



Site at 9 Bridewell Close

ARBORICULTURAL IMPACT ASSESSMENT

Site: 9 Bridewell Close, North Leigh
Postcode: OX29 6TR
Client: Mr D Lewis

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Author: Stephen Westmore
Qualifications: MSc BSc Hons MArborA MICFor
Position: Director

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Plans and Schedules to be read in conjunction with this report:

Type	Reference	Version
Tree Schedule	141-BRI-INF-SCH	1
Tree Constraints Plan	141-BRI-DRW-TCP	1
Arboricultural Implications Plan	141-BRI-DRW-AIP	1
Draft Tree Protection Plan	141-BRI-DRW-TPP	1

EXECUTIVE SUMMARY

I have been instructed to provide an assessment of the impact on the existing tree stock from a development proposal at 9 Bridewell Close in North Leigh.

The proposed development is for the partial widening of an existing driveway and construction of a two-bay garage.

A tree survey has been completed following the guidance provided by BS5837 (2012) *Trees in relation to design, demolition and construction – Recommendations*. These have been categorised as part of a quality assessment to determine the extent of the tree related constraints on site. The survey recorded a total of three trees and one hedgerow. These are summarised below:

- 2 of moderate arboricultural quality (Category B)
- 1 of low arboricultural quality (Category C)
- 1 of poor arboricultural quality (Category U)

No trees have been identified as either ancient or veteran specimens and there are no Ancient Semi-Natural Woodlands within the site.

An online search confirms that the site is not within a Conservation Area but that three trees (T1 – T3) are subject to a Tree Preservation Order (Ref: Ref: TPO/NO.12/1988).

This development will require the removal approximately 5m of one hedgerow (H4). This section of hedgerow is adjacent the existing driveway and will require removal to facilitate the widening of the driveway in this location. All other trees will be retained as a direct of this design scheme.

No trees require facilitation pruning to enable this design proposal to proceed.

A combination of temporary ground protection and tree protective fencing will be required to ensure that the retained trees remain free from harm during the construction process.

Local Planning Policy seeks to ensure features such as trees, hedges, and woodlands that make a positive contribution to the landscape, biodiversity and green infrastructure are protected from harmful development. The removal of a small hedgerow section will have negligible impact to the overall tree stock of the site and therefore loss is not considered to be contrary to local planning policy.

National Planning Policy also emphasises the retention and incorporation of trees within development proposals with special regard to ancient and veteran trees. No ancient or veteran trees were recorded during the baseline survey and all trees identified in the survey will be retained. In addition, specific protection measures have been recommended to ensure that retained trees remain free from harm, and therefore this application is considered compliant with planning policy, insofar as it relates to trees.

1. INTRODUCTION

Instruction

1.1 I have been instructed by Mr D Lewis to undertake a tree survey to assist with a planning application for an ancillary building at 9 Bridewell Close in North Leigh.

Scope

1.2 The scope of this instruction has been to:

- Complete a tree survey of all trees within the development area and trees that are within 15m of the development boundary that could be affected by any works associated with the proposal. The tree survey is to be carried out in accordance with the recommendations laid down by BS5837:2012 *Trees in relation to design, demolition and construction – Recommendations* ('BS5837').
- Prepare a schedule of all recorded trees and a plan of tree constraints to assist the design team understand constraints arising from trees to any development scheme.
- Provide advice to the design team on tree related issues including avoidance, mitigation and compensation measures.
- Prepare the required reports and plans to accompany a full planning application to West Oxfordshire District Council (WODC) (the local planning authority (LPA)) for the proposed development.

1.3 The tree survey was to be conducted in accordance with the guidance provided in BS5837 (2012) *Trees in relation to design, demolition, and construction - Recommendations* ('BS5837').

1.4 All plans and reports following the tree survey were also to follow the recommended processes defined in BS5837 and any other industry advice that provides best practice guidance for managing the relationship between trees and construction processes.

Site Description

1.5 9 Bridewell Close ('the Site') is located on the northern side of the village of North Leigh and is adjacent to the intersection where Bridewell Close forks into two. The Site is roughly centred at OS Grid Reference SP385132 and around postcode OX29 6TR. An image of the Site in Plate 1 shows the extent of the project boundary.



Plate 1: 9 Bridewell Close (indicative site boundary in red) (Source: Google Maps, 20.09.22)

1.6 The Site consists of a residential property with rear garden and off-street parking on the southeast side. There are mature trees and a hedgerow along the eastern boundary.

Caveats and Limitations

1.7 While all reasonable efforts have been made to identify the condition and quality of the trees on site, the statements made in this report and schedules do not take into account the effects of extreme weather events, vandalism or accidents, or changes to the site that may affect trees that have taken place since the date of the survey.

1.8 I can confirm that the survey has been undertaken in accordance with industry best practice recommendations and guidance, but no warranty is provided in relation to changes to the site that occur after the date of the survey that may have an impact on the tree stock present at the time of the survey.

1.9 Unless stated differently in captions, all photographs used in this report have been taken by the author at the time of the site visit.

