Arboricultural impact appraisal and method statement

Land adjacent to Braeside House, 49 Bishopstoke Road, Bishopstoke, Eastleigh, Southampton, Hampshire SO50 6BF

Lewis Fraser **BSc (Hons) Arb MArborA**

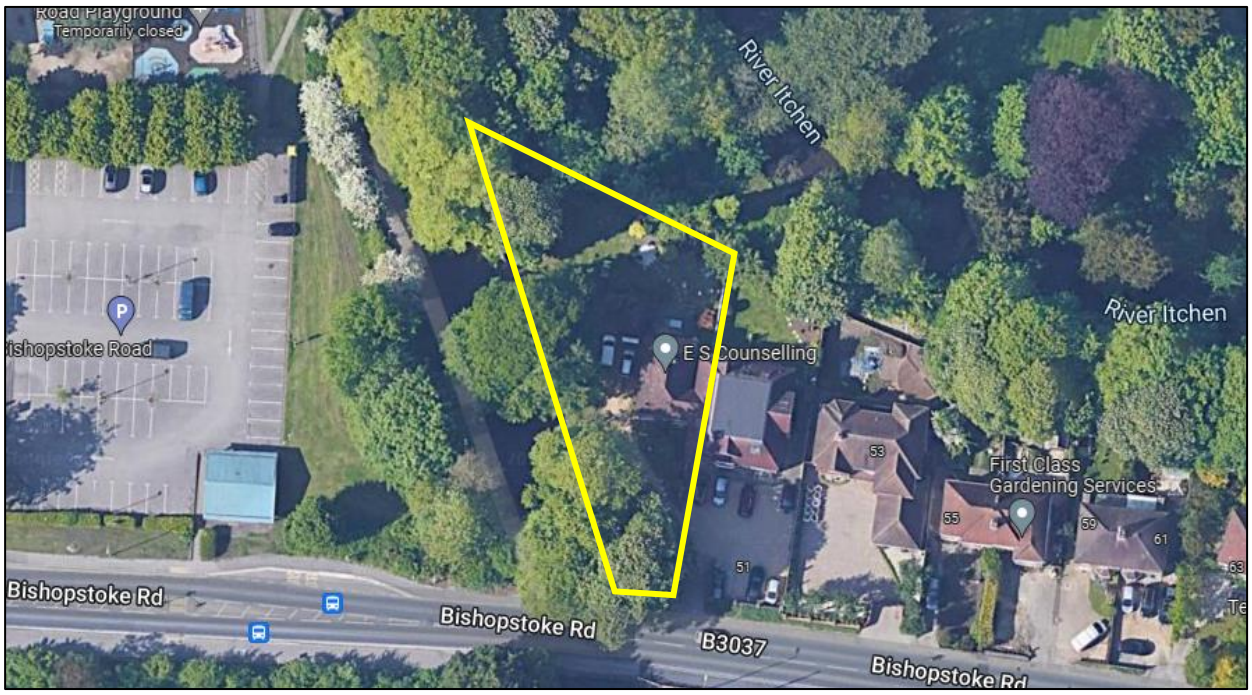
barrell
TREE CONSULTANCY

12th August 2022

22113-AA-LF

Site location and report purpose

Site location



This aerial image is supplied courtesy of Google. The yellow line shows the approximate site boundary and is illustrative only.

Report purpose

This arboricultural impact appraisal report provides sufficient information for the Local Planning Authority (LPA) to consider the effect of the proposed development on local character from a tree perspective. It is fully compliant with the BS 5837 advice relating to the planning application stage of the process and it meets national standard planning application validation requirements.

More specifically, the development proposal is for a *Proposed Dwelling* at Land adjacent to Braeside House, 49 Bishopstoke Road, Bishopstoke, Eastleigh, Southampton, Hampshire SO50 6BF.

This report includes:

- A **Tree protection plan** illustrating tree locations, categories, the location of the proposed development, and the proposed tree protection measures.
- An **Arboricultural impact appraisal** (section 1 of the report) providing an analysis of the tree issues to assist the LPA in assessing the impact on local character.
- An **Arboricultural method statement** (section 2 of the report) describing how retained trees will be protected and managed during the development activity.
- **Appendices** (**Appendix 1** – Background administrative information and data collection; **Appendix 2** – Tree schedule and explanatory notes; **Appendix 3** – Supporting photographs for tree works; and, **Appendix 4** – QR Codes for Site Guidance Notes (SGNs)).
- A companion document to supplement the main report titled ***Manual for managing trees on development sites*** **(Version 3.0)**, which provides explanations of how retained trees will be managed on site in the form of SGNs covering the relevant issues.

© Barrell Tree Consultancy 2022

1 Arboricultural impact assessment

1.1 Table 1: Summary of trees affected and protected by the proposal

From our review of the constraints and the proposed layout, our assessment of the impact on trees, both during and after development, and those that need protection using special precautions, is summarised in Table 1:

	British Standard 5837 Category		
	A (High quality)	**B (Moderate quality)**	**C (Low quality)**
Remove	None	None	T26
Prune	None	None	T3, T4, T8, and T13
Protect using special precautions See Notes below	None	T1 and T7	T10, T11, and T12

T = Tree

Note on types of protection: All retained trees will be protected during development by using fencing and ground protection, and only those requiring special precautions to limit the impact of encroachment are listed in Table 1.

Note on RPA adjustment: Some of RPAs can be adjusted within the guidance set out in BS 5837, which is explained in more detail in 1.2 below.

Note on category U trees: Trees categorised as U (T5, T6, and T15) are in such poor condition that they have been assessed as needing management works irrespective of any development proposals. Removal and/or works required to category U trees is a management decision and not caused by this proposal, so should not be considered a direct impact.

1.2 RPA adjustment

Trees T1, T3, T4, T7, T8, T10, T11, T12, T13, and T16–T20

BS 5837 (4.6.2 & 4.6.3) makes provision for adjusting the nominal circular RPA, if justified by pre-existing site conditions or other factors; if the total RPA is equivalent to the nominal circular RPA. On this site, we have assessed that this can be reasonably applied to these trees because of the river that runs along the western boundary, which will have restricted any root growth in that direction. We have not shown these adjustments on the tree protection plan, because there are other structures which will have also likely affected root growth, and so predicting where the roots are would not provide reliable information. Instead, we have shown increased protective measures beyond the nominal circular RPAs where considered appropriate.

1.3 Insignificant encroachment into RPAs

Trees T12 and T13

There is encroachment into the nominal circular RPAs for these trees from the proposed dwelling. However, BS 5837 (5.3.1) does allow for encroachment, if any new structures are low impact, and if it can be demonstrated that any lost area can be compensated for elsewhere. In this situation, the most encroachment will be in the RPA of T13, however, due to its structural condition, it will need to be heavily pruned if it is to be retained in the short term, which is discussed at 1.4 below. This means that once these works are completed, the initial BS RPA calculated will not be reliable, and we believe that it can be reasonably reduced such that the encroachment from the proposed building will not be significant, and therefore no special precautions are considered necessary. The

© Barrell Tree Consultancy 2022

encroachment into the RPA of T12 will be minor, and for both trees, provision has been made to compensate for the lost area elsewhere. In summary, if the guidance set out in the Manual accompanying this report is observed, our view is that the proposed works can be implemented near these trees without any significant adverse impact on them, and therefore local character.

