



**Fallen&Found Arboriculture Ltd**

Company No: 11872391 / VAT Registration 317617696

## **Aerial Tree Inspection**



Q0333\Cox\CIR\_2023

Wednesday, 2nd August 2023

**53**

**Oaktree**

**Drive**

**Emsworth**

**Hampshire**

**PO10 7UJ**



02/08/2023

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| Quality Control |              |            |                                 |
|-----------------|--------------|------------|---------------------------------|
| Author          | Oliver Lower | Checked by | Stephanie Smith<br>(02/08/2023) |



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# 1. Introduction

## 1.1. Instruction

1.1.1. I have been instructed by you (Mr John Cox) to conduct an aerial inspection of a stem cavity located within the main stem of a single Common Oak tree (*Quercus robur*) growing within woodland adjacent to your property located at 53, Oaktree Drive, Emsworth, Hampshire PO10 7UJ.

## 1.2. Scope

1.2.1. The purpose of this inspection is to visually inspect a single cavity within the tree's stem, recording its dimensions, taking photographs, and making pertinent recommendations regarding its biomechanical significance.

## 1.3. Document disclosure

1.3.1. I have not been provided with any supplementary documentation regarding the subject tree/s, neither has there been any other third-party input or detailed schematic used for the purposes of this report.

## 1.4. Ecological constraints

1.4.1. Any works on or around any of the trees or hedges contained within or located outside of the site should bear in mind The Wildlife & Countryside Act 1981 as amended the Countryside and Rights of Way Act 2000. All wild Birds are protected by the Wildlife and Countryside Act - 1981, Conservation - Natural Habitats - Regulations 1994 and Countryside Rights of Way Act – 2000. This makes it an offence to intentionally kill, injure, take, possess or trade in any wild animal listed and prohibits interference with places used for shelter or protection, or intentionally disturb animals occupying such places. The Bird Breeding season extends from the 1<sup>st</sup> of March to the 31<sup>st</sup> of July, as a result, all disturbing activities should be avoided during these times.

1.4.2. All species of Bat and their breeding sites or resting places (roosts) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2010 and Section 9 of the Wildlife and Countryside Act 1981. It is an offence for anyone intentionally to kill, injure or handle a Bat, to possess a Bat (whether live or dead), disturb a roosting Bat, or sell or offer a Bat for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by Bats for shelter, whether they are present or not. These issues are outside of my area of experience and separate advice from a suitably qualified ecologist should be sought in the instance that any of these constraints apply to this site.

## 1.5. Qualifications and experience

1.5.1. The conclusions and recommendations contained in this report are formed from my own site observations and the provided information. The opinions expressed within it are based on my arboricultural experience. My qualifications and experience in arboriculture are included in Section 5 at the end of this document.

## 1.6. Background information

1.6.1. A ground level inspection of the tree has been conducted by Ms Sarah Johnston (Arboricultural Consultant) who identified the cavity. The biomechanical significance of the cavity requires quantification in order to inform further management recommendations regarding the tree.



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## 1.7. Legal protection of trees

1.7.1. This report is not associated with the legal protection of the trees included in this survey. The presence of any statutory protection including Tree Preservation Orders and Conservation Areas should be ascertained by the owner/contractor prior to the commencement of any potential tree works at the site.

## 1.8. Survey methodology

1.8.1. The survey will be conducted using the Visual Tree Assessment (VTA) techniques which were devised by Prof. Dr Claus Mattheck & Ass. Jur Mrs Helge Breloer at the Karlsruhe Research Centre, Germany in 1994. Assessment and recommendations given or made have been done so using my own expertise and judgement given the situation and application. Component parts of tree structure will be recorded using a compass to give aspect and a laser measure to indicate height. The recorded data and any pertinent observations will be categorised in order of importance.

| Inspection Instruments    |                         |                  |                         |
|---------------------------|-------------------------|------------------|-------------------------|
| Height                    | Haglöfs ECII Clinometer | Assessment tools | Thorex sounding mallet. |
| Distance                  | Laser Measure           |                  | 1m inspection pin.      |
| DBH (Diameter @ 1.5m agl) | 10m Diameter tape       |                  | Binoculars              |

## 2. Location

### 2.1. Site visit

2.1.1. I undertook a site visit on the morning of Wednesday 2<sup>nd</sup> August 2023 for the purpose of conducting an aerial professional tree inspection of the single cavity within the tree's stem. The weather during the inspection was overcast, rainy and windy. Overall, the weather did not pose a significant constraint on the surveying process.

| Conditions (Avg)      | Result |
|-----------------------|--------|
| Temperature           | 16°C   |
| Cloud Cover           | 100%   |
| Precipitation         | 90%    |
| Humidity              | 100%   |
| Wind Speed (Beaufort) | F4     |





