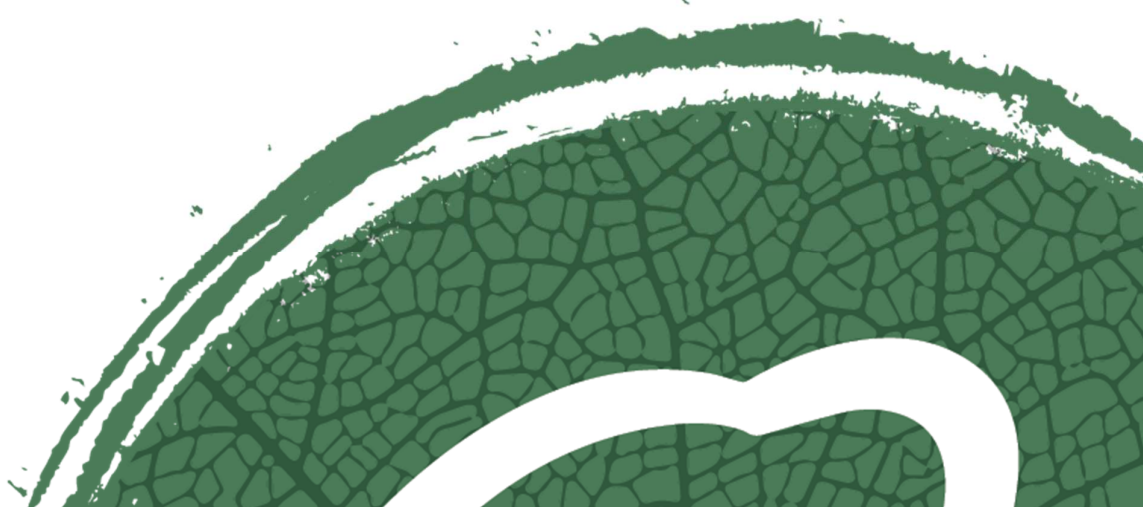




bawden
tree care

**BS5837:2012 Trees in relation to
demolition, design and construction
Report**

1 Orchard Cottage, London





BS5837 Report 2024-3378

1 Orchard Cottage, Clarence Road London

Instructed By: Ravjeet Virdee

Company Name: Architect (UK) Ltd

Survey Address: 1 Orchard Cottage
Clarence Road
London
N22 8PL

Prepared by: Michael Clements

Date: 02/09/2024

Reference: 2024-3378

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Bawden Tree Care

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Appendix A – Tree Inventory

Appendix B – Site Plan Showing RPA's and Approximate Crown Spread & Constraints Plan

Appendix C – Tree Protection Plan

Introduction

1. On receiving instructions from Ravjeet Virdee, of Architect (UK) Ltd, Michael Clements, Arboricultural Surveyor for Bawden Tree Care, undertook a ground level, visual assessment of the tree that could be affected by the proposed development in accordance with BS5837 2012, and best practice, and to prepare the following to accompany the planning submission:-
2. A schedule of the relevant trees to include survey data and a condition assessment.
3. An appraisal of the constraints imposed by the trees and the potential consequences for the local amenity.
4. An Arboricultural Method Statement setting out appropriate protective measures and management for trees to be retained.
5. Each tree has been given a class rating and Root Protection Area (RPA) measurement worked out using the recognised method detailed within BS5837 2012. BS5837 2012 Tree Quality Assessment Definitions are given in the Arboricultural survey summary section of this report.
6. For the purposes of this survey, a drawing of the site, adapted from drawing No. 20.0230-A-PL-DR-XX-PL02 rev C supplied by Ravjeet Virdee of Architect (UK) Ltd has been included to show tree locations, IDs, categories, and locations of required protective measures, (see Appendix D).
7. All trees of material consideration within and immediately adjacent to the proposed development site have been inspected. These trees are listed at Appendix A and annotated on the Tree Plan at Appendix C.

