



# Elite Ecology

Passionate about Ecology

**Land off A539,  
Hanmer**



## **BS5837:2012 Tree Survey and Arboricultural Impact Assessment**

**October 2020**

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| Document Control                   |                                                                                       |              |                     |
|------------------------------------|---------------------------------------------------------------------------------------|--------------|---------------------|
| Document Properties                |                                                                                       |              |                     |
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| Title                              | Land off A539, Hanmer<br>BS5837:2012 Tree Survey and Arboricultural Impact Assessment |              |                     |
| Version History                    |                                                                                       |              |                     |
| Date                               | Version                                                                               | Status       | Description/Changes |
| 01/10/2020                         | V1                                                                                    | First Draft  | Initial Draft       |
| 01/10/2020                         | V1                                                                                    | Final Report | Proof Read          |
|                                    |                                                                                       |              |                     |
|                                    |                                                                                       |              |                     |

## **0. Executive Summary**

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- 0.1 This report has been prepared at the request of C L Edwards & Son. Elite Ecology were commissioned to undertake a BS5837:2012 Tree Survey and Arboricultural Impact Assessment at the site located at the Land off A539, Hanmer, Wrexham, SY13 3EN (Central OS Grid Reference: SJ 46180 40486). This survey effort involved both a desktop study and field survey being undertaken.
- 0.2 The survey records all trees within the site and any that may be impacted by the development proposals within or outside of the site boundary. The survey records a number of parameters including, species, crown/ canopy spread, and root protection areas (RPA).
- 0.3 Throughout this report "RPA" is used to refer to "root protection area". The RPA of any given tree is the area of ground around that tree which should not be disturbed by excavation, compaction, changes in level and/or any other construction/ demolition processes. The extent of the RPA is calculated in accordance with the BS5837 (2012) guidelines and is an important part of the methodologies described in this report.
- 0.4 In total the survey recorded 6 individual trees and 1 group of trees. These are a mixture of native and non-native broadleaf specimens. The age class ranges from young to mature and the general condition and form was thought to be fair to good.
- 0.5 This report details the arboricultural impacts and offers a range of protection measures that should be put in place prior to any works being started as well as construction methodologies that should be adopted. These measures will prevent accidental damage and other adverse effects on retained trees.

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## **1 Introduction**

### **1.1 Report rationale**

This report has been prepared at the request of Mr. Roy Evison (R & C Homes). Elite Ecology were commissioned to undertake a BS5837:2012 Tree Survey and Arboricultural Impact Assessment at the site located at the Land off A539, Hanmer, Wrexham, SY13 3EN (Central OS Grid Reference: SJ 46180 40486). This survey effort involved both a desktop study and field survey being undertaken.

### **1.2 Purpose**

This report was carried out in accordance with BS5837 (2012) "*Trees in relation to design, demolition and construction*". The purpose of this report is to provide an analysis of the impact that the development proposals will incur on the trees and local amenity, with additional management and protective measures devised

### **1.2 Site description**

The site at Hamner consists of a semi-improved grassland field, bounded by mixed species hedgerows with mature and semi-mature trees interspersed.

#### **1.3.1 Soils**

A search of the Landis.org.uk national soils database describes the soil in this area as freely draining slightly acid loamy soils. This is considered a good growing medium for the planting of new trees on the site.

The shrink ability is an important factor relating to the partial covering of RPA areas with new buildings or surfaces. Should the soil be of a high shrinkable type (such as clay) then the covering of these areas with surfaces/ structures will prevent adequate moisture from entering the soil, the soil will become dehydrated and effectively shrink. This has been shown to have a detrimental impact on the root systems present and consequently lead to the decline of a tree/s condition.

No in-depth soil analysis was undertaken, and no samples were taken or studied.

#### **1.3.2 Topography and Levels**

The site exists on a slight incline/gradient running upwards in a south to north direction. There are no severe hills or depressions within the site.

#### **1.3.3 Tree Preservation Orders and Conservation Areas**

An enquiry with the local Arboricultural officer (Jon Brewin) has revealed that there is no tree preservation orders or conservation areas within or adjacent to the survey site.

Any advice given in this report is strictly advisory and does not overrule, bypass or otherwise in any way grant the client permission to carry out works on any of the trees included within the survey. Trees that are protected by TPO (tree preservation order), or are within a conservation area and are therefore protected by a "blanket" TPO **require the express permission of the local district authority and/or their acting tree officer before any works may be carried out on them.**

**Figure 1:** An aerial picture of the survey site at the Land off A539, Hanmer (red outline).



#### 1.4 Current Proposals

Under the current proposals, the land is proposed to be converted into a caravan park with 38 pitches, shower and toilet block.

## **2 Survey Methodology**

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The pre-development survey and assessment of the trees on site was undertaken in accordance with the British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' (BS5837:2012).

These assessments were made from ground level only and is based on a visual inspection of the trees within the area. No invasive investigations, no tissue samples and no soil samples were gathered from this survey effort. This survey aimed to examine external features of the trees. Any growing conditions were noted down, with any obvious signs of physical and/or structure defects are recorded (this includes deadwood, die-back or any signs of decay).

In accordance with the aforementioned recommendations, the tree survey included all specimens that are within the site boundary with a diameter at breast height (DBH) of 75mm or above.

This DBH is then used to calculate the Root Protection Area (RPA) of the specimens on site. The RPA represents the minimum area around each tree that must be left undisturbed to ensure their survival. The majority of the tree roots are found in the top 600mm of soil, with most of the nutrient absorbing fine roots found within the top 100mm. The morphology of the roots is influenced by the presence of other site factors (such as roads, structures), soil type, topography and drainage. Where no RPA is identified in the table above, the canopy line should be treated as the RPA (this typically applies to small trees).

A topographical survey has been undertaken on the site prior to the field survey.

The field survey obtained numerous factors about the trees. The equipment used to gain measurements were a diameter tape, a laser measure and a clinometer. The information collected on the trees is as follows:

- Tree Number/Group Reference
- Species
- Height
- Branch Spread
- Height of First Significant Branch
- Age Class
- Physiological and Structural Condition
- Estimated Remaining Contribution (Years)
- Management Recommendations
- Notes

## 2.1 Tree Categorisation

Trees are graded in accordance with the Cascade Chart for Tree Quality Assessment. The purpose of the categorisation is to identify the value of the existing trees, allowing for informed decisions to be made in order to comply with BS5837:2012. These categories are A, B, C and U. Trees categorised as U have sound reasons for removal. Trees that fall within categories A, B and C should be considered for retention. These categories are as follows:

### ➤ **Category A:**

Trees that are of high quality, with an estimated remaining life span 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, groups or woodlands of particular visual importance as arboriculture and/or landscape features.

Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).

Trees in this category will be shown Light Green on the Tree Survey Plan.

### ➤ **Category B:**

Trees of moderate quality, with an estimated remaining life span of at least 20 years.

Trees that might be included within Category A, but have been downgraded due to impaired condition, such that they are unlikely for retention beyond 40 years.

Trees that do not contain the special quality necessary to be classified as Category A.

Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals.

Trees occurring in collectives, but situated to contribute little to the local visual amenity of the area.

Trees with material consideration or other cultural value.

Trees in this category will be shown Mid Blue on the Tree Survey Plan.

➤ **Category C:**

Trees that are of low quality with an estimated life span of at least 10 years, or young trees with a stem diameter below 150mm.

Trees of limited merit and impaired condition so as to not be classified at a higher category.

Trees present in groups or woodlands that are significantly greater collectively within the landscape.

Trees that offer minimal or temporary landscape benefits.

Trees with no material conservation or other cultural value.

Trees in this category will be shown Grey on the Tree Survey Plan.

➤ **Category U:**

Trees that are in a condition where they cannot be realistically retained as living trees for longer than 10 years.

Trees that have a serious, irremediable, structural defect that their loss would be due to collapse. This includes specimens that will not be viable following the removal of further Category U trees.

Trees that are dead or are showing signs of significant, immediate and irreversible decline.

Trees infected with pathogens or diseases that are harming the specimen itself, or is at risk of infecting nearby trees.

Trees that are of very low quality that are suppressing other nearby trees of higher landscape or ecological value.

Trees in this category will be shown Dark Red on the Tree Survey Plan.

## 2.2 Life Stages

All of the trees are separated into five life stages. These are as follows:

- Young (Y) – Newly planted or early established trees that are less than 150mm. These can easily be replaced.
- Semi Mature (SM) – Tree within the first quarter of its life span. Increasing in height and spread.
- Early Mature (EM) – Tree within the second quarter of its life span. Usually increasing in height and spread.
- Mature (M) – Tree within the third quarter of its life span. Usually at full height expectancy.
- Over Mature (OM) – Trees within the final quarter of its life span, or those that have exceeded their life expectancy. These can be in decline.

### 2.3 Physiological and Structural Condition

These conditions are categorised as either good, fair, poor or dead.

An assessment of a tree's physiological condition is defined as:

- Good – A fully functioning biological system showing expectant vitality for the species (i.e. normal bud growth, leaf size, crown density and wound closure).
- Fair – A fully functioning biological system showing below average vitality for the species (i.e. reduced bud growth, smaller leaf size, lower crown density and reduced wound closure).
- Poor – A limited biological system showing physiological decline, disease or significantly below average vitality (i.e. limited bud growth, small and chlorotic leaves, low crown density and limited wound closure).
- Dead – Those trees marked 'Dead' have no visible foliage and brown cell structure under young bark.

An assessment of a tree's structural condition is defined as:

- Good – No significant structural defects.
- Fair – Structural defects that could be alleviated through remedial tree surgery or arboricultural management practices.
- Poor – Structural defects which cannot be alleviated through tree surgery or arboricultural management practices.
- Dead – Those trees marked 'Dead' have no visible foliage and brown cell structure under young bark.

### 3 Results

The field survey at the site assessed the individual condition and value of a number of trees. The values in the table include the largest measurements and the mean category/classification of the trees.

| Tree No. | Species                                        | Tree Category (U/A/B/C) | Life Stage (Y/SM/EM/M/OM) | Condition (Good/Fair/Poor/Dead) | Number of Stems | Height (m) | Branch Spread (m) |     |     |     | Lowest Significant First Branch (m) | Stem at Breast Height (mm) | Life Expectancy (years*) | Root Protection Area (m <sup>2</sup> ) | Root Protection Radius (m) | Observations |
|----------|------------------------------------------------|-------------------------|---------------------------|---------------------------------|-----------------|------------|-------------------|-----|-----|-----|-------------------------------------|----------------------------|--------------------------|----------------------------------------|----------------------------|--------------|
|          |                                                |                         |                           |                                 |                 |            | N                 | E   | S   | W   |                                     |                            |                          |                                        |                            |              |
| T1       | Common Ash ( <i>Fraxinus excelsior</i> )       | B                       | SM                        | Fair                            | 3               |            | 4.5               | 4.5 | 4.5 | 0.5 | -                                   | 280                        | 20+                      | 706                                    | 15                         |              |
|          |                                                |                         |                           |                                 |                 |            |                   |     |     |     |                                     | 280                        |                          |                                        |                            |              |
|          |                                                |                         |                           |                                 |                 |            |                   |     |     |     |                                     | 330                        |                          |                                        |                            |              |
| T2       | Common Sycamore ( <i>Acer pseudoplatanus</i> ) | B                       | SM                        | Fair                            | 2               |            | 4                 | 0.5 | 3   | 3   | -                                   | 380                        | 20+                      | 660                                    | 14.5                       |              |
|          |                                                |                         |                           |                                 |                 |            |                   |     |     |     |                                     | 260                        |                          |                                        |                            |              |

