



# ARBORICULTURAL REPORT

Root Morphology Investigation

## Site Address:

Nether Hall

Pakenham

Suffolk

IP31 2LG

## Prepared for:

Richard and Penny Ballard

## Prepared by:

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# CONTENTS

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1	Executive Summary.....	2
2	Introduction .....	3
2.1	Instruction.....	3
2.2	Scope of This Report .....	3
2.3	Limitations .....	3
2.4	Qualifications and Experience .....	4
2.5	Documents and Information Provided .....	4
3	General Inspection Information.....	5
3.1	Assessment Methodology – Root Morphology Investigation & Identification .....	5
3.2	Site Description.....	5
3.3	Preliminary Site Soil Assessment .....	6
4	Root Morphology Investigation .....	7
4.1	General.....	7
4.2	Findings .....	8
4.3	Conclusions .....	14
4.4	Recommendations .....	14
5	Compliance Statement.....	15
6	Appendices.....	16
6.1	Appendix 1; BS5837 Tree Survey Schedule.....	16
6.2	Appendix 2; Site Plans.....	17
6.3	Appendix 3; Root Identification Report.....	18
6.4	Appendix 4; Qualifications and Experience of Authors .....	19
6.5	Appendix 5; Standards of Work.....	20

# 1 EXECUTIVE SUMMARY

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This report details the investigation into the presence of roots within the footprint of a proposed swimming pool and pool house at the site, specifically the presence of roots belonging to the trees T4 (English oak), T5 (lime) and T29 (English oak) at the east elevation of the pool house. It also considers roots belonging to T15 (yew) along the south edge of the proposed pool terrace.

The area in question was excavated to a depth of 400mm below ground level using compressed air technology (AirSpade). Roots encountered in the excavation were visually inspected to determine their orientation, general condition, and the variation in species. Root samples were then collected and sent for laboratory identification.

The results of the investigation and root identification process have indicated that no roots belonging to the retained trees T4, T5 or T29 are present within the footprint of the proposed pool house to the depth of the excavation.

It has been advised by Beech Architects that the footings for the pool house building can be of a shallow raft formation, anchored off the side of the swimming pool structure. This will provide support for the pool house and reduce the requirement for foundations to an approximate depth of 250mm, meaning that there will not be a requirement to remove any root material belonging to the retained trees to facilitate its installation.

The root identification determined there are roots belonging to small trees and shrubs directly adjacent to the proposed pool house. Three of these trees (T8, T9 and T10, all holm oaks) have already been recommended for removal to accommodate the proposed development, with their loss to be adequately mitigated with replacement planting elsewhere at the site. The remainder of affected trees are small screening specimens including yew and holly, which were considered too small to include in the BS5837 tree survey. The removal of these will have a negligible impact on the amenity of the site.

The historic tree cover at the site included a number of semi-mature to mature ash and sycamore trees located within the area of proposed development, which had to be removed over recent years due to disease and decline/death. It is considered that their presence has limited the ingress of roots from the boundary trees into the centre of the site, including those belonging to the aforementioned English oak and lime, and T15 (yew).

In light of the investigation findings and conclusions it is considered that the elements of the proposed development discussed within this report will not negatively impact the retained trees at the site, providing the tree protection measures recommended within the Arboricultural Impact Assessment (Eastwood Tree Services document 4488), including the Preliminary Tree Protection Plan are adhered to.

## 2 INTRODUCTION

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### 2.1 INSTRUCTION

- 2.1.1 Instructions have been received from Richard Ballard of Nether Hall to investigate the presence and identification of roots in an area at the site marked for development. An arboricultural impact assessment conducted regarding a proposal to construct a swimming pool, pool house and associated infrastructure identified areas where the development entered Root Protection Areas assigned to trees to be retained at the site.
- 2.1.2 The investigation is focused on the area of proposed footings for the eastern elevation of the pool house where it enters the Root Protection Area (RPA) of tree T5 lime and is at the perimeter of the RPA of trees T4 and T29, both oaks. It also considers the RPA of T15 yew, along the south edge of proposed pool surround.

### 2.2 SCOPE OF THIS REPORT

- 2.2.1 This report details the instruction, limitations, investigation area, methodology and results.
- 2.2.2 It is intended that this report will provide the parties involved in the planning application with relevant information and recommendations to assist them in determining the impact that the proposed development will have on the rooting environment of nearby retained trees.
- 2.2.3 This report is only concerned with the trees described in s.1.1. It includes an assessment based on the site visit and the information provided, listed in s.1.5.
- 2.2.4 If appropriate National Standards, current research, and best practice will be referenced. It does not take account of any trees, shrubs or other significant growths that have not been included in the original instructions or detailed above.
- 2.2.5 The recommendations made within this report are intended to mitigate unacceptable risks for the duration specified within the report.

### 2.3 LIMITATIONS

- 2.3.1 Only the areas detailed in the root investigation plan were excavated and investigated.
- 2.3.2 The excavations and investigations were limited to the depth detailed in this report. The presence of roots beneath the excavation depth has not been considered.
- 2.3.3 A sample of roots encountered during the investigation were sent for identification. The choice of root samples was based on visual identification to differentiate and represent significant roots (above 25mm diameter) within the excavation. The investigation could not sample and identify every root encountered.
- 2.3.4 The report observations are to be considered as correct at the time of inspection only.

2.3.5 This report is written for the sole use of the instructing party. It is not for use by any other group, organisation, or individual without consent.

## 2.4 QUALIFICATIONS AND EXPERIENCE

2.4.1 I have based this report on my site observations and any information that has been provided. I have come to conclusions in the light of my experience and technical knowledge. My qualifications and details of my experience are shown in the Appendix.

## 2.5 DOCUMENTS AND INFORMATION PROVIDED

2.5.1 The following documents or verbal information have been received and relate to the same issues that this report is intended to cover. Unless stated they will not be reproduced in this report:

Description	Date
4488 – Nether Hall Arboricultural Impact Assessment	Dec 2023
Video meeting with Mr Craig Beech of Beech Architects and Mr Richard Ballard of Nether Hall to discuss the scope of the root morphology investigation. It was advised by Mr Beech that a concrete raft could be used as a base for a lightweight pool house construction. This would be anchored off the edge of the proposed swimming pool structure to prevent differential movement and would require an excavation to approximately 250mm below existing ground level in the area of concern (within the RPA of T5 lime).	Feb 2024
Discussions on site with Mr Richard Ballard to identify the genus and approximate location of trees which have been previously removed from the area of proposed development, which were dead or diseased, and predominantly ash and sycamore. Mr Ballard engaged in the management of these trees. Locations of stumps which were recently removed (via stump grinding) were pointed out by Mr Ballard along with their genus.	Feb 2024
EPSL Root Identification Report	Feb 2024

