

**Arboricultural Report:
Oakthorpe, Donisthorpe and Acresford Parish Council – Follow up inspection
of Lime tree 2 at Donisthorpe Memorial Park and Playing Fields**

Prepared for:
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1. Introduction

- 1.1 I prepared a tree survey for Oakthorpe, Donisthorpe and Acresford Parish Council, in October 2021.
- 1.2 Lime tree number 2 at Donisthorpe Memorial Park and Playing Fields was recommended for a more detailed inspection due to fungal growth noted around the base of the trunk.
- 1.3 I reinspected the tree on 23rd December 2021 and used a digital resistograph to test the base of the trunk. The resistograph measures the relative density of wood by drilling into the tree with a flexible 3mm diameter drill of 400mm in length. The model of resistograph used is the latest incarnation of well-proven technology and is capable of measuring wood quality and the presence of internal defects such as included bark or decay-altered wood. In simple terms, the higher the quality of the wood encountered, the greater the resistance offered to the drilling force and a higher output is recorded on the graph.
- 1.4 The read-out graph identifies the depth of penetration for the testing (read right to left) along the horizontal (Z) axis. The vertical (Y) axis records the amplitude which is a relative measurement of the density of the encountered wood.
- 1.5 The read-out graph consists of two independently recorded, overlaid measurements. The green graph is the resistance measured at the tip of the drill and is equal to the torque force required to drill into the wood. The blue graph relates to the feed rate i.e., the force required to drill through the wood at a predetermined rate.
- 1.6 Although a highly accurate precision tool, the resistograph is only capable of interpreting the quality of wood within a very small area subject to the drilling. Whilst this is important in reducing the damage to the assessed tree, this tool does not measure wood quality beyond the area of testing. However, multiple testing points can be made in order to map potential defects.

2. The Tree

- 2.1 Details of the tree are provided in the previous tree survey, an extract being included at Appendix 1.

Photograph 1: Showing the base of the lime tree and the resistograph.



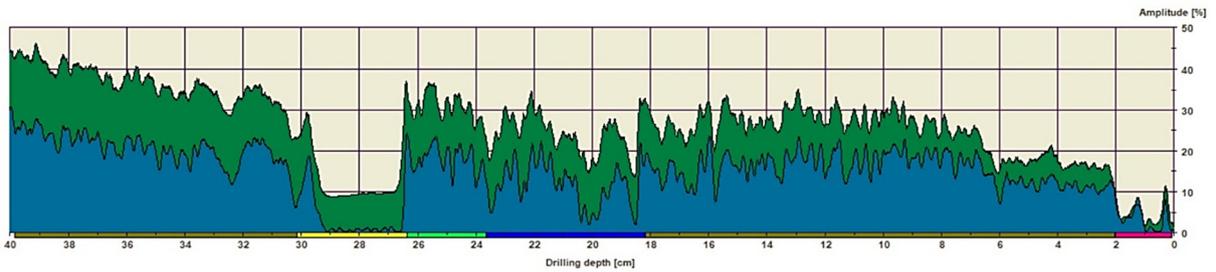
Photograph 2: Embryonic fungal growth at base of tree.



- 2.2 Although the fungal growth remained immature, preventing identification on the basis of visual characteristics, it is not consistent with the early-stage growth of the principal decay fungus *Kretzschmaria deusta*.
- 2.3 Three test drillings were made at the base of the trunk. At this point, the trunk measured 610mm. The resistance graphs are reproduced on the following page.

Measuring / object data

Measurement no.: 1	Speed : 2500 r/min	Diameter:
ID number :	Needle state: ---	Level :
Drilling depth : 40.13 cm	Tilt : ---	Direction:
Date : 23.12.2021	Offset : 96 / 285	Species :
Time : 13:04:34	Avg. curve : off / off	Location :
Feed : 150 cm/min	Name :	



