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Decay detection on Beech tree at Hightown Aldbourne.



Prepared for: Kate Crofton-Atkins.

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Site Address:

Hightown,
21 The Green,
Aldbourn,
SN82EN.

Client:

Kate Crofton-Atkins

Instruction:

Carry out Decay detection test on main stem of Beech tree at the above address. The tree is in a conservation area and is believed to have an individual Tree Preservation Order.

Inspection:

The Inspection was carried out on the 16th and 19th February 2026. The conditions were clear and overcast. The Inspector was Kim Dear.

Tree: Common Beech. (*Fagus sylvatica*). Height 19m Diameter 980mm

General Observations:

The tree is situated on a slightly raised bed 30cm east of the boundary wall and entrance. The main property is 11m to the south. The crown is biased towards the south, with a long low lateral limb extending 15m to the southeast. This crown shape is due to the competition from a neighbouring beech tree that was situated 5m to the north. The crown break is at 3m above ground level (agl) with a congested mix of ascending limbs that have several narrow included forks. (See arrow on Photo 3).

There are several fungal brackets of *Ganoderma adspersum* erupting at 30cm (agl) to the north (Photo 2), with a further bracket at 3m to the northeast (Photo 3) and again at 2.4m to the south. (Photo 4).

Photo 2



Photo 3.



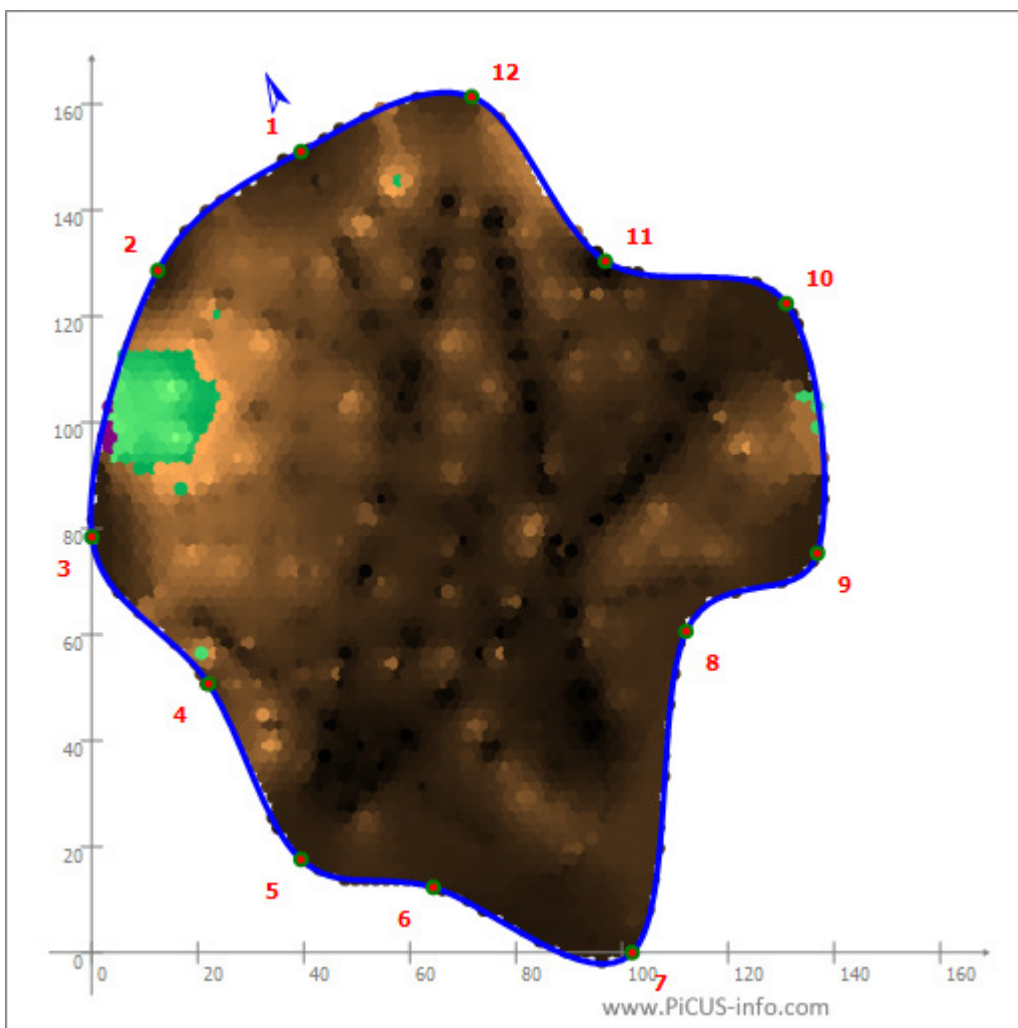
Photo 4.



