

17B HAZEL CLOSE, CHANDLERS FORD, EASTLEIGH

Tree Survey Report



AS_1009_300
Tree Survey Report
A
April 2024

Quality Management

Version	Status	Authored by	Reviewed by	Approved by	Review date
-	For Planning	Arb-Solute	JN	JH	8 April 2024
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1 INTRODUCTION

- 1.1 This Tree Survey Report has been prepared by Arb-Solute on behalf of DWG Plans Ltd in respect of a proposed development at 17B Hazel Close, Chandlers Ford, Eastleigh (The Site) and, to accompany the submission of planning documents in relation to proposed development.
- 1.2 A tree survey of the site was carried out by Arb-Solute Ltd on 26th March 2024 in accordance with the requirements set out in BS5837: 2012 'Trees in relation to design, demolition, and construction – Recommendations'¹. This report utilises the findings of this survey.
- 1.3 The purpose of this report is to:
- Assess the landscape and visual amenity value of the existing trees and identify the constraints associated with the trees prior to any potential redevelopment of The Site. An assessment of the quality of the trees has been made, with reference to the categories and sub-categories listed within Table 1 - BS5837:20121.
 - Assess and quantify the arboricultural impact of proposed development within the survey area, based on indicative layout proposals provided by the client.
 - Provide additional arboricultural information and advice in relation to the protection of trees throughout the development of the site.
- 1.4 The relevant plans referred to throughout this document are:
- Tree Constraints Plan ARBS_1009_100
 - Preliminary Tree Protection Plan ARBS_1009_110
 - Tree Survey Schedule ARBS_1009_200

2 SITE INFORMATION

- 2.1 The tree survey covered the existing trees within and bordering an area of land as defined by the survey boundary line shown on the Tree Constraints Plan, ARBS_1009_100 (Appendix A).
- 2.2 The application site borders gardens of neighbouring properties to the north, east and south.
- 2.3 The site was roughly denoted by the drawn redline below.



- 2.4 The broad soilscape of the area in which the survey site is located typically comprises “Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils”¹.
- 2.5 The survey area comprised a rear garden. The only trees that related to the garden and property were located off-site within the private garden of a neighbouring property to the north. No access to the tree stems was possible. As such, all assessment were made from The Site, the stem bases were obscured by a garden fence. Stem diameter dimensions were estimated as was the location of the trees by measuring off of known fixed points using a handheld laser.
- 2.6 The trees surveyed were large mature species, that formed a cohesive canopy made up of approx. 10 stems on Silver birch in total. A proportion of the canopy of the southern section of the group overhangs The Site. The Root Protection Areas (RPAs) of T1, T2 & T3 encroach over into The Site.

¹ <https://magic.defra.gov.uk/magicmap.aspx>

3 TREE SURVEY METHODOLOGY (BS5837:2012)

- 3.1 The Tree Survey was carried out by Arb-Solute Ltd on 26th March 2024.
- 3.2 The report and survey were carried out in general accordance with the requirements set out in BS 5837:2012 "Trees in Relation to Design, Demolition and Construction – Recommendations"¹.
- 3.3 The tree survey involved a visual inspection from the ground of individual specimens and groups of trees to record their amenity value, management recommendations, and dimensions. Where observed, the general condition of all the trees has been noted. The survey does not constitute a full arboricultural hazard evaluation assessment involving the detailed inspection of trees in relation to their structural condition, decay, and any other physical and pathogenic defects.
- 3.4 The locations of the trees were estimated using a handheld laser measuring off of fixed points within the property's curtilage.
- 3.5 Where it was possible to access the stem of the tree, a diameter tape was used to measure the diameter of the tree stem. Where access was not possible, best estimations were made.
- 3.6 The survey assesses individual trees and groups of trees for quality and benefits within the context of the proposed development. The quality of each tree or group of trees has been recorded by allocating it to one of four categories described in Table 1 at the back of this report. These categories have been differentiated on the Tree Constraints Plan ARBS_1009_100 by colours.
- 3.7 The survey information was recorded on the attached Tree Survey Schedule in general accordance with the guidance contained within Section 4 of BS 5837:2012 "Trees in Relation to Design, Demolition, and Construction - Recommendations".
- 3.8 The information recorded is detailed in Table 1 at the back of this report.

