



HAMPS VALLEY LIMITED

**BS 5837:2012 Tree Survey Report
& Arboricultural Impact Assessment**

Location;
Bungalow Cottage
Cheadle Road, Leekbrook
Leek, Staffordshire, ST13 7DR

Date of Inspection;
24th March 2021

Commissioned by;
Mr Daniel Allen

Survey carried out by;
Kristian Turner. FdSc Arb. Tech Arbor A
Arboricultural Association Professional Tree Inspector.



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1.0: Summary

1.1: Hamps Valley Ltd Tree Experts was commissioned in March 2021 by Mr D Allen to conduct a preliminary tree survey under the guidelines of **BRITISH STANDARDS 5837:2012** *Recommendations for trees in relation to design, demolition and construction*. (BS5837) and an Arboricultural Impact Assessment (AIA) of the proposed development of Bungalow Cottage, Cheadle Road, Leekbrook, Leek, Staffordshire.

1.2: The primary purpose of this report is to make an appraisal of the trees that stand on the afore mentioned Bungalow Cottage. This report evaluates the condition and amenity value of the trees assesses any constraints they may impose on re-development proposals. This report provides information on any tree that should be removed and how the trees being retained should be protected during the development process.

1.3: The tree survey of the application site was carried out by Kristian Turner (of Hamps Valley Ltd) on the 24th March 2021 during daylight hours.

1.4: The appraisal found six individual trees within the grounds of Bungalow Cottage and one group of three trees in a neighbouring property. Of the trees surveyed, one tree T6 should be retained and protected, the group of three should be retained but require no protection, three trees T3, T4, & T5 will require removal to allow for the proposed development and two are recommended for removal regardless of development.

Any trees to be retained should be protected taking into account the minimum distances for tree protection barriers advocated in BS5837:2012. See Fig 9 for the extent of such protective barriers required around each of the retained trees.

1.5: Full details of arboricultural works recommended for the trees are listed in chapter 8 of this report.

For further information on this survey and report, contact;

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2.0: Introduction

2.1: Background and commission

Hamps Valley Ltd Tree Experts was commissioned in March 2021 by Mr Daniel Allen to conduct a preliminary tree survey under the guidelines of **BRITISH STANDARDS 5837:2012** *Recommendations for trees in relation to design, demolition and construction*. (BS5837) and an Arboricultural Impact Assessment (AIA) of the proposed development of Bungalow Cottage, Cheadle Road, Leekbrook, Leek, Staffordshire.

2.2: Aims of the survey

This arboricultural assessment aims to

- evaluate the condition and amenity value of the trees on site.
- advise on how the trees are likely to impact on the proposed development.
- advise on how the proposed development is likely to impact upon the trees.
- provide information on any trees that should be removed.
- provide information on how those trees being retained should be protected during development process.

2.3: Site Context

The survey site is part of a garden to an existing dwelling with a brick building and static caravan in situ. The site is on a slope with parts of the slope dug away and reinforced with retaining walls. Access to the site is on an established hard standing driveway, fig 1. To the south of the site is fields with a woodland on higher ground. The other boundaries have houses, Leekbrook industrial estate and the Cheadle Road.



Fig 1: Showing the hard standing driveway and TG1, 3 Limes, in the neighbours garden

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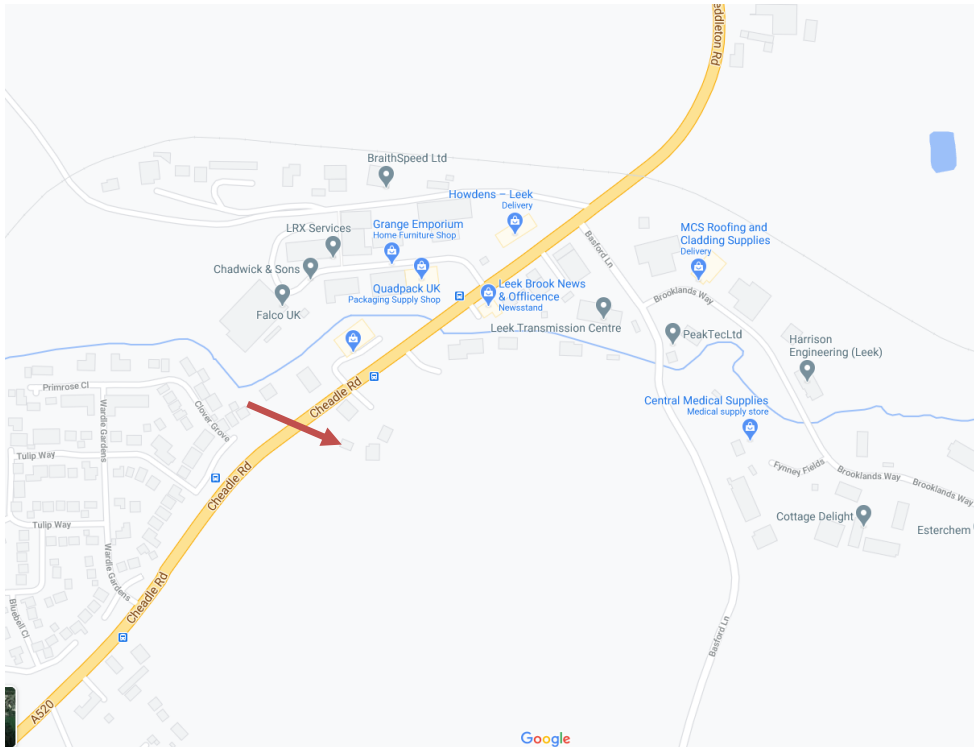


Fig 2: Survey site location shown by red arrow. (Google Maps 2020)



Fig 3: Survey shown in red outline. (Google Maps 2020)

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3.0: Survey Methodology, Collection and Assessment of Data

3.1: Survey Methodology

The site was surveyed by Kristian Tuner, 24th March 2021. The inspection only consists of a visual tree assessment, no decay detection or other specialised equipment was used. The survey was carried out from ground level. The weather during the survey was overcast. Visibility was average, although occasionally impeded by the low bright sun.

3.2: Tree height, crown spread and canopy height were estimated; a tape measure was used for all other dimensions, although in some instances the undergrowth prevented access to the trees in this case all of the tree measurements were estimated.

Data was collected to comply with the recommendations of BS5837:2012 *Trees in relation to construction* (BS5837).

3.3: Trees are dynamic living organisms and although their health and structure can be assessed, an absolutely safe assessment is not realistic as unpredictable failure can never be ruled out. Trees are also susceptible to climatic conditions and more extreme weather, including high winds, drought and snow. These conditions can cause healthy trees to fail. Hamps Valley Ltd cannot be held liable for any such failures. It would be advisable to re-inspect after any period of severe weather. Therefore this report is only valid in relation too; the weather, the condition of the trees and the condition of the site on the day of the investigation.

