landscape value and or offering low or temporary/transient screening benefit.
- 3) Trees with no conservation or other cultural benefits.

Note: Category C trees are the least suitable for retention, where they would impose a significant constraint on the development their removal for development purposes may be considered acceptable by the LPA.

5.Tree Survey Data & Appraisal

This survey concerns a single tree, full details of the survey data can be found in the Tree Survey Schedule at **Appendix A**. An explanation of Tree Quality category ratings is set out on the previous page.

Category A individual trees and groups of trees.

1 tree has been graded as category A (trees of high quality) as part of this survey.

Category B individual trees and groups of trees.

No trees have been graded as category B (trees of moderate quality) as part of this survey.

Category C individual trees and groups of trees.

No trees have been graded as category C (trees of low quality) as part of this survey.

Category U individual trees and groups of trees.

No trees have been graded as category U (trees unsuitable for retention) as part of this survey.

1 tree species has been recorded as part of this survey, it's common and botanical names are set out within the table below.

Common Name	Botanical Name
Pedunculate oak	<i>Quercus robur</i>

Table 2. Tree species recorded on site and their botanical names.



Photo above of T1, a mature category A Pedunculate oak tree growing in proximity to the proposed location of the oak frame garage.

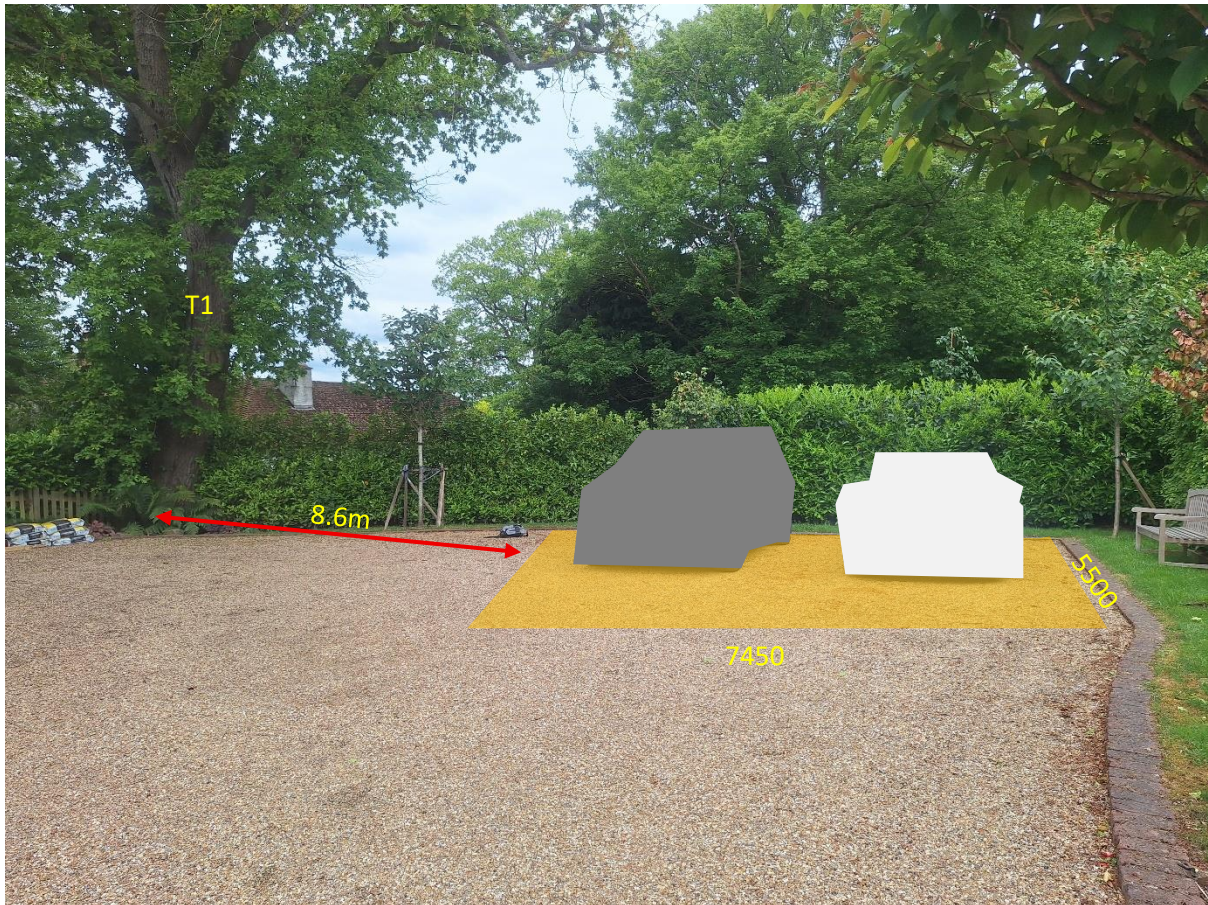


Photo above of T1 showing the proposed relationship of the new garage with T1 oak.

