



Arboricultural Report

Internal and Aerial Tree Inspection

Report Reference: AR/IATI26-1057

Site Address:

HUNTINGTON,

72 VICTORIA ROAD,

NETLEY ABBEY

SOUTHAMPTON

SO31 5DS

Instructed by: Mrs. Janet Knights

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Date: Friday, 03 July 2026



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Version	Date	Description of Change / Comments	Prepared by	Checked by
1.0	8.7.2026	Final	AP	PJ

EXECUTIVE SUMMARY

- S1. This executive summary must be read alongside the full report, which provides the detailed VTA findings, together with the accompanying aerial inspection record and internal tree inspection outputs in full.
- S2. SAL was instructed by Mrs. Janet Knights to undertake an arboricultural inspection of one Eucalyptus (T2574, TPO505-E, DBH 124cm, estimated age approximately 62 years) at Huntington, 72 Victoria Road, Netley Abbey, to assess its structural condition, associated risk profile, and appropriate management. The inspection comprised ground-based Visual Tree Assessment (VTA), aerial inspection by rope access to approximately 16m above ground level (AGL henceforth), and internal tree inspection by Sonic Tomography (SoT), Electrical Resistance Tomography (ERT), and IML-RESI PD400 resistance drilling assessment across two tomographic planes and two supplementary drilling heights. Eastleigh Borough Council planning application reference T/24/98325 is noted for context.
- S3. Ground-based VTA identified inconsistent (hollow) percussion across four aspects of the lower stem, two historic bark lacerations, and a confirmed surface concavity terminating at a co-dominant tension union at approximately 3.5m, in proximity to unintegrated compression unions and fibre buckling beneath the south-east limb.
- S4. A rope-access aerial inspection was undertaken to examine the mid and upper crown. A substantial accumulation of exfoliated bark, characteristic of the genus, had collected within the branch unions that was obscuring the structural defects. Following clearance of this material, tight unintegrated compression unions, mechanical fibre buckling, and historic topping points were confirmed. Fibre buckling was observed not as an isolated feature on a single limb but as a recurring finding across multiple limbs and unions throughout the canopy, indicating a canopy-wide pattern of elevated compressive stress. The branch architecture of the primary and secondary framework is consistent with the tree having been subject to topping on more than one previous occasion, although no documentary evidence exists to confirm this and it remains a professional inference from the observed structure.
- S5. Internal investigation — Sonic Tomography, Electrical Resistance Tomography, and IML-RESI PD400 drilling resistance assessment at two tomographic planes — corroborated the external findings, with sound barriers, ERT anomalies, and IML-RESI PD400 drilling measurement curve profiles co-located in the lower stem. The convergent evidence indicates a single defect complex consistent with sustained torsional loading transmitted from the overextended primary limb.
- S6. Beyond its structural condition, the tree's size relative to its position is a material consideration. Its crown spreads over occupied ground on all sides, and at a sustained increment of approximately 2.0cm DBH per year it continues to enlarge, extending further each year. In the author's opinion the tree has outgrown the capacity of its position; as set out below, this both compounds the quantified risk and rules out crown reduction as a durable alternative to felling.
- S7. Crown reduction was considered: the species responds poorly to hard pruning; the scale of reduction required to address the structural loading would be physiologically unacceptable; a reduction of the severity required would detract significantly from the tree's amenity value; and at the same sustained growth rate, any reduction would re-establish both the loading and the encroachment within a short period. It was rejected on these grounds.
- S8. QTRA was applied to three structurally independent failure scenarios — whole tree/root plate failure, failure at the union and helical indentation, and failure at the historic topping unions — all producing a Risk of Harm exceeding the advisory threshold of 1/10,000 against high-value, high-occupation targets. In all three scenarios, risks will not ordinarily be tolerated.
- S9. On this basis, retention of the tree — whether unmanaged or subject to crown reduction — does not represent a risk that is As Low As Reasonably Practicable. Felling to ground level is recommended supported by a geotechnical assessment of the root plate and soil profile prior to works, with replacement planting in accordance with BS 8545:2014.

Table of Contents

Confidentiality, Copyright and Reproduction	2
Document Control	2
Executive Summary	3
1 Introduction	5
1.1 Instruction and Background Information	5
1.2 Site Details & Spatial Constraints	6
2 Visual Tree Assessment (VTA) Findings	8
2.1 Tree Details	8
2.2 Stem and Root Flare	8
2.3 Crown Structure and Condition	8
2.4 Aerial Inspection Findings	9
2.5 Photographic Record	9
3 Internal Tree Inspection	10
3.2 Lower Plane – Sonic Tomography (SoT.v1), 10cm AGL	10
3.3 Lower Plane – Electrical Resistance Tomography (ERT.v1), 10cm AGL	11
3.4 Lower Plane – IML-RESI PD400 Assessment, 10cm AGL	11
3.5 Upper Plane – Sonic Tomography (SoT.v2), 120cm AGL	12
3.6 Upper Plane – Electrical Resistance Tomography (ERT.v2), 120cm AGL	13
3.7 Upper Plane – IML-RESI PD400 Assessment, 120cm AGL	13
3.8 Summary of Internal Tree Inspection	13
4 Integrated Assessment	14
4.1 Root Plate and Basal Stem	14
4.2 Helical indentation and Union (3.5m, South-West Aspect)	14
4.3 Historic Topping Unions (Upper Crown)	14
4.4 Combined Structural Assessment	15
4.5 Crown Reduction	16
5 Target Assessment & Quantified Tree Risk Assessment (QTRA)	17
5.1 Target Assessment	17
5.2 Probability of Failure – Three Independent Lines of Assessment	17
5.3 Application of QTRA Advisory Thresholds	17
6 Conclusion	18
7 Summary of Recommendations	18
7.2 Felling	18
7.3 Geotechnical Assessment	18
7.4 Replacement Planting	18
APPENDICES	
Appendix A Methodology	19
Appendix B Caveats and Limitations	22
Appendix C Species Profile	24
Appendix D Images	25
Appendix E IML-RESI PD400 Measurement Profiles and Summary	36
Appendix F References	40
Appendix G How and Why to Prune	41
Appendix H TPO Map	42
Appendix I Arboricultural Condition Survey Key	43
Appendix J Arboricultural Condition Survey	44

1 INTRODUCTION

1.1 Instruction and Background Information

- 1.1.1 SAL was instructed by Mrs. Janet Knights via email on the 29th April 2026 to undertake an Arboricultural assessment inclusive of aerial inspection and internal investigation of ONE Eucalyptus tree T2574 (TPO505-E) located within the boundary perimeter of Huntington, 72 Victoria Road, Netley Abbey, Southampton, SO31 5DS.
- 1.1.2 The function of the report is primarily to determine the condition, health and safety of the tree, to further inform management recommendations in relation to the tree's location.
- 1.1.3 This inspection was commissioned following concerns raised by the client regarding the structural condition and associated risk profile of the tree.
- 1.1.4 This inspection comprised a ground based Visual Tree Assessment (VTA), supported by PiCUS 3 sonic tomography, PiCUS TreeTronic 3 electrical resistance tomography and IML-RESI PD400 assessment, additionally, a detailed aerial crown inspection utilising rope access equipment was undertaken to inspect the mid-crown branches and their associated unions, together with a Quantified Tree Risk Assessment (QTRA) of the tree in the current condition.
- 1.1.5 Further information regarding the advanced tomographic and mechanical equipment used during the inspection is provided in Appendix A. The explicit caveats and limitations relating to this report and the advanced diagnostics are provided in Appendix B.

1.2 Site Details & Spatial Constraints

- 1.2.1 A site visit was completed by Alex Parker¹ of SAL on 2nd and 9th May 2026.
- 1.2.2 Meteorological conditions on the 2nd May initially were fog, then sunshine and passing cloud, and later light rain with broken cloud, and on the 9th May was sunshine with passing clouds.
- 1.2.3 Main building is a multi-occupancy residential dwelling divided into four self-contained flats.
- 1.2.4 The northwestern aspect of the property features a sloping access driveway that rises approximately 4m above the Victoria Road level, providing vehicle access to the rear car park and the adjacent property to the rear (72E). This driveway terminates at an elevated, sloping car park situated to the rear of the main dwelling. Both the access driveway and the car park are surfaced with block paving.
- 1.2.5 BOUNDARIES
- North-East: Adjoining to this boundary lies 72e, a private, residential property.
- East: This boundary is bordered by 74c, a separate private residential dwelling.
- South-East: This aspect features the residential property and associated grounds of 73 Victoria Road. The boundary is demarcated by a historic retaining wall, the top of which is level with the sloping ground surface of No. 72 and retains the upper tier upon which the subject tree is situated. The ground level within the adjacent property at No. 73 is approximately 3m below the ground level at the base of the tree; this differential continues along the boundary into 74c Victoria Road.
- South-West: The site access from Victoria Road, a public highway.
- North-West: This boundary interfaces with The Prince Consort, a prominent Grade II listed public house (England, 2026) and restaurant. This commercial premises features outdoor seating terrace and a separate coach house block configured with seven en-suite guest rooms/bed and breakfast accommodations.
- 1.2.6 There are multiple high-density static targets identified across the property boundaries.
- 1.2.7 The site lies within a coastal locality, situated approximately 120m from the mean high tide line of Southampton Water (measured as a direct straight-line distance from the tree's location), and in proximity to Victoria Country Park. The tree occupies an elevated position relative to the surroundings, including a ground level differential of approximately 3m to the south and south-east, as described at section 1.2.5.
- 1.2.8 The tree's physical height and crown radius encroach over 3 neighbouring properties, the driveway and car park. Representing a consistent level of site occupancy.
- 1.2.9 The tree is situated towards the rear south-east boundary of the property and is in a soft-landscaped bed which separated from the carpark with a low brick wall.
- 1.2.10 A Beech (*Fagus sylvatica*) is present within the same soft-landscaped bed, approximately 5m to the south-west of the subject tree. A Cedar (*Cedrus* spp.) is located beyond the south-east boundary, within the grounds of 74c Victoria Road.
- 1.2.11 The property is within the administrative boundary of Eastleigh Borough Council.
- 1.2.12 Eastleigh Borough Council's (2026) interactive mapping data, accessed on Wednesday, 27 May 2026 indicates that the subject site is governed by two layers of statutory protection.
- 1.2.13 The entire curtilage is situated within the Netley Abbey Conservation Area. Additionally, there are two individual tree preservation orders TPO505-E and TPO450-E.
- 1.2.14 The Tree location is shown in image 1

¹ Alex Parker has worked within arboriculture since 2004 and holds the Level 4 Diploma in Arboriculture, is a LANTRA ITI and PTI certificate holder and QTRA Registered User No. 8144.

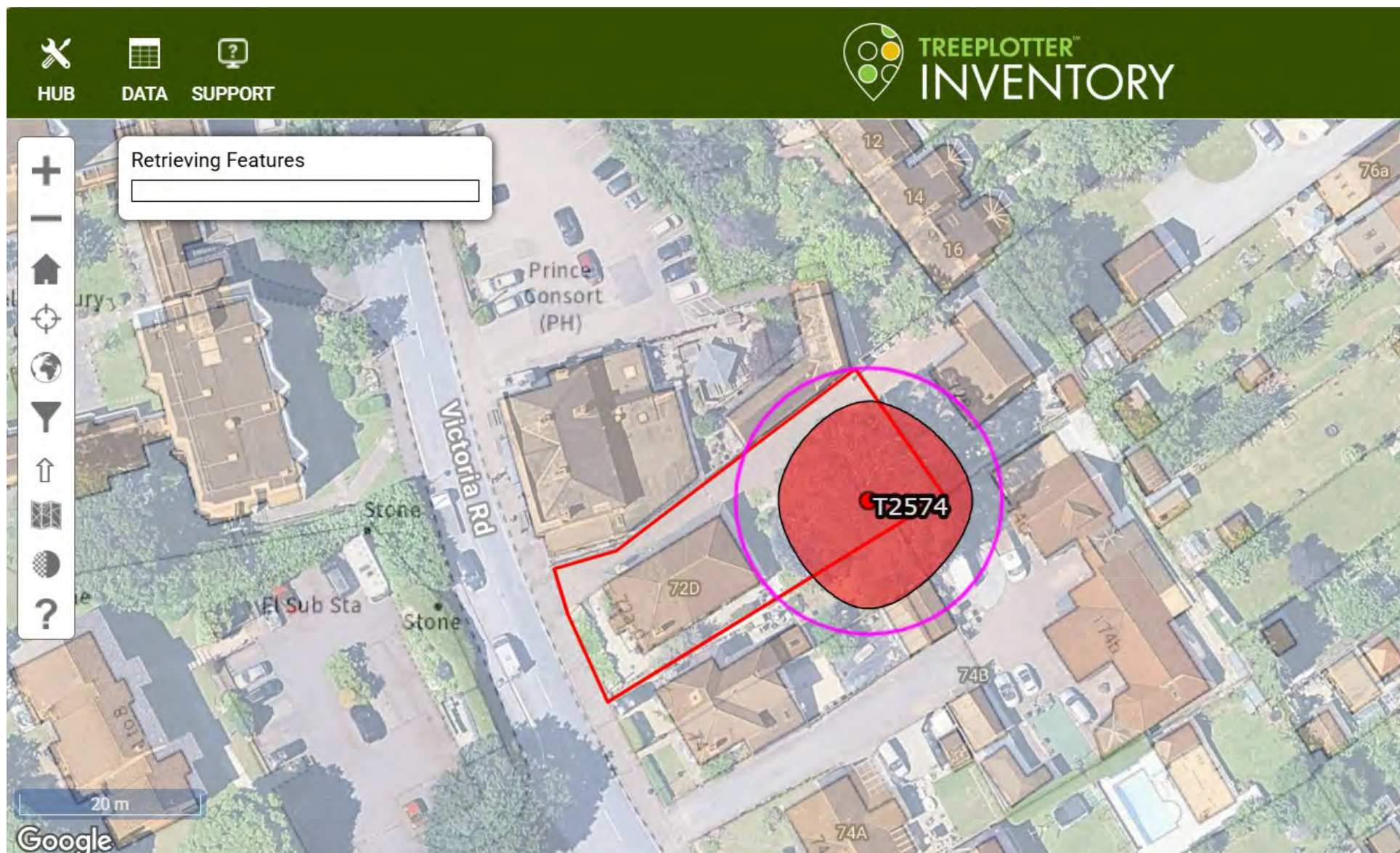


Image 1 : Tree Location Plan, (The red irregular polygon denotes the asymmetrical canopy spread of T2574, Pink circle indicates RPA, Red Polygon indicates approximate boundary)

2 Visual Tree Assessment (VTA) Findings

2.1 Tree Details

- 2.1.1 T2574 is an early mature Eucalyptus², protected under Tree Preservation Order TPO505-E, with a stem diameter at 1.5m of approximately 124cm and an estimated height of 24m (using a TruPulse 200X Laser Rangefinder). Planting history supplied by the client indicates an approximate age of 62 years, approximate mean annual diameter increment of 2.0cm. The crown extends asymmetrically over three neighbouring properties (North-11m, East-11.5m, South-12m, West-10m) the access driveway and the rear car park, as set out in Section 1.2. The tree remains in active growth and shows no sign of senescence; girth, crown spread and sail area continue to increase annually.
- 2.1.2 The VTA was undertaken. Findings are presented below; interpretation of their structural significance is reserved for Section 4.