3.4: No soil samples were taken for analysis on this investigation.

3.5: Any site information, history or legal descriptions given are taken as accurate.

3.6: The report is only valid as a whole, any alterations or omissions invalidate it entirely. The report is valid for six months only. Any legal matters that arise from this report are not the responsibility of Hamps Valley Ltd and the consultant is not required for any further testimony or investigations unless relevant new arrangements are made.

3.7: **Survey personnel.** Kristian Turner has 18 years' experience working with trees in the Arboricultural industry. He currently holds an FdSc in Arboriculture after studying at the Central University of Lancashire, is a Technician grade member of the Arboricultural Association and is a Professional Tree Inspector through the Arboricultural Association. Kristian is consistently upgrading and expanding his Arboricultural knowledge with continuous professional development, attending training courses and lectures through the Arboricultural Association and reading recently published papers on trees and Arboriculture.

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4.0: Data Collection

The tree location plan is shown appendix 1.

4.1: The trees are plotted individually and have their root protection area (RPA) and canopy spread shown with the tree identifiers.

4.2: Key to report

4.3: Reference number

4.4: Species name is given as the common

4.5: The height is the measurement from ground level to the highest point of the tree to the nearest meter.

4.6: Stem diameter at 1.5m from ground level given in mm. # denotes estimated measurement (where access is unattainable)

4.7: Crown spread given at North (N), East (E), South (S), West (W) in meters.

4.8: Height of the first significant branch and direction of growth in meters (2m W) and the height of the canopy in meters.

4.9: The age of the tree as categorised in one of the following age brackets;

Young (Y), Semi-mature (SM),

Mature (M), Over mature (OM), Veteran (V).

4.10: General observations of the structure and physiological condition.

4.11: Estimated remaining contribution, under 10 years, or over 10 years (trying to predict past 10 years is not feasible)

4.12: Category U or A to C grading (Table 1)

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Table 1: Cascade Chart for tree quality Assessment. (BS5837:2012)

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BRITISH STANDARD

BS 5837:2012

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 unsuitable 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
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
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
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 with no material conservation or other cultural value



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Table 2: Category Grading of Trees on Site

Abbreviation	Description	Category	Colour Code
U	Trees which should be removed irrespective of any development proposal	Fell	Dark red
A	Trees of high quality whose retention is most desirable	High	Light
B	Trees of moderate quality whose retention is desirable	Moderate	Mid blue
C	Trees of low quality which could be retained	Low	Grey

5.0: Tree Survey

5.1: General observations

The British Standard BS5837:2012 *Trees in Relation to Design, Demolition and Construction - Recommendations* gives recommendations and guidance of the principals that should be applied during the development process to achieve a satisfactory juxtaposition of trees with structures. With regard to the design issues and the assessment of trees on development sites, BS 5837 recognises in section 5.1.1 that:

“The constraints imposed by trees, both above and below ground (see Note to 5.2.1) should inform the site layout design, although it is recognized that the competing needs of development mean that trees are only one factor requiring consideration. Certain trees are of such importance and sensitivity as to be major constraints on development or to justify its substantial modification. However, care should be taken to avoid misplaced tree retention; attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal.”

5.2: BS5837 also adds in 5.1.2 that:

“As trees can affect and be affected by many aspects of site operations, during the conception and design process the project arboriculturist should be involved in ongoing review of layout, architectural, engineering and landscape drawings. All members of the design team should be made aware of the requirements for the successful retention of the retained trees and should make provision for these throughout the development process.”

5.3: BS5837 advises that the physical size of trees can: dominate new development and give rise to concern about safety, cause obstruction of light and views, and incite objections about falling leaves and debris. These factors are most important when taking into consideration the juxtaposition of trees and new development, and usually this can only be resolved by allowing sufficient space for the trees or by removing the trees.

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5.4: The Trees

For the purpose of this report the trees have been treated as;

- 6 individual trees.
- 1 tree group

5.5: T1 Silver Birch cat U. A mature tree that has grown on top of a retaining wall. The tree is starting to affect the wall and is supported with a strap from the adjacent Sycamore tree.



Fig 4: The base of T1, on top of a retaining wall



Fig 5: A strap that the owner put around T1 & T2 to prevent excessive movement

5.6: T2 Sycamore cat U. A semi mature tree that is also starting to affect the retaining wall. The tree also has a fork near the base with included bark, this could be weak point as the tree grows.



Fig 6: T2 making the retaining wall bow.



Fig 7: T2, fork with included bark near the base.

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5.7: T3 Leyland Cypress cat C. This is a young tree that forks at 4m and has a slightly bare crown on the west side due to group pressure.

5.8 T4 Cherry cat C. A semi mature tree. The tree has a very high crown, due to group pressure that has left it with a top heavy form.

5.9: T5 Goat Willow cat C. A semi mature tree. This tree leans and is weighted heavily to the north due to group pressure. It has a fork with included bark at 0.5m and the stem below is swollen



Fig 8: T5, fork with included bark.



Fig 9: T5 swollen stem below main fork.

5.10: T6 Sycamore cat B. A young tree growing on higher ground held back by retaining walls. This tree is almost part of the rough hedge behind.



Fig 10: The base of T6 on higher ground

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5.11: TG1 a group of three Lime trees cat B. These trees are in the neighbouring garden by the driveway. No access was obtained to the trees so the measurements are estimated. The trees are in a garden that is elevated above the driveway with retaining walls.



Fig 11: TG1



Fig 12: Looking east towards the trees.

5.12: All other tree information will be found in the Tree Data Table, table 4.



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6.0: Barriers and Surfaces

6.1: Protective barriers

Barriers for the protection of trees on development sites should be fit for the purpose of excluding construction activity and be appropriate to the type and proximity of the work. In particular, attention should be paid to ensure that such barriers remain rigid and complete during all phases of development. In most instances, barriers should consist of rigid framework comprising vertical post and horizontal rails well braced to resist impacts. An appropriate fence type should then be securely fixed to this framework with clamps or wire. . The protection of the subject trees and their subsequent health and future potential is totally dependent upon all persons operating within the site. Communications are vitally important to ensure that all parties understand the reasons for tree protection and the existence of the barriers.

6.2: It is imperative that these barriers, as specified in British Standard BS 5837 2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations*', should be put up around the retained trees prior to the commencement of any construction operations. It is expected that the erection of tree protection barriers will be conditional on the approval of a planning application that calls for their use. To avoid any ambiguity the precise location of the tree protective barriers should be agreed on site with the local authority arboricultural officer and then marked out clearly on the ground.

