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TREE / Picus REPORT on 1 Beech Tree
Landwades Stud, Kentford Road, Moulton
Carried on the 2nd of February 2021

Prepared for
Anglia Tree Contractors

Prepared by

Cliff Freed

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**Beech Tree ~ Tree inspection and Picus testing carried out on the 2nd of February
Landwades Stud, Kentford Road, Moulton**

1 Instructions

I have been instructed by [Anglia Tree Contractors](#) to carry out a sonic decay test using picus decay testing equipment on a Beech Tree in response to concerns from a recent survey.

2 Report limitations

- 2.1 Only the one Tree has been picus tested and evaluated.
- 2.2 Recommendations were made based on the Picus decay test and visual tree inspection.
- 2.3 Trees are living organisms whose health and condition can change rapidly. I would suggest that the trees are monitored on a yearly basis. Conclusions and recommendations are only valid for a period of one year.
- 2.5 Recommendations specified will limit the possibility of whole or part failure in normal climatic conditions. However, severe extremes of weather cannot be predicted, and work specified to eliminate all eventualities would be impossible. Trees should be inspected after high winds and any other weather extremities.

3 Site details

The Mature Beech Tree is situated within a belt of woodland and is in close proximity to a boundary fence with neighbouring property. There have been several trees removed in the vicinity of the Beech tree, this may have been as a result of storm damage.

4 Findings

Common Beech *Fagus sylvatica*

The mature Beech is a mature specimen standing approximately 18 metres in Height, there is very little deadwood within the crown. The tree has been crown lifted in the past I would assume to allow more light to the neighbouring property. There is an open cavity at approximately 4 metres, this is where the decay test was taken.

1. Introduction

1.1. How sonic tomography works

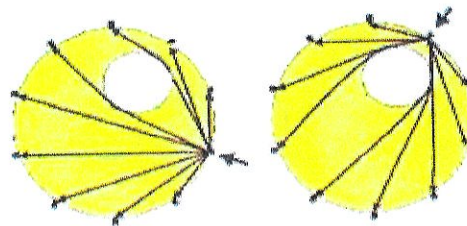
The PiCUS[®] Sonic Tomograph is an instrument for the virtually non-invasive detection of decay and cavities in standing trees.

It uses the fact that the velocity of sound in wood depends on the modulus of elasticity and the density of the measured wood. Most damages, which impair the safety against fracture of trees, in particular cavities, white rots, and brown rots reduce elasticity and density in wood. These wood characteristics vary both within a tree species, and between the tree species, only large damages can be found by a comparison of individual sound velocities, which were measured on a specific tree, with tabulated standard values.

The PiCUS[®] Sonic Tomograph therefore uses relative sound velocities so that the system calibrates itself automatically at each measured cross-section.



The PiCUS[®] Sonic Tomograph consists of a set of sensors (typically 8 to 12), which are strategically placed around the tree. Each sensor is connected to a pin or nail (0.8 - 2 mm in diameter), which is tapped into contact with the wood - onto the latest tree ring - by a pin hammer at each inspection point. The sensors record the times of flight of sound waves manually induced by knocking with a small hammer. From the times of flight of the sound wave and the distances between the sensors, apparent sound velocities are calculated. Since every sensor records time of flight from every impact, a dense network of sound velocities across the cross-section is collected. From these data, a PC or pocket PC instantly calculates a full coloured tomogram of the trees cross-section right at the tree. This tomogram gives information about the presence of decay and cavities within the tree. In this tomogram many features, e.g. remaining wall thickness and opening angles of cavities can be measured with the computer mouse.



Measuring principle of PiCUS[®] Sonic Tomograph

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5 Conclusion

The Picus test was taken at approximately 4 metres from ground level, the Tomograph shows minor pockets of decay between sensors 2 and 3 and sensors 6 and 7. There is a larger area of decay between sensors 4 and 6, this is the area of the open cavity.

The damaged wood is shown on the Tomograph in blue and pink, this is wood with little to no structural integrity or an open cavity. The altered wood extending further outwards shown in green is regarded as the tree's defensive system, chemically altering the wood cell make-up to resist decay. There is 72% structurally sound wood remaining, the parameter of accepted remaining solid residual wall is 30% and there are no internal cracks evident, this would be shown on the Tomograph as yellow lines. The decay is of minimal significance at this time and is possibly as a result of a wound caused by the raising of the crown. The removal of adjacent trees has left this tree in a quite exposed position and it is also apparent that the woodland belt in this area is prone to waterlogged conditions.

With regards to the Picus test, the decay is well within the accepted parameters. My concern is the increased exposure due to removed trees, the very wet soil conditions and the close proximity to the neighbouring property.

6 Recommendation

Reduce and thin the crown to reduce wind forces or consider removal and replant.

Cliff Freed
Acacia Tree Surgery Ltd

9th of February 2021

P5

Picus: KENTFORD MOULTON ROAD



Client:

VINNY
ANGLIA TREE CONTRACTORS

Tree Expert:

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Tree species: BEECH
Town: KENTFORD
Neighbourhood: MOULTON ROAD
Park: LANWADES STUD

Tree height [m]: 18MS
North at measuring point: 1
Crown spread [m]:
Position of measuring point 1: N
Trunk circumference (130cm height)[cm]:
Tomography level at height [cm]: 420

Number of tree: T1
Measure date: 2/4/2021 11:21:32 AM

