



PREPARED FOR
NHSBT Barnsley

SITE LOCATION
NHS Blood & Transplant, Higham Lane,
Barnsley

ARBORICULTURAL IMPACT **ASSESSMENT**

September 2024

#WEARE**INNOVATORS**



Document Control

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Site Summary

	Description	
Site Name/Address	NHS Blood & Transplant, Unit A Capitol Ct, Dodworth, Barnsley S75 3FG	
Site Ordnance Survey National Grid Reference	SE 31640 05985	
Local Planning Authority	Barnsley Metropolitan Borough Council (BMBC)	
Statutory Constraints	Tree Preservation Order/s	Conservation Area
	None	No

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1. Introduction

1.1 Terms of instruction

1.1.1 NHSBT Barnsley (hereafter the 'Client') commissioned Arb Innovators Ltd ('Arb Innovators') to prepare an Arboricultural Impact Assessment (AIA) at NHS Blood & Transplant, Unit A Capitol Ct, Dodworth, Barnsley S75 3FG (hereafter referred to as the 'Site') in accordance with *BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations* (The British Standards Institution, 2012), hereafter referred to as 'BS5837:2012'.

1.1.2 This assessment has been prepared by Callum Throw (*N. Dip Arb, PTI, TechArborA*) Managing Director and Principal Arboricultural Consultant at Arb Innovators. Callum is an experienced Arboricultural Consultant possessing over 15 years' experience with specialism in Urban Forestry and trees in relation to development.

1.2 Scope of this Arboricultural Assessment

1.2.1 Trees may form a constraint to the Proposed Development and therefore the methodology as set out in BS5837:2012 has been adhered to.

1.2.2 The scope and level of detail included within this AIA provides sufficient information on the arboricultural features present within the Site, and consideration of the impacts and residual effects of the Proposed Development on the existing arboricultural features and local character.

1.2.3 The information provided is compliant with BS5837:2012 (Table B.1) and national standard planning application validation requirements. This report broadly comprises four stages:

1. Undertake a survey of trees on the Site and those within the Study Area (a 15m buffer or "influencing distance" based on the surveyor's discretion) to fulfil the requirements of BS5837:2012.
2. Provide a Tree Constraints Plan (TCP) demonstrating the above and below-ground constraints; including canopy extents and Root Protection Areas (RPA), of those trees recorded.
3. Provide an AIA which includes a Tree Retention and Removals Plan (TRRP) to assess the impacts and effects which are likely to arise from the Proposed Development and identify mitigation for retained trees, where necessary.
4. Provide an Arboricultural Method Statement (AMS) 'Heads of Terms' outlining an overview of how retained trees will be protected and managed during on-site demolition and construction activities.

1.2.4 The results and recommendations in this report are valid for a maximum of 18 months from the date of the survey.

2. The Site and Proposed Development Description

2.1 Site Overview and Description

2.1.1 Table 1 provides a description of the Site and arboricultural Study Area, which is denoted by a red line presented on the TCP and TRRP provided at Appendix 3.

Table 1 Site Location, Description and General Overview

	Description
Site Address and Ordnance Survey National Grid Reference	NHS Blood & Transplant, Unit A Capitol Ct, Dodworth, Barnsley S75 3FG SE 31640 05985
Site Description	The Site is located in the suburb of Dodworth, within the town of Barnsley, South Yorkshire, approximately 3 kilometres northwest of Barnsley town centre. The area is part of the Barnsley Metropolitan District, which is characterised by a mix of urban and rural environments.
Surrounding Treescape and notable Site features observed during the assessment	Notable woodland areas include Dodworth Woods and nearby scattered woodlands that contribute to the local landscape character. The Site itself is relatively flat.
Date of walkover Tree Survey	29 August 2024

2.2 Proposed Development Description

2.2.1 Table 2 provides a description of the Proposed Development which is shown on the Tree Retention and Removal Plan at Appendix 3.

Table 2 Proposed Development Description and General Overview

	Description
Proposed Development Description	Construction of a new Clinical Waste Compound set on an area of concrete hardstanding, to the rear of NHS Blood & Transplant, Barnsley.

3. Summary of Relevant Legislation and Planning Policy

3.1.1 This report has been compiled with reference to the following legislation and both national and local planning policy.

3.2 Legislation Relevant to Arboriculture

- The Town and Country Planning Act 1990.
- The Town and Country Planning (Tree Preservation) (England) Regulations 2012.
- The Forestry Act 1967
- The Occupiers Liability Act (1957 and 1984)

3.2.1 Other legislation that affords a lesser or indirect level of protection to trees includes the following:

- The Wildlife & Countryside Act 1981 (as amended).
- Conservation of Species and Habitat Regulations 2017 (as amended).
- Natural Environment and Rural Communities Act 2006 (Section 41 England and Section 42 Wales).
- Hedgerow Regulations (1997).

3.3 National Planning Policy

- National Planning Policy Framework (NPPF), 2023¹

3.4 Local Planning Policy Relevant to Arboriculture

- Barnsley Local Plan (Adopted January 2019)²
 - Policy GD1 General Development
 - Policy BIO1 Biodiversity and Geodiversity

¹ National Planning Policy Framework (2023) [Online]. Available at <https://assets.publishing.service.gov.uk/media/65a11af7e8f5ec000f1f8c46/NPPF_December_2023.pdf> (Last Accessed January 2024).

² Barnsley Local Plan, 2019 [Online]. Available at <https://www.barnsley.gov.uk/media/17249/local-plan-adopted.pdf> > (Last Accessed 02 September 2024).

4. Baseline Arboricultural Data

4.1 Arboricultural Desk Study

4.1.1 A Desk Study has been undertaken as a means of identifying if any statutory and non-statutory constraints or designations are present within the Site and Study Area. This Desk Study includes consideration of the following environmental constraints:

- Tree Preservation Orders (TPO).
- Conservation Areas.
- Ancient Woodland.
- Ancient, Veteran, or Notable trees.

Presence of Tree Preservation Orders and Conservation Areas

4.1.2 At the time of writing this assessment, it has been confirmed using the BMBC online, interactive mapping platform³ that there are no TPOs associated with the Site, and the Site is not within a Conservation Area.

4.1.3 To remove or prune protected trees, approval must be given through the granting of planning permission or a separate application to the local council or Forestry Commission, where applicable.

4.1.4 Provisional Tree Preservation Orders (TPO) may be made whenever a local planning authority deems it appropriate and a TPO can be made at any time. It is recommended that the LPA is contacted prior to commencement of any tree works or tree removals specified within this report.