6.3: Location of protective barriers: British Standard BS 5837 advocates the use of "root protection areas" (RPAs), formed by calculating a circle 12x the stem diameter for single-stem trees . For trees with multiple stems one of two calculations should be used

a) For trees with two to five stems, the combined stem diameter should be calculated as follows:

$$\sqrt{(\text{stem diameter 1})^2 + (\text{stem diameter 2})^2 \dots + (\text{stem diameter 5})^2}$$

b) For trees with more than five stems, the combined stem diameter should be calculated as follows:

$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

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Table 3: example RPA dimensions from BS5837:2012

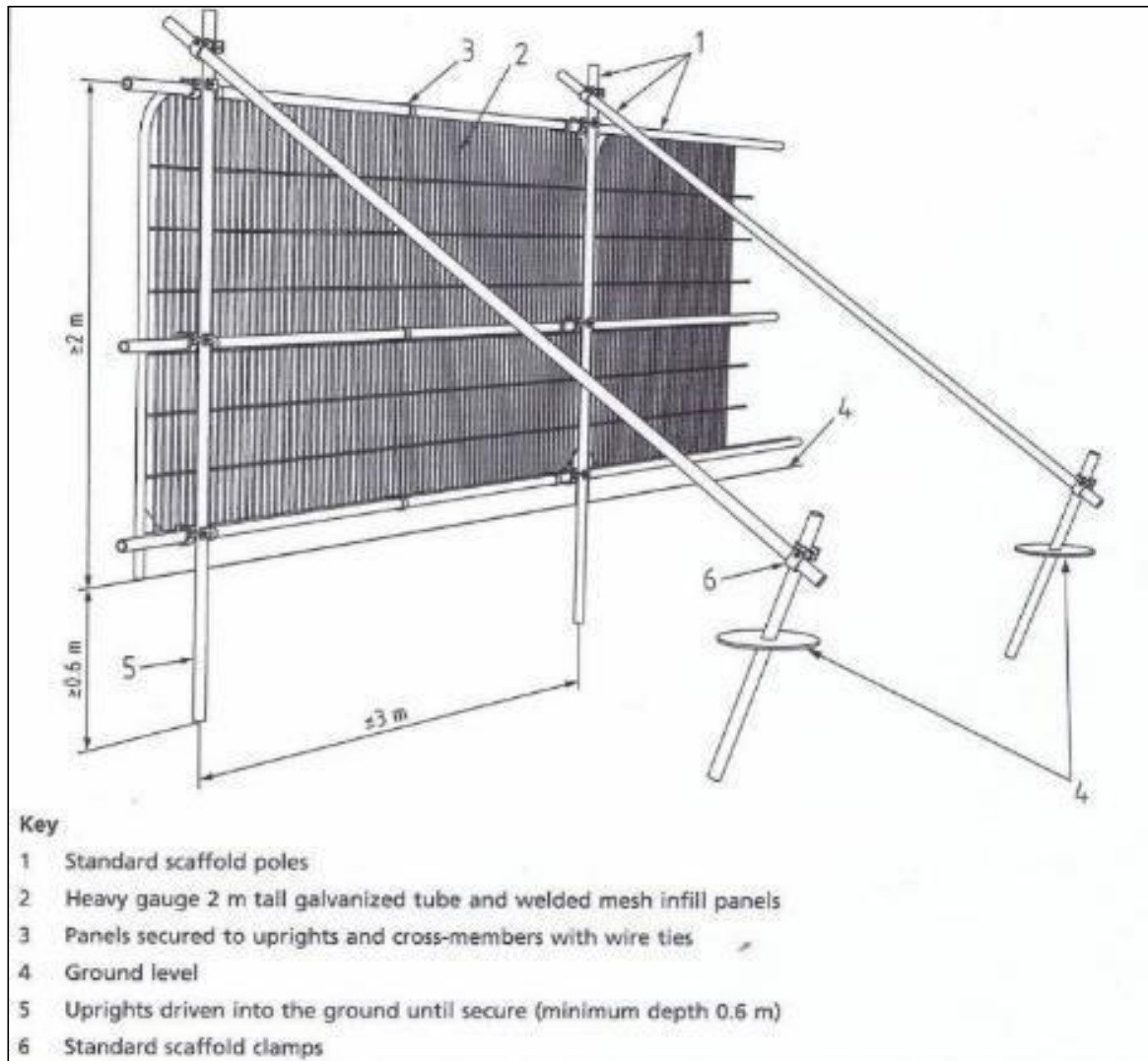
Single stem diameter mm	Radius of nominal circle m	RPA m ²	Single stem diameter mm	Radius of nominal circle m	RPA m ²
75	0.90	3	675	8.10	206
100	1.20	5	700	8.40	222
125	1.50	7	725	8.70	238
150	1.80	10	750	9.00	255
175	2.10	14	775	9.30	272
200	2.40	18	800	9.60	290
225	2.70	23	825	9.90	308
250	3.00	28	850	10.20	327
275	3.30	34	875	10.50	346
300	3.60	41	900	10.80	366
325	3.90	48	925	11.10	387
350	4.20	55	950	11.40	408
375	4.50	64	975	11.70	430
400	4.80	72	1 000	12.00	452
425	5.10	81	1 025	12.30	475
450	5.40	92	1 050	12.60	499
475	5.70	102	1 075	12.90	519
500	6.00	113	1 100	13.20	547
525	6.30	124	1 125	13.50	573
550	6.60	137	1 150	13.80	598
575	6.90	150	1 175	14.10	625
600	7.20	163	1 200	14.40	652
625	7.50	177	1 225	14.70	679
650	7.80	191	1 250+	15.00	707

6.4: Specification for the tree protection barriers: The default specification for tree protection barriers should normally consist of a vertical and horizontal scaffold framework, well braced to resist vehicle impacts. The vertical tubes should be spaced at a maximum interval of 3m and driven securely into the ground. Onto this framework, proprietary welded mesh panels ('heras') should be securely fixed. Care should be exercised when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid contact with structural roots. The general specification for the protective barriers is outlined in Fig 10:



