



Title:

Detailed Tree Inspection Using  
Internal Decay Detection Equipment

Date:

13 August 2026

Site Address:

4 Greyladyes  
School Road  
Bursledon  
SO31 8BX

Ref:

TS/65126/AC

Client:

Mr & Mrs Osmond

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## 1.0 Terms of Reference

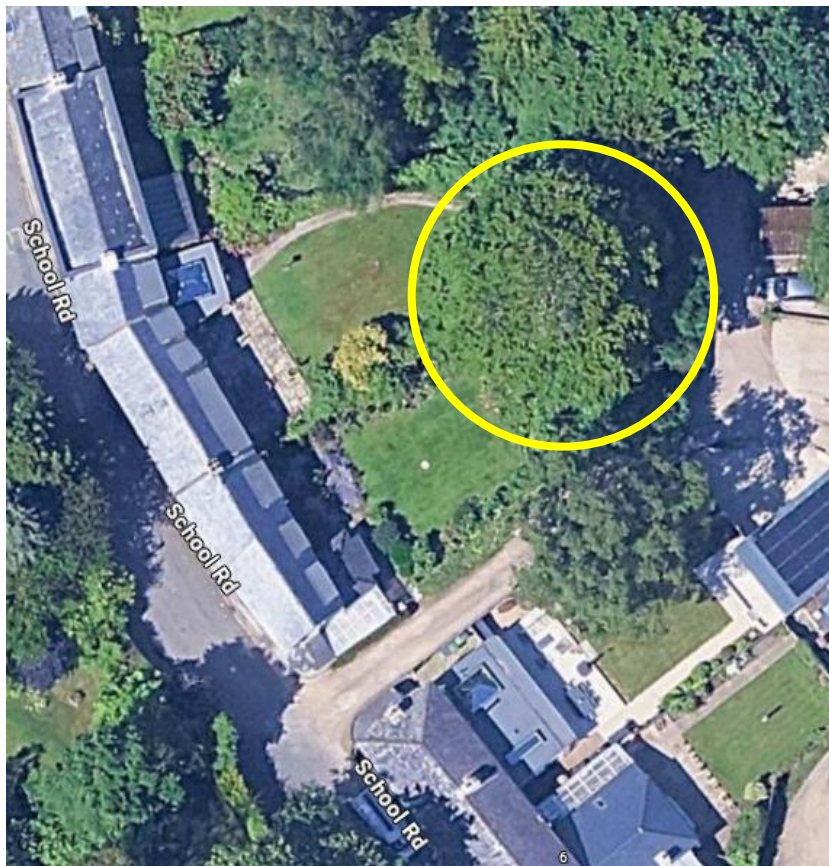
- 1.1 Treecall Consulting is instructed by the client to investigate the internal condition of one tree at the site using decay detection equipment and to provide a report based on the results that gives management recommendations to minimise risk to people and property.

## 2.0 Report Limitations

- 2.1 This report is based on the information received from the PiCUS Tomograph and arboricultural findings made at the time of the site visit. The recommendations are based on my experience and knowledge in arboriculture, details of which are in Appendix A.
- 2.2 The report is for the sole use of the client and was produced in line with the terms of reference. It should not be used for any other purposes or by any other parties.

## 3.0 Introduction

- 3.1 The tree is a beech *Fagus sylvatica* situated to the rear of the property, as shown below:



Imagery ©2026 Airbus, Map data ©2026

- 3.2 The trees on the site have not been inspected by Treecall Consulting before and no previous tree survey information was provided.

#### 4.0 Method of Inspection

- 4.1 The PiCUS Sonic Tomograph– manufactured by IML Electronic – is an instrument for the detection of decay and cavities in standing trees.
- 4.2 The equipment consists of a series of sensors that are attached to nails (measuring points) driven through the bark in a horizontal plane around the circumference of a tree. To carry out the test, each nail is struck in turn and the sensors attached to the remaining nails measure the time taken for the sound wave to reach them. Where a sound wave takes longer than expected to travel between measuring points, this indicates that it has either passed through wood with altered characteristics or diverted around a crack or hollow.
- 4.3 The software collates and interprets this information to display a cross section of the tree's stem showing the variations in speed of the sound waves in different colours. A brown or buff colour represents high speeds, indicating good quality wood with insignificant strength loss. Purple, blue and white colours represent progressively lower speeds, correlating with greater decay or dysfunction, leading to hollows at the white end of the spectrum. The green colour represents a relatively small decrease in speed, indicating wood where there is likely to be some incipient decay, or the beginning of alterations to wood characteristics.