Picus Sonic Tomography

Picus Sonic Tomography - explanatory note.

The Picus Tomograph measures the time taken for sonic stress waves to pass through the wood of a tree between sensors that are placed at a predetermined level around the tree stem. The relative velocities of these waves help determine the wood density of a cross section of the tree (sonic waves generally travel faster through sound wood than through decayed wood). These velocities are then calculated and interpreted by the Picus software to produce a colour tomogram of internal decay patterns. The different colours on the tomogram indicate changes in relative sound velocities through the cross-section which help identify varying levels of wood density: • Dark brown represents the highest velocity and therefore dense or sound wood. • Pink and blue are the lowest relative velocities and may indicate decayed wood, cracks, included bark and/or cavities. • Green identifies velocities between these two thresholds. This may be wood that has a reduced density but is not yet decayed, such as wood with active/early fungal infection.



T1 Picus image at 30cm agl.

Resistograph Tests:

Resi-PD400 Resistograph - explanatory notes

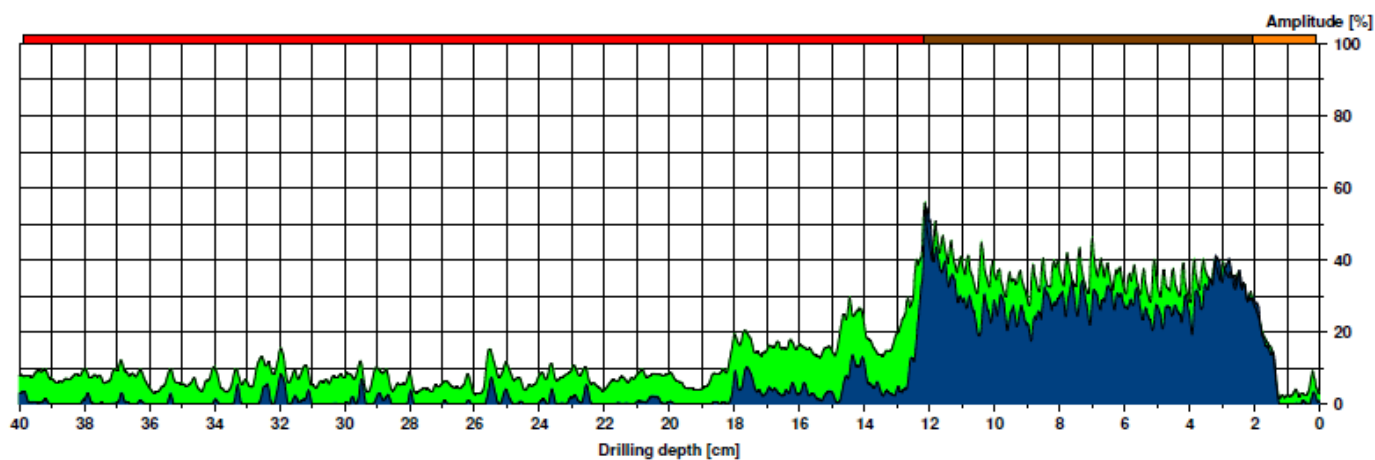
The PD400 measures the drilling resistance of wood and comprises a portable microdrill with a 400mm x 1.5mm needle and a 3mm drill tip. The drilling needle is driven into the wood under constant drive and the energy required along the drilling depth is measured and electronically recorded. The PD400 measures both the drill resistance (shaft friction) and force required to push the needle into the wood. The captured data is evaluated and processed to deliver a measuring curve, which is presented as a digital line graph. The drill resistance curve is shown in green and the feed force in blue. Interpretation of these measurement profiles not only helps to determine variations in wood density and condition but also the ratio of sound wood to decayed wood. The Resistograph measures wood quality at specific drilling points only. Decay levels may differ above or below the points of measurement.