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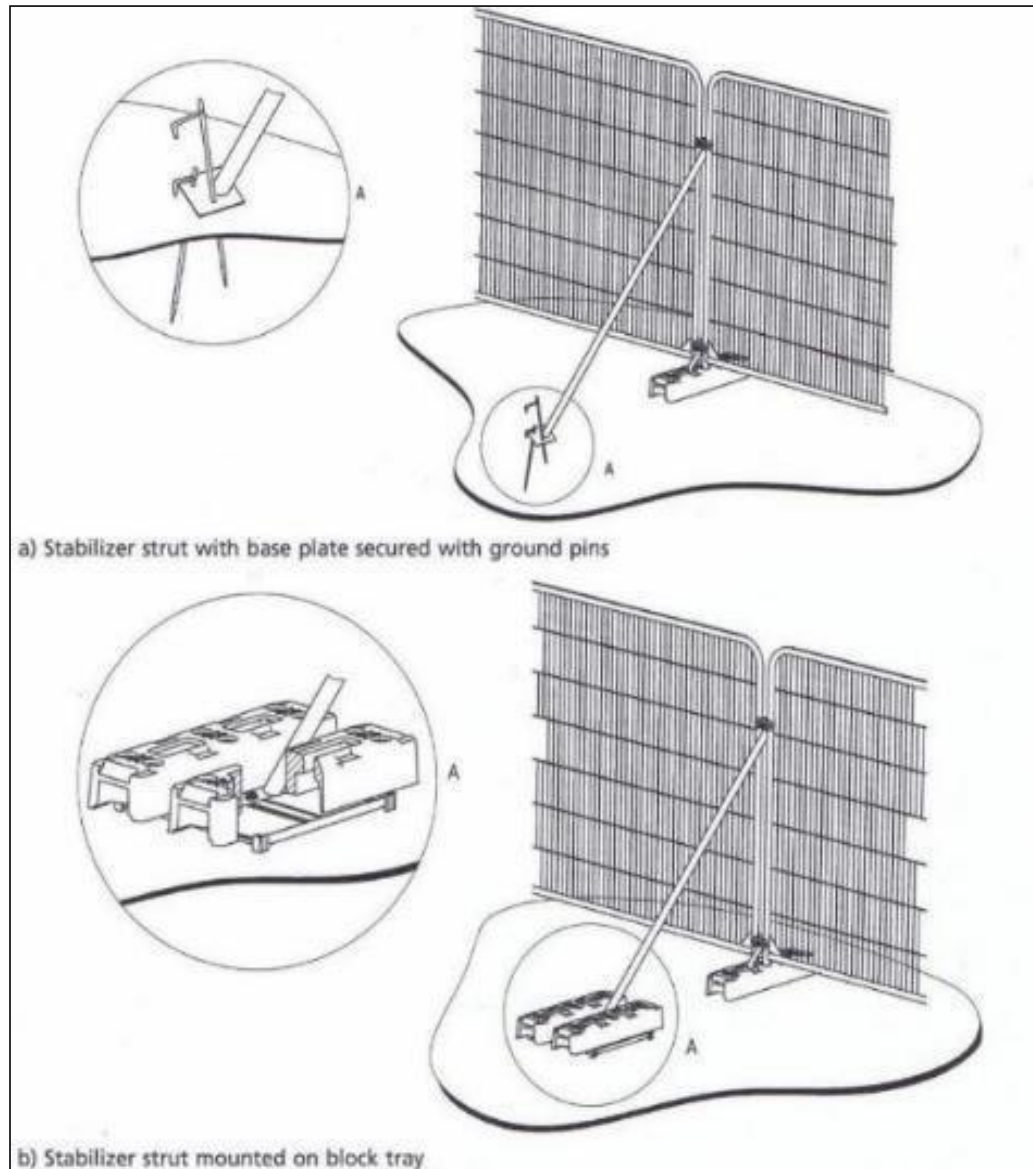
Fig13: Specification for protective barriers



6.5: In this case, the site circumstances may not necessitate the default level of protection and it may be possible to agree an alternative specification with the local planning authority. For example, 2m tall 'Heras' panels on rubber or concrete feet would provide an adequate level of protection from cars, vans, pedestrians and manually operated plant machinery in certain areas. The fence panels could be joined together using anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins



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Figures 14a and 14b- Panel support specifications

6.6: Whatever the level of protection utilised, no storage of materials or any construction operations should occur within any of the fenced off areas. Ideally, a notice similar to that shown below should be attached to the barriers.

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Figure 15: Example of notice to be erected



6.7: Prohibited Activities

The following activities shall not be carried out under any circumstances:

- a. no fires to be lit on site within 10m of the nearest point of the canopy of any retained tree on or adjacent to the proposal site;
- b. no equipment, signage, fencing etc. shall be attached to or be supported by any retained tree on or adjacent to the application site;
- c. no temporary access within designated RPA without the prior written approval of the LPA;
- d. no mixing of cement, dispensing of fuels or chemicals within 10 metres of the tree stem of any retained tree on or adjacent to the application site;
- e. no soakaways to be routed within the RPA of any retained tree on or adjacent to the application site;
- f. no stripping of topsoil, excavations or changing of levels to occur within the RPA of any retained tree on or adjacent to the application site;
- g. no topsoil, building materials or other to be stored within the RPA of any retained tree on or adjacent to the application site; and
- h. no alterations or variations of the approved works or tree protection schemes shall be carried out without the prior written approval of the district planning authority.

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6.8: Methodology - excavation with RPAs

To avoid damage to tree roots, the existing ground levels should be retained within the RPAs of all trees. The ground within the RPAs of the trees should not be disturbed, and the topsoil should remain. Consequently, it may be necessary to undertake any excavation works within RPAs by hand. As a general rule, tree roots with a diameter of 25 mm or less can be severed cleanly (by use of a handsaw or sharp secateurs) without any detrimental effect to the health and stability of the tree. However, if roots of a diameter greater than 25 mm are encountered, the local authority Arboricultural Officer and/or Arboricultural Consultant should be consulted as to implications their severance would present to the health and stability of the tree. If this method is employed, it would be prudent to prepare a simple method statement based on the enclosed guidance taken from National Joint Utilities Group (NJUG) Publication Volume 4: 2007 *'Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees'*.

6.9: Scaffolding

The erection of any scaffolding within the RPA of any tree must be verified with the architect after agreement with the local planning authority. The weight and downward pressure during use of any scaffolding within the RPA of any tree must be supported on bearers of a sufficient size, such as scaffolding boards. The aim of the bearers is to spread the working load across the RPA. The access point for the scaffolding should be outside the RPA.