1.4 Other issues

Structural condition of trees T3, T4, T5, T6, T8, T13, and T15

These are all large trees of a similar age that form a prominent landscape feature along the westerly boundary adjacent to the river Itchen, and are subject to a Tree Preservation Order (TPO); LPA reference: 69-H. In the absence of any structural issues, they would otherwise likely be moderate quality trees. However, all of them have structural issues, some of which more severe than others, and so we have categorised them as either low category value C, or unsuitable for retention (category U). A series of photographs detailing the issues is included at Appendix 3 as supporting evidence for the works prescribed in the tree schedule at Appendix 2, and on the tree protection plan, although where trees had features that were difficult to see and photograph, they have not been included.

There is scope to retain the C category trees in the short term, but they will all need significant pruning to do so, and so in this context we have shown them for retention with the appropriate protective measures, but we do not think they are important enough to be a significant constraint on the development. The U category trees are unsuitable for retention and will need management works soon to address increasing levels of risk, although there is scope to retain them as standing deadwood habitat, and so the works for these trees are prescribed in that context.

1.5 The impact of tree removals on local character

One low-quality tree set well within the site will be removed, but it offers little to no visual amenity in the wider landscape because it is so small, and so there will be no impact on local character for that reason. All the significant boundary tree cover will be retained, but many of them will need significant pruning works to do so because of their condition, as discussed at 1.4.

1.6 The impact of tree pruning on local character

Trees T3, T4, T8, and T13 are in poor structural condition and will need to be pruned if they are to be retained in the short term. These works will have an obvious impact on their visual amenity in the immediate vicinity in the short term, simply due to the extent of the pruning required. However, without the works, the trees will likely begin to fail soon, and so they are justified irrespective of the development.

1.7 The impact of works in precautionary areas

Our assessment of the impact of encroachment into RPAs that will be managed by special precautions, is as follows:

Installing new surfacing within the RPAs of trees T1, T7, T10, T11, and T12

At the front of the site, the existing gravelled driveway will need to be upgraded, which falls within the RPAs of these trees (see Photo 1). Whilst it is currently suitable for the occasional small vehicle access, it will unlikely be robust to withstand both the development activity and the increased usage

© Barrell Tree Consultancy 2022

once the works are complete and the proposed dwelling is occupied. We have carefully reviewed the levels in these areas, and it would be feasible to install a custom designed no-dig specification surfacing without causing any significant disturbance to the RPAs. From our previous experience at installing such surfacing (www.barrelltreecare.co.uk/case-studies/SurfacingNearTrees.pdf), we are confident that this can be implemented without any long term detrimental impact on tree health, with the detail to be agreed as part of a planning condition. This surfacing solution is within the advice set out in BS 5837 (8.6) and would be appropriate in this situation.

In summary, if the guidance set out in SGN 7 *Excavating in RPAs* and SGN 9 *Installing/upgrading surfacing in RPAs* is observed, we believe that the proposed works can be implemented without any long-term detrimental impact on tree health, and therefore local character. All new surfacing must be installed before any development works to prevent damage to the RPAs from the various activities.

Photo 1: Showing the existing gravelled driveway highlighted by the yellow annotation, looking northwest, that will need to be upgraded prior to the development activity. The yellow annotation corresponds to the precautionary area on the tree protection plan, and the protective fencing will run either side of the driveway to protect the exposed ground from the development activities.

Installing new fences within RPAs

It is likely that there will be new boundary fences for the proposed dwelling that may fall within RPAs. We have not shown these as precautionary areas on the plan, as the detail and location of the fencing has not yet been decided and may change as works start and the project develops. However, these works must still be done carefully, and the fence posts must have hand dug footings, with any poured concrete prevented from contaminating the soil by using an impermeable

© Barrell Tree Consultancy 2022

hole liner. It is common to have to install such structures within RPAs, and it can be done without any significant adverse impact on retained trees.

In summary, if the guidance set out in SGN 4 *Pollution control,* SGN 7 *Excavating in RPAs*, and SGN 10 *Installing structures in RPAs* is observed, we believe that the proposed works can be implemented without any long-term detrimental impact on tree health, and therefore local character.

1.8 Post development considerations

We have considered the matters of overbearing relationships and daylight, and concluded that whilst there are several trees close to the proposed dwelling, the required pruning works will make them significantly smaller once complete, and so they will unlikely interfere with the normal use of the building once it is completed and occupied.

1.9 New tree planting to enhance local character

New tree planting is feasible as a means of supplementing retained trees and enhancing local character, which could include heavy-standard or semi-mature specimens. In this scenario, new planting would also buffer the loss of the poor-quality trees as they gradually decline and require removal. The final selection of species, size, and location would be matters to be agreed with the LPA through a planning condition. All new trees will be specified and planted in accordance with the recommendations in BS 8545 (2014) *Trees: from nursery to independence in the landscape – Recommendations*. Our preliminary assessment is that there is sufficient space for new trees to be planted in locations where they will have the potential to reach a significant height without excessive inconvenience and be sustainable into the long term, significantly improving the potential of the site to contribute to local character.

1.10 Unanticipated upgrading of existing services or installation of new services

Retained trees may be adversely affected by the installation of new services and/or the upgrading of existing services if that work encroaches into their RPAs. However, it is often difficult to know the detail of service locations until the construction is in progress, and sometimes encroachment into RPAs is unavoidable. Where possible, the default approach must be to use any existing service runs and keep all new services outside RPAs. Where existing services within RPAs require upgrading, or new services must be installed in RPAs, great care must be taken to minimise any disturbance. Trenchless installation will be the preferred option, but if that is not feasible, any excavation must be carried out by hand according to the guidelines in SGN 11 *Installing services in RPAs*.

1.11 Summary of impact on local character

This proposal will result in the loss of one individual tree that is low quality because of its small size and limited capacity to contribute to local character. All the significant boundary tree cover will remain intact, and no medium quality trees will be removed. Several low quality boundary trees that can be retained in the short term will need significant pruning works due to structural issues, and this will have an impact on their visual amenity in the immediate vicinity. However, without the pruning, they will likely begin to fail soon, and so the works are justified irrespective of the development. There is space for tree planting and a landscaping scheme will be feasible in response to an appropriate condition. The new planting will buffer the gradual decline of the large low quality trees, and will eventually serve to replace their lost amenity. The development activity has

© Barrell Tree Consultancy 2022

the potential to adversely affect retained trees if proper protective measures are not taken. However, if adequate precautions to protect the retained trees are specified and implemented through the arboricultural method statement included in this report, the development proposal will have no detrimental impact on the contribution of trees to local character.

For these reasons, we conclude that the proposed development would not cause an unacceptable or adverse impact on the character and appearance of the area from a tree perspective.