Presence of Ancient Woodland

4.1.5 The presence of ancient woodland designation within or bordering the Site was checked using Natural England's Multi Agency Geographical Information for the Countryside (MAGIC) map⁴ on 02 September 2024.

4.1.6 No part of the site is a designated Site of Special Scientific Interest (SSSI). The site does not contain Ancient and Semi-Natural Woodland (ANSW) nor Plantation on Ancient Woodland Site (PAWS). The Site was absent of these non-statutory designations and it therefore not necessary to consider the requirements of paragraph 186(c) of the NPPF.

Presence of Ancient, Veteran and Notable trees

4.1.7 The presence of Ancient, Veteran, or Notable trees⁵ associated with the Site were checked using Woodland Trust's Ancient Tree Inventory on 02 September 2024.

4.1.8 The Site was absent of this non-statutory designation and it therefore not necessary to consider the requirements of paragraph 186(c) of the NPPF.

³ Barnsley Metropolitan Borough Council (BMBC), Tree Preservation Orders Map [Online]. Available at: < <https://www.barnsley.gov.uk/services/parks-and-green-spaces/tree-management-and-maintenance/tree-preservation-orders/> > (Last Accessed 02 September 2024).

⁴ Magic (DEFRA), 2018. Multi Agency Geographic Information for the Countryside [Online]. Available at: < <https://magic.defra.gov.uk/MagicMap.aspx> > (Last 02 September 2024).

⁵ Ancient Tree Inventory, 2018. Ancient Tree Inventory [Online]. Available at: < <https://ati.woodlandtrust.org.uk> > (Last Accessed 02 September 2024).

5. Arboricultural Walkover Survey

5.1 Brief BS5837:2012 Methodology and Arboricultural Data Collection

- 5.1.1 The survey was completed in accordance with BS5837:2012 with an assessment of tree condition made using the Visual Tree Assessment (VTA) methodology (*Mattheck, 2007*), which provides a systematic framework for formal tree inspection. Full details of the walkover tree survey methodology used are provided in Appendix 1.
- 5.1.2 The survey recorded all arboricultural features with a stem diameter greater than 75mm either as individual specimens, groups, or hedges. The differentiation between individual trees and groups of trees was made where these trees were aerodynamically, culturally, or visually important as groups. Where a tree in a group has characteristics that distinguish it from the rest of the group e.g. veteran trees, trees with significant defects, and specimen trees that stand out within the feature, there are generally recorded as an individual tree.
- 5.1.3 The tree numbers associated with each tree are cross-referenced within the BS5837:2012 Tree Survey Schedule and arboricultural plans at Appendix 2 and Appendix 3 respectively.
- 5.1.4 BS5837:2012 does not reference a methodology for identifying and recording ancient, veteran, or notable trees. While 'Veteran' is defined in paragraph 3.12 of BS5837:2012, neither 'Ancient' nor 'Notable' are mentioned. Due to the complexity and subjectivity of this subject, there are various methods for defining and classifying Ancient, Veteran, and Notable trees.
- 5.1.5 For this BS5837:2012 assessment, the methodology set out by the *Recognition of Ancient, Veteran & Notable Trees – RAVEN (Forbes-Laird, 2018)* has been adopted.

5.2 BS5837:2012 Quality Assessment

- 5.2.1 Trees were categorised by quality in accordance with BS5837:2012, section 4.5. The objective of the tree categorisation method is to identify the quality and value (in a non-financial sense) of the arboricultural features recorded to make an informed decision about which features should be removed or retained if development occurs.
- 5.2.2 The quality of each arboricultural feature is defined based on its sub-category. Sub-categories carry equal weight and should not be used to influence retention priority. Sub-categories 1, 2 and 3 are intended to reflect arboricultural, landscape and cultural values, respectively.
- 5.2.3 It should be noted that Table 1 of BS5837:2012 only includes suggestions for the remaining years. A tree may have a longer remaining life than stated, but it is nevertheless classified as a lower category due to its maturity, condition, or overall influence on the application site.

5.3 Arboricultural Walkover Survey Summary

- 5.3.1 A survey of trees on the Site and those within influencing distance (15m beyond the Site, based on the surveyor's discretion) was undertaken on 29 August 2024 by Callum Throw of Arb Innovators, to fulfil the requirements of BS5837:2012.

5.3.2 The BS5837:2012 Tree Survey Schedule at Appendix 2 provides full details on all arboricultural features recorded as part of the walkover survey. A summary of the 2no. arboricultural features recorded has been provided in Table 3 and in the following paragraphs.

Table 3 Arboricultural features recorded and their quality categories in accordance with BS5837:2012

	Category A Trees that are particularly good examples of their species, especially if rare or unusual.	Category B Downgraded from category A because of impaired condition or lacking the quality necessary to merit category A.	Category C Unremarkable trees of limited merit which could be retained but are not a significant constraint.	Category U Trees in such an impaired condition that they should be removed.
Trees	0	0	0	0
Groups	0	0	1	0
Hedges	0	0	1	0
Total	0	0	2	0

5.3.3 The tree survey identified 1no. group of trees (G1) and 1no. hedge (H1) each situated beyond the boundary forming palisade fence and considered to be offsite, within third-party land. H1 was formed of trees with diameters of less than 75mm at 1.5m and as such, are not considered a material consideration.

5.3.4 All trees recorded were of a low-quality owing to their small proportions and relatively limited amenity value.

5.4 Tree Constraints Plan (TCP)

5.4.1 The location of each arboricultural feature and their associated constraints are illustrated on the TCP at Appendix 3. The purpose of the TCP is to visually identify the current above and below-ground constraints imposed by existing arboricultural features in terms of stem, crown, and roots, along with any other notable constraints or Site features. When determining future land use or compiling an outline or detailed scheme design, this information must be considered.

5.4.2 A combination of on-site GPS, GIS Open Street Map (OSM) and aerial imagery (Google Earth) been used to plot the location of trees and their surrounding context. No Topographical Survey data has been provided. The position of the trees is approximate only.

Root Protection Areas (RPA)

5.4.3 A theoretical RPA has been calculated for all arboricultural features in accordance with BS5837:2012. These are shown as pink dashed circles on the plans provided at Appendix 3.

5.4.4 With reference to BS5837:2012, an RPA is defined as “a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure should be treated as a priority”.

- 5.4.5 In other cases, root growth could have been impeded by existing, poor growing environments, built form comprising foundations, grey infrastructure such as retaining walls, or ditches and water courses, meaning that a simple circular root protection area may not be appropriate.
- 5.4.6 Paragraph 4.6.2 of BS5837:2012 states that, *“where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced”* noting that *“modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution”*.

