Red House
Thurlstone Road
Penistone

Phase 2
Pre-development Arboricultural Report

Prepared at the request of

Mr G Wilkinson

On behalf of

Mrs S Hardman

20 November 2020

By

Ian Kennedy

Wharncliffe Trees and Woodland Consultancy

Summary

I have been instructed by Mr G Wilkinson on behalf of Mrs S Hardman, the owner of Red House, Thurlstone Road, Penistone to carry out a pre-development tree survey of three trees on the riverbank on the western edge of the property.

The approximate locations of the trees are recorded on Plan 1 that shows the existing site layout.

Table 1 records their species, dimensions, age, life expectancy, any defects and their amenity value. This information was collected, interpreted and recorded in accordance with BS5837:2012*Trees in relation to design, demolition and construction – Recommendations*. The information is used to attribute retention categories to the trees; A, B, C and U. These retention categories are described in Appendix 2.

The trees are included in the retention category B. The trees are in good health and structural condition. However, some erosion of the riverbank during high water flows in beginning to undermine the root plates.

Plan 2 shows the proposed layout and Plan 3 is the tree protection plan.

Section 4 of this report is the arboricultural impact assessment that discusses the implications of development on the trees.

Broadly, the proposals would have no impact on Trees 1 and 2. The extension would encroach a little way into the RPA of Tree 3 and significantly into the crown spread.

This tree would need to be quite heavily pruned to facilitate the development. Alternatively, I would recommend removal of this tree if the development is to be implemented.

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PLANS

APPENDICES

1 INTRODUCTION

1.1 Instruction

I was instructed by Mr G Wilkinson on behalf of Mrs S Hardman, the owner and applicant, to carry out a pre-development tree survey of three trees on the western edge of the property that could be affected by a proposed extension to the dwelling.

The tree survey is intended to provide a structured, impartial assessment of the tree population within the red line area proposed for development, together with any trees on neighbouring land that could be affected by development.

The survey is intended to be informative to all stages of the development process and was carried out in accordance with *BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations.*

1.2 Documents and Provided Information

I was provided with the following:

Drawings of the proposed layout produced by Mr G Wilkinson.

1.3 Limitations

This report is concerned only with assessing the condition of the trees, their importance in the local landscape and any cultural and conservation values.

It takes no account of the affects the trees may have on the soil, such as heave where trees are removed or shrinkage where trees are retained.

Trees are dynamic organisms influenced by weather, pests and diseases. Therefore, this report can only remain valid for a period of 24 months.

Any works around the trees such as trenching, pruning, storage of materials and trafficking that has not first been approved by a suitably qualified arboriculturalist will invalidate this report.

This report has been prepared for pre-development purposes. Whilst the condition of the trees has been assessed for their quality and presence of significant defects that may affect the retention category applied, it is not a tree condition and safety report and may not include the same level of detail on tree health and structural condition.

No decay detection equipment was used to gather information on the condition of the trees. All survey and inspection was completed at ground level.

2 SITE VISIT AND OBSERVATIONS

2.1 Site visit

I visited the property on 13 November 2020 to complete the survey.

All dimensions were taken using recognised methodology and arboricultural measuring equipment, unless otherwise stated.

The principles of BS5837:2012 were applied to the assessment and evaluation of the trees.

The weather at the time of inspection was bright but overcast. Winds were light and visibility was good.

2.2 Brief Site description

The property is located at Ordnance Survey grid reference SE 24029 03707 to the north of Thurlstone Road, Penistone.

The property is a detached dwelling within a large garden immediately to the east of the River Don. The trees are growing on the steep riverbank approximately 1m below the ground levels of the main garden of the property.

2.3 Development Proposals

The development proposes an extension to the western gable end of the dwelling.

2.4 Locations of the Trees

The positions of trees were plotted by me using fixed known points. I am not a land surveyor. If more accuracy about the positions of the trees is necessary then the services of a land surveyor should be used.