6. Arboricultural Impact Assessment

The Arboricultural Impact Assessment (AIA) sets out the potential risks and threats associated with proposed construction to trees both within and near to an application site and seeks to minimise those risks through the implementation of a sound and recognised methodology set out within an arboricultural method statement.

Construction and development in general can impact trees in a number of ways, the most notable being damage to the tree's root system leading to physiological decline and structural instability. BS5837 recognises this and sets out recommendations to minimise damage associated with the effects of soil compaction and root severance.

The AIA also considers the impacts of tree loss on the character of the immediate and wider landscape.

Tree Removals

No trees are to be removed as a result of the proposed development.

Existing T1 Pedunculate oak.

T1 Oak grows 8.6 metres from the location of the proposed garage.

The proposed garage will be built upon 41m², or 6% of the total root protection area (RPA) of **T1**.

The RPA of **T1** has been measured as a circle with the maximum RPA allowance of 707m², based on a trunk diameter of 1480mm.

In this instance the RPA has been shown as a standard circle rather than a modified shape. We believe that due to the size and age of the tree, roots are likely to grow beneath the adjacent highway on Luxford's Lane, as well as within the application site garden. The only discrepancy may be the area of RPA shown beneath the existing house. This amounts to an area of 34m², or 5% of the RPA.

A gravel vehicular parking area already exists in the location of the proposed garage.

The parking area has previously been excavated and constructed upon an MOT type I subbase of 160mm depth.

The proposed garage building is of an oak frame construction. In order to minimise root disturbance, the building frame will be constructed upon beams set upon 6 screw piles.

The garage floor will be constructed upon the previously excavated ground following removal of a section of the existing gravel driveway and associated subbase.

Excavation works will be carried out by hand and under arboricultural supervision.

Root Protection Areas- General information.

BS 5837 describes the root protection area (RPA) as a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.

The **Root Protection Areas (RPA)** have been calculated in accordance with Table D1 of BS5837:2012. Notional RPA's are plotted on the arboricultural impact assessment plan at **appendix C**. The RPA is defined by the formula in paragraph 4.6 from the British standard and may be refined by considering current on-site constraints to root activity such as buildings, walls, earthworks, hard paving and services.

Root systems and compaction.

Root systems can easily be damaged during construction works, leading to the sometimes-rapid decline of valuable trees. The biggest problem for trees on or close to construction sites is the compaction of soil caused by inappropriate vehicular movement and storage of materials especially where the site is founded on a compressible clay.

Numerous surveys have shown that a significant proportion of a tree's roots proliferate in the top 600-1000mm of soil. There will of course be roots that may go down to depths of 3 metres or more although these will be in the minority. Roots in the upper soil surface find it far easier to intercept moisture, acquire oxygen and perform gaseous exchange. You also find that as soil depth increases so does its strength or compaction, making it harder for roots to exploit.

Root morphology differs from species to species and is largely dependent on the soil type and ground conditions, however the fine roots responsible for moisture and nutrient uptake can last anything from 10 days to over a year (Eissenstat and Yanai, 1997), with the tree producing new fine roots on a regular basis. The larger and more structural roots are a permanent feature of the tree and convey moisture and nutrients from the soil via the fine roots, into the trunk and canopy. The larger roots are of course responsible for the tree's stability as well as being areas of carbohydrate storage. Younger trees are more able to adapt to change and have more potential energy to explore alternative rooting environments whereas more mature trees are slower to react to a changing soil environment and are adapted to expend their energy on other important functions.

The National Geology of Britain Viewer advises that the local soil comprises a bedrock geology of Sandstone. Therefore, we suggest that the risk of soil compaction during construction is low, although further reduced due to the proposed installation of tree protection measures.

Root severance

As mentioned above, the roots are responsible for a number of functions including stability and the transport of water and nutrients. Studies have shown that trees can withstand and recover from the loss of a proportion of their root systems, especially where those roots have been removed in a single direction. The proposal may expose roots from **T1** oak where they extend in the northeast direction. However, a precautionary approach will be taken

with supervised hand dig only for the initial excavation for the garage floor and partially sunk beam. The arboricultural method statement includes recognised root pruning parameters which will be observed during excavation operations.

The building also includes a log store which extends an additional 1200mm towards the subject tree.