## 3 GENERAL INSPECTION INFORMATION

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### 3.1 ASSESSMENT METHODOLOGY – ROOT MORPHOLOGY INVESTIGATION & IDENTIFICATION

- 3.1.1 An 'Airsplane' is used to excavate soil from the area of investigation to the required depth. The process uses high pressure compressed air to break apart and blow away soil. A wide gauge nozzle is used to minimise damage to roots within the excavation. The process is minimally disruptive and generally roots over 5mm diameter remain intact with minimal surface damage during the excavation. Fibrous root growth can be affected but is more readily regenerated and is not considered significant.
- 3.1.2 An initial visual assessment of the exposed system is conducted. The root size, depth, general orientation of growth and where possible species is assessed and recorded.
- 3.1.3 Where it is not possible to visually identify the roots encountered, samples can be taken and sent for microscopic analysis to identify plant genus. The samples are taken from roots with a maximum 10mm diameter to minimise long term damage to the plant.
- 3.1.4 The excavated area is backfilled with the removed soil as soon as visual assessment and sample collection is complete. In the case of trenches/large areas this will be done in approximately 1 metre sections to minimise the drying/damage of exposed roots.

### 3.2 SITE DESCRIPTION

- 3.2.1 The area is currently unused and has recently been cleared of low-level vegetation, including the removal of stumps from previously removed significant trees. It was advised by Mr Ballard that these included ash and maple/sycamore tree. There are significant semi-mature and mature trees around the outer perimeter, which are detailed in the BS5837 tree survey.
- 3.2.2 The area also includes an inner line of small yew, box, holly, and Portuguese laurel to the east and south. These have sub 75mm diameter stems at 1.5m above ground level and were not included in the BS5837 tree survey. They are low amenity screening trees/shrubs. The approximate location of the group closest to the area of investigation has been included on the Root Investigation Plan included as appendix.
- 3.2.3 A public footpath cuts through the east boundary of the area, running roughly north to south.
- 3.2.4 The area of concern is flat. The site slopes downhill from east to west towards the main hall building.
- 3.2.5 The surface is unmade ground with scrubby ground cover.

### 3.3 PRELIMINARY SITE SOIL ASSESSMENT

3.3.1 The British geological Survey Map (1:50,000) shows the area as chalk formation, with superficial deposits of sand and gravel.

3.3.2 The soil encountered during the investigation could be described as sandy and free draining within the topsoil to approximately 400mm below ground, becoming heavier and wetter below this level. An area of darker, finer soil was also encountered within the south section (areas 3 and 4) of the excavation.

3.3.3 Bulk density of the soil was not assessed.

## 4 ROOT MORPHOLOGY INVESTIGATION

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### 4.1 GENERAL

- 4.1.1 The site investigation was conducted on the 15<sup>th</sup> and 16<sup>th</sup> February 2024.
- 4.1.2 A 400mm wide strip was excavated along the line of the northeast corner and east elevation of the proposed pool house building, as shown on the site investigation plan in appendix.
- 4.1.3 The area in question was excavated to approximately 400mm below ground level.
- 4.1.4 After each area had been inspected, the excavation was backfilled using the displaced soil.
- 4.1.5 The excavation findings have been recorded as 5 distinct areas. These are based on the type and volume of roots encountered within the excavation.
- 4.1.6 The location of the excavation and the 5 described areas are detailed in the Root Investigation Plan, included as appendix. Plans supplied within this report are intended for illustrative purposes only. If a scale is shown this will have been correct on the original screen but printing and file conversions may affect its accuracy
- 4.1.7 A sample of roots were taken from the excavated areas and sent for identification at the European Plant Science Laboratory.
- 4.1.8 Measurements provided were taken using a standard retractable steel tape.
- 4.1.9 Pictures were taken illustrating the investigation. They are shown in the findings. Original digital copies of these are held on file.



**Photo 1;** Location of excavation shown in red, prior to commencement.



## 4.2 FINDINGS

### 4.2.1 Area 1

Roots to 30mm diameter were encountered in this area. They were predominately located in the top 300mm of soil, with some smaller roots at the bottom of the excavation.

There were a mix of roots of live appearance and those which were damaged or broken with dry, discoloured ends.

The general orientation of roots was west to east, determined by division of rooting material and decreases in root diameter.

Two distinct root types were identified visually, and cuttings were taken from each for identification.

The results of laboratory root identification indicates that the roots in Area 1 belong to *Acer* (includes maple/sycamore) and *Fraxinus* (ash) *spp.* trees.

The species and orientation of the roots suggests that they belong to the previously removed ash and sycamore trees located in the northwest area of the site. This is further supported by their general degraded condition.



**Photo 2 (left);** section of Area 1 excavation (not shown to full depth). **Photo 3 (right);** examples of severed roots encountered in Area 1.

#### 4.2.2 Area 2

Roots to 35mm diameter were encountered in this area. They were predominately located in the top 300mm of soil, with some smaller roots at the bottom of the excavation.

The roots in Area 2 were of the same physical appearance to those in Area 1 with a similar general orientation indicating they likely part of the same root systems.

One significant root 35mm in diameter was observed to enter the excavation from the east with an orientation heading southwest at 150mm below ground level. A sample of a secondary section of this root approximately 5mm in diameter was taken and sent for identification.

The result of laboratory root identification indicates it is an *Acer* (includes maple/sycamore) *spp.* root.

The species and orientation of the roots suggests that the majority belong to the previously removed ash and sycamore trees located in the northwest area of the site, with the sampled root likely belonging to the previously removed maple/sycamore tree located to the east of the area, adjacent to the public footpath.



**Photo 4 (left);** Roots encountered within Area 2. **Photo 5 (right);** Root in Area 2 of alternate orientation, identified as *Acer spp.*

### 4.2.3 Area 3

Roots to 30mm diameter were encountered sparsely in this area to a depth of 400mm below ground level. The majority of roots in the area were to approximately 15mm diameter and broke easily. The roots were generally orientated west to east.

The soil in this area changed colour and became darker and finer.

Two root boles belonging to small, previously removed trees were encountered in the excavation. The larger roots in the area were traced to these plants.

A sample of the smaller roots were sent of identification.

The result of laboratory root identification indicates they are *Acer* (includes maple/sycamore) and *Fraxinus* (ash) *spp.* roots.

The species and orientation of the roots suggests that the roots likely belong to the previously removed ash and sycamore trees located in the northwest and west areas of the site.



**Photo 6 (left);** root bole and associated broken root encountered in Area 3. **Photo 7 (right);** Section of Area 3 excavation, showing excavation depth with small diameter roots present.

#### 4.2.4 Area 4

Roots of live appearance to 20mm diameter were encountered in this area. They were predominately located in the top 150mm of soil.

The roots in Area 4 were observed orientated in all directions.

