



BS 5837:2012 Arboricultural Impact Assessment

Client:	Stephen Harris
Site address:	Blackbirds, Bramble Hill, West Sussex RH17 6HR
Report reference:	#Ref-10
Surveyor:	Ian Dalton Dip Arb L4 (ABC)
Author:	Ian Dalton Dip Arb L4 (ABC)
Date:	24 th September 2025

Canopy IQ

www.canopyiq.co.uk
admin@canopyiq.co.uk
07738739795

© Canopy IQ LTD 2025

All rights in this report are reserved. The content and format are for the exclusive use of the above addressee and their direct agents in managing their tree stock. It may not be sold, lent, hired out or divulged to any third party not directly involved in this site without the written consent of Canopy IQ Ltd.

Table of contents

1.0	Executive Summary.....	2
2.0	Introduction	3
3.0	The Site.....	3
4.0	The Tree Population.....	4
5.0	Legal Status of the Trees	5
6.0	Arboricultural Impact Assessment	6
6.1	General	6
6.2	Direct Impacts on Trees	6
6.3	Indirect Impacts on Trees.....	6
6.4	Mitigation and Tree Protection Strategy	7
6.5	Ground Protection:	7
6.6	Specialist Construction Methods:	7
7.0	Conclusion.....	8
Appendix 1:	Key to Tree Survey Schedule.....	9
Appendix 2:	Tree Survey Schedule	11
Appendix 3:	Tree work Schedule.....	14
Appendix 4:	Tree Protection Plan (TPP)	15
Appendix 5:	Tree Protection Barriers & Ground Protection Design	16
Appendix 6:	Methods of Work in Close Proximity to Trees.....	24
Appendix 7:	Report Caveats, Tree Protection and References	28

Note: Click or tap on the section titles above to navigate directly to the corresponding page.

1.0 Executive Summary

- 1.1.1** Canopy IQ was commissioned to undertake an arboricultural survey at Blackbirds, Bramble Hill, West Sussex RH17 6HR on 23rd September 2025 and prepare this Arboricultural Impact Assessment (AIA). This report has been produced in accordance with British Standard 5837:2012, *Trees in relation to design, demolition and construction – Recommendations* to support a planning application for the proposed development.
- 1.1.2** A total of seven individual trees, one group and two hedgerows were assessed. Of these, two low-quality trees (T6 – Sweet Chestnut and T8 – English yew) are proposed for removal to facilitate the proposed development. A section of boundary hedge H2 will also be partially removed to facilitate access and construction.
- 1.1.3** The proposed shed location lies within the Root Protection Area (RPA) of tree T9 – a mature Leyland cypress located off-site. To mitigate the risk of damage to tree roots and soil structure, a range of specialist construction techniques will be employed. These include the use of screw pile or post foundations and a cellular confinement system for any new surfacing within the RPA.
- 1.1.4** Provided that these low-impact construction methods are implemented, and that temporary protective fencing is installed around retained trees in accordance with *BS 5837:2012*, the proposed development is not anticipated to result in unacceptable harm to trees of significant arboricultural or amenity value.
- 1.1.5** Tree protection measures and site supervision will be addressed in an accompanying Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) (see [Tree Protection Plan Appendix 4](#)).

2.0 Introduction

2.1 Instructions

- 2.1.1** Canopy IQ was instructed by Stephen Harris to undertake a tree survey and prepare this Arboricultural Impact Assessment (AIA).

2.2 Scope and Purpose

- 2.2.1** This report details the findings of our survey in accordance with British Standard 5837:2012, *Trees in relation to design, demolition and construction – Recommendations*. It assesses the potential impact of the proposed development on the tree population and provides a strategic framework for protecting retained trees through a Tree Protection Plan (TPP).

3.0 The Site

3.1 Site Location and Context

- 3.1.1** The site is a residential property with a moderate-sized garden containing a number of young and early-mature trees. A plan showing the site location and survey boundary is provided below:



4.0 The Tree Population

4.1 General Description

4.1.1 The site supports a mixed-age population of trees, with notable species including Walnut and Cherry. The survey was undertaken on 23rd September 2025 by Ian Dalton of Canopy IQ.

4.2 Survey Results Summary

4.2.1 A total of 10 features were assessed and categorised. A summary of the survey findings is provided in Table 1. Full details for each item, including dimensions, condition, and specific recommendations, can be found in the [Tree Schedule \(Appendix 2\)](#).

4.3 Table 1: Summary of Tree Survey Categorisation

	<i>A</i>	<i>B</i>	<i>C</i>	<i>U</i>	<i>TOTAL</i>
<i>Trees</i>	0	1	6	0	7
<i>Groups</i>	0	0	1	0	1
<i>Hedges</i>	0	0	2	0	2
<i>Woodlands</i>	0	0	0	0	0
<i>Shrub/Scrub areas</i>	0	0	0	0	0
<i>TOTAL</i>	0	1	9	0	10

5.0 Legal Status of the Trees

Protection Type	Yes/No
Tree Preservation Order (TPO)	No
Conservation Area	Yes

5.1.1 See the image below, which displays a snapshot of the Mid Sussex District Council's interactive map that illustrates the extent of Tree Preservation Orders (TPOs) and Conservation Areas affecting the site.

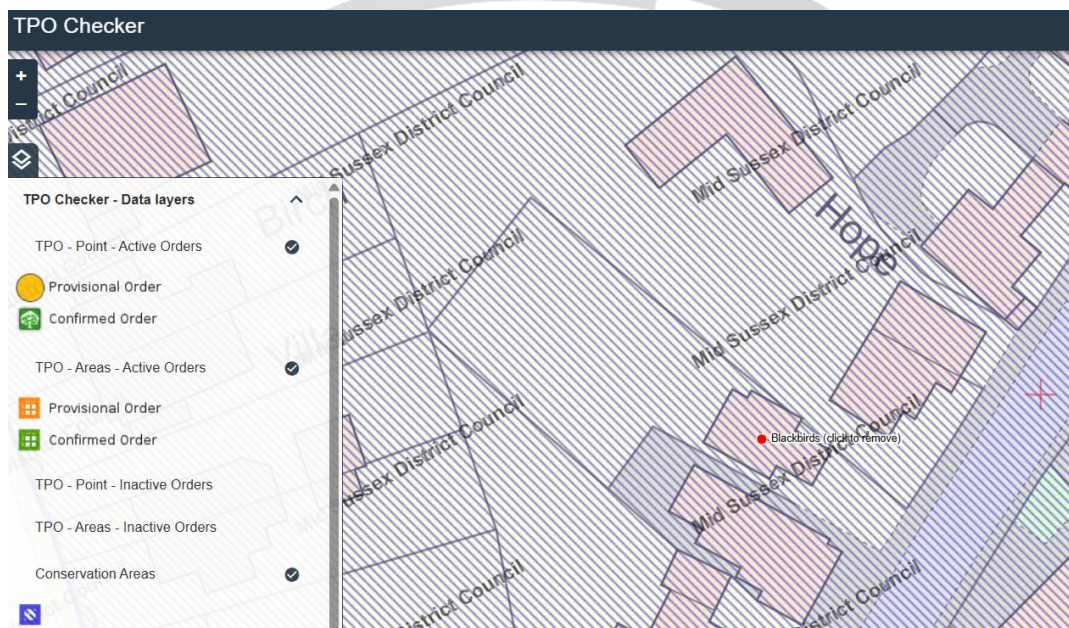


Figure 1 Snapshot from the Mid Sussex District Council's Interactive map showing TPOs and CAs

5.1.2 The trees are protected by conservation area protection but are not covered by TPO.

5.1.3 See [Appendix 7](#) for more information on the statutory protection of trees.

5.1.4 Please be aware of the following regarding vegetation clearance: If you want to prune or remove a tree that is protected by a Tree Preservation Order or is within a Conservation Area, you need to get written permission from the Local Planning Authority before you can proceed with the work. However, if the work is necessary as part of a planning consent, you do not need additional permission.