Methodology

8. The Arboricultural site survey was carried out on the 6th of August 2024. Weather conditions at time of inspection were cloudy but dry for the period of inspection.
9. All observations were carried out from ground level without detailed investigations. Tree stem diameters, tree height and crown spread have been measured unless otherwise indicated.
10. This report is prepared in line with the British Standard: BS5837:2012 - Trees in Relation to Demolition, Design and Construction. The purpose of the report is to provide Arboricultural information and recommendations for the support of the proposed development at 1 Orchard Cottage, Clarence Road, London, N22 8PL.
11. The British Standard makes provision for trees to be categorised for both quality (A, B, C or U) and a sub-category for each of 1, 2 or 3. Details of these categories are included in paragraphs 2.7
12. A full description of the trees found, and their categories, is included in the tree survey data provided in Appendix A. The data table includes stem diameter measured from 1.5m above ground level for single stemmed trees, stem diameter measured above root flare for multi-stemmed trees, height, crown spread, age class, and physiological and structural condition. A tree quality assessment using the data is then formulated to categorise trees for removal or retention.
13. Stem diameters are used to calculate the root protection areas (RPAs), which have been plotted and adjusted for site features, (see Appendix B). The RPA is the area in which most tree roots are anticipated to be growing. As root damage is a common cause of tree loss, the RPA is an area of provisional exclusion for construction activity.
14. Trees are a material consideration in the planning process and, as such, must be included as part of the decision-making process.

Caveats and Limitations

15. The purpose of this report is to determine any constraints that need to be considered in relation to trees – both above and below ground – during the development design, to assess the potential impact of the development to the amenity value of trees, and to provide an Arboricultural Method statement with Tree Protection Plan in order to minimise, as far as is practical, damage to trees and their rooting systems.
16. Only trees with diameters greater than 75mm diameter and woodland groups with stems of 150mm or greater are included in the survey.
17. Root protection areas are calculated in line with BS5837:2012 and are adjusted to reflect topographical constraints on site. This is based on professional experience and has not been confirmed by trial pitting. There is a level of unpredictability in calculating exact tree root locations and therefore, where there is a possibility of obstruction or damage to roots, trial holes are recommended prior to construction.
18. The Arboricultural Method Statement outlined in section 5 of this report must be agreed with planning before the commencement of any works.
19. Trees are living organisms whose health and overall condition can change rapidly. The conclusions and recommendations contained within this report are valid for a period of twelve months. The period of validity may be reduced if significant changes occur to either the trees or to the landscape within the immediate proximity of the trees.

Report Summary

The report has been written following the recommendations and guidance given within British Standard 5837 (2012), Trees in relation to design, demolition, and construction. To provide a reasoned assessment of the potential impact to trees by the proposed development at 1 Orchard Cottage, Clarence Road, London, N22 8PL.

17 Trees/groups to be retained have been identified which may be adversely affected by development, if reasonable care is not taken to protect the trees and their rooting systems.

1 shrub, 1 small Palm tree and 1 stump have been identified for removal to facilitate the development.

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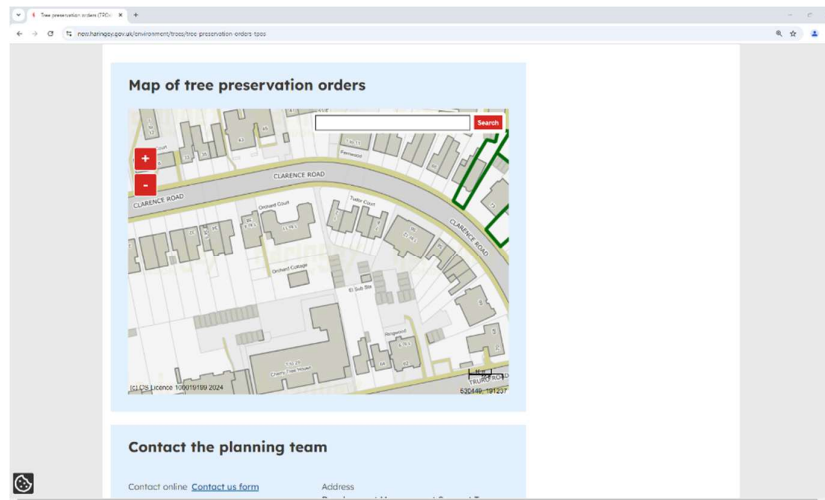
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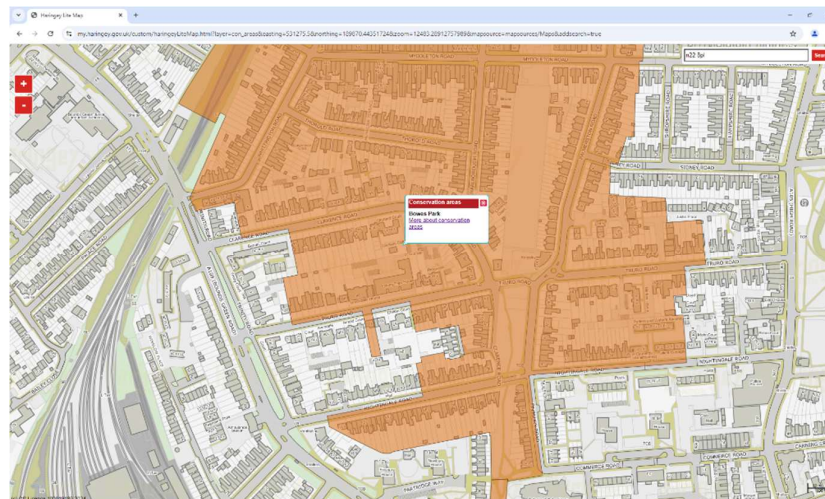
Arboricultural Survey Summary