6. Arboricultural Impact Assessment (AIA)

6.1.1 This AIA is undertaken with reference to BS5837:2012 and considers the nature of the Proposed Development.

6.2 Purpose of the AIA

6.2.1 The purpose of the AIA is to assess the anticipated direct and indirect impacts and effects associated with construction of the Proposed Development on existing trees, as described and to the best of our knowledge with the information provided at the time of writing. This AIA also includes details on necessary compensation and mitigation measures where these are deemed appropriate.

6.3 Assumptions and Limitations of the AIA

6.3.1 This AIA has been compiled based on the following assumptions and limitations:

Assumptions

- All trees and hedges are outside of the Site and under third-party ownership. No tree removal on third party land will be required to facilitate the Proposed Development.
- All proposed demolition and construction activities will be restricted to the immediate Study Area and not into areas of third-party land.
- Temporary work compounds, including storage of plant, machinery, and materials, will be located away from trees to be retained, soft verges, and grassed areas. Existing hard surfacing will be used whenever possible for vehicle movement, compound placement, and material storage.
- The installation of new underground utilities, services, and surface water drains, as well as details on enabling works, such as the installation or diversion of services and utilities by statutory undertakers, is unlikely to be required given the nature of the Proposed Development.

Limitations

6.3.2 This AIA does not include specific reference to the following:

- Foundation design, excavation requirements, changes in ground levels or the extent of earthworks have not been shared in detail.
- No Topographical Survey data was provided. Tree positions are approximate only.

6.4 Reference Documents

6.4.1 As background information, the documentation listed in Table 4 below has been cited. This report should be read in conjunction with the reference materials listed.

Table 4 Reference Document and Plans Provided

Document/Drawing Description	Reference No.	Prepared By	Date
External Works Feasibility	BAR-ATK-XX-XX-DR-B-0003	AtkinsRealis	17-10-23

6.5 Anticipated Arboricultural Impacts from the Proposed Development

6.5.1 A TRRP is provided at Appendix 3 which illustrates the relationship between the above and below-ground constraints, including the RPAs of retained trees, and the direct and indirect impacts of the Proposed Development.

Arboricultural Features to be Removed

6.5.2 None of the arboricultural features subject to this assessment will be removed to facilitate the Proposed Development. The arboricultural impacts arising from the Proposed Development are considered negligible.

6.6 Above and Below Ground Constraints and Considerations

6.6.1 The above ground constraints predominantly refer to the impact of the crown or canopy of any retained tree/s and hedges on the Site either by size and form, shading, and nuisance factors. The above ground constraints imposed by trees should be considered in relation to the following:

- The crown's extent and its relationship to any structures. The primary consideration should be whether there will be enough space to prevent branches from damaging structures, post-construction.
- The proportion of open space beneath the crown and if this will obstruct construction access or on-site activities and is it adequate for the passage of both vehicles and pedestrians.
- Seasonal nuisance (e.g., leaf fall blocking gutters, fruit fall creating slippery patches and honey dew dripping on vehicles and surfaces).

6.6.2 There is no future conflict due to shading by trees and hedges.

Building Demolition

6.6.3 No demolition of existing structures within the Site is required.

Spatial Requirements for Contractors during Demolition and Construction

6.6.4 During construction, contractors will require adequate space to work. It is assumed that they will be able to concentrate most works to the central areas of the Site, away from retained hedges. As such, there are no impacts.

Removal of Hard Surfaces

6.6.5 There are no areas within the Site where the removal of existing areas of hardstanding is proposed within the RPAs of retained trees and hedges.

Removal and Installation of Underground Services and Utilities

6.6.6 No detailed service plans have been shared nor do the referenced drawings demonstrate any new services or utilities. Given the nature of the Proposed Development, services and utilities are unlikely to be installed in the RPAs of retained hedges. If it becomes apparent that services are required inside the perceived RPAs of retained hedges, a more thorough study of the arboricultural impacts will be necessary.

7. Arboricultural Method Statement (AMS) 'Heads of Terms'

7.1.1 A draft, 'Heads of Terms' and concise summary of the principles of tree protection for the Proposed Development is included in the following paragraphs. At this stage in the planning process, as explained in clause 5.5.6 of BS5837:2012, it is sufficient to list a heads of terms. This 'Heads of Terms' provides enough information on tree-related protection methods for a Local Planning Authority to approve the Proposed Development, in accordance with BS5837:2012 Table B.1.

7.1.2 Given that none of the assessed trees and hedges will be impacted by the Proposed Development, along with the low-intensity construction of the Proposed Development, there is no requirement for a detailed AMS or any overzealous tree protection methodologies.

7.2 General Protection Measures for Retained Trees

7.2.1 During construction, retained trees and hedges within influencing distance of the proposed works must be adequately protected.

7.2.2 Oil, bitumen, cement, or any other potentially hazardous material to trees should not be stacked or discharged within 10 metres of a tree stem. Concrete should not be mixed within 10 metres of a tree.

7.2.3 No fires will be lit where flames are expected to extend to within 5m of tree foliage, branches, or trunk, taking wind direction and fire size into account. Any part of a retained tree should not have notice boards, telephone cables, or other services attached to it.

7.3 Tree Protection Fencing (TPF)

7.3.1 There is no overarching justification to install TPF.

7.3.2 The existing palisade fence forming the boundary of the Site will remain in situ and will act as the TPF. This fencing is considered robust enough to restrict being breached from the type of construction activity taking place on Site and suitable for the degree and proximity of works to retained trees.

7.4 Site Compounds, Portakabins, Containers, and other Temporary Structures

7.4.1 Site compounds, Portakabins, Containers, and other temporary structures should be placed in the central areas of the Site.

7.5 Ongoing Arboricultural Monitoring of Retained Trees

7.5.1 Any trees and hedges that are to be retained and have the potential to be impacted by development, demolition or construction should be routinely monitored both during and after construction.

7.5.2 The goal of arboricultural monitoring is to ensure that all tree protection measures are fit for purpose, that they are implemented in accordance with any approved details, and that any previously unforeseen arboricultural issues are quickly identified and appropriately addressed. This is particularly relevant where there is public access, as recommended in section 8.8.3 of BS5837:2012 - Post Development Management of Existing Trees, to satisfy the landowner's duty of care.