The log store does not require further excavation other than for the installation of 3 oak load bearing posts. These will be installed with hand tools only and under arboricultural supervision.

7. Arboricultural Method Statement (AMS)

The arboricultural method statement sets out a precautionary approach towards tree protection. Any operations including access, proposed within the RPA (or crown spread where this is greater) will be described within an arboricultural method statement, to demonstrate that the operations can be undertaken with minimal risk of adverse impact to retained trees.

Phase 1-Access facilitation and pre-start tree works.

- Building contractor to set out tree protection measures as set out below.
- A remote meeting will be held with the chosen contractor prior to commencement. See site supervision.

Phase 2- Installation of tree protective fencing and ground protection.

- Erect protective barrier fencing in locations shown on the tree protection plan at **appendix D**. A protective fencing diagram can be found at **appendix E**. Barriers will consist of a heras type panel inserted into rubber blocks and reinforced with a stabiliser strut. Two clamps either end of each section will ensure the area within the fence (CEZ) remains out of bounds during all construction activities.



Images above show protective fencing installed as per BS5837:Fig 3A with rubber blocks and stabilizer struts driven into the ground.

- Ground protection will comprise of overlapping plywood sheets with a minimum thickness of 18mm. As the sheets are being laid upon an existing hard surface there will be no requirement for the addition of a compressible layer beneath. Sheets will be laid prior to the commencement of any works and will remain in place until the garage is completed.

Phase 3- Excavation for beam, garage floor and installation of screw piles.

- The outer face of the beam will be marked out where it extends within the RPA of T1. An initial trench will then be hand dug to the required depth. This exercise will take place under arboricultural supervision.
- We do not expect to encounter any substantial roots, however, if roots believed to be from T1 are exposed, they will be carefully pruned to the excavation edge using sharp bypass loppers and secateurs.
- Root pruning will be carried out by the project arboriculturalist and confined to roots of <25mm diameter.
- Exposed roots with a diameter of less than 25mm will be cut perpendicular to their direction of travel.
- Exposed roots of 25mm-50mm will be retained and not cut, unless approved by the LPA tree officer.
- Roots of 50mm diameter and above will be retained and the construction methodology modified accordingly.
- Any exposed root ends will be covered with damp hessian sacking to be removed prior to the installation of the ring beam and garage floor.
- If any roots are present at the garage floor edge, the outer edge of the excavation closest to the tree will be lined with an impermeable sheet such as DPM. This is to avoid toxic leachates associated with curing concrete from entering the surrounding soil and damaging fine root hairs.
- A screwpile and ringbeam layout is yet to be confirmed, however it will be designed in order to comply with the construction methodology above.
- Once above ground, construction may commence without the requirement for specific arboricultural methodologies.

Pre-commencement meeting & Site supervision.

- A remote pre-commencement meeting will take place between the project arboriculturalist. This is for the project arboriculturalist to clarify that the chosen contractor understands this document and that any unforeseen issues may be dealt with in a timely manner.
- A single site supervision visit will be carried out to oversee the excavation of existing ground and trial holes for the installation of the log store supports.

- Site supervision visits will be pictorially documented with findings shared with the client and LPA tree officer within 5 working days of the visit (**see appendix E**).

General measures to be adopted in proximity to trees.

- No further trees or vegetation are to be removed other than that described as being removed within approved arboricultural and landscape documents.
- All tree protection measures will be set in place prior to commencement of any works relating to the approved planning consent.
- No bonfires on site.
- No storage of products or mixing of materials within the RPA's of trees.
- No materials are to be stored within the confines of the protective fencing (CEZ).
- Storage of materials on soft ground in proximity to any other trees and hedges away from construction is to be avoided.
- No discharging of any products associated with construction near trees or hedges
- No refueling/topping up of hydraulic fluids etc. on plant machinery within or close to the RPA of trees.
- There will be no lowering or raising of soil levels within the root protection areas of retained trees except where specified and agreed by the LPA.
- There will be no excavation or trenching for the installation of services within the root protection areas of retained trees except where specified and agreed by the LPA.

8. Conclusion

Provided works are carried out in accordance with the arboricultural method statement and tree protection plan, there should be no impact upon T1 Pedunculate oak. I therefore suggest that this application should be considered to be arboriculturally acceptable.

9. Qualifications & Experience

I have been involved in the horticultural and arboricultural industries for over 40 years, firstly as a contractor and for the last 20 years as a Local Authority tree officer and consultant. I hold the AA Tech cert arb, and ND Arb (RFS) as well as being a Lantra accredited Professional Tree Inspector.