2.2 Stem and Root Flare

- 2.2.1 The tree exhibits a pronounced stem taper and buttressing at ground level, with evidence of localised soil displacement immediately surrounding the main stem. The low brick wall towards the north-northwest aspect of the tree is displaced.
- 2.2.2 On the north, north-east, south-west, and north-west aspects of the main stem, mallet sounding revealed inconsistent (hollow) percussion from ground level to approximately 1.8m AGL. On the north-northwest aspect, two horizontal lacerations are present to the outer bark at approximately 1.2m and 2.0m AGL, with localised stem bulging proximal to both.
- 2.2.3 The bark exhibits a distinct twisting growth habit. On the south-west aspect, a helical indentation is observed that terminates where the stem divides with a tension union at approximately 3.5m AGL. Three unintegrated branches featuring compression unions are located in close proximity to this union.
- 2.2.4 An additional helical indentation originates from ground level on the south-south-east aspect, extending to the underside of the primary limb where fibre buckling is present. This primary limb contributes significantly to the upper crown within the south-east quadrant.

2.3 Crown Structure and Condition

- 2.3.1 The main stem continues vertically to a height of approximately 5–6m AGL, where it divides into the primary upper crown structure. Fibre buckling and included bark/compression unions are observed on multiple branch junctions. Multiple co-dominant stems arise from a similar height, with epicormic growth prevalent throughout the upper framework.
- 2.3.2 Major deadwood, alongside exfoliating bark, are prevalent throughout the crown. The crown encroaches significantly over the three adjacent properties identified in Section 1.2.
- 2.3.3 Pigeon presence was noted throughout the inspected area, with a significant accumulation of guano present on the ground, surrounding areas, and within the branches and canopy.
- 2.3.4 A detailed aerial inspection of the mid-crown unions was undertaken by rope access to confirm, at close range, the unions and compression features identified from ground level. Findings from this aerial inspection are incorporated within the assessment in Section 2.4 and the interpretation in Section 4.

² See Appendix C: Tree Species Profile

2.4 Aerial Inspection Findings

- 2.4.1 A significant accumulation of exfoliated bark had collected within the primary and secondary branch unions. The exfoliated material had accumulated to a degree that was obscuring the structural condition of the unions from ground level. This material was cleared during the aerial inspection, enabling direct close-range examination of the crown architecture.
- 2.4.2 With the exfoliated bark cleared, the following defects were confirmed at close range.
- 2.4.3 Tight unintegrated compression unions at multiple junctions within the primary crown. These unions are characterised by the complete or near-complete absence of a bark ridge; dark staining and compressed bark within the union zone between co-dominant stems.
- 2.4.4 Fibre buckling was observed proximal to multiple union junctions throughout the canopy, across limbs of varying diameter arising from compression unions.

2.5 Photographic Record

Images supporting the VTA findings above, including the stem lacerations, the helical indentations, the 3.5m tension union, and the aerial inspection findings, are provided in Appendix D: Images.

3 Internal Tree Inspection

3.1.1 As a result of the VTA, internal tree inspection was undertaken using PiCUS 3 sonic tomography (SoT), PiCUS TreeTronic 3 electrical resistance tomography (ERT), and IML-RESI PD400. Two tomographic planes were established: a lower plane at 10cm AGL, and an upper plane at 120cm AGL. Measuring points (MPs) were numbered sequentially from the north for consistency and repeatability. All instrument findings are interpreted in accordance with the IML Tree Inspection Manual and device-specific manuals and are reported here as observations only; integration with the VTA and QTRA findings follows in Sections 5 and 6.

3.2 Lower Plane – Sonic Tomography (SoT.v1), 10cm AGL

3.2.1 SoT.v1 was produced using 24 measuring points at a height of 10cm AGL. The tomogram is shown in Image 2.

3.2.2 The tomogram records 100% solid wood across the cross-section, displaying uniformly high sonic velocity throughout (Areas of higher sonic velocity are shown in light to dark brown). Four yellow lines are present within the image, indicating abrupt sound barriers between adjacent measurement points.

3.2.3 The four abrupt sound barriers indicated by the yellow lines are noted. The significance of these findings cannot be determined from the sonic data alone and is considered in the integrated assessment alongside ERT.v1 and IML-RESI PD400 measurement curve findings at this height.

3.2.4 A continuous TreeSA line (thin green line) is visible just inside the outer edge, running parallel to the stem geometry and indicating the minimum residual wall thickness, or maximum hollowing, compatible with the calculated stability of the section using the tree statics model.

3.2.5 In order to validate the SoT.v1 results and obtain further information on the internal wood condition, an electrical resistance tomogram (ERT) was produced using the same measuring points as SoT.v1.

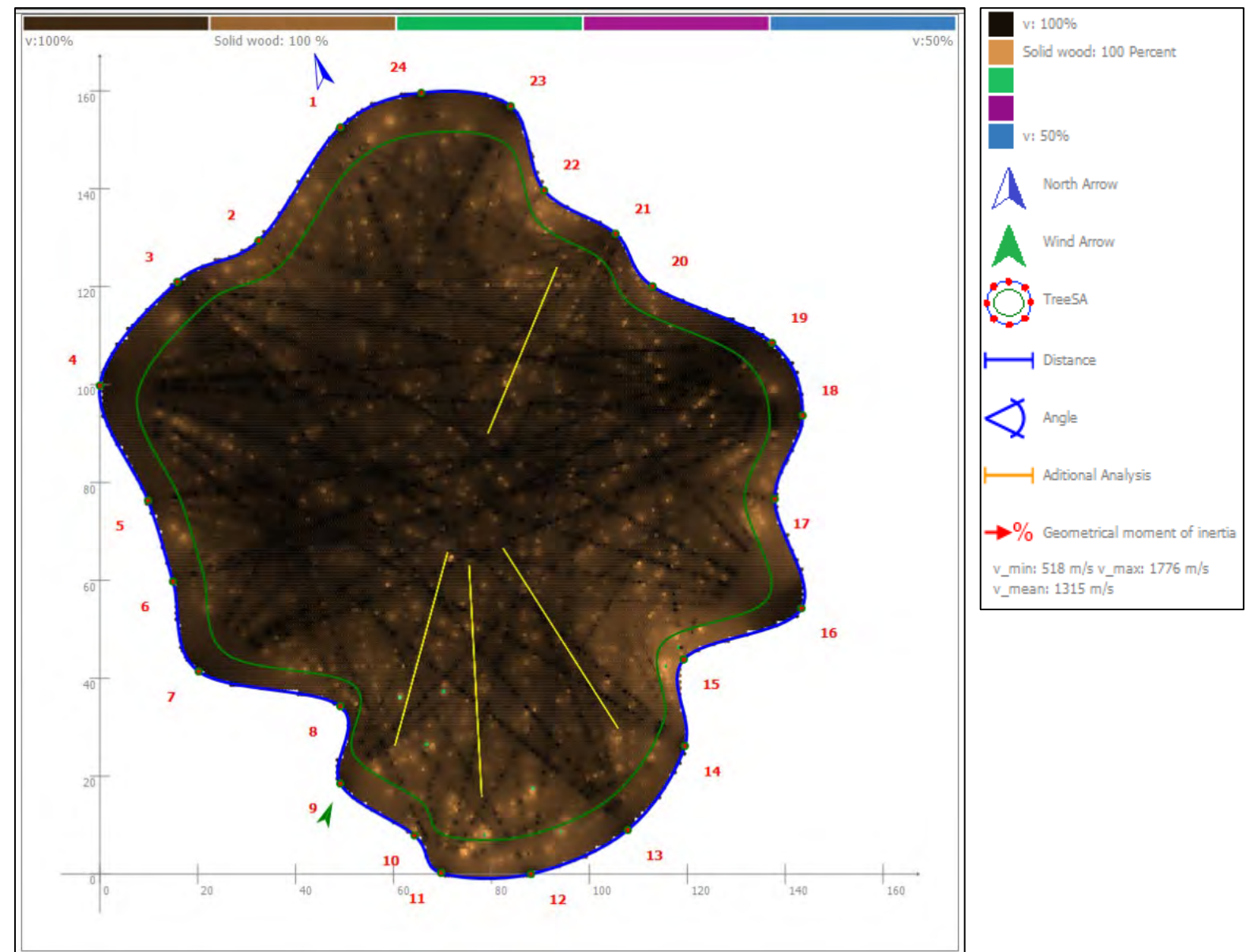


Image 2: SoT.v1 produced at 10cm AGL, 24 measuring points

3.3 Lower Plane – Electrical Resistance Tomography (ERT.v1), 10cm AGL

- 3.3.1 ERT.v1 was produced at the same measuring points and height as SoT.v1, in order to corroborate the SoT findings and to help distinguish between cavity, wetwood and early-stage decay. The tomogram is shown in Image 3.
- 3.3.2 ERT.v1 shows a pronounced area of markedly elevated electrical resistance (dark red) on the northern aspect and a zone of low electrical resistance (dark blue) centred toward the western/south-western aspect. A continuous ring of low resistance is present at the periphery, consistent with conductive bark and sapwood typical of ERT Type 1 species.
- 3.3.3 The high-resistance zone to the north, when considered alongside the uniformly high sonic velocity recorded in SoT.v1, is ambiguous — consistent with either dry hard fungi or desiccated wood, or alternatively with adaptive or reaction wood associated with buttress root development at this measurement height. The low-resistance zone toward the western/south-western aspect is consistent with elevated moisture content.
- 3.3.4 The nature of these findings cannot be determined from the tomographic data alone; targeted drilling measurements were therefore undertaken using the IML-RESI PD400 to investigate and resolve the observed anomalies.

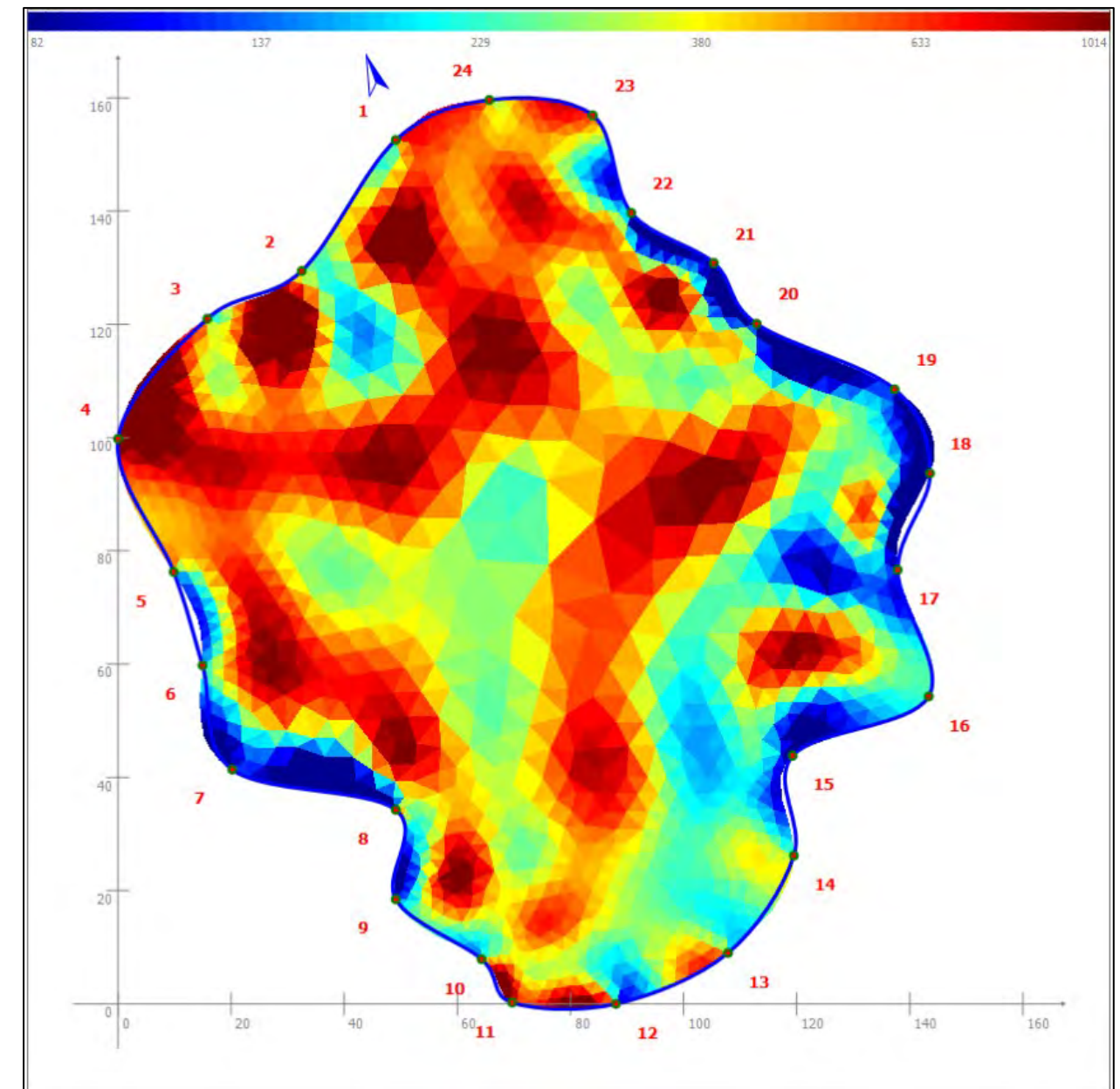


Image 3: ERT.v1 produced at 10cm AGL, 24 measuring points

3.4 Lower Plane – IML-RESI PD400 Assessment, 10cm AGL

- 3.4.1 Targeted drilling measurements were undertaken to verify particular features of interest identified from the SoT and ERT outputs. Four drilling measurements were made at 10cm AGL; the resulting measurement curves, measurement metadata, and drilling summary table are provided in Appendix F.
- 3.4.2 Four measurement curves were recorded at 10cm AGL. Measurement curve 2 at MP3–4 returned sustained fluctuating amplitude to the full 40cm drilled depth with no significant findings. Measurement curves 3, 4 and 5 at MP8, MP15 and MP20 respectively corroborate the SoT.v1 and ERT.v1 findings, flanking the central zone of abrupt sound barriers identified between MPs 9 and 13 on SoT1.

3.5 Upper Plane – Sonic Tomography (SoT.v2), 120cm AGL

- 3.5.1 SoT.v2 was produced using 18 measuring points at a height of 120cm AGL, selected to assess the extent to which internal dysfunction identified at the 10cm plane persists higher within the stem. The tomogram is shown in Image 4.
- 3.5.2 SoT.v2 records 100% solid wood across the cross-section with uniformly high sonic velocity throughout. A single small area of reduced velocity is present toward the north-west aspect, flagged green on the tomogram. A single yellow line is present in the lower-right sector, indicating an abrupt sound barrier between adjacent measurement points.
- 3.5.3 The small area of reduced velocity toward the north-west aspect and the abrupt sound barrier indicated by the yellow line in the lower-right sector are noted.
- 3.5.4 A continuous TreeSA line (thin green line) is visible just inside the outer edge, running parallel to the stem geometry and indicating the minimum residual wall thickness, or maximum hollowing, compatible with the calculated stability of the section using the tree statics model.
- 3.5.5 The significance of these findings cannot be determined from the sonic data alone and is considered in the integrated assessment alongside the ERT.v2 and IML-RESI PD400 measurement curve findings at this height.

