



BS 5837:2012 - ARBORICULTURAL IMPACT ASSESSMENT - REPORT

CLIENT: Guy Fontaine

SITE: 7 Magnolia Close, Kingston upon Thames, KT2 7JF

CONSULTANT: Oliver Tong ND Arb TechArborA

DATE: 21st October 2021

REF: 1317





EXECUTIVE SUMMARY

Greenwood Environmental Ltd has been instructed by Guy Fontaine to assess the arboricultural impact of a development proposal for the construction of a rear extension to the existing building at 7 Magnolia Close, Kingston upon Thames, KT2 7JF.

As part of this report the condition and quality of the existing trees (which have the potential to be impacted or impact upon the development proposal), have been assessed in accordance with British Standard 5837:2012 'Trees in Relation to design, demolition and construction – Recommendations', in order to retain and protect suitable trees as a sustainable and integral part of the development.

An assessment of all trees within influencing distance of the proposed development was carried out on the 1st of July 2021, full details of which can be found in Appendix A - Tree Assessment Schedule.

The assessment included 3x individual trees, which have been categorised in accordance with Appendix C - BS 5837:2012 Table 1 Cascade chart for tree quality assessment. Trees within categories A-C (where A is highest quality), are a material consideration in the planning process. Category U trees are those that will not be expected to exist for long enough to justify their consideration in the process due to their poor condition.

To ensure the protection of retained trees during the construction stage of the development, a preliminary/heads of terms Arboricultural Method Statement (AMS) and draft Tree Protection Plan (TPP), have been included in the appendix, which detail suitable protection measures to be implemented and clearly communicated to the entire construction team prior to the commencement of any construction activities.

The overall impact of the proposal is not considered to be detrimental to retained trees' condition or amenity value if the recommendations made in this report are followed and it is the author's opinion that there is no specific arboricultural reason why this proposal cannot proceed as highlighted within this report.



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1. INTRODUCTION

1.1 Instruction

- 1.1.1 Greenwood Environmental Ltd has been instructed by Guy Fontaine, to carry out an assessment of trees in accordance with British Standard 5837:2012 'Trees in Relation to design, demolition and construction - Recommendations'.
- 1.1.2 And following completion of the site assessment to prepare an Arboricultural Impact Assessment (AIA) inc. preliminary Arboricultural Method Statement (AMS) and draft Tree Protection Plan (TPP).

1.2 Scope

- 1.2.1 The purpose of this report is to assess any impacts on trees resulting from the development proposal.
- 1.2.2 This report considers all significant trees on the site or other areas as designated within our instructions. Land adjacent to the site may also contain trees that pose a constraint on development and where necessary their details have been included.
- 1.2.3 The tree survey is not intended to be a detailed risk assessment of trees. Where the structural integrity of trees has been noted and the trees' condition is such that imminent remedial works are recommended, these should be arranged by the landowner or manager responsible for the safety of the site, as soon as is practically possible.
- 1.2.4 Comments relating to non-arboricultural matters may be made throughout this report. Making comments on such matters is within the normal remit of our instructions and the range of the author's experience. Any opinion thus expressed should be deemed as provisional and confirmation sought from an appropriately qualified professional.

1.3 Limitations

- 1.3.1 Any other planning issues related to the subject trees were not investigated. Greenwood Arboriculture are under no obligation to provide further advice that is subsequently required as part of the planning process or assist with planning appeals unless further instructions are given, and terms agreed.
- 1.3.2 The information contained in this report may be relied upon for a period of up to two years to support any future planning application, after which time a further assessment of the site will be required.
- 1.3.3 The content and presentation of this report are copyright of Greenwood Arboriculture Ltd and may not be copied or distributed to third parties not directly involved in the subject matter without the written consent of the author.
- 1.3.4 Greenwood Arboriculture's standard terms of business apply, which we provided along with our fee proposal, further copies of which are available on request.



- 1.3.5 All observations were made from ground level without detailed investigations and all measurements are estimated unless otherwise indicated.

1.4 Methodology

- 1.4.1 British Standard 5837:2012 provides guidance on the relationship of trees with design, demolition, and construction processes. It sets out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and structures.
- 1.4.2 Greenwood Environmental Ltd has assessed and categorised all the necessary trees, in accordance with; BS 5837:2012 Table 1 Cascade chart for tree quality assessment, which can be found in Appendix C - BS 5837:2012 Table 1 - Cascade chart for tree quality assessment.
- 1.4.3 Trees within categories A-C (where A is highest quality), are a material consideration in the development process. Whereas category U trees are those that will not be expected to exist for long enough to justify their consideration in the planning process.
- 1.4.4 The above ground and below ground constraints have been considered as part of this report. Appendix H – Tree Protection Plan provides a graphical representation of trees, indicating their retention category and RPAs displayed as a magenta-coloured circle centred around the trunk of the trees.
- 1.4.5 The theoretical Root Protection Areas (RPAs) should be regarded as a construction exclusion zone (CEZ). RPA's may be altered where it is deemed necessary due to predicted eccentric root morphology. Root morphology will be influenced by the ground conditions; roots will proliferate where soil conditions are favourable and less so where the ground conditions are poor. Structures and metaled roads with deep foundations may inhibit root growth into the area.