8. Conclusions and Recommendations

- 8.1.1 This Arboricultural Impact Assessment (AIA) been prepared for a Proposed Development at NHS Blood & Transplant, Unit A Capitol Ct, Dodworth, Barnsley S75 3FG in accordance with *BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations* (The British Standards Institution, 2012).
- 8.1.2 A survey of trees on the Site and those within influencing distance (based on the surveyor's discretion) was undertaken on 29 August 2024. The tree survey identified 1no. group of trees (G1) and 1no. hedge (H1) of a low arboricultural quality (Category C).
- 8.1.3 None of the arboricultural features will be removed to facilitate the Proposed Development.
- 8.1.4 The arboricultural impacts are considered negligible.
- 8.1.5 Given that none of the assessed groups and hedges will be impacted by the Proposed Development, along with the low-intensity construction of the Proposed Development, there is no requirement for a detailed AMS or any overzealous tree protection methodologies.



TREE SURVEY METHODOLOGY

APPENDIX 1

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BS5837:2012 Methodology and Arboricultural Data Collection

The tree survey was carried out with reference to the methodology set out in BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

Stage 1: Tree Constraints & Feasibility Study - for most planning applications where there are trees on or adjacent to a site, an initial assessment of the tree population and tree constraints will be required. This should be instructed as early as possible in the planning process and includes:

- Tree Survey Schedule: Presents data collected during the tree survey which is made to identify & categorise all trees that may be impacted by a proposal.
- Tree Constraints Plan: Tree locations, retention categories and consideration of associated above and below ground constraints.
- Tree Constraints and Opportunities Assessment: A preliminary report written to inform the design and layout of future development of the site.

Stage 2: Arboricultural Impact Assessment & Outline Mitigation Measures. This will be normally be required following a Stage 1 survey and report. Components will vary depending on design complexity, but may include:

- Arboricultural Impact Assessment (AIA): An assessment of the anticipated impact of the proposed development on the tree population (existing & proposed).
- Draft Tree Protection Plan (where appropriate): Indicative plan of tree protection measures.
- 'Heads of Terms' Arboricultural Method Statement: Outlines principles of the methodology required to mitigate impact on existing trees.

BS5837:2012 outlines guidance on how to assess an arboricultural feature's quality and advises on assessing both direct and indirect impacts. Neither a methodology for defining impacts nor specific criteria for determining an arboricultural feature's perceived sensitivity are provided.

Stage 3: Detailed Tree Protection & Discharge of Conditions. This is sometimes required following a Stage 2 report if the tree protection requirements are complex; or if there is a planning condition or reserved matters requirement to do so. The stage three report may include the following components:

- Detailed Tree Protection Plan (TPP).
- Arboricultural Method Statement (AMS): detailed methodology to include arboricultural supervision and site monitoring schedule (if required).

Stage 4: Arboricultural Supervision & Post-Construction. This may include:

- Written report as evidence of arboricultural supervision, site monitoring, reinstatement, and planting and aftercare (as required).

RIBA Design Guidance

The approach adopts the guidelines set out in the British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.

The process is broken down to coordinate broadly with the key elements within both the RIBA Plan of Work (2013) and British Standard 5837:2012 as set out in the table below:

Information Stage	RIBA Stage	BS5837:2012
Stage 1: Tree Survey	2: Concept	4: Feasibility
Stage 2: Arboricultural Impact Assessment	3: Developed Design	5: Proposals
Stage 3: Arboricultural Method Statement and Tree Protection Plan	4: Technical Design	6: Technical Design
Arboricultural Supervision & Post-Construction.	5: Construction	7: Demolition and construction

The trees on the Site were originally surveyed without reference to site layout as detailed in paragraph 4.4.1.1 of BS5837:2012. However, for the purposes of the Arboricultural Impact Assessment the Proposed Development for the Site has been considered.

Small trees with a stem diameter less than 75mm were generally not surveyed as they would either be easily replaced or relocated.

Trees were surveyed individually or as groups where it was considered that they had grown together to form cohesive arboricultural features either aerodynamically (trees that provide companion shelter), visually (e.g. avenues or screens) or culturally (including for biodiversity). However, where it was considered that there was an arboricultural need to differentiate between attributes trees within groups and / or woodlands were also surveyed as individuals.

Within the tree survey schedule, each surveyed Tree (T), Group (G), Hedge (H), Woodland (W) on or adjacent to the site is given a reference number. Metal tags have not been used for this survey as identification on-site does not require this. The tree numbers associated with each tree are cross referenced within the schedule and plans at Appendix 2 and 3 respectively.

Full details of the dimensions and measurements recorded including detailed definitions, can be found at Appendix 2.

Tree condition, health and structural integrity were inspected in accordance with the Visual Tree Assessment (VTA) method (*Mattheck 2007*), which provides a systematic framework for formal tree inspection, as summarised:

- 1.VTA Stage 1 - Inspection of the tree for visual evidence of internal defects.
- 2.VTA Stage 2 – Confirmation of defects and measuring their extent.
- 3.VTA Stage 3 – Assessment of defects and estimation of residual strength.

Ancient Woodland, Ancient, Veteran and Notable trees

For this BS5837:2012 survey, the methodology set out by the Recognition of Ancient, Veteran & Notable Trees – RAVEN (Julian Forbes-Laird, 2018) has been adopted to survey and assess potential Ancient, Veteran or Notable trees.

The Forestry Commission (FC) and Natural England (NE) have published guidance and recommendations to safeguard Ancient Woodland, Ancient, and Veteran trees against development. In summary this guidance advises on the use of semi-natural buffer zones as a means of protection with minimum distances identified as:

- Fifteen metres between any development and ancient woodland.
- Fifteen times the diameter of its stem or 5m from the edge of its canopy, if that's greater, around any ancient or veteran tree.

