TRACY CLARKE

TREE CONSULTANCY

Arboricultural Planning Report

Impact Assessment and Method Statement

Client: P Healy

Site: Land at Orchard Way
Chigwell Row
Essex
IG7 6EF

Report by: Tracy Clarke MICFor. F.Arbor.A. CEnv

Date: February 2020

Reference: TCTC-17574

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Tracy Clarke Tree Consultancy Ltd.

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Executive Summary

The proposal is for the erection of a three storey building to provide 2 x 2 bedroom semi-detached houses.

The tree survey has identified trees within and adjacent to the development site. Those trees to the east within the neighbouring garden that overhang the site, are birch that are in advanced stages of decline, with fungal fruiting bodies of silverleaf fungus on the main stems, consequently they are not expected to be there much longer. Whilst T12 is not quite in the same stage of decline as others, it is a low quality birch tree, also in poor physiological condition.

The proposal to prune back overhanging branches to facilitate the development is considered acceptable under these circumstances; where the removal of these trees is inevitable in the short term.

Where root protection areas extend into the site to ensure root impact is minimised, the proposal will adopt specialist foundation approaches and no-dig construction methods in accordance with best practice.

Subject to the protection of all other retained trees, and by following the recommendations within this report, it is possible to conclude that the proposed development is acceptable in both arboricultural terms and in relation to planning policy as it relates to trees.

Contents

1 Introduction

Terms of reference

1.1 Tracy Clarke Tree Consultancy Ltd are instructed by P Healy to:

- provide a BS 5837 (2012) tree survey of trees relevant to the site, with recommendations for works, and
- provide an arboricultural impact assessment which identifies the potential impacts of the scheme, provides suggestions for mitigation during construction and any compensation for tree removals where unavoidable.

1.2 The proposal is for the erection of a three storey building to provide 2 x 2 bedroom semi-detached houses.

Method of assessment

1.3 This assessment follows best practice British Standard 5837: Trees in relation to design, demolition and construction (2012) which provides a methodology for the assessment of trees and other significant vegetation on development sites and aims to guide decision making towards sustainable design and tree cover on all new developments.

1.4 This assessment also has regard to national and local planning policies in consideration of the arboricultural impacts from the development proposals since these policies will guide the decision-making process of the local planning authority.

Scope and limitations

1.5 The tree survey is of a preliminary nature only; all trees have only been inspected from ground level applying [1]Mattheck's (1994) visual tree assessment method (VTA). No detailed decay investigations of the trees or detailed site investigations have been carried out to inform this report.

[1] Mattheck, C, Broeler, H. (1994). The body language of trees. A handbook for failure analysis – *Research for Amenity Trees* No.4 Research for Amenity Trees

1.6 This report is not an assessment of tree condition and the risk they represent to people or property, however where defects trees have been noted as requiring works, recommendations are included in the tree schedule included with this report.

1.7 All recommendations are given in the context of the site's current use, or to facilitate the proposed development. Trees are dynamic living organisms, and subject to a change in their condition.

1.8 This report should not be considered as a full assessment of the health and safety of trees on and adjacent to the site, and where trees do have the potential to harm people or property, an inspection of their condition by the relevant owner on an annual basis is recommended.

1.9 The assessment of trees within this report is valid for two years from its date.

Background documents supplied

1.10 The following documents have been supplied by the client team and relied upon for this report:

Supplier	Name	Date
JSP Chartered Town Planners and Design Consultants	2761.2 Proposed site plan 2761.3 Proposed ground and first floor plans 2761.4 Proposed second floor plan 2761.5 Proposed elevations	February 2020
Tripoint Surveys Ltd	Topographical Survey	March 2019

2 Planning Policy Context

National and Local Planning Policy

2.1 National Planning policy is set out in the government's National Planning Policy Framework (NPPF) 2019, is a material consideration in any planning application and provides a framework for locally prepared plans for housing and other development. This framework policy promotes a presumption in favour of sustainable development, delivering good quality design and change for the better in our built and natural environment over the lifetime of the development. The NPPF recognises that the natural environment is an essential component of the health and wellbeing of society. Growth for communities delivered by the planning system requires the careful consideration of our natural environment during the design and development process to achieve sustainable development. The NPPF goes on to say that if significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or as a last resort, compensated for, then planning permission should be refused.

2.2 Local Planning Authorities are governed in their decision-making process by the principle of sustainable development.

2.3 The site is within Epping Forest District. Relevant planning policies include those saved from the Epping Forest District Council Local Plan 1998, including alterations (2006). The following are relevant to consideration of trees and landscaping:

2.4 LL10: - The council will refuse to grant consent for any development which it considers makes inadequate provision for the retention of trees, natural features, and manmade features of historical, archaeological or landscape significance.

2.5 LL11: - The council will refuse planning permission for any development which makes inadequate provision for landscaping.

2.6 Emerging policy is the 'Submission Version December 2017' of the Local but this is not yet adopted policy. Relevant policies in relation to trees / green infrastructure include SP7, DM1, DM5, and P7. The thrust of these policies is to provide high quality design that protects important green / blue infrastructure within new development proposals and to contribute by the provision of good quality green / blue infrastructure.

3 The Site and Tree Information

The Site

3.1 The site was visited the site on 3 December 2019 to carry out a BS5837 (2012) survey and assessment of trees.

3.2 The development site is Land at Orchard Way, Chigwell Row, Essex, IG7 6EF

Fig. 1 Google Earth 2019 – site location

Tree data

3.3 The data on the trees surveyed can be found in the tree schedule at Appendix A1. A total of fourteen trees and one group have been assessed, tree works are identified at Appendix A2.

