



Arboricultural Assessment

Tree/s Location: [Company Address]

Inspection date:

Date of report:

Prepared by: Ryan Roche, Consulting Arborist, Future Tree Health
Grad Cert, Arb, University of Melbourne

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Purpose of this report

The purpose of this report is to provide the findings of an independent assessment of the trees occupying the aforementioned area and to provide an arboricultural condition assessment, mitigation advice and a risk of harm assessment. This report has been prepared in accordance with *AS4970-2009 – Protection of Trees on Development Sites* and *AS4373-2007 – Pruning of Amenity Trees*.

Documents relevant to this report

- Australian Standard: Protection of Trees on Development Sites AS4970-2009
- Australian Standard: Pruning of Amenity Trees AS4373-2007

Victorian Planning Provisions:

- None

Local Laws:

- [Hobsons Bay Community Local Law \(2015\)](#)



To whom it may concern,

This report, as understood by the author is to be submitted to relevant parties regarding an understanding of tree health, structure, risk of harm and any potential impact to structures.

As agreed, this tree report will provide the following information regarding trees assessed:

- Onsite inspection of trees using QTRA methods where relevant
- Tree Identification
- Measurements and photographs (DBH tape, height meter, iPad photographs)
- Observations of tree health and condition
- Expected impact on trees and structures (including TPZ/SRZ details)
- Professional recommendations for works (if any), and/or mitigation or changes to construction techniques to allow any significant trees to be retained in accordance with AS4970-2009 *Protection of trees on Development Sites*.
- Specifics, details, or recommendations as required by the determining authority.

Please note:

Prior to reading this report and subsequently following any advice, opinions, recommendations, or findings provided, you must hereby understand and agree to our *Terms of Advice and Service* as provided at the end of the report.

Report inclusions and exclusions, assessment methodology (QTRA) and specifics pertaining to Australian Standards referenced may also be found at the end of the document.

Please find the tree report included below.

Kind Regards,

Ryan Roche



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1.0. Executive Summary

Client issues and concerns:

1. Client has recently purchased the property and is wishing to have a large tree evaluated for health and safety.

Our assessment findings:

1. The property is a standard residential house and land block containing one large tree within the rear of the residence.
2. Tree was identified as a maturing *Corymbia maculata* Spotted Gum in good health and structural condition.
3. Regarding the architecture of the tree, the tree does have two prominent co-dominant stems, one upright, the other leaning slightly into the rear yard.
4. Our assessment found the tree to be in good health, with a full canopy, no visible severe union or trunk damage of concern.
5. This tree is an asset to the property and the wider region of Hobsons Bay and should be retained wherever possible to do so. We encourage the retention of this tree and advocate that the tree represents both a strong amenity and Arboricultural asset to the property.
6. We found the risk of harm of this tree experiencing significant failure of the leaning leader, where the failed part of the tree struck a person or property, to be less than 1/1M over the course of the next 12 months.
7. Despite these findings, we also recommend the tree have a precautionary cable brace placed at approximately 2/3 of the height of the tree, between the two main stems. The purpose of this cable is to prevent any excessive wind events from damaging the tree. The placement of this cable brace is not necessary to reduce any current risk of harm, more a precaution recommended for the future of the property and the tree.
8. No other works, pruning etc, are necessary for this tree at this time.



future tree
HEALTH

11/844 Lygon Street
Carlton North
Victoria, 3054
ABN: 49 615 477 319

e. treereports@futuretreehealth.com.au
w. <https://futuretreehealth.com.au>
ph. 0400 432 656

2.0. Site Observations & Trees Present







2.1. Trees assessed.

*All measurements are in metres.

No.	BOTANICAL NAME	COMMON NAME	HEIGHT	WIDTH	DBH	TPZ	DAB	SRZ	HEALTH	STRUCTURE	AGE	VALUE	ULE
1	<i>Corymbia maculata</i>	Spotted Gum	25	13	0.92	11.04	0.99	3.30	Good	Good	Maturing	High	50+

QTRA Assessment:

TREE No.	TYPE	PROB OF FAILURE	TARGET	SIZE	RISK OF HARM
1	Person	6	3	1	<1/1M

TREE No.	TYPE	PROB OF FAILURE	TARGET	SIZE	RISK OF HARM
1	Property	6	2	PROP	<1/1M



2.2. QTRA Descriptors

Type:

The identified target which will be impacted should failure occur.