Limitations

- 3.9 The findings of this survey are not valid following adverse or unpredictable weather conditions or for any failure due to 'force Majeure or unpredictable events.
- 3.10 Trees were not climbed or inspected below ground level and inaccessible trees will have the best estimates made about the location, physical dimensions, and characteristics.
- 3.11 Trees and woody vegetation were not assessed for their potential impact on future construction issues such as foundation designs (ref.: NHBC³ chapter 4.23). Whilst this report may assist in assessing likely future impacts, it should not be classed as a comprehensive vegetation survey in relation to impact upon future designs.

Lifespan of the data used to inform this report

- 3.12 The survey data contained and used to inform the production of this report are considered accurate for three years assuming there are no significant changes to the site conditions.

4 SUMMARY OF TREE SURVEY FINDINGS

Generally

- 4.1 The Site itself had no trees located within its curtilage. The only trees which could impact the proposals were located off-site in a private garden to the north.
- 4.2 10nr stems in total formed one cohesive canopy. For the purposes of this assessment the tree stems closest to The Site were recorded as individuals. The most northern (furthest away from The Site) was recorded as one tree (T6) with 5 stems.
- 4.3 The collection of stems as a whole formed a good quality cohesive canopy that partially stood out above surrounding roofs of residential properties.
- 4.4 If the tree group would be treated as individuals the trees would be regarded as poor quality but as they have established together they have formed a good quality tree canopy which should be managed as one tree unless one of the stems dies and/or fails.
- 4.5 The canopies of the most southern stems (T1* & T5*) overhung The Site by approximately 6m – the majority of the trees canopy. The RPAs of T1, T2 & T5 encroach over and into The Site.

Planning considerations/ statutory checks

- 4.6 A desktop investigation into the planning constraints on this site confirmed that there is a Tree Preservation Order (TPO) relating to the surveyed trees. Further information can be found on the Eastleigh Borough Councils website by using their interactive mapping system - <https://emaps.eastleigh.gov.uk/WebMaps/Map.aspx?MapName=Trees&initialDialog=layersDialog>
- 4.7 If a physical copy of the TPO documentation is required It can be obtained from the council by submitting a request to the Planning Department.
- 4.8 Tree protected by TPO are protected by law that prohibits the cutting down, topping, lopping, uprooting, wilful damage and wilful destruction of the protected trees without the written consent (by way of a TPO application form or full planning permission) of the Councils. The cutting of roots is also a prohibited activity and requires consent from the Council.
- 4.9 A desktop investigation of this site using the Magic maps application² confirmed that no trees within the site boundaries are identified as ancient woodland and The Site is not within a conservation area.
- 4.10 Under the UK planning system, local authorities have a statutory duty to consider the protection and planting of trees when granting planning permission for a 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 in dealing with planning applications.

² <https://magic.defra.gov.uk/MagicMap.aspx>

- 4.11 Trees can offer many benefits, including the provision of visual amenity, softening or complementing the effect of the built environment, and adding maturity to new developments by making places more comfortable in tangible ways e.g. contributing screening and shade, reducing wind speed and turbulence, intercepting snow and rainfall, and reducing glare.
- 4.12 Particular care is needed regarding the retention of large, mature trees which become enclosed within a new development. Where such trees are retained, adequate space should be allowed for their long-term physical retention and future maintenance.