3.4 The surveyed trees and their assessment of quality and value are indicated on the tree survey plan at Appendix B1.

3.5 The proposed layout and where relevant, trees for removal are shown at Appendix B2.

3.6 The tree protection plan is provided at Appendix B3.

3.7 An analysis of the tree quality and value, species mix and age diversity relevant to this proposal is included at Appendix C, which helps to understand the sustainability of the existing tree population on site.

Legal status of trees / woodlands

3.8 At the time of writing the report it has not been possible to identify whether the surveyed trees are legally protected by a tree preservation or by virtue of being within a conservation area.

3.9 The removal or pruning of any legally protected trees requires prior written Local Planning Authority (LPA) approval unless granted through full and detailed planning consent where the works have been clearly specified and agreed formally as part of that consent.

Site soils and influence on rooting

3.10 Soil conditions will have a significant effect upon tree growth and will influence:

- The species that will grow successfully.
- Rooting depths for different species.
- The available soil volume that can be used by roots and therefore the likely tolerance of trees and other vegetation to soil disturbance

3.11 As a guide, Cranfield University Soilscapes map describes the soils at the site as Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils.

4 Discussion

Key arboricultural impacts

4.1 The following arboricultural impacts have been identified in relation to the proposed development:

Activity	Potential Impact
Tree Loss for Development	<table><tr><th>Category A</th><th>Category B</th><th>Category C</th><th>Category U</th></tr><tr><td>0</td><td>0</td><td>1</td><td>1</td></tr></table>
Tree Loss for Arboricultural Reasons	There are no trees proposed for removal for arboricultural reasons.
[2]RPA and tree crown Impact	The general impacts on retained trees can be managed by following the requirements of the tree protection plan and method statement at Appendix B3.
RPA incursion: Demolition	Provided the tree protection plan is used as a guide for demolition operations, this should ensure that any works will not harm retained trees.
RPA incursion: Construction	The proposal partially encroaches within the RPA of low quality off site tree T6, a mature willow and birch T12, and poor quality off site birch trees T8, T9, and T10. Whilst their retention is not sustainable, in order to ensure the proposal limits damage to their roots, it is possible to build using low impact sensitive foundation design and no-dig construction for the proposed driveway to plot 2 to address these concerns. Provided the tree protection plan and method statement at Appendix B3 is used as a guide for construction operations, this should ensure that any works will not harm retained trees.
RPA Incursion: Soil levels change	No soil level changes are anticipated within the root protection area of retained trees.
RPA Incursion: Underground services and drainage	No information is currently available relating to underground services or drainage for the proposal, however it should be possible to locate the utilities outside the RPA of trees. If it is essential to locate underground drainage or services runs within the RPAs of retained trees these operations should follow the

[2] RPA Section 3.7 of BS5837 (2012): 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 is treated as a priority

	recommendations in the NJUG guidelines. In addition, it is also recommended that these works are carried out under arboricultural supervision when being installed.
RPA Incursion Landscape operations	Provided the tree protection plan is used as a guide for landscape operations, this should ensure that any works for improving the hard and soft landscaping features will not harm trees. Any landscaping works within the tree protection areas should be undertaken by hand only avoiding using machinery. Where machinery is unavoidable this should be tracked and light weight only (max of 2 tonnes). Temporary ground protection should always be installed beforehand as follows: • *Pedestrian* – single thickness scaffold boards placed on top of a compressible resistant layer of 100mm of woodchip laid onto a geotextile membrane • *Pedestrian operated plant* – gross weight of 2tonne, proprietary inter-linked ground protection boards placed on top of a compressible resistant layer of 150mm of woodchip laid onto a geotextile membrane
Pruning to facilitate development	Pruning of the overhanging crowns of T8, T10 and T12 to facilitate the proposal is necessary, it should be noted that their crowns are over extended due to their proximity and competition for light.
Future growth of retained trees	This is not considered to be an issue, as the future growth of trees is limited by their declining condition.
Daylight and sunlight	There are no windows on elevations adjacent to trees. Trees are an asset when it comes to the provision of shade and welcome cooling and can provide a natural alternative to the reliance on air conditioning (for example) to mitigate the effects of climate change resulting in warmer temperatures generally in the UK.

Discussion Trees in Relation to the Proposal

TC1. (03.12.19) Low quality ash tree T13, to be retained (rear of the site)

TC2. (03.12.19) Poor quality cypress tree T14 to be removed

TC3. (03.12.19) View of poor / low quality birch T7-T12 from within the neighbouring garden, looking west towards the site, to be retained but pruned back

TC4. (03.12.19) Fungal fruiting bodies of Chondrostereum purpurea founda at the base and stems of T7, T9, T10, T11

Changes as a result of the proposal

4.2 The proposal will not directly result in the loss of significant trees on the site, the loss includes a group of low value stag's horn sumac (G5) at the front of the site, and a poor quality cypress which is nearly dead.

4.3 Section 5 of BS5837 (2012) recommends various factors should be considered when considering the design layout of a proposal in relation to trees, one of which is potential incompatibilities between the layout and trees proposed for retention. Any concern in this respect in relation to the neighbouring trees is minimised by the fact that due to their declining condition they are very likely to need removal within the next few years. Pruning the overhanging crowns in the interim period to accommodate the proposal is reasonable as the trees should not be considered a significant constraint. It is also worth noting that there are no windows on the elevation closest to these trees, and therefore even in the short term, they are not likely to be considered a nuisance by any future occupiers.