2.5 Tree observations

Table 1. The Tree Survey

Tree number	Species	Height (M)	Stem diameter (DBH in MM)	Branch spread (M)	Ht first branch above GL* (M)	Ht of canopy above GL (M)	Life stage	Health	General observations on the tree's condition	Estimated life in years	Amenity value	Category
T1	Sycamore	15.0	700	North – 6.0 South – 5.0 East – 6.0 West – 5.0#	3.0	3.0	Mature	Normal	A well formed and healthy tree with no appreciable defects. There are a number of pruning wounds to the stem. These are small and occluding well. There are a number of small dead lateral branches and bark wounds to live branches in the crown. The tree is growing on the riverbank approximately 1m below the level of the garden. There is some erosion under the root plate caused but scouring of the riverbank when water levels are high. I recommend that the root plate is inspected following river spates.	20+	Medium	B (2)

T2	Sycamore	15.0	500#	North – 4.0 South – 0.5 East – 5.0 West – 4.0#	2.0	1.0	Mature	Normal	A well formed and healthy tree with no appreciable defects. There is quite dense ivy growing into the crown. The tree is growing on the riverbank approximately 2m below the level of the garden. There is some erosion under the root plate caused but scouring of the riverbank when water levels are high. This tree is weight biased over the river and is likely fall into the river if it failed.	20+	Medium	**B (2)**
T3	Sycamore	15.0	600	North– 1.0 South – 7.5 East – 6.0 West – 6.0	2.0	2.0	Mature	Normal	A well formed and healthy tree with no appreciable defects. There are a number of dead lateral branches over the river. The tree is growing on the riverbank approximately 1m below the level of the garden. There is some erosion under the root plate caused but scouring of the riverbank when water levels are high. I recommend that the root plate is inspected following river spates.	20+	Medium	**B (2)**

3 Interpretation of Information and References

My interpretation and appraisal of information gathered from the survey is based on experience of tree species, visual risk hazard assessment and the guidance set out in BS5837:2012 *Trees in Relation to Design, Demolition, Construction – Recommendations*.

3.1 BS5837:2012 Tree Retention Categories

All trees have been assessed and assigned a retention category in accordance with Table 1 of the standard. A copy of Table 1 from BS5837: 2012 is included as Appendix 2.

This categorisation is intended to rank trees according to their importance in terms of quality, health, life expectancy, amenity and landscape value, together with wildlife and cultural importance. This ranking assists in determining the suitability and appropriateness of trees for retention in any development. Categories A to C are those considered for retention, 'A' being highest.

Category A and B trees tend to be considered more valuable for retention than category C trees.

Category 'U' trees are those not suitable for retention because of impaired condition.

Hedges and shrubs are not assigned retention categories but their heights and species are simply noted on the tree constrains plan.

3.2 Below Ground Constraints; Root Protection Areas (RPAs)

The root protection area is the area of land considered necessary for trees should they be retained as part of any development. This is calculated using the stem diameter measured at 1.5 metres from ground level. This protection area is shown diagrammatically as a circle centred on the base of the tree where it is expected that rooting has not been impeded in any one direction and where disturbance has not taken place. Where rooting has been impeded or disturbance taken place then the shape and size of the root protection area is modified according to an assessment of where rooting is likely to take place.

The RPAs at this property are shown principally confined to the river bank.

Where trees are to be retained, it is optimal to locate structures and services outside the RPA. However, where incursion becomes necessary, technical solutions may be possible to limit damage, areas lost can be compensated elsewhere, or the soil environment can be improved. In these circumstances an arboricultural method statement will be necessary to ensure that works are undertaken sympathetically and do not damage the below ground parts of the trees.

3.3 Above Ground Constraints; Crown Spreads

Ideally, working areas will be out with the crown spreads of trees to be retained.

Any permanent development proposed within the canopy spread of a tree should be assessed to determine whether the level of pruning necessary to accommodate the layout would be acceptable. However, the effects of shade and other perceived inconveniences of trees this close to property should also be considered, together with the future growth potential of the trees and the maintenance obligation this will bring.

Where temporary access by high sided vehicles and machinery for construction or erection of scaffolding is necessary within the crown spreads of trees to facilitate development an arboricultural method statement will be necessary to ensure pruning works are carried out sympathetically prior to demolition or construction works commencing.

3.4 Conception and Design

The constraints imposed by trees should assist with site design and layout, together with the other competing needs of development.

The provisions of services and the access space required for construction itself should be considered.