6.0 Arboricultural Impact Assessment

6.1 General

- 6.1.1** This section evaluates the direct and indirect impacts of the proposed development on the tree population. The assessment is based on the final proposed layout and has informed the recommendations for mitigation and protection detailed below.

6.2 Direct Impacts on Trees

- 6.2.1 Tree Removals:** To implement the proposed design, the removal of two individual trees (T6 and T8) and a partial removal of one hedgerow (H2) is required. These are identified on the [Tree Protection Plan \(Appendix 4\)](#) and are of low quality, as detailed in the [Tree Schedule \(Appendix 2\)](#).
- 6.2.2 Facilitation Pruning:** Minor pruning works may be required to maintain clearance from adjacent vegetation, though no specific pruning has been identified at this stage. Any necessary access facilitation pruning will be carried out in accordance with *BS 3998:2010 – Tree Work: Recommendations* and will not adversely affect the long-term health or amenity value of retained trees.

6.3 Indirect Impacts on Trees

- 6.3.1 Root Protection Area (RPA) Incursions:** The proposed layout encroaches into the Root Protection Area of **one** retained tree (T9 – Leyland cypress). This incursion is required to facilitate the installation of a garden shed and is considered acceptable, provided that specialist low-impact construction techniques are strictly adhered to.
- 6.3.2** To mitigate the potential impact on tree roots, the following methods will be employed:
- ✚ Excavations within the RPA will be carried out using hand tools and an airspade to expose and preserve existing roots. This approach allows for careful excavation and inspection, ensuring roots over 25mm diameter are retained and protected.
 - ✚ Where screw pile or post foundations are proposed, these will be carefully positioned between retained roots following the exploratory airspade excavation. This avoids severance of major structural roots and prevents damage to the soil structure.

- 6.3.3** These methods align with the recommendations of *BS 5837:2012* and provide a practicable means of accommodating development within the RPA while ensuring the long-term health and stability of the retained tree.

6.4 Mitigation and Tree Protection Strategy

- 6.4.1 Protective Fencing:** Prior to any works commencing, robust protective barriers will be erected at the locations shown on the [Tree Protection Plan \(Appendix 4\)](#). This will establish secure Construction Exclusion Zones (CEZs) to safeguard retained trees throughout the development process.

6.5 Ground Protection:

- 6.5.1** In any areas where temporary access or working within the RPA is unavoidable, specialist [ground protection](#) will be installed to prevent soil compaction and root damage. Specifications are provided on the Tree Protection Plan.

6.6 Specialist Construction Methods:

- 6.6.1** For the proposed shed footprint located within the RPA of T9, a 'no-dig' construction approach will be adopted. Suitable methodologies, such as cellular confinement systems and screw pile or post foundations, will be employed to minimise disruption to soil structure and tree roots. General methodologies for working in proximity to trees are detailed in [Appendix 6 Methods of Work in Close Proximity to Trees](#).

7.0 Conclusion

- 7.1.1** The proposed development has been designed with consideration for the arboricultural constraints of the site, focusing on the retention of the most valuable trees. The identified impacts, including the removal of lower-quality trees and a minor RPA incursion, are manageable.
- 7.1.2** The mitigation and protection measures specified within this report and its associated appendices are designed to be robust and effective. With strict adherence to these recommendations, the proposal is considered arboriculturally viable and will facilitate the successful long-term retention of the site's key trees, ensuring they continue to provide amenity for years to come.
- 7.1.3** Should you have any queries regarding the contents of this report, please do not hesitate to contact us.

Ian Dalton DipArbL4 (ABC)

Ian Dalton

Principal Arboricultural Consultant
Canopy IQ Ltd

Appendix 1: Key to Tree Survey Schedule

Tree no. (with Google map link) – The individual identification reference numbers for the tree. For example:

✚ **T1** – Individual tree

✚ **G1** – Group of trees

This field also includes a link to the tree's location on Google Maps.

Species – The species of the tree, listed by scientific name, with the accompanying common name in parentheses.

Structural Condition – An assessment of the tree's structural integrity, noting any physical defects or signs of instability, categorised as follows:

✚ **Good** – No significant structural defects; stable and unlikely to fail under normal conditions.

✚ **Remediable** - Defects are present but can likely be corrected through interventions like pruning.

✚ **Irremediable** - Defects are significant and cannot be corrected, compromising the tree's stability over time.

✚ **Unviable** - Structure is critically weak, posing an immediate hazard and unsuitable for retention.

Physiological Condition – Observations on the tree's health and vitality, categorised as follows:

Attributes – Characteristics or features of the tree, such as:

✚ **Height** – Total height from ground to top of the crown, measured in meters.

✚ **Stem diameter** – Diameter of the main stem at 1.3 meters above ground, in millimetres

✚ **Spread** – The horizontal reach of the crown measured from the trunk to the edge of the foliage, taken from the four cardinal points (north, south, east, and west).

✚ **Crown clearance** – Height above ground to the lowest part of the crown, important for clearance assessments.

✚ **Lowest branch** – Height of the lowest branch above ground, noting its orientation.

✚ **Life stage** – An estimate of the tree's age based on visual indicators; considered provisional unless supported by additional information, such as historical records or local knowledge.

- ✚ **Remaining contribution in years** - Estimated remaining lifespan based on health and structure, indicating future landscape value.

General Observations – General comments on the tree's overall condition, noting any physiological or structural issues, health, vitality, and form. Observations may include any visible defects, pests, diseases, or disorders affecting the tree.

Retention Category – The recommended category for tree retention is based on BS5837 criteria, which indicates the tree's suitability for retention in the context of site development or management. The categories are as follows:

- ✚ **Category A (High Quality)** – Trees of high value due to their age, size, condition, or special significance (e.g., historical, ecological, or landscape importance). They have a long-anticipated lifespan and contribute significantly to the landscape. Retention is strongly recommended wherever possible.
- ✚ **Category B (Moderate Quality)** – Trees of moderate value, in fair condition with some defects or younger age. They make a positive contribution to the landscape but are not as essential as Category A trees. Retention is desirable if it does not hinder site development.
- ✚ **Category C (Low Quality)** – Trees of lower value due to poor health, limited longevity, or minor landscape significance. Often younger or smaller, they may have defects that limit their lifespan. Retention is optional, and they can be removed if needed for site development.
- ✚ **Category U (Unsuitable for Retention)** – Trees in poor condition with serious structural defects or health issues, unlikely to survive beyond 10 years. These trees are not recommended for retention due to safety concerns and limited future value.