Mitigation

4.4 Space for replacement tree planting at the front is limited, however Orchard Way frontages are not characterised by tree planting, but low level shrubs where space allows (see below). To assist with urban greening, there is available frontage space to achieve similar soft landscaping and an area has been allocated by the applicant for significant new native species tree planting to the north and north east of the proposed garden boundaries and native species hedging is proposed within the northern and eastern garden boundaries.

TC5. (03.12.19) Landscape character of adjacent properties within Orchard Way

Sustainability and Compliance with planning policy

4.5 The proposal does not require the loss of significant trees or landscape feature and any identified impacts can be mitigated for through specialist construction methods. Trees affected by the proposal (overhanging crowns) are not sustainable and therefore should not be a constraint to the proposal.

4.6 The proposed development properly considers the impacts on trees, suggest mitigation and protection measures to safeguard trees and therefore is sustainable and complies with national and local planning policy in relation to trees.

5 Conclusions

5.1 This report demonstrates that trees have been considered properly in accordance with best practice, impacts identified, and mitigation suggested to ensure risks from demolition and construction operations associated with the proposal can be reasonably managed and implemented where necessary.

5.2 Subject to adopting the approaches and best practice recommendations within this report and associated drawings it is possible to conclude:

5.3 In respect of local plan policies, the proposal accommodates the needs of sustainable trees, and low level landscaping at the front of the site can be provided to enhance the proposal and contribute to greening the built environment.

5.4 Provided the approaches suggested within this report are followed, the proposal can incorporate the trees sustainably and therefore complies with national and local planning policies.

Appendix A1 – BS 5837 Tree Data Schedule

TCTC-17574 Tree schedule (BS5837)

Land at Orchard Way

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes / Recommendations	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T1	1	Fraxinus excelsior (Ash)	15.0	41	1	5.3		7.7		6.0		5.0		4.0		Mature	Structural condition Fair. Physiological condition Fair. Die-back - Mid crown. Die-back - Upper crown. Deadwood - Major. Deadwood - Minor. Epicormic growth - Crown. Susceptible to ash dieback	04/12/2019	76.0	4.9	10-20	C1
Tree T2	1	Fraxinus excelsior (Ash)	7.0	19	1	6.2		5.7		2.0		2.8		2.5		Early Mature	Structural condition Fair. Physiological condition Fair. Deadwood - Minor. Epicormic growth - Crown. Suppressed crown - Major. Susceptible to ash dieback	03/12/2019	16.3	2.3	10-20	C1
Tree T3	1	Fraxinus excelsior (Ash)	14.0	30	1	5.0		2.0		6.0		7.2		4.0		Early Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Die-back - Upper crown. Deadwood - Minor. Ivy or climbing plant. Susceptible to ash dieback	03/12/2019	40.7	3.6	10-20	C1
Tree T4	1	Betula pendula (Silver Birch)	17.0	49	1	7.7		6.2		4.7		6.3		2.0		Late Mature	Structural condition Good. Physiological condition Good. Deadwood - Minor. Well formed tree, no significant faults, but very mature with less than 20 years remaining contribution	03/12/2019	108.6	5.9	10-20	C1
Group G5	8	Rhus typhina (Stag's Horn Sumach)	4.5	10 AVE	1	1.5		1.5		1.5		1.5		1.0		Early Mature	Structural condition Fair. Physiological condition Fair. Fallen tree / trees - Partial collapse. Individuals and suckers in group, have been topped at 2m and regrown Average stem diameter given	03/12/2019	4.5	1.2	20-40	C2

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

Generated By MyTREES tree management software

Land at Orchard Way

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes / Recommendations	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T6	1	Salix sp. (Willow sp.)	7.0	73	1	5.1		5.5		5.6		5.5		1.0		Late Mature	Structural condition Poor. Physiological condition Fair. Access to inspect base - Not possible. Decay / structural defect - Principal stems. Fallen tree / trees - Partial collapse. Growing across boundary wall, following collapse, fungal toadstools in main fork and growing through stem bark to the west Two main leading stems Diameter measured at narrowest point below fork	03/12/2019	241.1	8.8	10-20	C1
Tree T7	1	Betula pendula (Silver Birch)	13.0	22	1	4.0		4.6		2.3		2.0		2.8		Mature	Structural condition Fair. Physiological condition Poor. Bark exudation. Die-back - Upper crown. Deadwood - Major. Deadwood - Minor. Fungal fruiting bodies Chondrostereum purpureum around lower stem to east	03/12/2019	21.9	2.6	0-10	U
Tree T8	1	Betula pendula (Silver Birch)	14.0	31	1	3.5		4.0		2.3		5.0		3.0		Mature	Structural condition Fair. Physiological condition Poor. Die-back - Upper crown. Deadwood - Major. Deadwood - Minor. Ivy or climbing plant.	03/12/2019	43.5	3.7	0-10	U
Tree T9	1	Betula pendula (Silver Birch)	13.0	26	1	2.3		3.0		2.3		2.0		7.0		Mature	Structural condition Fair. Physiological condition Poor. Die-back - Upper crown. Deadwood - Major. Deadwood - Minor. Epicormic growth - Bole / principal stems. Fungal fruiting bodies Chondrostereum purpureum around lower stem circumference	03/12/2019	30.6	3.1	0-10	U
Tree T10	1	Betula pendula (Silver Birch)	15.0	34	1	6.0		6.6		4.5		6.7		7.0		Mature	Structural condition Fair. Physiological condition Poor. Bark exudation. Die-back - Throughout crown. Deadwood - Major. Deadwood - Minor. Epicormic growth - Bole / principal stems. Fungal fruiting bodies Chondrostereum purpureum around lower stem north, south and east	03/12/2019	52.3	4.1	0-10	U
Tree T11	1	Betula pendula (Silver Birch)	12.0	26 COM	2	2.1		5.8		4.8		2.0		7.0		Mature	Structural condition Fair. Physiological condition Poor. Bark exudation. Die-back - Throughout crown. Die-back - Upper crown. Deadwood - Major. Deadwood - Minor. Epicormic growth - Bole / principal stems. Fork - Weak with included bark. Fungal fruiting bodies of Chondrostereum purpureum on both stems up to at least 6m above ground level Leans to the east	03/12/2019	31.2	3.1	0-10	U