4 ARBORICULTURAL IMPACT ASSESSMENT

This section of the report considers the impact that a proposed layout could have on the trees that are included in Table 1 and shown on Plan 1; *Tree Constraints Plan showing the existing layout.*

This section discusses the engineering solutions that may be available to retain trees where development is proposed within their root protection areas (RPAs) or the pruning options available where development might affect crown spreads.

4.1 Arboricultural Impact Assessment

Trees 1, 2

These trees would be unaffected by the proposed development.

Tree 3

The proposed extension would encroach into the RPA and crown spread of this tree.

Given the land form in the area, it is difficult to know exactly where the roots of the tree are most likely to growing but I would expect many of the significant roots will be growing in the riverbank. This is reflected in the elongated RPAs of the trees. The extension would encroach by between 10 and 15% into part of the RPA. I believe this would be acceptable to the tree without causing detriment to it.

The extension would encroach substantially into the crown spread of the tree. To retain this tree would require significant pruning to the crown. Given that most of the crown extends to the south and east pruning would require removal of a large proportion of the crown.

Removal of this tree could be considered rather than significant pruning. This is a well treed riverbank and removal of one tree would not have a significant impact on the amenity of the area.

Table 2 Summary of the impacts of the proposals on the trees

Impact on trees	Category A trees	Category B trees	Category C trees	Category U trees
Unaffected	None	T1 and T2	None	None
Within the footprint of buildings, roads or drives				
Buildings, roads, drives or parking encroaching into RPAs		T3		
Buildings, roads, drives or parking encroaching into crown spreads		T3		

4.2 Shading from trees

There would be some shading of the extension by these trees.

4.3 Levels

Altering the ground level within the RPAs of the trees may have a detrimental impact on their health and longevity.

4.4 Ground surface materials

Altering the ground cover, such as by using impervious or semi-pervious surface materials to cover areas that were previously vegetated soil, will alter the moisture content and recharge of the soil and its oxygen and carbon dioxide content. This could have a detrimental effect on the health of tree roots growing in it.

4.5 Site access

Vehicles and plant operating or parking on unprotected soil within the RPA of a retained tree could compact or contaminate it and this could have a detrimental impact on its long-term condition and longevity.

4.6 Storing fuel, materials and equipment

Storing fuel, equipment and materials close to trees increases the risk of damage to their trunks and branches, soil compaction and/or contamination with toxic substances.

4.7 Activity under tree canopies

Activity under tree canopies, such as mixing cement, lighting bonfires or storing equipment, plant and materials, may damage branches or stems. It may also be detrimental to soil within its RPA that is utilised by its roots.

5 ARBORICULTURAL METHOD STATEMENT

It is important that a method statement appropriate to the scale of development around retained trees is prepared, particularly where development or access is necessary within the RPAs and crown spreads of retained trees. This should address any eventuality that may involve working within the RPAs or crown spreads of existing trees. This will include temporary workings during construction.

5.1 Specific Tree Protection Measures

I would recommend the following works in chronological order:

1. Remove Tree 3.
2. Erect tree protection fencing at the point shown on Plan 3. This fencing need not be the normal robust fencing recommended on development sites because there is no vehicle access to the riverbank that the trees are growing on. The fencing would be intended to protect against storage of materials. I therefore recommend unbraced Herras fencing is used.
3. Construct the extension.
4. Remove the tree protective fencing once all development work is complete.

5.2 General Tree Protection Measures

To avoid damage to retained trees where no construction or access within RPAs and crown spreads is necessary the following general precautions should be followed during the construction phase.

- No dumping or storing materials or waste, whether in a skip or on the ground.
- No temporary buildings, sheds, or offices without prior discussion with an arboriculturalist and agreement of the LPA.
- No storage of materials, equipment, plant, fuel or cement.
- No bonfires within 10m of the outer edge of the crown or RPA.
- No refuelling mechanical equipment or mixing of cement.
- No washing cement mixers within or uphill of the RPA.
- No vehicles and plant unless the soil is suitably protected as recommended an arboriculturalist and agreed by the LPA.
- No raising the soil level without prior discussion with an arboriculturalist and agreement of the Local Planning Authority (LPA).
- No excavations without prior discussion with an arboriculturalist and agreement of the LPA.

- No redirection of surface water runoff into or out of the RPA.
- Follow the guidance contained within the National Joint Utilities Group Volume 4 (Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2, 2007); www.njug.org.uk) when installing underground services within the RPA of a retained tree.