POF (Probability of failure):

Most likely aspect of the tree identified to fail.

Target:

The occupancy of target area.

Size:

The size of tree part identified to fail, measured in millimetres

Reduce Mass:

Percentage to be removed of the tree part identified most likely to fail in order to reduce RoH.

Risk of harm:

Levels of risk are ranked within QTRA in four categories based on increases/decreases in probability.

High risk/Unacceptable risk = 1/1 – 1/1K. RED

Medium risk/Unacceptable to impose on others without discussion – 1/1K-1/10K ORANGE.

Low risk/Generally acceptable – 1/10K-1/1M YELLOW

Broadly acceptable – <1/1M GREEN



3.0. Tree Profiles

TREE 1 – *Corymbia maculata* Spotted Gum

Native	North-Eastern Australia	Evergreen
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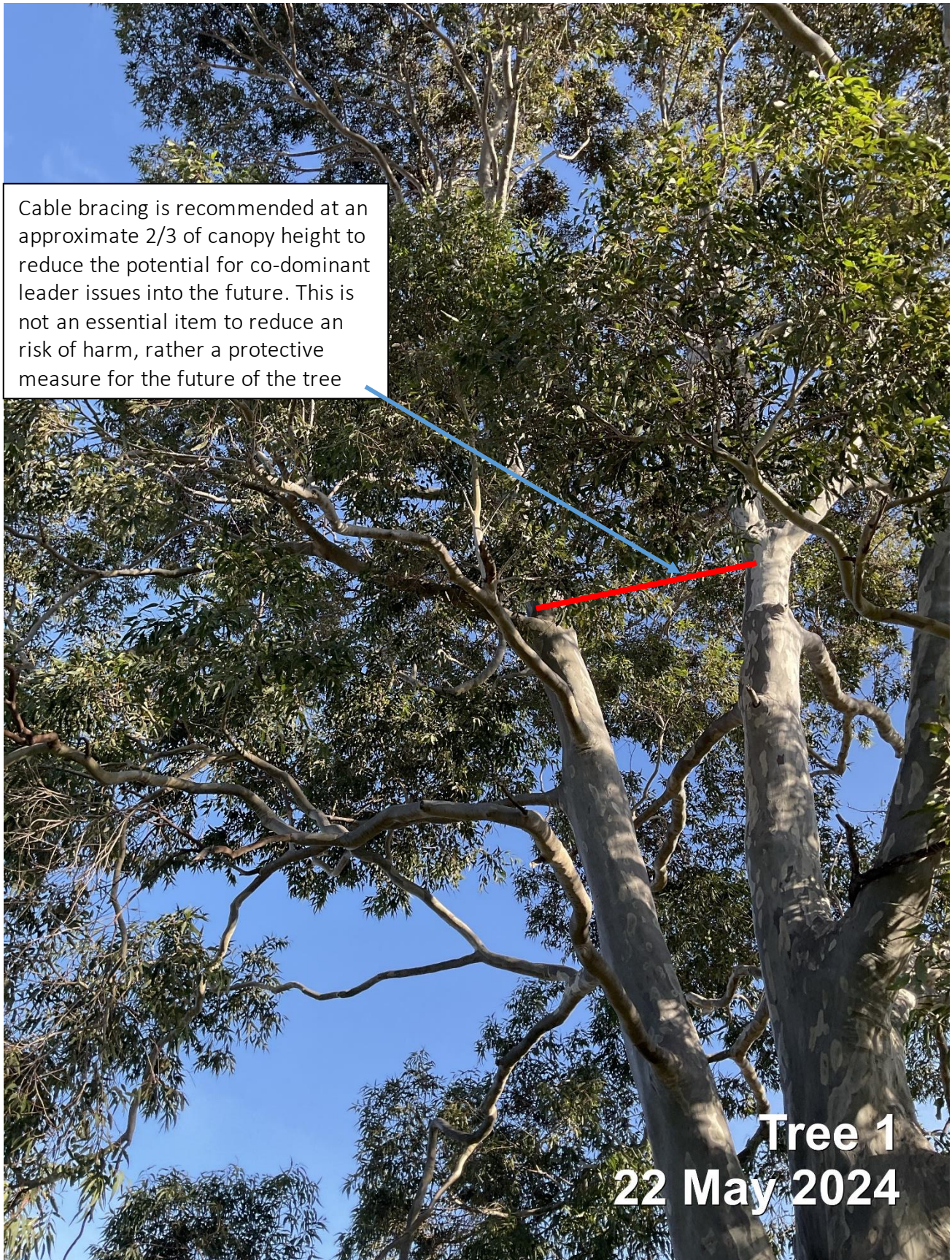
Height	Spread	DBH	TPZ	DAB	SRZ
25	13	0.92	11.04	0.99	3.30
Health	Structure	Age	Arb Value	ULE	QTRA
Good	Good	Maturing	High	50+	<1/1M