Lowest Branch – The height of the lowest branch above ground level, noted to aid in assessing tree clearance for access or visibility.

Root Protection Area (RPA) – The calculated area surrounding a tree is required to protect its root system and ensure its health, as per BS5837 guidelines.

Appendix 2: Tree Survey Schedule

Site address: Blackbirds, Bramble Hill, West Sussex RH17 6HR

Client: Stephen Harris



Report ref: #Ref-10

Survey date: 23rd September 2025

Tree no. (with Google map link)	Species	Structural Condition	Physiological Condition	No. of stems	Measurements	General Observations	Retention Category	RPA	Photo
G1	Mixed species	Stable	Normal	1	Height (m): 2 Stem Diam(mm): 150 Spread (m): 1.5N, 1.5E, 1.5S, 1.5W Crown Clearance (m): 0 Life Stage: Young Rem. Contrib.: 10+ Years	Raised flower bed containing mixed ornamental trees.	C3	Area: 33 sq m.	
H2	Mixed species	Stable	Normal	1	Height (m): 3 Stem Diam(mm): 100 Spread (m): 1N, 1E, 1S, 1W Crown Clearance (m): 0 Life Stage: Young Rem. Contrib.: 10+ Years	Mixed species boundary hedge.	C2	Area: 208 sq m.	
T3	Common walnut (<i>Juglans regia</i>)	Stable	Normal	1	Height (m): 10 2 stems (mm): 330, 340 Spread (m): 6N, 6E, 6S, 6W Crown Clearance (m): 1 Life Stage: Mature Rem. Contrib.: 10+ Years	Included bark and associated reaction growth at main fork at 1m. Sparse crown. Limited useful life expectancy.	C1	Radius: 5.7m. Area: 102 sq m.	
T4	Cherry (<i>Prunus sp.</i> 'Cherry')	Stable	Normal	1	Height (m): 3 Stem Diam(mm): 240 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 1 Life Stage: Early mature Rem. Contrib.: 10+ Years	Tree has been heavily crown reduced in the past. No significant defects visible, good vitality.	C3	Radius: 2.9m. Area: 26 sq m.	

Site address: Blackbirds, Bramble Hill, West Sussex RH17 6HR

Client: Stephen Harris



Report ref: #Ref-10

Survey date: 23rd September 2025

Tree no. (with Google map link)	Species	Structural Condition	Physiological Condition	No. of stems	Measurements	General Observations	Retention Category	RPA	Photo
T5	Cherry (<i>Prunus sp.</i> 'Cherry')	Stable	Normal	1	Height (m): 3 Stem Diam(mm): 210 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 1 Life Stage: Early mature Rem. Contrib.: 10+ Years	Tree has been heavily crown reduced in the past. No significant defects visible, good vitality.	C3	Radius: 2.9m. Area: 26 sq m.	
T6	Sweet chestnut (<i>Castanea sativa</i>)	Stable	Normal	1	Height (m): 7 Stem Diam(mm): 240 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 1 Life Stage: Early mature Rem. Contrib.: 10+ Years	Asymmetric, partially suppressed crown. No significant defects visible, good vitality.	C3	Radius: 2.9m. Area: 26 sq m.	
T7	Sycamore (<i>Acer pseudoplatanus</i>)	Stable	Normal	1	Height (m): 10 Stem Diam(mm): 450 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 0 Life Stage: Early mature Rem. Contrib.: 20+ Years	Unable to access stem due to dense undergrowth, DBH is estimated. Tree appears to be healthy with no significant defects visible, good form and vitality.	B1	Radius: 5.4m. Area: 92 sq m.	
T8	English yew (<i>Taxus baccata</i>)	Stable	Normal	1	Height (m): 5 2 stems (mm): 250, 200 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 1 Life Stage: Early mature Rem. Contrib.: 10+ Years	Tree has been heavily pruned, crown is leaning and suppressed. Low quality specimen.	C1	Radius: 3.8m. Area: 45 sq m.	
T9	Leyland cypress (<i>X Cuprocyparis leylandii</i>)	Stable	Normal	5	Height (m): 15 5 stems, avg.(mm): 450 Spread (m): 4N, 4E, 4S, 4W Crown Clearance (m): 1 Life Stage: Mature Rem. Contrib.: 10+ Years	Off site tree, measurements are estimated. Recently topped but appears to be healthy with no significant defects visible.	C3	Radius: 12.1m. Area: 460 sq m.	

Site address: Blackbirds, Bramble Hill, West Sussex RH17 6HR
Client: Stephen Harris



Report ref: #Ref-10
Survey date: 23rd September 2025

Tree no. (with Google map link)	Species	Structural Condition	Physiological Condition	No. of stems	Measurements	General Observations	Retention Category	RPA	Photo
H10	Laurel cherry (<i>Prunus laurocerasus</i>)	Stable	Normal	1	Height (m): 3 Stem Diam(mm): 100 Spread (m): 1N, 1E, 1S, 1W Crown Clearance (m): 0 Life Stage: Early mature Rem. Contrib.: 10+ Years	Clipped boundary hedge.	C2	Radius: 1.2m. Area: 54 sq m.	