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7.0: Structural Damage

7.1: The potential risk for any direct or indirect structural damage to the proposed development being associated with the trees on and adjacent to the site is dependent on diverse factors, such as: tree species and age, soil type, foundation depth, climate, etc. This complex interaction of tree, soil, building and other influencing factors is so inherently unpredictable, that any accurate prediction of such incidence is impractical without detailed investigation and is outside the remit of this report and it is recommended that a structural engineer be consulted on this matter. Further information on this can be found in the following papers:

- (i) National House Building Council (NHBC) Standards Chapter 4.2 Building near trees,
- (ii) Building Research Establishment (BRE) Digest 63 Soils and foundations: 1,
- (iii) Building Research Establishment (BRE) Digest 64 Soils and foundations: 2,
- (iv) Building Research Establishment (BRE) Digest 67 Soils and foundations: 3,
- (v) Building Research Establishment (BRE) Digest 240 Low-rise buildings on shrinkable clay soils: Part 1,
- (vi) Building Research Establishment (BRE) Digest 241 Low-rise buildings on shrinkable clay soils: Part 2,
- (vii) Building Research Establishment (BRE) Digest 242, Low-rise buildings on shrinkable clay soils: Part 3 and;

Building Research Establishment (BRE) Digest 298 Low-rise building foundations; the influence of trees in clay soil

8.0: Conclusions, Arboricultural Impact Assessment (AIA) and Detail Tree Protection Plan (DTPP)

8.1: T1 and T2 are recommended for removal regardless of development. Leaving them to continue growing will most likely cause damage to the wall and may lead to tree failure at the base.

8.2: T3, T4 and T5 are recommended for removal to allow for development. None of these trees have any features that are noteworthy and with the removal of T1 and T2 they will look out of shape. T5 may have some issues in the lower stem that has caused the tree to swell in size with reaction growth

8.3: T6 is recommended to retain and protect. The root protection area (RPA) of this tree will differ from the generic circle as it is located on ground that is retained by walls. It would be most likely that the roots not expand past the retaining walls.

8.4: TG1 are recommended for retention however do not require protection due them being well away from the work area and being on top of a retaining wall with an established fence in situ.

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8.5: Barriers will be erected on top of the retaining walls by T6, appendix 3. The area between the barriers and the edge of the fields and the fields is the construction exclusion zone (CEZ) no access is permitted within this area without written consent from the SMDC tree officer. This will protect T6 and the rough hedge behind.

8.6: If the retaining walls by T6 are being replaced, they must be taken down by hand and any roots that have grown into the wall will be cut with a sharp hand saw.

8.7: T6 will not overly shade the proposed development however the proposed development will encounter seasonal nuisance from leaf drop from T6 and the surrounding trees. Thought should be given to the design of the roof, avoid valleys as they are capture points and gutter guards.

8.8: Any landscaping or fencing within an RPA will be done by hand.

8.9: Strictly adhering to this AIA and using the tree protection plan to correctly install barriers and ground protection will prevent any lasting detrimental effects on the trees on site. The trees will not shade the proposed development. There will be a small amount of seasonal nuisance but no more than the existing property experiences.

8.10: Any trees for retention should have substantial barriers erected to protect the RPA.

8.11: The removal of trees and new developments can affect the local landscape. The loss of trees and the impact of new developments can be lessened by the planting of new trees that are a suitable species and the correct distance from existing buildings, proposed developments and any utilities above and below ground. Having a planting scheme proposed in the planning application can help the LPA to visualise the finished project. For advice on suitable planting species and locations please use a professional arboricultural consultant working to BS 5837:2012

8.12: Any recommended tree work should be carried out by fully insured and qualified arborists to the British Standards for tree work BS: 3998. 2010.

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9.0: Other Considerations

9.1: Trees Subject to Statutory Controls

Certain trees on, adjacent or within the area of the site are may be covered by a Council Tree Preservation Order It will be necessary to check this before work commences The works specified above are necessary for reasonable management and should be acceptable to the local authority. However, tree owners/ managers should appreciate that they may take an alternative point of view and have the option to refuse consent.

9.2: Felling Licence

The felling of trees in the United Kingdom is controlled by the Forestry Commission under the Forestry Act 1967. A 'felling licence' from the Forestry Commission is normally required to fell growing trees, although in any calendar quarter up to 5 cubic metres in any quarter can be felled without licence providing not more than 2 cubic metres are sold. However, certain types of felling are exempt such as the removal of trees that are dead, dying, dangerous and or causing a nuisance.

9.3: Trees outside the Property

Full co-operation and liaison with tree owners will be required to conduct the recommended works on any trees included in this report that are not within the ownership of the applicant. The implications of non-cooperation requires legal interpretation and are beyond the scope of this report. By common law, branches from trees on adjacent properties extending over boundaries can be pruned back to the boundary line without the permission of the owners. However, the material belongs to the tree owner and the same guidance on statutory controls apply, as discussed in section 5.1. These trees may require further permissions, see section 9.1 of this report.

9.4: Implementation of Tree Work

When appointing a tree contractor, only suitably qualified and experienced companies should be used. Always ensure that the contractor carries adequate Public and Products Liability Insurance, along with appropriate Employer's Liability Insurance. The contractor should carry out all tree works to BS 3998:1991 *Recommendations for Tree Work*, as modified by more recent research findings.

9.5: Replacement Trees

Ideally, replacement trees should be planted in mitigation for any being lost and to supplement those existing. For the most effective impact these trees should be 'Extra Heavy Standard Trees' conforming to British Standard 'Nursery Stock BS 3936: Part 1 1992, with a stem girth of 14 to 16 cm at 1m from ground level and a minimum height of 350 cm. They should be secured with twin stakes and cross strut, with tie and flat back spacer. Ideally, an irrigation/aeration pipe should be installed and the soil surface mulched at a radius of 0.5 m from the base of the tree.

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9.6: Wildlife

All operations should take account of wildlife needs and be planned to take advantage of weather conditions and season for minimum damage and disturbance.

9.7: Bats

Specific consideration should be given to the possible presence of roosting bats, which are protected under British law by the Wildlife and Countryside Act (WCA) 1981 (as amended), and bats are classified as European Protected Species under The Conservation (Natural Habitats, &c.) Regulations 2010. This makes it an offence to kill, injure or disturb a bat and to destroy any place used for rest or shelter by a bat. The Countryside and Rights of Way Act (CROW) 2000 strengthens protection given by the WCA and covers 'reckless' damage or disturbance to a bat roost.

9.8: Breeding Birds

Any proposed tree removal should be carried out outside the bird nesting season (which runs approximately from March to September inclusive) to avoid adverse impacts to any nests present. Any proposed works that cannot be timetabled out with the bird nesting season must be immediately preceded by a check for active nests immediately prior to works commencing – this should be undertaken by a suitably-experienced bird ecologist. Clearance works should only take place once this ecologist has confirmed that no active bird nests will be affected by the works. If active nests were found then working restrictions would be put in place until all chicks had fledged. All wild birds and their nests, whilst in use, are protected under the WCA 1981 (as amended) from harm or destruction during the nesting season.

