



Tree Survey and Arboricultural Impact Assessment

In accordance with BS5837:2012:
Trees in relation to Design, Demolition,
and Construction - Recommendations

**Self-Build Dwelling at
82a Lower Bagthorpe
Nottinghamshire
NG16 5HF**

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**TREE SURVEY AND
ARBORICULTURAL IMPACT ASSESSMENT**

(4th February 2026)

REPORT REF: 25107 - PHA

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SUMMARY.

This report is concerned with trees located within the immediate vicinity of the proposed dwelling.

The report and accompanying tree survey schedule are produced in accordance with the guiding principles of British Standard 5837:2012 '*Trees in relation to Design, Demolition and Construction – Recommendations.*'

The Root Protection Area (RPA) of the trees surveyed are calculated and recorded in the Tree Survey Schedule where they are expressed in linear metres; it is this distance/around this area that tree protective barriers should be erected around any trees to be retained. Where construction is proposed within these areas special techniques should be employed and general guidance is contained herein.

This report provides guidance for the design team and sets out the constraints relating to the trees on site. Tree survey and RPA details can be found in the Tree Survey Schedule and drawing ref: 25107-01.



INTRODUCTION.

Paul Hicking Associates were appointed by Christopher & Rebecca Cooper to prepare a tree survey report and arboricultural impact assessment in line with BS 5837:2012 - Trees in relation to Design, Demolition, and Construction. A site survey was carried out on 13th December 2025 to assess the condition of the existing trees and to determine any arboricultural implications or works required in relation to the proposed dwelling.

Weather conditions were recorded as follows on the day of the survey;

Date	Weather Conditions
13/12/2025	3°C dry, calm breeze 0, 5% high cloud cover.

ARBORICULTURAL IMPACT ASSESSMENT.

SITE DESCRIPTION.

The survey site is located within the village of Bagthorpe in Nottinghamshire and is located at grid reference SK 47105 51608.

The proposals comprise of the erection of 1no. self-build dwelling with associated hard and soft landscaping.

ENVIRONMENTAL ASSESSMENT.

The trees which are the subject of this report are located along the southern boundary enclosure of the site and form prominent features within the surrounding landscape. The understory of the trees along the southern boundary comprises of a native species hedgerow, private garden containing modified grassland and grass verge. All trees are considered high in ecological value due to their age range and contribution to local biodiversity and their ability to support a variety of wildlife.

ARBORICULTURAL IMPACT ASSESSMENT.

All trees surveyed vary in age and maturity and are unmanaged creating deadwood within the canopy structure however, they are of moderate condition and are without signs of disease or decline however, many stems are clad with dense ivy cover. There are currently 6no. individual trees and 1no native species hedgerow in close proximity or within the proposed red-line boundary of the application site and comprise of the following:

Schedule of existing trees.

Category	Tree number	Totals
C2	T1, T2, T3, T4, T5, T6, H1	7

Impact of the development works.

There are no notable trees within the site and trees and hedgerow along the southern boundary have not been managed for some time however, all trees are to be retained and therefore their landscape and ecological value is also retained. A small section of hedgerow will be lost to accommodate the new vehicle entrance but this can be replaced by new hedgerow planting within the site. The hedgerow will be gapped-up with native species of local provenance to improve species richness and hedgerow density.

Trees T2-T4 are covered in ivy and it is advised that the ivy is removed to allow a full assessment of the tree stem.

Some minor tree works will be required to raise the canopy between T1 and T2 to provide clearance to the construction works from 3m to 4.5m.

Over-shading – trees with the potential to overshadow the new building are located along the southern boundary and the tree canopy currently overshadows the existing dwelling. The site itself is located at the base of a shallow valley with a high canopy woodland to the south which reduces sunlight. Trees can contribute towards a passive solar effect on any new dwelling shedding leaf in winter and allowing light penetration across the site and solar shading during spring and summer months and therefore help reduce solar gain within the dwelling. The trees therefore are not seen as a constraint towards over-shadowing and therefore this should not be seen as a pressure for their removal.

Foundation design – the location of the new dwelling is positioned outside of the RPA of retained trees and outside of the area for future root growth and therefore foundation design is to be considered in accordance with the requirements of Building Regulations and to Structural Engineers details and suitable for the ground conditions present. All new retaining walls at the change of level will also be located outside of the RPA of a retained tree.