© Barrell Tree Consultancy 2022

2 Arboricultural method statement

2.1 Site Guidance Notes (SGNs)

This section of the report identifies which trees on this site will be protected and managed, and by what means. This site-specific summary is supplemented by more detailed explanations and descriptions of specific operations set out in the accompanying *Manual for managing trees on development sites*. That document is a compilation of 12 individual SGNs addressing the following tree protection and management issues that regularly arise in the construction phase of development:

- SGN 1 *Monitoring tree protection* (https://www.barrelltreecare.co.uk/assets/Uploads/SGN-1-Monitoring-V3.pdf)
- SGN 2 *Fencing protected trees* (https://www.barrelltreecare.co.uk/assets/Uploads/SGN-2-Fencing-V3.pdf)
- SGN 3 *Ground protection* (https://www.barrelltreecare.co.uk/assets/Uploads/SGN-3-Ground-Protection-V3.pdf)
- SGN 4 *Pollution control* (https://www.barrelltreecare.co.uk/assets/Uploads/SGN-4-Pollution-V3.pdf)
- SGN 5 *Site cranes & piling rigs* (https://www.barrelltreecare.co.uk/assets/Uploads/SGN-5-Cranes-Rigs-V3.pdf)
- SGN 6 *Height restrictions* (https://www.barrelltreecare.co.uk/assets/Uploads/SGN-6-Height-V3.pdf)
- SGN 7 *Excavating in RPAs* (https://www.barrelltreecare.co.uk/assets/Uploads/SGN-7-Excavation-in-RPAs-V3.pdf)
- SGN 8 *Removing surfacing and structures in RPAs* (https://www.barrelltreecare.co.uk/assets/Uploads/SGN-8-Removing-Surfaces-V3.pdf)
- SGN 9 *Installing/upgrading surfacing in RPAs* (https://www.barrelltreecare.co.uk/assets/Uploads/SGN-9-Installing-Surfacing-V3.pdf)
- SGN 10 *Installing structures in RPAs* (https://www.barrelltreecare.co.uk/assets/Uploads/SGN-10-Structures-V3.pdf)
- SGN 11 *Installing services in RPAs* (https://www.barrelltreecare.co.uk/assets/Uploads/SGN-11-Services-V3.pdf)
- SGN 12 *Landscaping in RPAs* (https://www.barrelltreecare.co.uk/assets/Uploads/SGN-12-Landscaping-V3.pdf)

NOTE: Each individual SGN can be downloaded by using the links above and the QR Code links in Appendix 3.

2.2 Identification of areas to be protected

The tree protection plan shows the areas where protective measures are necessary. The fencing location is shown by the heavy black dashed lines, with the construction exclusion zone behind as the lighter black diagonal hatch. The precautionary areas are shown by a yellow fill, and new temporary ground protection is shown by a blue fill.

2.3 Arboricultural supervision

An arboricultural consultant will be appointed to advise on the tree management for the site and to attend:

- a pre-commencement meeting before any work starts;

© Barrell Tree Consultancy 2022

- regular supervision visits to oversee the agreed tree protection, as agreed at the pre-commencement meeting; and
- further supervision visits, as necessary, to oversee any unexpected works that could affect trees.

The detail of how the arboricultural supervision will be carried out is explained in SGN 1 *Monitoring tree protection* in the accompanying Manual.

2.4 Table 2: Summary of the site operations requiring arboricultural input

For this site, arboricultural input will be needed for the following operations:

Brief operation summary	Trees affected	Location of detailed explanations
Pre-commencement meeting: Meeting on site with all parties to agree protective measures, as described in SGN 1. Will be carried out before any significant site works begin.	All retained trees	SGN 1 *Monitoring tree protection*
Tree felling and pruning: Contractor will carry out agreed works as described in Appendix 2. Will be completed before any significant site works begin.	**Fell:** T26 **Prune:** T3, T4, T5, T6, T8, T13, T15	Appendix 2
Installing fencing and ground protection: Agreed tree protection measures will be installed and checked, as described in SGN 2 and SGN 3. Will be completed before any significant site works begin.	Fencing all retained trees Ground protection for T10, T11, T12, T13	Tree protection plan, SGN 2 *Fencing protected trees*, and SGN 3 *Ground protection*
Pollution control near retained trees: Any pollution control measures identified during risk assessment will be installed as described in SGN 4. Will be completed before any potential pollutants arrive on site.	All retained trees	SGN 4 *Pollution control*
Regular arboricultural supervision: Provision will be made to carry out and record agreed arboricultural supervision, as described in SGN 1.	All retained trees	SGN 1 *Monitoring tree protection*
Excavating in RPAs: These operations will be carried out as described in SGN 7.	T12 and T13	SGN 7 *Excavating in RPAs*
Installing/upgrading surfacing in RPAs: These operations will be carried out as described in the SGN 9.	T1, T7, T10, T11, T12	SGN 9 *Installing/upgrading surfacing in RPAs*
Installing structures in RPAs: These operations will be carried out as described in SGN 10.	All retained trees	SGN 10 *Installing structures in RPAs*
Installing services in RPAs: These operations will be carried out as described in SGN 11.	All retained trees	SGN 11 *Installing services in RPAs*
Landscaping in RPAs: These operations will be carried out as described in SGN 12.	All retained trees	SGN 12 *Landscaping in RPAs*
Removing tree protection: Protection can only be removed when there is no risk of damage to retained trees, as described in SGN 1.	All retained trees	SGN 1 *Monitoring tree protection*

© Barrell Tree Consultancy 2022

2 Arboricultural method statement

The operations summarised in this table, and supplemented by the more detailed explanations set out in the SGNs and the rest of this document, form the arboricultural method statement for this site. The Site Manager will ensure that its details and any agreed amendments are known and understood by all site personnel. Copies of the agreed documents will be available on site. All personnel who could have an impact on trees will be briefed on the specific tree protection requirements as part of the site induction procedures. This requirement will be written into the site management documentation.

If unanticipated issues arise on site requiring work approved by the LPA, but not referenced in the above explanations, for example the unexpected need to install services in RPAs, or landscaping in RPAs, further guidance on how to manage them can be found in the accompanying Manual.

© Barrell Tree Consultancy 2022

Appendix 1: Background administrative information and data collection

A1.1 Table 3: Background administrative information

	Background administrative information
Report date & reference	12th August 2022; 22113-AA-LF
Tree protection plan reference	22113-1
Instructing client	Mrs Jane Bray
Instructions	Visit the site, assess the relevant trees, prepare a schedule of their details, describe the impact of the proposal on those trees and identify the tree protection issues in an arboricultural method statement with a tree protection plan.
Provided documents	Topographical survey and layout, inclusive drawing reference '**2078 Barrell Master Braeside.dwg**', received by email on 8th July 2022.
Report author and credentials	Lewis Fraser **BSc (Hons) Arb MArborA**
Technical auditor	Jeremy Barrell is a Chartered Forester (www.charteredforesters.org), and a Registered Consultant of the Arboricultural Association (www.trees.org.uk), and is fully qualified to undertake the assessments in this report (https://www.barrelltreecare.co.uk/who-we-are/).
Report limitations	• This report does not consider ecological or archaeological issues, or any other matter beyond the assessment of the trees.
Technical references	In preparing the analysis in this report, we considered the guidance and advice in the following technical references: • Climate Change Act (2008) www.legislation.gov.uk/ukpga/2008/27/contents • Town and Country Planning Act 1990 www.legislation.gov.uk/ukpga/1990/8/contents • National Planning Policy Framework, published by the MHCLG www.gov.uk/government/publications/national-planning-policy-framework--2 • BS 5837 (2012) *Trees in relation to design, demolition and construction – Recommendations*, https://shop.bsigroup.com/ProductDetail?pid=000000000030213642 • BS 8545 (2014) *Trees: from nursery to independence in the landscape – Recommendations*, https://shop.bsigroup.com/ProductDetail?pid=000000000030219672 • BS 3998 (2010) *Tree work – Recommendations*, BSI https://shop.bsigroup.com/ProductDetail?pid=000000000030089960 • *Trees in the Townscape: A Guide for Decision Makers*, published by the Trees & Design Action Group http://www.tdag.org.uk/ • *Trees in Hard Landscapes: A Guide for Delivery*, published by the Trees & Design Action Group www.tdag.org.uk/ • National Joint Utilities Group (2007) Volume 4, Issue 2: *Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees* www.njug.org.uk/publications/
BS 5837 compliance	This report is BS 5837 compliant. *BS 5837 (2012) Trees in relation to design, demolition and construction – Recommendations* is 10 years old. Since its publication, there have been significant advancements in technology and thinking, informed by a decade of practical experience of putting principles into practice. In the document