1.5 Legal protection status of trees

- 1.5.1 We have not made any formal enquires with the Local Planning Authority (LPA) regarding the legal protection status of trees.
- 1.5.2 The Town and Country Planning (Tree Preservation) (England) Regulations 2012 allows for trees with high amenity value to be protected by tree preservation order (TPO), which can be applied individually, on groups and areas of trees and woodlands.
- 1.5.3 An Order prohibits the: cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of trees without the LPAs written consent. If consent is given, it can be subject to conditions which have to be followed. In the Secretary of State's view, cutting roots is also a prohibited activity and requires the authority's consent.
- 1.5.4 Trees located within a conservation area which have a stem diameter of 75mm or greater measured at 1.5m are automatically afforded similar protection as those with a Tree Preservation Order (TPO). Works to trees within these areas require that the LPA to be given 6 weeks written notice unless an exception applies. This notice period gives the authority an opportunity to assess the tree/s and consider whether a TPO should be applied or not.



- 1.5.5 The authority's consent is not required for carrying out work on trees subject to an Order so far as such work is necessary to implement a full planning permission. For example, the Order is overridden if a tree has to be removed to make way for a new building for which full planning permission has been granted.
- 1.5.6 Conditions or information attached to the permission may clarify what work is exempt. However, the authority's consent is required for work on trees subject to an Order if: development under a planning permission has not been commenced within the relevant time limit (i.e., the permission has 'expired'); only outline planning permission has been granted; and it is not necessary to carry out works on protected trees to implement a full planning permission.
- 1.5.7 The authority's consent is also required, for example, for work on trees protected by an Order that is necessary to implement permitted development rights under the Town and Country Planning (General Permitted Development) Order 2015.
- 1.5.8 As the protection status of trees can change very quickly, it is recommended that enquires be made with the LPA each time before carrying out any works to trees.

1.6 Soils Assessment

- 1.6.1 Soil assessments should be carried out on-site by a competent person, to inform decisions relating to root protection areas (RPA); tree protection; new tree planting; foundation design and construction methods.
- 1.6.2 The assessment should determine if the soil is of a shrinkable type, as trees and vegetation have the potential to cause indirect damage to structures when growing in soils such as London clay, which can be highly shrinkable. In such cases, desiccation assessments should be carried out to determine the level of soil drying. Soil characteristics and index properties (shrink/swell potential) can only be determined precisely by laboratory testing of soil samples.
- 1.6.3 The presence of a clay within the soil is significant in terms of tree protection. As clay soils are prone to compaction, particularly when wet, just a single movement of heavy machinery or repeated pedestrian movements over the RPA of a retained tree is enough to cause compaction of the underlying soil, which is detrimental to long-term tree health. It is therefore imperative that all recommended tree protection measures are implemented in full and remain in place throughout the course of the development.
- 1.6.4 Soil structure, composition and pH should be included in the assessment for the purpose of designing new planting and landscape proposals.



2. TREE ASSESSMENT SUMMARY

2.1 A total of 3x individual trees were included in the survey, full details of which can be details of the survey can be found in Appendix A - Tree Assessment Schedule.