Lawrence Usherwood
Usherwood Arboriculture

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email: lawrence@usherwoodarboriculture.co.uk

Appendix A: Tree Survey Schedule

Trees have been listed on the schedule with both their common and scientific names.

Tree height is normally measured and rounded up to the nearest metre for trees above 10 metres in height using a Haglof electronic clinometer.

Stem or trunk diameters were measured using a diameter tape in mm at 1.5 metres above ground where access allowed, otherwise diameters have been estimated.

Crown spread has been measured in metres from the trunk to the tips of the live lateral branches taken at the four-cardinal points N-E-S-W using a ground tape.

Age Class

Young - Trees in the first fifth of full life expectancy

Semi-mature - Trees in the second fifth of full life expectancy

Early-mature - Trees in the third fifth of full life expectancy

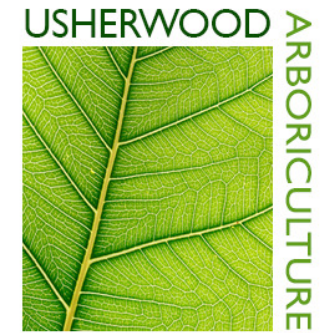
Mature - Trees in the fourth fifth of full life expectancy

Post-mature – Trees having reached full life expectancy and trees in natural decline

Veteran - Trees of interest biologically, culturally and aesthetically due to certain features and/or age.

ERCY-The estimated remaining contribution in years calculated considering the tree's species, location, current age and physiological and structural condition at the time of the survey.