© Barrell Tree Consultancy 2022

	Background administrative information
	Foreword, it states: "*Any user claiming compliance with this British Standard is expected to be able to justify any course of action that deviates from its recommendations*". This statement provides the opportunity for practitioners to claim compliance while moving best practice forward in the context of emerging technology, ideas, and experience. Although much of the BS 5837 content remains relevant and useful for managing trees in a planning context, there are now several aspects that are dated, and it is no longer appropriate to rigidly apply them to current planning submissions. Barrell Tree Consultancy (BTC) specialises in managing trees on development sites and retains a complete paper archive of every project it has carried out since starting business in 1980, with a digital data base listing those from 2004. In the decade since BS 5837 was published (April 2012), interrogation of the BTC archive confirms that we have been involved in a total of 3,884 projects, of which we estimate that about 3,845 were development related, and it is that depth of experience that informs the following statements on BS 5837 compliance. All BTC reports are prepared to be BS 5837 compliant and, although explanations are not explicitly required to claim compliance, the justifications for any deviations from its recommendations are set out below, referenced by the BS clause number: 1. **4.3 – soil assessment:** All BTC consultants have basic training relating to soil assessment and regularly deal with soil issues during their daily work, but none are soil specialists and BTC has no specialist investigation equipment for carrying out the type of soil assessment listed in this BS clause. In a modern development context, it is not for arboricultural consultants to demand or carry out professional soil investigations, and BTC does not do that. However, we will review soil information provided from appropriate specialists, if available, and incorporate that into our assessments. 2. **4.4.2.1 – tagging trees:** In some instances, it is not appropriate to tag trees, e.g., sensitive species, trees that are easily identified without a tag, inadequate access, project confidentiality, client instructions to the contrary, etc., and so although there will be a presumption to tag trees where possible and appropriate, that may not be possible or necessary in every instance. 3. **4.4.2.5 *e*) – branch spread:** BTC only work from provided topographical surveys and where the branch spreads are shown correctly on those surveys, there is not normally any practical need to regurgitate that information in a schedule. Additionally, in closely spaced groups or in treacherous terrain, it is sometimes not safe or realistically possible to collect this data for every tree. For these reasons, BTC only collects crown spread data to the four cardinal points where the provided topographical survey is assessed as unreliable, and it is both safe and practically necessary to do so. 4. **4.4.2.5 *f*) – branch and canopy height:** In the absence of any definition of '*canopy*' or '*significant*' relating to branches in the *Terms and definitions* clause, and the lack of any practical guidance for reliably assessing these characteristics, BTC has adopted the following default position. We will

© Barrell Tree Consultancy 2022

	Background administrative information
	only identify the height and orientation of branches where they have the potential to be damaged by vehicular access, i.e., below a height of 6 m, or where their removal would be beyond what the tree could tolerate during normal maintenance management, i.e., the branch removal would significantly adversely affect the health of the tree and potentially compromise its current safe useful life expectancy. 5. **4.4.2.5 *g*) – life stage:** BS 5387 offers examples, but no definitions of what those examples mean. In the absence of a specific BS 5837 recommendation, BTC has reviewed the concept of maturity in a planning context, taking maturity to be a simplistic indication of a tree's ability to cope with change and its potential for further growth. For the purposes of development site advice, BTC conceptualises useful life-stage descriptions as; **young** indicating a potential to significantly increase in size and a high ability to cope with change; **maturing** indicating some potential to increase in size and a medium ability to cope with change; and, **mature** indicating little potential to increase in size and low ability to cope with change. 6. **4.4.2.5 *i*) – estimated remaining contribution:** BTC accepts the category recommendations in Table 1 on the remaining contribution in the context of category, i.e., greater than 40 years for A trees, greater than 20 years for B trees, at least 10 years for C trees, and less than 10 years for U trees, and so this is also not listed separately in the schedule. 7. **4.5.4 – subcategories:** BTC adopts a presumption that all trees are subcategory 1 (Mainly arboricultural qualities) unless noted to the contrary, and so for conciseness and to avoid complication, the subcategory is not listed in the schedule unless it is 2 or 3. 8. **Table 2 and 4.4.2 – colour coding:** The colours included in this table take no account of the inability of some people to distinguish between red and green, which is not helpful to people suffering with this from of colour blindness. To address this discriminatory failing with the BS approach, BTC has adopted a more intuitively obvious regime of green and blue colours, which can be easily distinguished by colour-blind people, with the best category A and B trees (High and moderate quality) being green, and the lower category C and U trees (Low quality and unsuitable for retention) as blue. The differentiation between the two categories in each colour is provided by symbols rather than using different colours. This is clearly shown on the plan key, so there can be no doubt about what category a tree is, which is an intuitive approach to avoiding discrimination of colour-blind people. 9. **5.2.1 – RPAs:** This clause recommends that the RPAs for category A, B, and C trees are shown as the existing constraints on the plans used in the "*concept and design*", i.e., the tree constraints plan. However, the BS does not explicitly recommend that all those constraints are shown on the tree protection plan, which is logical because only category A (High quality), and category B (Moderate quality) trees can realistically be material constraints, with category C (Low quality) and category U (Unsuitable for retention) trees obviously unsuitable to be determinative of the final design. Although

© Barrell Tree Consultancy 2022

	Background administrative information
	it is not a BS recommendation to include the RPAs of category C trees on the tree protection plan because they cannot be material constraints, it is sometimes helpful as an informative to be able to see them if category C are planned for retention to assess if that is feasible. For that reason, BTC tree protection plans show the RPAs of category C trees as a thin grey line rather than the thicker grey line denoting category A and B RPAs. 10. **5.2.2 Notes 1 and 2 – shading:** These notes offer general information on how shading can be assessed, which is presented in italics. The implications of the convention of using italics within the BS is set out in the Foreword as: "*Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.*" Our interpretation of that statement is that the application of Notes 1 and 2 is not part of the BS recommendations, and is not necessary for BS 5837 compliance. In our experience, the assessment of daylight issues is a specialist discipline and way beyond our expertise as arboriculturists, and so we would defer to an appropriate specialist, where any detailed guidance is required.