Site Overview

The proposed development site is a small rectangular plot of land adjoined by private residential properties on all sides. The site is accessed by the shared access footpath which runs down the east side of Orchard court. One building currently exists, a small dwelling, located in the middle of the site. With the exception of 2 small trees, all trees within influencing distance of the proposed development are third party trees located just outside the site boundaries. The topography of the site is predominantly level grassed areas surrounding the one central building.



There are no TPO's within the proposed site, as confirmed via the Haringey Council interactive TPO map, screenshot inserted above.



The Proposed site is located within the Bowes Park conservation area, as confirmed via the Haringey Council online interactive map, screenshot inserted above.

Reasonable care should always be taken not to damage trees that are to be retained.

Arboricultural survey

For tree survey information, see the Tree Survey Data in Appendix A.

Smaller trees and understory vegetation adjacent to the site have not been included as part of this Arboricultural report.

Trees are categorised in line with BS5837:2010 Trees in relation to design, demolition and construction as follows:

Table 1: Tree categories in line with BS5837:2010

A	Trees of high arboricultural value that should be retained and protected throughout the development. Veteran trees are automatically awarded 'A' status.
B	Retention preferable. Trees of good condition and character which are appropriate for the location and in good physiological and structural condition. These trees should be retained unless they will be a severe impediment to the proposal or there is an overriding public interest that warrants their removal.
C	Trees of generally lower arboricultural value by dint of character or condition. 'C' trees should not be a constraint on development.
U	Trees that should be removed on arboricultural grounds. Often trees in poor condition can be left 'in situ' until a proposal means the potential target increases, making their removal more urgent or necessary.

Trees are further categorised into sub-categories, using a numerical suffix to denote the following perceived values:

Table 2 Tree sub-categories in line with BS5837:2010

1.	Trees of primarily arboricultural qualities. High value trees might be because they are particularly good examples of their species, because they are rare or unusual or because they are important components of a group feature such as an avenue.
2.	Trees of landscape importance – for example, trees of particular visible importance in a setting or view.
3.	Trees of cultural value. This may be due to historic links or conservation value – such as veteran trees or commemorative trees.

For example, a veteran tree of landscape importance would be categorised as A2.

An overview of details of the trees surveyed is included in Appendix A – Tree Inventory.

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The Proposal

Demolition of existing dwelling and construction of 4 adjoined mews houses.

Tree Impact Assessment

Trees to be retained adjacent to the development area, are unlikely to be adversely affected, provided that adequate precautions to protect the trees are implemented through the Arboricultural Method Statement outlined in section 5 of this report.