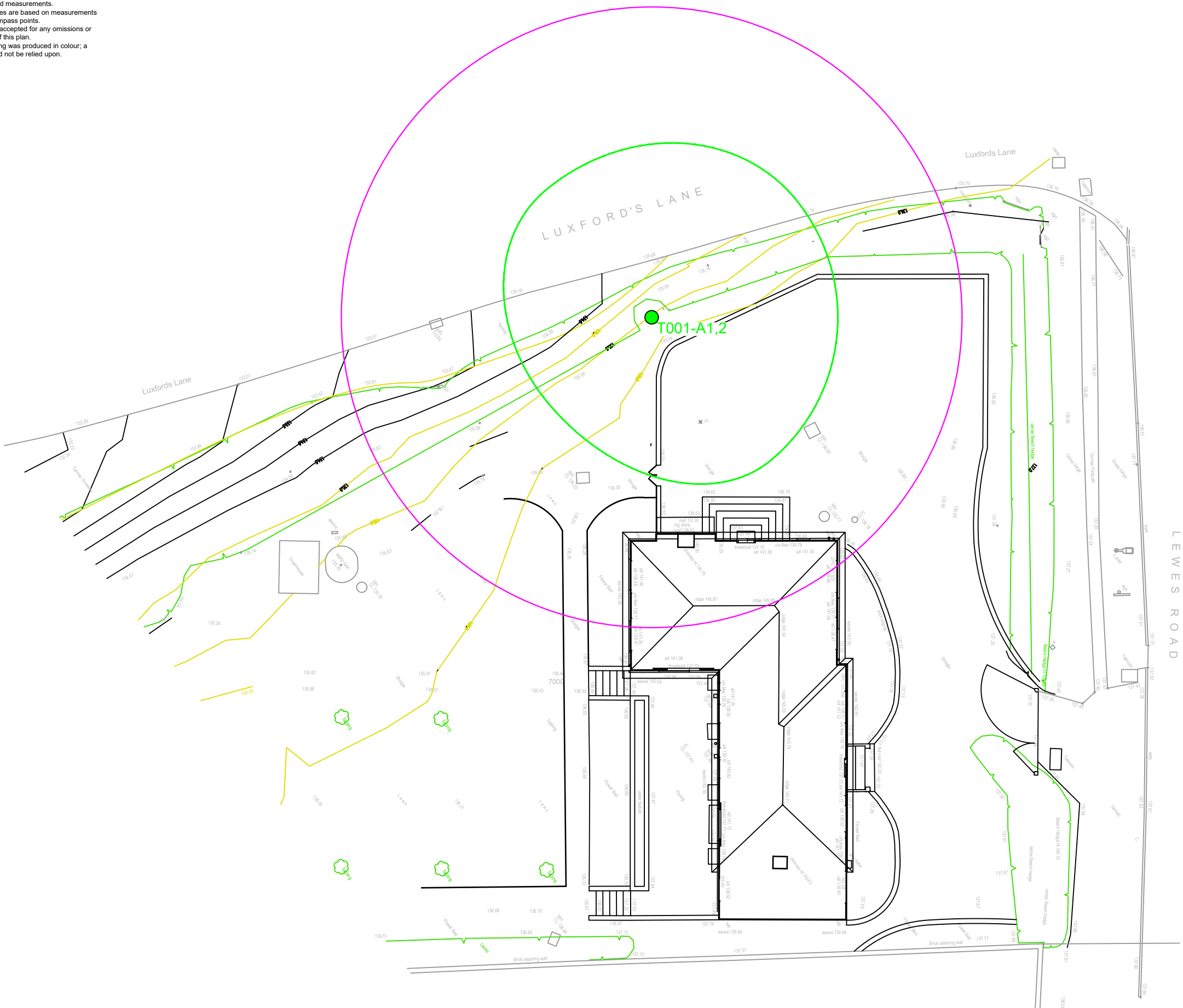
BS5837 Survey Data



Ref.	Species	Measurements	General Observations	Category	Recommendations
T001	Pedunculate oak (<i>Quercus robur</i>)	Height (m): 20 Stem Diam(mm): 1480 Spread (m): 9N, 9E, 6.5S, 8W Crown Clearance (m): 6.5 Life Stage: Mature Rem. Contrib.: 40+ Years	2 major stems from 1.5m. Stem bleed on north facing stem on east side. Minor-moderately sized deadwood throughout canopy. Additional Comments: Recommend a regular inspection, 3 yearly suggested for T1 and adjacent oak.	A1,2 RPA Radius: 15.0m. Area: 707 sq m.	Pre construction: Install tree protective fencing and ground protection in accordance with the arboricultural method statement and tree protection plan. During construction: Refer to the arboricultural method statement for all works within the RPA of T1 Oak.

Appendix B: Tree Constraints Plan

General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour; a monochrome copy should not be relied upon.
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Key

Trees
Showing Canopy extents, category colour and tag number (with category).

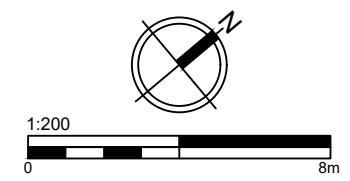
Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years.

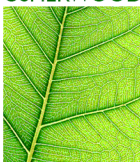
Category B
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

Category C
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.

Category U
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.