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## 2.2. Site location

2.1.1. The subject tree is located within woodland close to the northern garden boundary of your property.

## 2.3. Site description

2.3.1. The property comprises of a semi-detached main house with a driveway and garden which extends around the northern and western sides of the min dwelling. Access to the garden is gained via a path leading in a northerly direction from the front of the house and driveway. The garden comprises of small herbaceous borders and numerous potted plants. The overall topography of the site is level with firm ground conditions throughout. The surrounding environment consists of a medium sized residential estate with predominantly privately owned properties. Holy Bank woods is located adjacent to the northern and western property boundaries. The subject tree is growing within this woodland which is a designated nature reserve.

# 3. Inspection & observations

## 3.1. Tree dimensions

Species: Common Oak (*Quercus robur*)

Number of trees: 1

Height: 23.4m

Stem Diameter @ 1.5m agl: N/A

Crown radius average spread: N/A

Height of crown clearance: N/A

Age class: Mature

Vitality: Fair

Above ground targets: Main House; Adjacent Properties; Neighbouring Shed; Greenhouse;

Neighbouring Garden

## 3.2. Initial Observations

3.2.1. The subject tree is large sized with a canopy which does not appear to have been subjected to historic pruning. Obvious apical dieback within the tree's upper canopy can be observed from ground level<sup>1</sup>. The tree has a single stem which is straight and does not significantly lean. The tree is located within striking distance of numerous above ground targets and areas of moderate, static occupancy from property owners.

## 3.3. Roots and root buttresses

3.3.1. Not assessed as part of this inspection.

## 3.4. Stem

3.4.1. A large cavity can be observed on the western side of the tree's stem at a height of 6.8 meters above ground level<sup>2</sup>.

3.4.2. The trees stem has a diameter of 966mm when measured at the point of the cavity approximately 7m above ground level.

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<sup>1</sup> Appendix A, Figure 1

<sup>2</sup> Appendix A, Figure 2



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3.4.3. The cavity measures 1500mm in height and has a width of 180mm. When measured with an inspection pin, the deepest point of the cavity extends horizontally into the tree's stem to a depth of 400mm<sup>3</sup>.

3.4.4. Mallet sounding of the tree's stem both above and below the cavity did not produce a resonance characteristic of internal decay or hollowing.

3.4.5. The exposed heartwood within the cavity is dry and hard, with wood boring insect holes. I extracted a small amount of wood fibres during the inspection. This sample crumbled and became dusty when rubbed between finger and thumb.

3.4.6. Squirrel damage and signs of historic nesting was observed around the edges and within the cavity.

3.4.7. The cavity is encompassed by significant callus formation and reaction wood.

### 3.5. Branch attachments and branches

3.5.1. Not assessed as part of this inspection.

### 3.6. Leaves and shoots

3.6.1. Not assessed as part of this inspection.

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<sup>3</sup> Appendix A, Figure 3



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## 4. Conclusion

The subject tree has apical dieback and a sparse canopy. A reduction in vitality and thinning canopy has likely been caused by the development of the residential estate and associated ground works approximately 8yrs ago.

The Cavity which I inspected has very large reaction wood edges around its opening. These are sometime referred to as gate posts (Claus Mattheck, 1994), they are formed of highly lignified wood referred to as wound wood. Due to their high lignin and other polyphenolic substances, they are harder and more durable than normal wood associated with the tree's stem. The wood associated with this biomechanical feature has the ability to withstand higher tensile and compressive forces which compensates for the strength loss which would otherwise be associated with the cavity. The forces exerted upon the tree are dissipated throughout the trees structure according to the axiom of uniform stress (Claus Mattheck, 1994). Trees self-optmise their structure reinforcing those areas which may become weakened from injury in response to abiotic forces<sup>4</sup>.

Despite the points discussed above, the cavity remains an easily observable biomechanical feature which requires consideration in relation to the trees size, age, biological condition, and the proximity of numerous above ground targets within striking distance of the subject tree. All of these factors increase the risk level associated with the tree.

In my professional opinion, from a planning perspective, the condition of the tree and the presence of a biomechanical defect would certainly reduce its retention categorisation.

It is my professional opinion that the cavity which I have assessed during my inspection does not significantly increase the risk of tree failure due to its presence. This opinion is based upon my own experience, training, modern biomechanics and known failure criterion.

You have made me aware of the failure of a comparably sized Oak tree which fell into your garden during adverse weather within the last two years. This tree likely failed due to a change in hydrology brought about by excavations, compaction and alterations in soil heights. My concern is that the subject tree may also have been or is being affected by the same conditions. Apical dieback and foliar thinning are evident throughout the trees uppermost canopy which is characteristic of these detrimental factors.