Stem **green** Estimated value

Stem **AVE** Average stem diameter for tree groups

Stem **COM** Combined stem diameter in accordance with BS5837

L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

Generated By MyTREES tree management software

Land at Orchard Way

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes / Recommendations	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T12	1	Betula pendula (Silver Birch)	14.0	38	1	3.5		4.0		4.0		4.8		2.0		Mature	Structural condition Fair. Physiological condition Poor. Arboricultural work - Historic. Die-back - Upper crown. Deadwood - Minor. Epicormic growth - Crown. Ivy or climbing plant.	03/12/2019	65.3	4.6	10-20	C1
Tree T13	1	Fraxinus excelsior (Ash)	10.0	73 COM	4	6.0		6.0		6.0		4.0		2.0		Late Mature	Structural condition Poor. Physiological condition Fair. Access to inspect base - Restricted / obscured. Base / stems obscured - Vegetation. Coppice stool - Coppice origin / Mature stems. Decay / structural defect - Principal stems. Pruning wounds - Decayed. Pruned heavily back from site Fungal fruiting body Daldinia concentrica Susceptible to ash dieback	03/12/2019	247.7	8.9	10-20	C1
Tree T14	1	Juniperus sp. (Juniper sp.)	5.0	20	1	1.5		1.5		1.5		1.0		0.0		Mature	Structural condition Fair. Physiological condition Poor. Access to inspect base - Restricted / obscured. Die-back - Throughout crown. Decline - Evident / observed. Possibly multistemmed	03/12/2019	18.1	2.4	0-10	U

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

Generated By MyTREES tree management software

Table 1 of BS5837 (2012) **Cascade chart for tree quality assessment**

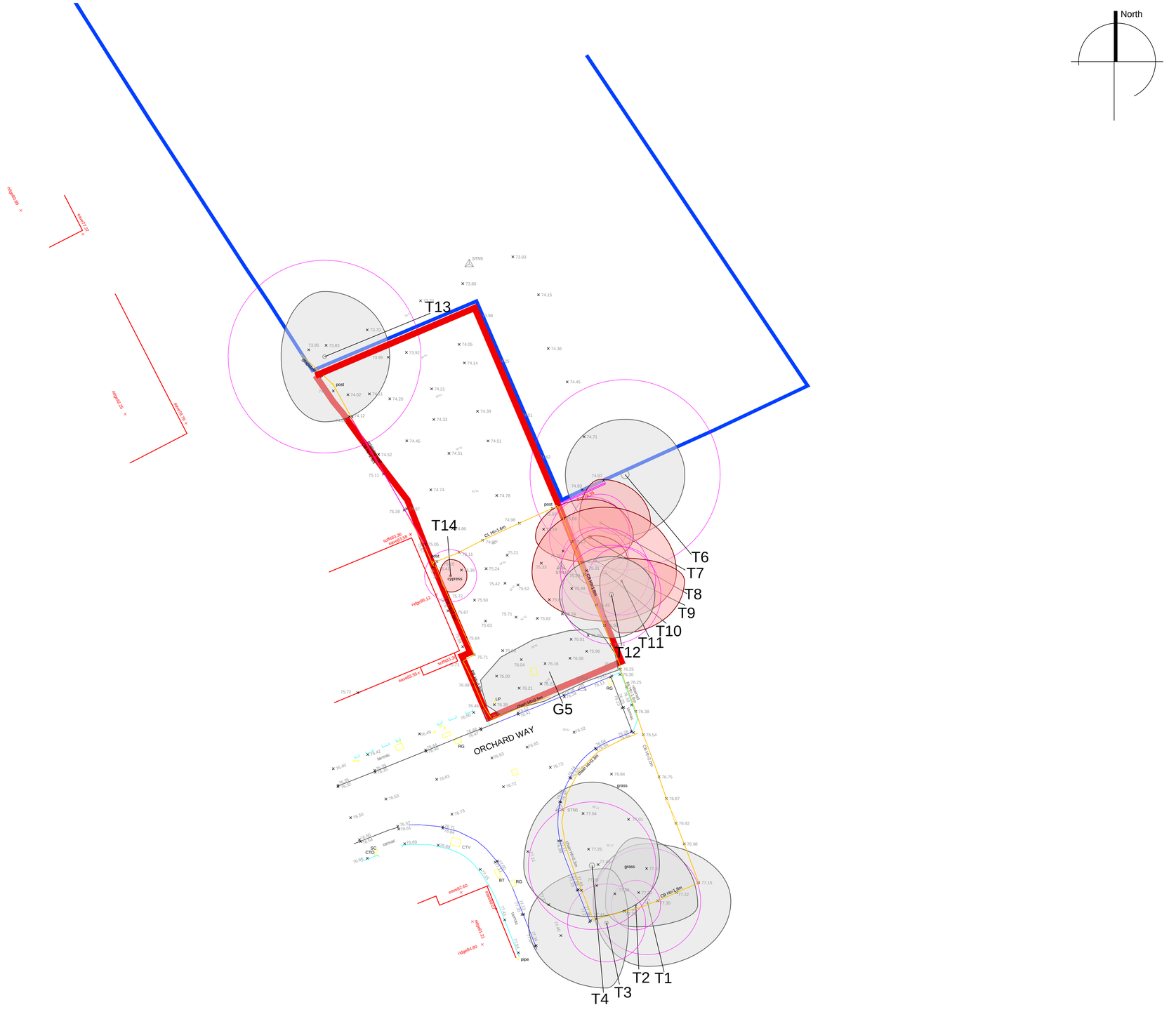
Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	* Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) * Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline * Trees infected with pathogens of significance to 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			**RED**
	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	Tree 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 arboricutural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).	**GREEN**
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.	**BLUE**
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.	**GREY**