1.10 The comments and observations made within this report will cease to be valid either within two years of the date of the survey (unless specifically stated elsewhere within the report), or when site conditions change or any works to trees take place that have not been specified within this report, whichever is the sooner.

1.11 The survey has been undertaken without the benefit of a topographical survey. The location of all trees and groups detailed in this report have been recorded using the inbuilt GPS of a Samsung Galaxy Tab 10.1. No warranty is given as to the accuracy of this data and tree positions on attached drawings should be treated as indicative only.

- 1.12 This survey has been limited to identifying arboricultural features within the Site. It does not include any ecological assessment or landscape appraisal of trees, groups, woodlands or hedges beyond the scope of BS5837.
- 1.13 Although I am occasionally involved in landscape, ecological and legal issues, I have no formal qualifications in these areas and any comments made in this report to such matters are limited to the general context in view of my familiarity through my day-to-day work, and professional advice should be obtained on these matters where required.
- 1.14 This report relies on the following documents and plans that have been provided by third parties:

Document Name	Document Reference	Prepared By	Supplied Date
Proposed Layout	Proposed Garage (1A & 2A)	Phillip Smith (Architect)	12.09.22

2. TREE SURVEY AND CONSTRAINTS

Tree Survey

- 2.1 I carried out the tree survey on 2nd August 2022. I was accompanied by Mr D Lewis during the survey.
- 2.2 The conditions at the time of the survey were clear and bright and visibility was unimpeded.

Tree Survey Methodology

- 2.3 The survey has been carried out in accordance with the recommendations laid down by BS5837 and has been limited to a ground based visual inspection of each recorded tree.
- 2.4 The information collected during the survey has been used to assist in the design of the site. This report includes:
 - A schedule of the relevant trees to include base line data and quality assessment; and
 - A plan showing the extent of constraints presented by the exiting tree stock (herein after referred to as a Tree Constraints Plan (TCP)) that provides illustrative information on the constraints, for consideration during the design of the site.
- 2.5 The purpose of the tree survey has been to provide an assessment as to the quality and non-fiscal value of the trees on Site. This then allows guidance to be given to the design team to inform the site design and layout.

General Data Capture

- 2.6 For reference, individual trees are identified with the letter T and associated number on the Tree Schedules and on a plan showing the extent of tree constraints. The stem diameter of all surveyed trees were recorded using a rounded down diameter tape at 1.5m above ground level, where access was possible. Where access was not possible the measurement has been estimated and noted as such in the schedule. Measurements were taken in millimetres and have been rounded up to the nearest 10mm.
- 2.7 The height of the subject trees was estimated to the nearest metre.

- 2.8 Maximum crown spread of the subject tree was measured from the edge of the trunk to the tips of the live lateral branches taken at four compass points (N-E-S-W) using a Leica Disto digital laser measure. Crown spread measurements were taken in metres, and have been rounded up to the nearest 0.5m.
- 2.9 Tree age was estimated from visual indicators (such as tree size and appearance of bark) which is provided as a provisional guide.
- 2.10 If direct access to a tree was not possible, estimations from appropriate vantage points were taken. Any limitations or estimations are presented within the survey limitations section and noted in the associated schedules.

Categorisation

- 2.11 In compliance with Table 1 of BS5837 the trees surveyed have been categorised according to their arboricultural quality and value (non-fiscal) which is summarised below in Table 1.

Table 1 - Summary of BS5837 categorisation colours

Category	Colour	Description
A	Green	Trees of high quality with an estimated remaining life expectancy of at least 40 years
B	Blue	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years
C	Grey	Trees of low quality with an estimated remaining life expectancy of at least 10 years
U	Red	Those trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years

Above Ground Tree Constraints

- 2.12 The above ground constraints posed by canopy spread are plotted as a continuous line around the tree, with the extent of the canopy spread hatched in the corresponding BS5837 retention category colour.

Root Protection Area

- 2.13 The Root Protection Areas (RPA) of the trees were calculated in accordance with Section 4.6.1 in BS5837. This is calculated from the measurement of the stem diameter as recorded in the tree schedule attached to this report and are plotted on the TCP with a magenta line with the text 'RPA' inscribed.
- 2.14 The RPA forms the initial Construction Exclusion Zone (iCEZ) to protect the trees within and adjoining the Site. The shape and size of RPAs can be amended in accordance with Section 4.6.3 of BS5837. No RPAs have been amended.
- 2.15 The default position should be that there is no development within the RPA of retained trees. However, where there is an overriding need for construction and associated activity with the RPA of trees arboricultural mitigation should take place to protect the trees.