The significant roots appeared to be of two species, with a web of smaller roots too small to visibly differentiate.

A sample of roots of different appearance was taken from the area.

The results of laboratory root identification indicates that the roots in Area 4 predominantly belong to *Taxus* (yew), *Acer* (includes maple/sycamore) and *Quercus* (oak) *spp.* trees.

Area 4 is adjacent to a group of small yew trees, and it is most likely that the *Taxus spp.* roots belong to them. Trees T8, T9 and T10 are semi-mature holm oaks. Given the proximity and size of the roots it is most likely that the *Quercus spp.* roots belong to these trees. The *Acer spp.* roots most likely belong to the previously removed sycamore tree which was located in the southwest corner of the site.



**Photo 8 (left);** roots encountered in Area 4. **Photo 9 (right);** 15mm diameter root, suspected to be yew in Area 4.

#### 4.2.5 Area 5

Roots predominantly 10-20mm diameter, with a maximum 40mm diameter were encountered in this area, to a depth of up to 350mm below ground level.

The majority of the larger roots had been previously severed and were orientated roughly north to south.

The larger roots were of the same appearance as those encountered in Area 1 and are considered likely to part of the same root systems. Given the proximity, they are considered to be from the previously removed sycamore and ash trees at the northwest of the site.

Samples of the smaller diameter roots were taken for laboratory identification.

The results of laboratory root identification indicate that the roots in Area 5 predominantly belong to *Acer* (includes maple/sycamore), *Fraxinus* (ash), *Lonicera* (includes honeysuckles/snowberry) and *Ilex* (holly) *spp.* trees. The *Lonicera* and *Ilex* roots are considered to belong to low level vegetation in the area.



**Photo 10;** severed and damaged roots of *Acer/Fraxinus spp* in Area 5.

#### 4.2.6 T15 Root Protection Area

The section of RPA belonging to T15 which extends into the area of proposed swimming pool terrace is in the location of a previously removed and ground out sycamore tree stump. From the findings within the site excavations and extent of stump grinding it is considered very unlikely that significant roots belonging to T15 will be present within the area.



**Photo 11;** southwest corner of site. Stump grinding area in RPA of T15 circled in red.

## 4.3 CONCLUSIONS

4.3.1 Given the above information, and in light of my knowledge and experience I have reached the following conclusions.

The roots present in the area of investigation are predominately linked to ash and sycamore trees which have been previously removed from the site, with a small amount linked to small yew trees and shrubs in the area.

The oak tree roots encountered can be reasonably attributed to the adjacent holm oak trees (T8-T10).

No evidence was uncovered to indicate that there are significant roots belonging to trees T4, T5 and T29 in the area of the proposed pool house. The laboratory root identification results are consistent with Mr Ballard's account of previously removed trees at the site. This indicates that vegetation in closer proximity to the proposed development in part has functioned as a barrier to significant root development from the mature boundary trees in the area.

It is considered unlikely that significant roots belonging to T15 will be present in the area of proposed development, given the amount of soil disturbance relating to the removal of a large sycamore stump.

The most significant impact of the pool house construction would be on the close proximity holm oaks (T8-T10) which have already been recommended for removal prior to the commencement of the proposed development, and the small, low-level yew and box trees. Replacement planting is recommended to mitigate the small reduction in amenity following the completion of site construction works.

Given the lack of roots associated with the mature oaks and lime tree along the east boundary, providing the recommendations for retained tree protection prescribed within the Arboricultural Impact Assessment (Eastwood Tree Services Document 4708) are followed, the construction of the proposed pool house building should not have an adverse impact on the roots of retained trees at the site.

## 4.4 RECOMMENDATIONS

4.4.1 With regard to all the information and conclusions contained within this report and associated appendices I would make the following recommendations.

4.4.2 Given the lack of evidence of associated roots in the area of investigation, the Root Protection Areas assigned to trees T4 oak and T5 lime could be adjusted to remove the encroachment into the site and extend into the open grass field to the east of the site.

4.4.3 The below ground level soil disturbance related to the removal of a sycamore stump near to T15 means that its RPA could reasonably be adjusted to extend towards the south of the site.

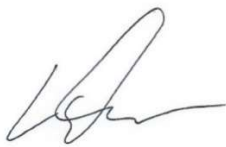
4.4.4 Adjusted Tree Constraints and Arboricultural Impact Assessment plans are included in the appendix.

## 5 COMPLIANCE STATEMENT

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### 5.1

5.1.1 Every endeavour has been made to present this report in a clear fashion, with accurate information, reasonable conclusions, and appropriate recommendations. In line with our ISO procedures the report will be reviewed and agreed before release by an appropriate person within the company group. This should ensure compliance with our quality standard. However, should you have any questions, problems or queries about this report please do not hesitate to contact us.



L. Smith.

Consulting Arboriculturist.

Date: 22<sup>nd</sup> February 2024

5.1.2 The technical content of this report and its conclusions have been checked & agreed on by Mr Elliott Brydon.



E. Brydon.

Director, Eastwood Tree Services Ltd

Date: 23<sup>rd</sup> February 2024



## 6 APPENDICES

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### 6.1 APPENDIX 1; BS5837 TREE SURVEY SCHEDULE

## BS5837:2012 Tree Survey

## Eastwood Tree Services

Client: Nether Hall  
 Project: Nether Hall BS5837 Tree Survey 2023  
 Survey Date: 18/12/2023  
 Surveyor: Lee Smith

Valley Farm  
 Blacksmiths Lane  
 Coddendam  
 Suffolk  
 IP6 9TX  
 Phone: 01449 760780