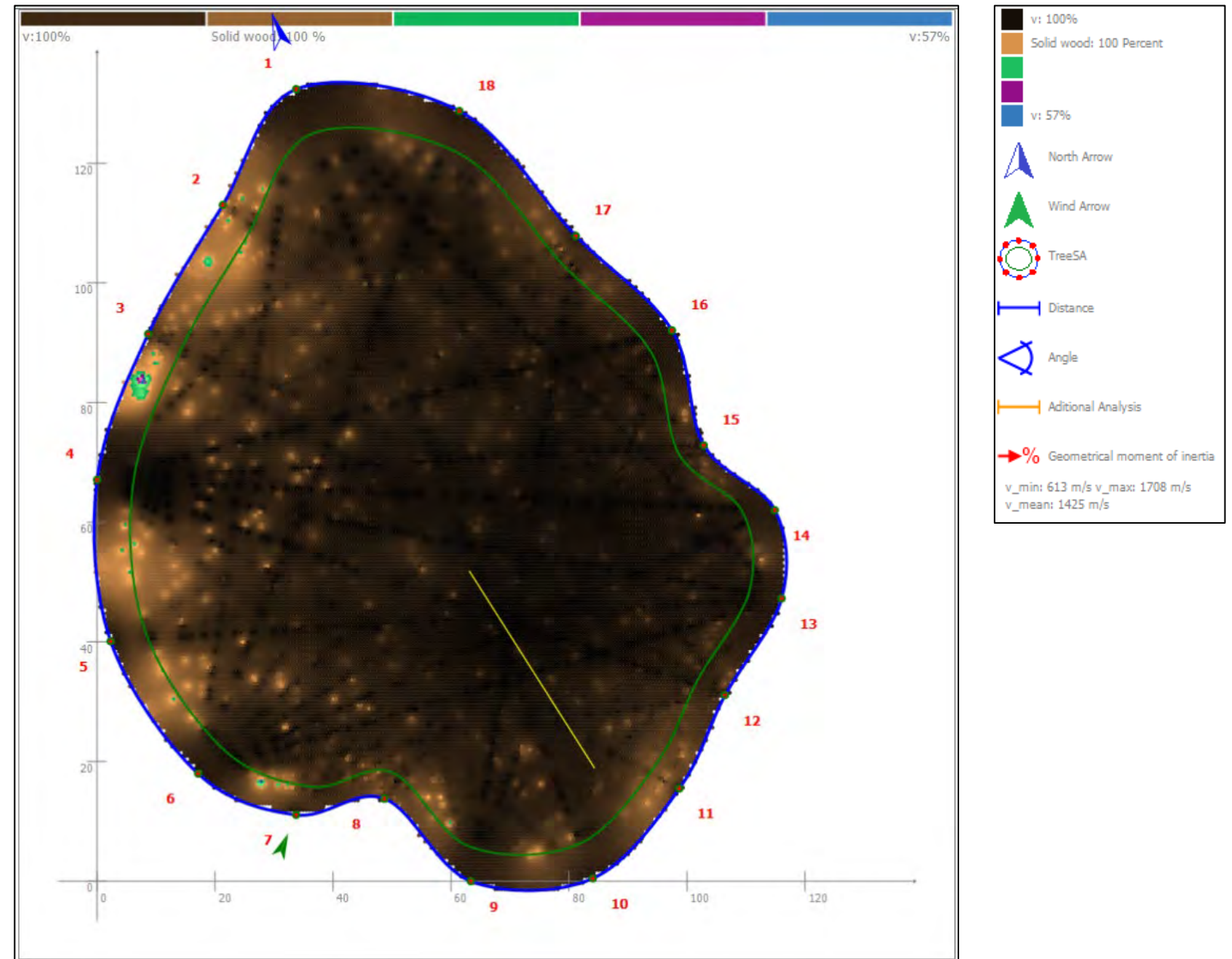


Image 4: SoT.v2 produced at 120cm AGL, 18 measuring points

3.6 Upper Plane – Electrical Resistance Tomography (ERT.v2), 120cm AGL

- 3.6.1 ERT.v2 was produced at the same measuring points and height as SoT.v2. The tomogram is shown in Image 5.
- 3.6.2 ERT.v2 shows a pronounced central zone of low electrical resistance (blue) occupying a significant proportion of the cross-section. Resistance increases progressively toward the outer portions of the stem, with a band of high resistance (red) present toward the north aspect. A continuous ring of low resistance is present at the periphery.
- 3.6.3 The central blue zone indicates that the wood in this area has a higher moisture content than the surrounding wood. The greater spatial extent of this zone relative to the small sonic anomaly in SoT.v2 may indicate early internal change not yet detectable in the sonic data. However, given that this is a high water-demand species measured in May during active growth, elevated moisture content cannot be attributed to dysfunction alone without further corroborating evidence.
- 3.6.4 The nature of these findings cannot be determined from the tomographic data alone; targeted drilling measurements were therefore undertaken using the IML-RESI PD400 to investigate and resolve the observed anomalies.

3.7 Upper Plane – IML-RESI PD400 Assessment at 120cm AGL

- 3.7.1 Targeted drilling measurements were undertaken to verify particular features of interest identified from the SoT and ERT outputs. Four drilling measurements were made at 120cm AGL; the resulting measurement curves, measurement metadata, and drilling summary table are provided in Appendix F.
- 3.7.2 At the 120cm plane, drilling at MP7–8 (Drill 25) returned the most pronounced zone of elevated resistance of any measurement curve obtained, which is attributed to its proximity to the loading point of the primary overextended limb described at Section 2.2.4

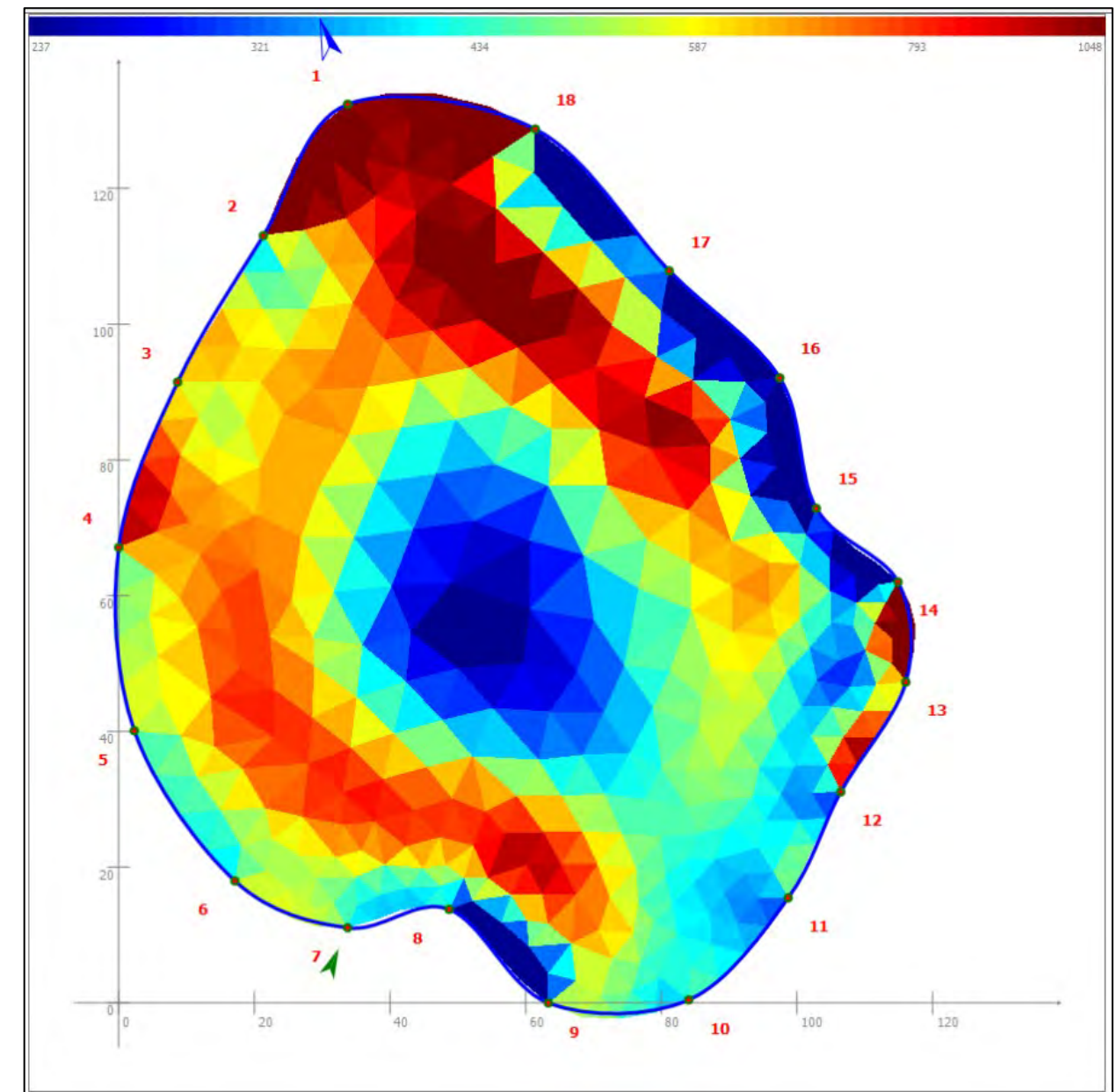


Image 5: ERT.v2 produced at 120cm AGL, 18 measuring points

3.8 Summary of Internal Tree Inspection

- 3.8.1 Combined, SoT.v1, ERT.v1, and the IML-RESI PD400 measurement curves at 10cm AGL indicate abrupt sound barriers, they appear to correspond spatially with a zone of low electrical resistance. This is consistent with wet or decaying material at this location. Findings are considered in the integrated assessment at Section 4
- 3.8.2 Combined, SoT.v2, ERT.v2, and the IML-RESI PD400 measurement curves at 120cm AGL indicate a central zone of elevated moisture content, spatially exceeding the small sonic anomaly recorded in SoT.v2. Some measurement curves show a zone of reduced amplitude, coinciding spatially with the central low-resistance zone in ERT.v2. While this reduction is not diagnostic of void or advanced decay, it is consistent with localised change in wood properties. Given the species and timing of the inspection, elevated moisture cannot be attributed to dysfunction alone. Findings are considered in the integrated assessment at Section 4.
- 3.8.3 Instrument findings are interpreted alongside the VTA findings of Section 2 in the integrated assessment at Section 4, further informing the Target Assessment & Quantified Tree Risk Assessment (QTRA) assessment in Section 5.

4 Integrated Assessment

This section interprets the VTA observations of Section 2 together with the instrument findings of Section 3. Where the instrument data and the VTA findings are in agreement, this is stated; where any discrepancy exists between them, this is identified and explained rather than resolved by default to either source.

4.1 Root Plate and Basal Stem

- 4.1.1 Localised soil displacement was recorded at Section 2.2.1.
- 4.1.2 The site presents an approximately 3m grade differential to the adjoining property to the southeast, retained in part by a historic wall, the structural condition and founding depth of which were not assessed as part of this inspection.
- 4.1.3 The low brick wall to the north-northwest of the tree is displaced, consistent with the radial growth pressure exerted by secondary thickening of the root system in this zone.
- 4.1.4 These factors give rise to concern regarding root plate stability and the potential for ongoing soil movement affecting the surrounding area.
- 4.1.5 A desk-based review of British Geological Survey mapping was undertaken. The underlying geology at the site is recorded as River Terrace Deposits, with the potential for shrinkable clay. No intrusive geotechnical investigation has been undertaken to confirm soil type or shrink-swell potential at the site itself. This finding is considered alongside the root plate observations and supports the recommendation for geotechnical assessment of the root plate zone and retaining structures prior to works.

4.2 Helical indentation and Union (3.5m, South-West Aspect)

- 4.2.1 The helical indentation observed at Section 2.2.3, terminating at the co-dominant tension union at approximately 3.5m, is interpreted as external evidence of torsional loading transmitted to the main stem from the overextended primary limb described at Section 2.2.4. The indentation itself is a genuine concavity, confirmed during the aerial inspection referenced at Section 2.4.
- 4.2.2 At this location: inconsistent percussion across four aspects (Section 2.2.2), SoT and ERT findings indicating abrupt sound barriers, flanked by IML-RESI PD400 measurement curve corroboration (Section 3.8.1), the confirmed physical indentation and fibre buckling observed at close range. No instrument finding at this location contradicts the VTA observation.
- 4.2.3 The tree's coastal locality and elevated site position (Section 1.2) are considered contributing factors in the magnitude of wind loading transmitted to the crown, and by extension to the torsional loading mechanism described above.

4.3 Historic Topping Unions (Upper Crown)

- 4.3.1 The branch architecture of the primary and secondary framework is consistent with at least one, and possibly two, previous topping events having been carried out visible within the upper crown. This is a professional inference from the observed branch structure; no documentary evidence exists to confirm the number or timing of previous topping.

- 4.3.2 The multiple compression unions and areas of fibre buckling identified within the upper crown framework, are features that indicate the affected unions are reliant on compressive bark-to-bark contact rather than integrated wood tissue for mechanical continuity.
- 4.3.3 Fibre buckling — the wave-like deformation of wood fibres on the compression face of a bending stem or branch, identified by Mattheck & Breloer (1994) as evidence that loading has already exceeded local elastic capacity — was observed proximal to multiple union junctions throughout the canopy. This is not an isolated finding confined to the primary overextended limb but a recurring feature across a number of limbs and unions, present more frequently than not where overextended limbs of significant diameter arise from compression unions.
- 4.3.4 The foliage mass carried above each historic topping union is substantial in height and weight, generating significant lever arm loading at and immediately below each junction. The canopy-wide distribution of fibre buckling indicates that the structural concern is not confined to a single limb or union but reflects a systemic pattern of elevated compressive stress throughout the upper crown framework, arising from the combination of multiple unintegrated compression unions and the overextended, heavily loaded limb architecture developed following historic topping.
- 4.3.5 The susceptibility of Eucalyptus to sudden limb failure in calm summer conditions without prior visible warning — described in the species profile at Appendix C — is a material consideration in assessing this canopy-wide pattern: in a species where failure may occur on externally sound-appearing limbs without forewarning, a crown architecture presenting multiple unintegrated compression unions with fibre buckling proximal to the junction and a heavy re-grown foliage mass above warrants particular caution.

4.4 Combined Structural Assessment

- 4.4.1 The three areas of structural concern addressed above — root plate and basal stem instability (Section 4.1), torsional loading at the 3.5m helical indentation and union (Section 4.2), and the systemic pattern of unintegrated compression unions and fibre buckling within the historic topping unions of the upper crown (Section 4.3) — are not isolated findings confined to discrete locations within the tree. Taken together, they describe a tree in which structural compromise is present at the base, the main stem, and the upper crown framework concurrently.
- 4.4.2 This distribution is significant. A defect confined to a single location might be addressed by targeted remedial works without compromising the tree's overall structural integrity. Concurrent compromise across the root plate, main stem, and crown framework removes that option: there is no single point of intervention capable of adequately addressing the risk, since each area presents an independent pathway to failure.
- 4.4.3 These findings must be considered alongside the tree's size relative to its position. The crown spreads over occupied ground on all sides, and at around 2.0cm DBH a year it continues to enlarge, extending further over that ground each year, which no management regime could curtail.

4.5 Crown Reduction

A crown reduction has been considered as an alternative to felling.

