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BS5837:2012 Arboricultural Survey Impact Assessment & Arboricultural Method Statement

**Site Address:
Anvil Cottage
Arford Common
Headley
GU35 8AD**

**Robert Toll
HND Urban Forestry - ND Forestry - MArborA
Ref: RMT922
Site inspection date: 7th November 2023
Date draft report published: 7th February 2024
Prepared for Oakesfield Construction Limited**



PRO2239

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1 Instructions

- 1.1 I was instructed by Simon Gruber of Oakesfield Construction Limited on the 20th October 2023 to undertake a survey of trees that are on or adjacent to Anvil Cottage, Arford Common, Headley, GU35 8AD in accordance with *British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations*.
- 1.2 I am a qualified arboriculturalist as detailed at as it is detailed at **Appendix 7** and this report has been produced in support of a planning application to East Hampshire District Council for construction of a dwelling.

2 Introduction

Site Description

- 2.1 The site is a residential property consisting of a house located in the north-western corner of the site. The majority of the site is grassed garden with significant level differences in the south-eastern corner and midway across the rear garden. Adjacent to the southern boundary are wooden sheds and a paved patio. To the front of the property is a gravel driveway which is significantly lower than the garden, with a retaining wall.

Image 1 – Anvil Cottage, Arford Common, Headley, GU35 8AD is shown by an indicative yellow line



Image courtesy of Google Map Data © 2024

Limitations

- 2.2** I carried out the survey from ground level with the aid of a Bosch GLM 120 C Professional Laser Measure to measure distances, a Nikon Forestry Pro height measurer and diameter tape.
- 2.3** Prior to my visit I was supplied with a topographical survey showing the growing locations of trees on or immediately adjacent to the property.
- 2.4** I have annotated the trees T4 and T5 onto the plans to the best of my ability. I did this by taking measurements from known site features annotated on the ordnance survey drawing and plotting the trees and groups accordingly.
- 2.5** All measurements taken to calculate root protection areas and canopy spreads have been measured wherever possible. Where it has not been possible to access certain areas, dimensions have been estimated.
- 2.6** This report does not constitute a safety survey of the trees included within it. It is advised that if there are concerns regarding the risk posed by trees to persons and property then a tree condition inspection should be commissioned.

Legal Restrictions

- 2.7** I have not contacted the local planning authority (LPA) directly to ascertain whether the trees on or adjacent to the site are protected by Tree Preservation Orders (TPO) or if they are within a Conservation Order.
- 2.8** On the 5th February 2024 I carried out a check on the East Hampshire District Council protected tree maps. They indicate that trees T1 and T2 are protected by Area TPO E.H.802 - 2008.
- 2.9** Trees protected by a TPO or Conservation Area benefit from statutory protection and no work can be carried out to them (including cutting roots, branches or felling) without the written consent of the LPA. In the event that planning permission is granted and trees are shown as removed or requiring works to facilitate development then this overrides the protection afforded by a TPO or Conservation Area. The removal of deadwood, the removal of dead trees or works to trees that are urgently necessary to remove an immediate risk of serious harm, can be carried out under exemption and without the submission of a formal application.
- 2.10** Trees protected by a TPO or Conservation Area does not inevitably necessitate that trees are worthy of being a material constraint as part of a planning application. Trees can be protected but due to any number of reasons, such as poor structural or physiological condition, have become unsuitable for retention. Additionally, a planning approval consequentially overrides these forms of statutory protection.
- 2.11** It is an offence under the Wildlife and Countryside Act 1981 and the Rights of Way Act 2000 to disturb nesting birds or roosting/breeding bats. When carrying out tree work care should be taken to avoid disturbance. If necessary, advice should be taken to avoid disturbance. If necessary, advice may need to be sought from a qualified Ecologist.

Tree survey

- 2.12 I visited the site on 7th November 2023 and surveyed a total of five trees. The surveyed trees have been categorised in accordance with British Standard 5837:2012 as shown at **Appendix 1** and the tree survey schedule can be seen at **Appendix 2**.
- 2.13 At the time of my survey the trees were considered to be category C and low value.