## BS5837:2012 Tree Survey and Arboricultural Impact Assessment

|               |                                                                                                                                                     |                  |    |             |   |             |      |              |     |     |   |                |     |     |      |                                                      |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----|-------------|---|-------------|------|--------------|-----|-----|---|----------------|-----|-----|------|------------------------------------------------------|
| <b>T3</b>     | Common Sycamore ( <i>Acer pseudoplatanus</i> )                                                                                                      | B                | SM | Fair        | 4 |             | 4    | 3            | 0.5 | 3   | - | 150            | 20+ | 379 | 11   |                                                      |
|               |                                                                                                                                                     |                  |    |             |   |             |      |              |     |     |   | 175            |     |     |      |                                                      |
|               |                                                                                                                                                     |                  |    |             |   |             |      |              |     |     |   | 175            |     |     |      |                                                      |
|               |                                                                                                                                                     |                  |    |             |   |             |      |              |     |     |   | 200            |     |     |      |                                                      |
| <b>T4</b>     | English Oak ( <i>Quercus robur</i> )                                                                                                                | A                | M  | Good        | 1 |             | 7.5  | 7.5          | 5.5 | 7.5 | - | 900            | 20+ | 366 | 10.8 | Some deadwood present.                               |
| <b>T5</b>     | English Oak ( <i>Quercus robur</i> )                                                                                                                | B                | M  | Poor        | 1 |             | 6.7  | 4            | 6   | 7.5 | - | 870            | 20+ | 339 | 10.4 | Showing acute decline and die back. Cavities present |
| <b>T6</b>     | English Oak ( <i>Quercus robur</i> )                                                                                                                | A                | M  | Good        | 1 |             | 11.5 | 8.4          | 8   | 8   | - | 1220           | 20+ | 669 | 14.6 |                                                      |
| <b>G1</b>     | Common Hawthorn ( <i>Crataegus monogyna</i> )<br><br>Common Hazel ( <i>Corylus avellana</i> )<br><br>Common Sycamore ( <i>Acer pseudoplatanus</i> ) | B                | SM | Good        | - | Range 3 - 5 | -    | -            | -   | -   | - | Range 75 - 150 | 20+ | -   | 1.8  | Mixed Species Hedgerow. Parameter RPA.               |
| <b>TOTALS</b> |                                                                                                                                                     | Category Grading |    | Life Stages |   | Condition   |      | <b>NOTES</b> |     |     |   |                |     |     |      |                                                      |
|               |                                                                                                                                                     | A                | 2  | Y           | 0 | GOOD        | 3    |              |     |     |   |                |     |     |      |                                                      |
|               |                                                                                                                                                     | B                | 5  | SM          | 4 | FAIR        | 3    |              |     |     |   |                |     |     |      |                                                      |
|               |                                                                                                                                                     | C                | 0  | EM          | 0 | POOR        | 1    |              |     |     |   |                |     |     |      |                                                      |
|               |                                                                                                                                                     | U                | 0  | M           | 3 | DEAD        | 0    |              |     |     |   |                |     |     |      |                                                      |
|               |                                                                                                                                                     |                  |    | OM          | 0 |             |      |              |     |     |   |                |     |     |      |                                                      |

## **4 Summary of Results**

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The field survey found the following information about the trees located on the survey site and within the sphere of influence:

### **4.1 Species Composition**

In total five tree species were identified around the survey site. Of the trees located on the survey site three species are present. The trees identified were:

- Common Hawthorn (*Crataegus monogyna*)
- Common Ash (*Fraxinus excelsior*)
- English Oak (*Quercus robur*)
- Common Sycamore (*Acer pseudoplatanus*)
- Common Hazel (*Corylus avellana*)

### **4.2 Tree Survey Findings**

#### **4.2.1 Life Stage**

On site there are six individual trees and one group of trees. Of the individual trees, three were found to be in a **mature** life stage, and three were found to be in a **semi-mature** life stage. Of the groups of trees, one was found to be in a **semi-mature** life stage.

In total, the six individual trees are split into:

- **Young** – 0 out of 6
- **Semi Mature** – 3 out of 6
- **Early Mature** – 0 out of 6
- **Mature** – 3 out of 6
- **Over Mature** – 0 out of 6

#### **4.2.2 Condition**

On site there are six individual trees and one group of trees. Of the individual trees, three were found to be in a **fair** condition, two were found to be in a **good** condition, and one was found to be in a **poor** condition. Of the groups of trees, one was found to be in a **good** condition.

In total, the six individual trees are split into:

- **Good** – 2 out of 6
- **Fair** – 3 out of 6
- **Poor** – 1 out of 6
- **Dead** – 0 out of 6

#### 4.2.3 Category Grading

On site there are six individual trees and one group of trees. Of the individual trees, four have been categorised as **Category B** trees and two have been categorised as **Category A** trees. Of the groups of trees, one has been categorised as a **Category B** group of trees.

In total, the six individual trees are split into:

- **Category A** – 2 out of 6
- **Category B** – 4 out of 6
- **Category C** – 0 out of 6
- **Category U** – 0 out of 6

## **5 Recommendations**

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### **5.1 General Condition and Observations**

**T1:** A multi-stemmed Common Ash tree situated with the hedgerow on the northern boundary. It is exhibiting a fair condition with no special merits.

**T2:** A Common Sycamore that is also situated within the hedgerow on the northern boundary and growing within close proximity of T1. It too is exhibiting a generally fair condition, with no special merits.

**T3:** Common Sycamore, again, situated within the hedgerow on the northern boundary. Once again, this tree is exhibiting a generally fair condition, with no special merits.

**T4:** A mature English Oak also within the hedgerow on the northern boundary. It is exhibiting good condition, with an asymmetrical crown. Some deadwood is present. It is a prominent feature within the hedgerow and surrounding landscape. This tree could be of a high ecological value and has been identified as a good specimen.

**T5:** Another mature English Oak, this time existing within the western boundary. It is exhibiting acute decline and dieback, with excessive deadwood present. The bark and cambium layers are missing in places. Once again, this tree could be of high ecological habitat value.

**T6:** A mature English Oak also existing along the western boundary. It is a good quality, large specimen. A prominent landscape feature, it is exhibiting generally good condition, with an asymmetrical crown.

**G1:** A mixed species hedgerow bounding the northern and partial western area of the site. It is exhibiting generally good condition and is of ecological habitat value.

### **5.2 Structural Condition**

T5 has cracks and fractures present. Excessive deadwood and cavities were also noted. There is also extensive shedding of bark and cambium layers.

Trees are multi-cellular living organisms and can be subject to rapid change over short periods of time. All observations were accurate at the time of survey. The general structural integrity of all trees is thought to be good. On all trees, no major cracks, fractures, breaks, cavities, or weaknesses were observed.

**5.3 Physiological Condition.**

T5, a Mature English Oak. This tree is showing extensive decline, possibly acute oak decline. The bark and cambium layers are missing in places, with excessive deadwood present.

The detection of disease, infection, and infestation are subject to seasonal and climatic conditions. Some fungus, insect infestation and diseases are only apparent when they are in season and may be easily undetected at certain other times of the year.

At the time of survey, no major signs of disease, pathogen, fungal bodies, or insect infestation were observed.

## **6. Arboricultural Impact Assessment (AIA)**

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### **6.1 Development Proposals**

The current proposals are to create a caravan park with 38 pitches, shower and toilet block.