4 readings were taken

Direction	Height	Results
East	2.4m	Good – 12cm, remainder decay
North	2.4m	Good – 13cm, remainder decay
Southeast	2.4m	Good – 14cm, remainder decay
South	2,4m	Good- 9cm, remainder decay

Measuring / object data

Measurement no.: 3	Speed : 2500 r/min	Diameter:
ID number : HIGHTOWN 2.4m E	Needle state: ---	Level : 2.4m
Drilling depth : 40,05 cm	Tilt : ---	Direction: East
Date : 19.02.2026	Offset : 70 / 355	Species : Beech
Time : 12:32:19	Avg. curve : off / off	Location : Hightown
Feed : 50 cm/min		Name : Kim Dear



Assessment

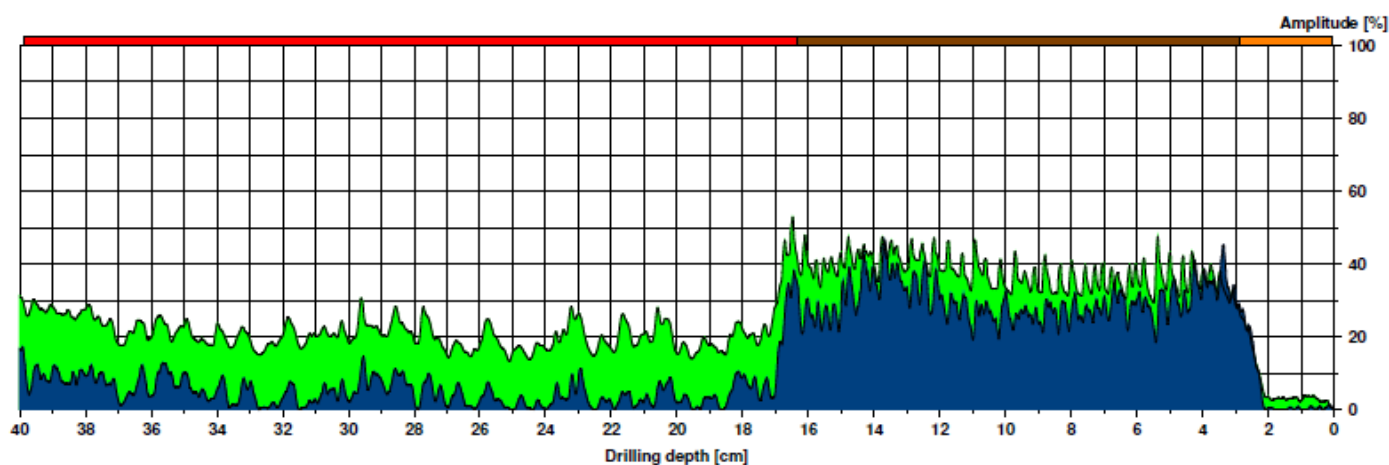
From 0,10 cm to 2,06 cm : Bark
From 2,06 cm to 12,17 cm : Good Wood
From 12,17 cm to 39,90 cm : Decay