6 REFERENCES, PLANNING POLICY AND GUIDANCE

6.1 National policy

Section 197 in the Town and Country Planning Act 1990 makes it the duty of Local Planning Authorities (LPAs), '*in the interests of amenity*,' to protect trees, when granting planning permission, either by the imposition of conditions or serving Tree Preservation Orders (TPOs).

The National Planning Policy Framework (NPPF) mentions trees and should be taken into account.

170. 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;*

175. When determining planning applications, local planning authorities should apply the following principles:

> *c) 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 reasons58 and a suitable compensation strategy exists;*

Annex 2: Glossary

Ancient or veteran tree: A tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage.

Ancient woodland: An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS).

Irreplaceable habitat: Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.

6.2 British Standard: Trees in relation to design, demolition and construction – Recommendations (BS 5837, 2012)

The British Standard: *Trees in relation to design, demolition and construction – Recommendations* (BS 5837, 2012) contains guidance on how to assess trees in or close to proposed development and information to include in pre-development arboricultural reportssubmitted with planning applications. Appendices 2 and 3 contain relevant extracts from BS 5837 (2012).

6.3 Barnsley Metropolitan Borough Council

Barnsley Local Plan. Adopted January 2019

17. Green Infrastructure and Green Space

7 CONCLUSIONS

There are three individual trees growing on the riverbank immediately to the west of the formal garden of the property.

The trees are included in retention category (B).

Trees 1 and 2 would be unaffected by the proposals.

The extension would encroach by up to 15% into the RPA of Tree 3. I believe this would be acceptable to the tree.

The extension would encroach appreciably into the crown spread of Tree 3. This would require extensive pruning to the crown. Alternatively, the tree could be removed to facilitate the development.

This is a well treed riverbank and removing only one tree would not have a significant impact on amenity.

8 LEGAL CONSIDERATIONS

8.1 Protected trees

No checks have been made with the Local Planning Authority (LPA) for trees included in a Tree Preservation Order (TPO) or within a Conservation Area.

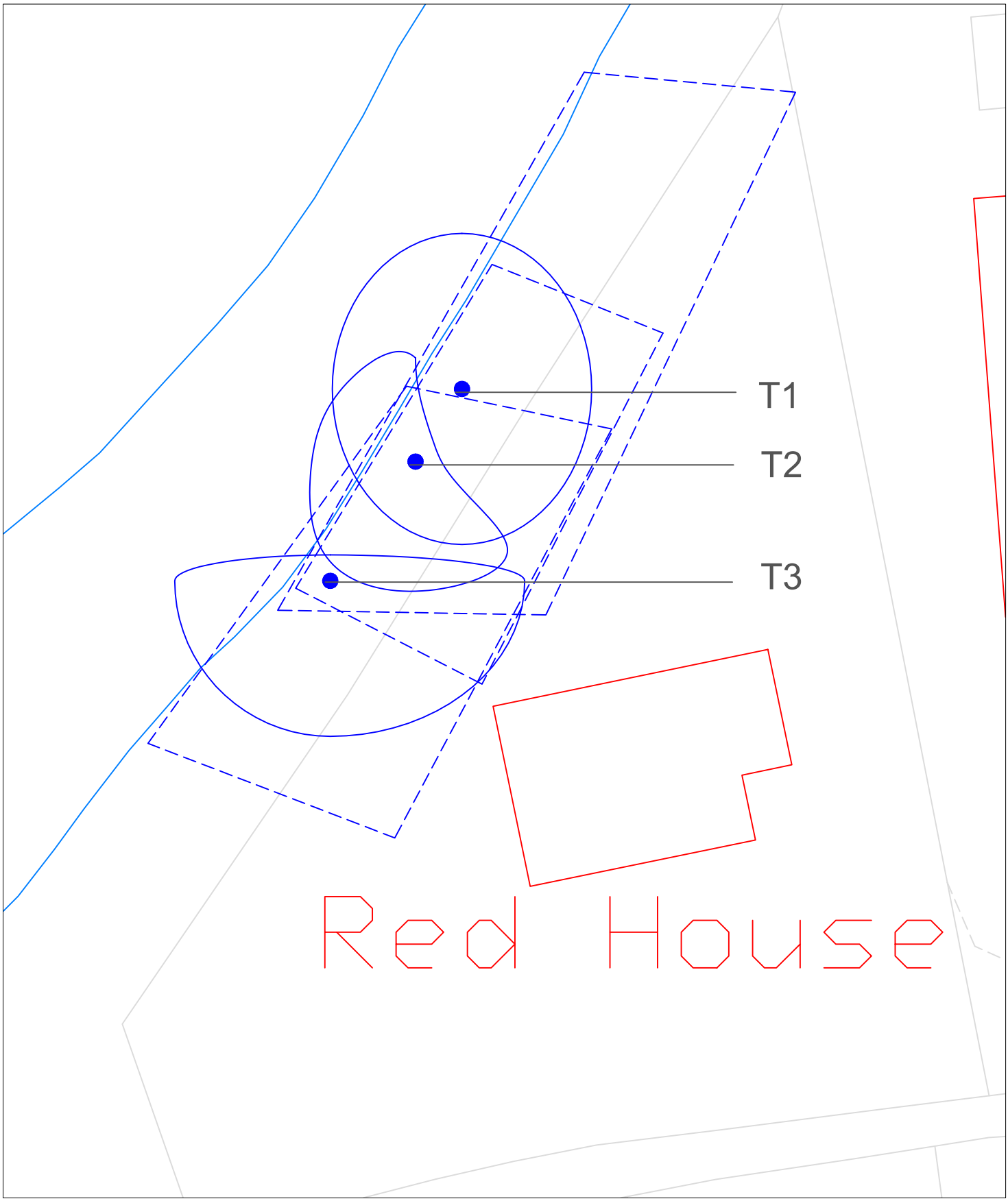
If any trees are protected by a TPO, are located in a conservation area or protected by planning conditions, it will be necessary to obtain permission from the LPA before any work, other than certain exempted operations, can be carried.