Individual Trees

- 4.13 A total of 5 individual trees were recorded as part of the survey. The survey boundary can be seen on the Tree Constraints Plan ARBS_1009_100 (As Amended) Of these:

Category	Total number	Tree Ref
A	0	N/A
B	6	All trees
C	0	N/A
U	0	N/A

Design and Site Layout Considerations

- 4.14 During any site planning exercises the current and future growth potential of the trees should be considered.
- 4.15 The RPA for single-stem trees broadly equates to a radius 12 times the stem diameter of the tree at 1.5m above ground level or the extent of canopy spread, whichever is greater. For multi-stemmed, low-branching trees or those with trunks with an irregular girth the point of stem diameter measurement is adjusted in consideration of these factors and in accordance with the illustrations in BS5837:2012 (Annex C).
- 4.16 The RPA should become an exclusion zone during construction works and for any development. It should be fenced-off and protected in accordance with BS5837:2012¹. The canopy is likewise susceptible to damage during construction work and requires similar protection.
- 4.17 No activities that result in excavations, changes in level, or soil compaction should take place within the RPA of any retained trees, especially older mature trees. This would include the storage of materials, any construction work, trafficking by vehicles, or even excessive trafficking by pedestrians.

- 4.18 Services likewise should be routed outside the existing or potential root zone of trees. Where it is unavoidable, then certain measures should be employed to avoid damage to the tree's larger roots.
- 4.19 The location and siting of new facilities near trees should consider the potential impact on and conflict with both tree roots and canopy. This should consider the ultimate size of existing young and middle-aged trees at maturity. Conversely, the impact of the tree on the activities should also be considered with regard to obstruction, shading, leaf fall and root action. These are problems that can be managed provided sufficient space is allowed for.

Proposed Impact on Retained Trees

- 4.20 On review of the proposed layout as described in The Proposed Floor Plan provided by DWG Plans Drawing number 02969 Rev B, an impact to 3% of the RPS is proposed from the building footprint. Similarly, a small section of the RPA of T1 will have to be allocated to construction activity to ensure sufficient room is provided. It is recommended, in this case, that a pile and beam foundation type is utilised on the corner to cover at least 2m west and 2m south. Similarly, it is recommended that the proposed Tree Protection Fencing is set back 2m from the building edge and ground protection installed to facilitate construction activity and avoid the compaction of soft ground within the RPA.
- 4.21 A pile and beam foundation should be designed by the project engineer and require the minimum amount of excavation into soft ground to avoid impacting the rooting area of T1.
- 4.22 Ground protection can be constructed by laying a geotextile membrane, spreading a 150mm of non-compressible material such as bark mulch or wood chip and fixing plywood boards into the ground on top. This provides a working platform for pedestrian movements whilst protecting the soft ground of RPA from compaction.
- 4.23 **Tree works** – given that the canopies of the off-site trees overhang The Site by so much it is not seen to be unreasonable to propose a minor lateral canopy reduction to the western canopy extent of T1 by no more than 1.5m. This too will reduce the amount of overhang over the proposed extension.
- 4.24 When working within close vicinity to trees it is recommended that the works are undertaken cautiously ensuring not to inadvertently damage trees or their rooting environments whilst in the construction phase. In this case, it is recommended that protective fencing is installed on the edge of the RPA as depicted in the Preliminary Tree Protection Plan.
- 4.25 The fence will act as a barrier to construction activity creeping into the RPA and causing compaction to the roots further causing stress upon the tree.
- 4.26 Within the RPA there must be:
- No mechanical digging or scraping,
 - No alteration to existing ground levels including soil stripping,
 - No earthworks,
 - No handling or discharge of any chemical substance, concrete washings, or of any fuels.
 - No vehicular or pedestrian access and the storage of any materials is prohibited within the CEZ.
 - No materials that may contaminate the soil such as concrete mixings, diesel oil, and vehicle washings shall be discharged within 10m of the stem of any tree and,
 - No fires shall be lit within 10m of the maximum extent of a tree.

Trees and Management of Health and Safety

- 4.27 It is recommended that a program of periodic arboricultural assessments be undertaken in the future (post-development) in order to regularly assess the ongoing full health and safety of all trees both in full leaf and bare stemmed. The assessments should prioritise areas based on levels of access and presence of target (i.e. exposure of people to hazards) and accord with arboricultural advice, taking account of relevant factors (where known) that affect safety such as the age class, and condition, size, and species of the trees.