### **6.2 Development Impacts**

Current proposals impact upon T1, T2 and T6.

#### **6.2.1 Root Protection Areas**

The Root Protection Areas (RPA) have been calculated in accordance with the current BS5837 (2012) guidelines.

The RPA's have been shown as blue circles/outlined areas, on the tree constraints and protection drawings.

Current proposals would require the RPA of T1, T2 and T6 to be partially overlaid with a permeable surfacing. This is not expected to be more than 20% of the RPA area and is acceptable under current guidelines. Providing this is of a suitable construction and does not require any excavation, then this is not thought to be of detriment to these trees.

#### **6.2.2 Ground Level Changes around Trees**

Ground level changes are expected to be changed around T1, T2 and T6 where the installation of permeable access road/ surfacing is to be installed. This infringement covers less than 20% of the respective trees RPA and is not thought to be of detriment to the trees here.

Designers should strive to not impact or effect ground levels around or within the RPA areas of retained trees. It is important that the existing ground level around any trees to be retained remains the same. This is because the critical root mass essential for the tree/s survival (the fine hair feeding roots) is usually found to exist within the top 100mm of topsoil. Should additional earth or material be pushed or laid over the top of the RPA then this critical root mass will no longer exist at its chosen ground level, soils become dehydrated, fungal and microorganism activity changes and this is known to have a detrimental effect on the feeding roots and consequently cause post development decline of the tree/s.

#### **6.2.3 Access Facilitation Pruning**

No access facilitation pruning is expected.

#### **6.2.4 Tree Removals**

No trees are required to be removed, but T5 should be reduced to a standing deadwood habitat monolith.

#### **6.2.5 Tree Retention**

All trees can be retained.

#### **6.2.6 Amenity and Area Impacts**

As all trees can be retrained, there is not thought to be any amenity or area character impacts in Arboricultural terms.

#### **6.2.7 Spatial Relationship of Trees and Post Development Pressure**

The spatial relationships between the trees crowns and the current proposals are not in conflict and there not thought to be any post development pressure to prune or work on these trees.

#### **6.2.8 Installation of Utilities**

Currently there are no plans to route services or utilities through the RPA's of any of the retained trees. Should this change at a later stage of the project, proposals should be submitted to the local authority tree officer for approval.

As guidance only, the routing of any services through the RPA of any of the retained trees should be in accordance with BS5837: 2012 clause 7.7.2 and NJUG guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees.

### **6.3 Impact Summary**

Current proposals do not greatly conflict with the trees surveyed at this site, and as there is no requirement to remove or work on any of these trees then the overall impact in Arboricultural terms is thought to be "low".

## **7. Recommendations**

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### **7.1 Tree Work Recommendations**

The recommended works are for dead wooding.

#### **7.1.1 Remedial Tree Works**

It is recommended that T4 and T6 are crown cleaned for deadwood in excess of 25mm.

#### **7.1.2 Tree Removal/Felling**

No removals are recommended.

T5, a mature English Oak, is recommended to be reduced to a standing deadwood habitat monolith. The entire crown should be removed and all major primary limbs reduced back to 3-4 meters in length producing a standing deadwood monolith, this should be done with the use of a MEWP as this tree may not be safe to climb. This will reduce the potential of collapse and/or major limb failure/ wind felling/ structural failure, while retaining this potentially valuable habitat. A bat survey of potential roosting features is recommended.

### **7.2 Root Protection Measures**

It is recommended that all RPA's are to be protected using robust barrier fencing. This is to ensure that any construction traffic on the site is unable to enter these areas and cause unnecessary damage via excessive soil compaction.

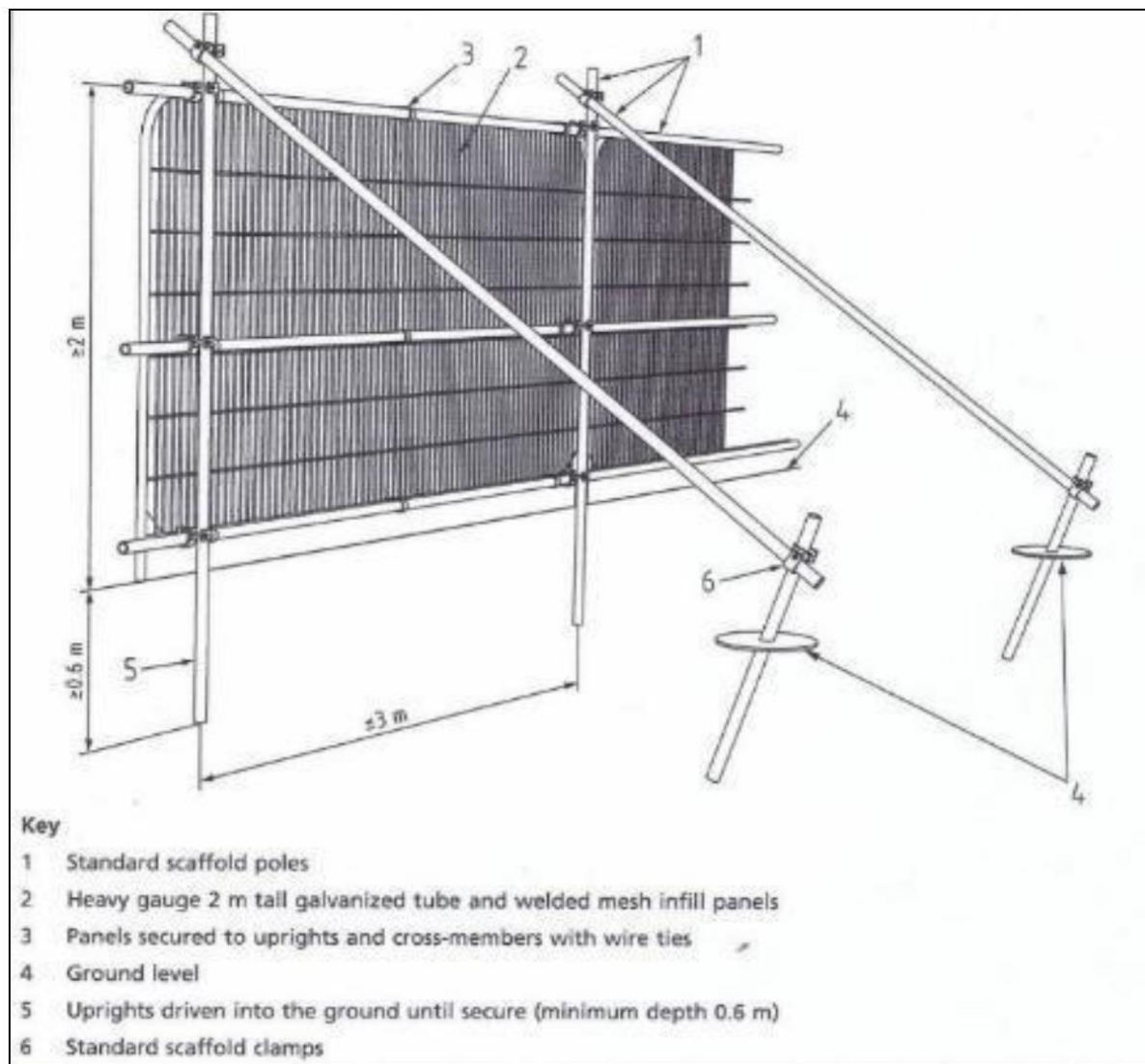
The overlaying of the RPA's of T1, T2 and T6 can be achieved without detriment to the trees future health and condition providing that no more than 20% of the RPA is overlaid, and the surfacing is of a suitable construction. The exact design specification of this surfacing is thought to be an engineering matter and this report refers the designers to BS 5837, section 7.4 *Permanent Hard Surfaces within an RPA*.