2.2 The BS 5837 quality category and sub-categories of the trees is displayed in the chart below.

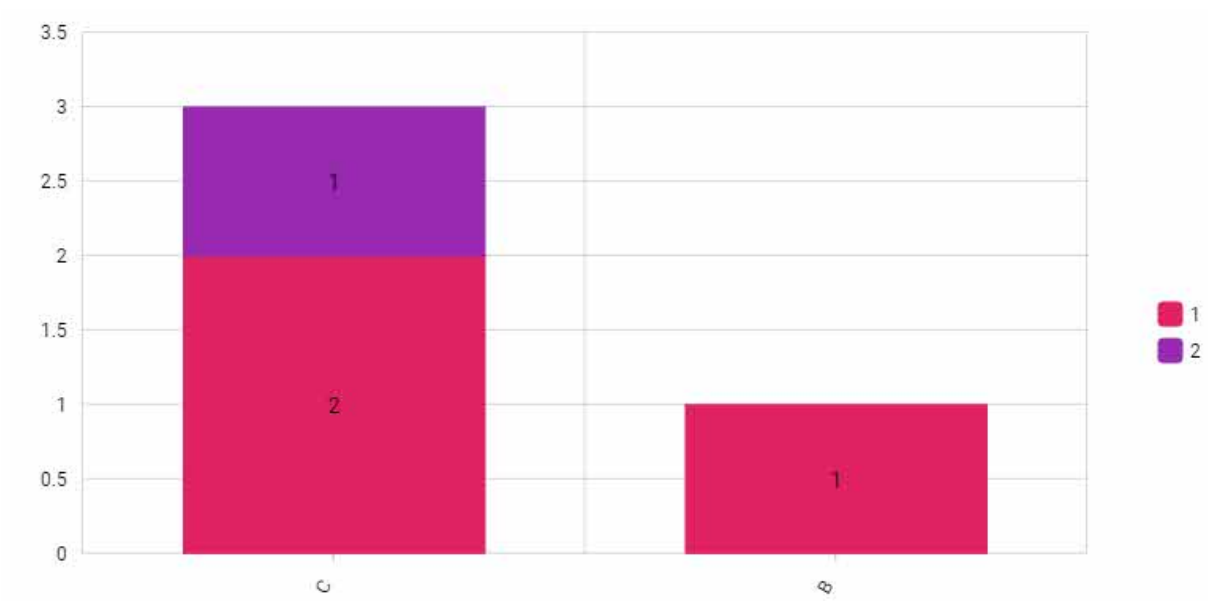


Chart 1: Quality Category by Sub-Category



3. ARBORICULTURAL IMPACT ASSESSMENT

- 3.1 The proposed develops impact upon the trees has been assessed according to any canopy and RPA incursion and disturbance, as proposed in the supplied plans.
- 3.2 It will not be necessary to remove or directly impact any trees to facilitate the construction of the proposed extension.
- 3.3 However, retained trees are at risk of damage from construction activity, which may result in wounding to above and below ground parts of trees, as well as soil compaction and/or contamination within root protection areas (RPAs).
- 3.4 It is possible to control and mitigate this risk by creating construction exclusion zones around retained trees by installing temporary protective fencing and ground protection in accordance with BS 5837:2012, details of which have been provided in the preliminary/heads of terms arboricultural method statement and draft tree protection plan which are contained in the appendix of this report.
- 3.5 The overall impact of the proposal is not considered to be detrimental to retained trees' condition or amenity value if the recommendations made in this report are followed and it is the author's opinion that there is no specific arboricultural reason why this proposal cannot proceed as highlighted within this report.



Appendix A

TREE ASSESSMENT SCHEDULE



Full Tree ID	Common Name	Stem Diameter [mm]	Tree Height [m]	(N) Branch Spread [m]	(S) Branch Spread [m]	(E) Branch Spread [m]	(W) Branch Spread [m]	Life Stage	Physiological Condition	Structural Condition	Height of Canopy Above Ground Level [m]	Height of First Significant Branch [m]	Direction of First Significant Branch	Comments	Estimated Remaining Contribution	Quality Category	Quality Sub-Category	Root Protection Area [m]
T1	Common beech	680	16	7	5	4	6	Mature	Good	Fair	2	4	E	Protected tree, multiple pruning wounds on trunk, previously crown reduced, small area of bark necrosis on Southwest base of trunk with insect frass and minor wood decay	Long (>40 years)	B	1	8.2
T2	Common apple	330	6	2	2	3	2	Mature	Fair	Fair	2	2	NE	Boundary tree, previously crown reduced	Short (10 to 20 years)	C	1, 2	4
T3	Campbell's magnolia	157	5	4	3	3	3	Early-mature	Good	Good	1	1	SW	Boundary tree, minor deadwood	Medium (20 to 40 years)	C	1	1.9



Appendix B

KEY TO TREE ASSESSMENT SCHEDULE



Key

No.: This number identifies the trees and corresponds with the provided plans. Trees are prefixed T, groups G and hedges H. Where stumps are identified the suffix S will be used.

Species: The common name and scientific name is given for each tree.

Stem Diameter (Ø): Taken at 1.5m above ground level as per Figure C1 of BS5837 and recorded in millimetres. Where access has prevented measurement of a tree's trunk diameter, # indicates an estimated stem diameter.

Height: Estimated in metres.

Crown Clearance: Distance between the lowest point of the crown and ground level.

Radial Crown Spread: Estimated in metres and given at cardinal compass points.

Life Stage: This refers to the age of the individual tree relating to the average life expectancy of each species in a similar environment:

Y (Young): Recently planted or establishing tree that could be transplanted without specialist equipment i.e. up to 12-14cm stem girth.

SM (Semi mature): An established tree but one which has not reached its potential ultimate height and has significant growth potential.

EM (Early mature): A tree reaching its ultimate potential height, whose growth rate is slowing down but will increase in stem diameter and crown spread and has a safe useful life expectancy.

M (Mature): A mature specimen with limited potential for any significant increase in size but with a reasonable safe useful life expectancy.

LM (Late mature): A senescent specimen with a limited safe useful life expectancy. Possibly also containing sufficient structural defects with attendant safety and/or duty of care implications.

V (Veteran): Veteran trees are trees which have features of ancientness but at a younger age. These features include missing branches, hollow trunks and habitat features.

A (Ancient): An ancient tree is a tree which is remarkably old for its species, which can vary dramatically depending on the species. All ancient trees are also veterans.

Physiology: Overall physiological condition of tree: Good; Fair; Poor; Dead

Structure: Overall structural condition of tree: Good; Fair; Poor; Hazardous

Estimated Remaining Contribution: is the life expectancy of the tree modified first by its age, health, condition, safety and location (to give safe life expectancy), then by economics, effects on better trees and sustained amenity:

<10 years

10+

20+

40+





Quality Category: See Appendix C - BS 5837:2012 TABLE 1



Appendix C

BS 5837:2012 TABLE 1



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	<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 NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.			
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	