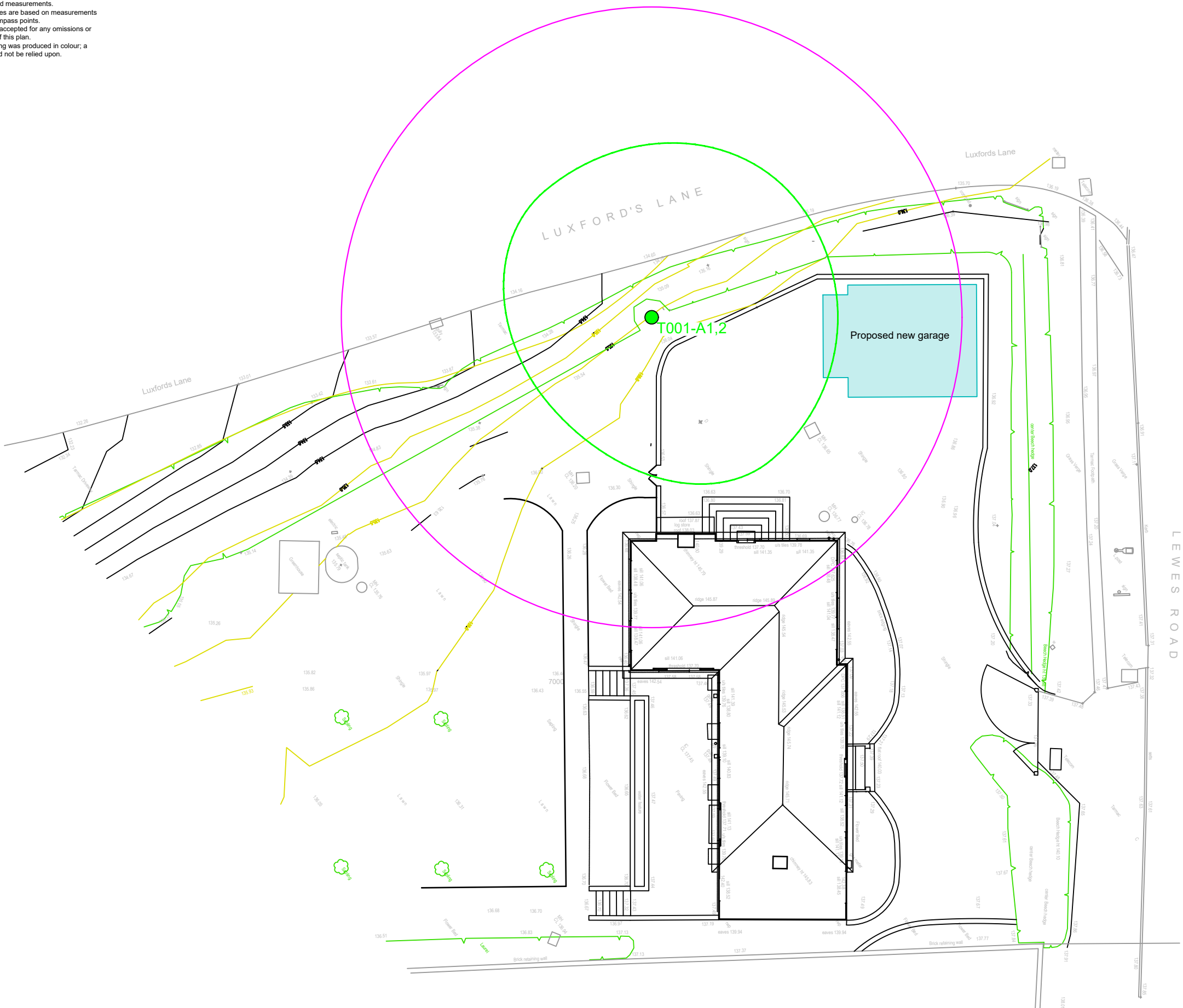
BS 5837:2012 Root Protection Area



Drawing Title				
Tree Constraints Plan				
Client				
Andy Kemp				
Site/Project				
Applehanger, East Grinstead, RH19 3SX				
Scale/Sheet		Date		
1:200 - A3		22/05/2026		
Drawing No	Rev	Drawn By	Chkd By	
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		© Copyright		
		USHERWOOD ARBORICULTURE		
		Lawrence Usherwood		
		Tel. 01883 340398		
		Mobile 07753 211306		
Email. lawrence@usherwoodarboriculture.co.uk				

Appendix C: Arboricultural Impact Plan

General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour; a monochrome copy should not be relied upon.
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Key



Trees
Showing Canopy extents, category colour and tag number (with category).



Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years.



Category B
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.



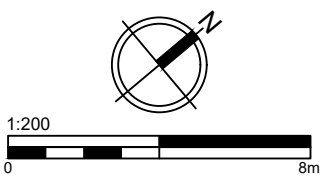
Category C
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Category U
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.