Table 1 – Tree categorisations as BS5837:2012

Category A	Category B	Category C	Category U
-	-	T1, T2, T3, T4, T5	-

- 2.14 It was noted that there are other trees that are located on or adjacent to Anvil Cottage, Arford Common, Headley, GU35 8AD but they have not been included within this report. This is because it is deemed that they are:
- far enough from the area proposed for development that they will not be affected;
 - they will be adequately protected by the tree protection measures afforded to the surveyed trees;
 - they are specimens of limited significance;

Measurements

- 2.15 Wherever possible all diameter measurements have been measured using a diameter tape at a height of 1.5m. Where it has not been possible to access the stems at 1.5m above ground level due to such things as dense Ivy, trees being offsite or the tree being inaccessible, an estimated measurement has been taken. All estimated measurements include the word “estimated” or the abbreviation “est” in the tree survey schedule shown at **Appendix 2**.
- 2.16 In some instances the diameter measurement has been taken at a height other than 1.5m due to such things as low fork unions. Where this has occurred, I have detailed this in the tree survey schedule shown at **Appendix 2**.

Canopy spreads

- 2.17 The canopy spreads have been measured from ground level using a laser measure and visual assessment. The canopy spreads have been annotated on the tree constraints plan and tree protection plan at **Appendices 3 and 4**.

Root protection area (RPA) definition

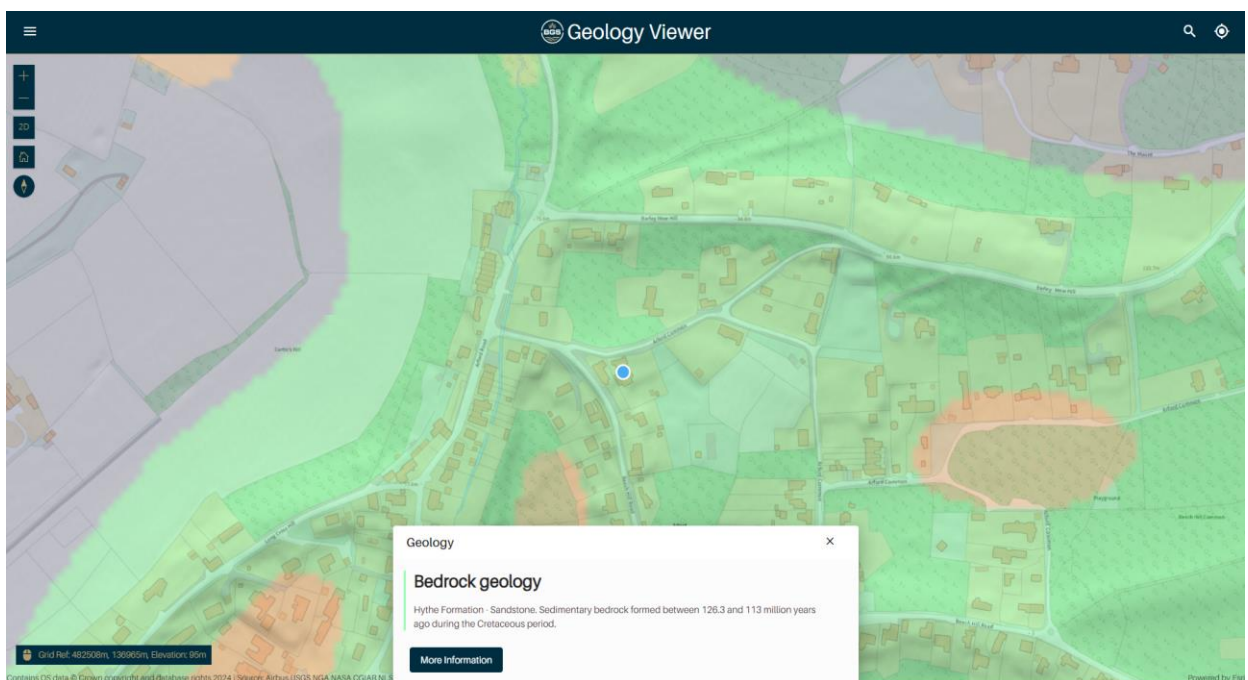
- 2.18 The RPA is a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability and where the protection of the roots and soil structure are treated as a priority.

(British Standard 5837:2012 – Trees in relation to design, demolition and construction – Recommendations – The British Standard Institute 2012).