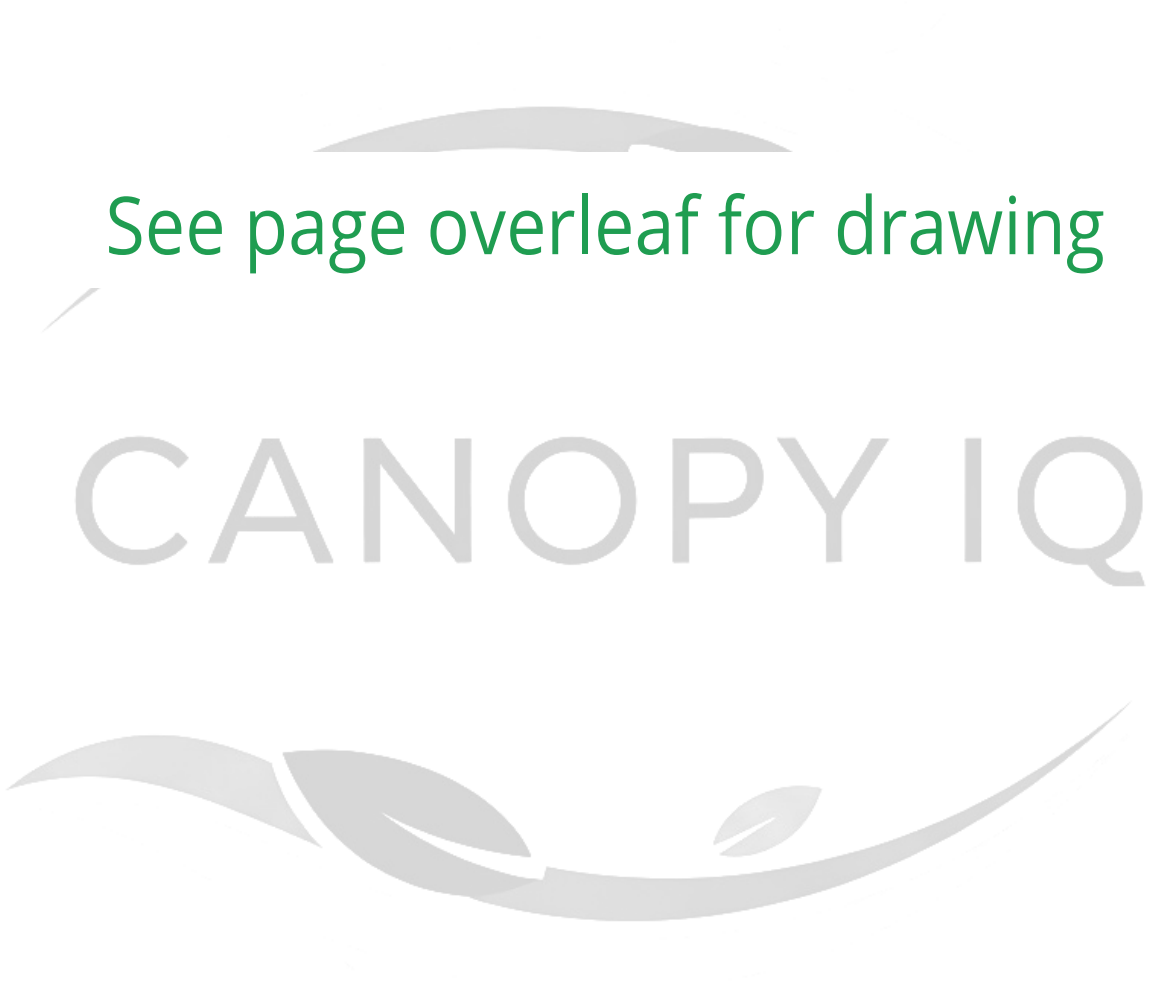
Appendix 3: Tree work Schedule

Tree No.	Species	Necessary tree work	Category
T6	Sweet chestnut (<i>Castanea sativa</i>)	Remove to facilitate development.	C
T8	English yew (<i>Taxus baccata</i>)	Remove to facilitate development.	C
H2	Mixed species	Partially remove to facilitate development.	C

CANOPY IQ

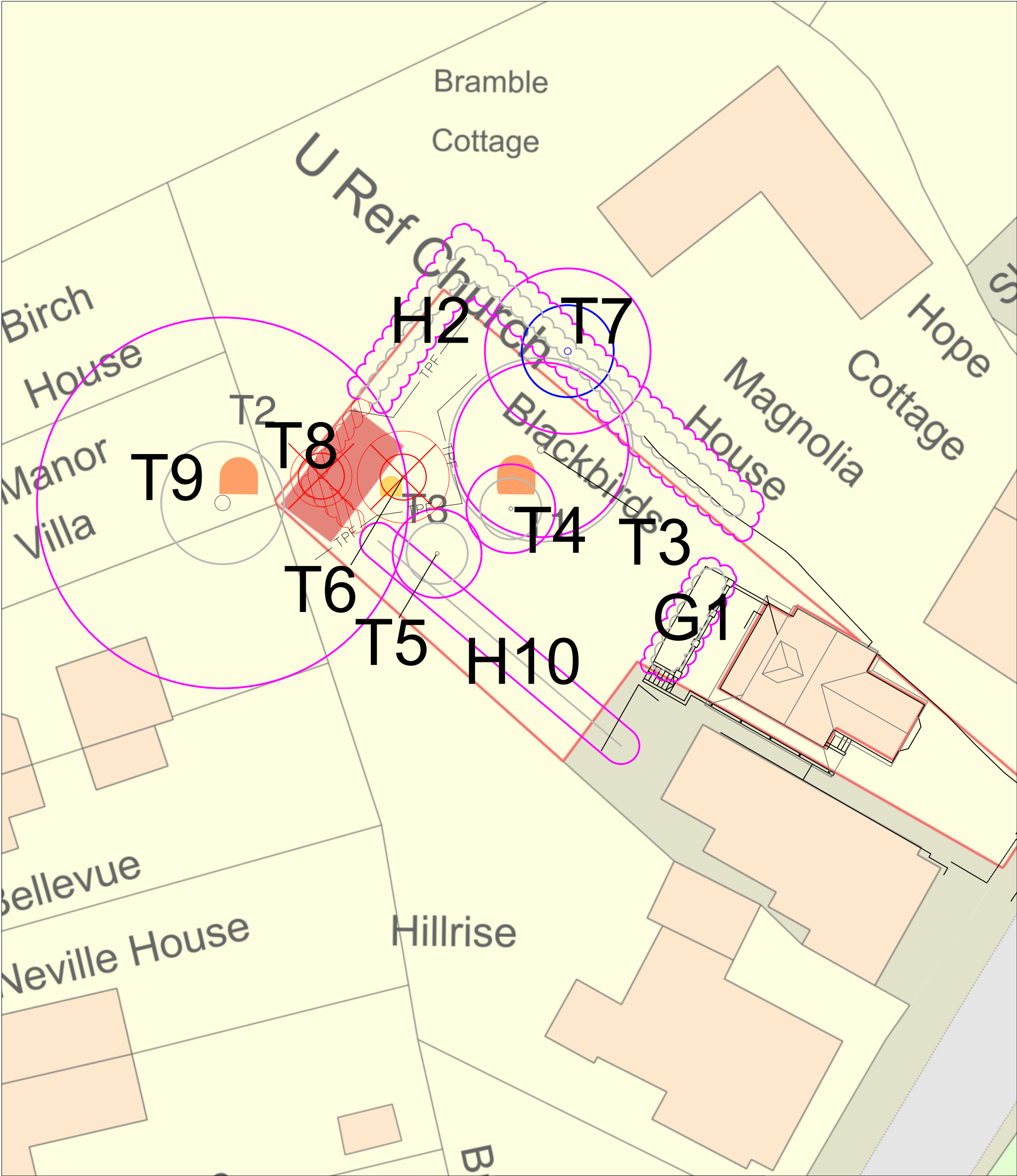


Appendix 4: *Tree Protection Plan (TPP)*



See page overleaf for drawing

CANOPY IQ



Key

Category A - Trees of high quality
with an estimated remaining life expectancy of at least 40 years

Category B - Trees of moderate quality
with an estimated remaining life expectancy of at least 20 years

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

Category U - Trees unsuitable for retention
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

Group of trees (G) / Hedgerows (H) / Woodlands (W) / Shrub (S)
Colour coded according to categories above

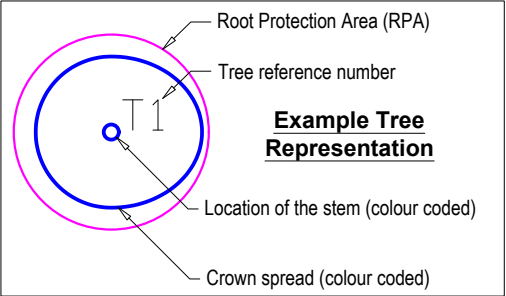
Root Protection Area (RPA)

Group of trees (G) / Hedgerows (H) / Woodlands (W) / Shrub (S) to be removed/partially removed.