Appendix A2 – Tree Work Schedule

Tree	Species	BS Category	Life Stage	Recommendations
G5	Stags Horn Sumac	C2	Early mature	Fell to ground level to facilitate development
T8	Birch	U	Mature	Prune overhanging branches back to boundary to facilitate the development proposal
T10	Birch	U	Mature	Prune overhanging branches back to boundary to facilitate the development proposal
T12	Birch	C1	Mature	Prune overhanging branches back to boundary to facilitate the development proposal

NOTE:
All tree works should comply with BS 3998 (2010) - Recommendations. If necessary, appropriate checks by a suitably qualified ecologist should be made before tree works are undertaken, and all works should only be carried out once planning permission has been granted and any pre-commencement planning conditions relating to tree work have been discharged

Appendix B1 – Tree Survey Plan



BS5837:2012 Tree Categorisation

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

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

C Category
Trees of low quality with an estimated life expectancy of at least 10 years, or young trees with a stem diameter below 150mm

U Category
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

Key

Root Protection Area (RPA)
The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability. Where the tree is ancient the RPA follows Natural England Standing Advice 2018.

Do not scale from this drawing, tree positions and dimensions should always be checked on site.

The original of this drawing is in colour, do not rely on monochrome versions.

0 5m 10m 15m 20m

Date	Revision	Description
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Title
Tree Survey

Client
P Healy

Site
Land at Orchard Way, Chigwell, Essex, IG7 6EF

Ref: TCTC-17574-PL-01	**Rev:** -	**Scale:** 1:200 @ A1
Status: Planning	**Date:** Dec-2019	**Drawn By:** SC

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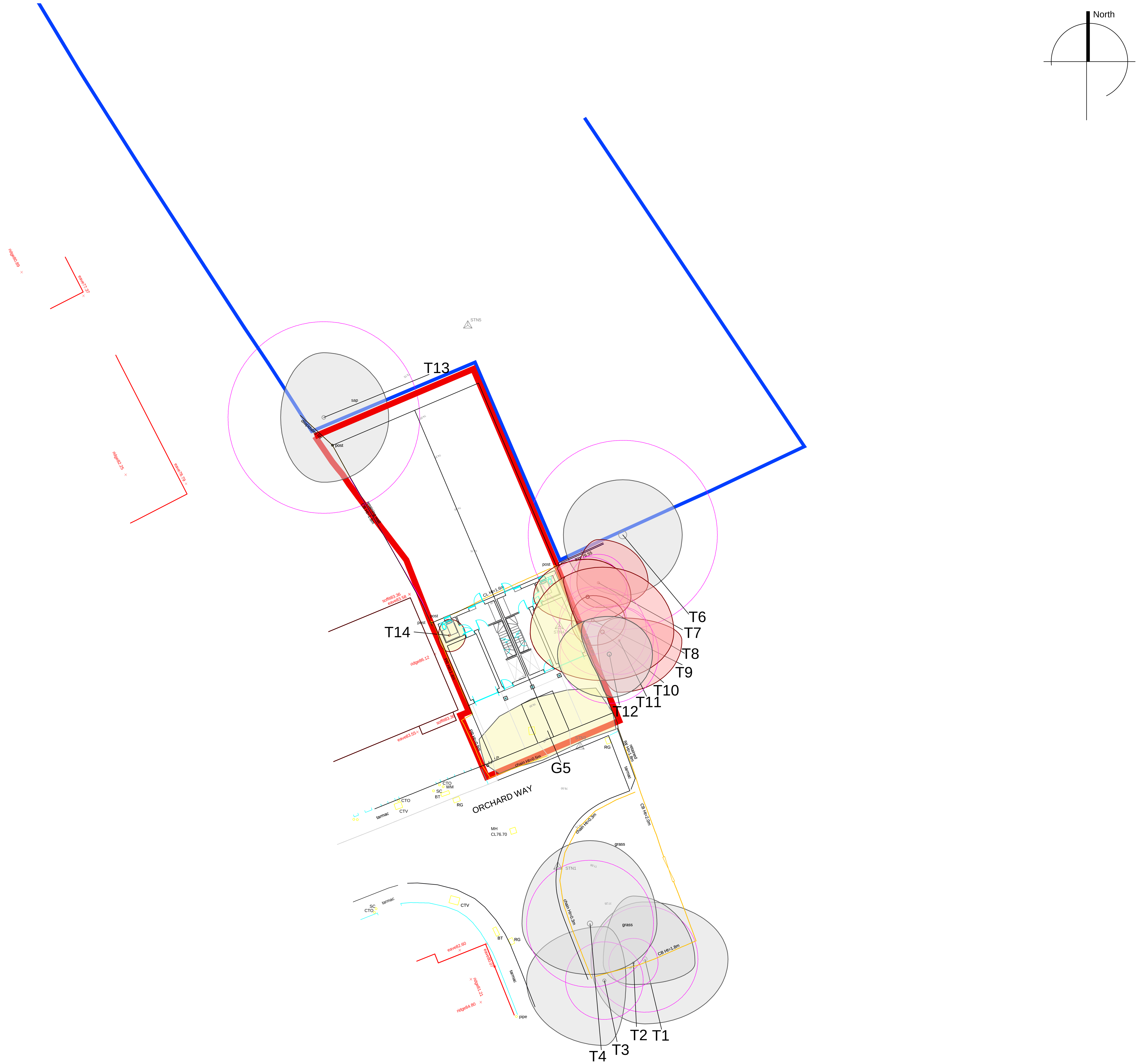
Appendix B2 – Proposal and Tree Work Plan