9.9: Future considerations

The remaining trees should be inspected on a regular basis by a qualified arboriculturist. Trees are living organisms whose health and condition can change rapidly. The conclusions and recommendations of this report are valid only for a period of one year. This period of validity may be reduced in the case of any change in conditions to, or in proximity to, the trees

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10.0: Bibliographical References

Arboricultural Practice Note 12: (2007) *Through the Trees to Development*. Arboricultural Advisory and Information Service.
ISSN 1358-8249

British Standard BS 3998 : (2010) *Tree Work-Recommendations*. ISBN 978-0-580-53777-6

British Standard BS 5837: (2012) *Trees in Relation to Construction*.
ISBN 978 0 580 69917 7

Health and Safety Executive (revised 2006) *Essentials of Health and Safety at Work*. HSE Books. ISBN 978- 0-717-66179-4

Hundt L (2012) *Bat Surveys: Good Practice Guidelines*, 2nd Edition, Bat Conservation Trust ISBN-13:9781872745985

Lonsdale, D. (1999) *Principles of tree hazard assessment and management*, Research for amenity trees No. 2. HMSO, London.
ISBN 0-11-753355-6

Mattheck, C. and Belier, H. (1994) *The body language of trees*. Research for amenity trees No. 4. HMSO, London. ISBN 0-11-753067-0

Mynors C. (2002) *The Law of Trees Forests and Hedgerows*. Sweet and Maxwell ISBN 0-421-590 408

National Tree Safety Group (2011) *Common sense risk management of trees*. The Forestry Commission, Edinburgh. ISBN 978-0-85538-840-9

Planning Practice Guidance – *Tree Preservation Order and trees in conservation areas* – 2014

Shigo, A. L. (1989) *A new tree biology*. Shigo and Trees Associates, Durham, New Hampshire. ISBN 0-943563-04-6

Stouts R. G. and Winter T. G. (1994) *Diagnosis of ill-health in trees*, Research for amenity trees No. 2. HMSO, London. ISBN 0-11-752919-2

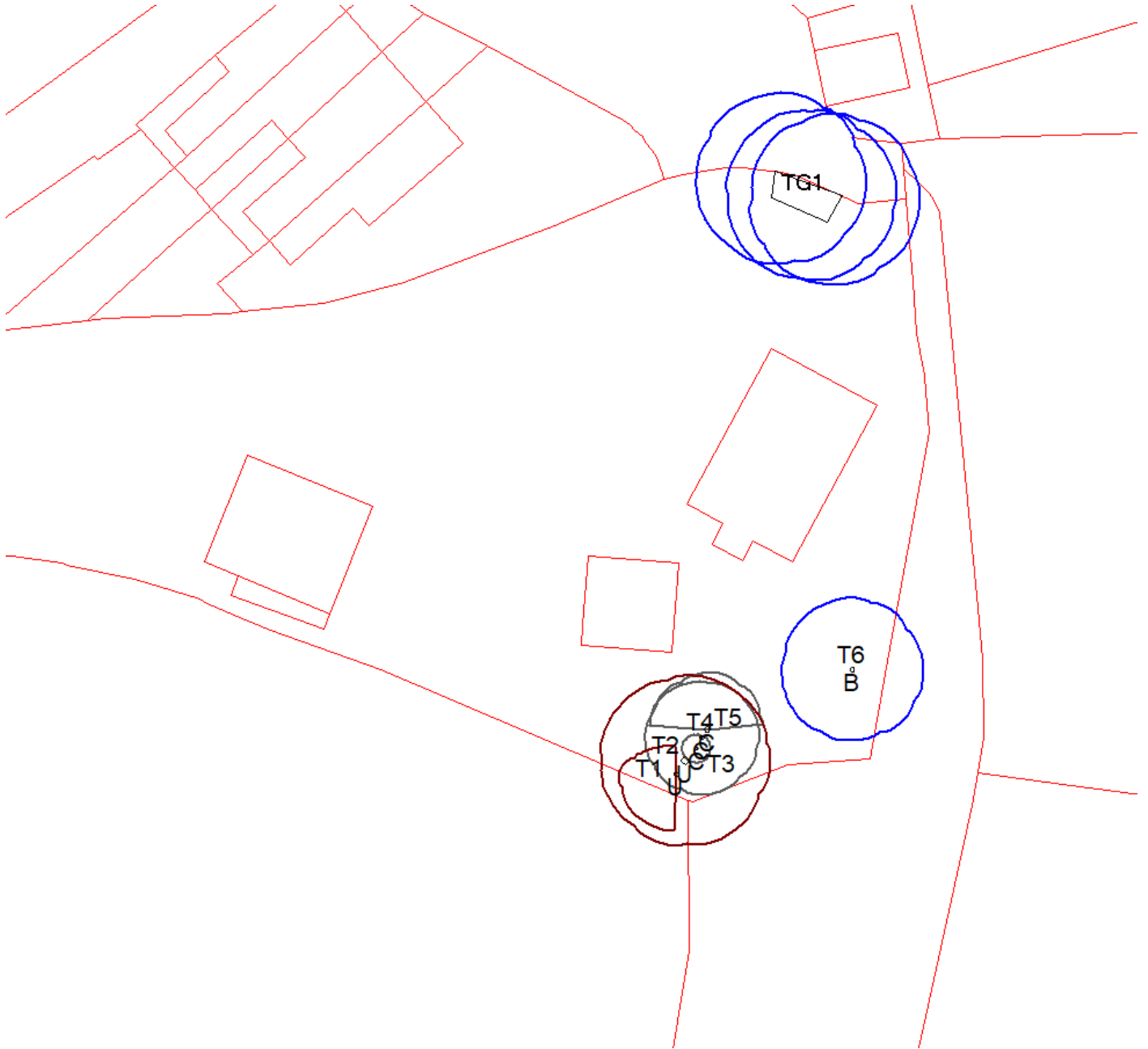
Watson, G. and Green T. (2011) *Fungi on trees*. Arboricultural Association, Stonehouse, Gloucestershire. ISBN 978-0-900978-55-5