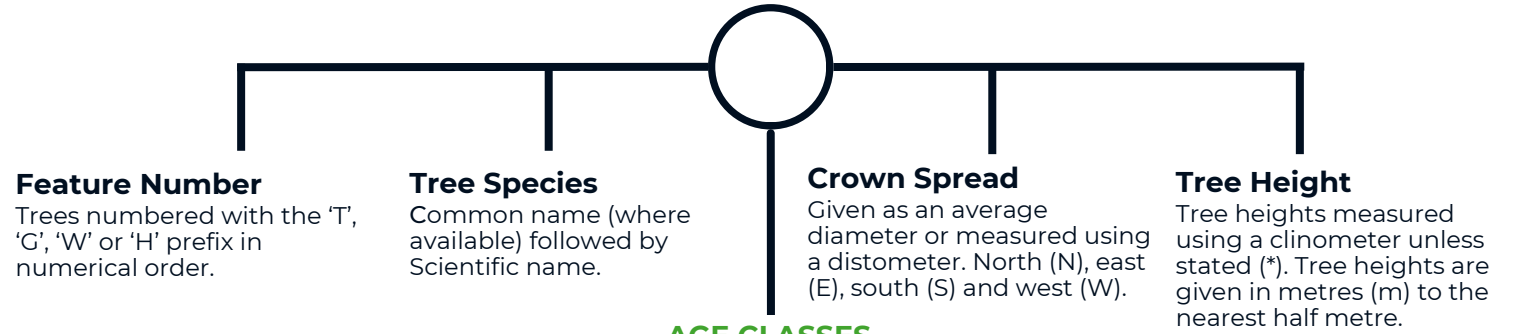


BS5837 TREE SURVEY SCHEDULE

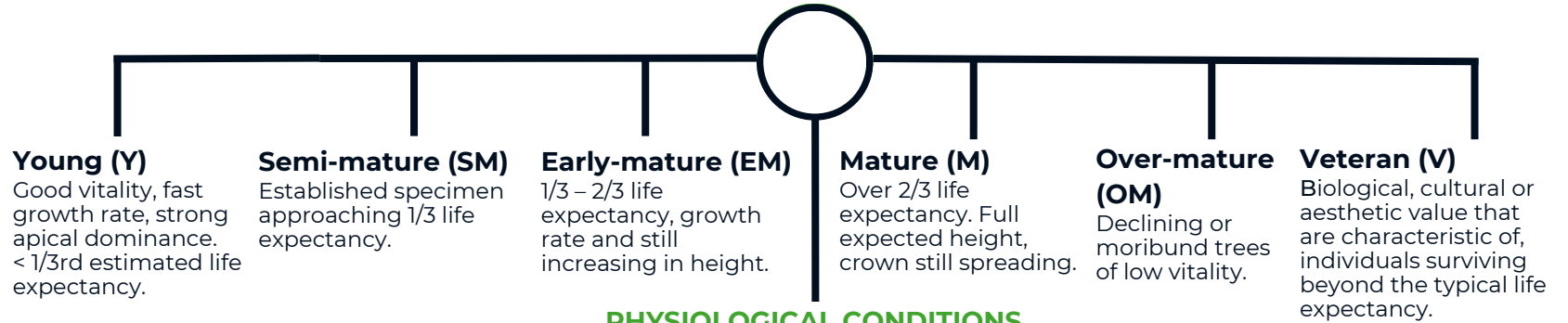
■ APPENDIX 2

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MEASUREMENTS AND IDENTIFICATION



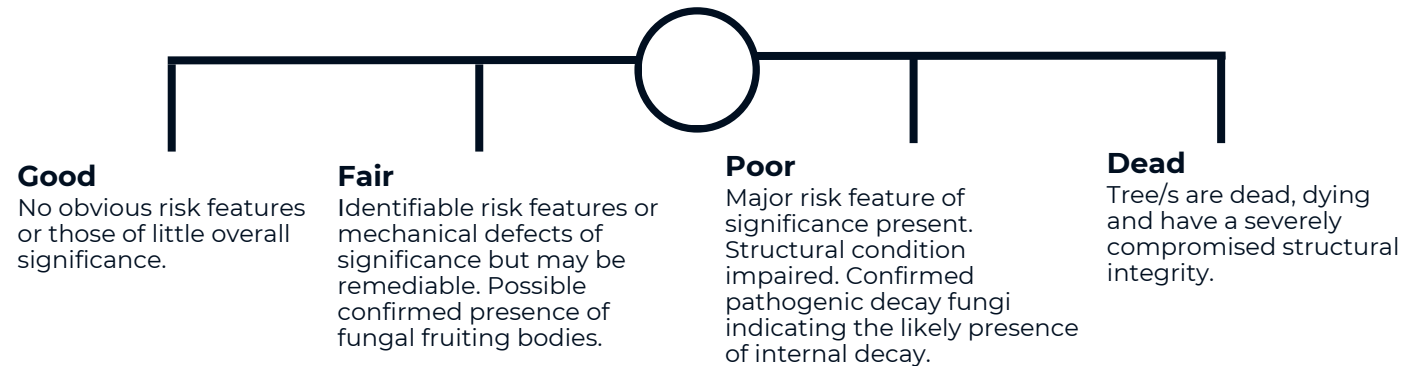
AGE CLASSES



PHYSIOLOGICAL CONDITIONS



STRUCTURAL CONDITIONS



Root Protection Area (RPA)

The below ground constraints are generally summarised as the RPA. The RPA is an area equivalent to a circle with a radius 12 times the diameter of the trees measured at 1.5 metres for single stemmed trees. For trees with more than one stem, one of two calculation methods should be used. In all cases, the stem diameter(s) should be measured in accordance with Annex C, and the RPA should be guided from Annex D of BS5837:2012. Both RPA radius in metres from the main stem and total area for the RPA as square metres are provided.

Where veteran trees have been identified the RPA has been calculated in accordance with Natural England guidance i.e. 15x the stem diameter or 5m beyond the crown whichever is greater. An average stem diameter is provided for tree groups, wooded areas and hedges.

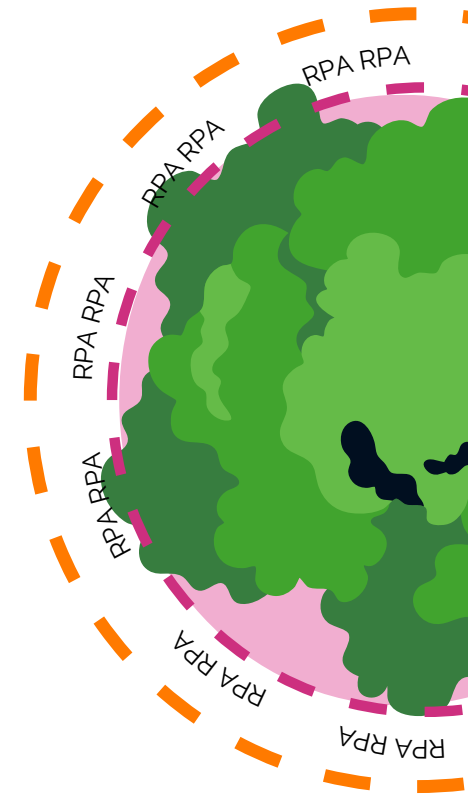
General Notes

Metal tags have not been used for this survey as identification on-site does not require this. Where they are present, they may have been recorded.

The tree numbers associated with each feature recorded are cross-referenced within the schedule and plans at Appendix 3. Small trees with a stem diameter less than 75mm were not surveyed as they would either be easily replaced or relocated.