Services – The location of new services has not yet been provided but are likely to be within the new site entrance which is within the RPA of tree T1 and T2. Site supervision for the location of services will be required to ensure minimum impact upon the RPA.

Working heights – canopy reduction to T1 and T4 will provide a clear working area for the construction of the dwellings and the trees along the southern boundary have clear 6-10m clear area below the main canopy.

Movement and delivery of materials - The materials delivered and stored will be located outside of the influence of the RPA of an existing tree and can be located on the area proposed for the new hard landscaping. Access to the works will also be via., the existing and new site entrance.

Conclusion.

The construction of the proposed self-build dwellings can therefore be undertaken without tree loss or long-term impact leading to tree loss however, some arboricultural site supervision will be required as outlined further within this report.

Tree Preservation Order (TPO) – There development site is located within the Lower Bagthorpe Conservation Area and therefore all trees surveyed are protected by a Tree Preservation Order applicable to the conservation area.

Trees and Wildlife.

Bats - Trees can play host to roosting bats, all of which are protected by law. The trees were visually assessed from ground level and there are no features with the potential to support roosting bats present within the trees surveyed. All existing trees are retained and therefore their future potential to support roosting bats is also retained.

Birds – Trees play host to nesting birds and their nests are protected by law during the bird breeding season. All trees identified within this report have the potential to support breeding birds. To avoid a breach of the legislation, works to trees are to be carried out outside of the bird breeding season, which normally runs from mid-March to September inclusive. If it is necessary to carry out work during the bird breeding season, then a thorough search of the areas to be affected should be carried out by a suitably qualified ecologist prior to starting the works. If any active nests were found, works should stop until all chicks have fledged.

Legislation

Bats – All bat species are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), Countryside Rights of Way (CROW) Act 2000 and The Conservation of Habitats and Species Regulations 2010 (as amended). Together, this legislation makes it illegal to:

- Intentionally or deliberately take, kill or injure a bat;
- Damage or destroy or obstruct access to bat roosts; and
- Deliberately disturb bats.

Birds – The bird breeding season generally lasts from early March to September for most species. All birds are protected under the Wildlife and Countryside Act 1981 (as amended), Countryside Rights of Way (CROW) Act 2000. This legislation makes it illegal, both intentionally and recklessly to:

- Kill, injure or take any wild bird.
- Take, damage or destroy the nest of any wild bird while it is being built or in use.
- Take or destroy the eggs of any wild bird; and
- Possess or control and wild bird or egg unless obtained legally.

Birds listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are afforded additional protection, which makes it an offence to disturb a bird while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such bird.

Tree preservation Orders: It is an offence to cut down, lop, uproot, wilfully damage or destroy tree subject to a tree preservation order (TPO) without the issuing planning authority's permission.

ASSESSMENT PRINCIPLES.

The survey has been carried out using the principles of British Standard 5837:2012 - Trees in relation to Design, Demolition, and Construction.

The trees have also been assessed in terms of their quality, health and their landscape value to the local environment and any proposed development of the site area. Tree works required to retain trees have been proposed based on arboricultural requirements only at this initial stage.

Survey Methodology and Limitations.

Survey timing - The survey was carried out at a time to aid the design process of the new development.

Topographical survey - A topographical survey was made available for the site. This survey was provided in a CAD format and includes the position of all significant trees and hedgerows on or immediately adjacent to the site. The survey also includes all other landscape features such as the position of existing buildings and structures, pathways and access roads. Changes in ground levels were also recorded on the survey and are related back to known ordinance survey levels and co-ordinates.

All trees have been inspected visually only. No survey work has been carried out to determine the internal condition of any trees. Further investigations can be made and will be recommended where considered necessary but are beyond the scope of this report.

Trees with a diameter greater than 75mm have been surveyed. The location of any below ground services has not been investigated within this report.

We have inspected all the trees that would be influenced by the development proposals. Their reference number and canopy spread are shown on drawing nos. 25107-01 Existing Tree Survey and Root Protection Areas.

Site survey and recording - A full site walkover survey was carried out. Using a copy of the topographical survey and the position of all trees was reconfirmed and updated accordingly. There was adequate access to all trees and no ground vegetation clearance was required to allow the survey to be carried out.

Assessments of condition of trees were only done visually from the ground. Due to mapping limitations some inaccuracies in relative position of features on the plan may exist. Therefore, all measurements for root protection areas should be taken directly from the trees themselves.