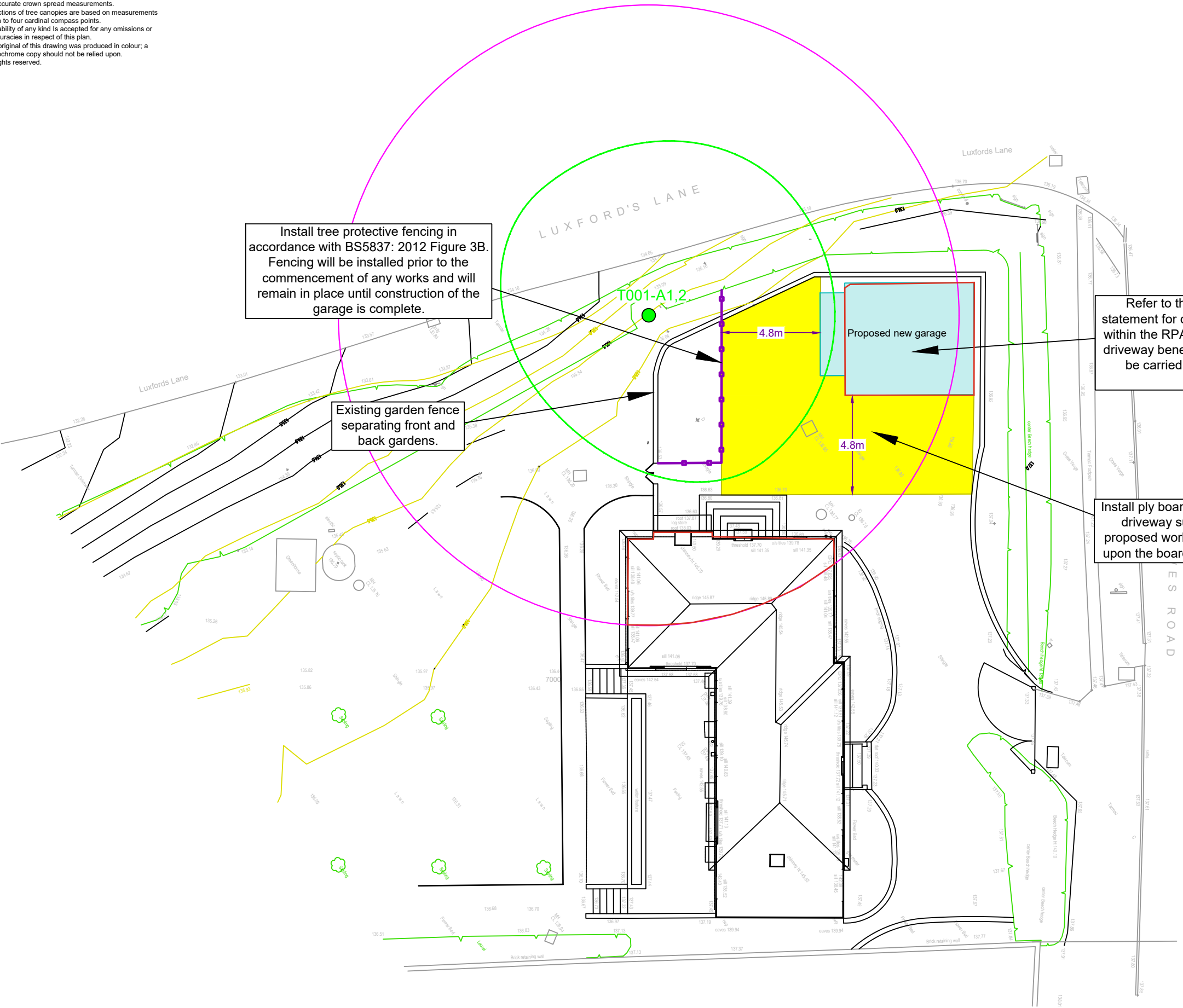
BS 5837:2012 Root Protection Area



Drawing Title				
Arboricultural Implication Plan				
Client				
Andy Kemp				
Site/Project				
Applehanger, East Grinstead, RH19 3SX				
Scale/Sheet		Date		
1:200 - A3		22/05/2026		
Drawing No	Rev	Drawn By	Chkd By	
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		Mobile 07753 211306		
Email. lawrence@usherwoodarboriculture.co.uk				

Appendix D: Tree Protection Plan

General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.
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Install tree protective fencing in accordance with BS5837: 2012 Figure 3B. Fencing will be installed prior to the commencement of any works and will remain in place until construction of the garage is complete.

Existing garden fence separating front and back gardens.

T001-A1,2

4.8m

Proposed new garage

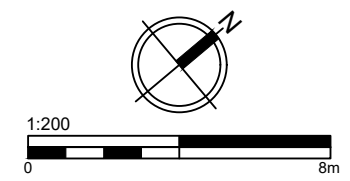
4.8m

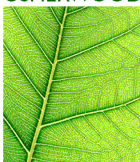
Refer to the arboricultural method statement for details of construction works within the RPA. Excavation of the existing driveway beneath the garage footprint will be carried out under arboricultural supervision.

Install ply boards directly upon the existing driveway surface in proximity to the proposed works. Materials may be stored upon the boards for the duration of works.