Assessment

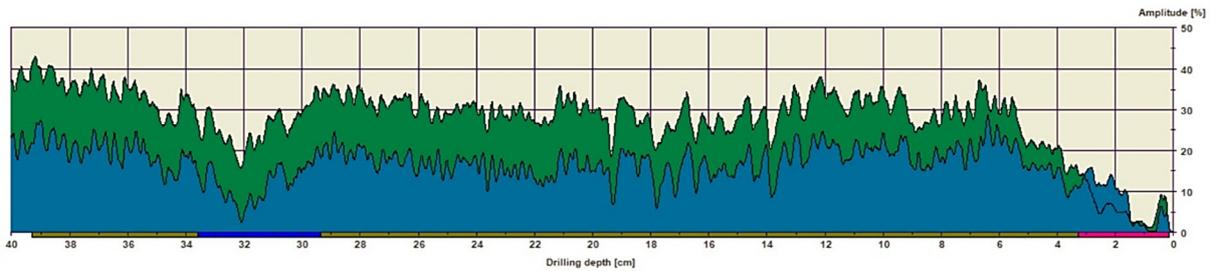
From 0,10 cm to 2,03 cm :	Bark/Cambial Zone
From 2,03 cm to 18,19 cm :	Normal Wood
From 18,19 cm to 23,66 cm :	Incipient Decay
From 23,66 cm to 26,38 cm :	Reaction Zone
From 26,38 cm to 30,16 cm :	Decay
From 30,16 cm to 39,90 cm :	Normal Wood

Comment

Lime 2: D1

Measuring / object data

Measurement no.: 2	Speed : 2500 r/min	Diameter:
ID number :	Needle state: ---	Level :
Drilling depth : 40.12 cm	Tilt : ---	Direction:
Date : 23.12.2021	Offset : 95 / 278	Species :
Time : 13:05:18	Avg. curve : off / off	Location :
Feed : 150 cm/min	Name :	



Assessment

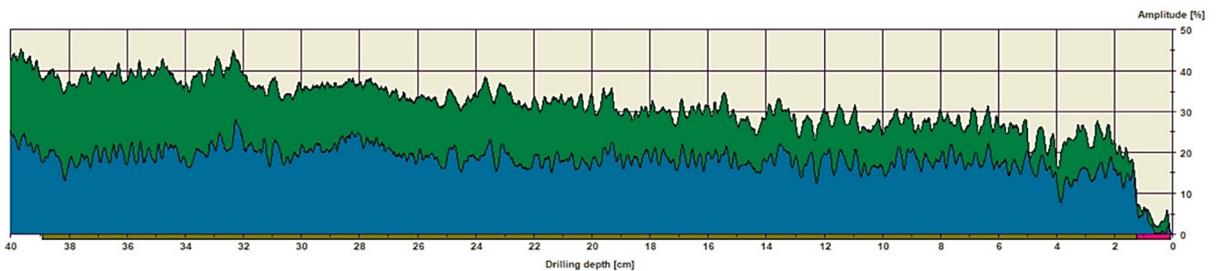
From 0,17 cm to 3,30 cm :	Bark/Cambial Zone
From 3,30 cm to 29,37 cm :	Normal Wood
From 29,37 cm to 33,60 cm :	Incipient Decay
From 33,60 cm to 39,28 cm :	Normal Wood

Comment

Lime 2: D2

Measuring / object data

Measurement no.: 3	Speed : 2500 r/min	Diameter:
ID number :	Needle state: ---	Level :
Drilling depth : 40.13 cm	Tilt : ---	Direction:
Date : 23.12.2021	Offset : 93 / 279	Species :
Time : 13:05:52	Avg. curve : off / off	Location :
Feed : 150 cm/min	Name :	



Assessment

From 0,10 cm to 1,24 cm :	Bark/Cambial Zone
From 1,24 cm to 38,93 cm :	Normal Wood

Comment

Lime 2: D3

- 2.4 Drilling 1 revealed a small area of advanced decay, confined within the centre of the trunk, and a modest zone of early-stage (insipient) decay between 18 and 23cm from the outside of the trunk.
- 2.5 Drilling 2 encountered the same central zone of decay, albeit less advanced. Drilling 3 showed normal wood conditions for the full depth of the testing and serves well as a comparison of normal versus decay altered wood.
- 2.6 In terms of the physiological condition of the tree, it remains fair overall. However, when compared against the contemporary lime trees nearby, the density of the growth around the perimeter of the crown is slightly reduced. There has been some initiation of new growth within the lower crown region.

Photograph 3: Showing the crown of the tree, as viewed from the roadside.



3. Conclusions

- 3.1 Some decay is evident but is confined within the middle of the trunk. Currently there remains adequate residual wall thickness within the tested region of the trunk to allow the tree to be retained without the need for any crown reduction pruning.
- 3.2 At this stage, it is recommended that dead and defective branches should be removed. It is appropriate to pay particular attention to this tree during future assessments.

- 3.3 The protective status of the trees contained within the survey should be confirmed with the Local Planning Authority. If applicable, then notification of the intention to remove dead branches should be provided.