The following survey information was gathered from each tree to allow a comprehensive schedule to be produced:

- Species identification – recorded as common name and/or scientific name.
- Crown height – recorded to the nearest 0.5m up to 10m and nearest 1.0m for dimensions over 10m.
- Stem diameter - each tree was measured using a diameter/circumference tape at a height of 1.5m above finished ground level (DBH), to allow the root protection area to be calculated. All dimensions were recorded in millimetres.
- Branch spread at four cardinal points – recorded to the nearest 0.5m up to 10m and nearest 1.0m for dimensions over 10m.
- Life stage (e.g. young, semi-mature, early mature, mature, over mature).
- Estimated remaining contribution, in years (<10, 10+, 20+, 40+).

All trees were given an identification number and were recorded using the following colour coding to identify their assigned retention category:

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

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

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

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.

Colour coding as Table 2 BS 5837:2012.

Sub-categories

1 = Mainly arboricultural qualities

2 = Mainly landscape qualities

3 = Mainly cultural values

Trees were also assessed for their condition as follows:

- Good - trees in apparent good condition with no obvious defects.
- Average- trees apparently in fairly good condition or with defects that could be corrected by good tree surgery.
- Poor - trees in poor condition with significant defects or in obvious decline.

Deadwood was assessed as follows:

- Light - less than 50mm diameter.
- Minor - less than 100mm diameter.
- Major - greater than 100mm diameter.

Tree Retention Strategy:

- To comply with legislation for the protection of trees subject to a Tree Preservation Order and/or within a Conservation Area where applicable.
- To promote good arboricultural practice.
- To introduce where possible good arboricultural practice to maintain the health of existing trees.
- To protect existing trees during the construction period
- To facilitate and inform the design proposals.

ARBORICULTURAL METHOD STATEMENT - DESIGN STAGE.

The most susceptible part of a tree to damage is its root system, which because it is underground, out of sight, it is frequently ignored. Damage or death of the roots will affect tree health, growth, life expectancy and safety. The ability of a tree to tolerate some disturbance and alteration of its growing conditions depends on specific circumstances, including prevailing site conditions, and in general, the older the tree, the less successfully it will adapt to new conditions.

The majority of tree roots live in the top 600mm of top soil and as such are particularly vulnerable during initial construction activity, soil stripping etc. Damage to the soil structure may result in changes in moisture, oxygen availability and carbon dioxide dispersal. This can lead to anaerobic conditions and root death. Root damage can result in instability or premature decline which may not manifest for a number of years, often long after development has been completed.

Tree Roots are dynamic structures which constantly 'seek' new soil horizons which are conducive to their function and development; new roots can develop in these horizons whilst roots in less productive horizons might be aborted. Consequently, in general terms, trees will tolerate some construction related root disturbance if:

- The tree has sufficient vigour/vitality to sustain the disturbance in the short term
- Any disturbance is kept to a minimum and special techniques are adopted to ensure such
- Alternative soil horizons are available/can be created within which roots can develop and flourish.

In order to protect the soils and the roots that live in them strong protective fencing is vital. Whilst BS 5837: 2012 gives recommended distances to protect tree health the aim should be to protect as large an area as possible. It should allow for all site activities, so excluding service trenches and soakaway's, storage as well as actual construction activities.

Tree Protection Plan

The location of root protection areas is shown on drawing nos. 25107-01 Existing Tree Survey and Root Protection Areas. However, a further pre-construction phase plan will be required for the approval by the Local Planning Authority Tree Officer to confirm the following:

- Locations of all site accommodation.
- Site construction access.
- Construction staff parking.
- Materials storage areas including the location of materials storage hoppers.

- Specialist work areas including areas for the mixing of materials, location of cranes, plant and scaffolding.
- Construction zones for foundation excavation (including landscaping features).
- Final locations of protective barriers.
- Location of temporary new and temporary service runs.
- Location of temporary materials storage such as spoil heaps etc.
- Location of new and temporary access roads.
- Construction works phasing.
- Final location of all protective fencing.

Tree Protection Sequence

The following sequence of events should be followed during the development process to ensure tree protection and survival is possible. The following outline the minimum sequence of protection works required.

Prior to development

- Install protective fencing.