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m <sup>2</sup> ) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC	
		No	Ø (mm)	Spread (m)	Clear (m)							
Estimated Measurements												
T1 Common Oak <i>Quercus robur</i>	17.5	1	1050	N	6.3	6	M	A: 498.8 R: 12.6	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified  Gravel track beneath canopy to the north/west. Canopy spread to south estimated.	A.1.2  >40 yrs
Estimated Measurements												
T2 Common Oak <i>Quercus robur</i>	17.5	1	1115	N	6.5	8	M	A: 562.5 R: 13.38	Fair	C: Fair S: Fair B: Good	No action :: Unspecified  Gravel track beneath canopy to north/west. Canopy spread to south estimated. Wound on main stem with exposed desiccated wood and cavity.	A.1.2  >40 yrs
Estimated Measurements												
T3 Common Oak <i>Quercus robur</i>	5	1	180	N	2.8	3	Y	A: 14.7 R: 2.16	Good	C: Good S: Good B: Good	Raise low canopy :: To 5.0m  Good condition. Small stature limits value. Will require access facilitation pruning over access track to prevent damage. Light pruning to reduce overhang by 1m.	C.1  >40 yrs
Estimated Measurements												
T4 574 Common Oak <i>Quercus robur</i>	15	1	1280	N	5.5	8	OM	A: 707 R: 15	Decline	C: Fair S: Fair B: Fair	No action :: Unspecified  Dirt track beneath canopy to north/west. Tree has features of early stage veteran status. Wounding and minor cavities in canopy. Identified as having bat roost potential in ecological report.	A.1.2  >40 yrs
<b>Age Classifications:</b>	N	Newly planted	EM	Early Mature	<b>Condition:</b>		C	Crown	<b>Stems:</b>		Ø	Diameter
	Y	Young	M	Mature			S	Stem			(Eq)	Equivalent stem diameter using BS5837:2012 definition
	SM	Semi-mature	OM	Over Mature			B	Basal area	<b>ERC:</b>			Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m <sup>2</sup> ) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations		Cat ERC	
		No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T5 575											Estimated Measurements		
Common Lime <i>Tilia europaea</i>	21	1	1380	N	10	6	M	A: 707 R: 15	Fair	C: Fair S: Poor B: Fair	No action :: Unspecified	<b>B.1.2</b> 20 to 40 yrs	
				E	4.5	3					Stem diameter is approximate due to epicormic growths at base of tree. Dirt track beneath canopy to north and west. Canopy spread to south estimated. Significant cavity in main stem between 1-3m above ground level, where stem trifurcates. Significant dead wood in canopy. Minor apical dieback in canopy. Identified as having bat roost potential in ecological report.		
				S	10	3							
				W	5.8	3							
T6											Estimated Measurements		
Common Walnut <i>Juglans regia</i>	8	1	340	N	2.4	4	SM	A: 52.3 R: 4.08	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified	<b>C.1.2</b> 10 to 20 yrs	
				E	3.3	3					Stem has significant lean to south. Canopy spread to south estimated.		
				S	5	3							
				W	3.5	5							
T7											Estimated Measurements		
Common Oak <i>Quercus robur</i>	23.5	1	890	N	3.5	8	M	A: 358.4 R: 10.68	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified	<b>A.1.2</b> >40 yrs	
				E	5.8	3					Dirt track beneath canopy to north and west. Canopy spread to south estimated.		
				S	11	3							
				W	4.5	8							
T8											Estimated Measurements		
Holm Oak <i>Quercus ilex</i>	6	1	220	N	3.6	1	SM	A: 21.9 R: 2.64	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified	<b>C.1</b> 20 to 40 yrs	
				E	2	1					Small stature limits value.		
				S	2.6	1							
				W	3.5	1							
T9											Estimated Measurements		
Holm Oak <i>Quercus ilex</i>	8	1	280	N	3.4	2	SM	A: 35.5 R: 3.36	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified	<b>B.1</b> 20 to 40 yrs	
				E	1.9	2							
				S	4	2							
				W	3.5	1							
<b>Age Classifications:</b>	N	Newly planted	EM	Early Mature				<b>Condition:</b>	C	Crown	<b>Stems:</b>	Ø	Diameter
	Y	Young	M	Mature					S	Stem		(Eq)	Equivalent stem diameter using BS5837:2012 definition
	SM	Semi-mature	OM	Over Mature					B	Basal area	<b>ERC:</b>		Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m <sup>2</sup> ) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC	
		No	Ø (mm)	Spread (m)	Clear (m)							
<b>T10</b>												
Holm Oak <i>Quercus ilex</i>	8	1	230	N	2	2	SM	A: 23.9 R: 2.75	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified ----- Small stature limits value.	<b>C.1</b> 10 to 20 yrs
<b>T11</b>												
Common Lime <i>Tilia europaea</i>	8	1	830	N	3.8	5	OM	A: 311.7 R: 9.96	Poor	C: Poor S: Poor B: Poor	No action :: Unspecified ----- Significant basal cavity. Tree has recently been reduced to the main stem structure at 8m. Sparse canopy of epicormic growths.	<b>U.2</b> <10 yrs
<b>T12</b>												
Common Yew <i>Taxus baccata</i>	5	1	410	N	5.3	1	M	A: 76.1 R: 4.92	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified ----- Tree has recently been reduced. Asymetric canopy with sparse growth to east. Predominantly screening value.	<b>C.1.2</b> 20 to 40 yrs
<b>T13</b>												
Common Yew <i>Taxus baccata</i>	5	2	255 (Eq)	N	3.8	4	SM	A: 29.3 R: 3.05	Poor	C: Poor S: Fair B: Fair	No action :: Unspecified ----- Tree has recently been reduced. Sparse remaining canopy.	<b>C.2</b> 10 to 20 yrs
<b>T14</b>												
Common Lime <i>Tilia europaea</i>	5	2	595 (Eq)	N	2	4	M	A: 160 R: 7.13	Fair	C: Poor S: Fair B: Fair	No action :: Unspecified ----- Tree has been recently reduced to main stem structure. Sparse remaining canopy of epicormic growths.	<b>C.1.2</b> 20 to 40 yrs
<b>T15</b>												
Common Yew <i>Taxus baccata</i>	5	3	459 (Eq)	N	5.4	3	M	A: 95.2 R: 5.5	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified ----- Canopy has been recently reduced.	<b>B.1.2</b> 20 to 40 yrs
<b>Age Classifications:</b>	N	Newly planted	EM	Early Mature	<b>Condition:</b>		C	Crown	<b>Stems:</b>		Ø	Diameter
	Y	Young	M	Mature			S	Stem			(Eq)	Equivalent stem diameter using BS5837:2012 definition