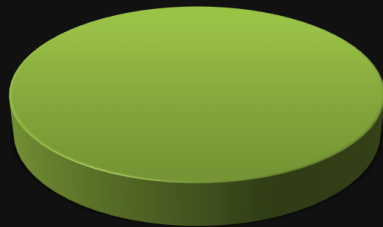
Abbreviations

- est - Estimated stem diameter
- avg - Average stem diameter for multiple stems
- upto - Maximum stem diameter of a group



Age Distribution of the Tree Population.

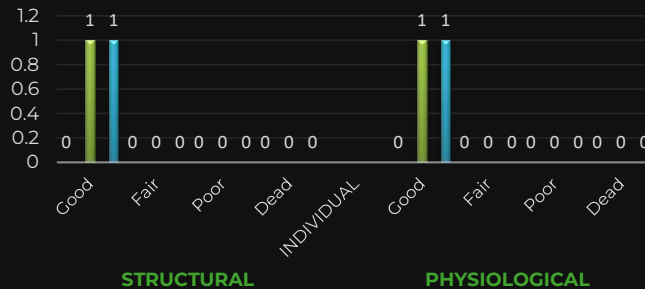
The distribution of the tree populations age is useful for understanding expected longevity which can help inform the BS5837 useful life expectancy, and help homeowners or property managers to make informed decisions on mitigation, tree management and replacement.



SM
100%
■ SM

Distribution of Physiological and Structural Conditions across the Tree Population.

Physiological condition provides an indication of the vitality of the tree. Structural condition is related to the presence of defects that can lead to failures.



■ Groups of Trees ■ Hedges

Species Composition of the Individual Tree Population.

The proportions of any given family, genus, species, and cultivar which make up the total individually recorded tree population across the Site.



Ancient Woodland and Ancient, Veteran and Notable Trees

Ancient Tree - A tree that has passed beyond maturity and is old, or aged, in comparison with trees of the same species. Characterised by biological, cultural, or aesthetic features of interest.

Ancient Woodland - Any wooded area that has been continuously wooded since 1600 AD

Veteran Tree - Exhibiting features of biological, cultural, or aesthetic value characteristic of species surviving beyond the typical age range.

Notable Tree - mature trees which may stand out in the local environment because they are large in comparison with other trees around them.

Forestry Commission and Natural England Guidance for the protection of ancient woodland, ancient trees and veteran trees from development and the use of semi-natural buffer zones:

- Fifteen metres between any development and ancient woodland.

- Fifteen times the diameter of its stem or 5m from the edge of its canopy, if that's greater, around any ancient or veteran tree.

ANCIENT WOODLAND

ANCIENT TREES

VETERAN TREES

NOTABLE TREES

0

0

0

0

BS5837:2012 TREE SURVEY SCHEDULE

CATEGORY A	CATEGORY B	CATEGORY C	CATEGORY U
Trees with an estimated remaining contribution 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.	Trees 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 or trees lacking the special quality necessary to merit the category A designation.	Trees with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm. Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees 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.
Sub-categories	Mainly arboricultural value 1	Mainly landscape value 2	Mainly cultural or conservation value 3
Summary of Individual trees, Groups, Woodlands and Hedges			
		G1, H1	
0	0	2	0
Estimated Remaining Contribution (ERC)			
> 40 years	> 20 years	< 20 years	< 10 years
Breakdown of Arboricultural Features for each BS5837:2012 Category			
Trees 0	Trees 0	Trees 0	Trees 0
Groups 0	Groups 0	Groups 1	Groups 0
Woodlands 0	Woodlands 0	Woodlands 0	Woodlands 0
Hedgerows 0	Hedgerows 0	Hedgerows 1	Hedgerows 0
Percentage of tree population 0.0%	Percentage of tree population 0.0%	Percentage of tree population 100.0%	Percentage of tree population 0.0%
In assigning the BS5837:2012 Category, particular consideration has been given to the presence of any structural defects for each feature, the size and form of each feature, its suitability within the context of a proposed development, and the location of each feature relative to existing site features e.g. its screening value or landscape amenity value.			

GROUPS OF TREES AND WOODLANDS																			
TREE NO.	TAG NO.	SPECIES (COMMON & SCIENTIFIC NAME)	MIN HEIGHT (m)	MAX HEIGHT (m)	NO. OF STEMS	STEM DIA (mm)	CROWN SPREAD (m)				CROWN CLEAR (m)	AGE CLASS	PHYS COND	STRUC COND	ASSESSMENT OBSERVATIONS AND PRELIMINARY RECOMMENDATIONS	ESTIMATED REMAINING CONTRIBUTION (erc)	BS5837 CATEGORY	RPA (m ²)	RPA RADIUS (m)
G1	0	Ash (<i>Fraxinus excelsior</i>), Field Maple (<i>Acer campestre</i>), Silver Birch (<i>Betula pendula</i>), Sycamore (<i>Acer pseudoplatanus</i>)	2	11	1	110	3	2	2	3	0.5	SM	Good	Good	Dense landscape buffer planting, planted along the boundary. Small trees. Larger silver birch stand 5.5m from the Site boundary palisade fence. Unlikely to be impacted by the Proposed Development. Ash dieback noted on smaller, self-seeded trees.	10+	C2	5.5	1.3

HEDGES																			
TREE NO.	TAG NO.	SPECIES (COMMON & SCIENTIFIC NAME)	MIN HEIGHT (m)	MAX HEIGHT (m)	NO. OF STEMS	STEM DIA (mm)	CROWN SPREAD (m)				CROWN CLEAR (m)	AGE CLASS	PHYS COND	STRUC COND	ASSESSMENT OBSERVATIONS AND PRELIMINARY RECOMMENDATIONS	ESTIMATED REMAINING CONTRIBUTION (erc)	BS5837 CATEGORY	RPA (m ²)	RPA RADIUS (m)
H1	0	Hawthorn (<i>Crataegus monogyna</i>), Hazel (<i>Corylus avellana</i>), Silver Birch (<i>Betula pendula</i>)	3	4	1	65	0.5	0.5	0.5	0.5	0	SM	Good	Good	Low crown form, Measurements approximated. Planted hedge along the boundary, young trees.	10+	C2	1.9	0.8