Comment

HIGHTOWN 2.4m EM003

Measuring / object data

Measurement no.: 4	Speed : 2500 r/min	Diameter:
ID number : HIGHTOWN 2.4m N	Needle state: ---	Level : 2.4m
Drilling depth : 40,05 cm	Tilt : ---	Direction: North
Date : 19.02.2026	Offset : 75 / 342	Species : Beech
Time : 12:39:53	Avg. curve : off / off	Location : Hightown
Feed : 50 cm/min		Name : Kim Dear



Assessment

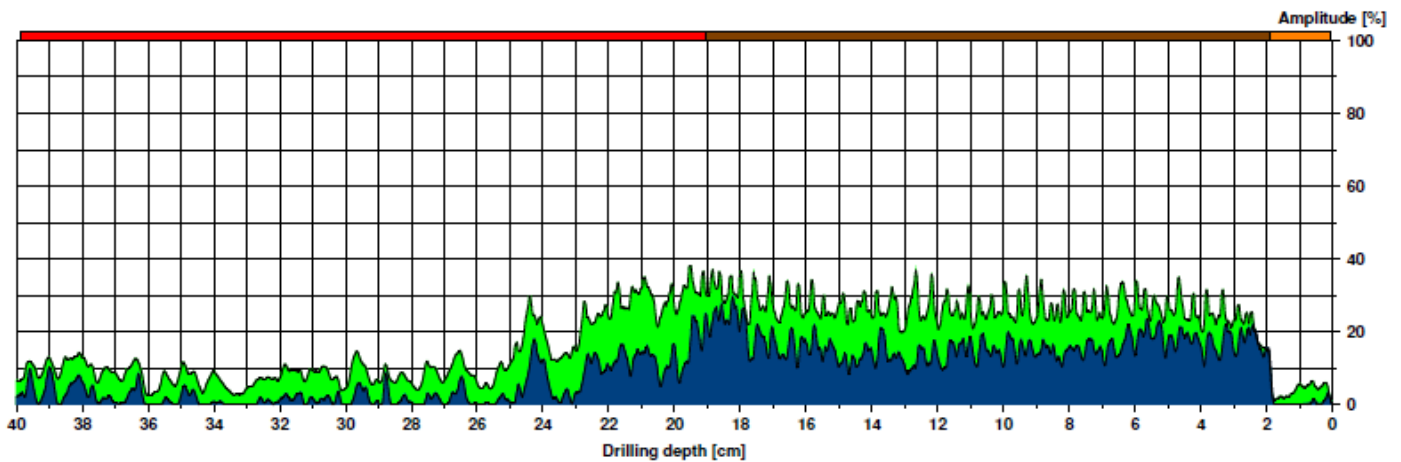
From 0,06 cm to 2,90 cm : Bark
From 2,90 cm to 16,36 cm : Good Wood
From 16,36 cm to 39,90 cm : Decay

Comment

HIGHTOWN 2.4m NM004

Measuring / object data

Measurement no.: 2	Speed : 2500 r/min	Diameter:
ID number : HIGHTOWN 2.4m SE	Needle state: ---	Level : 2.4m
Drilling depth : 40,04 cm	Tilt : ---	Direction: Southeast
Date : 19.02.2026	Offset : 80 / 305	Species : Beech
Time : 12:27:00	Avg. curve : off / off	Location: Hightown
Feed : 50 cm/min		Name : Kim Dear