8.2 Wildlife conservation legislation

Breeding birds are protected, together with bats and their roosts are, whether their roosts are in use or not.

Consideration should be given to the presence of protected species prior to any proposed tree removal or maintenance. This will include breeding birds, principally between March and August, and bats at any time of year.

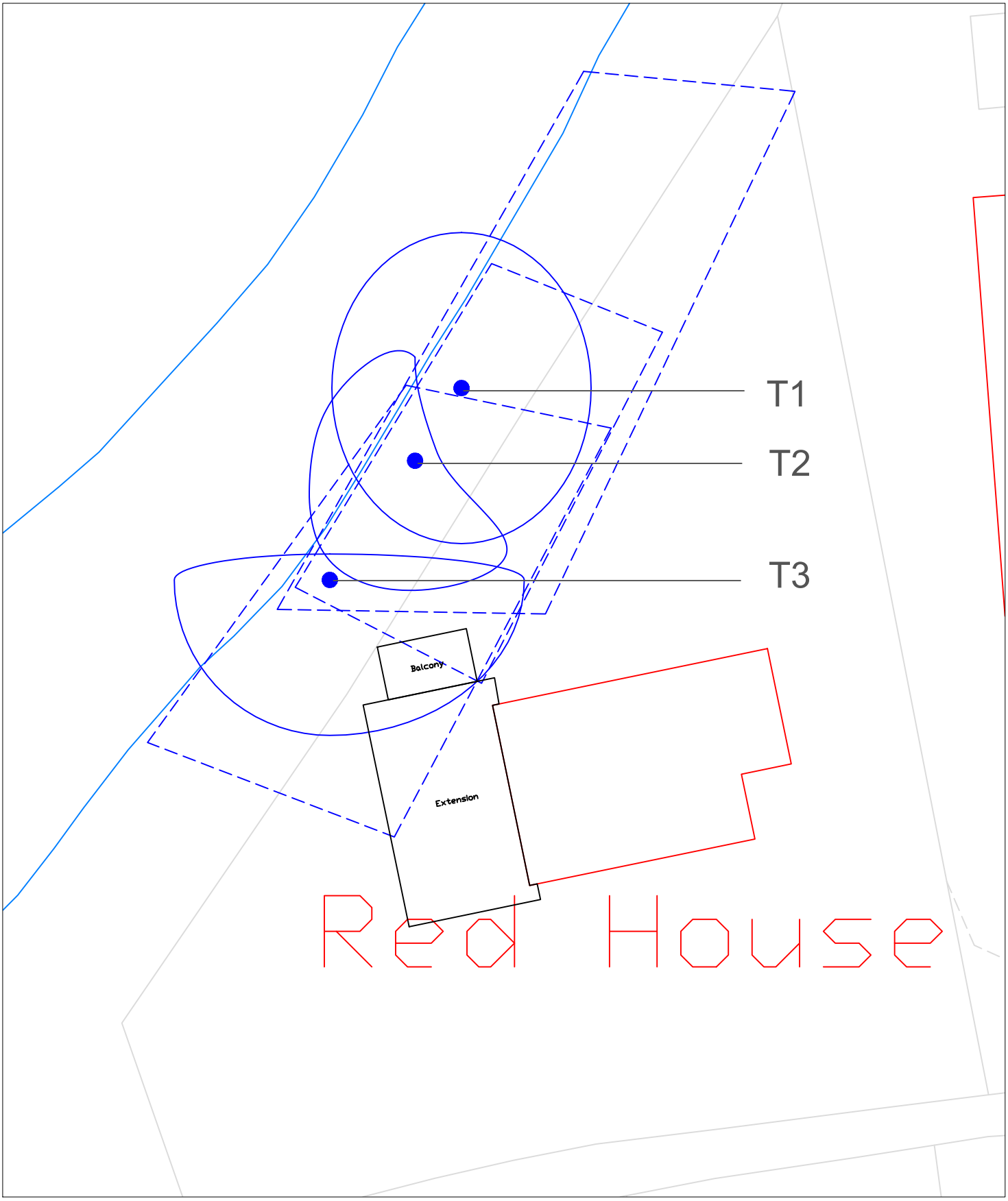
Tree surgeons should also be aware of their duties under legislation to protect wildlife and carry out their site assessment and work accordingly.