## 5. Recommendations

The canopy of the tree should be reduced by up to, but not exceeding 2.5m. All deadwood and any structurally compromised branches should also be removed during this process. X2 lateral branches extending south over the garden emanating from the main stem at an approximate height of 4.5m should be removed. These branches cause disproportionate shading of the garden. These works are prescribed to reduce the wind force dynamic loading of the trees structure.

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<sup>4</sup> i.e., wind, rain, snow etc.



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The subject tree should be re-inspected in 2yrs time by a fully qualified arboriculturist holding a valid LANTRA Professional Tree Inspection Qualification.

## 5.1. Considerations

- 5.1.1. All tree works should be conducted by a fully qualified and insured arboricultural contractor conforming to BS 3998: 2010 "Tree Work – Recommendations." The contractor should prepare and fill out all necessary Risk Assessments appropriate for the task/tasks and adhere to current health and safety standards. A list of Arboricultural Association approved contractors can be found on their website [www.trees.org.uk](http://www.trees.org.uk).
- 5.1.2. The TPO status or the presence of any Conservation Areas, SSSI/NNR/SAC or Schedule Monument designations applicable to the site and trees discussed in this report should be confirmed as a priority. In the event of legal protection being afforded to the trees, all prescribed tree works will require the written consent of the Local Planning Authority prior to their commencement.
- 5.1.3. All contractors should implement appropriate Biosecurity measures. The Arboricultural Associations, Application of Biosecurity in Arboriculture, Guidance Note 2<sup>5</sup> provides guidance on the responsibilities of Tree Work Contractors.
- 5.1.4. Any vegetation clearance and other tree works associated with the management of the trees must take into consideration the Bird Breeding season<sup>6</sup>.

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<sup>5</sup> <https://www.trees.org.uk/Help-Advice/Biosecurity>

<sup>6</sup> Section 7



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## 6. Additional information

### 6.1. Limitations of the report

6.1.1. As living dynamic structures inhabiting a constantly changing environment, trees are exposed to pests, diseases, extremes of weather and rooting environment alterations. This report is based upon the condition of the tree/trees at the time of inspection. As a result, the contents of this report are an assessment of the tree/trees at the time of the survey. Reassessment may be required in the event of an extreme weather event, physical site changes or obvious changes in physical condition or appearance. Notwithstanding this report can only be regarded as valid for twelve months from the date of its issue 02/08/2023. The survey and its conclusions are based on the data gleaned by a ground level inspection. The inspection does not benefit from a detailed third-party technical report. The conclusions and recommendations contained in this report are formed of my own opinions based on arboricultural experience and modern tree assessment techniques.

6.1.2. Only visible parts of the tree will be inspected. Areas which are obstructed (ivy-clad or covered by dense foliage) may need to be cleared in order that visual assessment can be carried out. In this instance, the recommendations to facilitate such inspection will be made. Defects noted from ground level may require further investigation to ascertain their significance. In this instance, a climbing inspection may be recommended.

6.1.3. Trees with external signs characteristic of internal issues will be recommended for further surveying using modern electronic internal examination equipment. Recommendations and suggestions about non-arboricultural matters may be given. This may include built structures, construction techniques, and soil data. Any opinion expressed as such should be viewed as provisional and confirmation from a qualified professional sought.



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## 7. Appendix A

Figure 1





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Figure 2





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Figure 3

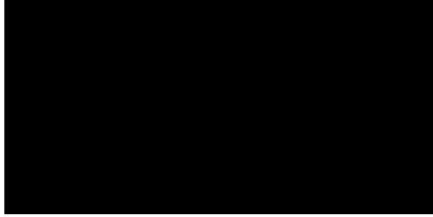




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## 8. Qualifications

This report was constructed and written by



**Oliver Lower** *ND Arb L3, Dip Arb L4, Dip Arb L6*

Director & Principal Arboricultural Consultant

I have 23yrs experience in the Arboricultural industry having worked in both the UK and New Zealand during that time. and have attained the following accreditations a Level 4 Diploma (ABC) & Level 6 Diploma (ABC) in Arboriculture as well as a LANTRA Professional Tree Inspection Qualification. I provide consultancy service to a number of local government authorities and tutor in Arboriculture at Merrist Wood college. A comprehensive list of my qualifications, experience and training can be found on LinkedIn using this link: <https://www.linkedin.com/in/oliver-lower-527a7377/>

### Qualifications:

**Professional Tree Inspection (LANTRA)**

**National Diploma Arboriculture L3**

**Level 4 Diploma Arboriculture (ABC)**

**Level 6 Diploma Arboriculture (ABC)**



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