

## TREE SURVEY REPORT

for

Oak Lodge, Weeley Heath, Tendring



July 2021

Prepared by:  
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## **References**

- British Standards 5837:2012 Trees in relation to design, demolition and construction – Recommendations
- British Standards 3998:2010 Tree Work Recommendations
- NJUG 4 Vol 10 – NJUG Guidelines for the Planning, Installation and maintenance of Utility apparatus in proximity to trees

<b>Appendix 1</b>	Tree Survey Plan showing Tree Quality Categories
<b>Appendix 2</b>	Plan showing Root Protection Areas
<b>Appendix 3</b>	Draft Tree Protection Plan

## **1.0 INTRODUCTION**

- 1.1 This report was commissioned by Kevin Savage in relation to the proposed development Oak Lodge, Weeley Heath. The report details all trees over 75mm at 1.5m above ground level that are relevant to the siting of the proposed development. The position of the trees on the site is illustrated at **Appendix 1** on the site plan and information about the tree stock and its current condition is given. It will assist the planning process by discussing the impact that the proposals will have on the existing tree stock.
- 1.2 An Arboricultural Impact Assessment is included which details the constraints placed on the proposed development from the rooting area of the trees below ground and above ground by virtue of their size and position. A draft tree protection plan is also given which demonstrates how the trees to be retained can be adequately protected throughout the construction operations.

## **2.0 SITE VISIT**

- 2.1 The site visit was undertaken on 16.07.2021. The trees were surveyed visually, externally and from ground level only. No samples or internal decay detection readings were taken for further analysis. All dimensions have been measured unless stated otherwise. Weather conditions at the time of the survey were dry, hot and bright.
- 2.2 An existing site layout plan and proposed site layout was made available at the time of the tree survey.

## **3.0 SOILS**

- 3.1 A full laboratory soil assessment has not been provided. The British Geological Survey digital geological map for this part of Essex show that the soils of the site comprise of slightly acid loamy and clayey soils with impeded drainage. The sedimentary bedrock was formed in the Palaeogene Period when the local environment was dominated by deep seas.
- 3.2 The soils are likely therefore to be shrinkable as there is clay present; however this should be checked by a structural engineer prior to the foundations being designed.

#### 4.0 TREE SURVEY DATA

In accordance with BS 5837:2012, the characteristics of trees over 75mm stem diameter measured at 1.5m above ground level have been recorded and they have been categorised in accordance with Table 1 of BS5837: 2012. The following tree data tables should be read in conjunction with the annotated site plan shown at **Appendix 1** and the key on page 6.

Tree Number and Species	Tree Height (m)	DBH (mm)	Branch Spread (m)				Age Class	First Main Branch	Crown clearance	Remaining Contribution (Yrs)	Physiological Condition	Structural condition	Comments and management (& recommended works)	BS 5837 Category and Recommendations Necessary for Development & Value	RPA (m <sup>2</sup> )	Radial Distances for RPAs (m) from Centre of Stem
			N	S	E	W										
T1 Scots Pine	11	470	2	6	3	3	M	2	2	>20	F	P	Growing on the end of the row, the strong apical dominance of the tree has resulted in multiple leaders competing for space. Some tight branch unions with included bark and poor overall form due to proximity of T2 adjacent.	C2 Removal recommended due to position and conflict with proposals T2.	100	5.6
T2 Oak	10	590	2.5	6	5	5	M	0.5	1.8	20+	G	F	Appears to have been struck by lightning which has travelled down a branch and the main stem. Wound occluding well, but cavity within. Two branches identified for removal to accommodate the proposals – one of which is lightning damaged.	B2 & 3 Protect and hand dig within RPA. Two branches identified for removal to lift canopy.	158	7.1
T3 Oak	10	440	2	3	5	5	M	0.5	1.5	20+	G	F	Long horizontal wound down the main stem with cavity within. Wound occluding well and not of concern. Some minor dieback in crown, but general vigour good.	B2 Retain and protect.	88	5.3
T4 Oak	7	230	2	4	3	3	E M	0.5	1.5	20+	G	G	Growing under the canopy of T3 and T5. The form has been compromised.	T4 Retain and protect.	24	2.8