Quality Assessment

2.16 A summary of my assessment on the quality of the trees is presented in Table 2.

Table 2 - Summary of tree quality on site

	Category A	Category B	Category C	Category U	Total
Trees	0	2	0	1	3
Hedges	0	0	1	0	1
Total	0	2	1	1	4

2.17 None of the recorded trees have been identified as either ancient or veteran specimens.

3. OTHER CONSTRAINTS

Soils

- 3.1 Paragraph 4.3 of BS5837 recommends that a soil assessment be completed by a competent person to inform decisions relating to the RPA, tree protection, new planting design and foundation design. I am not able to provide this assessment as I have no formal qualifications in this area, and professional advice should be taken to provide any detailed reports.
- 3.2 However, generic soil data is freely available from online sources such as the Geology of Britain viewer¹ which can provide a broad indication of the underlying geology of a site. The results of a search for this Site describes the geology as being Oxford Clay Formation and West Walton Formation - Mudstone, a soil type described as being a slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soil².
- 3.3 This may weather to produce a shrinkable soil and may influence species choice for any new planting.

Statutory Considerations

- 3.4 The Site is located within the boundary of WODC. The LPA has a statutory obligation to ensure that provision is made for the protection of trees, through section 197 of the Town and Country Planning Act (1990). The principal form of protection comes through trees being subject to a Tree Preservation Order or being located in a conservation area. A search has been undertaken on the WODC website to determine the presence or otherwise of TPO or Conservation Areas.
- 3.5 The results of the search reveal that the Site is not located within a conservation area.
- 3.6 The online search does not provide conclusive information on TPOs, but Mr Lewis provided confirmation that a group of trees are subject to a Tree Preservation Order (WODC Ref: TPO/NO.12/1988). This group consists of two sycamore and one Norway maple.
- 3.7 To avoid ambiguity, these trees are recorded as T1 (Norway maple), T2 (sycamore) and T3 (sycamore) within this assessment.

¹ <http://mapapps.bgs.ac.uk/geologyofbritain/home.html?>

² <http://www.landis.org.uk/soilscapes/>

4. NATIONAL AND LOCAL PLANNING POLICIES

National Planning Policy Framework 2021

- 4.1 National Planning Policy is currently defined by the National Planning Policy Framework (NPPF). This provides the most current and up to date planning guidance.
- 4.2 At the heart of the NPPF is a presumption in favour of sustainable development, and specifically states that for decision making, the LPA should be approving development proposals that accord with the development plan without delay.
- 4.3 Section 12 of the NPPF recognises the importance of integrating trees into urban environments as part of achieving well-designed places. While the primary focus is on new tree planting, the importance of retaining existing trees and incorporation into proposals is a driving factor, stating that:

“Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users.” (Paragraph 131)

- 4.4 In addition, Section 15 of the NPPF recognises the importance of conserving and enhancing the natural environment, and specifically acknowledges the role of trees and woodland in the provision of natural capital and ecosystem services.

“Planning policies and decisions should contribute to and enhance the natural and local environment by:

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;” (Paragraph 174)

- 4.5 It further acknowledges the importance of ancient woodlands and veteran trees for habitats and biodiversity and requires that planning consent should be refused where development schemes require the removal of such features unless there are wholly exceptional reasons, stating that:

“development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.” (Paragraph 180, c)

Local Planning Policy

- 4.6 The LPA has a statutory obligation to ensure that provision is made for the protection of trees through section 197 of the Town and Country Planning Act (1990).

- 4.7 WODC has prepared local planning policies that are presented in the Local Plan 2031. The policies that need to be met in relation to trees are detailed in Table 3.

Table 3 - Local Planning Policies in relation to trees

Policy	Name	Description (summarised)
EH2	Landscape Character	<p>The Local Plan recognises the importance of woodlands, groups of trees, individual trees and hedgerows and the fundamental contribution they make to the landscape and character of West Oxfordshire, as well as having their own intrinsic beauty and value. This Policy seeks to ensure that these existing natural features and their settings are protected, managed and, where appropriate, supplemented by new planting of local native species.</p> <p>Proposals which would result in the loss of features, important for their visual, amenity, or historic value will not be permitted unless the loss can be justified by appropriate mitigation and/or compensatory measures which can be secured to the satisfaction of the Council.</p> <p>Conditions may be imposed on development proposals to ensure every opportunity is made to retain such features and ensure their long-term survival through appropriate management and restoration.</p>
EH3	Biodiversity & Geodiversity	<p>This policy seeks to protect and achieve a net gain in biodiversity (BNG). It recognises the role that trees and green infrastructure (GI) offer to biodiversity and therefore requires that any development must avoid loss, deterioration or harm to locally important wildlife and geological sites and sites supporting irreplaceable habitats (including ancient woodland, Plantations on Ancient Woodland Sites and aged or veteran trees), UK priority habitats and priority species, except in exceptional circumstances where the importance of the development significantly and demonstrably outweighs the harm and the harm can be mitigated through appropriate measures and a net gain in biodiversity is secured.</p>
EH4	Public Realm and Green Infrastructure	<p>Given the valuable contribution trees and woodland make to the character of West Oxfordshire, tree planting and woodland creation should be an important component in protecting, reinforcing and expanding the green infrastructure network.</p>
EH9	Historic Environment	<p>While this policy contains no specific reference to trees it does require that all development proposals should conserve and/or enhance the special character, appearance and distinctiveness of West Oxfordshire's historic environment, including the significance of the District's heritage assets. Veteran, Ancient and Heritage trees can make a significant contribution to the Historic Environment and therefore should be considered as a constraint.</p>

5. DEVELOPMENT PROPOSAL

5.1 The proposed development is for minor alterations to an existing driveway and construction of a new double-bay garage.