During construction

- Retain protective fencing – all protective fencing to be retained throughout development unless a variation agreed by appointed project arboriculturist.
- All works within the RPA of an existing retained tree are to be undertaken under the supervision of the project arboriculturist.

Post construction

- Fencing to be removed.
- Arboricultural assessment to determine further tree surgery or arboricultural remediation in light of final construction.

Root Protection Areas

Trees to be retained will require protection throughout the duration of the proposed development with protective fencing and signage (see Fig. 1 and 2 below). To ensure retention of adequate protection throughout the development process, regular site monitoring should be carried out on a formal and agreed basis to report on the condition and status of protective fencing and other methods. Protection methods should also give due consideration to the movement of site vehicles and the movement of construction materials to avoid collision with tree canopies.

Where necessary, a root protection area was calculated for each tree in accordance with BS 5837:2012. Drawing Nos. 25107-01 Existing Tree Survey and Root Protection Areas provides details of the extent of calculated RPA. Protective barriers are to be placed around these areas or beyond the line of the canopy, whichever is the greater.

It must be ensured that wide or tall loads or plant with booms, jibs and counterweights can deliver or operate without coming into contact with retained trees above the fencing line of the construction exclusion zone. Such contact can result in serious damage to the trees and might make their safe retention impossible. Any transit or traverse of plant in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from trees is maintained at all times. In some circumstances it may be possible to maintain adequate clearance thus necessitating access facilitation pruning.

Fig. 1. Example of protective fencing and signage:

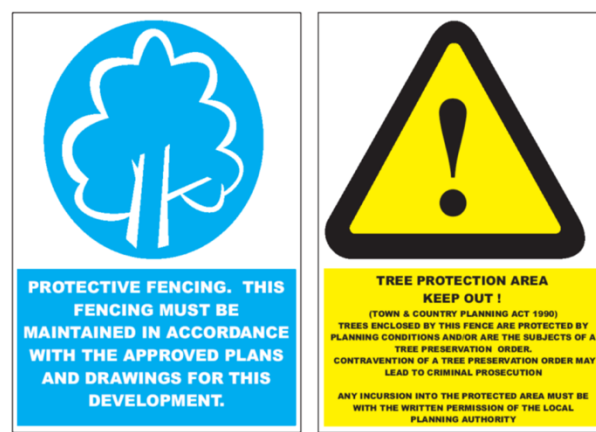
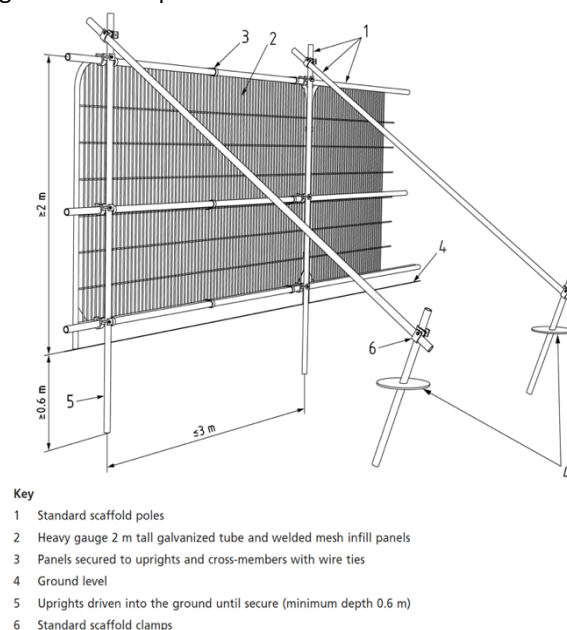


Fig. 2. Protective fencing for tree root protection:



Construction Stage Arboricultural Method Statement

Care must be taken when carrying out tree pruning work. This work is to be carried out in a careful and methodical manner to ensure protection of retained branches.

The mixing of mortars, concrete and cement-based products or the washing down of these areas should not be carried out within the vicinity of root protection areas as these may adversely affect the soil conditions. Materials which may contaminate the soils including wheel washing should not be discharged within 10m of a tree stem. The slope of the land should also be taken into consideration to avoid damaging materials running towards trees.

Compaction of soils/soft landscaping within close proximity of retained trees is to be avoided as this may affect the porosity of the ground to allow water penetration to tree roots. This may be overcome by laying tree protection boards/matting over the areas of soft landscaping to be unaffected by the works and/or surrounding the root protection area with temporary barrier fencing in accordance with (BS 5837:2012).