#### **7.2.1 Protective Barriers**

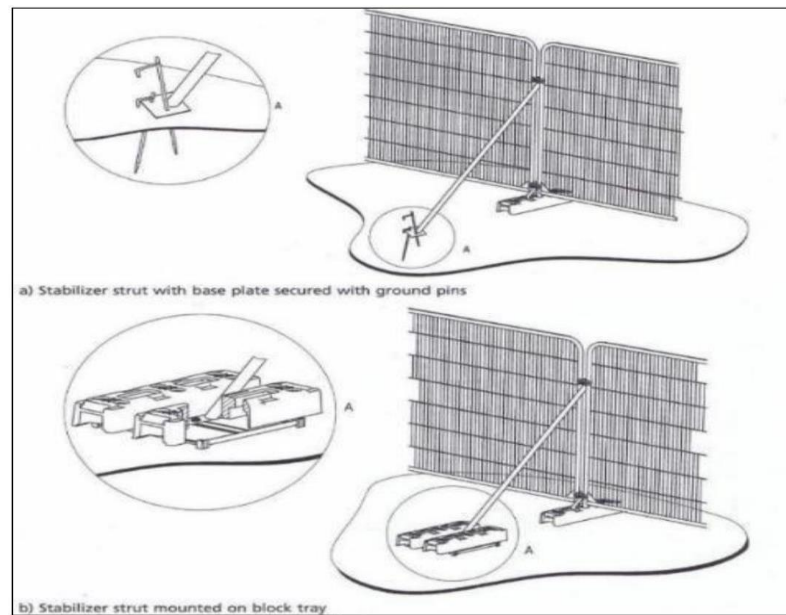
It is recommended that protective barriers/fencing is used for this site.

#### **7.2.2 Protective Barrier Specification**

It is recommended that a sturdy type fencing product be used around the root protection areas at the front of the site. It is thought that a steel framed, wire weld meshed fencing similar to or equivalent to "Heras" style fencing will be sufficient in these areas of the site. The below diagrams have been shown to provide a good example of this.

**Figure 3:** A diagram of the tree root protection barrier.

**Figure 4:** A diagram of the alternative tree root protection barrier.



### 7.2.3 Appropriate Signage

Appropriate signage is important and necessary and should be attached to the protective fencing in such a way as to be clear and visible.

**Figure 5:** An example of a notice to be attached to the fencing.



### **7.3 Prohibited Activities within or close to the RPA**

Regardless of circumstances, the following activities are prohibited:

- a) No fires should be lit on the site within 10m of the nearest section of tree canopy for any retained tree. This is prevalent for all trees located on site and adjacent to the proposal site.
- b) No equipment, signage, fencing shall be attached to or be supported by any retained tree on or adjacent to the application site.
- c) There will be no temporary access into the root protection areas (RPA's) unless written approval from the local planning authority (LPA) has been obtained.
- d) No mixing of cement, dispensing of fuels or chemicals is to occur within 10m of the tree stem for any retained tree. This is prevalent for all trees located on site and adjacent to the proposal site.
- e) No soakaways are to be routed within the RPA of any retained tree that is on or adjacent to the site.
- f) No topsoil, excavation or reprofiling works are to be undertaken within the RPA of any retained tree that is on or adjacent to the application site.
- g) No storage of materials is to occur within the RPA of any retained tree on or adjacent to the site. This includes, but is not limited to, topsoil and building materials.
- h) No variations to any approved tree protection schemes shall be carried out without obtaining the prior written approval of the district planning authority.

### **7.4 Design and Construction Recommendations**

In summary, it is recommended that crown cleaning and deadwood removal (in excess of 25mm) is carried out on the two mature English Oak trees (T4 and T6). This is to reduce the chances of falling debris on the completed site and the occupants using it.

T5 to be reduced to a standing deadwood habitat monolith pending an additional bat survey of potential roosting features.

All RPA's should be suitably protected with barriers/ fencing throughout the construction process.

The proposed access routes and surfacing should be of a suitable construction/design as per BS 5837, section 7.4 *Permanent Hard Surfaces within an RPA* (where these are in conflict with an RPA).

## **8 Other Considerations**

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### **8.1 Trees with Statutory Controls**

Some trees that lie on, adjacent or within the area of the site may be covered by a Council Tree Preservation Order. These need to be taken into account when deciding planning applications. The works specified within this report are necessary for reasonable management and should be accepted by the local planning authority. However, any tree owners/managers should appreciate that some personnel may take a differing point of view and therefore have the option to refuse consent.

### **8.2 Felling Licences**

Tree felling in the United Kingdom is controlled by the Forestry Commission under the Forestry Act 1967. In a calendar quarter (3 months), up to 5m<sup>3</sup> can be felled without requiring a felling licence providing that no more than 2m<sup>3</sup> are to be sold. If any felling proposed does not meet the aforementioned criteria, then a felling licence will be required. It is worth noting that some types of felling are exempt, such as the removal of deceased trees, or ones that are dying, dangerous or causing a nuisance.