6. ARBORICULTURAL IMPACT ASSESSMENT

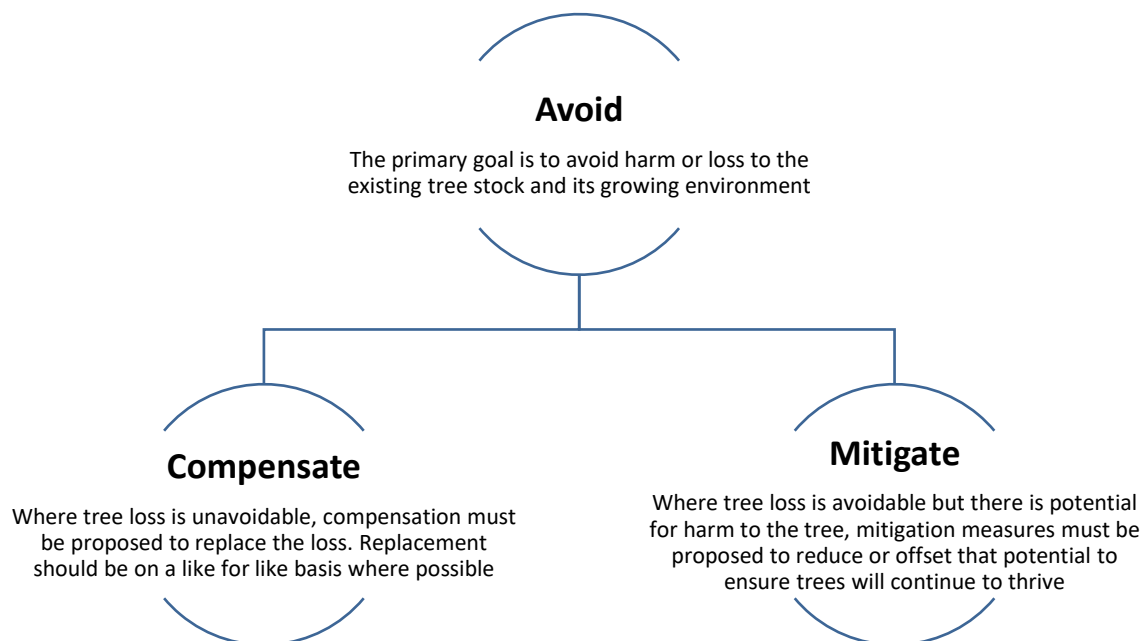
6.1 Development can have an adverse impact on trees and other woody vegetation within a site, which can result in:

- i. Immediate tree removal to facilitate the footprint of a new development;
- ii. Potential future tree loss through the early decline of trees due to soil compaction or damage;
- iii. Root disturbance and damage within a tree’s rooting area; and
- iv. Canopy removal or damage due to plant movement.

6.2 Best practice guidance proposed by the arboricultural sector seeks to ensure that there is a harmonious relationship between trees and development that will ensure that both trees and structures can be retained in the long term³.

6.3 Where practical, development should seek to work with the natural environment, and development schemes that might result in harm should follow a mitigation hierarchy to ensure harm is minimised.

6.4 To assist the planning decision makers, this scheme should use the following mitigation hierarchy to consider the influence that trees might have on site design while also continuing to make a positive contribution to the site and local character of the area, both during and post development:



³ BS5837 (2012) Page 1

6.5 The impact of any tree loss is assessed against a criterion in relation to the arboricultural significance of the loss, the detail of which is provided in Table 4. This table is not related to the quality categories provided in BS5837 but has a closer relationship to the sub-categories through assessing the impact that tree loss may have at the Site and its setting in the wider locality. This assessment is also useful in considering the impact of any potential loss against planning policy.

Table 4 - Impact Assessment definitions

Scale of Impact	Definition
Major	<p>Total loss or major/substantial alteration to key trees/features of the baseline (pre-development) conditions such that the post development character or composition will be fundamentally changed.</p> <p>This would generally apply to tree(s) that are of exceptional or high quality and condition and their loss would be irreplaceable. This would also include trees that have been categorised as being Ancient or Veteran, trees are rare examples of their species and or trees that offer significant amenity value to the character and setting of the area.</p>
Moderate	<p>Loss or alteration to one or more key trees/features of the baseline conditions such that post development character or composition of the baseline will be materially changed.</p> <p>This would generally apply to tree(s) that are of good quality and condition and make a notable contribution to the setting or character of the locality (visual amenity). This may include trees that would be hard to replace but for which there could be some mitigation over a medium timeframe (20-40 years).</p>
Minor	<p>A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character or composition of the baseline condition will be similar to the pre-development circumstances/situation.</p> <p>This would generally apply to tree(s) that are of low quality and condition and/or their loss would have low impact on the locality. These trees would be relatively easy to replace within a short timeframe (10-20 years).</p>
Negligible	<p>Very little change from baseline conditions with any change barely distinguishable.</p> <p>This would generally apply to tree(s) that are of low quality and condition, and/or their loss would barely be noticeable. Any replacement planting would offer an improvement to the setting of the site in a very short time frame (1-10 years)</p>
No Change	<p>There is no change to the baseline conditions to trees from the development proposal.</p>

Tree Loss

- 6.6 The proposed development will result in the removal of approximately 5m of one hedgerow (H4).
- 6.7 This removal is proposed to facilitate the widening of the driveway where it connects to the new garage to facilitate vehicular access. The length proposed for removal is on the north side of the existing driveway (see Plate 2 below).