BS5837:2012 Tree Categorisation

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

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

C Category
Trees of low quality with an estimated life expectancy of at least 10 years, or young trees with a stem diameter below 150mm

U Category
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

Key

Root Protection Area (RPA)
The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability. Where the tree is ancient the RPA follows Natural England Standing Advice 2018.

Trees to be removed for development

Do not scale from this drawing, tree positions and dimensions should always be checked on site.

The original of this drawing is in colour, do not rely on monochrome versions.

0 5m 10m 15m 20m

Date	Revision	Description
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Title
Proposed Layout

Client
P Healy

Site
Land at Orchard Way, Chigwell, Essex, IG7 6EF

Ref: TCTC-17574-PL-02	**Rev:** -	**Scale:** 1:200 @ A1
Status: Planning	**Date:** Feb 2020	**Drawn By:** TC

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Appendix B3 – Tree Protection Plan and Heads of Terms Method Statement

ARBORICULTURAL METHOD STATEMENT (HEADS OF TERMS)

Tree works
All tree works recommended with the proposal will be carried out in accordance with BS 3998:2010 *Tree work - Recommendations* prior to any construction machinery arriving on site. Once completed, installation of protective barriers and temporary ground protection will take place immediately.

Protective Barriers
Protective barriers will be installed in the locations specified on this drawing prior to any works starting on site. There are two types of fencing specified; the default fencing which is required for areas of highest demolition and construction intensity and risk to trees, and the above ground stabilising system for less intensively used areas of the site.

Temporary ground protection
Where specified, temporary ground protection will be installed in accordance with this drawing. The intention is to protect roots and soil from potential compaction damage where the installation of a barrier would be impractical for demolition and construction activities. The specification will be suitable to withstand the vehicle of pedestrian loads to be used in these areas - advice should be taken from the arboriculturist.

Foundation Construction
Foundations within the root protection area of trees will be constructed only using special engineering solutions which will avoid significant root pruning, methods such as piles and suspended ground beams or slabs will be used, appropriate design for the site conditions will be specified by an engineer in liaison with an arboriculturist. Any excavations in existing built footprints will not exceed the existing building footprint or depth of existing footings.

No-Dig Construction
Where no-dig construction is specified on this drawing the method of construction and installation will retain existing ground levels, any existing vegetation sprayed and hollows filled with sharp sand to create a level finish. The use of a load bearing three dimensional system with a permeable surface, and low impact kerb edging will be used to avoid soil compaction and potential damage to tree roots and stems. Appropriate tree root protection systems are available from www.geosyn.co.uk, or www.terram.com and this should be installed only by the manufacturer to ensure it is effective.

Underground drainage and services
Drainage and services installation will avoid the root protection area of trees, where this is unavoidable the approach to install will follow NJUG (2007 Volume 4, Issue 2). All manholes must avoid root protection areas entirely.

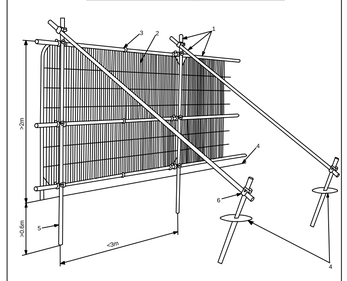
General Tree Protection Measures

- No construction or demolition works will take place within any protection zone identified on this drawing. Barriers and ground protection will remain intact and in position until works on site are completed, no alterations will take place without consulting the project arboriculturist beforehand
- No chemicals will be used within 3m of a tree, including hazardous material, cement or other toxic materials

Supervision of Works
Once protection measures as specified on this drawing are in place, the project arboriculturist will be notified and a site visit will take place to approve the installations are fit for purpose. Site operations can commence once this has been approved.

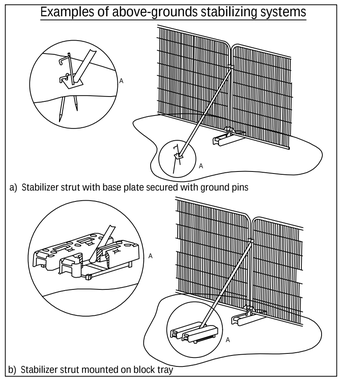
Ongoing site visits by the project arboriculturist will take place at intervals to ensure that tree protection measures are adhered to for the duration of the project works on site.