Tree Number and Species	Tree Height (m)	DBH (mm)	Branch Spread (m)				Age Class	First Main Branch	Crown clearance	Remaining Contribution (Yrs)	Physiological Condition	Structural condition	Comments and management (& recommended works)	BS 5837 Category and Recommendations Necessary for Development & Value	RPA (m <sup>2</sup> )	Radial Distances for RPAs (m) from Centre of Stem
			N	S	E	W										
T5 Oak	10	510	1.5	5	5	5	M	0.5	1.5	20+	G	F	Growing in close proximity to T6 and crown to north is curtailed. General vigour good.	A2 & 3 Unaffected by the proposals.	118	6.1
T6 Oak	10	530	6	1	6	7	M	0.5	1.5	20+	G	F	Growing in close proximity to T5 and crown to north is curtailed. General vigour good.	A2 & 3 Unaffected by the proposals.	127	6.4
T7 Oak	13	960	9	9	7	7	M	1.5	2	20+	G	G	TPO'd tree growing close to the house. Some mildew, but general condition and vigour is good. No works required.	A2 & 3 Protect during construction and also the roots from compaction.	417	11.5
G1 Cherry species	>6	-	-	-	-	-	S M	1	1.2	20+	G	F	Growing as a group within the line of the hedge. Good general condition.	B2 Unaffected by the proposals.	-	As shown.

## 5.0 TREE DATA TABLES

The data contained within the following Tables should be read in conjunction with the notes below, the map at **Appendix 1** and the following discussion at Section 7.

**Tree Number:** Corresponds to the plan attached at **Appendix 1**.

**Height:** Estimated

### Age Class

Y = Young tree

SM = Semi mature (Tree having attained 1/3 to 2/3 full stature and 1/3 to 1/2 estimated lifespan)

EM = Early Mature (Tree at 3/4 to virtually full size)

M = Mature

OM = Over mature/Senescent.

### Priority for recommended works

**H** – High (for trees retained there is work required to make safe).

**L** – No urgent work required, but would benefit from some intervention.

**N** – No tree work identified as necessary in the foreseeable future.

**RA** – Tree to be removed to accommodate the development.

**IV** – Sever and remove ivy.

**R** – Remove.

### British Standard Category

<b>A</b>	Those of high quality and value i.e. make a substantial contribution; to retain.	<b>B</b>	Those of good/moderate quality and value, might be Cat. "A" but slightly impaired.	<b>C</b>	Those of low quality i.e. adequate to remain until new planting is established or young tree.	<b>U</b>	Those of such poor condition that any existing value would be lost within 10 years.
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### Value:

1. Mainly Arboricultural Value.
2. Mainly Landscape Value.
3. Mainly Ecological Value.

### Important notes

Recommendations for management have been made with regard to good arboricultural practice as well as current British Standards and guidance notes. Recommendations for management are current and the urgent works should ideally be carried out within the next 6 months. It should be recognised that trees are dynamic structures that can never be completely predictable and may become unstable or partially unstable even in average weather conditions. Stability or safety cannot be construed from any lack of recommended works. As trees are constantly changing, dynamic structures, comments regarding the health and safety of the trees are correct and valid at time of inspection.

## 6.0 TREE QUALITY ASSESSMENT

### Tree Quality Assessment

- 6.1 Seven trees and one group of trees on site have been surveyed for planning purposes and categorised according to BS5837: 2012 as a guide to their condition. They are coloured on the plan attached at **Appendix 1** to indicate their category and the colours are explained in the key of the plan. Table 1 indicates whether the tree is to be removed or retained as part of the proposed layout.

### Category A Trees

**T4, T5, T6** and **T7** (all Oak)

- 6.2 These trees are of high quality, in good condition and capable of making a substantial contribution of up to 40 years.



**Photo 01:** Growing under the canopies of adjacent trees, T4 is competing for light and space, but it is in good condition with a clear main leader.



**Photo 02:** Growing as a pair in the hedge line at the end of the row of trees, T5 and T6 are very close to one another, which has compromised their overall form, but not their health and vigour. T4



**Photo 03:** T7 is a large free-standing tree to the south of the garage building. It is protected by a Tree Preservation Order. The overall form is well balanced, but there are some signs of mildew on the leaves.