	SM	Semi-mature	OM	Over Mature			B	Basal area	<b>ERC:</b>			Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m <sup>2</sup> ) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations		Cat ERC
		No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment		
<b>T16</b> Sycamore <i>Acer pseudoplatanus</i>	20	1	700	N	5.6	10	M	A: 221.7 R: 8.4	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified ----- Tree not included on topographical survey. Location plotted using measurements from other trees in area.	<b>B.1</b> 20 to 40 yrs
<b>T17</b> Common Yew <i>Taxus baccata</i>	6	2	311 (Eq)	N	2.5	1	M	A: 43.8 R: 3.73	Fair	C: Fair S: Fair B: Good	No action :: Unspecified ----- Slightly sparse canopy.	<b>B.1.2</b> 20 to 40 yrs
<b>T18</b> Common Horse Chestnut <i>Aesculus hippocastanum</i>	13.5	1	400	N	4	4	SM	A: 72.4 R: 4.8	Poor	C: Poor S: Poor B: Fair	No action :: Unspecified ----- Significant canker on main stem and in canopy.	<b>U.2</b> <10 yrs
<b>T19</b> Common Yew <i>Taxus baccata</i>	8	1	220	N	1.2	1	SM	A: 21.9 R: 2.64	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified ----- Suppressed by adjacent trees.	<b>C.1</b> 20 to 40 yrs
<b>T20</b> Common Yew <i>Taxus baccata</i>	8	1	250	N	3.8	3	SM	A: 28.3 R: 3	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified -----	<b>B.1.2</b> 20 to 40 yrs
<b>T21</b> Small-Leafed Lime <i>Tilia cordata</i>	11.5	1	290	N	3.3	2	SM	A: 38.1 R: 3.48	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified ----- Stem leans to west.	<b>B.1</b> 20 to 40 yrs
<b>Age Classifications:</b>	N	Newly planted	EM	Early Mature	<b>Condition:</b>		C	Crown	<b>Stems:</b>		Ø	Diameter
	Y	Young	M	Mature			S	Stem			(Eq)	Equivalent stem diameter using BS5837:2012 definition
	SM	Semi-mature	OM	Over Mature			B	Basal area	<b>ERC:</b>			Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m <sup>2</sup> ) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations		Cat ERC	
		No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
Estimated Measurements													
T22 Common Yew <i>Taxus baccata</i>	15	1	700	N E S W	3.8 4.3 5.1 4.3	1.5 1.5 1.5 1.5	M	A: 221.7 R: 8.4	Fair	C: Fair S: Fair B: Good	No action :: Unspecified  Stem diameter is approximate due to dense basal growth. Minor dead wood in canopy and some apical dieback.	B.1.2  20 to 40 yrs	
T23 Common Lime <i>Tilia europaea</i>	19	1	650	N E S W	3.9 2 3.7 3.7	4 4 4 4	M	A: 191.2 R: 7.8	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified  Stem diameter is approximate due to dense epicormic growths on main stem. Minor apical dieback.	B.1.2  20 to 40 yrs	
T24 Common Lime <i>Tilia europaea</i>	19	1	650	N E S W	3.9 2 3.7 2	4 4 4 4	M	A: 191.2 R: 7.8	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified  Stem diameter is approximate due to dense epicormic growths on main stem. Minor apical dieback.	B.1.2  20 to 40 yrs	
Estimated Measurements													
T25 Common Lime <i>Tilia europaea</i>	17	1	650	N E S W	3.9 3.9 3.7 2	4 4 4 4	M	A: 191.2 R: 7.8	Decline	C: Fair S: Fair B: Fair	No action :: Unspecified  Stem diameter is approximate due to dense epicormic growths on main stem. Minor apical dieback. Moderate dead wood in canopy.	C.1.2  10 to 20 yrs	
T26 Common Holly <i>Ilex aquifolium</i>	6	1	250	N E S W	5.7 2.5 2 3.2	1 1 1 1	M	A: 28.3 R: 3	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified  Stem leans to north. Primarily screening value.	C.2  10 to 20 yrs	
T27 Common Lime <i>Tilia europaea</i>	23	1	550	N E S W	3.6 4.3 2.3 3.1	10 10 10 10	M	A: 136.9 R: 6.6	Fair	C: Fair S: Ivy B: Fair	No action :: Unspecified  Stem diameter is approximate due to thick ivy on main stem.	B.1  20 to 40 yrs	
<b>Age Classifications:</b>	N	Newly planted	EM	Early Mature	<b>Condition:</b>			C	Crown	<b>Stems:</b>		Ø	Diameter
	Y	Young	M	Mature				S	Stem			(Eq)	Equivalent stem diameter using BS5837:2012 definition
	SM	Semi-mature	OM	Over Mature				B	Basal area	<b>ERC:</b>			Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m <sup>2</sup> ) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC	
		No	Ø (mm)	Spread (m)	Clear (m)							
<b>T28</b>												
Sycamore <i>Acer pseudoplatanus</i>	16	1	400	N	3.5	8	SM	A: 72.4 R: 4.8	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified ----- Asymmetric canopy. Suppressed by neighbouring trees.	<b>C.1</b>  20 to 40 yrs
<b>T29</b> <b>576</b>												
Common Oak <i>Quercus robur</i>	21	1	1200	N	5.1	10	M	A: 651.5 R: 14.4	Fair	C: Fair S: Fair B: Poor	Further inspection :: On internal trunk decay. ----- Significant basal wound on north side of main stem, with associated cavity. Localised hollow sounds produced by stem in vicinity of cavity when tapped with a mallet. Decayed fungal fruiting bodies attached to southeast side of main stem at location of secondary wound. Fruiting bodies too decayed to accurately identify, but potentially cerioporos squamosis. Identify as having bat roost potential in ecological report. Recommend level 3 inspection of main stem to assess structural integrity of main stem.	<b>B.1.2</b>  20 to 40 yrs
<b>T30</b>												
Sycamore <i>Acer pseudoplatanus</i>	10	1	200	N	3	4	SM	A: 18.1 R: 2.4	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified ----- Small stature limits value.	<b>C.2</b>  20 to 40 yrs
<b>T31</b>												
Sycamore <i>Acer pseudoplatanus</i>	10	1	230	N	3	4	SM	A: 23.9 R: 2.75	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified ----- Small stature limits value.	<b>C.2</b>  20 to 40 yrs
<b>T32</b>												
Sycamore <i>Acer pseudoplatanus</i>	10	1	190	N	3.5	4	SM	A: 16.3 R: 2.27	Fair	C: Fair S: Fair B: Fair	No action :: Unspecified ----- Small stature limits value.	<b>C.2</b>  20 to 40 yrs
<b>Age Classifications:</b>	N	Newly planted	EM	Early Mature								
	Y	Young	M	Mature								
	SM	Semi-mature	OM	Over Mature								
<b>Condition:</b>	C	Crown										
	S	Stem										
	B	Basal area										
<b>Stems:</b>	Ø	Diameter										
	(Eq)	Equivalent stem diameter using BS5837:2012 definition										
<b>ERC:</b>		Estimated Remaining Contributio										