Key

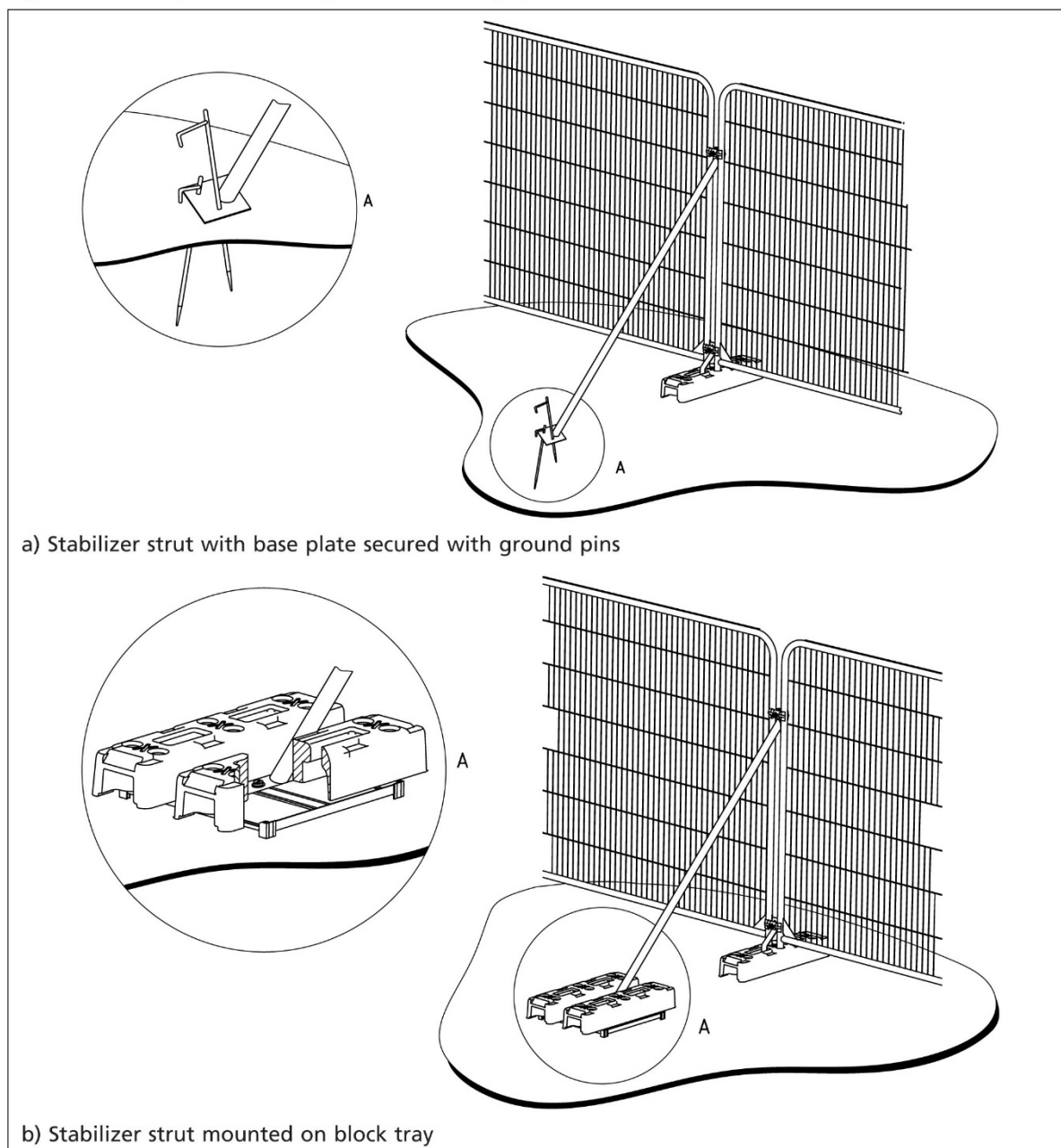
- Trees**
Showing Canopy extents, category colour and tag number (with category).
- Category A**
Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- Category B**
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- Category C**
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
- Category U**
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
- BS 5837:2012 Root Protection Area**
- Tree Protective Fencing**
- Ground Protection**



Drawing Title				
Tree Protection Plan				
Client				
Andy Kemp				
Site/Project				
Applehanger, East Grinstead, RH19 3SX				
Scale/Sheet		Date		
1:200 - A3		22/05/2026		
Drawing No	Rev	Drawn By	Chkd By	
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Appendix E: Tree Protective Fencing Diagram

Figure 3 Examples of above-ground stabilizing systems



Appendix F: Site Supervision Example

Date: _____ Time: _____ Site:		Planning application reference:	
Those present in addition to project arboriculturalist: Client /Agent: Project / Site manager: LPA arboricultural officer: Other (specify):			
	Yes	No	Action Required?
Tree Protection measures located in accordance with TPP?			
Any disturbance within construction exclusion zone?			
Any materials stored within construction exclusion zone?			
Any evidence of damage to tree roots, stems or canopies?			
Any works programmed before next planned site visit that may affect retained trees?			
Notes: 			
Signed:		Date:	

When is site supervision necessary-

Site supervision is normally specified where construction and development activity take place within or adjacent to the root protection area (RPA) of retained trees as calculated within the Arboricultural Impact Assessment (AIA) and described within the Arboricultural Method Statement (AMS).

The AMS will note where site supervision is recommended, and the local planning authority may require the provision of site supervision as a condition of planning consent.

Site supervision may cover several actions as set out below. The conclusions of each of the actions will be documented and shared with the client and local authority tree officer.

- Initial site meeting.
- Toolbox talk with all operatives having responsibility for works in proximity to trees.
- Correct installation of tree protection systems including fencing, ground protection, CCS, site huts etc.
- Technical supervision including excavation/trenching within RPAs, piling, installation of services, installation of lightweight structures such as bin and bike sheds, and installation of load bearing surfaces.

Reporting systems and site notes-

Additional notes taken during supervision of works within or close to the RPAs of retained trees.

Information will include the following-

- Date of works
- Description of works
- Operatives present
- Photographic records
- Scaled Section diagram and/or plan, showing location, size, and condition of any exposed roots.

Information will be shared with the client and local authority tree officer.