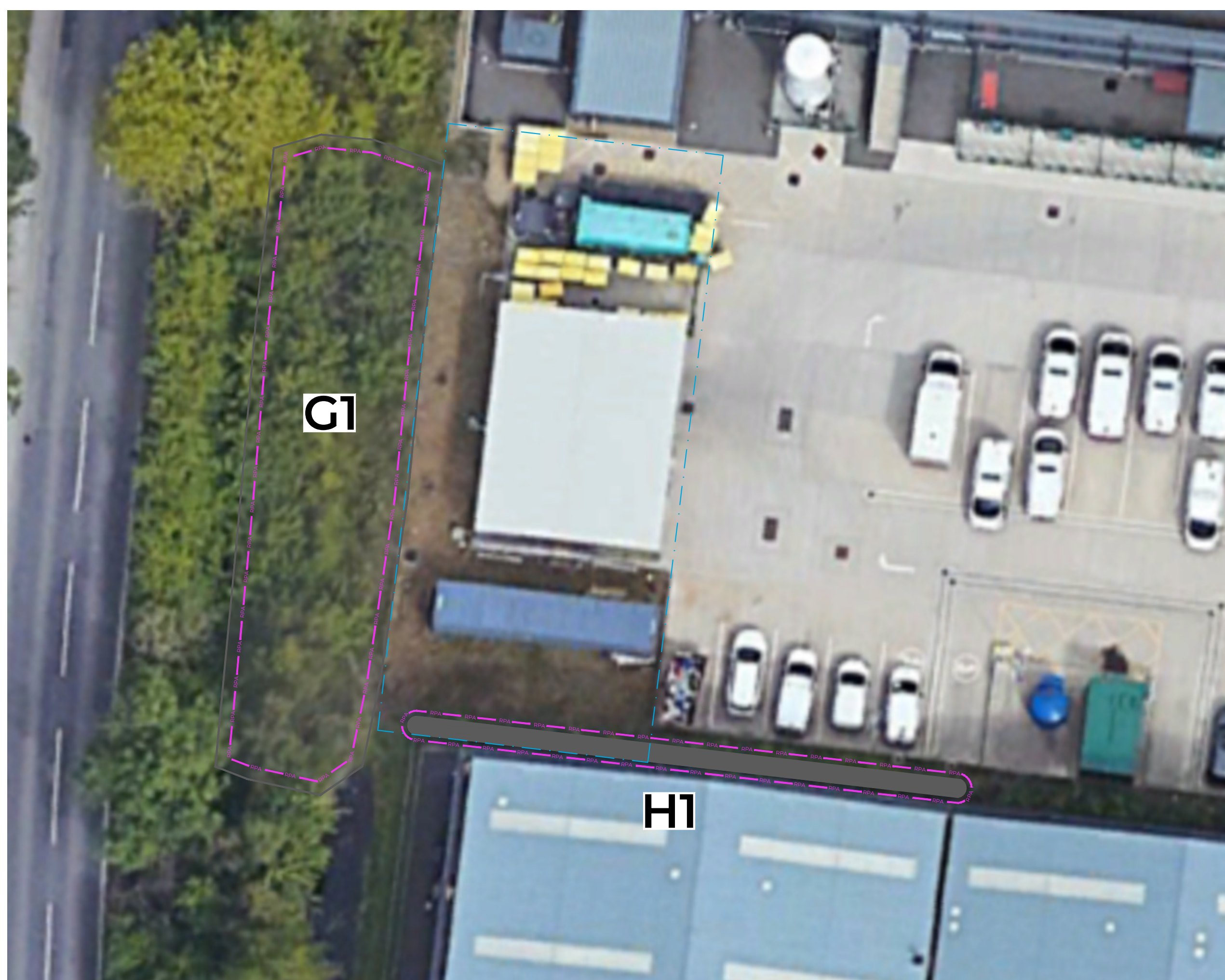


ARBORICULTURAL PLANS

APPENDIX 3



#WEAREINNOVATORS



DRAWING TITLE.

Tree Constraints Plan

DRAWING NO.

240902 ARBI 1049 TCP V1

REVISION NO.

1

CLIENT.

NHS Blood & Transplant

PROJECT NAME.

NHSBT, Higham Lane, Barnsley

PROJECT NO.

1049

NOTES.

This TCP is created as a design tool and does not make an assessment of the impacts or subsequent effects of the Proposed Development to trees. Therefore, the TCP must not be submitted solely to inform the planning application. This drawing should be viewed in conjunction with the accompanying BS5837:2012 Tree Survey Schedule.

All dimensions should be checked on site. No dimensions are to be scaled from this drawing. This drawing was produced in colour - a monochrome copy should not be relied upon. This drawing was produced digitally using a combination of GIS, GPS and aerial imagery. No Topographical base mapping (dwg) has been provided. Arb Innovators Ltd cannot be held responsible for inaccuracies in the base drawing in which this plan is based. Arb Innovators Ltd, 315 Hollinwood Business Centre, Albert Street, Oldham, England, OL8 3QL. T. 07837 794373 E. support@arbinnovators.co.uk W. www.arbinnovators.co.uk

DRAWN BY. CTT

APPROVED BY. CTT

DRAWN.

02.09.2024

SCALE AND BEARING.



Scale 1:200 @ A3



BS5837:2012 CATEGORIES

In accordance with Table 1 – Cascade chart for tree quality assessment

Category C (Low Quality)



SITE FEATURES AND EXISTING CONSTRAINTS

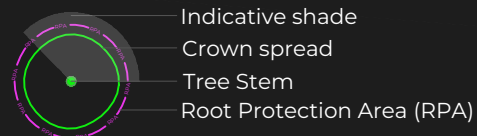
Arboricultural Study Area



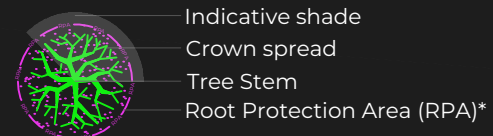
ARBORICULTURAL FEATURES.

Crown colour in accordance with BS5837:2012 Category. *In accordance with Ancient and other Veteran Trees: Further Guidance on Management.

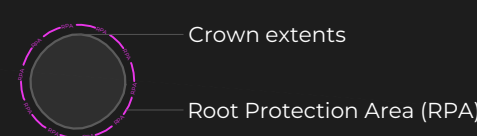
Individual Trees ("T" Prefix)



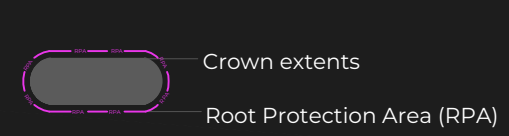
Ancient and Veteran Trees



Groups & Woodlands ("G" or "W" Prefix)



Hedges ("H" Prefix)





DRAWING TITLE.
Tree Retention Removals Plan

DRAWING NO.
240902 ARBI 1049 TRRP V1

REVISION NO.
1

CLIENT.
NHS Blood & Transplant

PROJECT NAME.
NHSBT, Higham Lane, Barnsley

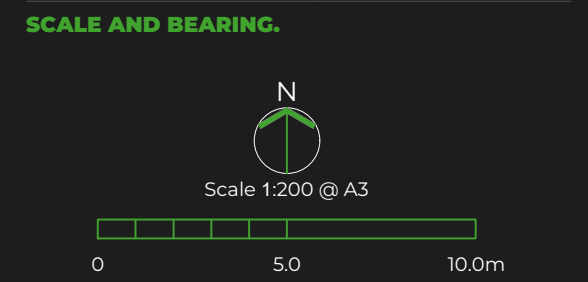
PROJECT NO.
1049

NOTES.
This Tree Retention and Removals Plan (TRRP) is created as a design tool and makes an assessment of the impacts or subsequent effects of the Proposed Development to trees. This drawing should be viewed in conjunction with the accompanying BS5837:2012 Tree Survey Schedule and Arboricultural Impact Assessment (AIA) prepared by Arb Innovators Ltd.