Trees to be removed

Tree Protective Fencing (TPF)

NOTE:
TO BE PRINTED IN COLOUR AT
A3 SIZE



Site	Blackbirds		
Client	Steve Harris		
Drawing title	Tree Protection Plan for Arboricultural Impact Assessment		
Drawing no.	TPP/#Ref-10/24-09-25		
Revision	Scale 1/300@A3 Drawn by ID	Date 24-09-25 Checked by JR	

Appendix 5: Tree Protection Barriers & Ground Protection Design

1.0 Purpose and Function

- 1.1.1** Tree protection barriers are to be erected prior to any site clearance, demolition or construction activity. Their purpose is to prevent physical damage to retained trees and to preserve soil structure within the Root Protection Area (RPA) throughout the project duration.
- 1.1.2** The barrier type and positioning must be proportionate to the nature and scale of the adjacent works, in accordance with BS 5837:2012, Clause 6.2.2.

1.2 Specification

- 1.2.1** Unless otherwise agreed in writing with the Local Planning Authority (LPA), the protective barrier shall conform to the default specification illustrated in BS 5837:2012 [Figure 2](#):
 - ✚ Height: Minimum 2.0 m.
 - ✚ Framework: Scaffold poles arranged both vertically and horizontally, with vertical poles spaced at no more than 3.0 m centres, braced to resist impact.
 - ✚ Infill: Weldmesh panels securely attached to the scaffold framework.
 - ✚ Foundations: Scaffold poles driven firmly into the ground or mounted on fixed base plates where underground constraints apply.
 - ✚ Alternative Systems: Where site conditions or risk assessments indicate a low likelihood of incursion, lightweight systems such as 'Heras' panels on concrete or rubber feet may be used only with LPA agreement. Such panels must be secured with a minimum of two anti-tamper couplers per panel and stabilised with additional support struts.
 - ✚ Signage: Weatherproof notices stating "TREE PROTECTION ZONE – KEEP OUT" shall be affixed to the fencing at 5 m intervals, facing the working area ([see Figure 5](#)).

1.3 Installation and Maintenance

- 1.3.1** Barriers must be installed in the locations shown on the Tree Protection Plan prior to the commencement of works. They are to remain in place, intact, and fit for purpose for the full duration of the construction phase, unless agreed otherwise in writing with the project arboriculturist and the LPA. Any damage to the fencing must be rectified immediately.

1.4 Location

- 1.4.1** The protective barriers will be aligned to enclose the full extent of each RPA, thereby defining the Construction Exclusion Zone (CEZ). The CEZ is a no-entry zone for all personnel, vehicles, plant and materials, except where specific access is authorised in accordance with an approved Arboricultural Method Statement (AMS).



Figure 2 Example of welded mesh barriers in use

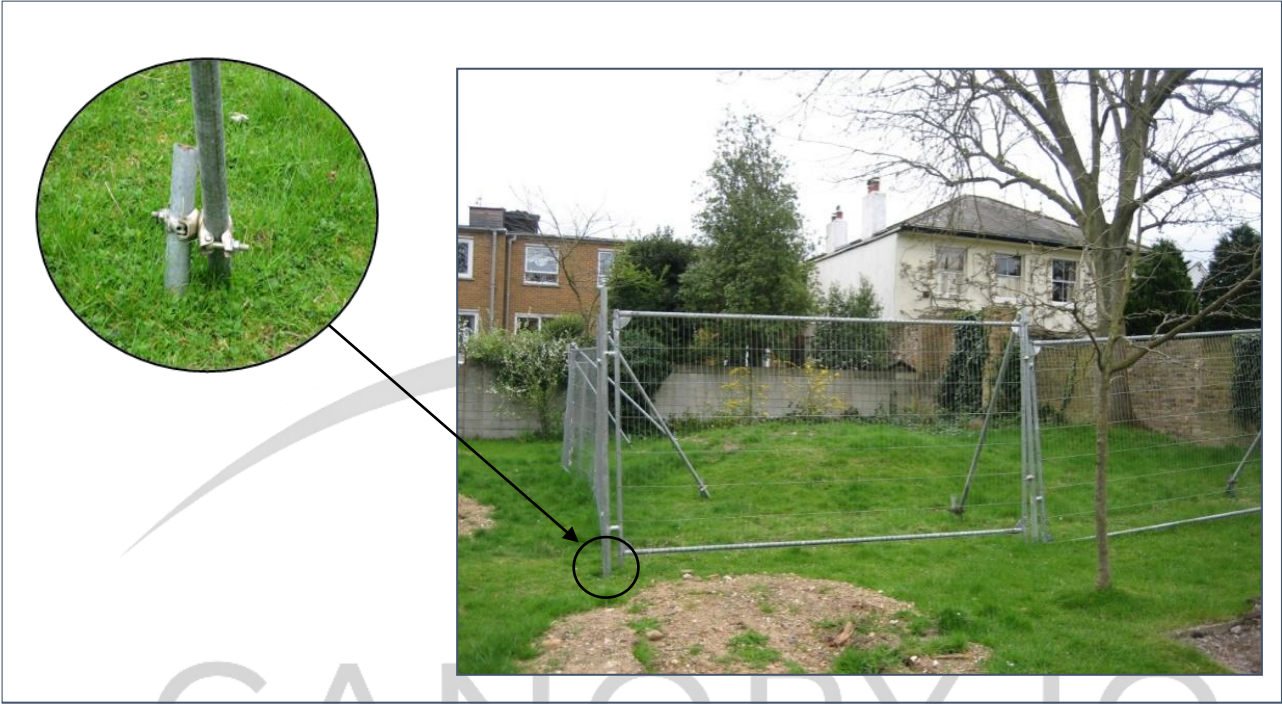


Figure 4 Default specification or protective barrier

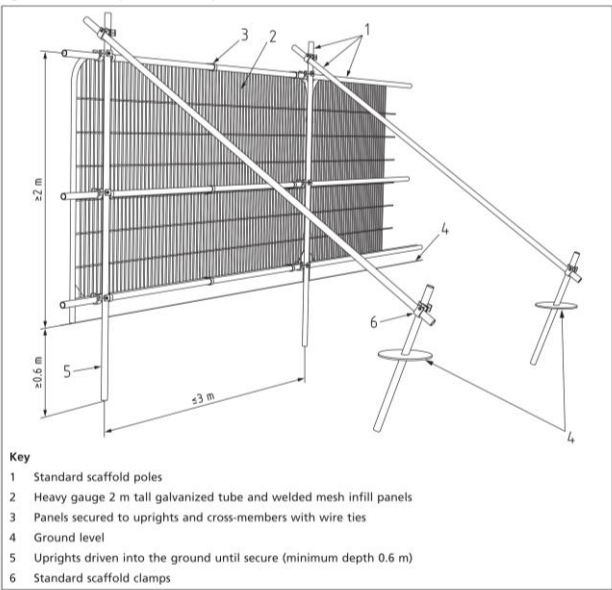
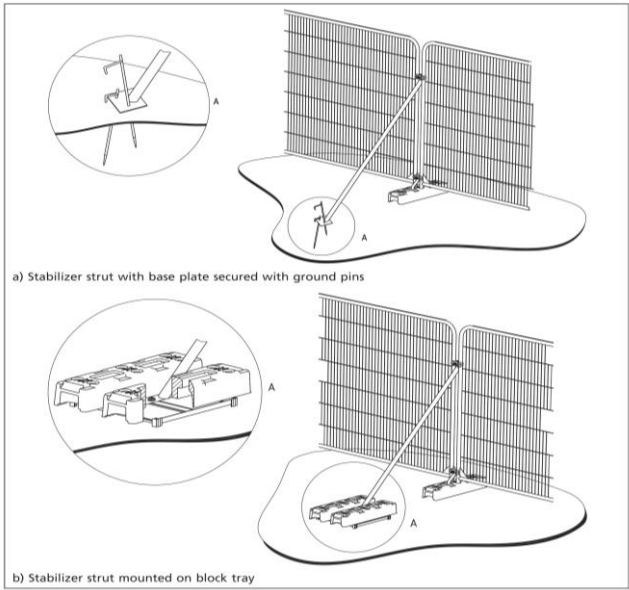


Figure 3 Examples of above-ground stabilizing system



Figures above are reproduced with the permission of the British Standards Institute.



Figure 5 - Examples of Protective Fencing Signing



2.0 Box Hoarding

2.1 Purpose

- 2.1.1** Where it is not feasible to erect protective fencing due to space constraints or site layout, the trunks of retained trees within or adjacent to the working area shall be safeguarded with box hoarding. This method provides robust physical protection against accidental impact from machinery, materials handling, or other construction activities.

2.2 Specification

- 2.2.1** The hoarding shall consist of timber or exterior-grade plywood panels fixed to a rigid supporting frame. The frame must be braced and anchored to prevent movement, ensuring the panels remain in close proximity to (but not in direct contact with) the trunk.

-  **Panel Material:** Minimum 18 mm exterior-grade plyboard or equivalent.
-  **Frame Construction:** Treated timber or other durable material, designed to resist displacement or collapse.
-  **Clearance:** A minimum gap of 25 mm should be maintained between the trunk and the hoarding to prevent abrasion to the bark.
-  **Height:** Hoarding should extend to a minimum height of 2.0 m or to the first significant branch union, whichever is lower.

2.3 Installation and Duration

- 2.3.1** Box hoarding must be installed prior to the commencement of works in the vicinity of the tree and maintained in a serviceable condition for the duration of the activity that necessitated its installation. Removal should only take place when the risk of damage has passed and with the agreement of the project arboriculturist.

Figure 6 - Example of Box Hoarding



3.0 *Ground protection*

- 3.1.1** Where temporary construction access or working space is required within a Root Protection Area (RPA), the soil structure must be protected from compaction. The appropriate specification for ground protection will depend on the load it is expected to carry.
- 3.1.2** For pedestrian traffic only: A single thickness of scaffold boards placed on top of a compression-resistant layer (e.g., a 100 mm depth of woodchip) laid onto a geotextile membrane.
- 3.1.3** For light plant and pedestrian-operated machinery (up to 2 tonnes): Proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g., a 150 mm depth of woodchip) on a geotextile membrane.
- 3.1.4** For heavy vehicles (exceeding 2 tonnes): A specific engineered solution designed to distribute the load without compressing the soil beneath. This typically involves proprietary systems of interlocking plastic or metal plates (e.g., Trakmats or similar) or cellular confinement systems. The precise specification will be confirmed in a detailed Arboricultural Method Statement.

CANOPY IQ





Figure 6 + 7 - Examples of proprietary ground protection panels



Appendix 6: Methods of Work in Close Proximity to Trees

4.0 Working Within Root Protection Areas (RPAs)

- 4.1.1** All activities within RPAs must follow specific working practices to minimise the risk of root damage. Excavation and construction in these areas should be avoided wherever possible. Where such work is unavoidable, only hand tools or low-impact techniques such as air spades shall be used to expose soil, ensuring roots remain undamaged.

4.2 Removal of Hard Surfaces Within Construction Exclusion Zones (CEZs)

- 4.2.1** The dismantling or removal of existing hard surfaces (e.g., paving slabs, tarmac, brickwork, or walls) within CEZs shall be undertaken with care to protect the underlying root system. The use of heavy machinery within these zones is prohibited due to the risk of soil compaction and root injury.
- 4.2.2** Where surface breaking is required, pneumatic drills or small hydraulic breakers may be employed. Where mechanical assistance is necessary, a mini-excavator may be used provided its operating reach does not pass beneath the canopy spread of retained trees.
- 4.2.3** Exposed roots must be immediately covered with topsoil, damp hessian, or sharp sand to prevent desiccation during works.

4.3 Service Installation Within RPAs

- 4.3.1** Service routes (e.g., water, gas, electricity, drainage) must be designed to avoid RPAs wherever practicable. If installation within an RPA is unavoidable, trenching shall be carried out by hand or using an air spade to minimise disturbance.
- 4.3.2** Roots with a diameter exceeding 25 mm must not be severed without the direction of the project arboriculturist. Roots of smaller diameter should be pruned back cleanly with a sharp tool to minimise the potential for infection or decay.

4.4 Installing New Hard Surfaces Within RPAs

- 4.4.1** The construction of hard surfaces within RPAs shall follow a 'no-dig' approach, with the new surface laid above the existing soil grade rather than excavated into it.
- 4.4.2** The surface should be constructed from porous materials that permit the infiltration of air and water to the underlying root system, in line with the recommendations of BS 5837:2012.

4.5 Fencing in RPAs

- 4.5.1** When installing fence posts within RPAs, the holes must be dug by hand, and if significant roots are encountered, the post locations should be adjusted. If small roots are found, sharp, clean cuts should be made. Special care is needed to ensure that wet cement does not come into contact with tree roots.

4.6 Landscaping within RPAs

- 4.6.1** Landscaping work within CEZs requires careful planning to prevent tree damage. Protective fencing should remain in place as long as possible, and where removed, clear markings should be made to delineate the protected zone. Any digging or soil preparation within CEZs must be done by hand, and any topsoil additions should be limited to no more than 100 mm in depth.

CANOPY IQ

4.7 Examples of a Cellular Confinement System

Figure 7 Cellular Confinement System - Transition detail (Ramp)

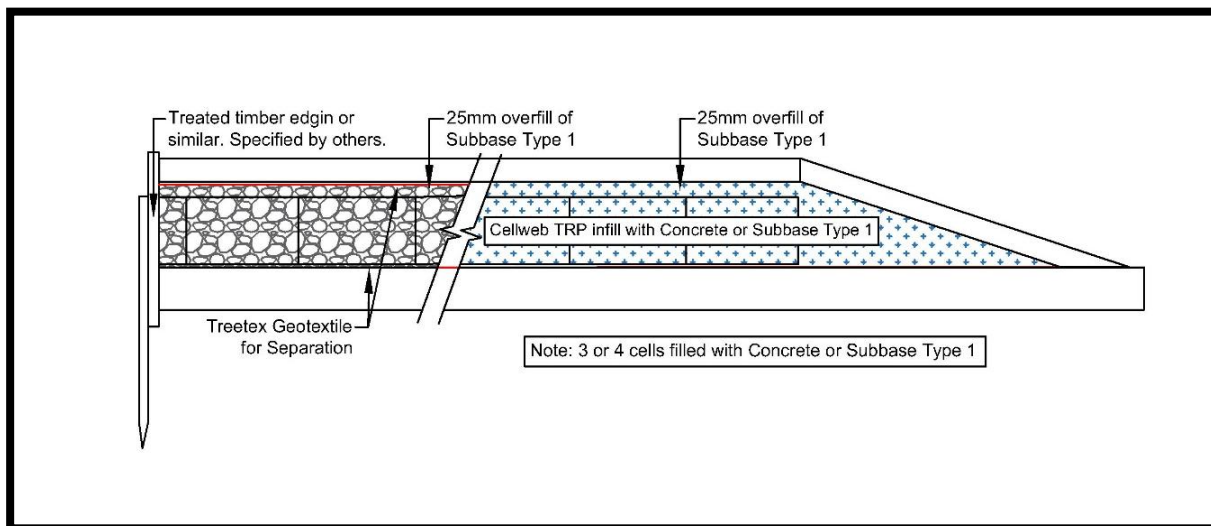


Figure 8 Cellular Confinement System - Transition detail (Flat)