The proposal has the potential to damage the following trees and groups:

Impact	Reason	High Value A Class Trees	Moderate Value B Class Trees	Low Value C Class Trees	Trees for Removal/ U Class Trees
Trees to be removed	To facilitate development	-	-	T12, T15 & T19	-
Retained trees that may be damaged through disturbance to RPAs	Removal of existing surfacing/structures/ landscaping services Installation of new surfacing/structures/ landscaping/services	T03	T01, T07, T08, T10, T11, T13 & T14	T04, T05 & T06	-
Retained trees to be pruned	Remediation of defects, Raise low branches	-	T11, T13 & T14.	-	-

Impact appraisal

The footprint of the two proposed dwellings is located outside of any RPA's so will not directly effect any trees to be retained on site. The Proposed pathway will pass through 2 areas of RPA's, being by the entrance of the site and the RPA of T03 to the west of the site. due to the age and species of trees adjacent to the proposed path at the entrance to the site, there is little concern of impacting these trees however, for the section of path that runs along the west side of the site and the area of the proposed communal benches, there is risk that insensitively installing surfacing within this area may have a detrimental impact on the adjacent trees, any works in this area would need to be carried out with due care to these trees and their rooting environment, avoiding any soil compaction, contamination or excavation. A no-dig surfacing which allows sufficient water and air transfer to the soil should be used, gravel with a low level pedestrian cellular system is recommended.

1 Palm tree, a Lilac and an old Sycamore stump will need to be removed to facilitate the proposed development, these are all relatively small with limited value, their removal is not expected to impact the surrounding area.

The proximity between T03 and the proposed building leaves little room for future crown growth. The crown of T03 has historically been reduced on the east side, at time of inspection the new growth to this area was healthy but had not put on a great deal of length and appeared to be predominantly to the branch ends, leaving little scope for further reduction works. T03 appears to me a semi-mature tree with potential to grow a much larger crown size. Construction of the proposed building in the current layout will put an increased demand for pruning works to T03 a third party tree, within a conservation area. A design which allows for greater clearance between T03 and the proposed building would be preferable.

A significant proportion of the site will be taken up by the proposed mews house and the RPA's of the trees along the west boundary further restrict use of the site during construction, meaning all material storage will need to be located along the north (northwest) boundary to avoid blocking access routes or impacting trees.

The proposed development will have an insignificant impact on any trees to be retained provided the method statement detailed in section 5 of this report is adhered to.

Arboricultural Method Statement (AMS)

1. A copy of this AMS and the related TPP is to be retained on site at all times and all personnel associated with the construction process will be made familiar with the principles within.
2. A system of site monitoring by the project arboriculturist at key stages in the development will be undertaken to ensure that all aspects of this AMS and related TPP have been understood and are implemented. This will include a pre-start meeting to ensure that protective barriers meet specification and are erected in the correct location. A monitoring record sheet is included at the end of this method statement.
3. **Before any activities may commence on site all protective fencing must be erected** as indicated on the TPP by the dashed orange line and check by the project arboriculturist.
4. All tree pruning and removal works must be completed before any demolition or construction works commences. Trees to be pruned are T11, T13 & T14, pruning encroaching branches clear from the footpath to a height of 2.5 metres. T12 Palm, T15 Lilac & T19 Stump, are to be removed, as indicated on the TPP.
5. There is enough space on site between the existing cottage and adjacent trees that demolition should not be an issue however, efforts, such as using a banksman and methodical working, must be taken to ensure no machinery brakes or moves the protective fencing along the west of the site.
6. The footpath along the west side of the site and the connecting area for the communal benches must be completed under Arboricultural supervision. All works within the confinement of the protective fencing must be no dig and completed by hand tools only. The top grass/vegetative layer may be removed but no excavation into the ground level. The path is to be constructed from a cellular confinement system on top of a geomembrane, a system such as the "Cellweb TRP" is recommended.
7. No other works are to take place behind the protective fencing other than the above stated works.