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m <sup>2</sup> ) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations		Cat ERC
		No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment		
TG1											Estimated Measurements	
A Group	12	1	220	N	4.5	5	SM	A: 21.9	Fair	C: Fair	No action :: Unspecified	<b>B.1.2</b>
--				E	4.5	5		R: 2.64		S: Fair		20 to 40 yrs
				S	4.5	5				B: Fair	Group of trees not included on topographical survey. Group located adjacent to gravel track leading down to main hall. Includes yew, lime and sycamore. Trees are a reasonable distance from proposed development. Some Ivy covered stems. Lower canopies have been regularly pruned back from gravel track.	
				W	4.5	5						

<b>Age Classifications:</b>	N	Newly planted	EM	Early Mature	<b>Condition:</b>	C	Crown	<b>Stems:</b>	Ø	Diameter
	Y	Young	M	Mature		S	Stem		(Eq)	Equivalent stem diameter using BS5837:2012 definition
	SM	Semi-mature	OM	Over Mature		B	Basal area	<b>ERC:</b>		Estimated Remaining Contributio

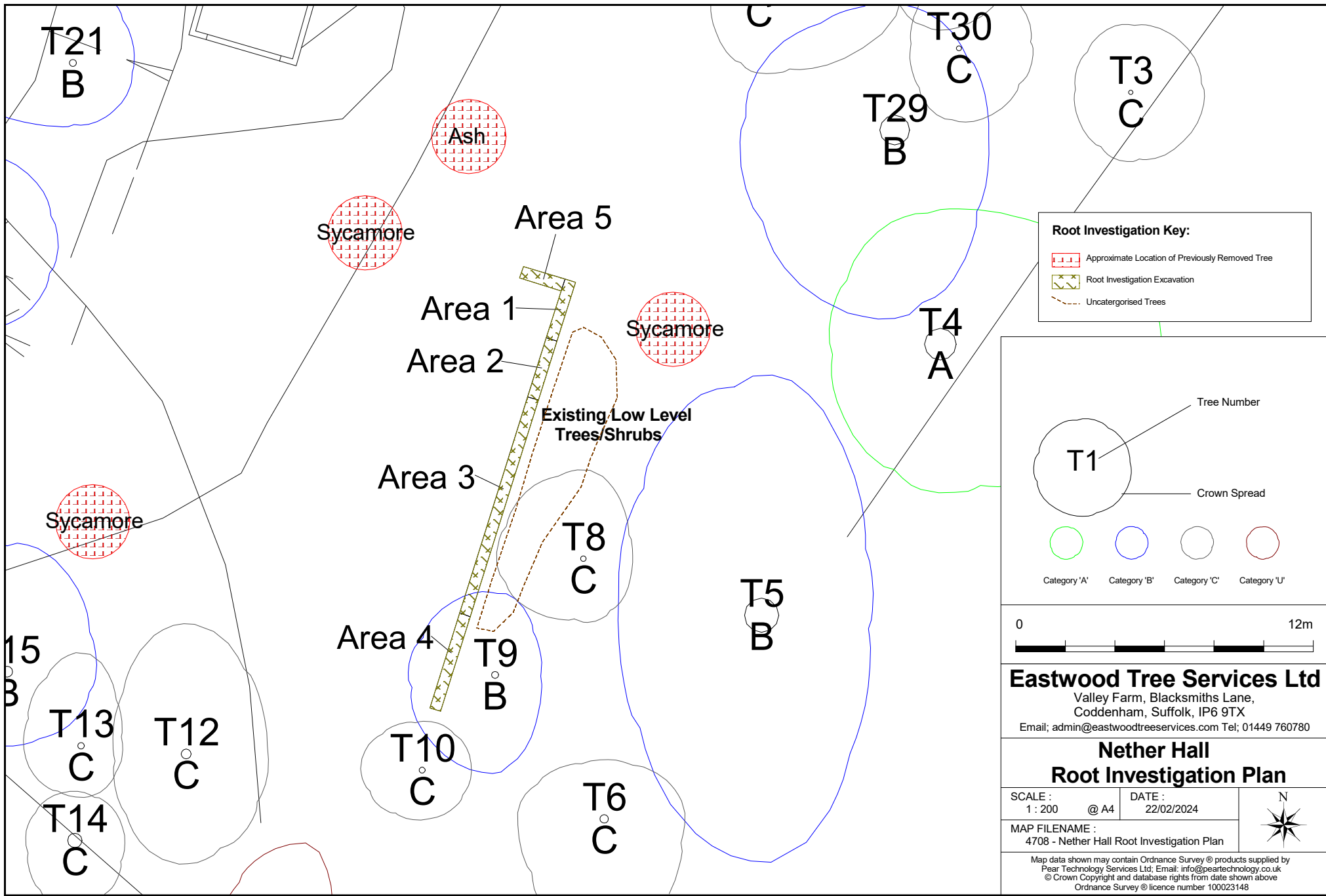


## **6.2 APPENDIX 2; SITE PLANS**

### **6.2.1 Root Investigation Plan**

### **6.2.2 Adjusted Tree Constraints Plan**

### **6.2.3 Adjusted Arboricultural Impact Assessment Plan - RPA**



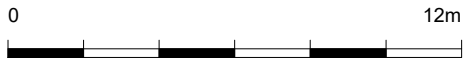
**Root Investigation Key:**

- Approximate Location of Previously Removed Tree
- Root Investigation Excavation
- Uncategorised Trees

Tree Number

Crown Spread

Category 'A'   Category 'B'   Category 'C'   Category 'U'



**Eastwood Tree Services Ltd**  
 Valley Farm, Blacksmiths Lane,  
 Coddendam, Suffolk, IP6 9TX  
 Email; admin@eastwoodtreeservices.com Tel; 01449 760780

**Nether Hall  
 Root Investigation Plan**

SCALE : 1 : 200 @ A4      DATE : 22/02/2024

MAP FILENAME : 4708 - Nether Hall Root Investigation Plan



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# Eastwood Tree Services Ltd

Valley Farm, Blacksmiths Lane,  
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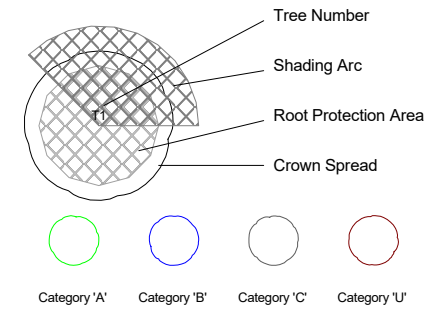
## Nether Hall Adjusted Tree Constraints Plan