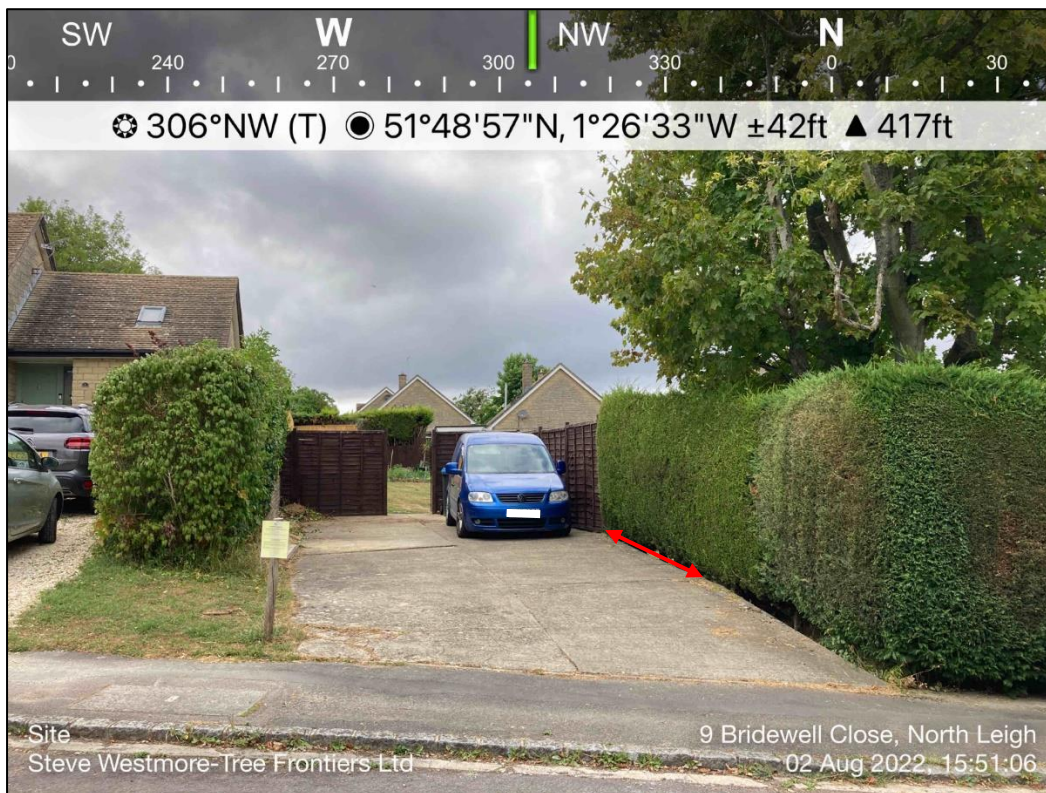


Plate 2 - Indicative section of hedgerow to be removed (between red arrows)

- 6.8 The remainder of the hedgerow adjacent to Bridewell Close will be retained. As such, the removal of a small section of this hedgerow will have negligible impact on the immediate site or wider community.

Tree Retention

- 6.9 The remaining trees within the Site will all be retained through the development.
- 6.10 The primary form of protection will come through the use of fencing which will form a barrier, behind which there will be no access for construction machinery, materials or personnel. This area will be the defined CEZ which has been marked on a draft Tree Protection Plan.
- 6.11 The general principles of tree protection are provided below. These principles will be adopted by the construction contractor and will be adhered to throughout the development process.

Tree Pruning

- 6.12 There is no requirement for any tree pruning works to facilitate either access, construction space or the new development.

- 6.13 The boundary hedgerow (H4) may require trimming in order to ensure there are no conflicts with the necessary working space for the driveway widening. This hedgerow has been regularly maintained through trimming and these works are considered part of good management and will not have a negative impact on either the amenity quality or longevity of this boundary feature.