- 4.5.1 The Arboricultural Association's *Guide to Tree Pruning* rates *Eucalyptus* as having poor tolerance to hard pruning. This professional classification reflects the species' susceptibility to a disproportionate physiological and structural response to significant crown reduction and is consistent with the vigorous epicormic regrowth response and increasing risk of attachment failure described below.
- 4.5.2 *Eucalyptus* has a 'poor' tolerance to hard pruning and produces vigorous epicormic regrowth from wound margins and the cut stem. As such epicormic stems enlarge, they carry an increasing risk of failure at their point of attachment, both from drag forces concentrated at that point and from crowding among multiple co-located shoots, which reduces the quality of the attachment itself. This mechanism is already identified within the existing canopy at the confirmed compression unions (Section 4.4), and there is no basis to expect a materially different structural outcome from epicormic growth arising in response to crown reduction.
- 4.5.3 The scale of reduction required to meaningfully address either the structural loading at the 3.5m union or the canopy encroachment over neighbouring properties would exceed what BS 3998:2010 and accepted best practice consider physiologically tolerable. A reduction proportionate to the loading concern identified in Section 4 would necessarily approach the severity of topping — itself already implicated in the historic union defects described — rather than a standard, recurrent crown reduction regime.
- 4.5.4 A reduction of this severity would itself significantly diminish the amenity value the tree currently provides, given its scale, form, and contribution to the local landscape. This represents a significant cost in its own right, independent of whether the reduction successfully addresses the underlying structural concern.
- 4.5.5 Even were a reduction of acceptable severity undertaken, the tree's sustained growth rate, estimated at approximately 2.0cm DBH per year, means any benefit would be temporary. New growth following crown reduction frequently restores the height and sail area of the crown, re-establishing the original hazard within a comparatively short period, and would be expected to do so here well within the residual life expectancy of the tree, without the benefit of a sustained cyclical management.
- 4.5.6 Considered together, these grounds — the species' classified poor tolerance to hard pruning, the adverse structural response of epicormic regrowth, the physiological limit on achievable reduction without approaching the severity of topping, the resulting loss of amenity value, and the predictable recurrence of both structural loading and amenity conflict within a comparatively short period — render crown reduction an unsuitable management option for this specimen. Felling is accordingly considered the only management option capable of adequately addressing the structural risk identified through the Integrated Assessment.

5 Target Assessment & Quantified Tree Risk Assessment (QTRA)

Risk has been assessed using the QTRA method, in accordance with ISO 31000:2009, by reference to Target, Size and Probability of Failure (PoF), to produce a Risk of Harm (RoH) figure for comparison against the QTRA advisory thresholds.

5.1 Target Assessment

5.1.1 The tree's crown spread, falling distance and the surrounding land use, set out in full at Section 1.2, encompass multiple high-occupancy targets, including the three neighbouring residential properties, the access driveway and rear car park, and the adjoining Prince Consort public house and restaurant, a Grade II listed commercial premises with an outdoor seating terrace and a separate seven-room coach house guest accommodation block. On this basis, Target Range 1 (Property) has been applied across all three lines of assessment below.

5.2 Probability of Failure – Three Independent Lines of Assessment

5.2.1 Three structurally independent locations have been separately assessed for Probability of Failure, reflecting the three distinct areas of concern identified in Sections 2 to 4. Each is assessed and justified individually, rather than collapsed into a single tree-wide figure, in order to preserve the distinct evidential basis for each.

Location	Target Range	Size	PoF Range	Risk of Harm (RoH)	Band
Whole tree / root plate	1	Property	4	1 in 3,000	Orange — Unacceptable where imposed on others
Union / helical indentation (3.5m AGL)	1	Property	3	1 in 300	Red — Unacceptable
Historic topping unions (5–6m AGL)	1	Property	4	1 in 3,000	Orange — Unacceptable where imposed on others

5.3 Application of QTRA Advisory Thresholds

- 5.3.1 All three Risk of Harm figures exceed 1 in 10,000, the threshold beyond which the QTRA Practice Note advises that risk will not usually be tolerable where it is imposed on others. Two of the three independent lines — the root plate (RoH 1 in 3,000) and the historic topping unions (RoH 1 in 3,000) — sit in the orange (Unacceptable) band of the QTRA traffic light system. The union and helical indentation line (RoH 1 in 300) sits in the red (unacceptable) band. The convergence of three independent failure lines at or above the orange threshold, across structurally distinct failure mechanisms, significantly strengthens the conclusion that the risk presented by this tree in its current condition cannot be reduced to a tolerable level by any means short of removal. This risk is not borne by the tree's owner but is imposed on neighbouring occupiers and third parties who have no control over their exposure to it. Under the principles of reasonable practicability as embodied in the Occupiers' Liability Acts 1957 and 1984, risk at this level is not tolerable and requires mitigation.
- 5.3.2 Given that all three independently assessed locations exceed this threshold, and considering the multiple high-occupation targets identified, retention of the tree without intervention is not considered ALARP.

6 Conclusion

- 6.1.1 This report follows the refusal of a previous application relating to this tree (Eastleigh Borough Council reference T/24/98325, refused October 2024) on the grounds that insufficient arboricultural and diagnostic evidence had been provided. This report presents Visual Tree Assessment, Aerial inspection, percussion sounding, sonic and electrical resistance tomography at two measuring planes, ten IML-RESI PD400 drilling measurement curves, and a three-location Quantified Tree Risk Assessment, in order to address that evidential gap.
- 6.1.2 Having regard to the findings of the Visual Tree Assessment and Aerial inspection (Section 2), the corroborating internal tree inspection (Section 3), the integrated assessment (Section 4), and the Quantified Tree Risk Assessment (Section 5) – in which all three independently assessed Probability of Failure scenarios produced a Risk of Harm exceeding the QTRA advisory threshold of 1 in 10,000 – it is the professional opinion of the author that retention of the tree, whether unmanaged or subject to crown reduction, does not represent a risk that is As Low As Reasonably Practicable.
- 6.1.3 A crown reduction has been considered and rejected as a management option, for the reasons set out at Section 4.5.
- 6.1.4 The tree has also outgrown its position, and because it continues to grow, this is a progressive condition rather than a static one.
- 6.1.5 Felling of the tree to ground level and stump removal is accordingly recommended.

7 Summary of Recommendations

- 7.1.1 On the basis of the findings and conclusion set out above, the following is recommended.

7.2 Felling

- 7.2.1 It is recommended that consent be sought under the Town and Country Planning Act 1990 (as amended) for the felling of the Eucalyptus (TPO505-E, tree tag T2574) to ground level, on the grounds set out in this document. All works should be undertaken in accordance with the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. A Preliminary Roost Assessment by a suitably qualified ecologist is recommended prior to implementation.

7.3 Geotechnical Assessment

- 7.3.1 A geotechnical assessment of the root plate, surrounding soil, and the adjacent retaining structures referenced in Section 2 is recommended in advance of felling works, given the approximately 3m grade differential.

7.4 Replacement Planting

- 7.4.1 It is recommended that the loss of public amenity arising from felling be mitigated by a BS 8545:2014 compliant replacement planting scheme, comprising species and locations to be agreed with the Local Planning Authority, selected to suit the soil and spatial constraints of the site.

A METHODOLOGY

A1 INSPECTION METHODOLOGY

A1.1 To assess tree condition and structural safety, SAL used a combination of diagnostic tools selected according to the inspection objectives, tree condition, site context and the information required to support a proportionate assessment.

A1.2 This may include one or more of the following:

- **Visual Tree Assessment (VTA):** A ground-based inspection for external signs of structural dysfunction, adaptive growth, physiological stress, pests, diseases and fungal activity.
- **PiCUS 3 Sonic Tomograph (SoT):** Measures the transmission velocity of stress waves through wood and reconstructs a tomographic model showing the distribution of relative sonic velocities within the cross-section.
- **PiCUS TreeTronic 3 Electrical Resistance Tomograph (ERT):** Measures the distribution of electrical resistance within the cross-section, providing additional information regarding internal wood condition and moisture distribution.
- **IML PD400:** Measures drilling resistance along a defined drilling path to assist interpretation of internal wood structure.
- **Increment Borer:** Removes a core sample from a specific area of the trunk to allow direct examination of the physical condition of the wood.

A2 VISUAL TREE ASSESSMENT (VTA)

A2.1 VTA is used to identify external indicators of structural dysfunction, adaptive growth, physiological stress and fungal activity. Typical observations may include cracks, cavities, bark abnormalities, deadwood, root plate dysfunction, fruiting bodies and signs of decline. Findings are used to guide the selection and placement of internal inspection tools where appropriate.

A3 ROPE-ACCESS AERIAL INSPECTION

A3.1 Where the crown structure, branch unions, or upper stem cannot be adequately assessed from ground level, SAL undertakes aerial inspection using rope-access equipment. The aerial inspection enables direct close-range examination of branch unions, detection of defects not visible from below, and where necessary the clearance of accumulated debris from within unions prior to assessment. Findings from aerial inspection are recorded and integrated with ground-based VTA and instrument data as part of the overall assessment.

A4 PICUS 3 SONIC TOMOGRAPHY (SoT)

A4.1 Sonic Tomography (SoT) measures the transmission velocity of stress waves through wood and reconstructs a tomographic model showing the distribution of relative sonic velocities within a cross-section of the stem.

A4.2 Areas of reduced sonic velocity may be associated with changes in material properties, structural discontinuities, cracks, cavities or other internal features. The resulting tomogram represents a model of measured sonic velocities and will be interpreted alongside all other available inspection data.

A5 PICUS TREETRONIC 3 ELECTRICAL RESISTANCE TOMOGRAPHY (ERT)

A5.1 Electrical Resistance Tomography (ERT) is used alongside SoT to provide additional information regarding the internal condition of the inspected cross-section.

- A5.2** The system measures the distribution of electrical resistance within the wood. Variations in electrical resistance may be influenced by moisture content, wood condition, compartmentalisation processes and other physiological or structural characteristics.
- A5.3** The resulting tomogram is considered alongside SoT findings and other inspection data to assist interpretation of internal conditions.

A6 IML-RESI PD400 RESISTANCE DRILLING

- A6.1** The IML-RESI PD400 may be used where additional information is required regarding the internal structure of the tree.
- A6.2** The instrument records drilling resistance along a defined drilling path and produces a measurement curve. Variations in drilling resistance may assist interpretation of internal wood structure and help characterise conditions identified by other inspection methods.

A7 INCREMENT BORER

- A7.1** The Increment Borer may be used as an additional investigative tool where direct examination of the wood is considered necessary to support the inspection findings.
- A7.2** A core sample is extracted from a targeted location identified through VTA and/or other diagnostic methods. The sample may be assessed for residual wall thickness, wood condition, compartmentalisation, decay and other relevant structural characteristics.

A8 QUANTIFIED TREE RISK ASSESSMENT (QTRA)

- A8.1** Internal tree inspection findings are considered to inform the likelihood of failure alongside likelihood of occupancy, consequence of failure and the wider benefits provided by the tree when determining overall risk and management recommendations.
- A8.2** Following inspection, SAL applies the Quantified Tree Risk Assessment (QTRA) methodology, which aligns with the Tolerability of Risk (ToR) framework shown in Figure 1. Risks are categorised according to the QTRA Advisory Risk Thresholds shown in Table 1, with management recommendations provided according to their acceptability.

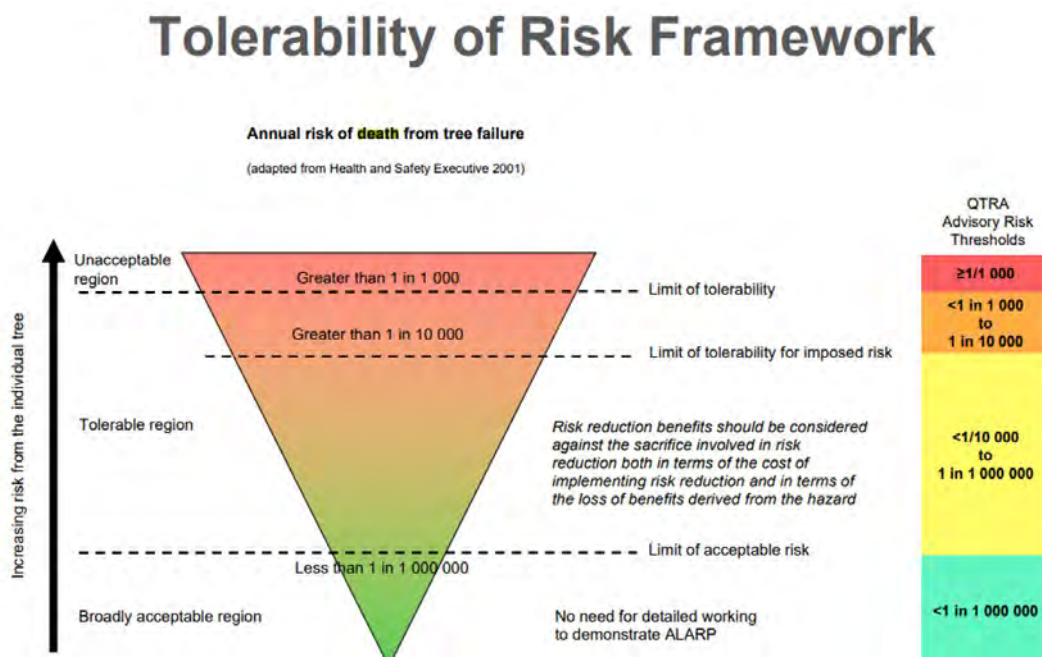


Figure 1: Tolerability of Risk Framework (adapted from Health and Safety Executive, 2001)

QTRA Advisory Risk Thresholds

Thresholds	Description	Action
1/1 000	Unacceptable Risks will not ordinarily be tolerated	Control the risk
	Unacceptable (where imposed on others) Risks will not ordinarily be tolerated	- Control the risk - Review the risk
	Tolerable (by agreement) Risks may be tolerated if those exposed to the risk accept it, or the tree has exceptional value	- Control the risk unless there is broad stakeholder agreement to tolerate it, or the tree has exceptional value - Review the risk
1/10 000	Tolerable (where imposed on others) Risks are tolerable if ALARP	- Assess costs and benefits of risk control - Control the risk only where a significant benefit might be achieved at reasonable cost - Review the risk
1/1 000 000	Broadly Acceptable Risk is already ALARP	- No action currently required - Review the risk

Table 1: QTRA Advisory Risk Thresholds

Appendix B: Caveats and Limitations

B INSPECTION LIMITATIONS

B1 General Inspection Limitations

- B1.1** Trees are living organisms, and their health, condition and safety can change over time. Even a tree that appears mechanically sound may be damaged during extreme weather. Hazards are identified from visible symptoms or other characteristics that indicate an increased likelihood of failure.
- B1.2** This inspection and the recommendations provided are based on an arboricultural assessment carried out in typical weather and environmental conditions. Guidance from the National Tree Safety Group and the Health and Safety Executive confirms that tree safety management should be reasonable and proportionate and should reflect the very low overall level of risk that trees present during normal conditions.
- B1.3** The purpose of a tree inspection is not to eliminate all risk. It is to identify material defects that may present an unacceptable risk when considered alongside how the site is used and the likelihood of people being present. The level of intervention that is justified will depend on the landowner's tolerance of risk and their responsibility to manage trees in a way that is sensible and defensible.
- B1.4** Underground roots cannot be fully inspected visually and are not included within this assessment. Limited excavations below ground level will only be carried out if specified in the report.

B2 Sonic Tomography Limitations

- B2.1** Sonic tomography is useful for assessing internal wood condition, but it has limitations:
- **Decay types:** Different decay types affect results, e.g., *Ustulina deusta* may require additional assessments such as micro drilling.
 - **Foreign objects:** Internal materials like metal, concrete, or stones can distort results.
 - **Internal defects:** Irregularities like depressions may exaggerate decay on the tomogram.
 - **Factors affecting sound waves:** Cracks, bark inclusions, and ring shake can slow sound waves, potentially leading to false indications of decay.
- B2.2** Where additional information is required, an IML PD400 may be used to assist interpretation of tomographic findings.

B3 Electrical Resistance Tomography Limitations

- B3.1** Electrical Resistance Tomography (ERT) is a valuable tool for evaluating internal moisture patterns and potential decay, but it also has limitations:
- **Moisture-dependent readings:** The method is highly sensitive to moisture variation and may not distinguish between wet but sound wood and decay-affected tissue.
 - **Temperature influence:** Cold or frozen wood can affect resistance readings, potentially leading to inaccurate interpretations.
 - **Decay type and progression:** Dry or well-compartmentalised decay, such as late-stage white rot, may not be detected reliably due to low moisture differentials.
 - **Electrode contact issues:** Poor electrode contact with the bark or cambial layer, especially in rough-barked or thick-barked species, can lead to weak signals or patchy data.
 - **Influence of wood chemistry:** High ion concentrations (e.g., near wounds or fungal activity) may alter resistance values independently of structural integrity.