Category B Trees

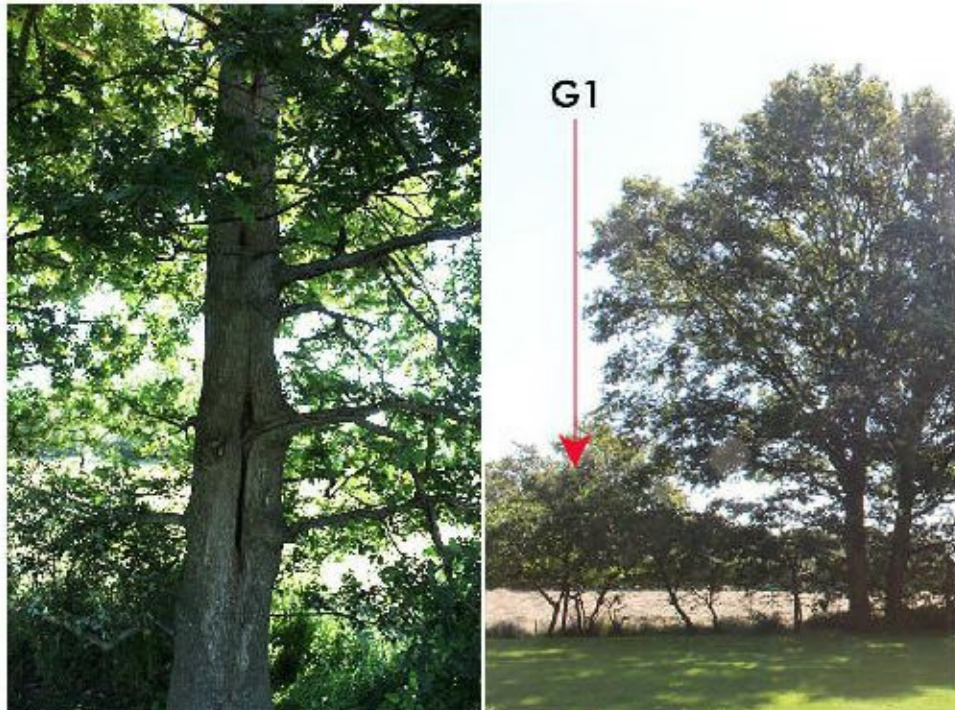
**T2, T3** (Oaks) and **G1** (Cherry sp).

- 6.3 These trees are of moderate quality with an estimated remaining life expectancy of at least 20 years. They may have been previously managed and no longer exhibit their natural form, or they have been downgraded because of impaired condition.





**Photos 04 & 05:** T3 is a well established Oak tree, but it appears to have been struck by lightning at some point. Whilst the damage is occluding well, it has created a cavity and the potential for accelerated decay. The red lines on photo 05 (right) illustrate the points at which the branches identified for removal should be cut back too.



**Photos 06 & 07:** There is a long horizontal wound on T3 which has clearly been there for a while and it is occluding well. This may have been due to lightning and there is no other sign of stress or decay otherwise in the tree. G1 (right) is a small group of cherries. These are established trees which are overshadowed by the adjacent Oak trees.

## Category C Trees

### **T1** (Scots Pine)

- 6.4 Category C trees are generally of low quality with an estimated remaining life expectancy of at least 10 years. They provide structure to the garden, but they are generally unremarkable trees with historically limited or poor management and do not qualify in higher categories.



**Photo 08:** Growing at the end of the line and closest to the existing garage building, T1 is a mature Scots Pine. It is competing for light with the neighbouring tree and it has competing leaders.



**Photos 09 & 10:** T1 is growing adjacent to the existing garage and is proposed for removal due to its position.

### Category U trees

- 6.5 These trees are 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. There are no category U trees in this survey.

### **7.0 ROOT PROTECTION AREAS**

- 7.1 In accordance with BS5837:2012, the root protection areas (RPA) of the trees have been calculated and shown in the previous table and on the plan attached at **Appendix 3**. This is the minimum area in m<sup>2</sup>, which if being retained, must be left undisturbed around the trees to ensure their safe retention during the development process. It is calculated as an area equivalent to a circle with a radius twelve times stem diameter. Where the tree is growing next to structures such as roads, walls, buildings etc, it would be expected that the shape of the RPA be altered (but not reduced in size) to take into account the area of ground that the roots are most likely exploiting. In some circumstances, the incorporation of hard surfaces and other construction can take place within the RPA.

### **8.0 LEGAL CONSTRAINTS**

- 8.1 The site is not within a Conservation Area, but T7 (Oak) and another group of trees are protected by Tree Preservation Orders (TPO). In the case of T7, no work is proposed, but ground protection mats will be used in the vicinity of the tree to prevent any compaction. The group of trees will not be affected by the proposals.



**Photo 11:** The group of trees between the driveway and the highway are protected by a TPO. They provide screening and also have amenity value as they are visible from the road. They are growing as a group and should therefore be managed as such. No work is proposed as part of this application.