8. The extents of any site storage and mixing areas must not be near any Root Protection Area to prevent the risk of tree roots being damaged from the storage of materials, runoff/spillages etc. during the building process.
9. Spoils from any excavation must be kept out of any RPA's and CEZ's.
10. To protect the trees on site and off site and their relevant RPA's, construction exclusion zones have been marked out on the tree protection plan. These are to be fenced off as marked out in the tree protection plan and must be treated as such for the duration of the construction period. With the exception of the construction of the west path/surfacing as detailed in point 6.
11. Care should be taken when conducting any excavations to ensure no significant roots are damaged. This includes by direct mechanical damage, or through compaction caused by plant movement, storage of materials, or contamination from spillages etc. during the building process.
12. In the unlikely event that tree roots are damaged by the development, exposed roots should be treated at once to avoid desiccation. Any roots smaller than 25mm in diameter, can be pruned back, preferably to a side branch, with suitable sharp pruning tools.
13. If significant roots are uncovered that cannot be pruned without detrimental effect to the tree, works in this area should cease and a new design and method statement should be agreed with planning before works may continue in this area.
14. Protective measures should be installed prior to the commencement of any construction activity and maintained for the duration, they may only be removed once all works have been completed, all materials have been removed from site and the final site inspection has been completed by the project arboriculturist.
15. Barriers/fencing meeting best practice specifications for tree protection will be required to protect the root systems of trees to be retained. See figure 1 of this section for an example of an acceptable barrier specification. The location of protective measures is shown in the Tree Protection Plan.

16. Fencing should contain appropriate information and warnings regarding the protection of trees. signage must be secured to protective fencing at intervals no bigger than every 2.5 metres. An example of acceptable signage is given in Figure 2 below.
17. There is no known need for the installation of new service runs within the RPAs of any trees to be retained. If services do need to be installed within the RPAs a method statement should be prepared and written approval obtained from the planning department before any works are carried out.