Development Impacts within the Root Protection Area

- 6.14 One tree (T1) will have the RPA encroached through the footprint of the new garage and driveway widening. The total area encroached is approximately 9m² and this equates to 6% of the total RPA area.
- 6.15 A large proportion of the RPA of this tree resides beneath the existing driveway and this surface will be retained to minimise further disruption.
- 6.16 The Root Protection Area (RPA) is defined in BS5837 as being a *“layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure is treated as a priority”*. It is an estimation of the area of the root system that would need to be retained to sustain the current and future condition of the tree if all the other roots outside it were to be severed. The RPA is assumed to hold between ⅓ to ½ of the total area occupied by roots from a tree, and paragraph 5.3.1 of BS5837 clearly suggests that *“If operations with the RPA are proposed, the project arboriculturist should demonstrate that the tree(s) can remain viable and that the area lost to encroachment can be compensated for elsewhere contiguous with its RPA.”*
- 6.17 The total RPA for T1 at this site is 150m² and taking into account that this is only holding between ⅓ to ½ of the total rooting area (TRA), it means that the TRA is between 225 – 260m². This proposed development will result in the encroachment of 9m² of the RPA while the rest of the TRA will be protected from potential harm by the use of fencing. As such, over 215m² of the TRA will be unaffected by the proposal, a considerable larger area than required by the RPA of 150m².
- 6.18 It is noted that this tree is of poor arboricultural quality, exhibiting physiological and structural decline. The proposed development and loss of a very small part of the rooting area is unlikely to significantly alter the rate of decline for this tree, the remaining useful life expectancy of which is determined by natural factors rather than this development. As such, no specific mitigation measures are proposed and the area to the north of this tree provides sufficient space to accommodate future root growth from minor disturbance as a result of this proposal.
- 6.19 However, in order to minimise the potential ground disturbance compaction and harm to the rooting area, a temporary ground protection system of a load-bearing surface is recommended.
- 6.20 A load-bearing surface helps to minimise the extent of compaction of the underlying soil. Compaction can significantly alter the soil structure which may hamper the ability of the tree’s root system in gaseous exchange, as well as water and nutrient absorption. These are vital to maintain the trees physiological condition. Provided these measures are installed correctly and maintained throughout the construction programme the potential impact to this tree is considered negligible.

Principles of Tree Protection

- 6.21 All construction activities have the potential to cause harm to the retained trees on site. It is therefore necessary that measures are employed across the site to limit the potential for such harm and prevent any long-term negative impacts on the trees.
- 6.22 A Preliminary Arboricultural Method Statement is included at Appendix 1 of this report which provides generic details on what protective measures are required, how they will be implemented and what supervision is required to ensure that the measures remain in place and fit for purpose. It has been prepared to inform the planning and the construction/development process.
- 6.23 The following principles for the protection of retained trees will be adopted across the site for the duration of the project:
 - All retained trees will be protected by fencing that will form the CEZ.
 - Where fencing cannot provide the necessary protection measures, alternative systems will be installed that will ensure retained trees are protected. This may include the use of either temporary or permanent ground protection.
 - There will be no storage of materials, or access for construction workers or machinery within any CEZ.
 - There will be no excavation within a CEZ. All utilities and underground services will be located outside the CEZ or tap into existing service routes.
 - Any storage or mixing station located outside of a CEZ will be located in a place that minimises the risk of contaminated runoff entering the CEZ and damaging the rooting environment. This may be achieved by using a non-permeable membrane on the ground, surrounded by sandbags to contain any spillage.
 - There will be no fires within a CEZ.
 - There will be no use of herbicides within a CEZ.

7. PLANNING POLICY ASSESSMENT

7.1 A review of impact of tree loss in relation to national and local planning policy is provided in Table 5.

Table 5: Review of planning policy

Policy	Summary	Review
National Planning Policy		
Para 131	Street tree planting and choosing the right tree for the right place	This scheme is for alterations to a driveway and provision of an ancillary building and therefore this policy is not applicable to this scheme.
Para 174	Ecosystems services, recognising the importance contribution trees make to	A small section of hedgerow is proposed for removal, with the remainder being retained and protected. In addition, all trees within the site are being retained.

Policy	Summary	Review
	the natural and local environment	
Para 180	Protection of ancient/veteran trees and ancient woodland	No ancient or veteran trees, nor ancient woodland, were identified as part of the survey. Therefore, the scheme does not conflict with national planning policy.
Local Planning Policy		
EH2	Conserve and enhance the intrinsic character of natural local landscape features (including trees)	A small section of hedgerow is proposed for removal, with the remainder being retained and protected. Due to the location of the removed section, it will have negligible impact on the immediate site or wider community. In addition, all trees within the site are being retained.
EH3	Enhance and protect key biodiversity and geodiversity assets (including ancient and veteran trees, and ASNW)	No ancient or veteran trees, nor ancient woodland, were identified as part of the survey. Therefore, the scheme does not conflict with national planning policy.
EH4	Protecting and enhancing public realm and green infrastructure	Those trees that are subject to TPOs and make a positive contribution to the public realm will be retained and protected. In addition, the majority of the boundary hedgerow will also be retained.
EH9	Protection of heritage assets (including ancient and veteran trees)	No ancient or veteran trees, nor ancient woodland, were identified as part of the survey. Therefore, the scheme does not conflict with national planning policy.