Signed

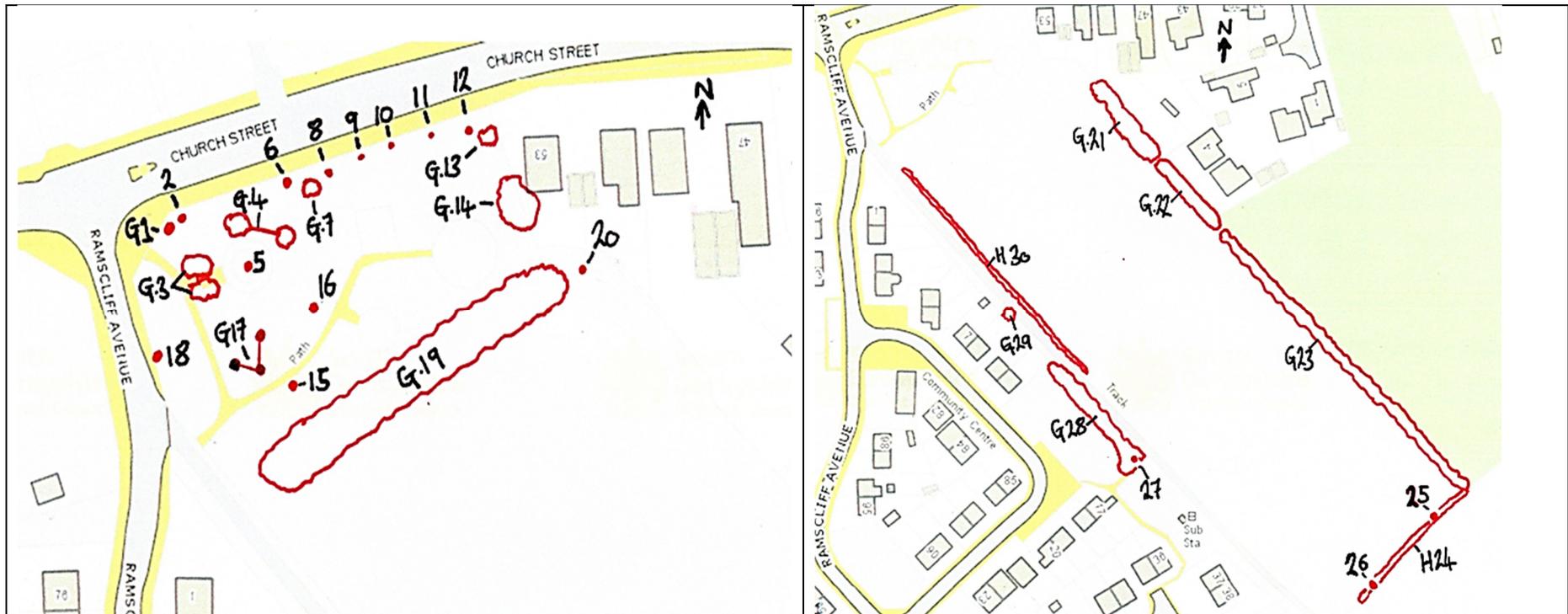
A handwritten signature in black ink, appearing to read 'Ben Bennett', written in a cursive style.

**Ben Bennett, BSc (Hons) For, Cert Arb (RFS), MArborA
Director, BB Trees Ltd**

Appendix 1: Extract of October 2021 Tree Survey

Memorial Park and Playing Fields

Figures 4 and 5: Sketch plans showing the approximate positions of trees surveyed at the Memorial Park and Playing Fields, Donisthorpe.



Tree number	Common name <i>Genus species</i>	Tree height (m)	Trunk diameter (cm)	Branch spread (m)	Age	Physiological condition	Structural condition	Comments and recommendations	Priority code
2	Common lime <i>Tilia x europaea</i>	11	46	5.5	EM	B/C	B/C	<p>Tree set back from frontage wall and likely a lapsed pollard.</p> <p>Extensive fungal mycelium/imperfect stage fruiting body formations around trunk base on park side. Currently, there appears to be no associated bark necrosis.</p> <p>Going by the sheer mass of the growth, it appears initially unlikely to be imperfect stage fruiting bodies of the principal decay fungus <i>Kretzschmaria deusta</i>. However, this remains a possibility.</p> <p>Crown shows slight recession and a number of dead and defective branches. However, only minimal deadwood on the public pavement side.</p> <p>Reassess trunk base in December 2021.</p> <p>If tree deemed acceptable for retention at this stage, then dead and defective branches should be removed and the tree subject to particular monitoring.</p>	1