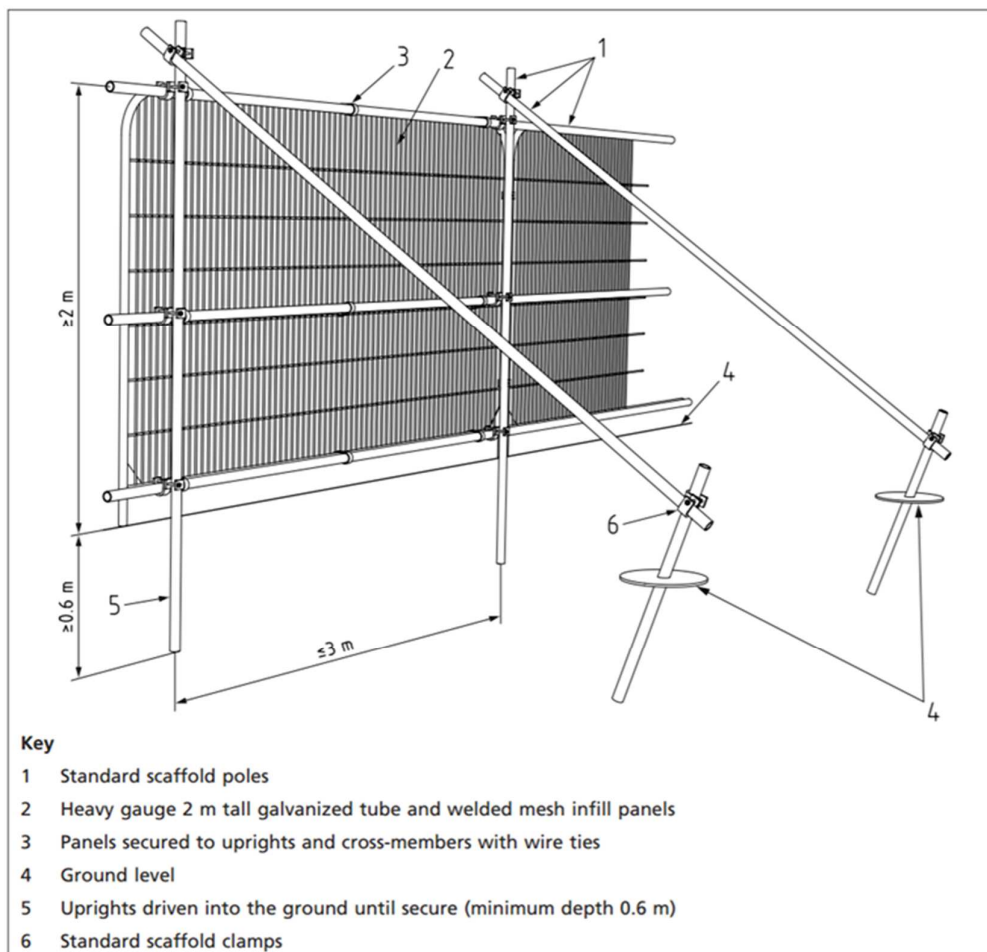


Figure 1 – Example of acceptable protective barrier specification



Figure 2 – Example of protective barrier signage

ARBORICULTURAL SITE MONITORING RECORD

1 Orchard Cottage, Clarence Road

London, N22 8PL

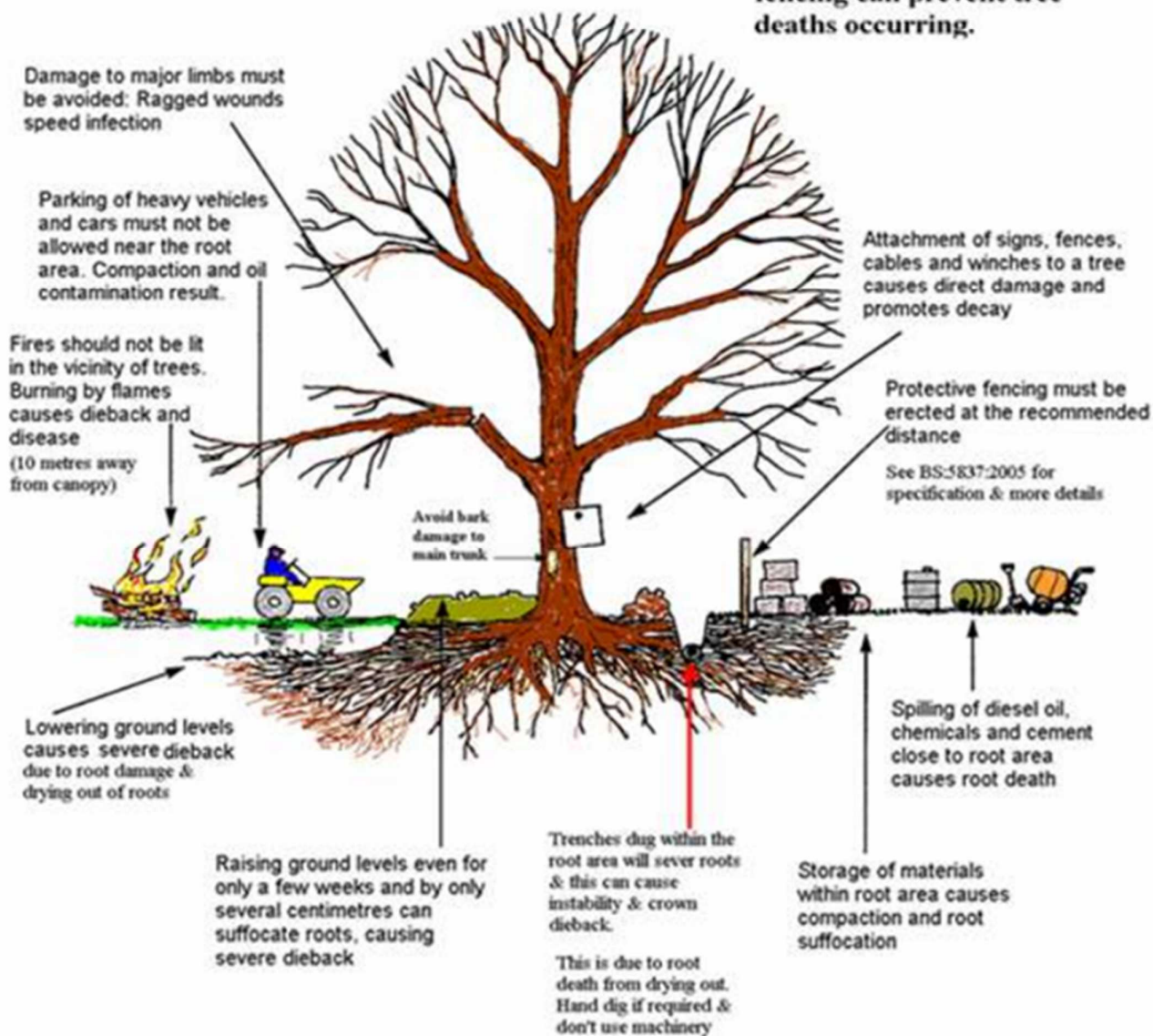
PURPOSE OF VISIT	TIMING	PERSONNEL PRESENT	OBSERVATIONS AND RECOMMENDATIONS	COMPLETE Y/N
1. Check Tree Protection is installed as AMS prior to the commencement of works	Pre-commencement			
2. Monitoring site visits by approved Arboriculturist to ensure continued compliance with AMS.	During Construction			
3. Final completion inspection and identification of any remedial actions	Completion of scheme			