Any excavations which have to be undertaken within the root protection area should be carried out carefully by hand, avoiding damage to the protective bark covering larger roots. Roots, whilst exposed, should be wrapped in dry, clean hessian sacking to prevent desiccation and to protect from rapid temperature changes.

Roots smaller than 25mm diameter may be pruned back, preferably to a side branch, using a proprietary cutting tool such as bypass secateurs or handsaws. Roots larger than 25mm should only be severed following consultation with an arborist, as these may be essential to the tree's health and stability.

Prior to backfilling, any hessian wrapping should be removed and retained roots should be surrounded with sharp sand (builder's sand should not be used because of its high salt content which is toxic to tree roots), or other loose granular fill, before soil or other material is replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots. (BS 5837:2012).

Fires should not be lit in a position where their flames can extend to within 5m of foliage, branches or trunk. This will depend on the size of the fire and the wind direction. It is preferable that the lighting of fires within the site is discouraged.

Services – Details regarding the siting and size of underground services are not yet available however, the following is given as general advice: Careful consideration must be given to the siting of underground services e.g. drains, electricity, gas etc. They should ideally not be sited within the RPA; where such is unavoidable; the trench must be hand dug and all roots greater than 25mm diameter must be carefully dug around and left intact. Any roots below this size, where they cannot be retained, must be cut cleanly with pruning tools. If the trench is to remain open for prolonged periods, especially in hot, dry weather, roots must be wrapped in damp

hessian sacking to prevent desiccation. In order that they can assess any impact upon trees it is likely that the LPA will require the submission of details regarding service location and installation methodology prior to the granting of any planning consent. Where drains are to be installed within the rooting zone, particular consideration must be given to their construction; compression joints are not wholly reliable and can allow root ingress.

All new services trenches are to be lined with *Terram Root Guard Plus*.

No machinery will be allowed onto the soil within the root protection areas/construction exclusion zones.

The design of hard surfaces should avoid localised compaction and evenly distribute the carried weight over the whole of the surface width. Construction details should be based on site specific factors and expected loads. The specification for new hard surfaces must be designed by the project engineer in line with these principles and any deviation must be referred back to the appointed project arboriculturist and the Council's Arboricultural Officer.

RECOMMENDATIONS.

An auditable system of arboricultural site monitoring and should be factored in to the process, this should extend to supervision by an arboriculturist whenever construction activity is to take place within any RPA.

Post construction – It is recommended that the implementation of regular management will maintain structure, health, character of new tree planting and their contribution towards biodiversity.

REFERENCES.

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Arboricultural Advisory & Information Service, (2007) '*Through the Trees to Development*'