B4 IML-RESI PD400 RESISTANCE DRILLING Limitations

B4.1 IML-RESI PD400 RESISTANCE DRILLING has limitations, including:

- **Invasiveness:** Drilling can cause minor wounds, leading to potential entry points for pathogens.
- **Data interpretation:** Results require expert interpretation to avoid misjudgements.
- **Limited scope:** Drilling provides data at specific points; multiple drillings may be needed.
- **Environmental factors:** Moisture, temperature, and other conditions influence results.
- **Physical limitations:** Tools may not be suitable for very small, large, or hard/soft wood trees.

B5 Increment Borer Limitations

B5.1 The Increment Borer provides direct physical evidence of internal wood condition, but it has limitations:

- **Invasive technique:** Coring creates a wound that may introduce pathogens or compromise the tree's natural defences, especially if not sealed or disinfected properly.
- **Limited sample area:** The tool only assesses a narrow radius, which may not be representative of the overall stem condition or extent of decay.
- **User variability:** Interpretation of cores can be subjective and dependent on the experience of the assessor, particularly when decay boundaries are indistinct.
- **Severely decayed wood:** a core sample cannot be extracted if the wood has degraded to such an extent that the core sample itself does not have a sufficient integrity to be pulled out of the tree.
- **Physical resistance:** Dense, dry, or resinous wood may be difficult to bore through, limiting its use in some species or structural positions.
- **Access constraints:** Practical use may be restricted by tree form, height, or obstructions, reducing the ability to target specific internal defects precisely.

B6 Report Limitations

B6.1 The report reflects the condition of the tree at the time of inspection. Any changes, such as weather events, tree damage, or excavation, may invalidate findings.

B6.2 Artificial intelligence (AI) software has been used to assist with the drafting, formatting, proofreading and administrative preparation of this report. All inspection findings, interpretations, conclusions, risk assessments and management recommendations have been reviewed and approved by the author, who retains full professional responsibility for the content of the report.

B7 Caveats

B7.1 No assessments or recommendations regarding subsidence, heave, soil moisture, root damage to structures, or disruption to underground services will be provided unless specified in the report.

B7.2 Only minor vegetation clearance will occur unless specified. Dense undergrowth or ivy should be cleared before inspection.

B7.3 No soil, wood, or foliar samples will be taken for laboratory analysis unless stated in the report. No aerial inspections or pull tests will be carried out unless specified.

Appendix C: Species Profile

C SPECIES PROFILE

C1 *Eucalyptus*

C1.1 *Eucalyptus* is a large, fast-growing evergreen genus native to Australia, increasingly planted in the UK and, in some locations, naturalising. The genus is identified by its bark, which exfoliates in long strips or plates — a normal physiological feature rather than a sign of ill health — together with lanceolate evergreen foliage and, in many species, a tall, clean stem supporting a comparatively open crown. Growth rates are rapid relative to native UK broadleaf species, and mature specimens can attain substantial height and crown spread within a comparatively short establishment period. The subject tree, reported by the client to have been planted approximately 62 years ago, has a measured DBH of 124cm at 1.5m, equating to an average diametric increment of approximately 2cm/year — high in absolute terms but consistent with the genus.

C1.2 *Eucalyptus* possesses active defence mechanisms including tylose formation within the vessels, and several species, including this genus generally, are able to extrude dead branch stubs by the pressure of adjacent new wood growth, accelerating wound closure relative to species that retain stubs (Applied Tree Biology). It is difficult to generalise about resistance to decay across so large a genus, but the wood of many species is relatively durable, and while decay is common in native eucalypt stands in Australia, very few primary decay problems have been reported in UK amenity plantings (Lonsdale, 1999). Where specimens have been subjected to non-compliant pruning — including topping, heading, or severe reduction inconsistent with BS 3998:2010 — regrowth is characteristically vigorous and multi-stemmed, producing co-dominant leaders from the historic cut margins. The resulting unions are typically compression unions, lacking a well-formed branch bark ridge and containing included or compressed bark, and are structurally inferior to integrated tension unions under sustained lever-arm loading from a re-grown crown. *Eucalyptus* is recorded among the genera associated with sudden limb failure ("summer branch drop"). The general mechanism — large limbs failing without prior visible warning, typically during calm conditions on hot afternoons, or in England following rain that terminates a period of soil dryness — is described by Lonsdale (1999, pp. 30–31) and Strouts & Winter (1994, p.178), the English climatic trigger being noted by Rushforth (1979, cited in Harris, 1983). In young specimens, inadequate root development following the planting of pot-bound stock has been observed to lead to windthrow, and top breakage is common in young *Eucalyptus gunnii* (Lonsdale, 1999).

C1.3 *Eucalyptus* is classified as a high-water demand genus (NHBC Standards, Chapter 4.2 "Building near trees," Appendix 4.2-A), grouped alongside Elm, Hawthorn, Oak, Poplar and Willow, and this characteristic is material to its influence on shrinkable clay soils in proximity to structures. Under UK conditions, *Eucalyptus* requires full sun for healthy growth, and many species require a frost-free climate, with winter cold capable of killing above-ground parts. Recorded decay fungi include *Coriolus versicolor*, and silver-leaf disease, caused by *Chondrostereum purpureum*, can kill stems and branches which may subsequently fail through decay or embrittlement (Lonsdale, 1999). Despite its rapid growth and increasing presence in UK amenity and garden settings, *Eucalyptus* remains a comparatively recently naturalised genus in Britain, and its structural behaviour — particularly the compression unions arising from historic hard pruning and its documented susceptibility to sudden limb failure — warrants particular attention in risk assessment of mature specimens.

Appendix D: Images

D IMAGES

Images are grouped into three sections: (A) Whole tree views; (B) Ground-level inspection; (C) Aerial inspection. All images by Alex Parker, SAL, except where stated. Images 1 and 2 were taken in 2024 (prior to exfoliating bark removal). Images 3 onwards were taken during or in preparation for the 2026 inspection.

D1 Whole Tree Views

Image1 & 2: Whole tree from car park, October 2024. Full crown in leaf demonstrating extent and density. The co-dominant tension union at approximately 3.5m is almost visible at the base of the crown break. The car park, brick boundary wall, and adjacent parking bays visible in foreground.



Image 3: General view from north-northwest aspect, October 2024 (prior to exfoliating bark removal). The overextended primary SSE limb is almost visible extending to the left of the crown. The proximity of the crown to neighbouring properties is evident.



Image 4: General view, north-northwest aspect, June 2026, mid exfoliating bark removal. The volume of shed bark strips and plates visible illustrates the scale of annual bark exfoliation typical of the species — a normal physiological feature of the genus.





Image 5: Low brick wall separating carpark on NNW aspect showing vertical gap and displacement consistent with root-related ground movement. The subject Eucalyptus stem is visible in the background.

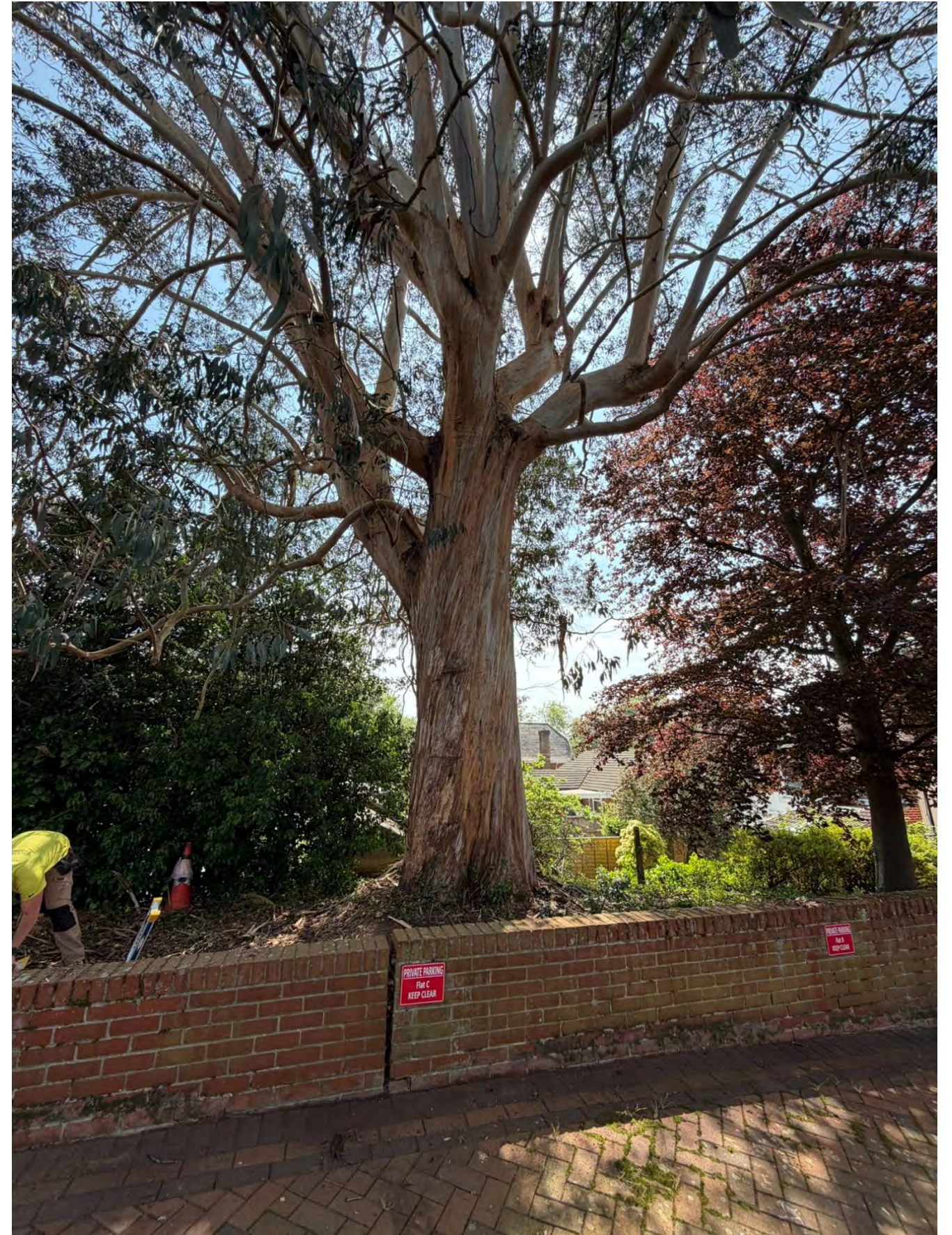


Image 6: General view of tree from car park (NNW aspect), June 2026, following exfoliating bark clearance. Post-clearance the stem form is clearly visible. The transition from the single main stem to the multi-stemmed upper crown at approximately 5-6m, at the historic topping union zone, is apparent. The overextended primary limb is visible to the left of the crown.

Image 7: NE aspect, June 2026. The overextended primary SSE limb is visible. From this aspect the union presents a comparatively integrated appearance.



Image 8: SW aspect, June 2026. The helical indentation is visible as a continuous groove tracking upward-right from approximately ground level toward the 3.5m union zone. Three subordinate limbs are visible in the mid-frame; the primary SSE limb is out of frame to the right.

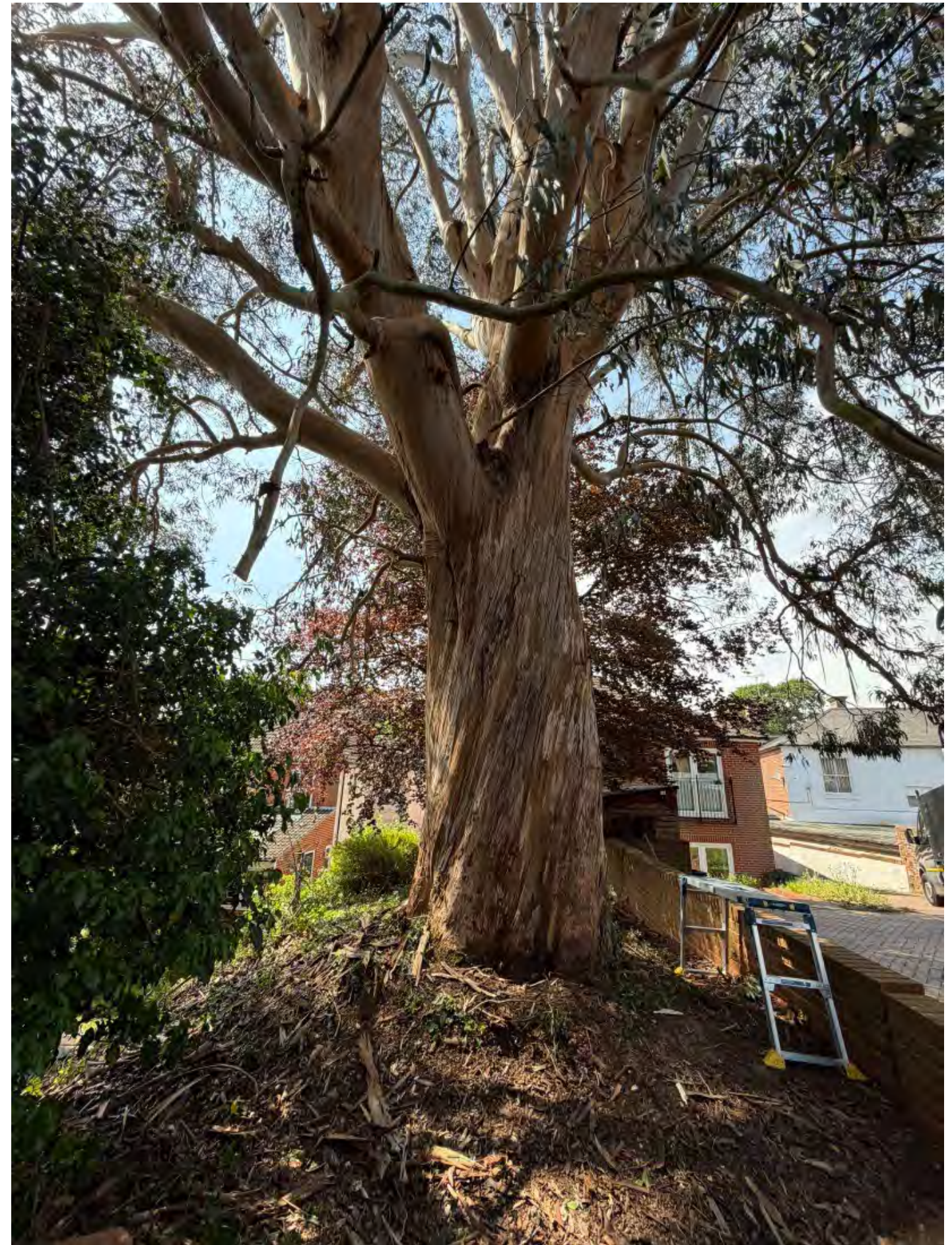


Image 9: View from within the subject property south-eastward, showing the approximate 3m step-down to the neighbouring property boundary. The retaining wall, which lies out of frame to the right, separates the two levels. The extent of the crown's southward spread over this level.



D3 — Aerial Inspection Images

All Images in this section were taken during the aerial inspection by rope access, at working heights of approximately 8–16m above ground level, June 2026.

Image10: Looking at the central multi-stemmed crown structure arising from the union zone is clearly visible, with numerous co-dominant and sub-dominant stems. Dark staining and bark compression at several junctions, and the absence of branch bark ridges, are consistent with compression union morphology at multiple points. Taken from the climbing position at approximately 8m AGL.