SCALE : 1 : 500 @ A4 DATE : 22/02/2024


MAP FILENAME : 4708 - Nether Hall Adjusted TCP

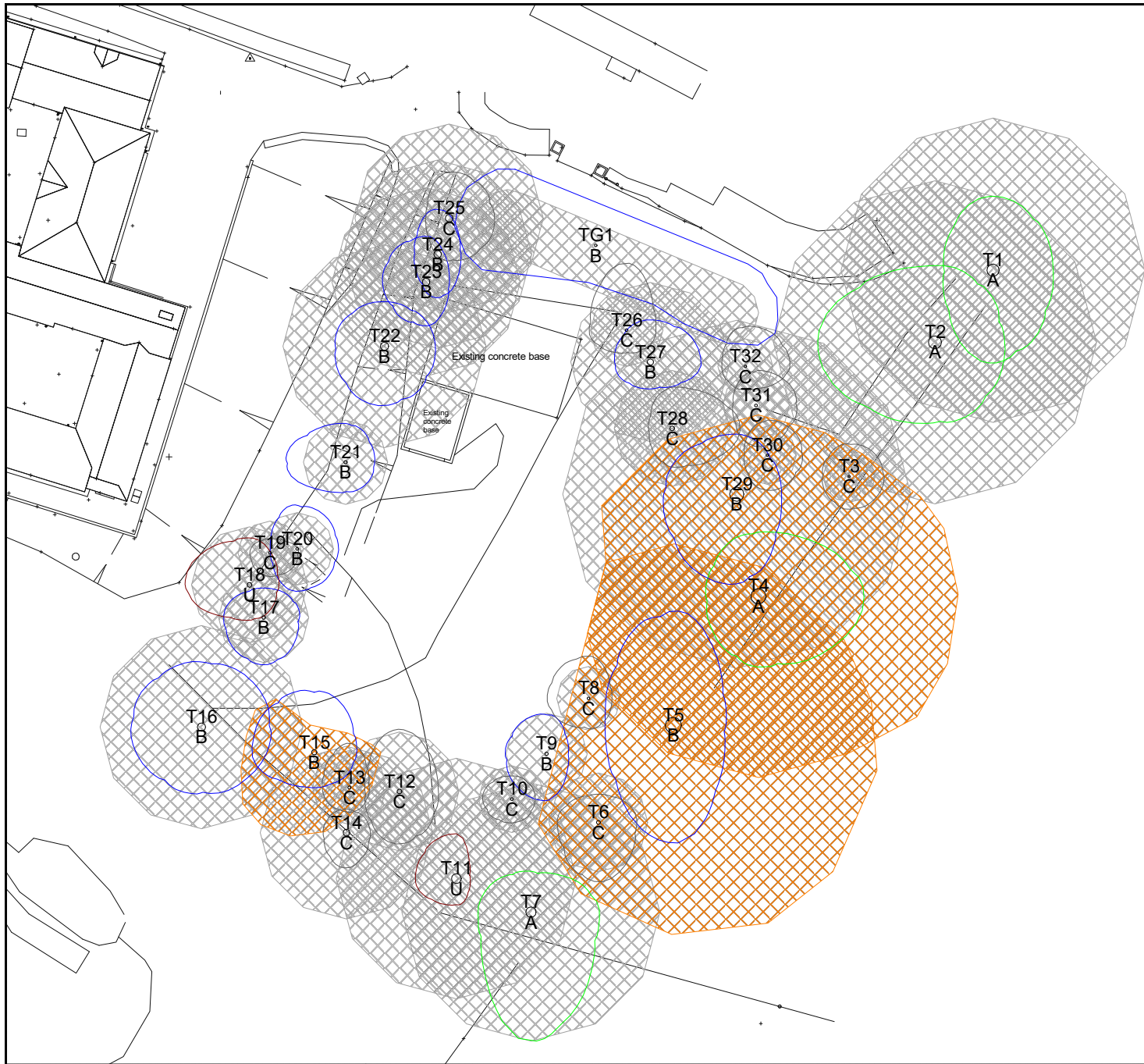


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### Tree Constraints Key

 Adjusted Root Protection Area



# Eastwood Tree Services Ltd

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 Coddenham, Suffolk, IP6 9TX  
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## Nether Hall Adjusted AIA Plan Root Protection Areas

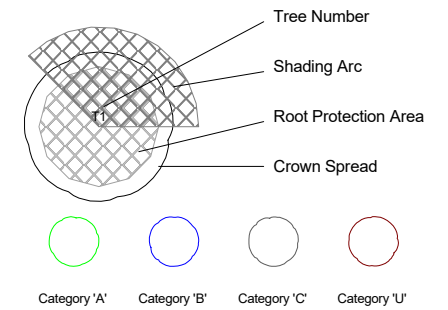
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DATE :  
 23/02/2024



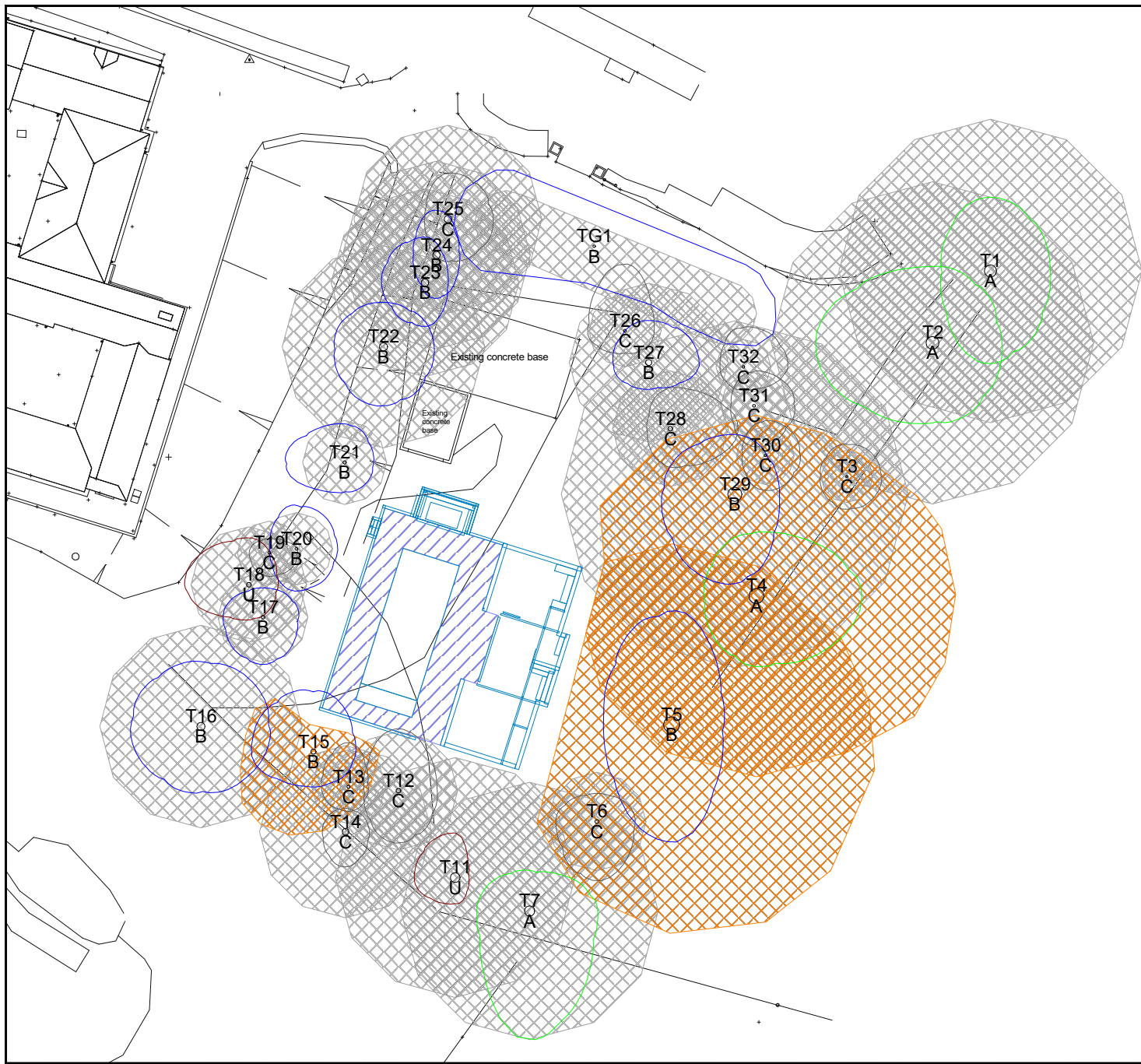
MAP FILENAME :  
 4708 - Nether Hall Adjusted AIA - RPA