Assessment

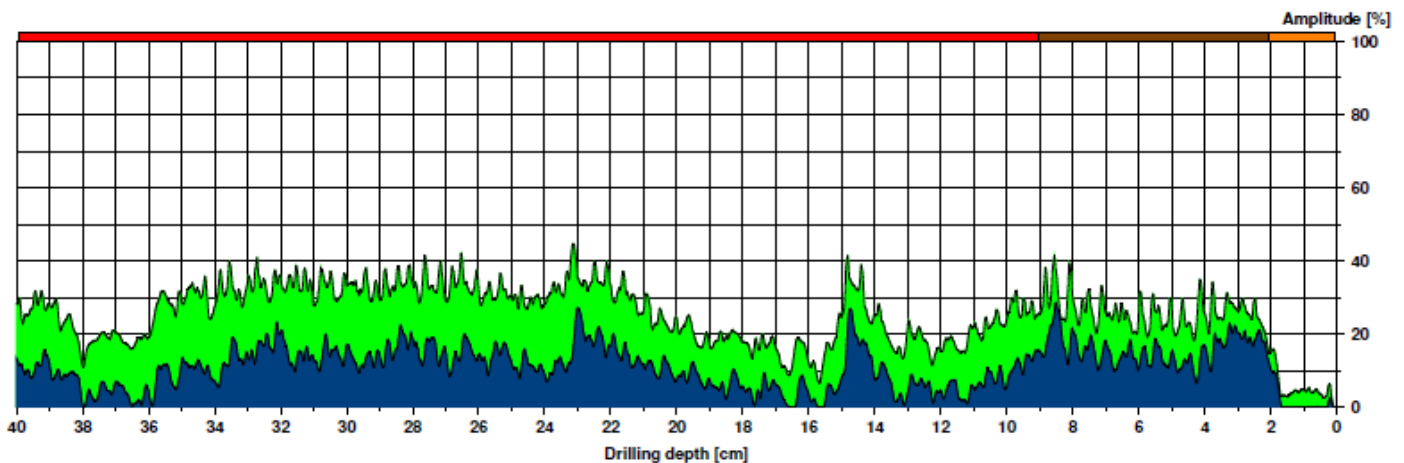
From 0,06 cm to 1,90 cm : Bark
From 1,90 cm to 19,03 cm : Good Wood
From 19,03 cm to 39,90 cm : Decay

Comment

HIGHTOWN 2.4m SEM002

Measuring / object data

Measurement no.: 1	Speed : 2500 r/min	Diameter:
ID number : HIGHTOWN 2.4m S	Needle state: ---	Level : 2.4m
Drilling depth : 40,07 cm	Tilt : ---	Direction: South
Date : 19.02.2026	Offset : 83 / 321	Species : Beech
Time : 12:22:59	Avg. curve : off / off	Location: Hightown
Feed : 50 cm/min		Name : Kim Dear



Assessment

From 0,06 cm to 2,06 cm : Bark
From 2,06 cm to 9,02 cm : Good Wood
From 9,02 cm to 39,94 cm : Decay

Comment

HIGHTOWN 2.4m SM001

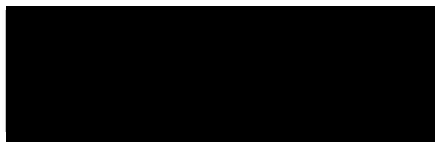
Conclusion.

The Picus tomography image taken at 30cm agl indicates predominantly sound wood coloured brown, with an area of decay coloured green adjacent to the fungal bracket. The Resistograph tests carried out at 2.4m show a substantial area of decay just under the crown break, with only between 12 and 20cm of sound wood remaining around 180 degrees of the trees circumference. The fungal pathogens are likely to have been introduced through the inclusions and wounds within the crown break. The large low lateral limb mentioned, is attached with the narrow included fork shown in Photo 3, with further limbs immediately above it.

It is also noted that the listed retaining wall is also leaning and being slid from its foundation towards the road. This narrow road has a high pedestrian footfall due to the public house 50m away and the primary school on the opposite side of the green.

Recommendations:

The structural integrity of the tree at just the crown break is compromised with a higher risk of failure. We considered option to retain the tree in some form by reducing and bracing. For this tree this isn't a viable option. Healthy beech trees are not good with heavy reductions. This tree has problems and a reduction would likely kill the tree. Even if the tree were reduced, the decay would continue to spread and further weaken the structure. Taking these considerations, we would recommend the tree be felled as soon as practically possible. This work to be carried out by a fully insured and qualified arborist working to BS3998 (2010) tree work. Necessary permissions will be needed from the local authority as the tree is covered by a TPO.



Vince Caine BSc

26th of February 2026.