Contacts			
Council Tree Officer:	[Name]	[Telephone]	[Email]
Site Manager:			
Arboriculturist: (BAWDEN TREE CARE)	Michael Clements	01980 669912	Michaelclements@bawdengroup.com
Project Agent:			

Notes:
[Inspector's comments and relevant information]

Common causes of Tree Death

The use of properly positioned protective fencing can prevent tree deaths occurring.



Protected Species (general information for tree works)

There are legislative acts which provide protection for wildlife in Britain. The Wildlife and Countryside Act 1981 was introduced to protect the following:

- All wild birds, their eggs and nests.
- Shooting birds – limitation on shooting season so they can only be shot outside of the breeding season.
- Selling birds – the sale of some species of birds that have been bred in captivity and fitted with identification rings.
- Injured birds – can be treated as long as they are released afterwards. If they are seriously injured, they must be humanely put down.
- Endangered species – There are various species i.e.. red squirrel, hazel dormouse, bats, voles that are on the endangered species list.
- Common animals – Foxes and Rabbits, are not protected but some methods of killing them are prohibited i.e.. self-locking snares.
- Non-native animals – It is illegal to release or allow to escape, animals that are non-native i.e. mink.

Bats and nesting birds should be considered when undertaking tree works.

Conservation Status of British Bats

Virtually all bat species are declining and vulnerable. There is little historic data in relation to the various bat species and their numbers. The UK Government has drawn up the UK Biodiversity Action Plan and has designated five species of bats as priority species (greater and lesser horseshoe bats, barbastelle, Bechstein's and pipistrelle). These plans provide a plan for the maintenance and restoration of the former populations levels to be investigated.

Legal Status of British Bats

All British bats, their breeding sites and resting places are nationally and internationally protected.

All bat species in the UK are fully protected under the Wildlife and Countryside Act 1981 (as amended) through inclusion in Schedule S. All bats are also listed on Annex IV (and some on Annex II) of the EC Habitats Directive. The Conservation of Habitats and Species Regulations 2012 (as amended) make it an offence to; intentionally or deliberately kill, injure or capture (take) bats;

- Deliberately disturb bats (whether in a roost or not);
- Damage, destroy or obstruct access to bat roosts;
- Possess or transport a bat or any part of a bat, unless acquired legally;
- Sell, barter or exchange bats, or parts of bats

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The legislation does not protect bat's foraging grounds but does protect their roost sites. Bat roosts are protected at all times of the year regardless of whether there are any bats present. Any disturbance of a roost due to development must be licenced.

Breeding birds

All nesting birds are protected under the Wildlife and Countryside Act (as amended) 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs.

Some birds are listed on Schedule 1 of the Act which also protects them from disturbance and it may be necessary to operate "no-go" buffer zones around such nests — typically out to 100m.

Planning policy guidance on the treatment of species identified as priorities under the biodiversity action programme suggests that local authorities should take measures to protect the habitats of these species from further decline through policies in local development documents and should ensure that they are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations. The conservation of these species should be promoted through the incorporation of beneficial biodiversity designs within developments.

Glossary

Term	Meaning
RPA	Root Protection Area
CEZ	Construction Exclusion Zone
BS5837:2012	British Standard for trees in relation to demolition, design, and construction
BS3998:2010	British Standard: tree work recommendations
AIA	Arboricultural Impact Assessment
AMS	Arboricultural Method Statement
TPP	Tree Protection Plan