A1.2 Table 4: Data collection

	Data collection
Date of site visit	12th July 2022
People present during site visit	Lewis Fraser
Weather & visibility	Clear, still, and dry, with good visibility
Limitations to observations	• The inspection of the trees for the purposes of assessing their condition and work requirements was made on the basis that they will be annually inspected in the future to identify any changes in condition and review the original recommendations. For these reasons, the tree assessment advice only remains valid for one year from the date that the trees were last inspected. • All observations were of a preliminary nature and did not involve any climbing or detailed investigation beyond what was visible from accessible points at ground level. • Observations of trees outside the site boundaries are confined to what was visible from within the site. • All dimensions were estimated unless otherwise indicated.
Statutory protection through Tree Preservation Orders and Conservation Areas	A check was carried out through the Eastleigh Borough Council website on 11th August 2022 which confirmed that there is a group TPO on the trees; LPA reference: 69-H, and that the site is within the Bishopstoke Conservation Area. If any tree works are proposed before a planning decision is issued, then the relevant consents must be obtained.
Tree location and numbering	Each tree was inspected, and the numbering scheme is shown on the tree protection plan. Where significant trees were found on site that were not included on the provided land survey, their approximate positions are illustrated as a brown dot on the tree protection plan.
Crown spreads	We found that the crown spreads shown on the land survey were unreliable and did not show a reasonable representation of the spreads we found. These have been estimated according to the guidance in BS 5827, i.e., to the four cardinal compass points, and an approximate extrapolation illustrated on the tree

© Barrell Tree Consultancy 2022

	Data collection
	protection plan as the green outline. These radial spreads are estimated to the nearest metre and represent our assessment of the viable crown dimensions that would be retainable after normal management. For clarification, the viable crown spread is the size of the main body of the crown, and not necessarily the furthest extent of odd branches that extend out beyond this core of the crown.
Recording of tree data	For each identified tree, the information collected was recorded on the tree schedule in Appendix 2 and the tree protection plan.
Calculation of RPAs	The RPAs were calculated as recommended in BS 5837, and the nominal RPA radius for each tree is listed in the tree schedule in Appendix 2, and shown on the tree protection plan.

© Barrell Tree Consultancy 2022

Appendix 2: Tree schedule and explanatory notes

NOTE: Colour annotation is B trees with green background; C & U trees with blue background; trees to be removed in red text.

Tree No	Species	Height (m)	Diameter (cm) @ 1.5 m	Maturity	Low Branches	Category	Notes	Tree Works	RPA Radius (m)
All retained trees & hedges								Carry out safety check and lift over site to 3–4 m as necessary.	
T1	Horse chestnut	18	115*	Mature		B	River to west, large stem cavity at 1 m southeast, several cavities in upper canopy, heavily weighted stems over highway, asymmetric canopy		13.8
T2	Beech	8	40	Mature		U	Dead stump, habitat value		
T3	Beech	18	90*	Mature		C	River directly west, localised stem decay at base, storm damage, significant stem decay and hollowing of upper stem west, heavily imbalanced and asymmetric canopy	Crown reduce the height by about 4 m, the southerly canopy extent by about 2–3 m, and the westerly canopy extent by about 3–4 m. The resulting height of the tree should be about 14 m, and the canopy extents about 3 m north, 1 m east, 3 m south, and 3 m west.	10.8
T4	Beech	18	60*	Mature		C	River directly west, stem cavity at 0.5 m south with decaying fungal fruiting bodies within (possibly *Kretzschmaria deusta*), co-dominant stems at 5 m with significant decay in both stems above	Crown reduce the height by about 4 m, the northerly canopy extent by about 1–2 m, and the westerly canopy extent by about 3–4 m. The resulting height of the tree should be about 14 m, and the canopy extents about 3 m north, 4 m east, 3 m south, and 4 m west.	7.2

© Barrell Tree Consultancy 2022

Appendix 2: Tree schedule and explanatory notes

Tree No	Species	Height (m)	Diameter (cm) @ 1.5 m	Maturity	Low Branches	Category	Notes	Tree Works	RPA Radius (m)
T5	Beech	16	60	Mature		U	River directly west, significant stem decay, heavily imbalanced	Reduce the height of the tree to about 6 m to create a standing stump for habitat. Reduce any lateral branches that remain after the height reduction to leave 1 m stubs.	
T6	Beech	20	60	Mature		U	River directly west, significant stem decay from base up to about 8 m with multiple fungal fruiting bodies of *Kretzschmaria deusta* within cavity, heavily imbalanced	Reduce the height of the tree to about 6 m to create a standing stump for habitat. Reduce any lateral branches that remain after the height reduction to leave 1 m stubs.	
T7	Beech	22	70*	Mature		B	River directly west, small stem cavity at about 10 m north, canopy beginning to dieback at extremities		8.4
T8	Beech	18	45*	Mature		C	River directly west, large stem cavity at 8 m north with bees' nest within, heavily imbalanced and asymmetric canopy	Crown reduce the height by about 4 m, and the westerly canopy extent by about 3–4 m. The resulting height of the tree should be about 14 m, and the canopy extents about 3 m north, 1 m east, and 4 m west.	5.4
T9	Birch	4	20	Young		C	Dying		2.4
T10	Beech	16	45*	Mature		C	River directly west, heavily imbalanced and asymmetric canopy, weak union at 3 m, beginning to dieback at extremities		5.4
T11	Beech	16	45*	Mature		C	River directly west, poor form, heavily imbalanced		5.4
T12	Beech	16	75*	Mature		C	River directly west, localised stem decay, partial failure of lower limb east now resting in river, heavily imbalanced and asymmetric canopy		9

© Barrell Tree Consultancy 2022

Appendix 2: Tree schedule and explanatory notes

Tree No	Species	Height (m)	Diameter (cm) @ 1.5 m	Maturity	Low Branches	Category	Notes	Tree Works	RPA Radius (m)
T13	Beech	22	105*	Over mature		C	River directly west, several large layered fungal fruiting bodies (possibly *Ganoderma* sp) on main stem at about 4 m north although unable to quantify significance from ground level, weeping cavities on main stem	Crown reduce the height by about 5–6 m, the northerly canopy extent by about 2–3 m, the easterly canopy extent by about 1–2 m, the southerly canopy extent by about 1–2m, and the westerly canopy extent by about 4–5 m. The resulting height of the tree should be about 16 m, and the canopy extents about 4 m north, 4 m east, 4 m south, and 5 m west.	12.6
T14	Oak	6	100	Mature		U	Dead stump, habitat value		
T15	Horse chestnut	25	125*	Over mature		U	River directly west, significant basal decay and hollowing up to at least 3 m with *Ganoderma* sp fungal fruiting bodies within	Reduce the height of the tree to about 6 m to create a standing stump for habitat. Reduce any lateral branches that remain after the height reduction to leave 1 m stubs.	
T16	Beech	25	80	Mature		B	River directly west, on edge of bank, slightly asymmetric canopy, tight stem union at about 6 m obscured by ivy		9.6
T17	Hawthorn	4	15	Young		C	Small and heavily suppressed		1.8
T18	Beech	24	50*	Maturing		B	River directly west, on edge of bank, ivy clad, slightly asymmetric canopy		6
T19	Beech	24	55*	Mature		B	River directly west, on edge of bank, ivy clad, slightly asymmetric canopy		6.6
T20	Beech	24	55	Maturing		B	On boundary, river directly west and on edge of bank, ivy clad, slightly asymmetric canopy		6.6
T21	Sycamore	14	30	Maturing		C	Offsite, tall and thin		3.6
T22	Beech	3	15	Young		C	Poor form, small and suppressed		1.8
T23	Sycamore	14	30	Maturing		C	Offsite, ivy clad, tall and thin		3.6