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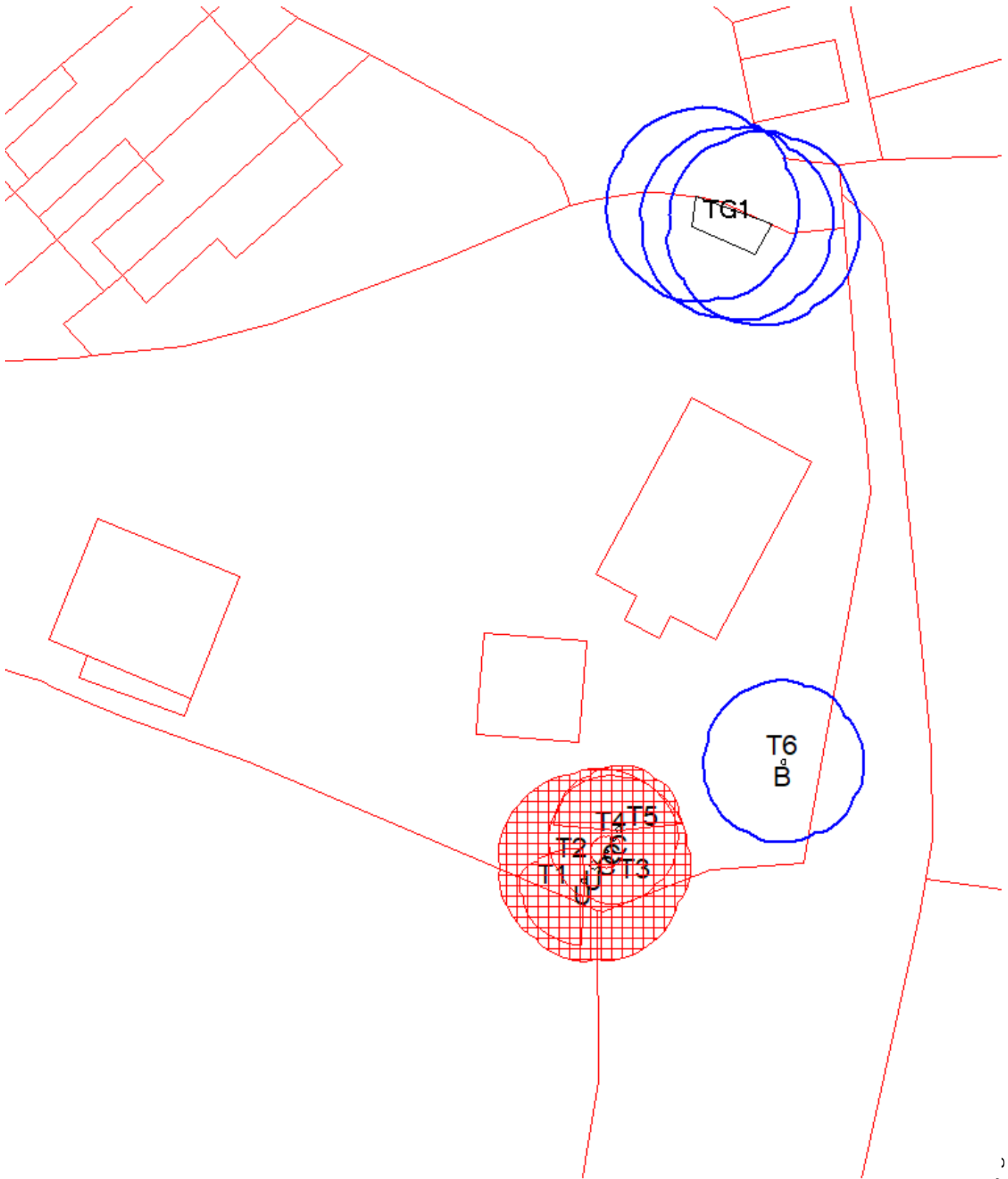
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Appendix 1 A plan of the trees on site. The crown spread in coloured outlines denoting their category within BS5837.



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Appendix 2, Trees for removal shown in red hatch