#### 5.0 Observations and Test Results

##### 5.1 Visual Observations

- 5.1.1 The tree is approximately 20m in height, with a radial crown spread of 8m. Its stem diameter at 1.5m above ground level is approximately 120cm.
- 5.1.2 The crown of the tree is slightly sparse. There is an old stem wound on the south side of the stem extending from ground level up to around 2m. There are a number of black, crusty fungal fruit bodies around the base of the stem, by measuring points 4, 6, 7, 8 & 9 – their appearance is consistent with *Kretzschmaria deusta*. There are also patches of exudate by measuring points 8/9 & 10.



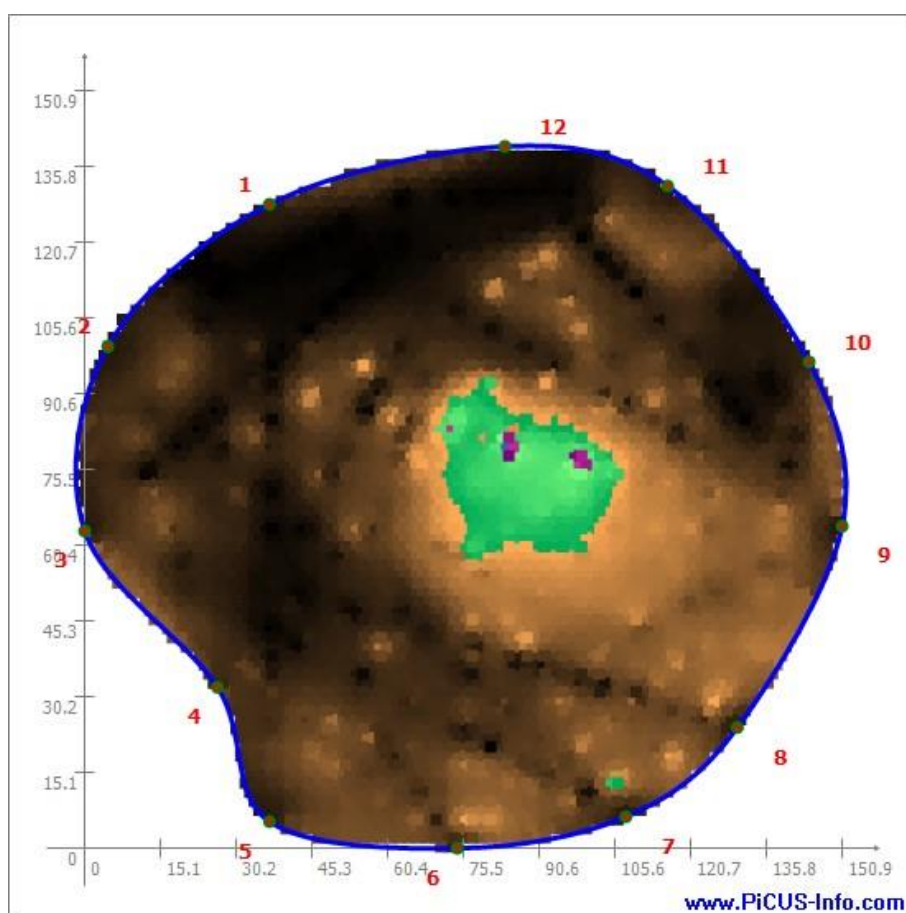
Fruit bodies, exudation and damage at base of stem

## 5.2 Tomograph Readings

5.2.1 One reading was taken at 20cm above ground level, as indicated by the dashed line on the image below. Twelve measuring points were used, with point 1 located on the north side of the stem.



5.2.2 The resultant tomogram below shows an area in the centre of the stem that is shaded green, indicating that the equipment has detected a small change in wood properties in that area.