Appendix D

TREE PROTECTION SPECIFICATIONS

Figure 2 Default specification for protective barrier

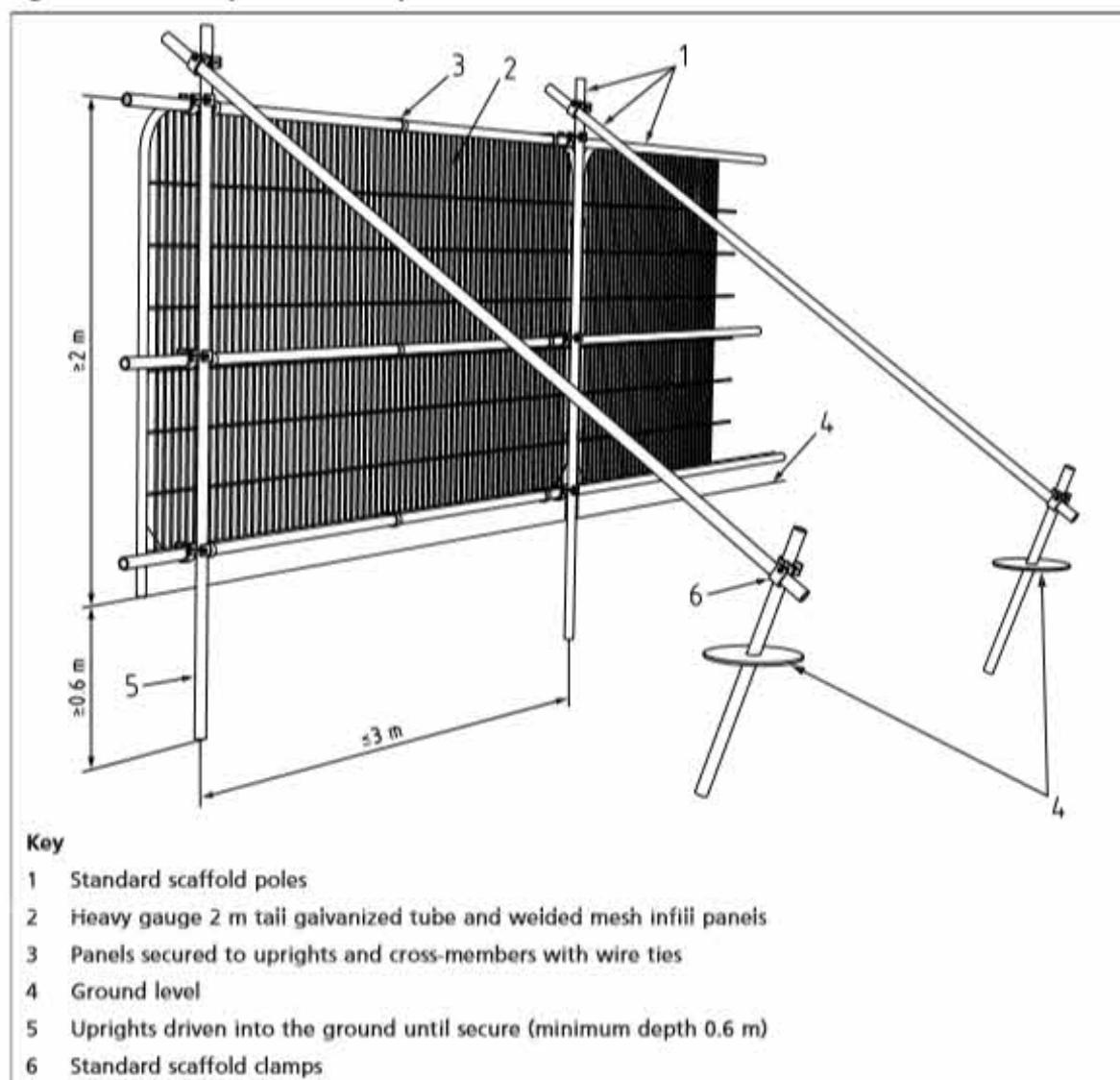


Figure 1. Image reproduced with permission from BSI

Figure 3 Examples of above-ground stabilizing systems

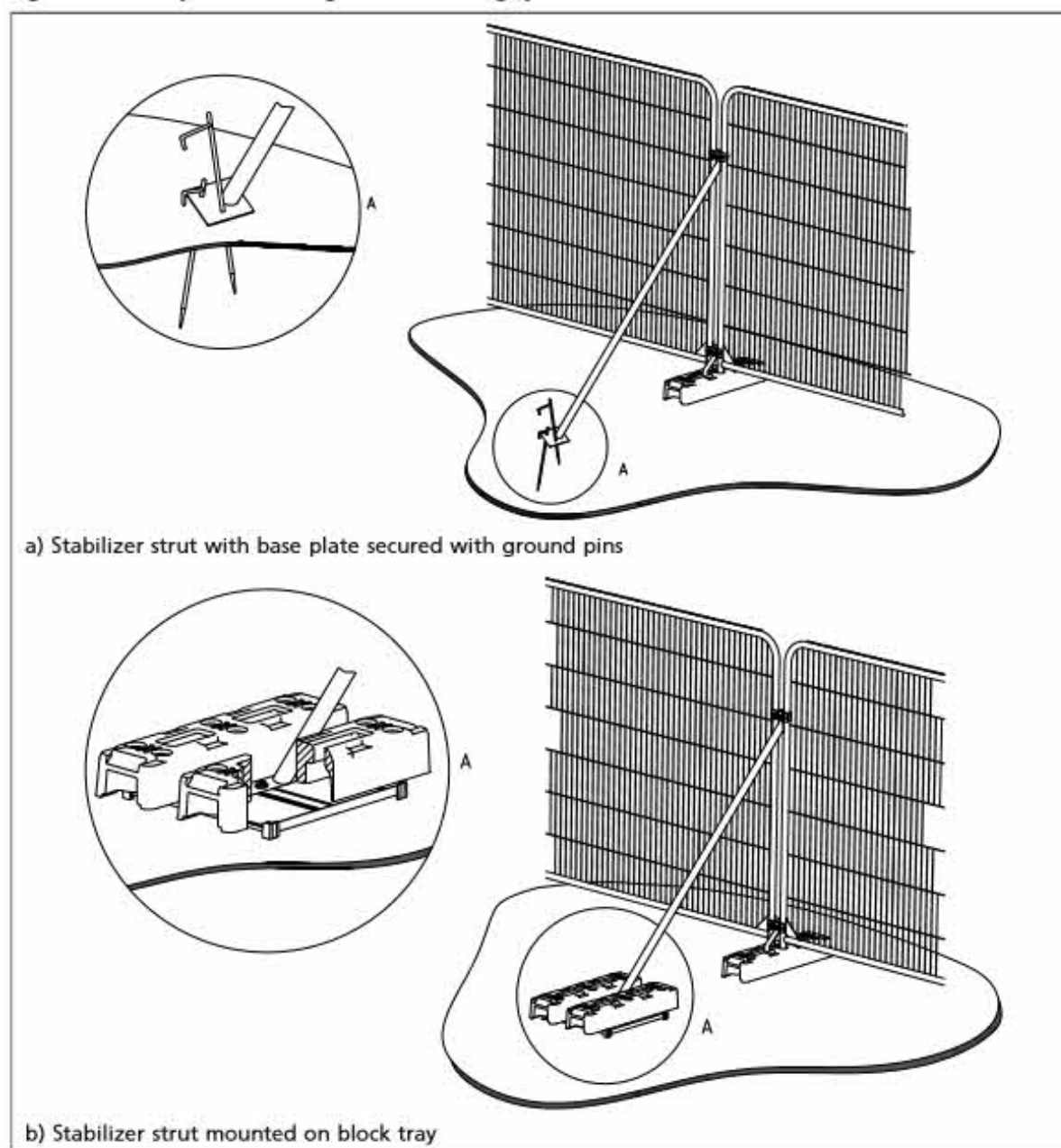


Figure 2. Image reproduced with permission from BSI



Figure 3. Example of all-weather sign to be attached to protective fencing at 3 metre spacings

Temporary Ground Protection

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

Ground protection might comprise one of the following:

- a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;
- b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane.
- c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.



Figure 4. Example of propriety inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane, suitable for pedestrian-operated plant up to a gross weight of 2 t



Appendix E

LEGISLATION AND GUIDANCE FOR TREES



The following advice applies to England only and is for guidance purposes only. Some trees are protected by legislation, and it is essential that you establish the legal status of trees prior to carrying out works to them. Unauthorised work to protected trees could lead to prosecution, resulting in enforcement action such as fines or a criminal record. Tree Preservation Orders, Conservation Areas, Planning Conditions, Felling Licences or Restrictive Covenants legally protect many trees in the UK.

Tree Preservation Orders (TPOs)

TPOs are administered by Local Planning Authorities (LPA) (e.g. a borough, district or unitary council or a national park authority) and are made to protect trees that bring significant amenity benefit to the local area. This protection is particularly important where trees are under threat.

All types of tree, but not hedges, bushes or shrubs, can be protected, and a TPO can protect anything from a single tree to all trees within a defined area or woodland. Any species can be protected, but no species is automatically protected by a Tree Preservation Order.