Plan 1 Tree Constraints Plan showing the existing layout

Scale 1:200 @ A4

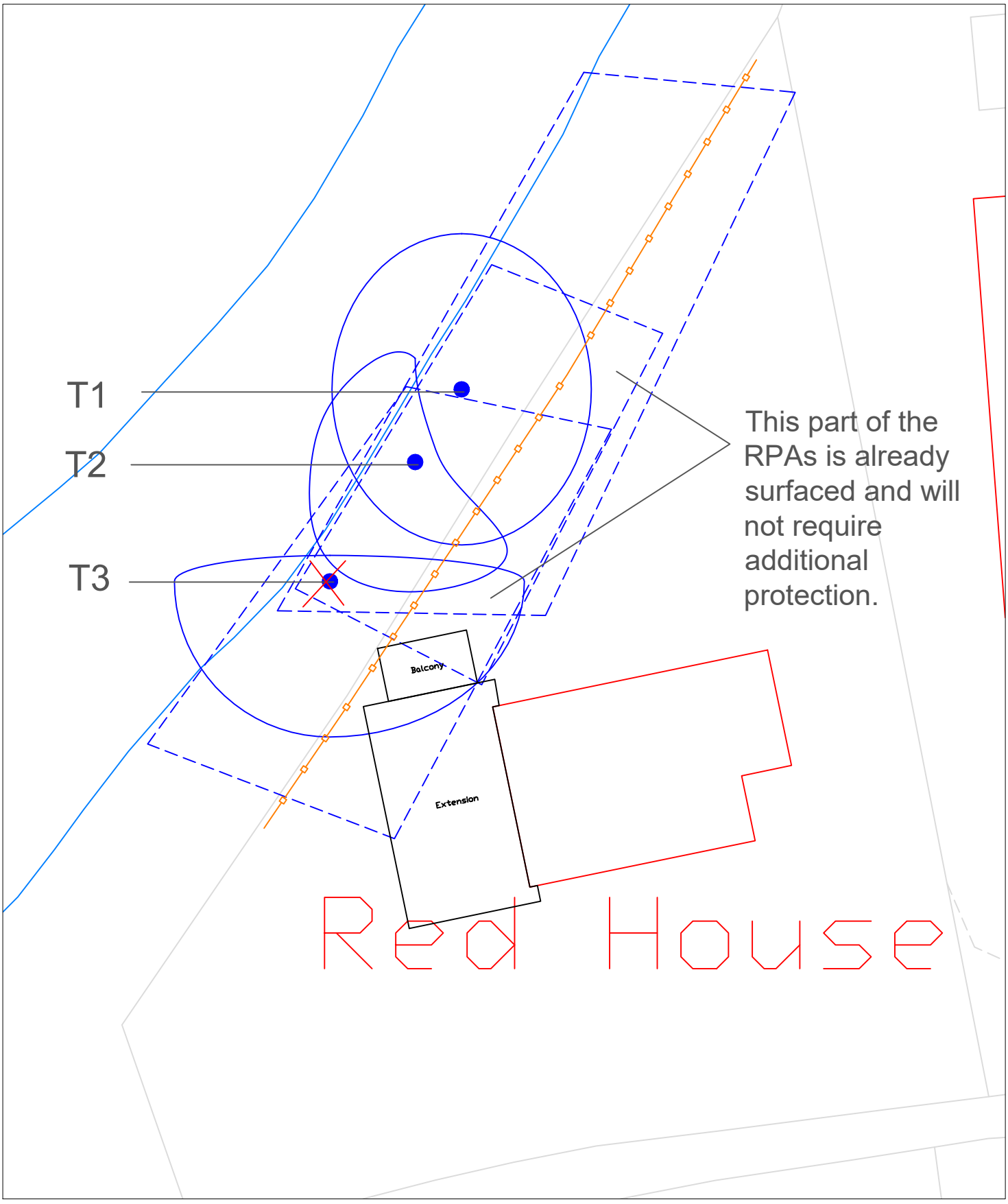
Category C crown
Category C stem
Category C RPA