## 6.0 Appraisal

- 6.1 The results of the tomography need to be treated with considerable caution due to the unique type of decay caused by *K. deusta*. This subject is discussed specifically in Schwartze (2000)<sup>1</sup> – the authoritative source on the matter – wherein it is explained that even with decay initiated in the wood a stiff skeleton of relatively undegraded xylem rays persists, and these are particularly effective in transmitting sound waves.<sup>2</sup> Thus, unlike with other species of fungi, even when decay is present, detection equipment that relies on sound waves does not detect a significant change in wood properties. It goes on to say that “...it is known that trees infected by *Kretzschmaria* may become hollow, because of subsequent colonisation by other decay fungi... However, that is not the rule and in most instances trees infected by *Kretzschmaria* fail long before the cross-section of the stem becomes hollow”.<sup>3</sup> In this case the stem is not hollow but there is certainly some degree of change showing. In the absence of any signs of a secondary pathogen, this could mean that some of the stiff skeleton referred to above is no longer fully intact.
- 6.2 As noted above, the fruit bodies are present around the southern part of the stem and so it can be assumed that this area has been fairly thoroughly colonised. However, the absence of fruit bodies does not indicate an absence of fungi and so it is certainly possible that the remainder of the stem has also been colonised, though perhaps to a lesser extent.

## 7.0 Conclusion

- 7.1 The presence of fruit bodies is a clear indication that the tree has been colonised by *K. deusta*. If any other decay fungus were implicated the apparently limited extent of the decay would not be a cause for concern. However, given the documented difficulty of picking up decay associated with *K. deusta* using sonic tomography it seems likely that the actual extent is significantly greater, as will be the associated impact on the structural integrity of the tree's stem. Because of this, the frequency with which the fungus is associated with tree failure and the propensity for such trees to fail without warning, my conclusion is that the tree has an unacceptably high likelihood of failure.

## 8.0 Recommendations

- 8.1 The tree should be felled within 6 months, or as soon as possible once approval has been given by the local planning authority.

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<sup>1</sup> Schwarze FWMR, Engels J, Mattheck C, 2000, *Fungal Strategies of Wood Decay in Trees*, Springer-Verlag, Berlin Heidelberg (See bibliography)

<sup>2</sup> p.190

<sup>3</sup> p.198

- 8.2 This work should be carried out by qualified arboricultural contractors working to industry best practice and in accordance with British Standard 3998:2010<sup>4</sup>. All tree management work must take account of the Wildlife and Countryside Act, 1981, as amended by the Countryside and Rights of Way Act 2000, and the Conservation of Habitats and Species Regulations 2017. This legislation makes it a criminal offence to disturb the nests and to injure or kill nesting birds or bats.
- 8.3 Following felling a new tree should be planted to maintain canopy cover. Any large canopy native broadleaved species would be suitable, including English oak (*Quercus robur*), lime (*Tilia* sp.) and sweet chestnut (*Castanea sativa*). Trees should be of standard stock, with a stem girth of 8-12cm (at 1m above ground level) and height of 2.5-3.5m. The trees should be supplied and planted in accordance with British Standard 8545:2014<sup>5</sup>.

Andrew Cleaves MArborA

Principal Arboricultural Consultant



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<sup>4</sup> British Standards Institution, 2010. *Tree work – Recommendations*. London: BSI Standards Limited

<sup>5</sup> British Standards Institution, 2014. *Trees: from nursery to independence in the landscape – Recommendations*. London: BSI Standards Limited

## Appendix A: Qualifications and Experience

### Andrew Cleaves

**BA (Hons), Dip Arb L6 (ABC), MArborA**

Andrew has over 15 years' experience in the arboricultural industry and is a Professional member of the Arboricultural Association.

His career began at Bournemouth Borough Council (now part of BCP Council) where he was part of the development management team dealing with all aspects of the management of protected trees and providing advice and guidance regarding trees and construction. Andrew then joined Treecall Consulting as an Arboricultural Consultant where he has further developed his skills and deepened his knowledge of trees through both ongoing professional development and practical experience of serving a wide range of private clients. In 2025 he took on the ownership and management of the consultancy business.

Andrew has achieved the Level 6 Diploma in Arboriculture, which is endorsed by the Royal Forestry Society and is the premier qualification within the arboricultural profession. He also holds the Royal Forestry Society Certificate in Arboriculture, the Arboricultural Association Technician's Certificate in Arboriculture and the LANTRA professional tree inspection certificate.

The information presented in this report is based on the information provided and site observations. Conclusions and recommendations are the result of experience within the arboricultural industry.



## Appendix B: Select Bibliography

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