Protective Fencing Specification



Key
1 Standard scaffold poles.
2 Heavy gauge 2m tall galvanized tube and welded mesh infill panels.
3 Panels secured to upright and cross-members with wire ties.
4 Ground level.
5 Uprights driven into the ground until secure (minimum depth 0.6m).
6 Standard scaffold clamps.

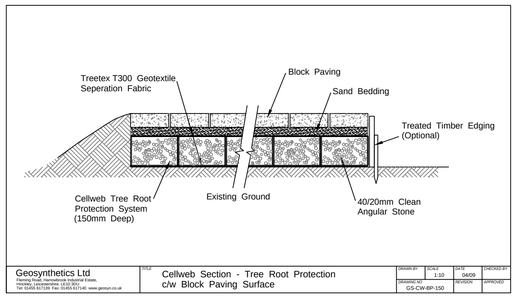
Examples of above-grounds stabilizing systems

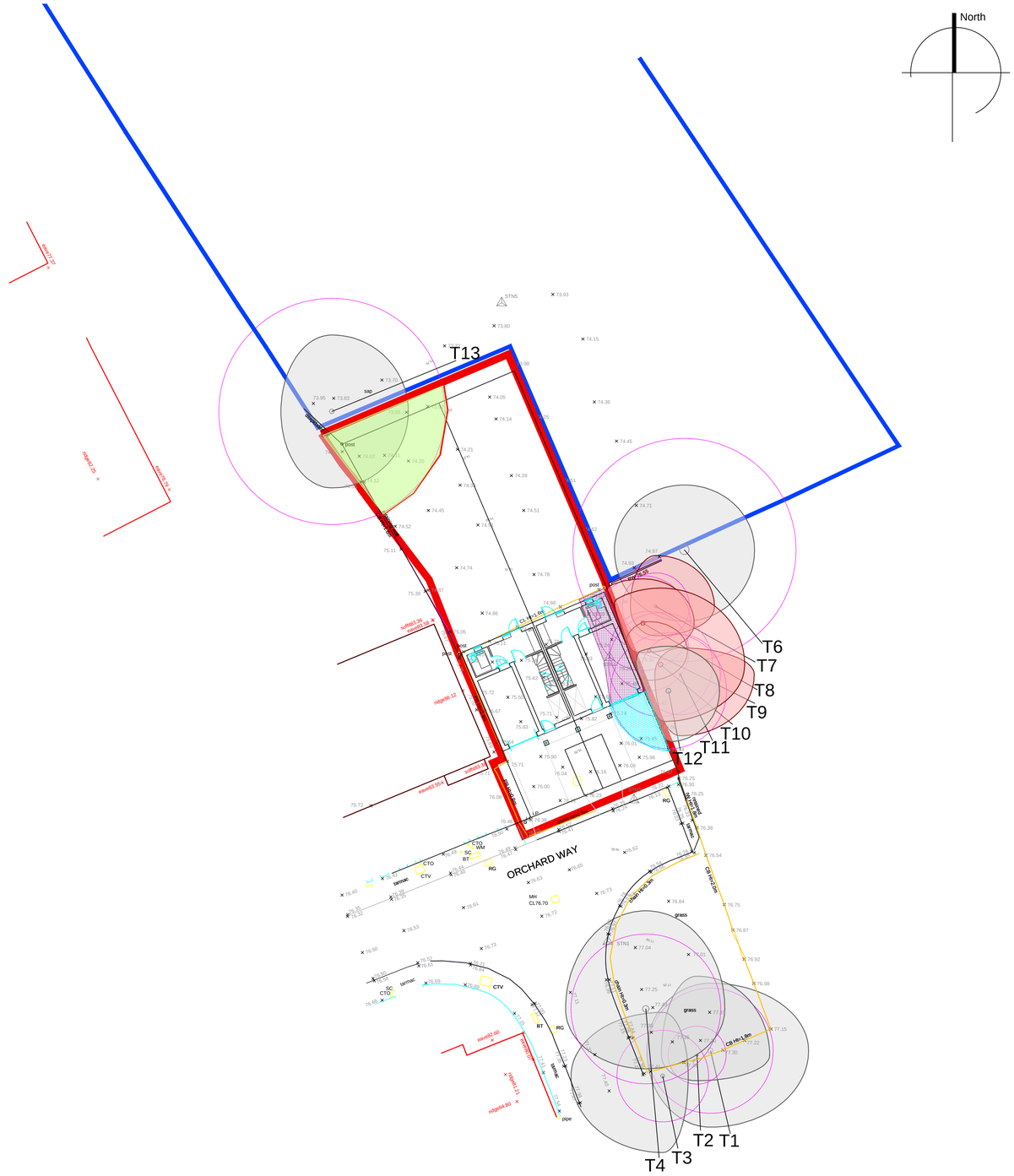


a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray

Example of Permeable, No-Dig Construction for Hard Surfacing





BS5837:2012 Tree Categorisation

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

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

C Category
Trees of low quality with an estimated life expectancy of at least 10 years, or young trees with a stem diameter below 150mm

U Category
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

Key

Root Protection Area (RPA)
The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability. Where the tree is ancient the RPA follows Natural England Standing Advice 2018.

BS 5837 2012 Default weldmesh specification for protective barrier

Construction exclusion zone

No-dig construction - Permeable hard surface
Refer to suggested principle below method statement

Areas requiring specialised operational approaches

Do not scale from this drawing, tree positions and dimensions should always be checked on site.