8. CONCLUSION

- 8.1 The proposed development is for partial widening of an existing driveway and construction of a new two-bay garage.
- 8.2 National and Local Planning Policy has formed a critical part of the design process and a tree survey has been undertaken to provide guidance to the design team as to the constraints presented by trees.
- 8.3 The site has been designed to minimise tree loss, with removal limited to a small section of a boundary hedgerow.
- 8.4 No tree pruning is require to facilitate this proposal.
- 8.5 Tree protection measures in the form temporary ground protection and tree protective fencing is required to ensure that retained trees remain free from harm.
- 8.6 This application is considered compliant with planning policy, insofar as it relates to trees.

9. ABOUT THE AUTHOR

- 9.1 I am a director of Tree Frontiers Ltd and a chartered arboricultural consultant, with a masters degree in urban forestry and arboriculture from Myerscough College, accredited by the University of Lancaster.
- 9.2 I have 9 years' experience working in the sector and am a chartered member of the Institute of Chartered Foresters. I am also a professional member of the Arboricultural Association and abide by the code of ethics and professional standards of these institutions.

10. REFERENCES

10.1 This report has relied upon the following external reference sources:

- British Standards Institution (2012) BS5837: *Trees in relation to design, demolition and construction – recommendations*. London: BSI
- Gov.uk (2021) *National Planning Policy Framework*. [Available online: <https://www.gov.uk/government/publications/national-planning-policy-framework-2>]
- West Oxfordshire District Council (2022) *Conservation Area Search* [Available online: <https://www.westoxon.gov.uk/planning-and-building/historic-buildings-and-conservation/conservation-area-maps/> (Accessed 20.09.2022)]
- British Geological Society (2022) *Geology of Britain Viewer*. [Available online: <http://mapapps.bgs.ac.uk/geologyofbritain/home.html?> (Accessed: 20.09.2022)]
- Cranfield Soil and Agrifood Institute (2022) *Soilscapes* [Available online: <http://www.landis.org.uk/soilscapes/#> (Accessed 20.09.2022)]

11. APPENDIX 1 – PRELIMINARY ARBORICULTURAL METHOD STATEMENT

Overview

- 11.1 This Preliminary Arboricultural Method Statement (AMS) provides best practice measures to be adopted protect retained trees during the development process. It has been prepared to inform the planning and the construction/ development process.
- 11.2 The document also provides details of general measures required to protect retained trees from potentially harmful activities such as the construction of hard surfaces within the RPA.

Tree Removals

- 11.3 The hedgerow section for removal have been noted on the AIP with a red circle.
- 11.4 Great care should be taken during the tree removal process to ensure that retained trees are not adversely impacted. The following methodology should be adhered to at all times:
- Any machinery used during the tree removal process be sited outside the RPA of retained trees.
 - The felling of trees will be undertaken to avoid damaging retained trees.
 - Where the removal of stumps of felled trees is required, great care will be taken to ensure any retained trees in close proximity remain free from harm.
- 11.5 All works will be conducted by a suitably qualified arborist working in accordance with BS3998:2010 *Tree Work – Recommendations*.

Remedial Tree Works

- 11.6 No facilitation tree works are proposed. Should these be required, the necessary permissions will be obtained from the Local Planning Authority before works commence will be carried out by a suitably qualified arborist working in accordance with BS3998:2010 *Tree Work – Recommendations*.

Protection of Retained Trees

- 11.7 Where practical all retained trees will be protected through the construction phase using barriers to limit the potential for harm from machinery, materials or personnel.
- 11.8 The primary form of protection is the use of fencing around the trees to prevent access within a protected buffer zone. This buffer zone is a Construction Exclusion Zone (CEZ) and there will be no access within it during the construction phase.

Tree Protection Fencing

- 11.9 Protective fencing will be erected around retained trees prior to the commencement of any site works including mobilisation of machinery and materials.
- 11.10 The location of the fencing has been marked on the TPP prepared for this AMS. This is shown as a black dashed line, and the CEZ has been highlighted as orange hatching behind the fencing.
- 11.11 The appropriate form of fencing for this project will be wire mesh panels that will be supported on the ground by a rubberised foot that will in turn be pinned to the ground using metal stakes

driven a minimum of 500mm into the ground. An example of the fencing panel construction is provided in Plate 3 below.