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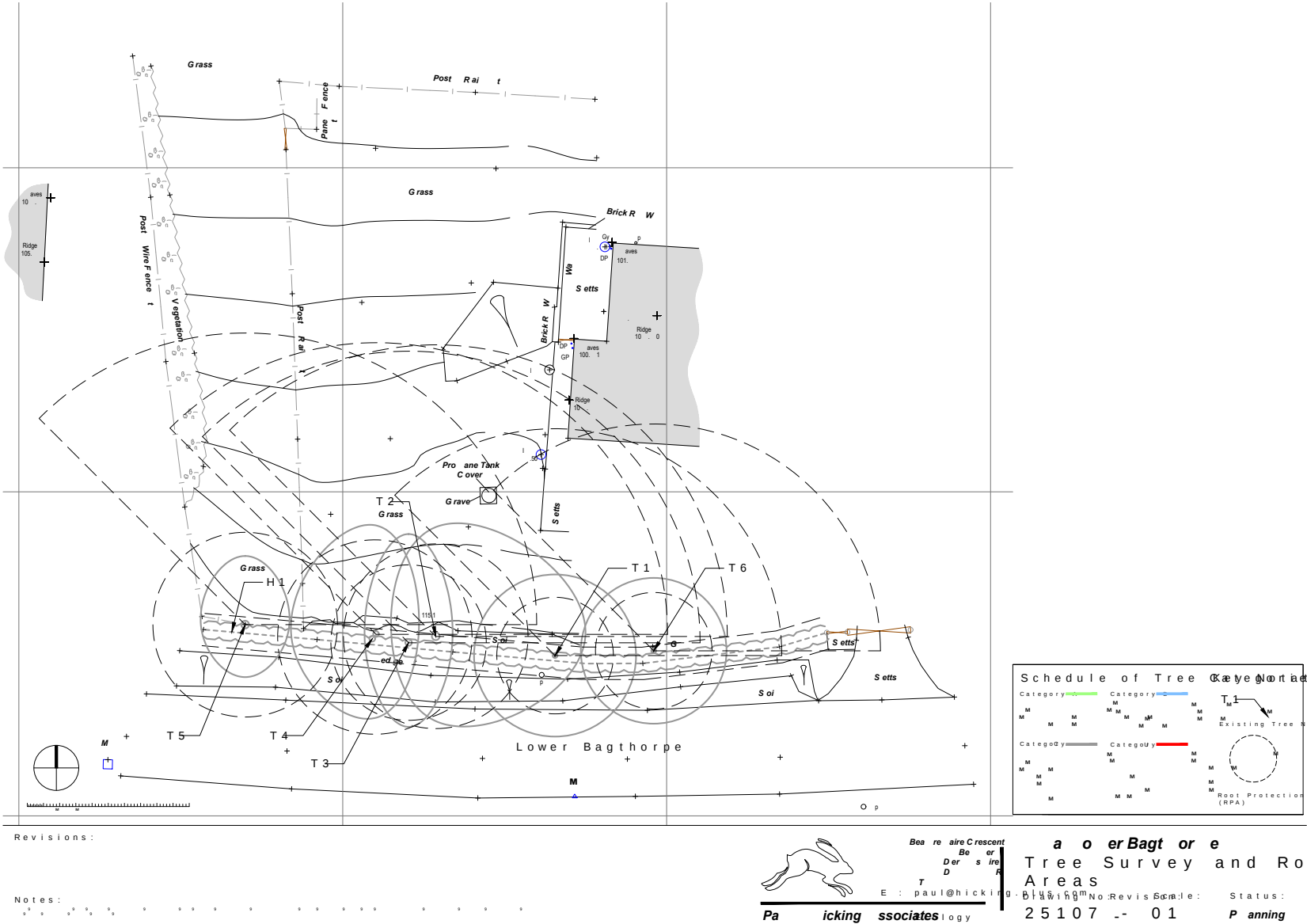
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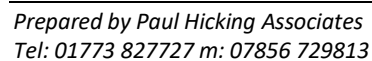
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APPENDIX 1 – SCHEDULE OF SURVEYED TREES.

No.	Common Name Scientific Name	Height (m)	N	E	S	W	Dia. @ 1.5m (cm)	Age	Life Expectancy	RPA (m)	RPA (m ²)	Canopy Clearance (m)	Retention Category	Condition and comments.
T1	Cherry (<i>Betula pendula</i>)	14	5.0	5.0	5.0	5.0	30	M	20+ years	3.60	41	2.0	C2	Moderate condition.
T2	Sycamore (<i>Acer pseudoplatanus</i>)	18	6.5	9.0	5.0	2.5	47.5	M	20+ years	5.70	102	3.0	C2	Moderate condition. Remove dense ivy and reassess.
T3	Sycamore (<i>Acer pseudoplatanus</i>)	18	6.5	2.5	5.0	2.5	40	M	20+ years	4.80	72	3.0	C2	Moderate condition. Remove dense ivy and reassess.
T4	Ash (<i>Fraxinus excelsior</i>)	18	6.5	2.5	5.0	5.0	2 x 35	M	20+ years	6.0	113	3.0	C2	Moderate condition. Remove dense ivy and reassess.
T5	Ash (<i>Fraxinus excelsior</i>)	18	4.0	2.5	3.0	2.5	47.5	M	20+ years	5.70	102	3.0	C2	Moderate condition. Remove dense ivy and reassess.
T6	Cherry (<i>Betula pendula</i>)	14	4.0	4.0	4.0	4.0	30	M	20+ years	3.60	41	2.0	C2	Moderate condition.
H1	Hawthorn (<i>Crataegus monogyna</i>)	1.5	0.5	0.5	0.5	0.5	7.5-10	M	20+ years	0.90 1.20	3 5	0.0	C2	A new square cut garden hedgerow of moderate condition. Recommend gapping up to improve species richness.

APPENDIX 2 – TREE SURVEY CONSTRAINTS AND TREE PROTECTION PLANS





APPENDIX 3 – PHOTOGRAPHS.