Plan 2 Tree Constraints Plan showing the proposed layout

Scale 1:200 @ A4

Category C crown
Category C stem
Category C RPA



Plan 3 Tree Protection Plan showing the proposed layout

Scale 1:200 @ A4

Category C crown
Category C stem
Category C RPA

Tree protective fencing

Tree proposed for removal

Appendix 1

The Experience and Qualifications of Ian Kennedy

1. Qualifications

Ian graduated from the Scottish Agricultural College in August 1995 with a Higher National Diploma in Horticulture (HND) with Distinction.

In 1998 Ian graduated from the University of Aberdeen with aBSc (Hons) Upper second class in Forestry with Arboriculture and Amenity Forestry.

He passed the LANTRA Professional Tree Inspection examination in (2006).

In 2009 his application to become a professional member of the Arboricultural Association was assessed to fulfil all the necessary requirements and he became a professional member of the Association that year.

In 2011 he passed the final examination of the Institute of Chartered Foresters and become a member of that institute in January 2012.

2. Practical experience

Presently Ian is working in private practice as an independent arboricultural and woodland management consultant undertaking tree conditions surveys, pre-development tree surveys to the BS5837:2012 standard, mortgage reports and woodland management planning works. Clients range from home owners and farmers to architects, building companies, local authorities, schools and larger development companies.

Prior to private practice Ian held a number of positions in local government. Firstly, he was the arboriculturalist within a planning office in Essex. Ian gained considerable experience regarding trees in relation to development, in particular BS 5837.

Development work formed the core of his duties and applications ranged from small back garden developments to major schemes such as the redevelopment of Ministry of Defence land for private residential development. Ian also undertook all functions associated with Tree Preservation Orders (TPOs), including the making of new TPOs, assessing suitability of applications to work on protected trees and trees in conservation areas.

Ian went on to manage a 500 hectare woodland estate for a local authority in South Yorkshire that included a mix of urban and rural woodlands. This included preparation and implementation of detailed management plans for multiple use woodlands. He undertook all aspects of silvicultural management from marking to contract tendering and monitoring. He also managed the access, conservation, landscape and archaeological requirements of the estate.

Ian was directly involved in the estate achieving Forest Stewardship Council certification in 2003 and personally ensured continued certification.

Ian has worked extensively with Forestry Commission to obtain the necessary licences for management works and ensured the estate benefited fully from the full range of grants available.

Latterly at the same authority Ian went on to manage the trees and woodlands unit, having overall responsibility for management of the authority's tree and woodland stock and associated staff, together with delivery of other tree related services such as those associated with the Town and Country Planning Acts.