3 Soil Assessment

- 3.1 The soil assessment is necessary to establish whether the soil on the proposal site is shrinkable. Tree roots and those of other vegetation have the potential to extract moisture from shrinkable soils such as clay, making the soil expand and contract as the soil desiccates and re-hydrates. Where new structures are proposed on shrinkable soils and close to trees, foundations will need to be sufficiently deepened or able to withstand to minimise the risk of indirect damage to foundations.
- 3.2 No soil assessments have been undertaken however a check on the Geology of Britain Viewer gives the soil type as Hythe Formation - Sandstone. This means that the underlying soil is potentially non-shrinkable and as such foundations will not need to be deepened. If further assessments are undertaken that show that there is shrinkable clay, then foundations must be designed in accordance with the guidance within the National House Building Council's Standards Chapter 4.2 Building near trees or similar guidance.

Figure 1 – The Geology of Britain Viewer 1:50,000 scale indicates that the underlying geology at Anvil Cottage, Arford Common, Headley, GU35 8AD is potentially non-shrinkable Hythe Formation - Sandstone.



4 Arboricultural Impact Assessment

Arboricultural Impact Assessment overview

- 4.1 The arboricultural impact assessment assesses the direct and indirect effects of the proposed design on trees that are growing or adjacent to the site. Where appropriate mitigation will be recommended to prevent or minimise harm and details mitigation as appropriate. Consideration will be given to the practicality of the design and the viability of tree retention.

Access facilitation pruning

- 4.2 To maintain adequate clearances for construction access into the existing driveway, it will be necessary to crown lift tree T1 to provide 5m clearance above ground level, as set out at **Appendix 2**. These works are considered to be minor and will not pose a risk to the health or amenity value of this tree.

Tree protection fencing

- 4.3 Tree protection fencing will be required throughout the construction process to restrict construction access within the RPA of tree T3. The areas to be protected by the tree protection fencing can be seen as blue lines on the accompanying Tree Protection Plan at **Appendix 4**.
- 4.4 Tree protection fencing will consist of 1.8m high wire mesh panels placed in rubber blocks. The panels will be securely bolted together to prevent movement and a backstay must be attached to each panel to prevent movement and resist impacts. Un-braced weld mesh panels on unsecured rubber or concrete feet will not be used as these are not resistant to impact and are too easily removed by site operatives.
- 4.5 A notice will be attached to the fencing which says 'Tree Protection Area. Keep Out!'

Ground protection

- 4.6 It has been stated above, the RPA is a sacrosanct area of ground where encroachment by construction activities should be avoided wherever possible. In the case of trees T3 and T4 there will be a requirement for construction access within their RPAs throughout development. Where it is considered that the construction working space or temporary access is justified within their RPAs, this will be facilitated by a set-back in the alignment of the tree protection barrier and suitable ground protection will be installed. Areas to be protected with ground have been shown as orange hatching at **Appendix 4**.
- 4.7 In all cases the objective should be to avoid compaction of the soil, which can arise from the single passage of a heavy vehicle or continual pedestrian movement over the same area, especially in wet conditions. Compaction of the soil can impair root development and function leading to a decline in the physiological and structural condition of the tree.

Sensitive demolition

- 4.8 The existing sheds and steps partially overlap with the RPAs of trees T3 and T4. To avoid harm to the roots of the trees the sheds will be carefully demolished in a direction away from the RPAs. The sheds do not have concrete bases so there will be no requirement to break up the foundation.
- 4.9 The steps within the RPA of tree T4 will be broken up and removed sensitively to avoid roots that may be growing under them.

Areas for site compounds, storage and mixing

- 4.10 Site compounds will be located away from trees wherever possible and ideally 2m from any protective barriers.
- 4.11 On this occasion it is proposed to utilise the existing driveway for the site compound, storage and mixing as shown at **Appendix 4**.

Services

- 4.12 The proposed layout of incoming (water, gas and electricity) and outgoing (foul sewer) services is not yet established but they should be installed outside root protection areas. If it is necessary for a trench to be dug through an RPA a specific method statement will be required which will need to specify that the trench will be hand dug and that care will be taken to preserve all roots encountered which are larger than 25 mm diameter.
- 4.13 There is considered to be adequate room for new services to be constructed without requiring trenches that pass-through the RPAs of trees.

Conclusions

- 4.14 I visited Anvil Cottage, Arford Common, Headley, GU35 8AD on the 7th November 2023 and surveyed a total of five trees in accordance with BS5837: 2012.
- 4.15 At the time of my survey all five trees were considered to be category C and low value.
- 4.16 All trees were categorised in accordance with British Standard 5837:2012 as shown at **Appendix 1**.
- 4.17 The development will not require the removal of any trees to facilitate development.
- 4.18 Minor crown lifting works will be require to one category C tree.
- 4.19 The trees to be retained will be protected during development and methods for ensuring their protection have been described.
- 4.20 The development is sympathetic to the leafy character of the area.

5 Arboricultural Method Statement

Access facilitation works

- 5.1 The agreed pruning works will be carried out as preliminary works as detailed at **Appendix 2**. These works will be carried out by suitably qualified arborists to the standards set out in BS3998: 2010 Tree works – recommendations. Heavy machinery must not be used on unprotected ground.

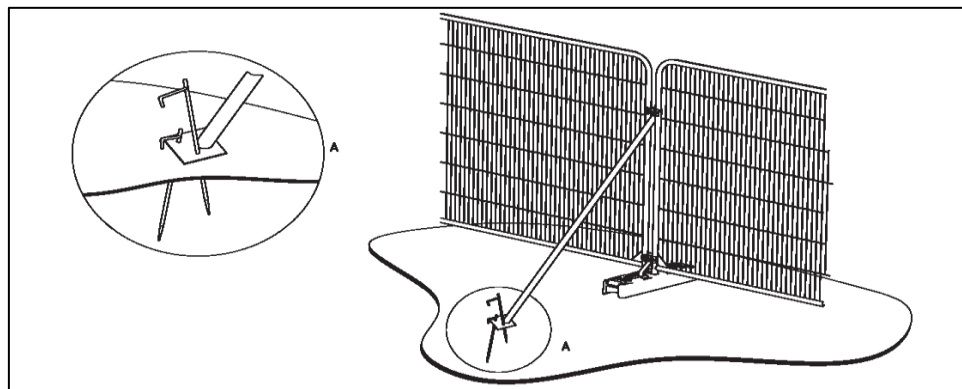
Pre-commencement meeting

- 5.2 Prior to the commencement of development all tree protection will be erected and a site meeting will be held between the appointed building contractors, the appointed arboriculturalist and local authority Tree Officer as it is stipulated at **Appendix 5**. This meeting is necessary to agree that the position of the tree protection is correct.

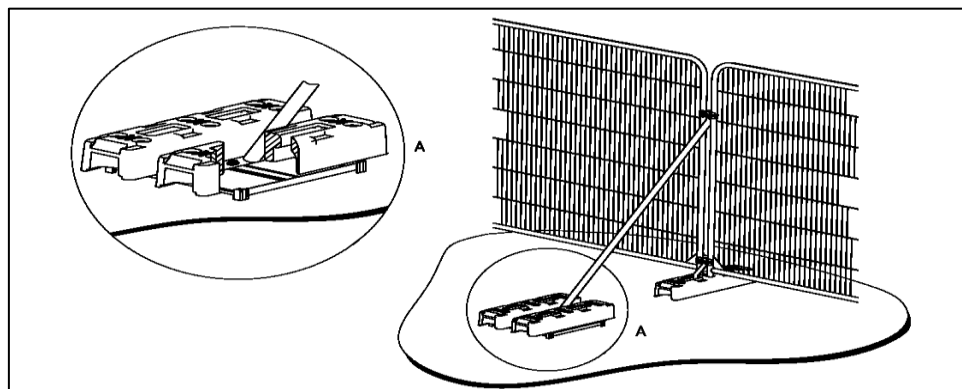
Protective barriers/fencing

- 5.3 All tree protection barriers will be erected in the positions shown in **Appendix 4** and in accordance with the specifications detailed in Figures 2 and 3.

Figures 2 and 3 – Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Image taken from British Standard 5837:2012 – Trees in relation to design, demolition and construction – Recommendations.

Warning signs

5.4 All weather notices will be attached to the tree protection fencing.

Figure 4 – Examples of tree protection warning sign.



5.5 All ground protection will be laid as follows:

Specification of temporary ground protection within RPAs

5.6 A permeable geotextile such as Terram will be laid and onto this will be placed treated timber (100 mm x 80 mm) at spacings of no more than 1m. The area between the timber bearers will be filled with a compressible material such as woodchips and will then be covered by 20 mm thick marine ply which will be screwed down onto the timber (Figures 5 and 6). The plywood may need to be coated with a non-slip paint.

Figure 5 – Specification for ply board ground protection

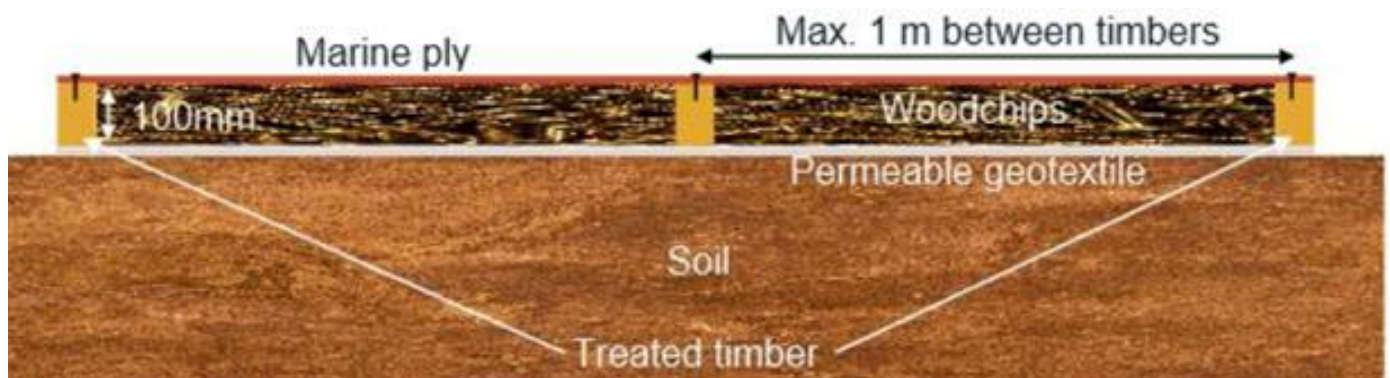


Figure 6 – Plywood sheeting used as ground protection.



5.7 Development can commence in accordance with the planning consent.

Sensitive demolition within the RPAs of trees T3 and T4

- 5.8** The existing shed will be demolished by unbolting panels and extracting panels away from the RPAs.
- 5.9** The steps that overlap with the tree T4 will be broken up using hand tools and removed away from RPAs. The area will be covered with topsoil and left as soft landscaping.
- 5.10** The tree protection fencing will be realigned with the dashed blue shown at **Appendix 4**. When the tree protection fencing has been realigned, photos will be forwarded to the appointed arboriculturalist to allow them to check the fencing has been erected correctly.
- 5.11** Following completion of all development the tree protection can be dismantled to allow landscaping works to take place.

Appendix 1 – British Standard 5837:2012 tree categorisation chart




TREES UNSUITABLE FOR RETENTION				
CATEGORY AND DEFINITIONS	CRITERIA			IDENTIFICATION ON PLAN
<p>Category U</p> <p>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</p>	<ul style="list-style-type: none"> 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. <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5 of BS5837:2012</i></p>			<p>RED █</p> <p>RGB 127.000.000</p>
TREES TO BE CONSIDERED FOR RETENTION				
CATEGORY AND DEFINITIONS	CRITERIA - SUBCATEGORIES			IDENTIFICATION ON PLAN
	1 Mainly arboricultural values	2 Mainly landscape values	3 Mainly cultural values, including conservation	
<p>Category A</p> <p>Trees of high quality</p> <p>with an estimated remaining life expectancy of at least 40 years</p>	<p>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).</p>	<p>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.</p>	<p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</p>	<p>LIGHT GREEN █</p> <p>RGB 000.255.000</p>
<p>Category B</p> <p>Trees of moderate quality</p> <p>with an estimated remaining life expectancy of at least 20 years</p>	<p>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.</p>	<p>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.</p>	<p>Trees with material conservation or other cultural value</p>	<p>MID BLUE █</p> <p>RGB 000.000.255</p>
<p>Category C</p> <p>Trees of low quality</p> <p>with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm</p>	<p>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.</p>	<p>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.</p>	<p>Trees with no material conservation or other cultural value.</p>	<p>GREY █</p> <p>RGB 091.091.091</p>

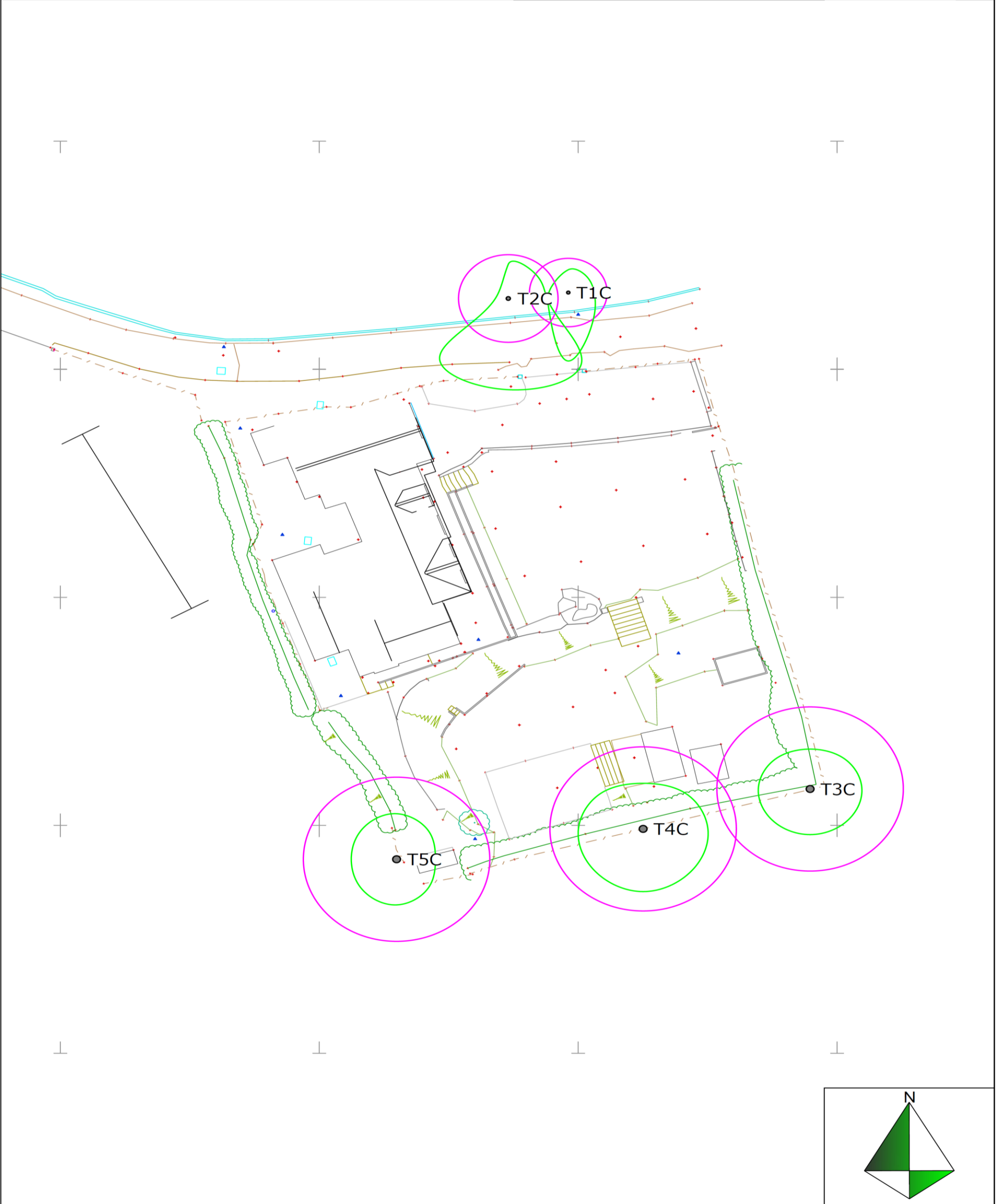
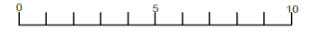
Appendix 2 - Tree survey schedule

Tree No.	Species	Height (m)	Trunk dia. at 1.5m	Canopy Spread	Crown Height (m)	Age Class	Physiological Condition	Structural Condition	Comments/ Recommendations	Useful Life Expect	BS5837 grade	Root Protection Area	
												Radius	RPA Area
T1	Common Oak (<i>Quercus robur</i>)	15m	250mm est	N2m E2m S6m W1.5m	3.5m	Semi mature	Good	Fair	Off-site tree. Unremarkable tree. Crown biased to the south. Works required for development: Crown lift to provide 5m clearance over the existing entrance to the property.	10+	C	3.0m	28.3m ²
T2	Common Oak (<i>Quercus robur</i>)	14m	200mm 250mm est	N3m E3m SE8m S8m SW7.5m W1m	5m	Semi mature	Good	Fair	Off-site tree. Unremarkable tree. Co-dominant form with adjacent trees. Twin-stemmed from 0.25m with a tight compression fork.	10+	C	3.8m	46.4m ²
T3	Common Oak (<i>Quercus robur</i>)	12m	600mm est	N3.5m E4m S4m W4m	4m	Mature	Good	Fair	Off-site tree. Crown has been previously heavily reduced at 6m.	10+	C	7.2m	162.9m ²
T4	Silver Birch (<i>Betula pendula</i>)	19m	600mm est	N4m E5m S5.5m W5m	6m	Mature	Good	Fair	Off-site tree. Crown has been previously topped at 18m.	10+	C	7.2m	162.9m ²
T5	Common Oak (<i>Quercus robur</i>)	13m	600mm est	N4m E3m S4m W3.5m	8m	Mature	Good	Fair	Off-site tree. Crown has been previously reduced.	10+	C	7.2m	162.9m ²

Appendix 3 – Tree Constraints Plan – RMT922 – TCP

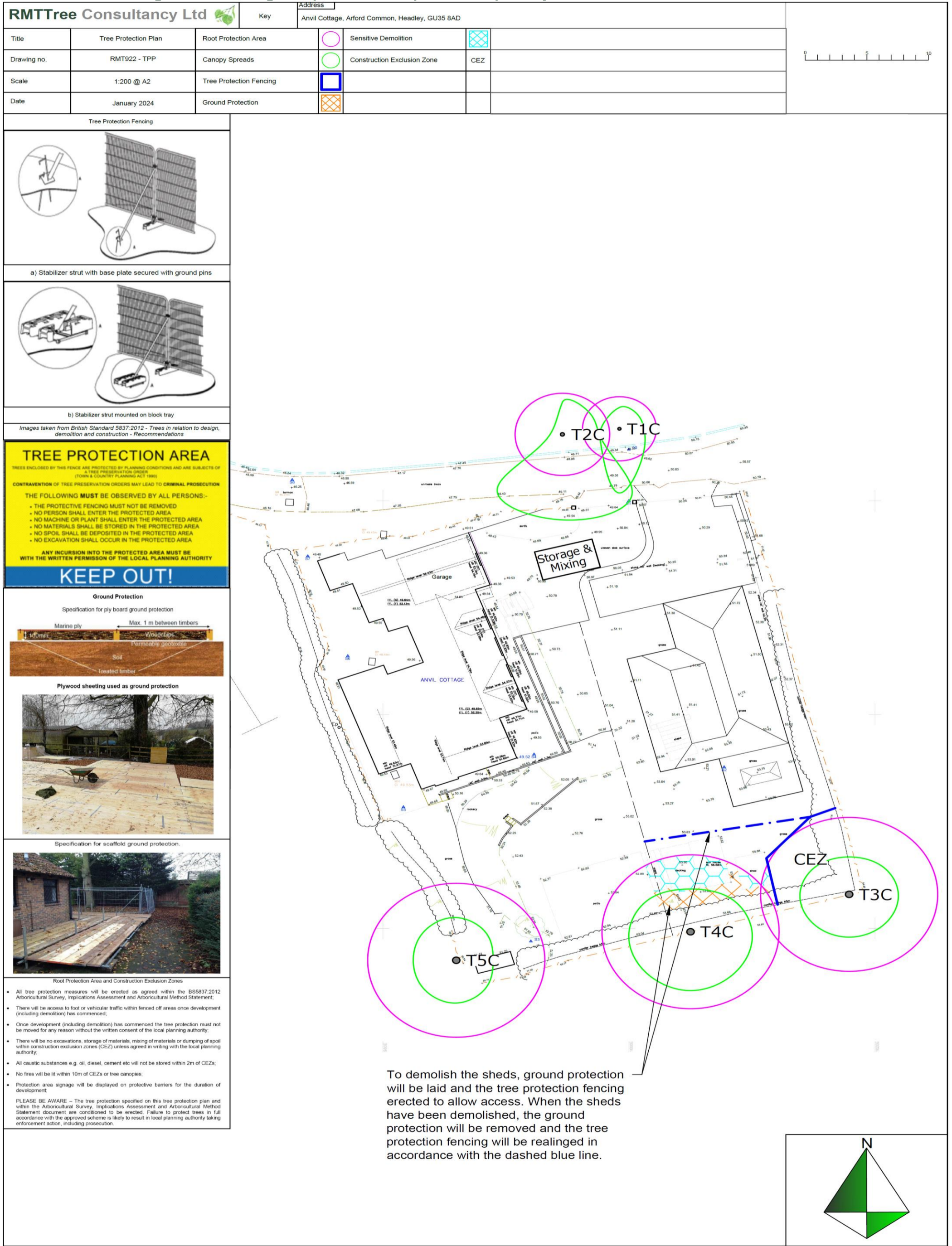
Tree constraints plan (TCP) showing retained trees, tree numbers, root protection areas (magenta circles/polygons) and canopy spreads (green lines). The plan has been provided separately as a PDF at a scale of 1: 200 @ A2.

RMTTree Consultancy Ltd 		Key		Address	
		Anvil Cottage, Arford Common, Headley, GU35 8AD			
Title	Tree Constraints Plan	Root Protection Area			
Drawing no.	RMT922 - TCP	Canopy Spreads			
Scale	1:200 @ A2				
Date	February 2024				



Appendix 4 – Tree Protection Plan – RMT922 – TPP

Tree protection plan (TPP) showing retained trees, tree numbers, root protection areas (magenta circles/polygons) and canopy spreads (green lines). The location of protective fencing is shown as blue lines, ground protection as orange hatching and sensitive demolition light blue hatching. The plan has been provided separately as a PDF at a scale of 1: 200 @ A2.




Appendix 5 – Arboricultural site supervision schedule

Activity	Supervision Required
Pre-commencement meeting between the local authority arboricultural officer, the appointed arboriculturalist and the appointed building contractor.	✓
At any time that there are conflict issues with the agreed tree protection.	✓

Following every visit the appointed arboriculturalist will fill out the site monitoring form which is shown at **Appendix 6** and this will be forwarded to the LPA.

Appendix 6 – Site monitoring form

RMTTree Consultancy Ltd 			
Site monitoring form			
Date of visit		Site	
Consultant in attendance			
Observations/status of tree protection/comments:			
Recommendations (if necessary):			
Date of next visit		Signature	

Appendix 7 – Qualifications and experience

Robert Toll has been working with trees since 2004 when he completed his studies.

In 2000 he began his studies at Riseholme College, Lincoln where achieved a pass with merit in Forestry at National Diploma level. In 2002 he attended Moulton College in Northampton where he gained a Level Five Higher National Diploma in Urban Forestry with merit.

In 2004 Robert began work as a temporary tree inspector at Northampton Borough Council, undertaking inspections of trees in response to enquiries from the public. After 4 months Robert took up a permanent tree inspector role at Coventry City Council which predominantly involved undertaking safety inspections of trees on school sites.

In 2006 Robert moved to Warwick District Council to take up a temporary post of Tree Protection Officer which involved reviewing old area tree preservation orders and identifying those trees which were considered worthy of protection under new specific orders. He also streamlined the council procedure for making new tree preservation orders, cutting the time from making to serving from up to 2 weeks to within 2 hours.

In 2008 Robert moved to Hart District Council, Hampshire to take up the role of Tree Officer within the planning department. This role included determining works trees applications, commenting on planning proposals, liaising with the public and providing arboricultural advice to other departments within the Council.

Between 2014 and 2016 Robert took up the role of Tree Officer at Elmbridge Borough Council, Surrey, once again carrying out tasks such as determining works trees applications, commenting on planning proposals and liaising with the public. While at Elmbridge Borough Council he passed the Arboricultural Association's Professional Tree Inspection course.

Robert is a professional member of the Arboricultural Association.