A TPO is a written order which, in general, makes it a criminal offence to cut down, top, lop, uproot, wilfully damage or wilfully destroy a tree protected by that order, or to cause or permit such actions, without the authority's permission. Anyone found guilty of such an offence is liable. In serious cases the case may be dealt with in the Crown Court where an unlimited fine can be imposed.

To make an application to carry out tree works you will need to complete an application form and submit it to the LPA. The form can either be submitted through the Planning Portal or directly to the LPA. You can find out more about TPOs in the Department for Communities and Local Government guide titled [Protected trees: A guide to tree preservation procedures](#) (withdrawn 7 March 2014) and its replacement [The National Planning Policy Framework and relevant planning practice guidance](#) document with particular reference to [Tree Preservation Orders and trees in conservation areas](#). You might also find it helpful to seek the advice of a tree surgeon prior to making an application. A directory of Arboricultural Association [Approved Contractors](#) can be found here.

Conservation Areas

Normal TPO procedures apply if a tree in a conservation area is already protected by a TPO. But if a tree in a conservation area is not covered by a TPO, you have to give written notice to the LPA (by letter, email or on the LPA's form) of any proposed work, describing what you



want to do, at least six weeks before the work starts. This is called a 'section 211 notice' and it gives the LPA an opportunity to consider protecting the tree with a TPO.

You do not need to give notice of work on a tree in a conservation area less than 7.5 centimetres in diameter, measured 1.5 metres above the ground (or 10 centimetres if thinning to help the growth of other trees).

You can find out more about trees in Conservation Areas in the Department for Communities and Local Government guide titled [Protected trees: A guide to tree preservation procedures](#) (withdrawn 7 March 2014) and it's replacement [The National Planning Policy Framework and relevant planning practice guidance](#) document with particular reference to [Tree Preservation Orders and trees in conservation areas](#).

Trees and the planning system

Under the UK planning system, LPAs have a statutory duty to consider the protection and planting of trees when granting planning permission for proposed development. The potential effect of development on trees, whether statutorily protected (e.g. by a tree preservation order or by their inclusion within a conservation area) or not, is a material consideration that is taken into account when dealing with planning applications. Where trees are statutorily protected, it is important to contact the LPA and follow the appropriate procedures before undertaking any works that might affect the protected trees.

Planning conditions are frequently used by LPAs as a means of securing the retention of trees, hedgerows and other soft landscaping on sites during development and for a period following completion of the development. If it is proposed to retain trees for the long term then a TPO is often used rather than a planning condition. If valid planning conditions are in place then anyone wishing to undertake work to trees shown as part of the planning condition must ensure they liaise with the LPA and obtain any necessary consent or variation.

The nature and level of detail of information required to enable an LPA to properly consider the implications and effects of development proposals varies between stages and in relation to what is proposed. Table B.1 of British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations provides advice to both developers and LPAs on an appropriate amount of information that will need to be provided either at the planning application stage or via conditions.

For further information you are advised to contact either your LPA or to seek advice from an Arboricultural Association [Registered Consultant](#) from the list which can be found [here](#).



Felling Licences

Felling Licences are administered by the [Forestry Commission](#). You do not need a licence to fell trees in gardens. However, for trees outside gardens, you may need to apply to the Forestry Commission for a felling licence, whether or not they are covered by a TPO. You can find out more about felling licences at [Felling Licences](#) quick guide (England) or in the Forestry Commission's booklet [Tree Felling – getting permission](#).

Sites of Special Scientific Interest (SSSI)

SSSIs (ASSIs in Northern Ireland) are designated by the Statutory Nature Conservation Organisation (SNCO) for each country of the United Kingdom. They include some of our most spectacular and beautiful habitats - large wetlands teeming with waders and waterfowl, winding chalk rivers, gorse and heather-clad heathlands, flower-rich meadows, windswept shingle beaches and remote uplands moorland and peat bog. Each SSSI will have a management plan and a list of operations requiring the SNCOs consent prior to carrying out works.

Any activity that recklessly or intentionally harms the SSSI (ASSIs in Northern Ireland) or its flora or fauna will be an offence liable on summary conviction to a fine not exceeding £20,000 or on conviction on indictment to an unlimited fine. If you know the name of the Site of Special Scientific Interest and want to know more about it, you can search for it by country at England, Wales, Scotland or Northern Ireland.

Restrictive Covenants

A restrictive covenant is a promise by one person to another, (such as a buyer of land and a seller) not to do certain things with the land or property. It binds the land and not an individual owner, it "runs with the land". This means that the restrictive covenant continues over the land or property even when the current owner(s) sells it to another person. Restrictive covenants continue to have effect even though they may have been made many years ago and appear to be obsolete.

Covenants or other restrictions in the title of a property or conditions in a lease may require the consent of a third party prior to carrying out some sorts of tree work, including removing trees and hedges. This may be the case even if TPO, CA and felling licence regulations do not apply. It may be advisable to consult a solicitor.



Further information

Further information about TPO legislation can be found in the latest [National Planning Policy Framework](#) with particular reference to [Tree Preservation Orders and trees in conservation areas](#).

More detailed information on TPOs: www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas#Flowchart-1-Making-and-confirming-TPO

High Hedges

Part 8 of the Anti-social Behaviour Act 2003 Allows local councils to deal with complaints about high hedges. When councils are determining a complaint, they must first decide whether the height of the high hedge is having an adverse effect on a neighbour's enjoyment of their home and/or its garden or yard. If it is, then councils can order the owner of a high hedge to take action to put right the problem and stop it from happening again. The legislation also allows councils to set and charge fees for handling these complaints.

The government has produced an information leaflet on the subject called Over the garden hedge, which can be found at the following web address:
<https://www.gov.uk/government/publications/over-the-garden-hedge>

Occupiers Liability Act 1957 and 1984 The Occupiers Liability Act (1957 and 1984)

Places a duty of care on tree owners to ensure that no reasonably foreseeable harm takes place to people or property due to their tree. 'Common sense risk management of tree (National Tree Safety Group 2012)' states that, 'The owner of the land on which a tree stands, together with any party who has control over the tree's management, owes a duty of care in Common Law to all people who might be injured by the tree. The duty of care requires that reasonable steps are taken to avoid acts or omissions that could cause a reasonably foreseeable risk of injury to persons or property'.

Common law

Enables pruning back as far as the boundary line only, providing the work is reasonable and does not negatively impact tree health or safety. Other restrictions on tree works, such as tree preservation orders still apply.



Tree Work

All tree work should be carried out in compliance with BS3998: 2010 “Tree work – Recommendations”, plus all relevant health and safety legislation, regulations and codes of practice.

Biosecurity

Where there is a risk of transferring pathogens to vegetation at other sites, felling and pruning equipment must be disinfected after use. Also consider brushing mud and debris from soles of boots, and spraying boots and vehicle tyres before leaving the site (suitable disinfectants include Propellar & Cleankill Sanitising Sprays). All disinfectants should be used in accordance with the recommended safety precautions (refer to the material data safety sheet for each product).

Wildlife & Countryside Act 1981 (as amended) and Countryside and Rights of Way Act 2000

It is an offence to intentionally or recklessly damage or destroy the nest of any wild bird while it is in use or being built. Please therefore check for the presence of nesting birds before commencing work. Where nesting birds are found to be present, the contractor must stop work immediately and postpone work until further notice.

Conservation of Habitats and Species Regulations 2010 (as amended)

This applies to European protected species which refers primarily to bats.

- (a) A person is guilty of an offence if he/she:
 - (i) deliberately captures, injures or kills a protected species,
 - (ii) deliberately disturbs a protected species,
 - (iii) damages or disturbs a breeding site or resting place.

When bats are found to be present, the contractor must stop work immediately and postpone work until further notice.



Appendix F

BIBLIOGRAPHY



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APPENDIX G

PRELIMINARY ARBORICULTURAL METHOD STATEMENT (HEADS OF TERMS)



Sequence of events

Before demolition and construction work starts (including bringing of plant and materials on site):

A pre-commencement site meeting shall be held prior to the commencement of any works associated with the proposed development. The meeting is required for the Local Planning Authority (LPA), the Arboricultural Consultant and construction personnel to agree all approved site processes. This meeting may be used to formally agree on site tree protection measures prior to the commencement of the development.

Before the removal of existing structures and construction work starts (including bringing of plant and materials onto site):

Tree protection fencing will be constructed in accordance with the recommendations in section 6.2.2 of BS 5837:2012 before any construction has commenced. The fencing will be installed as per the tree protection plan (TPP).

Temporary Ground protection will be installed in accordance with the recommendations in section 6.2.3.3 of BS5837:2012. Where existing hard surfaces are retained, these may be suitable as ground protection for pedestrian and vehicular traffic over RPAs, however its suitability to withstand the applied load should be assessed. All ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

During construction:

Tree protection will not be moved or altered without written consent from the Local Planning Authority's tree officer and the area within (Construction Exclusion Zone (CEZ) will be considered sacrosanct.

Post-construction works and following removal of all plant and materials from site:

Remove tree protection This will only be permitted once all construction work is complete.

Tree work

Where works inc. root pruning are required to trees covered by a TPO or in a conservation area, written consent shall be obtained from the LPA prior to these works being undertaken.

All tree work must comply with British Standard 3998: 2010 'Recommendations for tree work'.



Should the requirement for additional tree works become apparent during the construction process; written consent shall be obtained from the LPA prior to these works being undertaken.

Interpretation

A laminated copy of the method statement and tree protection plan must be kept on-site in a prominent location for the duration of the development.

Dimensions and positions of the approved tree protection will be drawn onto all plans used by site operatives.

Site Monitoring & Arboricultural Supervision

Results of any site monitoring or arboricultural supervision will be recorded and available for scrutiny by the LPA and developer. Any defects requiring remediation or rectification shall be notified to the site foreman/manager and the client.

Should any tree protection become damaged to impair its function, all works shall cease in the vicinity of the damage until it has been repaired.

Should damage occur to any of the retained trees for whatever reason, the damage should be reported to the site foreman/manager immediately. The site foreman/manager will then report to the arboricultural consultant to enable remediation to be implemented as necessary and agreed with the LPA.

Construction Method Statement

Construction operations in the vicinity of retained trees must be carried out with caution to prevent negative impacts:

Care must be taken when planning site operations involving wide or tall loads or plant with booms, jibs, and counterweights to ensure that they do not encounter retained trees. Any transit or traverse of plant such as described above will be conducted under the supervision of a banksman, to ensure adequate clearance is maintained.

Many building materials are toxic to trees. Excess cement, cement washings, wastewater, diesel fuel and even clean water in excess can kill or seriously damage trees. Any spillage run off should be controlled so that they do not contaminate the RPAs.

Changes (increases or decreases) in ground levels within the RPA will kill roots and harm the tree. Any changes in soil levels around trees during demolition, construction or landscaping must be approved in advance by the LPA's tree officer.



Fire, either deliberate or accidental is harmful to trees. If fires are proposed they must not be carried out within 10m of the outer crown (drip line).

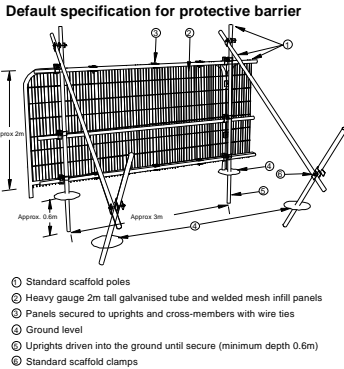
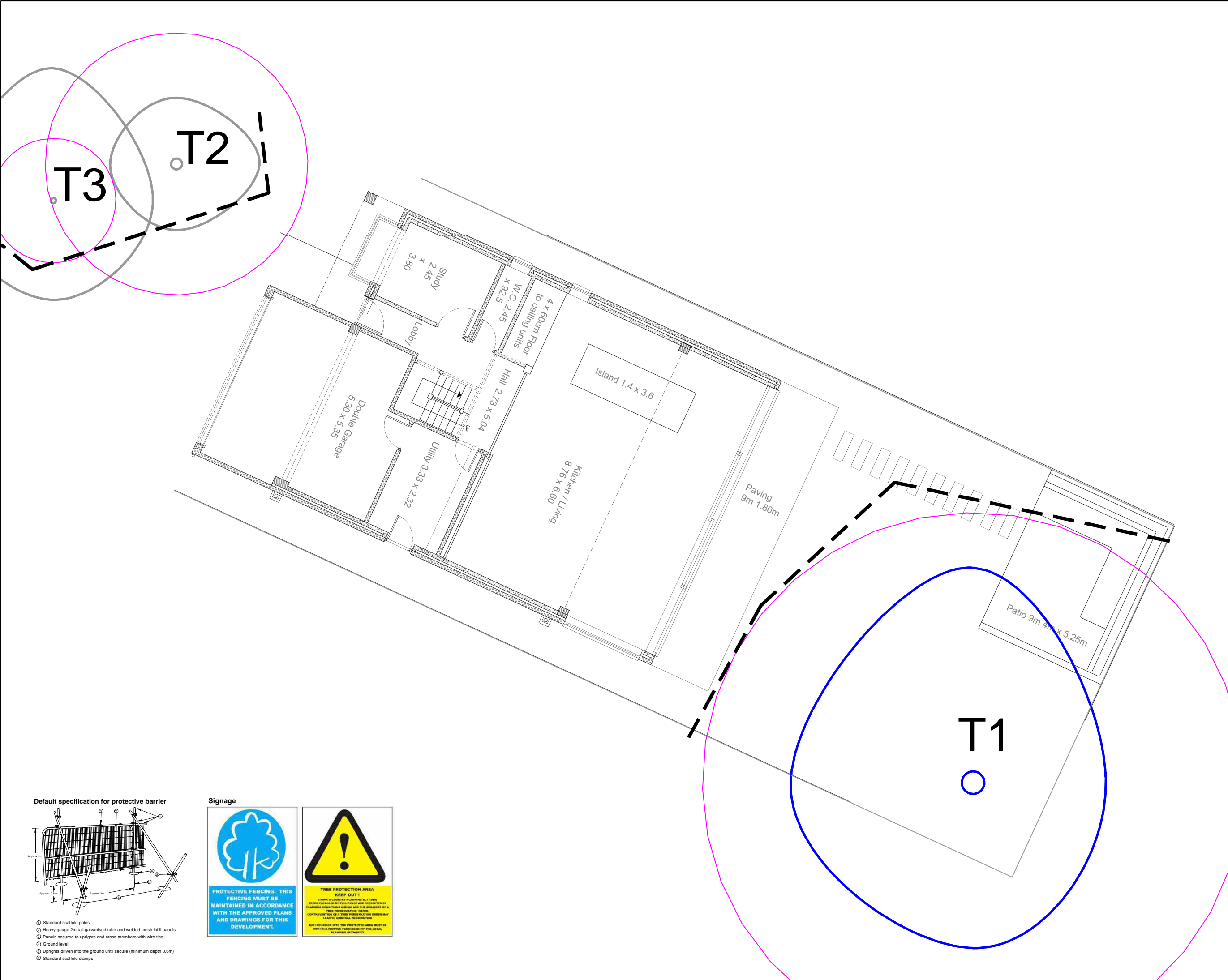
Trenches for services (electricity, gas, water etc.) can damage tree roots. Service runs should be routed to avoid the RPA of any retained tree. If services are unavoidable within the RPA, then it will be necessary to prepare method statements for protecting tree roots if no-dig techniques e.g. a mole are not practical.

Where scaffolding is required, it should be erected outside of RPAs. However, where it is essential for scaffolding to be erected within RPAs, pruning should be kept to a minimum. This can be achieved by designing scaffolding to avoid branches or tying back branches where necessary. Where pruning is unavoidable it must be carried out by an arborist in accordance with British Standard 3998: 2010 'Recommendations for tree work' and may first require permission from the local planning authority. Temporary ground protection must also be installed beneath all scaffolding within RPAs, in accordance with the recommendations in section 6.2.3.3 of BS5837:2012 and remain in place until the scaffolding is removed. No ground excavation is to be carried out for the soleplates.



APPENDIX H

DRAFT TREE PROTECTION PLAN



BS 5837: 2012 - Tree Survey Key

	Cat A tree
	Cat B tree
	Cat C tree
	Cat U tree
	Root Protection Area
	Protective Fencing

This drawing has been produced in colour, a monochrome copy should not be relied upon.

Site: 7 Magnolia Close, Kingston upon Thames, KT2 7JF

Client: Guy Fontaine

Job: 1317

Drawing Title: DRAFT TREE PROTECTION PLAN

98 Hornchurch Road, Hornchurch, Essex, RM11 1JS

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Greenwood Environmental Ltd has been provided with a Topographical Survey for this site, however as they do not always show the position of all trees and additional features, any missing trees or additional features have been positioned as accurately as possible and should therefore not be taken as exact but as a fair representation of their position on-site.

Date: 21/10/2021	Drawn by: LB/OT
Scale: 1:100 @ A3	CAD File: TPP - 7 Magnolia Close.dwg
Drawing Number: 1317-TPP	Rev: -

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