3. Continuing professional development

Ian regularly attends meetings, seminars and training events hosted by The Arboricultural Association. Institute of Chartered Foresters, Royal Forestry Society and Forestry Commission and benefits from the respective journals, briefings and newsletters available to members of the first three of the organisations listed.

4. Relevant experience

Ian Kennedy has spent 20 years working with trees, including as the arboricultural advisor to planning officers for a Local Planning Authority and manager of a trees and woodlands unit for another local authority with overall responsibility for trees, including in relation to the Town and Country Planning Acts.

Appendix 2

Tree Retention Categories

Table 1 **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those 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	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix 3

Explanatory notes for some of the terms used in this report

- **Stem Diameter:** The diameter of the trunk at 1.5m above ground level and recorded in millimetres measured with a diameter tape.
- **Compass Bearing:** N = north; S = south; E = east; W = west;
- **Life Stage:** Assessed as either:
    - Semi-mature = a size which could be easily transplanted;
    - Juvenile mature = prior to seed bearing age and could be transplanted with care;
    - Young Mature = early maturity, not fully grown but of seed bearing age and may have achieved mature height;
    - Mature = fully grown, annual growth is much reduced;
    - Old Mature = old for the species, possibly starting to decline;
    - Veteran = Beyond maturity for the species. This can be characterised by larger than average stem diameters, scaffold branches or crown spreads. Often still growing with full crowns.
    - Ancient = Well beyond normal mature age. It will have special characteristics associated with its age, including biological, cultural. Growth rates will significantly reduced and the tree may be declining is size.
- **Estimated size:** #
- **Health:**
    - Normal Vitality = normal growth and twig extension;
    - Moderate Vitality = reduced twig extension but other than that few signs of ill-health;
    - Early Decline = reduced twig extension and some dead twigs in the outer canopy;
    - Mid-decline = small internodes, the canopy may be thinning and contain dead twigs and/or branches in the outer canopy, older branch wounds that haven't occluded may be decaying and forming cavities;
    - Severe Decline = sparse crown, numerous dead twigs and branches in the outer canopy, older branch wounds likely to be decaying and forming cavities;
    - Dead.
- **Structural Condition**
    - Acute stem union = a weak union between two or more stems at the main forking point caused by the formation of reaction wood. Mechanical pressure

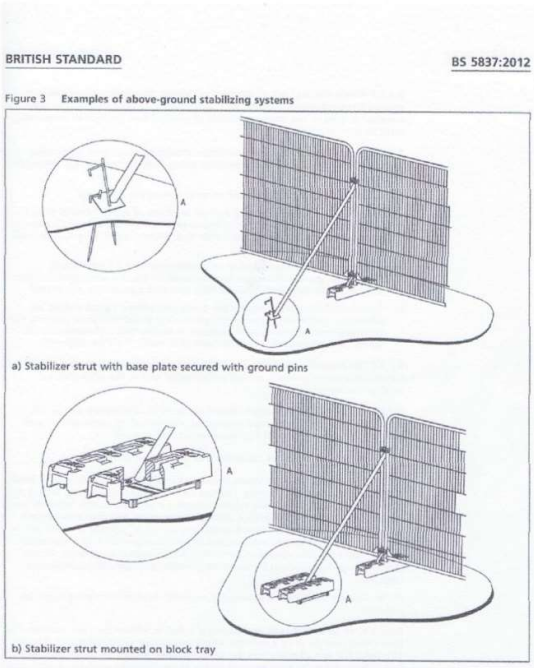
at the forking point increases as secondary thickening occurs increasing the risk of failure at that point.

- Acute branch union = the same principle as acute stem unions but between a stem and a branch or two branches rather than 2 main stems.

- **Estimated life**
  - The life expectance brackets of <10 years, 10+ years, 20+ years and 40+ years accord with the guidance in BS5837:2012 and should be considered as the useful life expectancy in the location the trees are growing in. For example, a tree with significant defects growing in a quiet area could be retained for longer than a tree growing next to a busy highway or a residential building.
- **Amenity**
  - High = Growing in a place that is very publicly visible such as a next to a busy road or places where people gather. The tree is also likely to be large or very large.
  - Medium = A smaller tree growing is a very publicly visible place or a large tree growing in a place with reduced public access.
  - Low = A small to medium sized tree growing in a quiet location where it is barely or not visible to anyone other than the landowner.

Appendix 4

Tree protective fencing



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