Conclusions

- 4.28 A tree survey has been completed in accordance with BS5837:2012 to assess the landscape and visual amenity value of the existing trees on and in close proximity to The Site.
- 4.29 A preliminary assessment has been made in relation to the proposed arboricultural impact of the proposed layout as per the Site Plan by DWG Plans. A low to moderate impact is proposed which could reasonably be mitigated by utilising special construction techniques such as a pile and beam foundation and installing ground protection to facilitate working space.
- 4.30 Tree protection measures are proposed around the RPAs of all trees to reduce the likelihood of compaction from builders' materials occurring during the proposed construction. Similarly, it is important to ensure that this protected area remains free from any excavation whatsoever – including any proposed drainage or service trenches.
- 4.31 In summary, a low to moderate impact on trees is proposed in order to fulfil the proposed development. So long as tree protection measures highlighted within the Preliminary Tree Protection Plan are followed it is unlikely to have a significant adverse impact on retained, off-site trees.

5 REFERENCES

- ¹ British Standards Institute. *British Standard (BS5837) Trees in Relation to Design, Demolition and Construction - Recommendations*. 2012.
- ² DEFRA. 'Magic Map Application'. www.magic.gov.uk. (Checked – April 2024.)
- ³ NHBC. 'Chapter 4.2- Building Near Trees'. *NHBC Standards 2016*. 2016.
- ⁴ British Standards Institute. *British Standard (BS3998) Trees Work - Recommendations*. 2010
- ⁵ Royal Town Planning Institute. *National Planning Policy Framework (England)*. 2012.
- ⁶ Natural England and Forestry Commission (2015) Standing Advice for Ancient Woodland.
- ⁷ British Standards Institute. *British Standard (BS8545) Young Trees: From Nursery to Independence in the Landscape*

Table 1

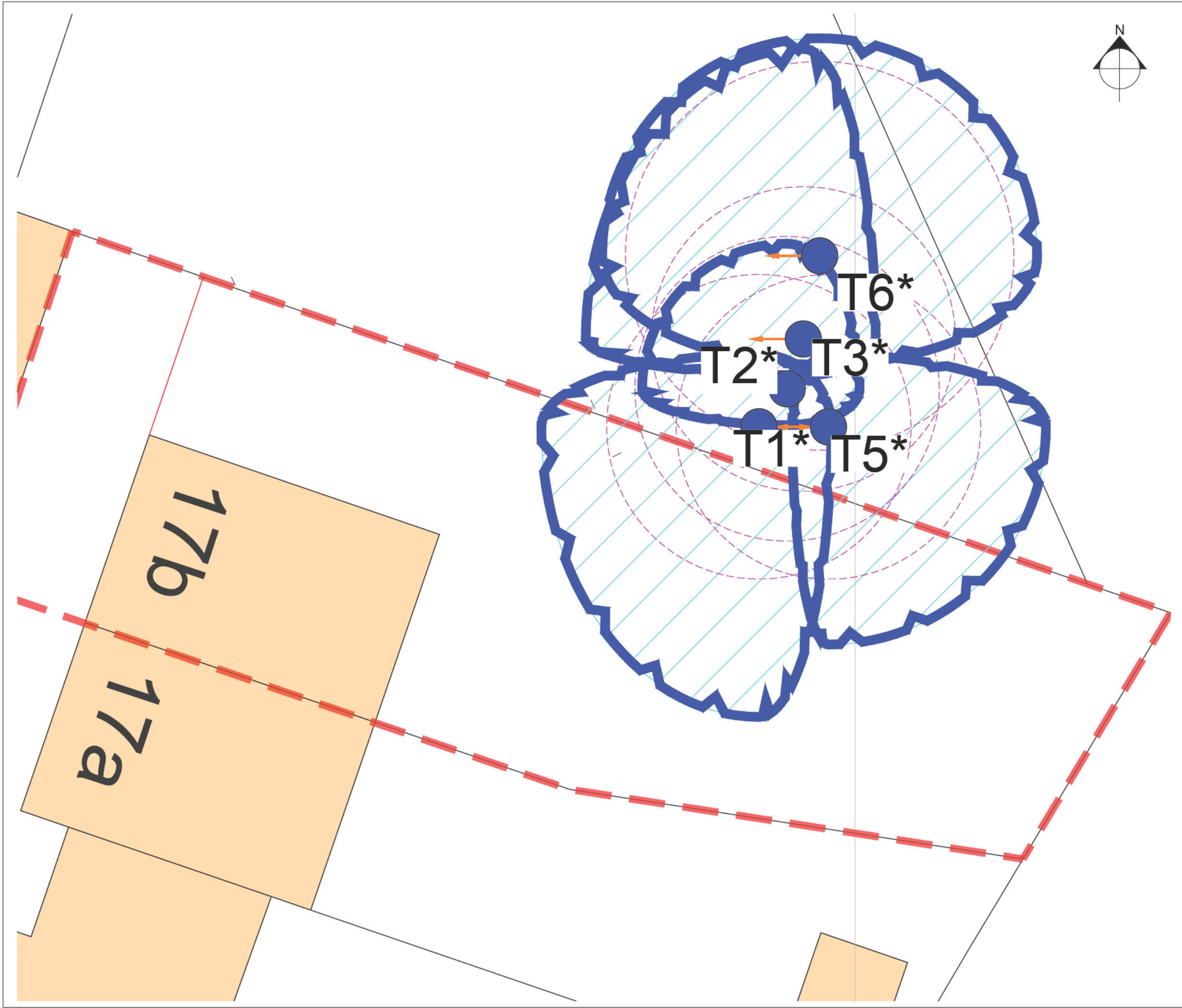
Tree characteristics recorded during survey

Tree Ref No:	Sequential reference number of trees or groups of trees. Avenues, woodlands and hedgerows were also recorded on the tree survey plan. # - denotes inaccessible trees (best estimates are made about the location, physical dimensions and characteristics.)				
Species	Species listed by common name, with scientific names (italic lettering).				
Height (m)	Estimated height of canopy to nearest metre.				
Branch Spread	branch spread, taken as a minimum at the four cardinal points, to derive an accurate representation of the crown				
Stem diameter @ 1.5 m (m)	Measured diameter of trunk at 1.5 m above ground level in metres unless otherwise indicated, multi-stemmed trees being measured in accordance with Annex C: BS5837				
Existing height above ground level	To inform on ground clearance, crown/stem ratio and shading the estimated height of the first significant branch and direction of growth and canopy above ground level.				
Stem No.	Number of stems (if necessary) of individual tree.				
Life Stage	Expressed as:-	Y	(Young)	OM	(Over-
		SM	(Semi-	mature)	
		EM	(Early-	V	(Veteran)
		mature)	D	(Dead)	
		M	(Mature)		
Physical Condition	Apparent condition expressed as the following categories, based upon a brief visual inspection from the ground only:-			Good Fair Poor Dead	
Comments / Management Recommendations	General observations, particularly of structural and/or physiological condition (e.g. the presence of any decay and physical defect), and/or preliminary management recommendations and potential for wildlife habitats (not exhaustive).				
Estimated remaining contribution (years)	Estimated remaining contribution, in years (<10, 10+,20+,40+)				
Tree Quality Assessment Value: Category	Criteria grading with regards to Table 1: BS 5837:2012, expressed as:-	A (Trees/Vegetation of high quality and value) B (Vegetation of moderate quality and value) C (Trees/Vegetation of low quality and value) 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)			
		* Category U trees can have existing or potential conservation value which might be desirable to preserve.			
Tree Quality Assessment Value: Sub - Category	Criteria grading with regards to Table 1: BS 5837:2012, expressed as:-	1 (Trees with mainly <i>arboricultural</i> value) 2 (Trees with mainly <i>landscape</i> value) 3 (Trees with mainly <i>cultural / conservation</i> value)			

Appendices

Appendix A

Tree Constraints Plan ARBS_1009_100



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Key

- Survey boundary.
- Tree with numbered reference.
Canopy spread and coloured BS5837:2012 tree quality category as shown below.
* = Tree location estimated / not plotted on topo
- BS 5837:2012 Tree Quality Categories - Table 1
 - Category A - High quality
 - Category B - Moderate quality
 - Category C - Low quality
 - Category U - Unsuitable for retention
- Root protection area (RPA)
Calculated in accordance with Section 4.6 - BS5837:2012
- Tree protected by Tree Preservation Order No.TPO.243-E. Please check with Eastleigh Borough Council for further detail.