© Barrell Tree Consultancy 2022

Appendix 2: Tree schedule and explanatory notes

Tree No	Species	Height (m)	Diameter (cm) @ 1.5 m	Maturity	Low Branches	Category	Notes	Tree Works	RPA Radius (m)
T24	Sycamore	6	20	Young		C	Offsite, small and suppressed		2.4
T25	Sycamore	14	30	Maturing		C	Offsite, one side of canopy historically lost and subsequently regrown, ivy clad		3.6
T26	Cypress	2	10	Young		C	Small young tree	Fell for development	1.2

© Barrell Tree Consultancy 2022

Appendix 2: Tree schedule and explanatory notes

Explanatory Notes

- **Abbreviations:**
  T: Tree

- **Botanical tree names:**

Beech	: *Fagus sylvatica*
Birch	: *Betula pendula*
Cypress	: *Cupressus* sp
Hawthorn	: *Crataegus monogyna*
Horse chestnut	: *Aesculus hippocastanum*
Oak	: *Quercus robur*
Sycamore	: *Acer pseudoplatanus*

- **BS 5837 (2012) compliance:** All data has been collected based on the recommendations set out in subsection 4.4 of BS 5837.
- **Tree checks and site limitations:** Each tree was subjected to a quick visual check level of inspection. Where there is restricted access to the base of a tree, its attributes are assessed from the nearest point of access. Climbing inspections are not carried out during this level of inspection and, if heavy ivy is present, tree condition is assessed from what can be seen from the ground. A separate note is recorded if further investigation may be required to clarify its status.
- **Crown spreads:** The default is to use the crown spread dimensions shown on the land survey, unless there are obvious anomalies. If spreads are found to be unreliable, they are estimated to the four compass points and shown on our plan. All crown spreads are estimated to the viable branch extent, i.e., the spread that would be sustainable if the tree was under a normal garden management pruning regime. The final choice of the most appropriate way to record crown spread is at the discretion of the consultant.
- **Dimensions:** All dimensions are estimated unless otherwise indicated with an asterix (*) after the figure.
- **Species:** Species identification is based on visual observations. Where there is some doubt over tree identity, sp is noted after the genus name to indicate that the species cannot be reliably identified at the time of the survey. Where there is more than one species in a group, only the most frequent are noted and not all the species present may be listed.
- **Height:** Height is estimated to provide a broad indication of the size of the tree.
- **Trunk diameter:** Trunk diameter is estimated or measured (with a diameter tape), at the discretion of the consultant. Estimates may be made where access is restricted, direct measurement is prevented because of ivy on the trunk, or the tree is assessed as low quality. The point of measurement and the adjustments for stem variations are as advised in Figure C1 of BS 5837. Individual diameters for multiple stems are recorded in the notes, with the calculated cumulative diameter recorded in the diameter column.
- **Maturity:** In planning context, maturity provides a simplistic indication of a tree's ability to cope with change and its potential for further growth. For the purposes of this report, young indicates a potential to significantly increase in size and a high ability to cope with change, maturing indicates some potential to increase in size and a medium ability to cope with change, and mature indicates little potential to increase in size and limited ability to cope with change.
- **Low branches:** Any low branches that would not be feasible for removal during normal management and should be considered as a design constraint are noted here and explained in the notes.
- **Category:** Our assessment automatically considered tree physiological/structural condition (BS 5837, 4.4.2.5*h*), and so these are not listed separately in the schedule. Additionally, the category accounts for the remaining contribution (BS 5837, 4.4.2.5*i*) as greater than 40 years for A trees, greater than 20 years for B trees, at least 10 years for C trees and less than 10 years for U trees, so this is also not listed separately in the schedule. Category A, B and C trees are automatically listed as sub-category 1 unless otherwise stated.
- **Notes:** Only relevant features relating to physiological or structural condition and low branches that may help clarify the categorisation are recorded. If there are no notes, then the presumption should be that no relevant features were observed.

© Barrell Tree Consultancy 2022

Appendix 2: Tree schedule and explanatory notes

- **Tree works:** The recommended tree works are based on the quick visual check level of inspection and only intended to address significant hazards identified during that inspection. The following points should also be considered before carrying out any works:
  1. **Reporting during work operations:** In the context of the preliminary nature of the tree inspection, any defects that may affect tree safety discovered by the contractor when carrying out the work recommendations should be reported to the supervising officer. Modification to the schedule of works may be required because of these reports. The contractor should be specifically instructed on this point.
  2. **Implementation of works:** All tree works should be carried out to BS 3998 *Recommendations for Tree Work* as modified by more recent research. It is advisable to select a contractor from the local authority list and preferably one approved by the Arboricultural Association. Their Register of Contractors is available free from The Malthouse, Stroud Green, Standish, Stonehouse, Gloucestershire GL10 3DL; phone 01242 522152; website www.trees.org.uk.
  3. **Statutory wildlife obligations:** The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000 provides statutory protection to birds, bats and other species that inhabit trees. All tree work operations are covered by these provisions and advice from an ecologist must be obtained before undertaking any works that might constitute an offence.
  4. **Stumps:** Stumps to be removed within the RPAs of retained trees should be ground out with a stump grinder to minimise any disturbance unless otherwise authorised by the supervising officer.
- **RPAs:** The RPAs were calculated as recommended in BS 5837, and the nominal RPA radius for each tree listed, irrespective of any modifying factors. Where appropriate, RPAs for trees on the site may have been adjusted as recommended in BS 5837 and illustrated on the plan.
- **Future tree safety inspections:** Due to the time that may elapse between the original survey and the start of development, all trees should be re-inspected as part of the standard risk management process before any works start on site. Our assessment of the trees was carried out on the basis that a re-inspection would be carried out within a year of the assessment visit and our advice on tree condition must be reviewed annually from the date of that visit.

© Barrell Tree Consultancy 2022

Appendix 3: Supporting photographs for tree works

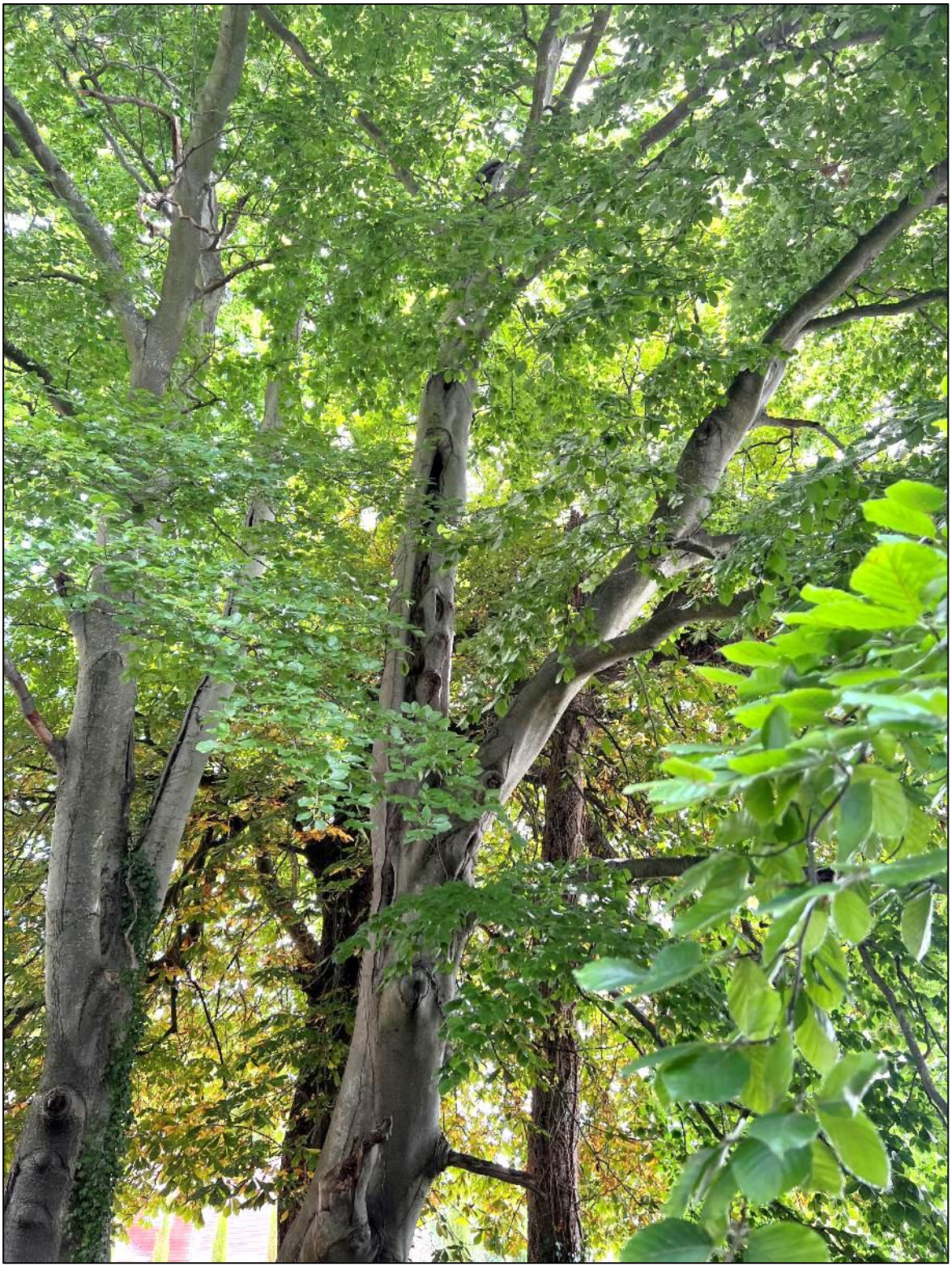


Photo A3.1: Showing the significant stem decay in T3 looking east, with cavity openings orientated west. Whilst the tree is subject to TPO, its structural condition is so poor that it will need management works soon if it is to be retained in the short term, and so it has been categorised as low value category C and should not be considered a constraint on the development.

© Barrell Tree Consultancy 2022

Appendix 3: Supporting photographs for tree works

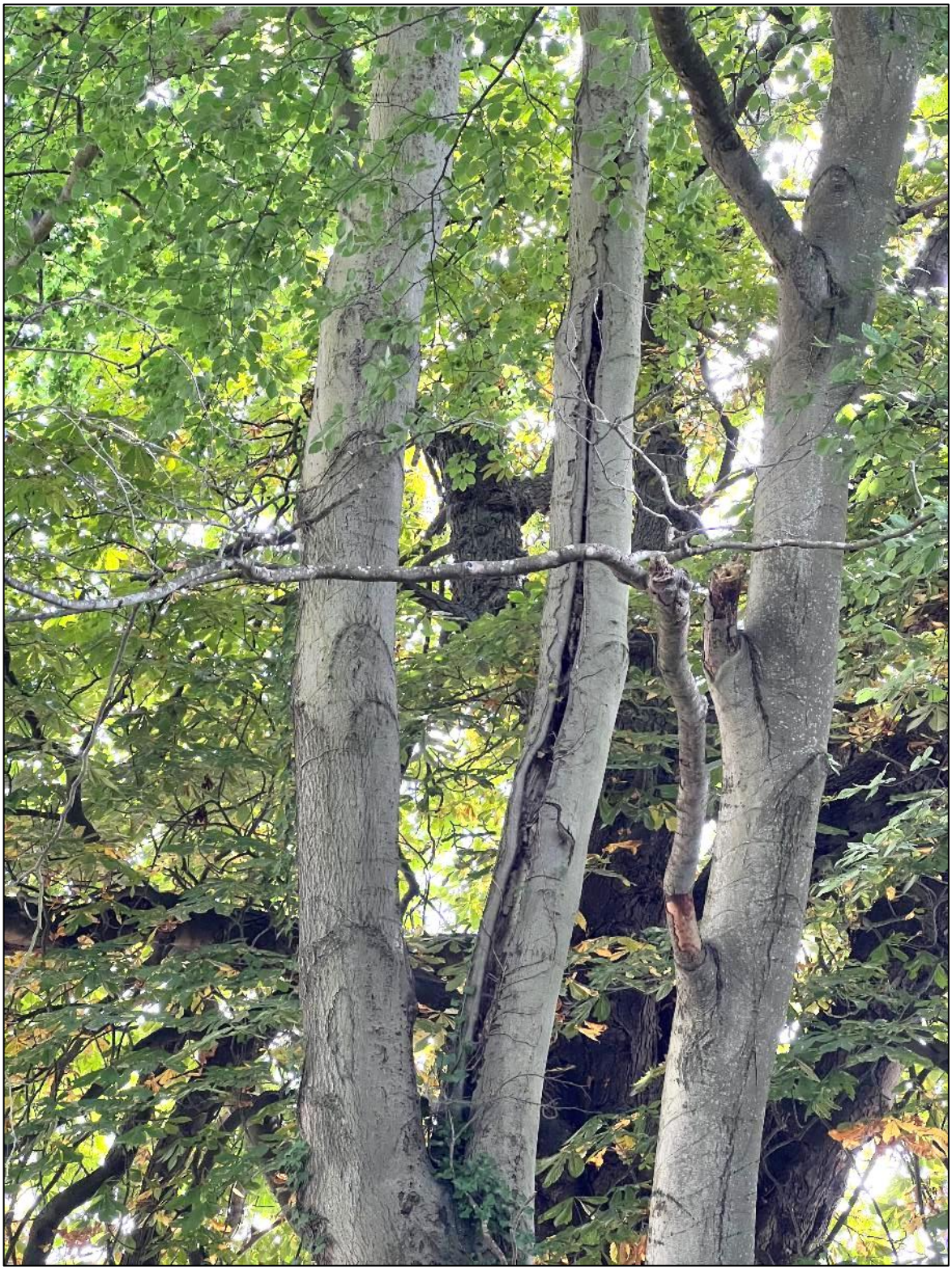


Photo A3.2: Showing the significant stem decay and hollowing in T4 looking east, with cavity openings orientated west. Whilst the tree is subject to TPO, its structural condition is so poor that it will need management works soon if it is to be retained in the short term, and so it has been categorised as low value category C, and should not be considered a constraint on the development.

© Barrell Tree Consultancy 2022

Appendix 3: Supporting photographs for tree works

Photo A3.3: Showing the significant stem decay in T5 looking south, with the cavity opening orientated west. Whilst the tree is subject to TPO, its condition is so poor that works are needed to address increasing levels of risk, and so it has been categorised as category U.

© Barrell Tree Consultancy 2022

Appendix 3: Supporting photographs for tree works

Photo A3.4: Showing the significant stem decay in T6 with multiple fungal fruiting bodies of *Kretzschmaria deusta* within looking north, with the cavity opening orientated southwest. Whilst the tree is subject to TPO, its condition is so poor that works are needed to address increasing levels of risk, and so it has been categorised as category U.

© Barrell Tree Consultancy 2022

Appendix 3: Supporting photographs for tree works

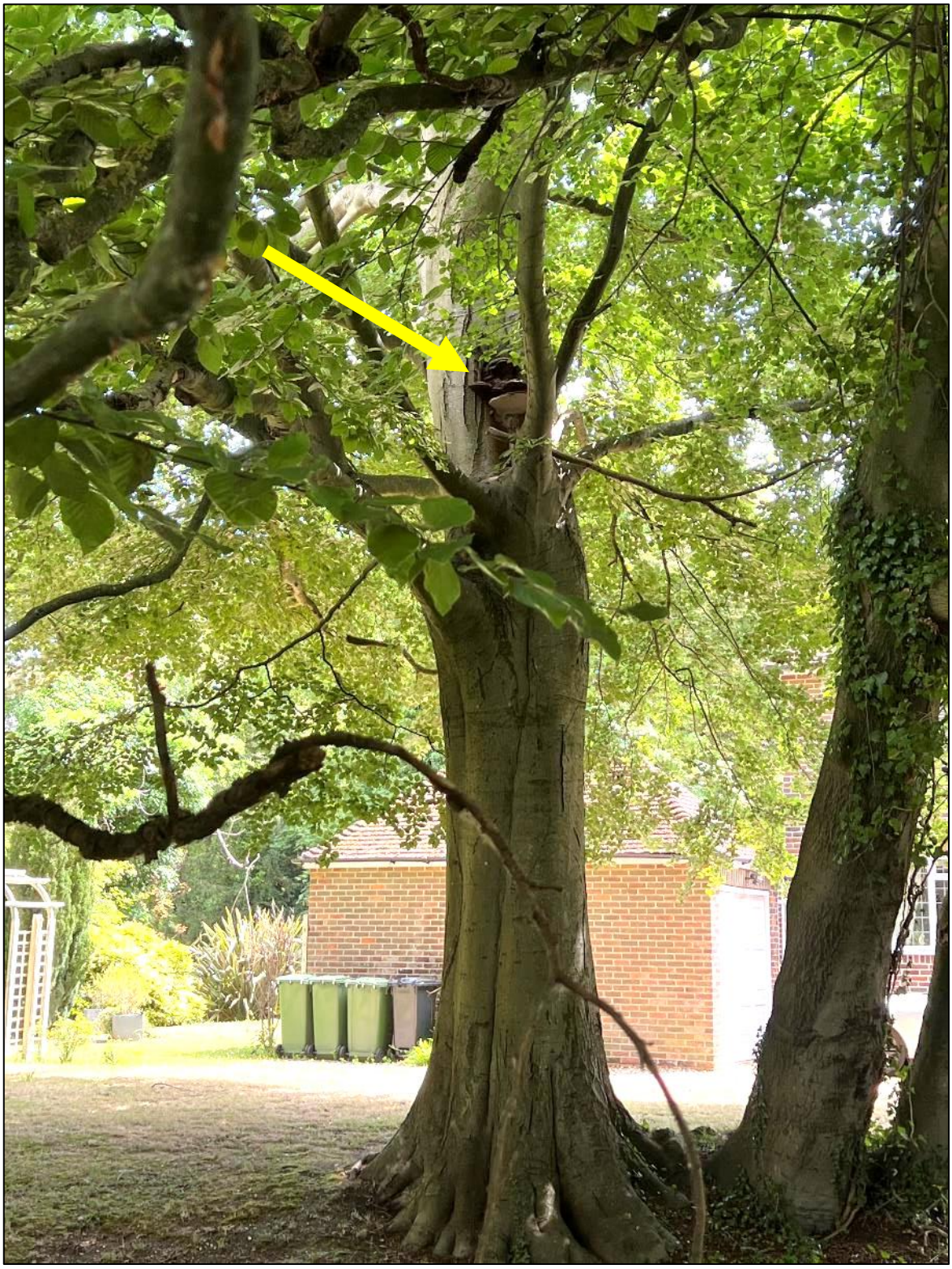


Photo A3.5: Showing the multiple layered *Ganoderma* sp fungal fruiting bodies at about 4 m on the westerly side of the main stem, highlighted by the yellow arrow, with significant internal decay likely. Whilst the tree is subject to a TPO, it will need management works soon if it is to be retained in the short term, and so it has been categorised as low value category C, and should not be considered a constraint on the development.

© Barrell Tree Consultancy 2022

Appendix 3: Supporting photographs for tree works

Photo A3.6: Showing the significant basal decay and area of wood softening on the westerly side of T15. There is also a large cavity opening at the base orientated north, with several *Ganoderma* sp fungal fruiting bodies within, shown in Photo A3.6. Whilst the tree is subject to TPO, its condition is so poor that works are needed to address increasing levels of risk, and so it has been categorised as category U.

© Barrell Tree Consultancy 2022

Appendix 3: Supporting photographs for tree works

Photo A3.7: Showing the large cavity at the base of T15, orientated north, with significant decay and hollowing, and the *Ganoderma* sp fungal fruiting bodies within highlighted by the yellow arrow. Whilst the tree is subject to TPO, its condition is so poor that works are needed to address increasing levels of risk, and so it has been categorised as category U.

© Barrell Tree Consultancy 2022

Appendix 4: QR Codes for SGNs (Scan with reader to download)

SGN 1 *Monitoring tree protection*	SGN 2 *Fencing protected trees*	SGN 3 *Ground protection*
SGN 4 *Pollution control*	SGN 5 *Site cranes & piling rigs*	SGN 6 *Height restrictions*
SGN 7 *Excavating in RPAs*	SGN 8 *Removing surfacing and structures in RPAs*	SGN 9 *Installing/upgrading surfacing in RPAs*
SGN 10 *Installing structures in RPAs*	SGN 11 *Installing services in RPAs*	SGN 12 *Landscaping in RPAs*

© Barrell Tree Consultancy 2022

barrell
TREE CONSULTANCY

Field House Fordingbridge Business Park Fordingbridge Hampshire SP6 1BD
☎ 01425 651470 info@barrelltreecare.co.uk www.barrelltreecare.co.uk