### **8.3 Trees Outside of the Property**

If works are recommended to be undertaken on trees that fall outside of the client/applicant's land, the full co-operation and liaison with these tree owners is necessary. Implications of not cooperating requires additional legal interpretation that are beyond the remit of this report. Under Common Law, branches from trees on adjacent properties that extend over boundaries can be pruned back to the boundary line without the permission of the owners.

### **8.4 Implementation of Tree Work**

When appointing a tree contractor, only suitably qualified and experienced companies should be used. Always ensure that the contractor carries adequate insurance. The contractor should carry out all tree works to BS 3998:1991 *Recommendations for Tree Work*, as modified by more recent research findings.

### **8.5 Wildlife**

All operations need to take into account the presence and/or potential presence of any wildlife at the site.

#### **8.5.1 Bats**

All trees with potential roosting features (PRF's) need to be assessed by a licenced bat surveyor. All bats and their roosts are protected by the legal framework within the United Kingdom. It is an offence to kill, injure or disturb a bat and to destroy or damage any place that is used for shelter by a bat.

#### 8.5.2 Birds

All breeding birds are protected by law within the United Kingdom. Therefore, any tree removal should take place outside of the breeding bird season, which typically runs from March to August. If this cannot be achieved, a suitably qualified and experienced ecologist is required to inspect for any nests. If an active nest is located, an exclusion zone will then be implemented around this feature until any chicks have fledged the nest.

## **9. Arboricultural Method Statement (AMS)**

### **9.1 The use of Arboricultural Method Statement/s**

The Arboricultural Method Statement should be read in conjunction with the tree protection drawing that is provided within the appendixes.

### **9.2 Pre-Commencement Meeting**

It is advised that a pre-commencement site meeting is held with contractors who are responsible for operating machinery and vehicles on site. The meeting will firstly highlight the potential damages that can be caused when operating machinery within close proximity to the crowns, stems and root protection areas of protected trees, but thereafter emphasise the importance of careful manoeuvring of machinery and vehicles close to these protected areas. The use of “banksmen” as guides for machinery and vehicle drivers is also to be strongly recommended and implemented.

The meeting will also highlight the importance of the root protection areas and the rules surrounding such as set out in **Section 7.3** (prohibited activities within or close to the root protection area).

### **9.3 The Erection of Protective Barriers and Fences**

Prior to any demolition, or construction activities commencing, the recommended and suitable protection barriers should be erected and set out around the root protection areas as shown in the tree protection plan. Checks should be made to ensure that these have been suitably erected and are of sufficient construction to provide the necessary protection from the demolition and construction activities. These protective fences should not be removed until construction is fully complete.

### **9.4 Tree Works**

Any tree works/ tree removals, access facilitation pruning etc, should be carried out by a suitably competent and qualified arborist and in accordance with BS3998 tree work recommendations. Suitable specific method statements should be provided by the arboricultural contractors.

#### **9.4.1 Pre-Commencement Considerations for Tree Works**

It is strongly advised that prior to any tree work being carried out, suitable checks are made to ensure that no wildlife habitat is destroyed or disturbed with regards to bats, birds and squirrels.

#### **9.4.2 Construction Traffic, Heavy Plant Machinery and Access Routes**

It is important that the site planner studies the root protection areas outlined in the tree constraints and protection measures plan. All heavy plant machinery, vehicles and excavation works will need to be prohibited in these areas. Access routes for machinery and vehicles should ideally be routed around these areas. Where this is not possible and access routes need to pass over a root protection area then a Geotech, gravel/ hardcore filled ground protection matting should be used to minimise the impacts of compression and compaction on the root structures. The exact specifications of such matting should be sourced and calculated by the site planner depending on the size and weight of the vehicles and/or machinery to be used.

## **10. Method statement for the uptake of surfaces near to and within RPA's**

### **10.1 The uptake of existing surfaces**

The uptake of the existing tarmac surfaces proposed to be removed (if any), that are within the RPA of retained trees, should be carried out from outside of the RPA where this is reasonably possible.

The removal of this surface material from within the RPA's should be done where practically possible by hand, using hand tools. Should the use of an excavator be required due to the surface material being thicker in places, then this should be done with great care and with the assistance of a "banksman" to guide the excavator bucket head carefully so as not to disturb the underlying material and top soil.

The rubble and arisings of removed materials from these operations must not be stockpiled or stored within the RPA's and should be directly removed from the area without where possible crossing the RPA's.

Due care, attention, planning and consideration should be given to the arcs and manoeuvring, of any machinery that is to be operated within these areas.

Where new topsoil is infilled into this area, this should be of sufficient good quality and inserted without compaction.

### **10.2 Other works within the RPA**

Where it is necessary to work within the RPA of trees, all staff should be briefed prior to being allowed entry. It is important that the briefing highlights the prohibited activities within an RPA as stated in section 7.3. No heavy machinery or vehicle activity that can cause soil compaction is to be allowed within the RPA, and should machinery be absolutely necessary then a suitable geocell, hardcore filled ground protection measure should be installed and suitable guidance provided from a banksman when manoeuvring. All but light excavation with hand tools should be prohibited and where light excavation is needed, great care must be taken not to damage any root system in the area.