Rev	Description	By	CB	Date
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Client
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Project
**17b Hazel Close
Chandlers Ford, SO53 5RF**

Title
Tree Constraints Plan

Status
For Planning

Drawn By
JN

Scale @ A3
1:100 (Do Not Scale From This Plan)

Date Created
Mar 2024

Drawing / Figure Number
ARBS_1009_110

Rev
-

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Appendix B

Preliminary Tree Protection Plan ARBS_1009_110B



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Key

-  Survey boundary.
-  Tree with numbered reference.
Canopy spread and coloured BS5837:2012 tree quality category as shown below.
* = Tree location est / not plotted on topo
- BS 5837:2012 Tree Quality Categories - Table 1
 -  Category A - High quality
 -  Category B - Moderate quality
 -  Category C - Low quality
 -  Category U - Unsuitable for retention
-  Root protection area (RPA)
Calculated in accordance with Section 4.6 - BS5837:2012
-  Temporary protective fencing in accordance with Section 6.2 - BS5837:2012. See inset details for example details.
-  Tree protected by Tree Preservation Order No.TPO.243-E. Please check with Eastleigh Borough Council for further detail.
-  Ground protection required where RPA is exposed to allow room for construction activity.
-  Pile and beam foundation required for at least 2m each side round corner of proposed build line. To engineers specifications.

B	Updated layout	JN	JH	20.05.24
A	For planning issue	JN	JH	08.04.24
Rev	Description	By	CB	Date



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**17b Hazel Close
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Title
Preliminary Tree Protection Plan

Status For Planning	Drawn By JN
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Scale @ A3 1:100 (Do Not Scale From This Plan)	Date Created Mar 2024
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Drawing / Figure Number ARBS_1009_110	Rev B
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Appendix C

Tree Survey Schedule ARBS_1009_200

TREE SURVEY SCHEDULE

Site: 17B Hazel Close, Chandlers Ford
Project Schedule Ref: ARBS_1009_200
Drawing Reference: ARBS_1009_100
Survey date: 26.03.2024

Surveyor: JN
Status: For Planning
Revision: -
Notes: Stem dia. (mm) for trees with 6 or more stems are estimated averages.
FSB - First Significant Branch. (e)-est. Ht.Can = Height of Canopy



Ref. no	Species	Height (m)	Ht. Can	Crown spread (m)				Stem dia. (mm)	Stem no. at 1.5m	FSB Hgt	Age class	Structural Condition	General Observations	Management Recommendations	Estimated remaining contribution (yrs)	Tree Quality Category (BS5837)
				N	S	E	W									
T1*	Betula pendula (Silver Birch)	18	5	2	2	8	6	350	1	5(E)	M	Fair	Single stem closest to property growing as part of group of stems. appears to be in reasonable health and condition with no obvious major defects. Tree is in offsite location. No access to stem was possible. Stem diameter was estimated. Not plotted on a topographical survey - location estimated using handheld laser.	Reduce western lateral canopy spread by no more than 1.5m to reeuce overhang of proposed single storey extension.	20+	B2
T2*	Betula pendula (Silver Birch)	18	10	4	2	1	4	350	1	10(W)	M	Fair	Singular stem within group. Upright form - etiolated. Tree is in offsite location. No access to stem was possible. Stem diameter was estimated. Not plotted on a topographical survey - location estimated using handheld laser.		20+	B2
T3*	Betula pendula (Silver Birch)	18	5	8	2	1	6	350	1	5(W)	M	Fair	Single stem within group. Canopy bias and stem lean northwards. Tree is in offsite location. No access to stem was possible. Stem diameter was estimated. Not plotted on a topographical survey - location estimated using handheld laser.		20+	B2
T5*	Betula pendula (Silver Birch)	18	5	2	6	6	1	350	1	5(W)	M	Fair	Single stem within group. Overhanging The Site. Canopy bias eastwards. Tree is in offsite location. No access to stem was possible. Stem diameter was estimated. Not plotted on a topographical survey - location etimated using handheld laser.		20+	B2
T6*	Betula pendula (Silver Birch)	18	5	6	6	3	6	200 x5	5	5(W)	M	Fair	Multi stem within group. Stem lean northwards. Tree is in offsite location. No access to stem was possible. Stem diameter was estimated. Not plotted on a topographical survey - location estimated using handheld laser.		20+	B2

Note: This survey is based on a brief visual inspection from the ground.
It is not intended as a full arboricultural inspection.

Appendix D

Tree Protection Fencing Examples

Figure 2 Default specification for protective barrier

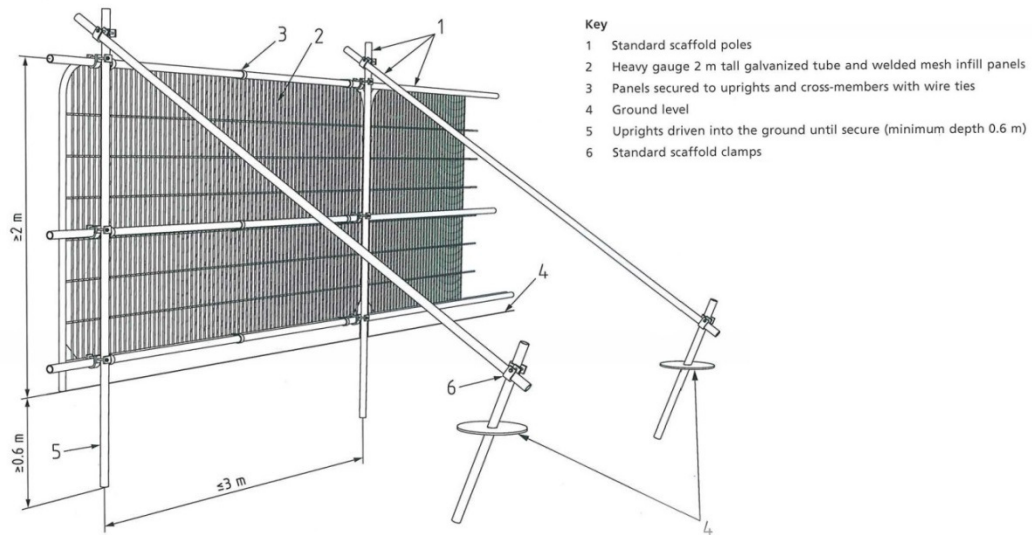
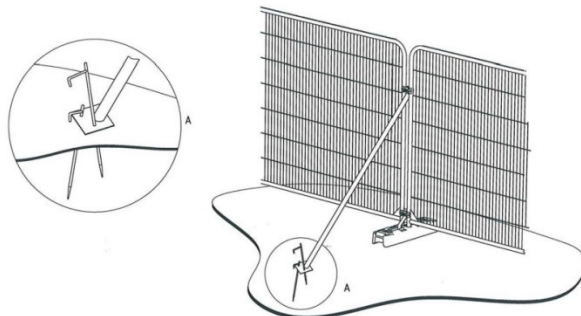
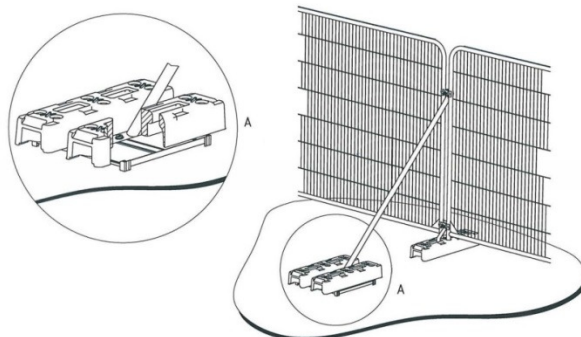


Figure 3 Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Appendix E

Tree Protection Fencing – Signage



Appendix F

Site Photos