Image11: Close-range view from the primary SSE aspect, at approximately 5–6m AGL. The SSE limb is visible tracking lower-right. Co-dominant stems, compression unions with fibre buckling is visible.



Image 12: Close-range view of upper crown compression union zone at approximately 8–10m AGL. Multiple co-dominant stems visible arising from the historic topping union level. The dark staining and compressed bark, confirms the presence of structurally unintegrated compression unions at this level. Fibre buckling is visible on the underside of several limbs.



Image 13: Close-range view of the lower union zone at approximately 5–6m AGL showing the condition of the stem between the co-dominant leaders. The boot provides scale. The bark disruption, and darkly stained zone between the stems are clearly visible at this range. The adjacent property no53 garden is visible below in the background.



Image 14: View looking upward through the union zone from approximately 6m AGL, showing the multiple stems arising from the topping union level and the open crown architecture above. The debris accumulated in the union zone (dried bark, detritus) is consistent with the enclosed, compressed nature of the union geometry and is typical of compression unions in Eucalyptus where the stems have grown tightly together from a historic cut margin.



Image 15: View of mid-upper crown at approximately 10–12m AGL showing multiple sub-dominant stems arising from secondary branching above the topping union zone. Fibre bucking. Dark staining at individual sub-union junctions is visible, confirming compression union morphology is not confined to the primary topping union level but is present at secondary branching points throughout the re-grown crown framework

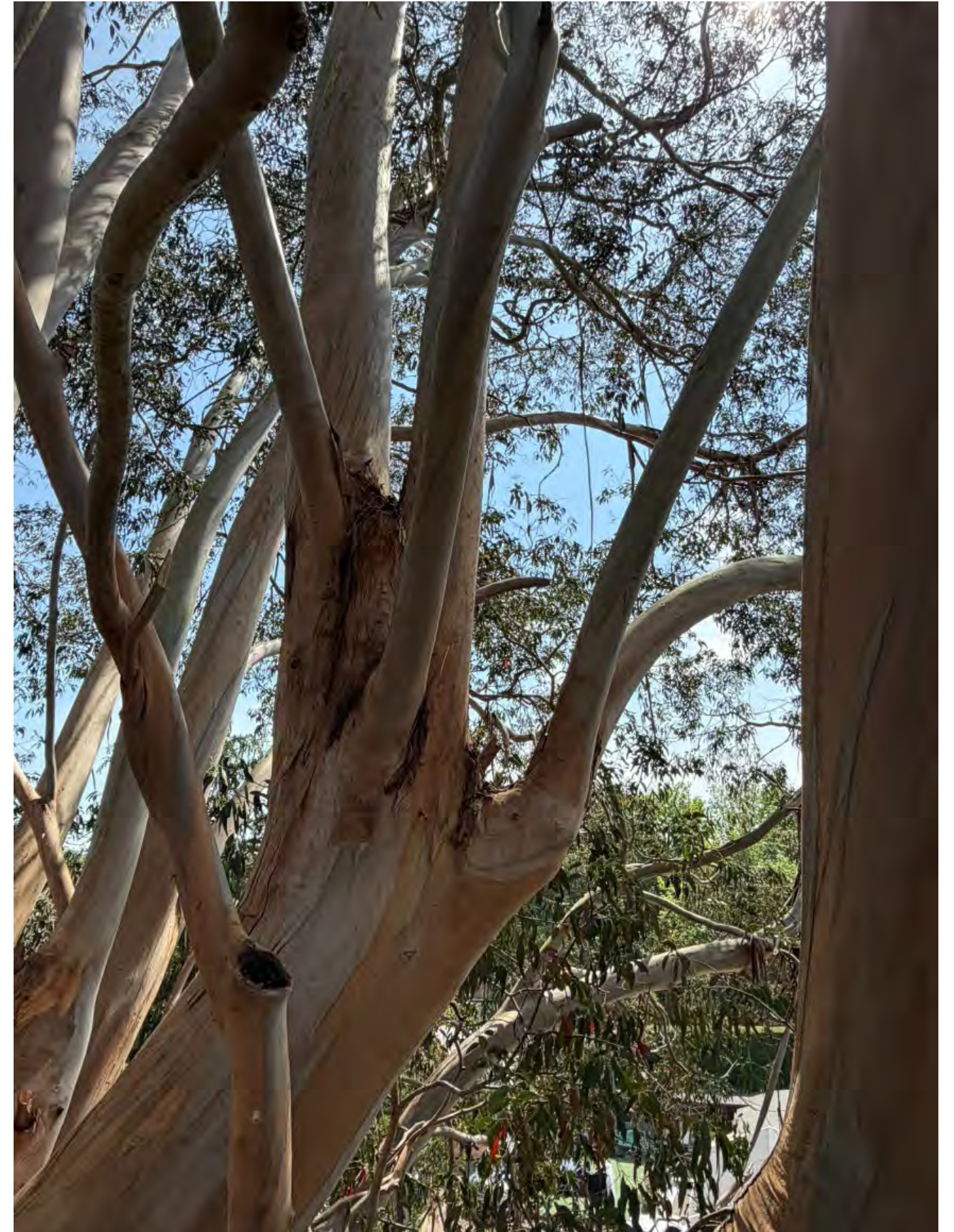


Image 16: Close-range view of a specific compression union at approximately 8m AGL. The extended, elongated dark-stained zone between two co-dominant stems is clearly visible. The angle of the branch bark ridge and the presence of this staining zone, extending vertically downward from the union, are diagnostic of a compression union in which bark has been occluded between the stems under prolonged compressive loading.



Image 17: Further close-range view of compression union zones at approximately 8–10m AGL. Two separate dark-stained compression zones are visible between three co-dominant stems, with the characteristic elongated staining pattern running vertically below each union.



Image 18: Aerial view of the mid-stem at approximately 7-8m AGL showing fibre buckling



Image 19 & 20: Close-range view of compression unions, fibre buckling at approximately 6-7m AGL from the aerial inspection position.



Appendix E: IML-RESI PD400

E MEASUREMENT PROFILES AND SUMMARY

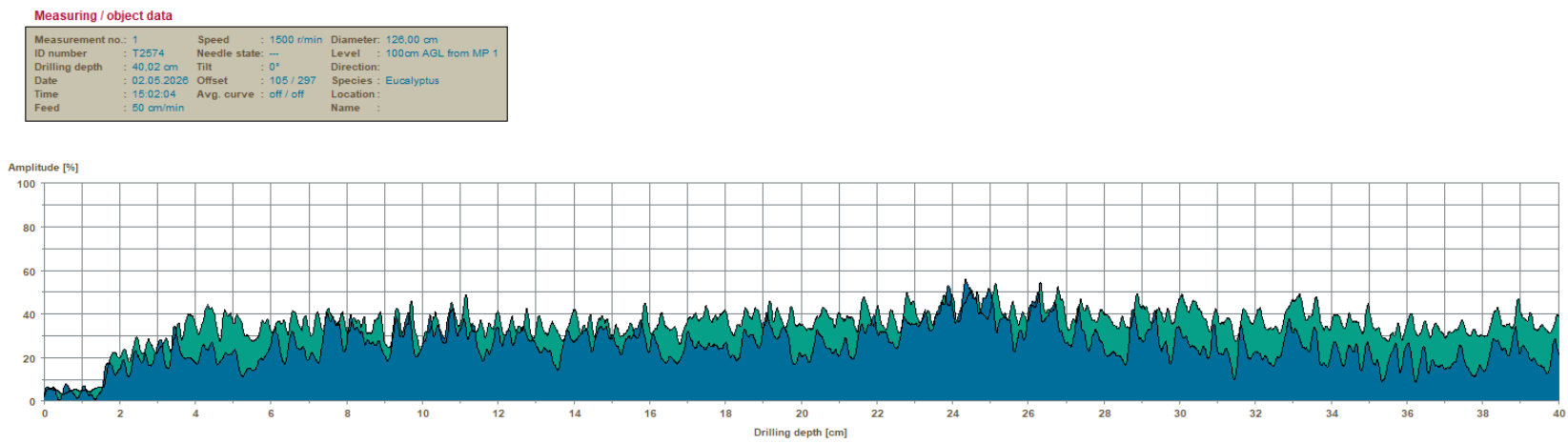
E1.1 *Table F1: IML-RESI PD400 measurement profile Summary*

Drill No.	Date	Level / Position	Tree Diameter	Depth	Summary
1	02.05.2026	100cm AGL, MP1	126.00cm	40.02cm	Sound wood throughout. Independent reference measurement; height not coincident with either tomographic plane.
2	02.05.2026	10cm AGL, MP3–4	146.00cm	40.05cm	Sound wood throughout. Comparison point outside SoT1 sound-barrier zone.
3	02.05.2026	10cm AGL, MP8	146.00cm	40.05cm	Extended outer low-amplitude zone (~3–4cm); discrete elevated feature at ~17–19cm. Flanks SoT1 convergence zone. Significant corroborative finding.
4	02.05.2026	10cm AGL, MP15	146.00cm	40.05cm	Extended outer low-amplitude zone (~3–4cm); no discrete internal step. Opposite flank to MP8. Significant corroborative finding.
5	02.05.2026	10cm AGL, MP20	146.00cm	40.04cm	Possible minor echo of adjacent defect zone. Inconclusive; disclosed explicitly.
24	09.05.2026	120cm AGL, MP3–4	124.00cm	40.02cm	Sound wood throughout. No corroboration of SoT2 colour variation at this position.
25	09.05.2026	120cm AGL, MP7–8	124.00cm	40.01cm	Pronounced sustained elevated zone ~14–20cm (60–65% amplitude) — highest of any trace. Attributed to proximity to SSE limb loading point. Most significant trace at 1.2m plane.
26	09.05.2026	120cm AGL, MP16–17	124.00cm	40.01cm	Sound wood throughout.
27	09.05.2026	120cm AGL, MP18–1	124.00cm	40.01cm	Sound wood throughout.
28	09.05.2026	180cm AGL, MP18–1	120.00cm	40.02cm	Sound wood throughout. Taken at height of upper laceration; internal condition at this drilled position consistent with sound wood.

E1.2 Two separate site visits on 2nd and 9th May 2026. Drilling constitutes a wound to the tree; drill points were minimised to those necessary to confirm tomographic findings.

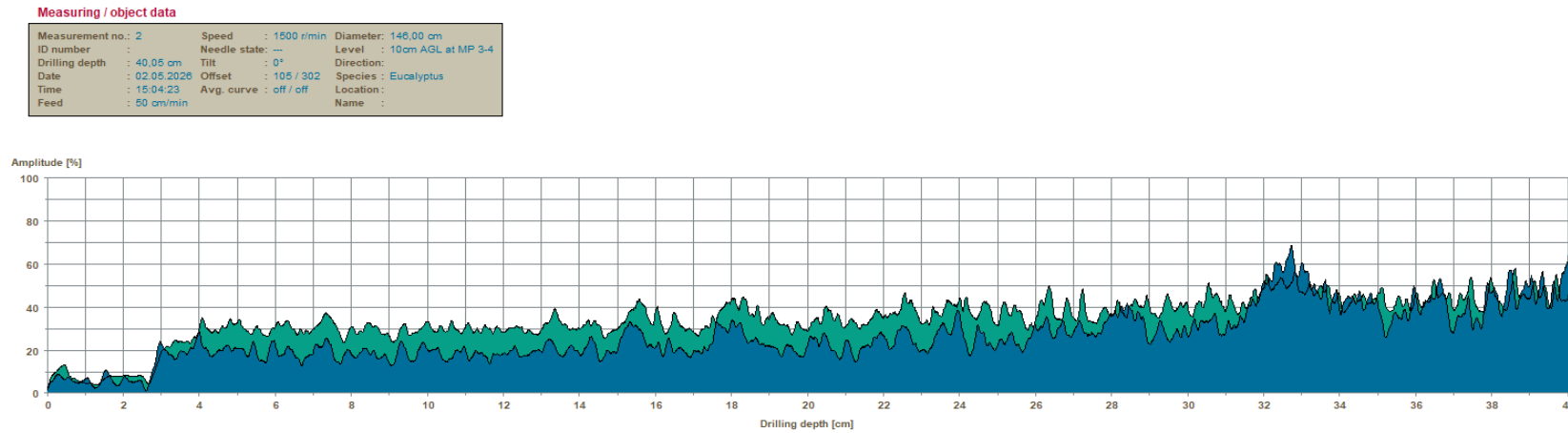
E2 IML-RESI PD400 measurement profile

E2.1 Figure F1: Measurement 1(Reference Drill) — 100cm AGL, up from MP 1 | Date: 02.05.2026 | Diameter: 126.00cm

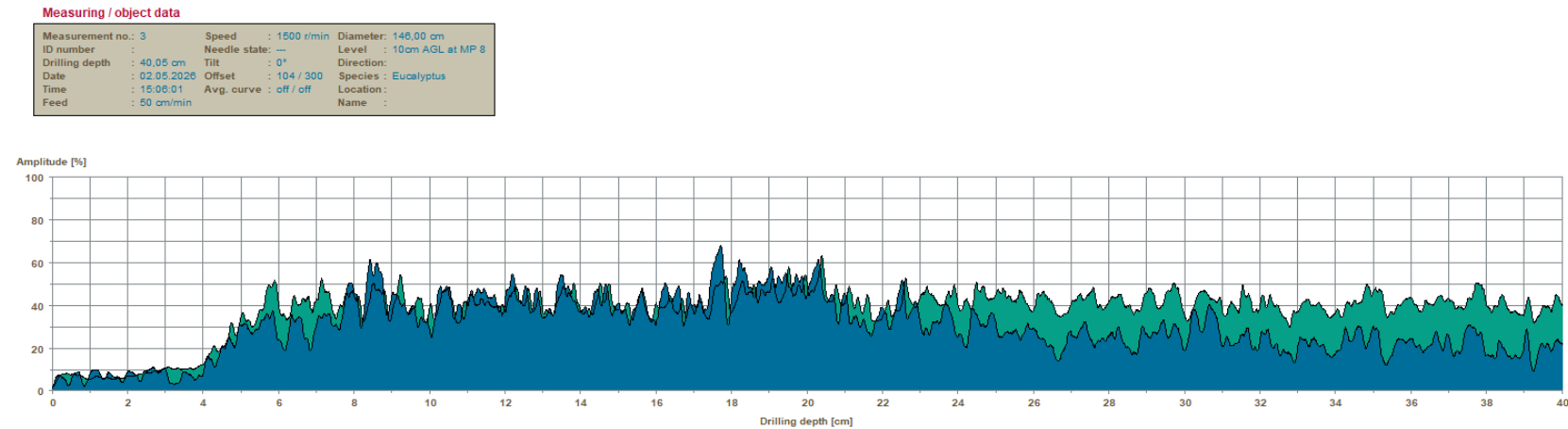


The drilling curve showed a short low-amplitude zone in the outer 1.5cm, consistent with the bark transition, followed by sustained, fluctuating amplitude to the full 40cm drilled depth, consistent with sound wood. This measurement was taken at a height not coincident with either tomographic measuring plane, and is presented as an independent reference finding.