## **11 References**

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## **12 Appendices**

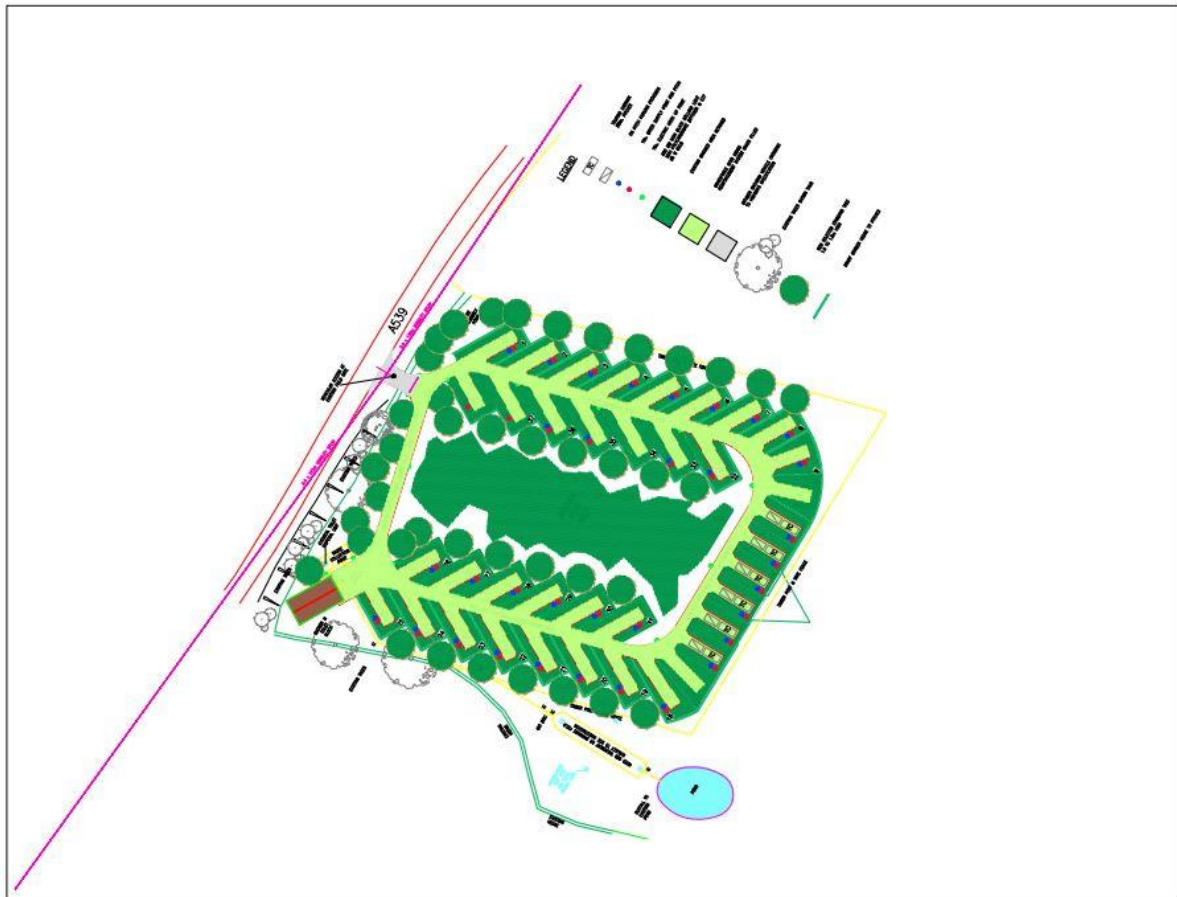
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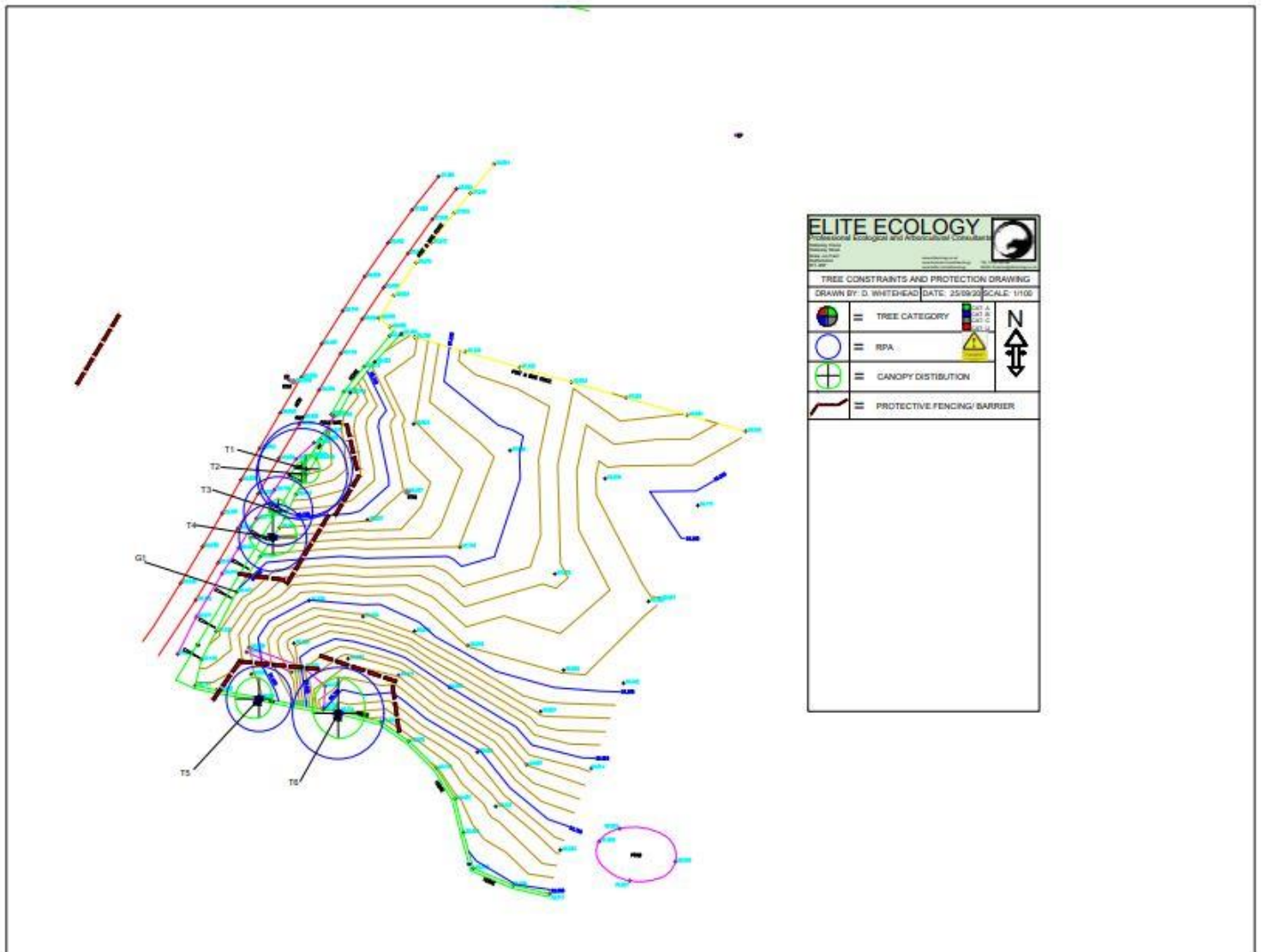
**Appendix A:** Site Plan