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### Proposed Development Key:

- Adjusted Root Protection Area
- Proposed Paving
- Proposed Ground Floor



### 6.3 APPENDIX 3; ROOT IDENTIFICATION REPORT

Eastwood Tree Services Ltd  
Valley Lodge  
Valley Farm Blacksmith Lane  
Coddtenham  
Ipswich  
Suffolk  
IP6 9TX

Intec  
Parc Menai, Bangor,  
Gwynedd, North Wales  
LL57 4FG  
Tel: 01248 672652  
Fax: 01248 672601

## ROOT IDENTIFICATION

### Nether Hall, Packenham,

Report Date: 19 February 2024  
Our Ref: R57047

Sub Sample	Species Identified		Root Diameter	Starch
<b>Area 1:</b>				
to 3m	<i>Fraxinus</i> spp.	1	3 mm	Moderate
to 3m	<i>Acer</i> spp.	2	8 mm	Absent
<b>Area 2:</b>				
to 3m	<i>Acer</i> spp.		6 mm	Low
<b>Area 3:</b>				
to 3m	<i>Fraxinus</i> spp.	3	7 mm	Moderate
to 3m	<i>Acer</i> spp.		7 mm	Low
<b>Area 4:</b>				
to 3m	<i>Taxus</i> spp.		12 mm	Abundant
to 3m	<i>Acer</i> spp.	4	8 mm	Low
to 3m	<i>Quercus</i> spp.		2 mm	Abundant
<b>Area 5:</b>				
to 3m	<i>Lonicera</i> spp.	5	9 mm	Abundant
to 3m	<i>Ilex</i> spp.		3 mm	Absent

#### Comments:

- 1 - Plus 1 other also identified as *Fraxinus* spp.
- 2 - Plus 1 other also identified as *Acer* spp.
- 3 - Plus 2 others also identified as *Fraxinus* spp.
- 4 - Plus 2 others also identified as *Acer* spp.
- 5 - Plus 1 other also identified as *Lonicera* spp.

*Fraxinus* spp. include common ash.

*Acer* spp. are maples, including sycamore, Norway maple, and Japanese maples.

*Taxus* spp. are yews.

*Quercus* spp. are oaks (both deciduous and evergreen).

*Lonicera* spp. are honeysuckles, both climbing and shrub forms; related species include *Symphoricarpos* spp. (snowberry).

*Ilex* spp. are hollies.

**Signed:** M D Mitchell

Unless we are otherwise instructed in writing, the above sample material will normally be disposed of 6 years after the date of this report.



Registered in England No. 295427 Registered Office: Unit 4 Linnet Court, Cawledge Business Park, Alnwick, NE66 2GD

## 6.4 APPENDIX 4; QUALIFICATIONS AND EXPERIENCE OF AUTHORS

### Arboricultural Consultant.

Lee Smith *Cert.Arb. Level 4. (ABC) Professional Tree Inspection (Lantra)* has worked within the field of arboriculture since 2009. He has experience in amenity and utility arboriculture contracting.

He has undertaken arboricultural consultancy work throughout the south of England. His experience includes tree risk assessment and management for domestic and commercial customers, use of specialist decay detection equipment, surveys, and respective reports to BS5837;2012, and surveys for mortgage and insurance purposes.

He attends regular workshops, training events and seminars to keep his knowledge current.

### Director, Eastwood Tree Services Ltd & Arboricultural Advisor.

Elliott Brydon *Cert.Arb Level 4 (ABC)* has worked within arboricultural contracting since 2001. Since 2011 he has been a senior contract manager and advisor for high profile arboricultural contractors and has now taken on the position as a Director at Eastwood Tree Services.

As Contracts Manager his primary role was to give technical advice and recommendations to corporate and private clients. This role also included the delivery and smooth running of many private and corporate contracts. He continues these operations in his role as Director, as well as planning the future development and progression of services provided by Eastwood Tree Services.

He regularly produces detailed, specific risk assessments and technical method statements, site surveys and completes tender documents.

## 6.5 APPENDIX 5; STANDARDS OF WORK

Work recommended within this report is, where appropriate, in accordance with British Standards (BS) 3998; 2010 Tree work Recommendations, BS3936: 1992, Nursery Stock, BS4043: 1966 Transplanting of Semi Mature Trees, BS8545 2014; Trees; From Nursery to Independence in the Landscape – Recommendations, or other relevant standards. These current industry documents should be considered as a basic minimum level of performance. Anyone who conducts tree work & arboricultural operations should be able to demonstrate their knowledge, understanding & commitment to all relevant BS recommendations, industry good practice and current safety legislation.

The Trees & Timber industry Sector not only strives to comply with the above, but certain areas of its work are strictly governed by Acts of Parliament. If work includes the application of any Pesticide or Biocide (including weed killers, insecticides, and fertilisers) the operators must hold the correct application licence. Work around live overhead conductors is also strictly controlled and specific qualifications and authorisations are needed.

The Arboricultural Association (AA) holds and regulates a register of approved contractors. The contractors that are approved by them are audited on biannual basis.

The HSE will prosecute companies who appoint tree work contractors that are not competent or cause harm to their staff or other people affected by their acts or omissions. In recent years insurance companies have started stating if uninsured contractors have accidents, they will seek to claim losses against the parties who issued instruction/employed the contractor, be they domestic or commercial.

Your trees are a valuable commodity, which deserve superior quality care and attention. They will look better, last longer and provide years of pleasure if looked after by people who know what to do and how to do it. We would therefore strongly recommend that when appointing a contractor to do tree work you only use Arboricultural Association Approved Contractors. This is to protect your liabilities and ensure consistent exacting standards of work.

The Arboricultural Association can be contacted on +44 (0)1242 522152 or [www.trees.org.uk](http://www.trees.org.uk). They will be happy to give you contact details for the approved contractor closest to you.