## 9.0 ARBORICULTURAL IMPLICATIONS ASSESSMENT

### Description of Proposed Development

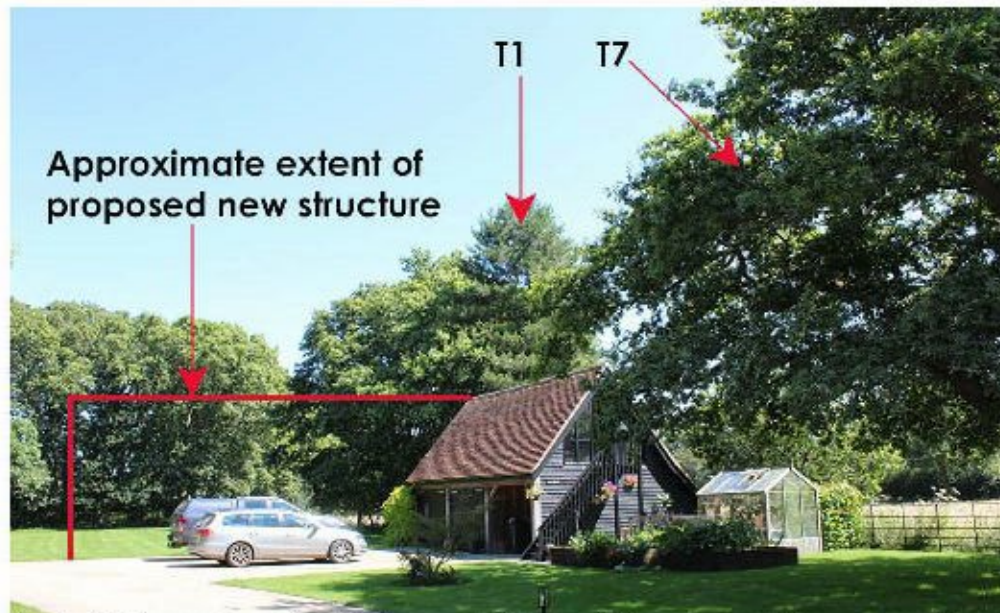
- 9.1 It is proposed to build an extension to the existing cart lodge building. This will add a new wing to the north which will fall within the rooting zone of T2. The height of the proposed structure would be no greater than the existing building and the limbs proposed for removal have been clearly identified. An extension to the rear of the existing main house is also proposed and this will mean that construction traffic will pass over the rooting zone of T7.

### Drawings Used

- 9.2 An existing site layout plan was used to show the location of the trees on the Tree Quality Assessment Plan (**Appendix 1**). The proposed site layout plan was used to show the root protection areas (**Appendix 2**) and the draft Tree Protection Plan (**Appendix 3**).

### Trees in Relation to Proposed Development

- 9.3 As part of the proposals it is proposed to remove T1. No other trees would need to be removed.



**Photo 12:** The proposed extension would extend into a grassed lawn area. The trees are in open ground with no constraints to the rest of their rooting area and it is therefore unlikely that the proposals would have any significant impact on their health.

### Tree Surgery Work

- 9.4 T1 is proposed for removal, which will give T2 more space to grow. Two limbs have been identified for removal in order to raise the crown and this is clearly illustrated in Photo 05. One of these limbs appears to have been damaged by lightning and is dead at the end. The rest of the tree is healthy and should be able to tolerate this minor pruning work, which should be done in mid to late winter.

### **Changes in ground surface and ground level within RPA's**

- 9.5 The proposed new structure will require excavation works for the foundations. In order to assess the required depth it is advised that an engineer is consulted. Trees root mainly in the top 600mm to 1m of soil and it is possible that foundations will need to go deeper than this. The position of the trees in relation to the foundations are such that only a small percentage of the roots would be affected and this combined with the good health of the tree means it should be able to tolerate the change.

### **Tree Protection Detail**

- 9.6 A construction exclusion zone (CEZ) will be designated on site by using protective barriers and ground protection to ensure the safe retention of the trees to be retained. These barriers and ground protection will be in accordance with BS 5837: 2012 and will guard against impact damage to the trunks and branches and will protect the below ground rooting environment so that the soil structure remains viable for root growth and not compacted by construction operations. Where possible, the positions of these barriers should be based on a distance equivalent to the radius of each tree's RPA. The location and type of tree protection to be used is shown on the draft Tree Protection Plan attached at **Appendix 3**.

- Construction Space

- 9.7 Space for construction work, mixing and material storage will be designated on site away from the construction exclusion zone as defined by the protective barriers and ground protection.

### **Infrastructure Detail**

#### Access

- 9.8 The existing access will continue to be used. Access to the rear of the main house will be required in order to build the proposed new conservatory and this will pass under the canopy of T7. In order to ensure that the tree is protected, fencing is proposed and also ground protection.