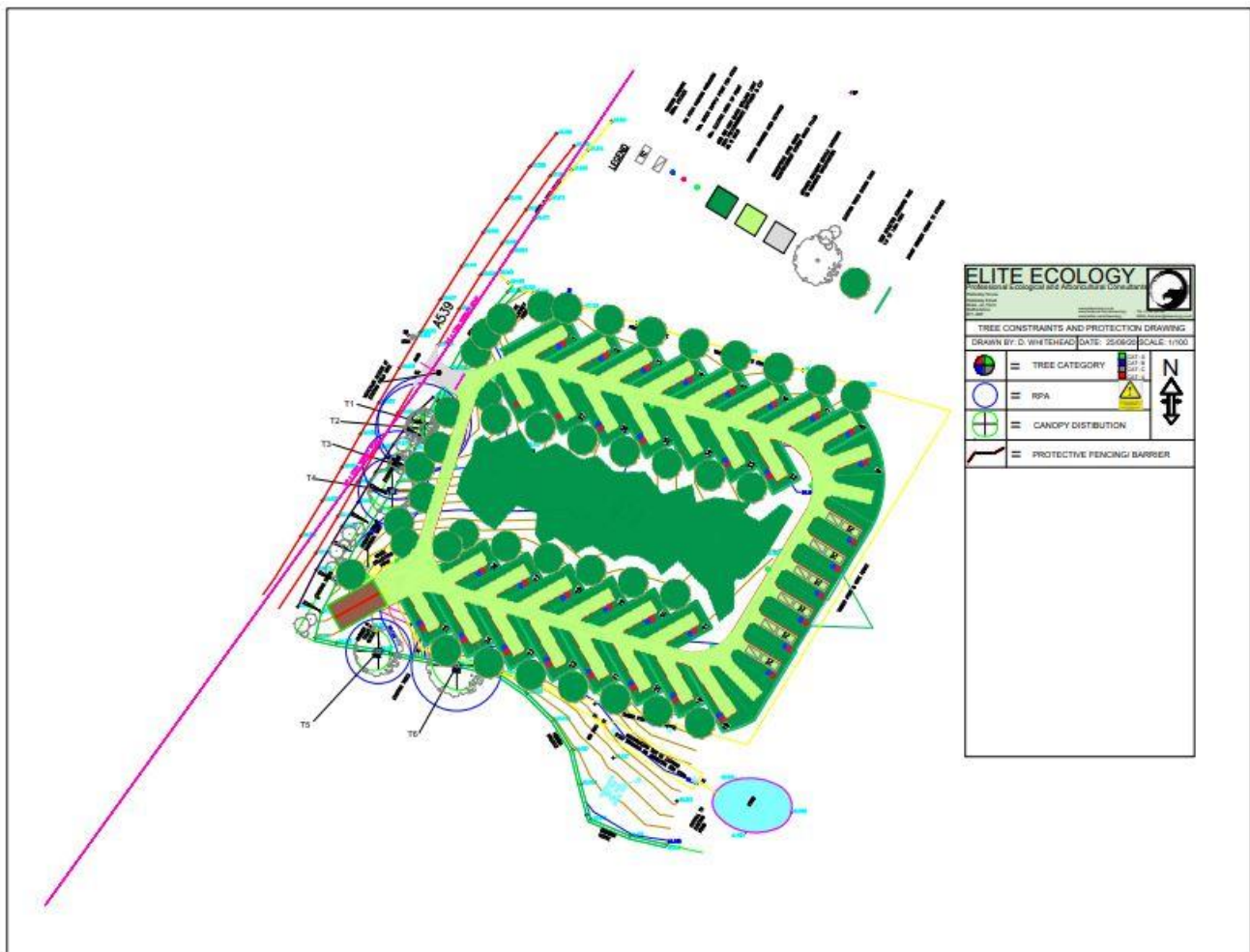
**Appendix B:** Tree Constraints/Protection Plan

**Appendix C:** Photographic Records

## Appendix A: Site Plan



**Appendix B: Tree Constraints Plan/Protection Drawing**

**Current Proposals Overlaid:**

### **Appendix C: Photographic Records**

**Plate 1:** Showing T1 Common Ash (Right) and T2 Common Sycamore (Left)



**Plate 2:** Showing T3 Common Sycamore (Right) and T4 English Oak (Left)



**Plate 3:** T4. English Oak.



**Plate 4:** Showing T5, English Oak in decline.



**Plate 5:** T6. English Oak.



**Plate 6:** Showing G1 with T1, 2, 3, and T4 incorporated.



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All reports are certified products and cannot be shown, copied or distributed to third parties without the written permission of Elite Ecology. No liability is accepted for the contents of the report, other than to that of the client(s). If any part of this report is altered without the written permission of Elite Ecology, then the whole report becomes invalid.

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Elite Ecology undertake all site surveys with reasonable skill, care and diligence, within the terms of the contract that has been agreed with the client and abiding by the Elite Ecology Terms and Conditions. The actions of the surveyors on site, and during the production of the report, were undertaken in accordance with the Code of Professional Conduct for the Chartered Institute of Ecology and Environmental Management.

The latest good practice guidelines put in place by Natural England or the relevant statutory conservation bodies have been followed by the surveyors on site. If those methodologies fail to identify a protected species during the survey efforts, no responsibility can be attributed to Elite Ecology. If any of these guidelines are adapted between the date(s) of the surveys being undertaken and the submission of this report, then Elite Ecology takes no responsibility for this.

Should any equipment be damaged or lost on site at the fault of the client(s), then Elite Ecology withholds the right to charge 100% above the current market value for that exact product or the nearest similar product.

The survey results purport the current status of the site and its potential for protected species utilisation at the time of surveying. It should not be viewed as a complete list of the possible flora and fauna species that could be using the site at different times of the year.

Elite Ecology has been provided with full payment for this report and thus the product has been released to the client(s) for the purpose of their planning application. If any part of the report is lost or altered without the written permission of Elite Ecology, then the entire report becomes invalid. Due to the potential for continual change within the natural world, this report is valid for **1 year only** from the date of the last survey visit. If this report is submitted after the 1 year deadline, then a further updated inspection will be required to ascertain whether the site remains in the same condition as it was when initially inspected.

No reliance should be made on any such comments in relation to the structural integrity of the features located on the surveyed site. All information within the report is based solely on evidence that has been found on site during the service provided. No individual opinion or inference will be made other than that of the suitably qualified ecologist appointed to the project.