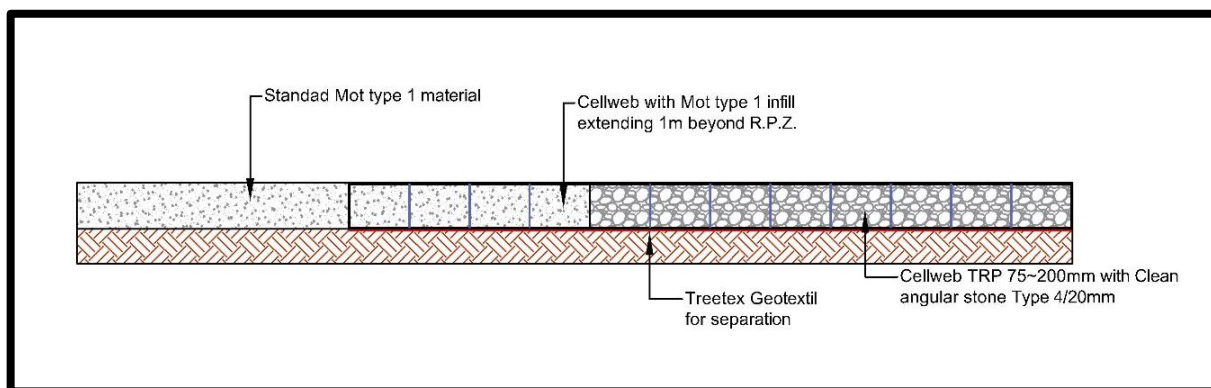


Figure 9 Cellular Confinement System - Kerb Edging

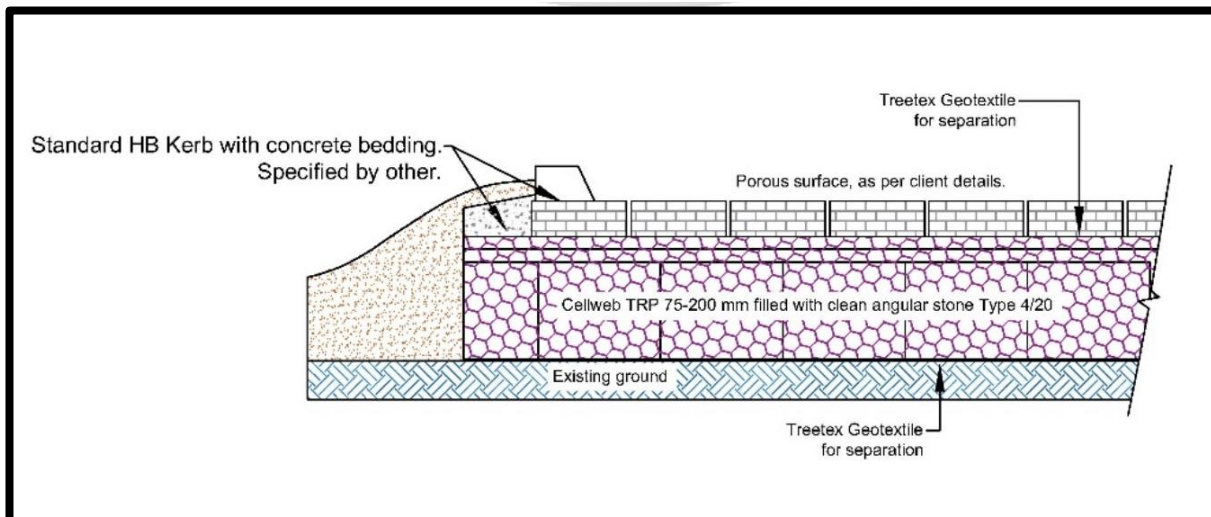


Figure 10 Cellular Confinement System - Timber Edging

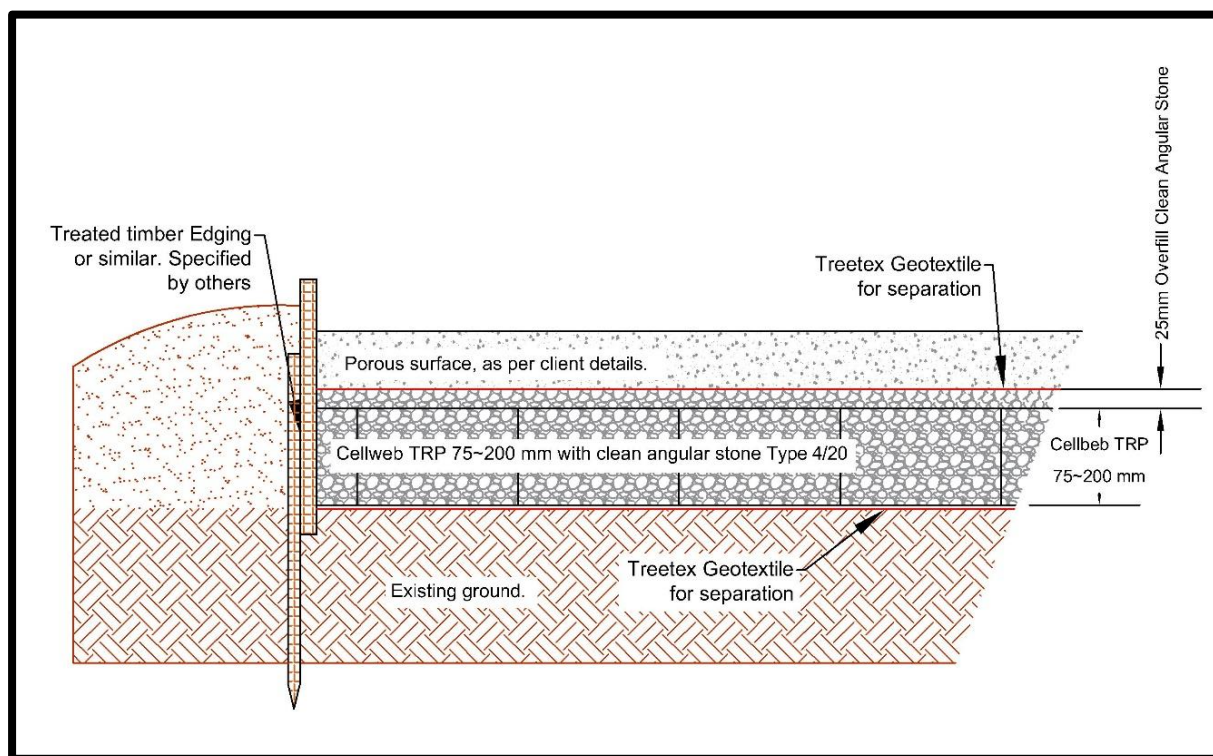


Figure 11 Examples of Cellweb filling with angular stone



Appendix 7: Report Caveats, Tree Protection and References

1.0 Guidance on Tree Preservation Orders and Conservation Areas

- 1.1.1** This appendix provides general guidance on the primary forms of statutory tree protection in the UK: Tree Preservation Orders (TPOs) and Conservation Areas. The information contained within our report does not override the legal duties of the tree owner.
- 1.1.2** It is the tree owner's responsibility to ascertain the legal status of any trees before authorising or undertaking work. We recommend contacting the Local Planning Authority (LPA) to confirm if trees on your property are subject to any restrictions. Canopy IQ can assist with this process and any subsequent applications or notifications if required.

1.2 Tree Preservation Orders (TPOs)

- 1.2.1** A **Tree Preservation Order (TPO)** is a legal order made by an LPA to protect specific trees, groups of trees, or woodlands in the interests of public amenity. A TPO makes it a criminal offence to carry out any of the following works without the LPA's formal consent:

-  Cutting down
-  Topping
-  Lopping
-  Uprooting
-  Wilful damage
-  Wilful destruction

- 1.2.2** **Applying for Consent** An application must be submitted to the LPA to obtain consent for proposed works to a protected tree. The LPA typically has up to eight weeks to issue a decision. Consent may be granted with conditions, or it may be refused.
- 1.2.3** **Exemptions** There are some exemptions from the need to apply for consent. For instance, work may be undertaken without consent if a tree is dead or has become dangerous. However, it is strongly advised to provide the LPA with at least five working days' written notice of any proposed work on a dead or dangerous tree, except in a genuine emergency.

- 1.2.4 Penalties** Contravention of a TPO is a criminal offence and can lead to significant fines. If a tree is destroyed or removed without consent, the landowner is also under a duty to plant a replacement tree.

1.3 Trees in Conservation Areas

- 1.3.1** A **Conservation Area** is an area of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance. Trees often make a significant contribution to the character of these areas and are therefore afforded protection.

- 1.3.2 How are Trees Protected?** Within a Conservation Area, it is a criminal offence to carry out work on any tree with a stem diameter greater than 75 mm, when measured at 1.5 metres from ground level, without first notifying the LPA.

- 1.3.3 The Notification Process** Anyone proposing to carry out work on a tree in a Conservation Area must give the LPA six weeks' written notice of their intention. This is often referred to as a 'Section 211 notice'. This provides the LPA with an opportunity to consider whether the tree should be protected by a TPO.

- 1.3.4** During the six-week period, the LPA can respond in one of two ways:

✚ **Issue a new TPO:** If the LPA considers the tree to have significant amenity value, it may make a TPO to provide long-term protection. If this occurs, a formal application for consent will be required for any future works.

✚ **Take no action:** The LPA may decide not to make a TPO. In this case, once the six-week period has expired, the proposed work can be carried out.

- 1.3.5 Exemptions and Penalties** The exemptions and penalties for carrying out unauthorised work on trees within a Conservation Area are broadly the same as those for TPOs.

1.4 Summary and Important Advice

- 1.4.1** Before authorising any tree work, it is essential to contact the Local Planning Authority to confirm whether the trees are subject to a TPO or are located within a Conservation Area.

- 1.4.2** This simple check ensures that all work is conducted lawfully and avoids the risk of prosecution and substantial penalties. The legal status of trees can change, and this information should always be verified directly with the relevant council department.

- 1.4.3** Disclaimer: This guidance is for informational purposes only and does not constitute legal advice. It is a summary of complex regulations. Canopy IQ accepts no liability for any loss or damage arising from reliance on this information without first confirming the legal status of the trees with the appropriate Local Planning Authority.

2.0 Report Caveats

2.1 Scope of the Survey

- 2.1.1** This report addresses only the arboricultural aspects of the site and is based on the observed condition of trees at the time of inspection. Trees are living, dynamic organisms and their health and structural integrity can change over time due to environmental conditions, pests, diseases, or mechanical damage. Regular reassessment is therefore recommended to identify any changes that could affect stability or safety.

2.2 Hedges and Dense Vegetation

- 2.2.1** Certain vegetation types, particularly dense hedgerows and unmanaged thickets, may comprise multiple species that are difficult to identify during a single site visit, especially outside the growing season. Where such limitations occur, they will be recorded in the tree survey schedule.

2.3 Maintenance of Vegetation

- 2.3.1** It is the responsibility of the client or site manager to ensure that any vegetation within or adjacent to the construction zone is appropriately assessed and maintained in accordance with current building and health & safety guidelines. A pre-commencement walkover inspection is advised to confirm that vegetation is suitably managed before works begin.

2.4 Arboricultural Involvement

- 2.4.1** An appropriately qualified arboricultural consultant should remain engaged throughout the development process to monitor the condition of retained trees, ensure protective measures are maintained, and advise on mitigation where necessary. Any amendments to the approved development design should be reviewed for potential arboricultural impacts before implementation.

2.5 Report Validity

- 2.5.1** This report is valid for a period of 12 months from the date of inspection. After this time, a further site visit is recommended to verify the continued accuracy of the findings and recommendations.

2.6 Copyright

- 2.6.1** The contents of this report are the intellectual property of **Canopy IQ** and must not be reproduced, distributed, or used for any purpose without prior written consent.

3.0 References

- ✚ BS5837:2012 - Trees in Relation to Design, Demolition, and Construction – Recommendations.
- ✚ BS3998:2010 - Tree Work – Recommendations.
- ✚ Planning Practice Guidance - Tree Preservation Orders and Trees in Conservation Areas (gov.uk, 2014).
- ✚ The Party Wall etc. Act 1996: Explanatory Booklet (Department for Levelling Up, Housing and Communities).
- ✚ National Joint Utilities Group (NJUG): Volume 4, Issue 1 - Guidelines for the Planning, Installation, and Maintenance of Utility Apparatus in Proximity to Trees (2007).
- ✚ Lonsdale, D. (2013). Principles of Tree Hazard Assessment and Management. The Stationery Office.
- ✚ Mattheck, C., & Breloer, H. (1994). The Body Language of Trees. The Stationery Office.
- ✚ Schwarze, F. W. M. R., Engels, J., & Mattheck, C. (2012). Fungal Strategies of Wood Decay in Trees. Springer.
- ✚ British Geological Survey - Soilscales Viewer (landis.org.uk).