P. 3

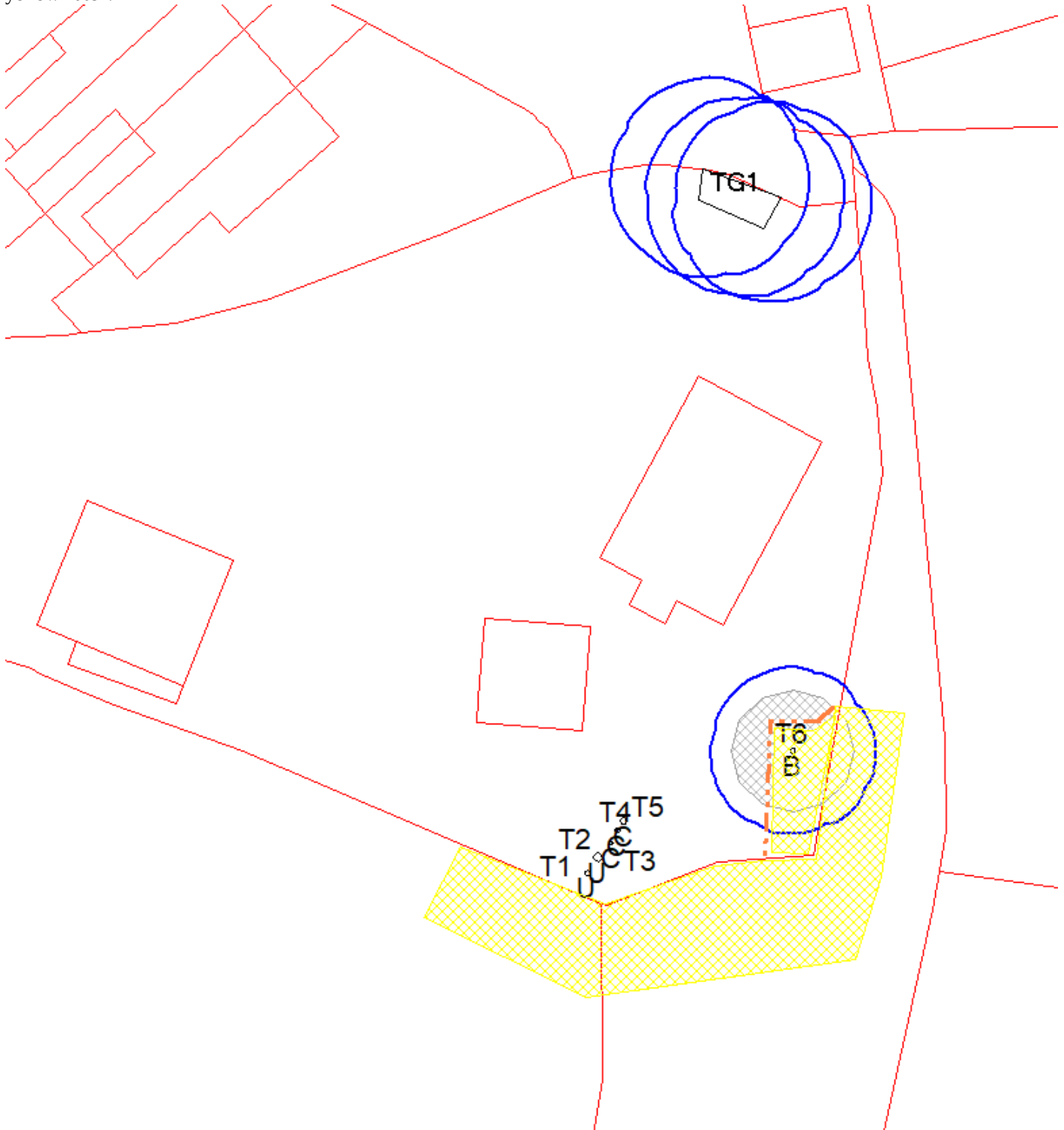
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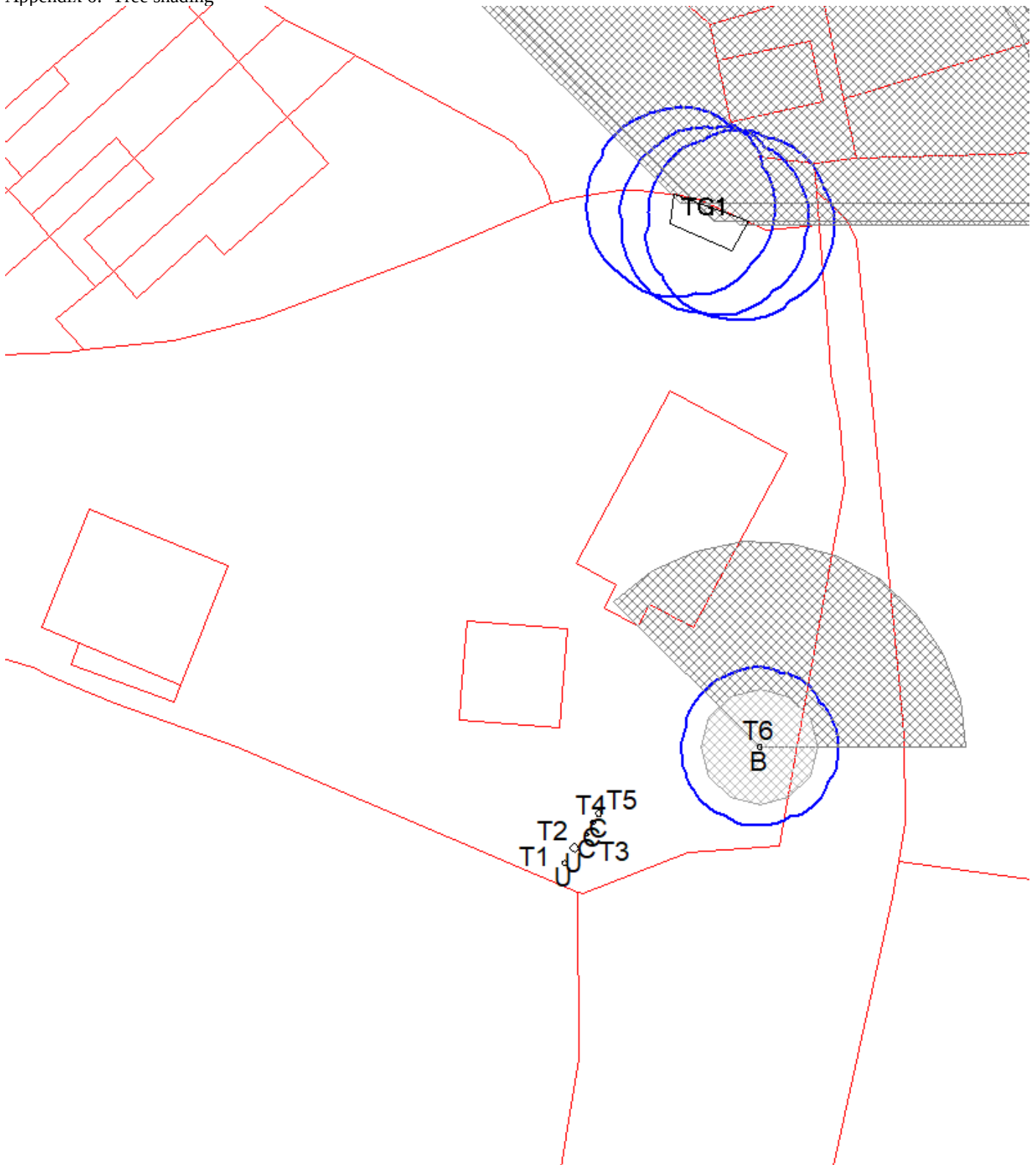
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Appendix 3: RPA barriers shown in orange dashed lines, located on top of the existing retaining walls. The CEZ, shown in yellow hatch.



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Appendix 6: Tree shading



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Table 4: Tree data table.

Tree ID	Common Name	Maturity	Height (m)	Height and direction of first significant branch (m)	Number of Stems	Stem dia (mm)	Avg Spread (m)	Avg Canopy Height	Crown	Stem	Cat	Life Expectancy	Phys Condition	Action	Comment
T1	Silver Birch	Mature	13	5w	1	300	3	3	Poor	Poor	U	<10 yrs	Fair	Fell to ground level	Tree is pushing a retaining wall down and is being supported by a strap from the adjacent tree.
T2	Sycamore	Semi-mature	16	2s	2	400	6	3	Fair	Fair	U		Fair	Fell to ground level	Tree is starting to push retaining wall. Twin stemmed with included bark at base
T3	Leyland Cypress	Young	5	0.5s	1	180	1	0.5	Good	Fair	C	<10 yrs	Good	Fell to ground level	Stem forks at 4m. Crown is slightly bare on west side due to group pressure
T4	Wild Cherry	Semi-mature	16	8n	1	280	4	8	Fair	Fair	C	<10 yrs	Fair	Fell to ground level	A tall top heavy tree due to group pressure
T5	Goat Willow	Semi-mature	14	4n	2	280	4	4	Poor	Poor	C	<10 yrs	Fair	Fell to ground level	Leans and heavily weighted north due to group pressure. Twin stem from just above ground level with included bark. Stem below fork has swelling
T6	Sycamore	Young	13	3e	1	300	5	4	Fair	Fair	B	>10 yrs	Fair	Erect protection barriers	Root restricted by retaining walls
TG1	Common Lime	Mature	24		1	400	6	3	Fair	Fair	B	>10 yrs	Fair		3 trees in neighbouring garden.no action required. Driveway well established and crown is high enough

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