#### Services

- 9.9 No specific detail available at the time of writing. No dig techniques in line with NJUG 4 Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees', to be used for installation of services if installed or modified within the RPAs of any retained tree.
- 9.10 To afford the tree roots maximum protection, special techniques should be used in order of preference.
- 9.11 Directional Drill Method – Where possible the entry and exit trenches should be located outside the RPA. Where this is not possible, the trench should be opened using root sensitive excavation techniques. Additional ground protection should be installed to prevent compaction of the soil by the drilling rig.
- 9.12 Open trench system – Excavated using root sensitive techniques.

## **10.0 CONCLUSIONS**

- 10.1 The proposals are for a new extension to an existing garage building. This will extend within the rooting zone of T2. In addition to this there is a new conservatory proposed to the rear of the existing main house and a new covered seating area, which will replace the kennels. These will both require access to the rear garden which will pass under the canopy of T7.
- 10.2 The survey included seven trees and one group of trees. The majority of these are oaks and in good health. There is only one tree proposed for removal and this is a Scots Pine. The loss of this tree will not have any impact on the overall amenity effect of the trees. T1 (Scots Pine) is a category C tree and growing in amongst the canopy of T2.
- 10.3 The trees surveyed are situated internally to the site and are visible from the wider locale. T7 is TPO'd and it is recommended that this is well safeguarded throughout construction with both fencing and ground protection.
- 10.4 The location of the trees to be retained means that they will not be a constraint to the proposed development. The visual amenity value of the trees will be retained following completion and it is considered that the proposals are compatible with the existing and potential future influence of these trees.
- 10.5 The proposal requires some excavation of the ground within the RPA of T2. As the area for excavation falls within the outer edge and as the tree is healthy and vigorous, it is considered that the tree will tolerate the changes that will occur. Appropriate protection measures will be put in place so that the soil structure remains viable for root growth and not compacted during the construction operations.
- 10.6 To compensate for the loss of the Scots Pine, new planting is proposed as part of wider landscaping works. The new planting will grow in harmony with the garden for future generations. All tree work is to be carried out in line with the current British standard for Tree Work BS 3998 by qualified Arborists.
- 10.7 Supervision of any work adjacent to T7 and T2 will be paramount in the successful safe retention of these trees. It is advised that a qualified project Arboriculturalist signs off fencing and ground protection to ensure all works are undertaken in accordance with best arboricultural practice. This is to include regular checks of all work within the RPA throughout construction.

**Details within this AIA are considered correct at the time of writing but modifications may need to be made as more information becomes available.**

## **Glossary**

<b>Adventitious Growth</b>	New growth arising from dormant or new buds directly from main branches/stems or trunks
<b>Arboriculturist</b>	Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction
<b>Construction Exclusion Zone</b>	Area based on the root protection area from which access is prohibited for the duration of the project.
<b>Root Protection Area (m2)</b>	Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability and where the protection of the roots and soil structure is treated as a priority.
<b>Services</b>	Any above ground or below ground structure or apparatus required for utility provision. E.g. drainage, gas supplies, ground source heat pumps, CCTV and satellite communications.
<b>Stem</b>	Principal above ground structural components of a tree that supports its branches.
<b>Tree Protection Plan</b>	Scale drawing informed by descriptive text where necessary, based upon the finalized proposal showing trees for retention and illustrating the tree and landscape protection measures.

### *CREDENTIALS OF THE AUTHOR*

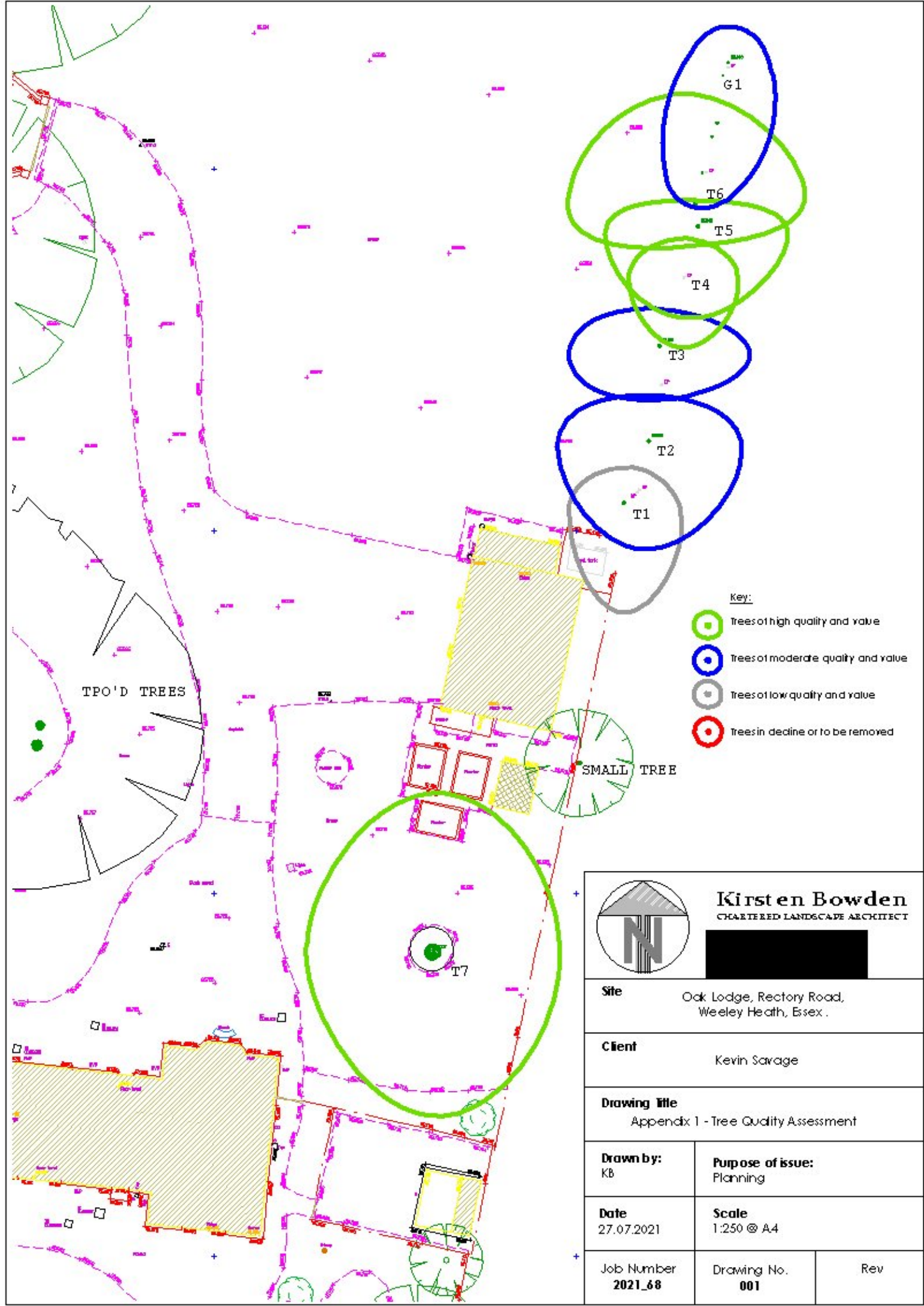
Kirsten Bowden has worked in the landscape profession since 2002. Her experience has been gained from both the public and private sector. She has worked for Hilliers Tree Nursery in Hampshire, Daventry District council, The Landscape Partnership and Suffolk County Council and now works as an independent consultant. In addition to her experience, she holds the following qualifications:

Masters Degree in Landscape Architecture, Heriot-Watt University. (MA Hons) 2003

Chartered Member of The Landscape Institute (CMLI) Dec 2004

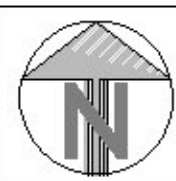
Certificate in Landscape History (UEA) 2005

She is also an Technician Member of the Arboricultural Association and completed a level 4 diploma in Arboriculture in September 2017 (Tree Life).



**Key:**

- Trees of high quality and value
- Trees of moderate quality and value
- Trees of low quality and value
- Trees in decline or to be removed



**Kirsten Bowden**  
 CHARTERED LANDSCAPE ARCHITECT

**Site** Oak Lodge, Rectory Road,  
 Weeley Heath, Essex.

**Client** Kevin Savage

**Drawing Title** Appendix 1 - Tree Quality Assessment

**Drawn by:**  
 KB

**Purpose of issue:**  
 Planning

**Date**  
 27.07.2021

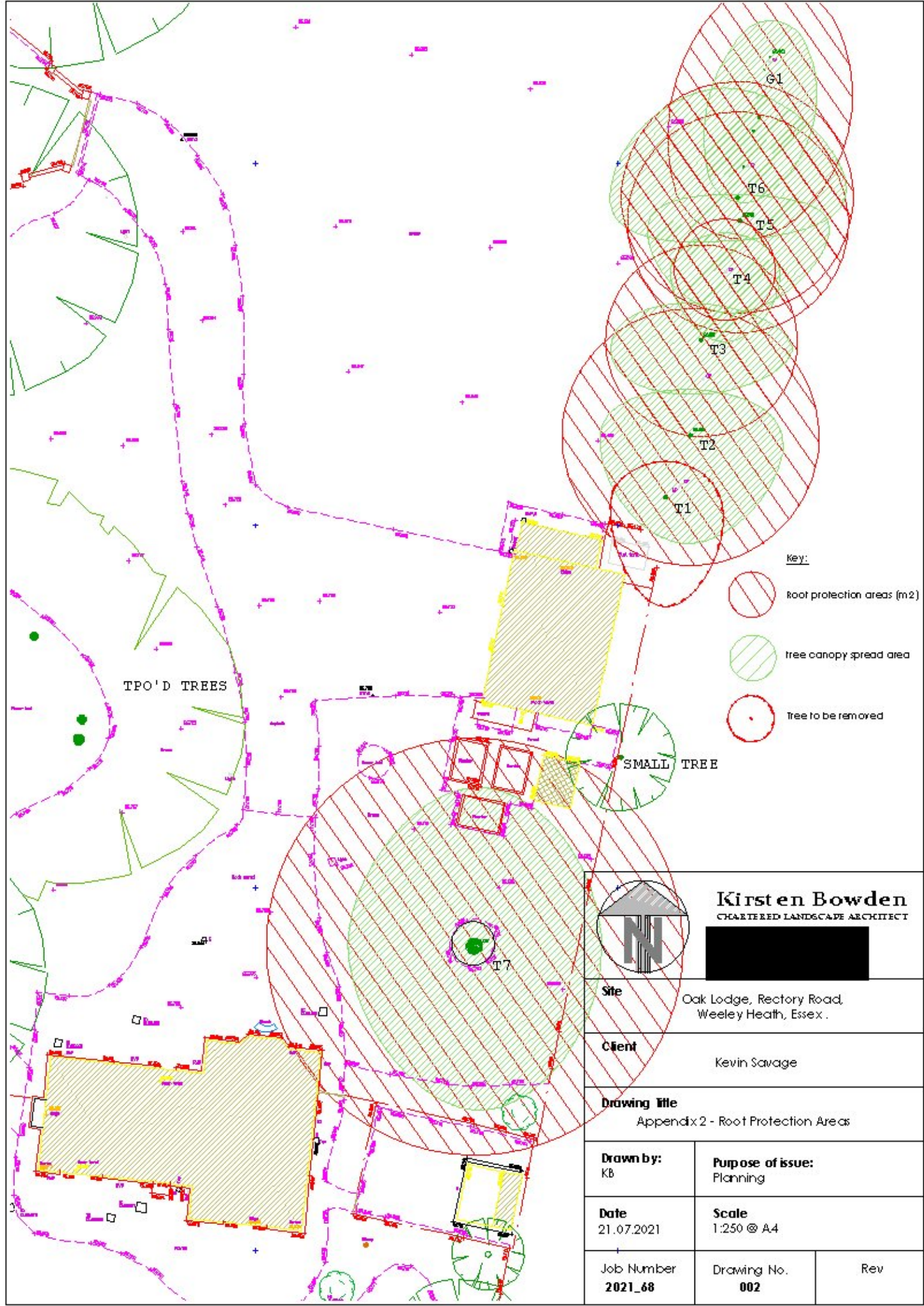
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**Job Number**  
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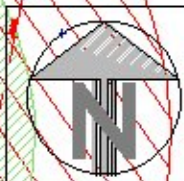
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**Rev**



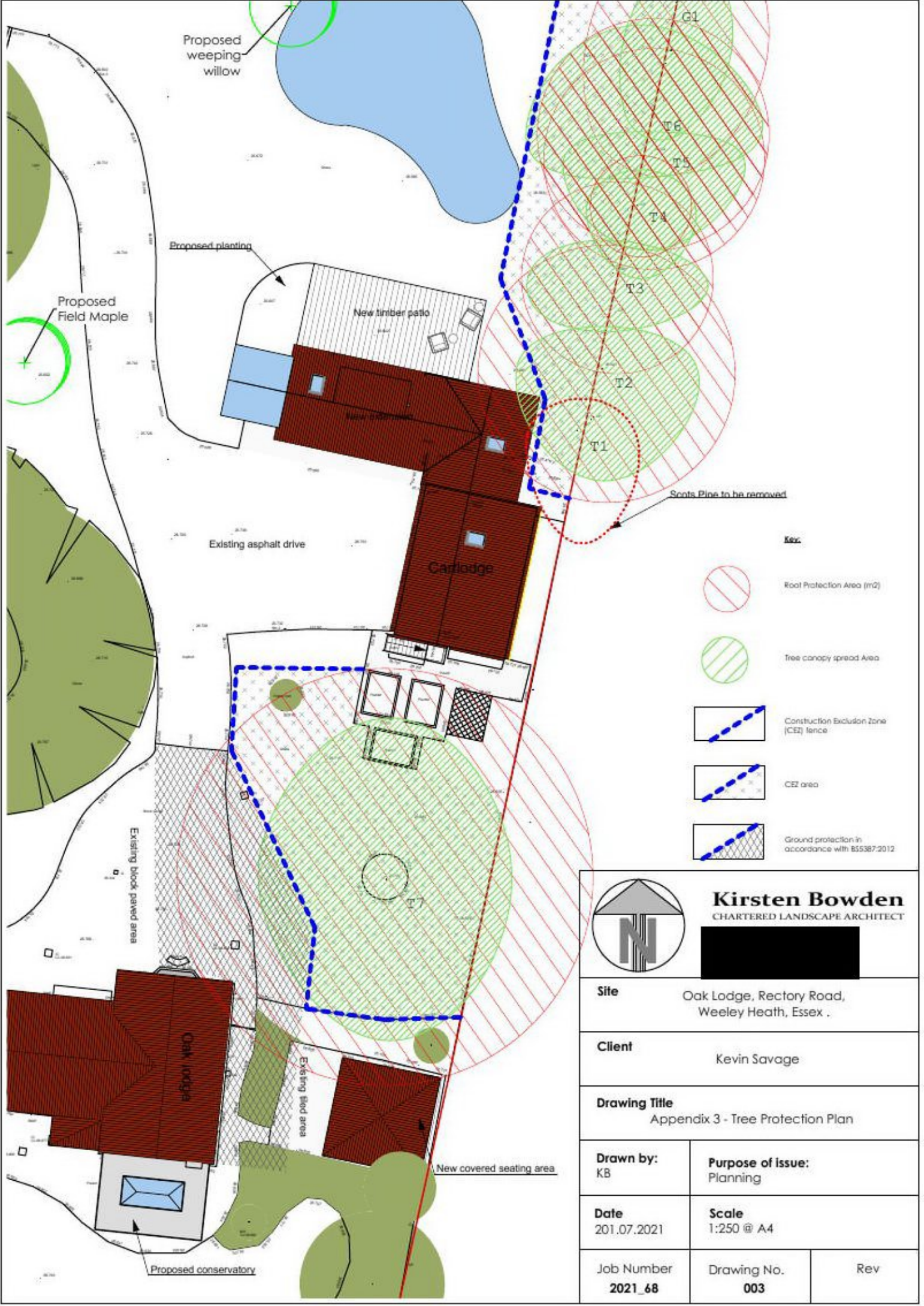


- Key:**
-  Root protection areas (m<sup>2</sup>)
  -  tree canopy spread area
  -  tree to be removed








**Kirsten Bowden**  
 CHARTERED LANDSCAPE ARCHITECT

<b>Site</b> Oak Lodge, Rectory Road, Weeley Heath, Essex.	
<b>Client</b> Kevin Savage	
<b>Drawing title</b> Appendix 2 - Root Protection Areas	
<b>Drawn by:</b> KB	<b>Purpose of issue:</b> Planning
<b>Date</b> 21.07.2021	<b>Scale</b> 1:250 @ A4
<b>Job Number</b> 2021_68	<b>Drawing No.</b> 002
	<b>Rev</b>



**Key:**

-  Root Protection Area (rR2)
-  Tree canopy spread Area
-  Construction Exclusion Zone (CEZ) fence
-  CEZ area
-  Ground protection in accordance with BS5387:2012



**Kirsten Bowden**  
 CHARTERED LANDSCAPE ARCHITECT

**Site** Oak Lodge, Rectory Road,  
 Weeley Heath, Essex .

**Client** Kevin Savage

**Drawing Title**  
 Appendix 3 - Tree Protection Plan

<b>Drawn by:</b> KB	<b>Purpose of issue:</b> Planning
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<b>Date</b> 201.07.2021	<b>Scale</b> 1:250 @ A4
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<b>Job Number</b> 2021_68	<b>Drawing No.</b> 003	<b>Rev</b>
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