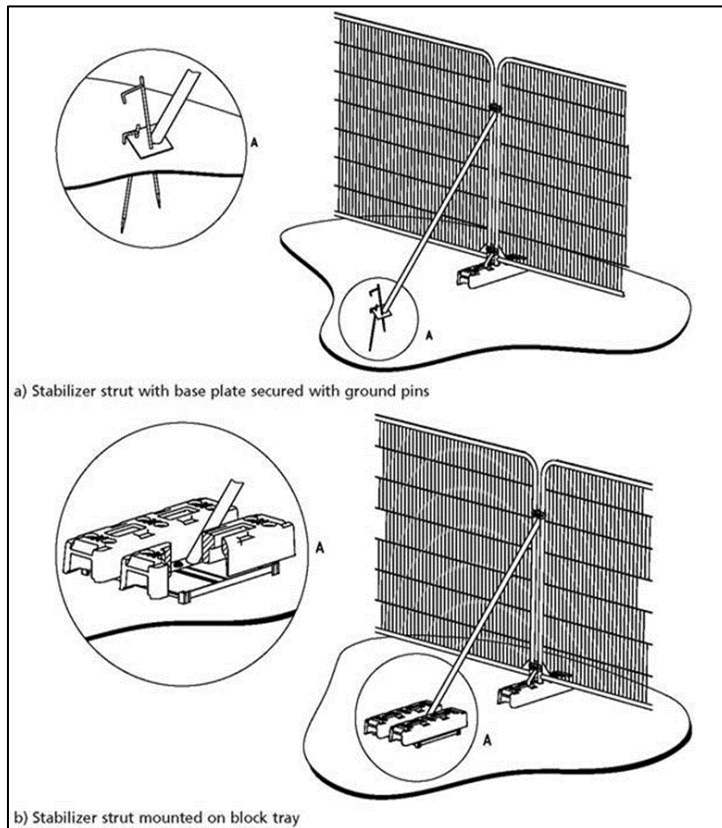


Plate 3 Tree protection fencing specification (extract from BS 5837: 2012)

11.12 Weather-proof notices shall be attached to any protective fencing located adjacent to retained trees displaying the words “Construction Exclusion Zone” and listing restrictions which apply. All personnel must be made aware of these restrictions. An example of a suitable sign for the fencing is provided in Plate 4.



Plate 4: Example of Tree Protective Fencing sign

Construction Exclusion Zone (CEZ)

11.13 The CEZ is the area identified by the Project Arboriculturist as the area to be protected during development from Site clearance and construction work through the use of barriers and/or ground protection to ensure the successful long-term retention of a tree. Fencing or ground protection shall not be taken down or relocated at any time without prior agreement and/or Site supervision as recommended by the Project Arboriculturist.

11.14 All areas excluded by protective tree fencing shall be treated as CEZs and the following restrictions shall apply:

- No construction activity can occur within these areas.
- No works on trees unless agreed by the Project Arboriculturist.
- No alterations of ground levels or conditions.
- No chemicals or cement washings.
- No excavation.
- No temporary structures.*
- No storage of soil, rubble or other materials.
- No vehicles or machinery to be used or parked without appropriate ground protection measures as per BS5837 recommendations. This will require the use of a proprietary system of reinforced concrete slabs/steel road plates on a compressible layer, or side butting scaffold boards/ 18mm plywood sheets on a compressible layer. The type of ground protection used shall be appropriate for the potential loading applied.
- No fixtures (*lighting, signs etc.*) to be attached to trees.
- No fires within 10 metres of the canopies of any tree or hedgerow.

*Site huts, provided they are of the “Jack Leg” type, can be sited to act as ground protection for the duration of the construction.

Temporary Ground Protection

11.15 New temporary ground protection should be capable of supporting any traffic entering or using the Site without being distorted or causing compaction of underlying soil. The ground protection might comprise one of the following:

- **For pedestrian movements only** a single thickness of scaffold boards placed either on top of a driven scaffold frame so as to form a suspended walkway or on top of a compression-resistant layer (*e.g. 100 mm depth of woodchip*) laid onto a geotextile membrane;
- **For pedestrian-operated plant up to a gross weight of 2t** proprietary inter-linked ground protection boards placed on top of a compression-resistant layer (*e.g. 150 mm depth of woodchip*), laid onto a geotextile membrane;

- **For wheeled or tracked construction traffic exceeding 2t gross weight**, an alternative system (*e.g. proprietary systems or pre-cast reinforced concrete slabs*) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the potential loading to which it will be subjected.

11.16 Where temporary ground protection is required, this has been marked on the TPP with a yellow hatching.

General Canopy Protection

11.17 Since the canopies of retained trees may be in close proximity to areas of plant operation, the following restrictions will apply:

- All plant will be sited outside the defined RPAs of retained trees / groups, and the appointed contractor will ensure all relevant personnel shall be made aware of the location of branches and the need to avoid causing damage to them.

11.18 Should additional tree removal or pruning be required the LPA Tree Officer shall be contacted and the scope of works agreed in writing.

Hazardous Materials

11.19 Any mixing of cement-based materials is to take place outside the RPAs of all trees. Provision shall be made to ensure that the mixing area is contained so that no water runoff enters the RPA of any trees. All mixers and barrows shall be cleaned within this dedicated mixing area.

11.20 All other chemicals hazardous to tree health, including petrol and diesel, are to be stored in suitable containers as specified by the Control of Substances Hazardous to Health (COSHH) Regulations (*HMSO, 2002: The Control of Substances Hazardous to Health Regulations 2002*), and kept away from the RPAs.

Contractor compound, site huts and welfare units.

11.21 The contractor's compound, including all site huts, storage and welfare units, will be located outside the CEZ of retained trees.

Post Development

11.22 No fencing or other protective measures will be moved, dismantled or taken off site until the Project Arboriculturist has confirmed that all machinery has been removed from the site and any construction activity that could cause harm to retained trees has been completed.