All dimensions should be checked on site. No dimensions are to be scaled from this drawing. This drawing was produced in colour - a monochrome copy should not be relied upon. This drawing was produced digitally using a combination of GIS, GPS and aerial imagery. No Topographical base mapping (dwg) has been provided. Arb Innovators Ltd cannot be held responsible for inaccuracies in the base drawing in which this plan is based.
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DRAWN BY. CTT **APPROVED BY.** CTT

DRAWN. 02.09.2024

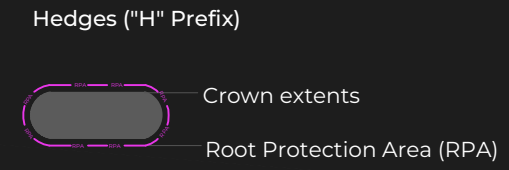
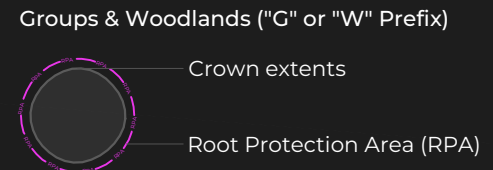
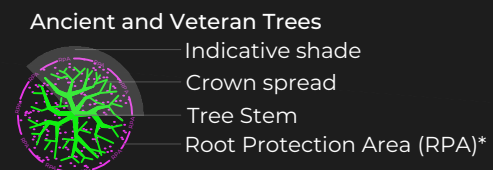
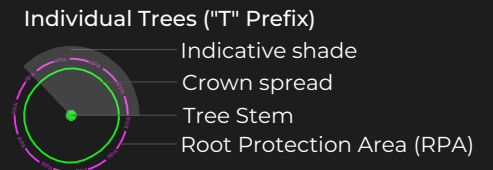


BS5837:2012 CATEGORIES
In accordance with Table 1 – Cascade chart for tree quality assessment

Category C (Low Quality)

SITE FEATURES AND EXISTING CONSTRAINTS
Arboricultural Study Area

ARBORICULTURAL FEATURES.
Crown colour in accordance with BS5837:2012 Category. *In accordance with Ancient and other Veteran Trees: Further Guidance on Management.





CAVEATS, LIMITATIONS AND REFERENCES

APPENDIX 4



#WEAREINNOVATORS

Caveats and Limitations

The contents of this report are valid for a period of one year (**18 months**) from the date cited.

An assessment of statutory and non-statutory constraints has been carried out using publicly accessible third-party information and aerial imagery. While this is deemed to be broadly accurate, in some instances no specific date is given for the information and images used and ARB Innovators cannot and will not accept liability for any deficiencies in third-party information.

This is a report which should be used to accompany a planning application and provides no detail specifically in relation to the condition or quantification of risk posed by trees. This report in no way constitutes a tree risk-benefit survey nor should it be used exclusively to assign remedial management to trees. Where concerns for tree condition and risk exist, the necessary and appropriate tree inspections should be carried out using an appropriate methodology.

Trees are growing dynamic structures. Whilst reasonable effort has been made to identify tree-risk features (defects) within the trees inspected, no guarantee can be given as to the absolute safety or otherwise of any individual tree. No tree is ever safe due to the unpredictable laws and forces of nature. As a result of this, natural failure of intact trees will occur; extreme climatic conditions can cause damage to even apparently healthy trees.

This inspection was undertaken from ground level and in accordance with stage one VTA, involving the use of non-invasive methods to identify tree health issues and structural defects by visual observation. Should a more detailed inspection be required then this will be highlighted in the recommendations. This may involve the use of decay detection tools or aerial inspection (stage two VTA) and interpretation of findings to form a prognosis (stage three VTA).

The survey has only been undertaken from land within the Client's ownership, from public land or from areas where formal access has been arranged. Where trees have been captured beyond the Site boundary, all dimensions of trees and their associated parts are based on estimation unless otherwise stated.

This is an arboricultural report and as such no reliance should be given to comments relating to buildings, engineering, or soil. Trees and woody vegetation were not assessed for their potential impact upon future construction issues such as foundation designs (NHBC. 'Chapter 4.2- Building Near Trees'. NHBC Standards 2016. 2016).

Further, this report does not rely on ecological or archaeological data. If either is commented upon within the report further professional advice should be sought.

Technical References

This Arboricultural Assessment was prepared in accordance with or following the guidance contained within the following technical references:

- Town and Country Planning Act 1980
- National Planning Policy Framework, published by the MHCLG
- British Standards Institute. BS 5837 (2012) *Trees in relation to design, demolition and construction - Recommendations*, London: BSI.
- British Standards Institute. BS 3998:2010 *Tree Works - Recommendations*, London: BSI.
- British Standards Institute. BS 8545 (2014) *Trees: from nursery to independence in the landscape - Recommendations*, BSI
- Royal Institute of British Architects, RIBA Plan of Work 2020 Overview, RIBA (2020).
- Fay, N., Dowson, D., Helliwell, R. (2005) *Tree Surveys: A Guide to Good Practice*, The Arboricultural Association
- Lonsdale D. (1999). *Principles of Tree Hazard Assessment and Management*, Research for Amenity Trees No. 7, Stationary Office London
- Mattheck, C. (2007) *Updated Field Guide for Visual Tree Assessment*
- Mattheck, C & Breloer, H (2006) *The Body Language of Trees: A Handbook for Failure Analysis*. Research for Amenity Trees No. 4. DETR
- Weber, K., Mattheck, C. (2003) *Manual of Wood Decays in Trees*, The Arboricultural Association
- R.G. Strouts & T. G. Winter, *Diagnosis of Ill- Health in Trees* (7th Impression, TSO - 2013)
- Duncan Slater. (2018) *Natural bracing in trees: management recommendations*. *Arboricultural Journal* 40:2, pages 106-133.
- National Joint Utilities Group (2007) *Volume 4, Issue 2: Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees*