PICUS SONIC TOMOGRAPH TEST (ST) SUMMARY REPORT.

COMPLETED FOR:

YARRA RANGES COUNCIL

REQUEST NUMBER:

731725

LOCATION: 3457A WARBURTON HIGHWAY, WARBURTON VIC 3799

DATE: 22ND JUNE 2016

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A BASIC KEY TO ANALYSING PICUS SONIC TOMOGRAPH REPORTS

The following points will assist when you visually assess the test results against the tree.

- a) Sensor one is always located to the northern side of the tree unless specified. This may vary slightly depending on where sensor point one is located on the trunk.
- b) The test height is always measured at sensor one unless specified.
- c) The red line in the photograph of the tree demonstrates the approximate height at which the test was conducted.
- d) The red ring in the test result (2 dimensional picture) when included is the t/R ratio. The t/R ratio red line is set at 15 percent unless otherwise stated.
- e) In some test results the degree measurement may be included; this could be the open section of a wound or hollow, or it may be an area of active fungus. These areas are always identified with blue lines.
- f) In some test results other measurements may be mentioned; this will be an approximate measurement of the depth of decay or fungus. This is shown with a red arrow.
- g) In some cases, depending on the genus and species of the fungus, the active fungus wood area may not be visible to human eyes if sectionalised.
- h) In <u>most</u> cases, depending on the genus and species of the fungus, the incipient wood affected area will not be visible to human eyes if sectionalised.
- The PICUS Sonic Tomograph is mostly accurate with the colour coding produced; at times the test image produced may vary to what will be visually observed when the test area is exposed. It is important that only trained professionals make comments and recommendations regarding any test result cross examinations.
- j) In some test results there will be an overlay of lines from sensor to sensor; the accurate point of the test result is where the lines actually cross one another, and the colour reading should be taken from this point.
- k) The rating system for the tree's condition at the test point is based on sound wood percentages in the test result:

| Excellent | Very Good | Good | Average | Further Management |
|-----------|-----------|----------|----------|--------------------|
| Above 90% | 60 - 89% | 40 - 59% | 20 - 39% | <20% |

The PiCUS Sonic Tomograph test was conducted by:

Name of Arborist Qualifications

Contact phone number E-mail Address Website Address



Tree Location Details Botanical Name Common Name Test Height Tree Circumference

The PiCUS© Sonic Tomograph test result indicates 22% of the test area is sound (high density) wood. There is 9% of incipient wood (wood being altered by the fungus). The remaining 69% is active fungus and decayed (low density) wood.

When evaluating the test results and checking with additional filters (i.e. algorithms) it was established that the incipient wood has a similar wood density to the sound wood. Therefore the incipient wood has been categorised as sound wood in these test results which gives a total of approximately 31% of sound structural wood.

The tree has co-dominant trunks with the union traversing the test height from sensors 2-3 through to sensors 12-13. The union has split open and a nylon cable was observed in the canopy between the co-dominant trunks.

The fungus in the test result has entered the tree through the union of the co-dominant trunks. The active fungus has spread along the main union and the active fungus and decay has contributed to the split in the union. This degradation to the tension wood in the main union is a concern as a complete failure of the union could occur in a wind event.

The test result shows that there is structural wood in the compression wood of the main union. At the test height there is 41cm of sound wood and incipient wood at sensor 6; and 50cm of sound wood and incipient wood at sensor 19. Additionally, it is observed that new wood growth increments are occurring at sensors 1, 4, 5, 6, 7, 9, 18, 19 and 20.

The time frame allowed before the tree is unsafe and removal is the only option will be determined by the rate of spread of the fungus. Council car park Eucalyptus viminalis Manna Gum 1000mm above ground level at sensor one 8200mm at test height



CONCLUSION

The test provides evidence that there is substantial decay in the union of the co-dominant trunks at the test height. This decay has caused significant degradation to the structural integrity of the union.

For the retention of the tree ENSPEC Pty Ltd recommends that:

- Three steel threaded bolts should be installed at the union of the co-dominant trunks to provide bracing for the union.
- The nylon rope cable in the tree should be removed and a steel cable be installed between the co-dominant trunks.

Provided that the recommendations are undertaken, the tree has an estimated useful life expectancy of up to 20 plus years at the test points. It is also recommended that this tree is retested in 24 months to assess the progression of the fungus and re-evaluate the structural integrity of the trunk at the test height.

DISCLOSURE STATEMENT

ENSPEC Pty Ltd and their employees are specialists who use their knowledge, training and education (qualifications), infield learning experiences, personal experiences research, diagnostic tools, scientific equipment to examine trees, recommend measures to enhance the beauty, health and preservation of trees, to reduce the risk of living near trees.

Trees are living organisms that can be affected by pests, diseases and natural events outside of ENSPEC control. ENSPEC and their employees cannot detect every condition that affects a trees health, condition and structural integrity. Conditions are often hidden within trees and below ground where humans cannot naturally see. Unless otherwise stated, ENSPEC's employee's observations have been visually made from ground level.

In the event that ENSPEC recommends retesting or inspection of trees at stated intervals, or ENSPEC recommends the installation engineering solutions, ENSPEC must inspect the engineering solution at intervals of not greater than 12 months, unless otherwise specified in writing. It is the client's responsibility to make arrangements with ENSPEC to conduct re-inspections.

Intervention treatments of trees may involve considerations beyond the scope of ENSPEC's service, such as property boundaries and ownership, disputes between neighbours, sight lines, landlord-tenant matters and other related incidents. ENSPEC cannot take such issues into account unless complete and accurate information is given prior or at the time of the site inspection. Likewise ENSPEC Pty Ltd cannot accept responsibility for the authorisation or non-authorisation of any recommended treatment or remedial measures undertaken.

ENSPEC Pty Ltd cannot guarantee that a tree will be healthy or safe under all circumstances or for a specified period of time after our initial inspection and recommendations.

If this written report is to be used in a court of law, or any other legal situation, or by other parties ENSPEC must be advised in writing prior to the written report being presented in any form to any other party. All written reports must be read in their entirety. At no time shall part of the written assessment be referred to unless taken in full context with the whole written report.

Clients may choose to accept or disregard the recommendations of the assessment and written report.

Notwithstanding anything in the report, express or implied, the client is not entitled to recover from ENSPEC Pty Ltd, its employees, agents and/or subcontractors any damages for business interruption or loss of actual or anticipated revenue, income or profits or any consequential, special, contingent or penal damage, whatsoever, and the client releases ENSPEC Pty Ltd from any such liability. Without limitation of the foregoing, a party shall at all times be limited (to the extent permitted by law) damages in the amount paid by the Client to ENSPEC Pty Ltd for ENSPEC Pty Ltd services. The limitation applies whether the claim is based on warranty, contract, statute, tort (including negligence) or otherwise.