E2.2 Figure F2: Measurement 2 — 10cm AGL, at MP 3-4 | Date: 02.05.2026 | Diameter: 146.00cm

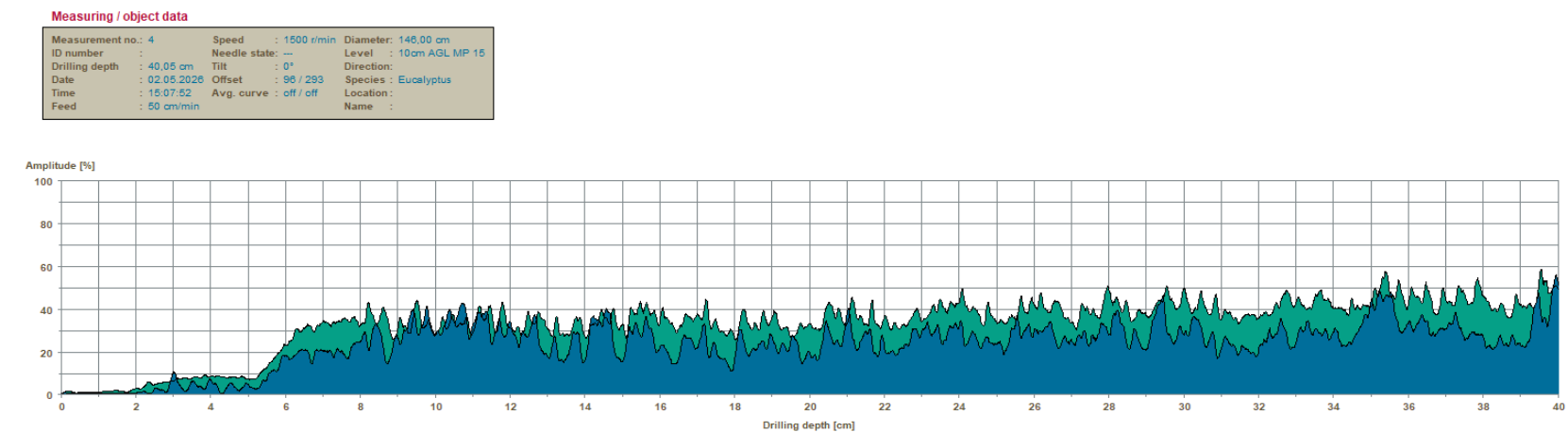


A short low-amplitude zone was recorded in the outer 0-2cm, consistent with the bark transition, followed by sustained, fluctuating amplitude to the full 40cm drilled depth, consistent with sound wood. A gradual increase in amplitude was noted in the latter third of the trace.



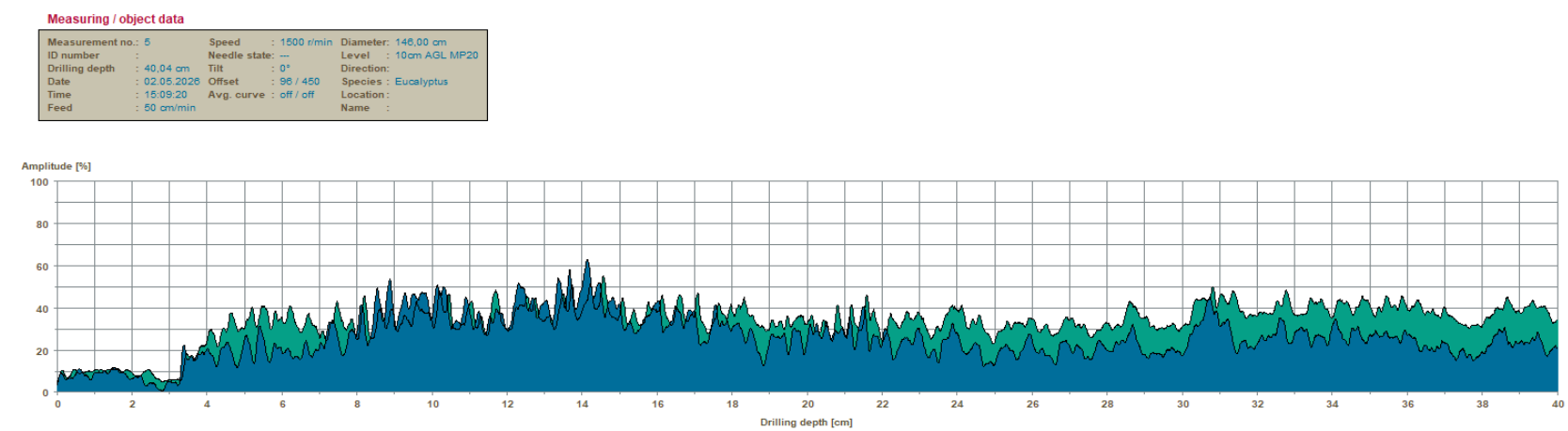
A short low-amplitude zone was recorded in the outer 0–4cm, consistent with the bark transition, followed by sustained, fluctuating amplitude up to 17cm. A discrete elevated zone was recorded at approximately 17–20.5cm, characterised by a brief spike of elevated resistance followed by a stepped reduction in amplitude. This feature is assessed as consistent with a localised inclusion or density discontinuity rather than the progressive, sustained reduction indicative of active decay, and is interpreted in the context of the SoT1 and ERT1 findings at this plane: MP 8 flanks the zone of abrupt sound barriers identified by SoT1 between MPs 9 and 13, and the measurement curve finding at this point is accordingly treated as a significant corroborative finding rather than a standalone diagnostic conclusion.

E2.4 Figure F4: Measurement 4 — 10cm AGL, at MP 15 | Date: 02.05.2026 | Diameter: 146.00cm



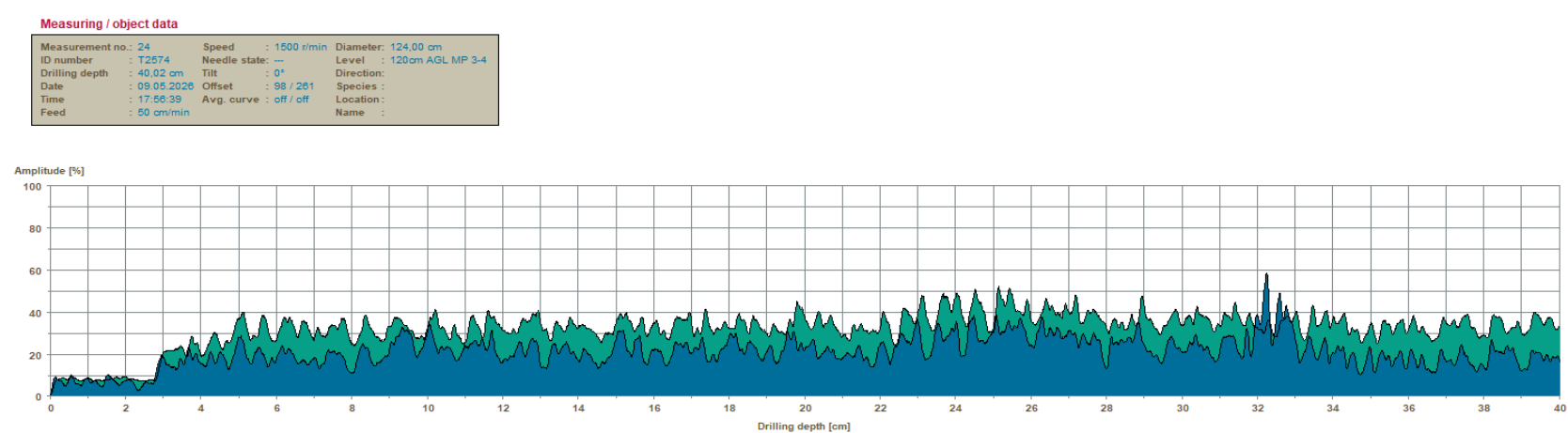
A short low-amplitude zone was recorded in the outer 0–5cm, consistent with the bark transition, followed by sustained, fluctuating amplitude to the full 40cm drilled depth, consistent with sound wood. MP 15 flanks the zone of abrupt sound barriers and the extended outer low-amplitude zone at this point is consistent with the evidence in SoT1 and ERT1. This finding is accordingly assessed as a significant corroborative finding on the opposite flank of the defect.

E2.5 Figure F5: Measurement 5 — 10cm AGL, at MP 20 | Date: 02.05.2026 | Diameter: 146.00cm



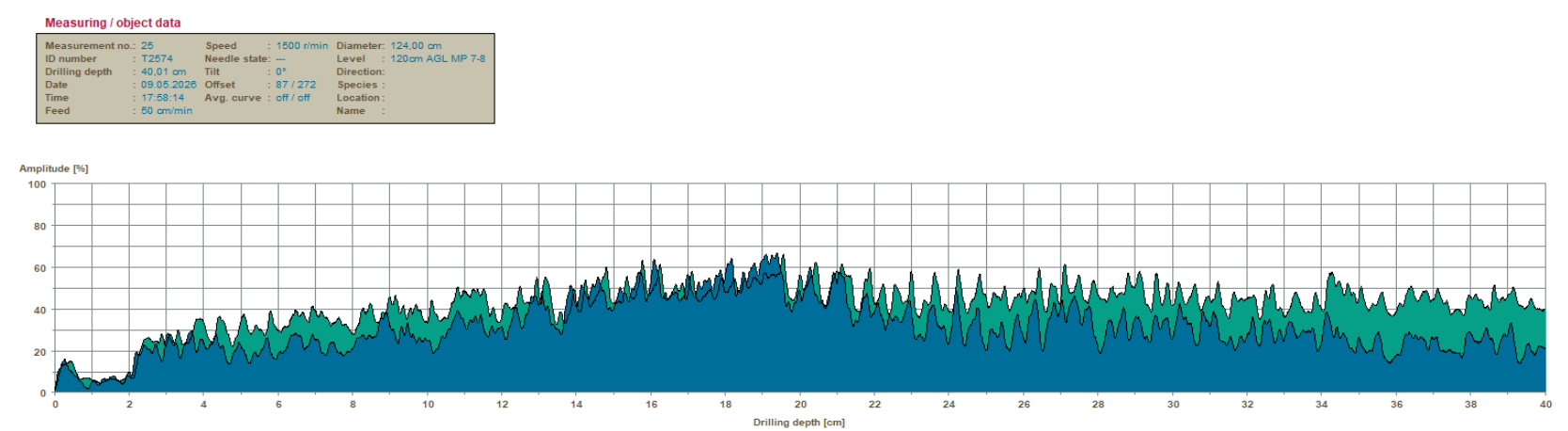
A short low-amplitude zone was recorded in the outer 0–3cm, consistent with the bark transition, followed by sustained fluctuating amplitude to 14cm. A possible minor echo of the feature recorded at MP 8 was noted, though without the discrete amplitude reduction. The possibility that this measurement has encountered the margin of the same feature cannot be entirely excluded on the trace data alone, MP 20 flanks the zone of abrupt sound barriers identified by SoT1 between MPs 21 and 22, and the measurement curve finding at this point is accordingly treated as a significant corroborative finding rather than a standalone diagnostic conclusion.

E2.6 Figure F24: Measurement 24 — 120cm AGL, at MP 3–4 | Date: 09.05.2026 | Diameter: 124.00cm



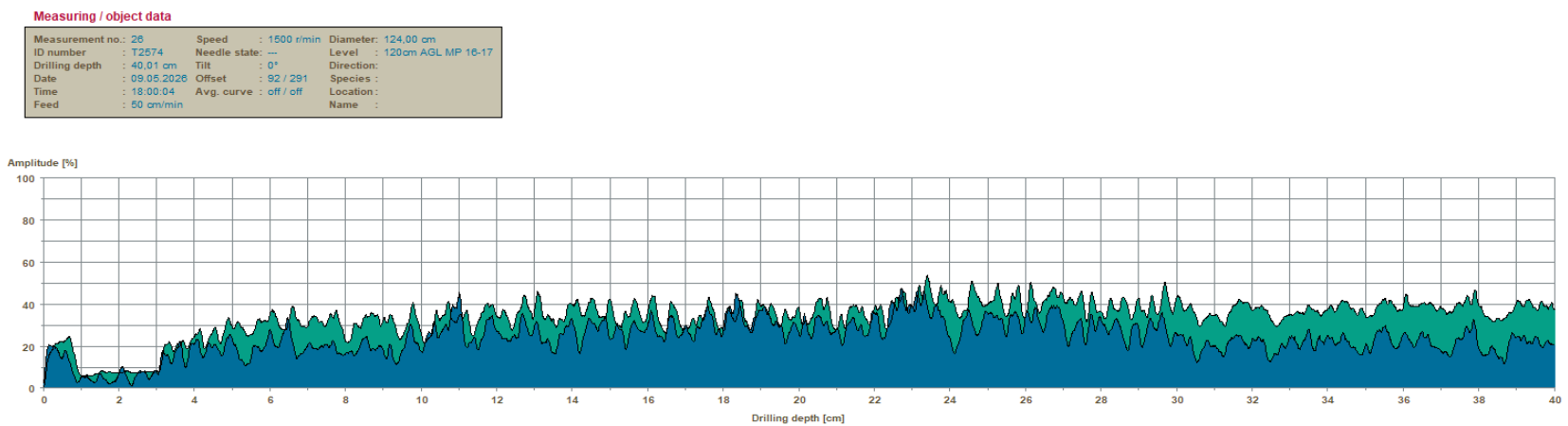
A short low-amplitude zone was recorded in the outer 3cm, consistent with the bark transition, followed by sustained, fluctuating amplitude to the full 40cm drilled depth, consistent with sound wood. A brief cluster of sharper peaks was noted at approximately 32–33cm, with no sustained reduction in amplitude indicative of decay identified at any point. This measurement was taken to investigate a small area of pink/green colouration visible on the SoT2 tomogram in the vicinity of MP 2–3; no corroboration of a defect at this position was found, and the SoT2 colour variation is not considered to indicate structural compromise at this location.

E2.7 Figure F25: Measurement 25 — 120cm AGL, at MP 7–8 | Date: 09.05.2026 | Diameter: 124.00cm



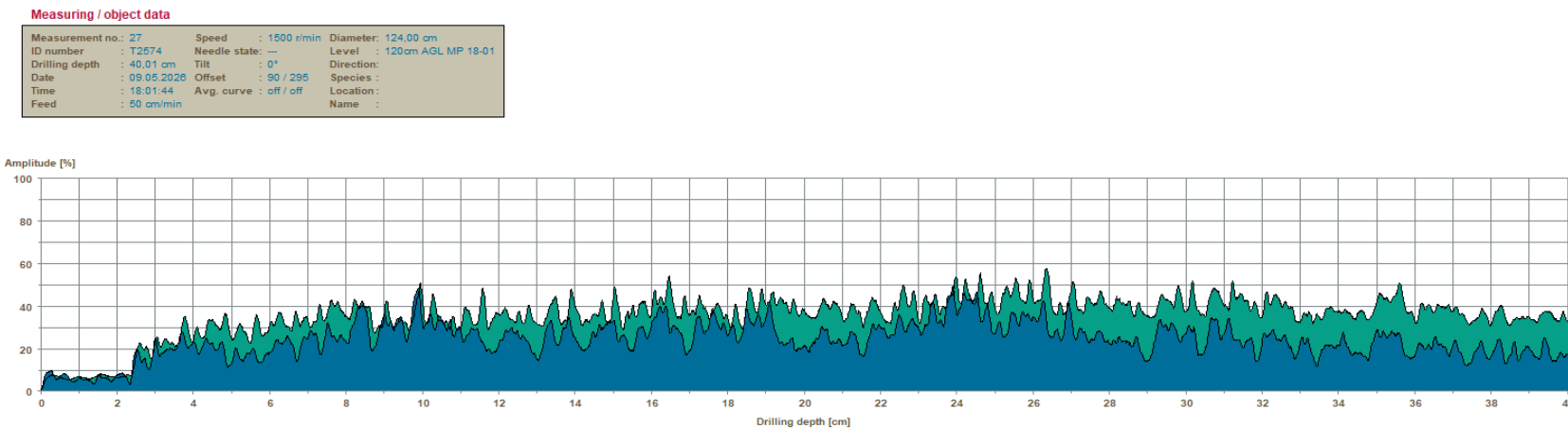
A short low-amplitude zone was recorded in the outer 2cm, consistent with the bark transition. From approximately 4cm, amplitude rose into a sustained, elevated zone, with a pronounced cluster of peaks recorded between approximately 14 and 20cm reaching 60–65% amplitude — the highest sustained elevated zone recorded across either tomographic plane. From approximately 22cm, amplitude settled into a lower, steadier fluctuating band continuing to the full 40cm drilled depth. Measurement curve 25 is the closest of the four measurement curves taken at this plane to the single abrupt sound barrier identified by SoT2 in the lower-centre sector. In the professional opinion of the author, the sustained elevated zone recorded at this point represents localised reaction wood or altered density associated with mechanical stress proximal to the loading point of the primary overextended SSE limb. This is the most significant measurement curve obtained at the 1.2m plane.

E2.8 Figure F26: Measurement 26 — 120cm AGL, at MP 16–17 | Date: 09.05.2026 | Diameter: 124.00cm

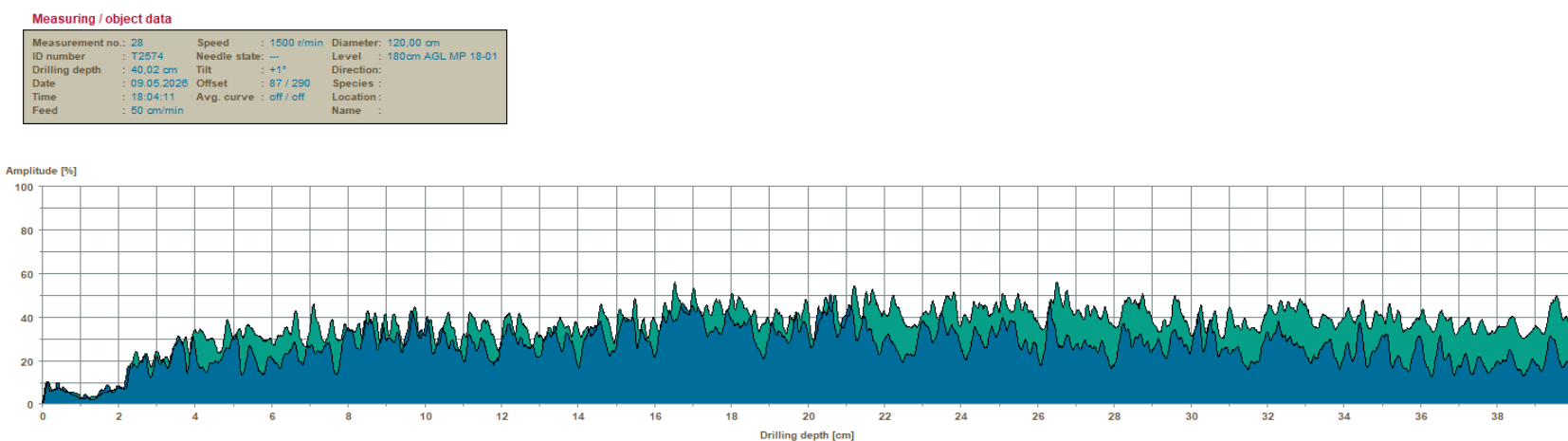


A low-amplitude zone was recorded in the outer 3cm, including a brief flat shelf at approximately 1–2% amplitude between approximately 1 and 2.5cm, distinct in character from the smoother bark-transition curve recorded at other points on this plane. From approximately 3cm, amplitude rose into a sustained, fluctuating pattern continuing to the full 40cm drilled depth, with no sustained reduction in amplitude indicative of decay identified at any point.

E2.9 Figure F27: Measurement 27 — 120cm AGL, at MP 18–1 | Date: 09.05.2026 | Diameter: 124.00cm



A short low-amplitude zone was recorded in the outer 2cm, consistent with the bark transition. Sustained, fluctuating amplitude was recorded from approximately 2cm to the full 40cm drilled depth, with no sustained reduction in amplitude indicative of decay identified at any point.



This measurement was taken at the height of the upper of the two horizontal lacerations recorded on the north aspect of the stem (at approximately 2.0m AGL). A short low-amplitude zone was recorded in the outer 2cm, consistent with the bark transition. Sustained, fluctuating amplitude was recorded from approximately 2cm to the full 40cm drilled depth, with a brief peak of approximately 55–60% recorded at approximately 16–17cm. No sustained reduction in amplitude indicative of decay was identified, and the trace is not considered to corroborate a structural anomaly at this height. This finding does not preclude the laceration itself representing a point of historic mechanical injury, but indicates that the internal wood condition at this drilled position, at this height, is consistent with sound wood.

Appendix F: References

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Appendix G: How and Why to Prune

G HOW AND WHY TO PRUNE

G1.1 Arboricultural Association Guide to pruning

Pruning – why, how and when *continued*

Table 1 - Species tolerance to pruning and optimum time to prune.

Species	Tolerance to hard pruning Good, Fair or Poor	Optimum time to prune	Notes
Deciduous trees			
Acacia	Fair	Spring (late)	Living wood most obvious, dead can be easily identified
Ailanthus	Fair	Spring (late) to summer	
Alder	Fair	Spring (late) to summer	
Apple	Good	Winter (mid)	Prune every year for fruit production
Ash	Fair	Spring (late) to summer	
Beech	Poor	Spring (late) to summer	
Birch	Poor	Summer or winter (mid)	Prone to bleeding
Cherry (& other <i>Prunus</i> sp. e.g. Almond, Apricot, Peach, Plum)	Fair	Summer	Prone to drought, frost damage and Silver leaf. Avoid fungal sporulation period (autumn)
Elm	Good	Spring (late) to summer	
Eucalyptus	Poor	Spring (late) to summer	
Hornbeam	Poor	Spring (late) to summer	
Horse Chestnut	Good	Spring (late) to summer	Avoid if possible as regrowth is weak and heartwood is quick to decay
Lime	Good	Spring (late) to summer	
Magnolia	Fair	Summer (mid)	Reduces bleeding and allows time for healing to begin
Maples (inc. <i>Sycamore</i>)	Fair	Summer or winter (mid)	Prone to bleeding (Field maple less susceptible)
Mulberry	Good	Winter (mid)	

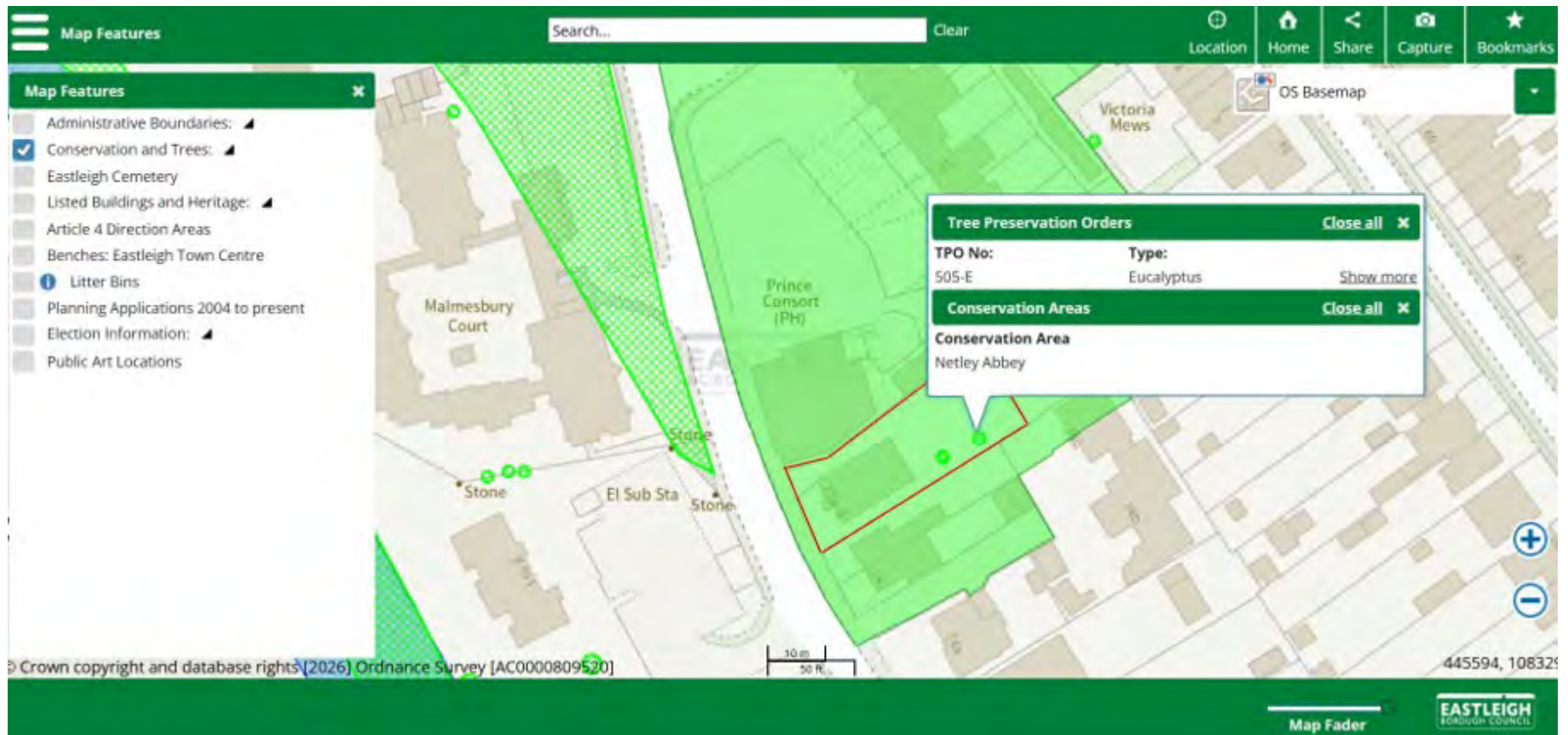


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www.trees.org.uk

Species	Tolerance to hard pruning Good, Fair or Poor	Optimum time to prune	Notes
Oak	Good	Spring (late) to summer	
Plane	Good	Spring (late) to summer	
Poplar	Good	Winter (mid)	Prone to bleeding
Robinia	Good	Summer (mid to late)	Prone to bleeding
Rowan	Fair	Spring (late) to summer	
Walnut	Poor	Summer or winter (mid)	Prone to bleeding
Whitebeam	Poor	Spring (late) to summer	
Willow	Good	Spring (late) to summer	
Evergreen trees			
Cedars	Poor	Winter (mid to late)	Avoid any pruning if possible. Shoots will not grow from old wood – therefore prune lightly
Cypresses	Poor	Spring (late) to summer (early)	Shoots will not grow from old wood – therefore prune lightly
Firs	Poor	Summer (late) or winter (late)	Avoid any pruning if possible. Shoots will not grow from old wood – therefore prune lightly
Hemlock	Fair	Summer (late) or winter (late)	
Holly	Fair	Winter (mid to late)	
Horn oak	Poor	Winter (mid to late)	
Pines	Poor	Spring (late)	Avoid any pruning if possible as buds only at shoot tips. Newest growth can be removed during the spring
Spruce	Poor	Summer (late) or winter (late)	Shoots will not grow from old wood – therefore prune lightly
Western red cedar	Fair	Winter (mid to late)	
Yew	Fair	Summer (late) or winter (late)	

H TPO MAP

H1 TPO Map, Conservation Area and SINC (EastleighBC, 2026) (Red Polygon indicates approximate boundary)



Appendix I

Arboricultural Condition Survey key

Tag number	Life stage	Comments
Numbers relate to those marked on the Tree Location plan and the individual tags on the tree.	An assessment of age class is made in terms of <u>site specific</u> maturity as part of the surrounding landscape, <u>taking into account</u> overall shape and form in that setting and is recorded thus: Young, <u>Semi</u> mature, <u>Early</u> mature, Mature, Late mature, Veteran	A description of significant features and particularly of structural and/or physiological condition (e.g. the presence of any decay and physical defect). Including additional comments <u>eg.</u> Recommend consultation with other experts...Ecologist, Arboricultural consultant, Use of decay detection equipment, ground staff to monitor (state frequency).
Common Name Species of tree listed by common name.	Phys Con An assessment of a tree / group's overall physiological condition is recorded as: Good / Fair / Poor / Dead	All measurements are approximate. # is indicative of an approximate measurement. Ø Is indicative of 'Diameter'. > Is indicative of 'Greater than'. < Is indicative of 'Less than'
Scientific Name Species of tree listed by scientific name.	Strut Con An assessment of a tree / group's overall structural condition is recorded as: Good / Fair / Poor	GL is Ground level AGL is Above ground level FFB is Fungal Fruiting Body
HGT Height assessments are estimated in metres (m).	ERC Estimated remaining contribution, in years: long >40, Medium 20-40, Short 10-20, Very short <10.	
DBH [mm] Diameter at breast height measurement of tree stem(s) in millimetres in accordance with annex C of BS5837:2012. In the case of multiple stems (number of stems), the measurement quoted is that resulting from the appropriate calculation in line with annex C of BS5837:2012.		
N E S W Branch Spread. Radial crown spread assessments are estimated in metres (m) from the centre of the trunk / group to each of the 4 cardinal points of the compass (North, East, South, West,). These provide a general guide to the outline of a tree / group crown.		

Appendix J

J Arboricultural Condition Survey

Tag No.	Common Name	Scientific Name	HGT	DBH	N	E	S	W	Life Stage	Phys Con	Strut Con	ERC	Comments
T2574	Eucalyptus	Eucalyptus spp.	24	1240	11	11.5	12	10	Early mature	Good	Poor	Very short (<10 years)	The tree is situated towards the rear south-east boundary of the property. Towards the north and north-west aspect of the tree, the associated parking bays (allocated for 72 A-D) are separated from the immediate rooting zone by a low brick wall, which currently exhibits signs of displacement. The tree is located within a soft-landscaped bed #5m to the southwest aspect is a Beech tree, towards the southeast aspect of the tree is a hedge, beyond this boundary at No. 74c is a Cedar tree. A significant accumulation of shed bark, deadwood, and leaf litter present around the base of the tree. To the southern aspect, the property boundary with the garden of 73 Victoria Road is demarcated by a historic retaining wall. The top of this wall is level with the sloping ground surface of No. 72 and retains the upper tier where the tree is situated. The ground level (GL) within the adjacent property (No. 73) is #3m below the GL of the tree; this #ground level difference continues into 74c Victoria Road. On the north, northeast, southwest and northwest aspects of the main stem inconsistent percussion was noted. From GL - #1.8m. On the North-Northwest aspect at #1.2m and #2m are two horizontal lacerations to the outer bark proximal to the mainstem bulges. The tree exhibits a stem taper and buttressing at GL, with evidence of localised soil displacement immediately surrounding the main stem. The bark exhibits a distinct twisting growth habit. On the south-west aspect, a helical indentation is observed that terminates where the stem divides at a tension union at a height of #3.5 metres. Three unintegrated branches featuring compression unions are located in proximity to this union. An additional helical indentation originates from the ground level on the south-southeast aspect, extending up to the underside of the primary limb where fibre buckling is present. This primary limb contributes significantly to the upper crown within the south-east crow quadrant. The main stem continues vertically to a height of #5 -6m, where it divides into the primary upper crown structure. Fibre buckling and included bark/compression unions are observed on multiple branch junctions. Multiple co-dominant stems arise from a similar height, with epicormic growth prevalent throughout the upper framework. Major deadwood, alongside exfoliating (loose) bark, are prevalent throughout the crown. The crown encroaches significantly over the three adjacent properties. Significant pigeon presence; guano accumulation on ground, surrounding surfaces, and within the canopy.