0 5m 10m 15m 20m

Date	Revision	Description
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Title
Tree Protection Plan

Client
P Healy

Site
Land at Orchard Way, Chigwell, Essex, IG7 6EF

Ref: TCTC-17574-PL-03	**Rev:** -	**Scale:** 1:200 @ A1
Status: Planning	**Date:** Feb 2020	**Drawn By:**

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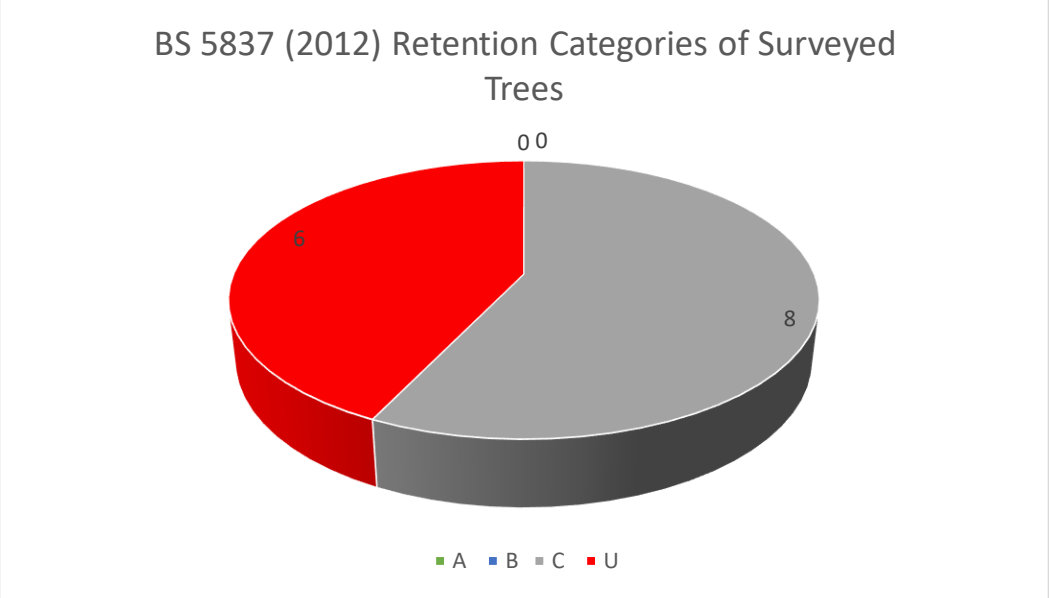
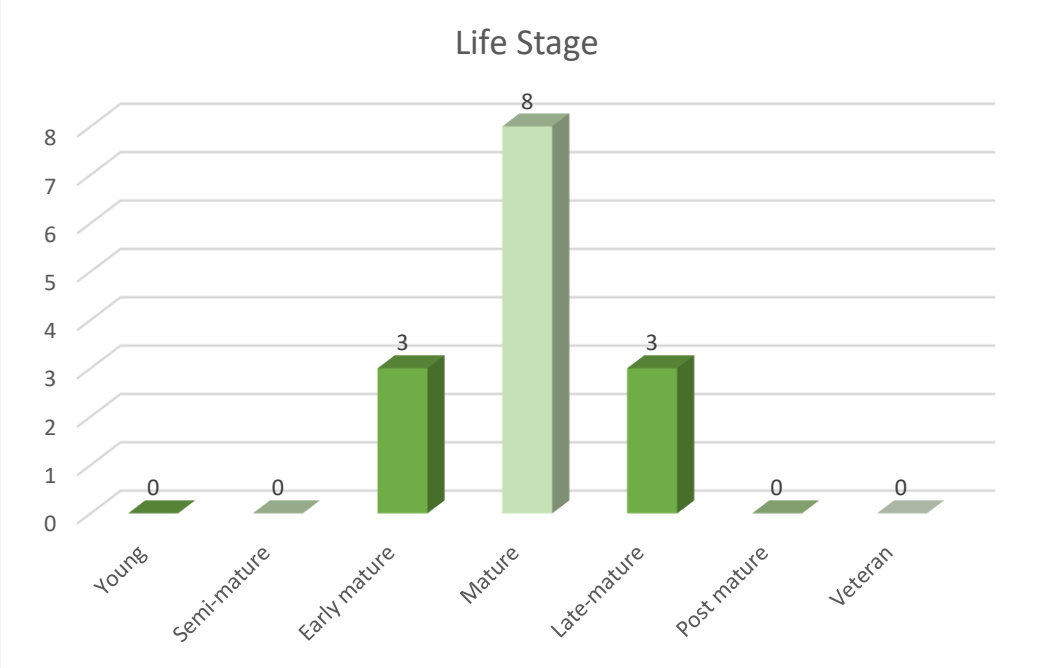
Appendix C – Tree Data Analysis

BS5837 (2012) quality and value of the tree population

A total of fourteen trees and one group are included in the survey



Life Stage



Appendix D – Qualifications

I am a qualified arboriculturist with significant experience in dealing with trees in relation to the living environment and trees in relation to the planning process.

I am a Registered Chartered arboriculturist with the Institute of Chartered Foresters, a Fellow of the Arboricultural Association, a Chartered Environmentalist and I have a Higher National Diploma in arboriculture and a Postgraduate Diploma in arboriculture and community forest management from Middlesex University, I have over twenty years' experience in the field of Arboriculture.

Tracy Clarke MICFor. F.Arbor.A. CEnv

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