Cable bracing is recommended at an approximate 2/3 of canopy height to reduce the potential for co-dominant leader issues into the future. This is not an essential item to reduce an risk of harm, rather a protective measure for the future of the tree





Tree 1

22 May 2024



4.0. Report exclusions

This assessment/report did not include the following:

1. Below ground inspection (includes: location, condition and/or integrity of roots; condition of inaccessible parts of trunk; property or asset conflicts and/or damage due to roots).
2. Soil profile test (includes levels of compaction if any)
3. Detailed aerial tree inspection observations/findings (Visual Tree Inspection was conducted from the ground)
4. Abiotic disorder certainty (resulting from groundwater analysis, gas leak investigations, etc.).
5. Certainty of presence/identity of biotic agents (pests, pathogens). Where present, biotic agents must be sampled and sent for lab analysis, a process not included in this commission.
6. Certainty of decay present (if any) within the tree (tree was inspected from the outside only, meaning the condition and integrity of the xylem - wood - within the tree cannot be ascertained).

5.0. Australian Standard 4970-2009: Protection of Trees on Development Sites

This report has been prepared in accordance with Australian Standard 4970-2009: Protection of Trees on Development Sites. Where proposed works are within the vicinity of trees, this standard is used to determine acceptable distances of works from trees via the calculation of Tree Protection Zones (TPZ) and the Structural Root Zone (SRZ).

A tree protection zone is calculated ($DBH \times 12$) to establish the acceptable proximity of works, equipment, and construction practices/procedures from an existing tree. Following this, the erection of isolation fencing, the tying of branches, tree protection measures or instalment of tree protection zone signage may be required. This ensures the tree is protected for the duration of the works. The proposed works must not encroach within the tree protection zone unless this encroachment is less than 10% of the TPZ, is previously agreed upon and compensation of additional TPZ area (% of encroachment) is added to the TPZ.

Structural Root Zone (SRZ) refers to the structural roots within closer vicinity to the trunk which are required by the tree to remain upright. Encroachment into the SRZ of an existing tree is not permitted. Works conducted within the SRZ may destabilise the tree, requiring removal to avoid subsequent tree failure.



6.0. Approach to acceptable risk within QTRA

QTRA is a risk assessment method which aims to limit the risk of harm or damage from trees while also maintaining and promoting the benefits of trees. All trees were assessed using this method.

Assessment method

1. Tree defects, size health, condition, form, vitality, structure, past works, abiotic & biotic influences.
2. Target. Where no target (people or property) is present, a risk assessment is not required.
3. Occupancy of people/property within the target area. This is calculated using averages of occupancy over a one-year period.
4. Probability of failure is calculated using all information from point one above.
5. A quantified risk assessment probability (Risk of Harm) for a period of 12 months is reached.

Risk of harm

Levels of risk are ranked within QTRA in four categories based on increases/decreases in probability.

1. High risk/Unacceptable risk = 1/1 – 1/1K. **RED**
2. Medium risk/Unacceptable to impose on others without discussion – 1/1K-1/10K **ORANGE**.
3. Low risk/Generally acceptable – 1/10K-1/1M **YELLOW**
4. Broadly acceptable – <1/1M **GREEN**

Acceptable risk

Acceptable risk is not zero risk. Trees and tree populations come with benefits and inherent risks. As shedding organisms, trees do drop branches. Trees also have thresholds of tolerance to levels of extreme force such as wind (similar to buildings and manufactured structures). When these levels are exceeded due to environmental factors or changed circumstances, trees or tree parts can fail. QTRA aims at assessing identifiable risk and its probability of failure leading to the risk of harm, based on presented aspects combined with target and occupancy. In this way, the benefits of trees can be promoted and maintained, and the risks managed and/or removed where necessary.



7.0. Retention Methodologies & Tree Assessment Descriptors

Arboricultural Value:

Low	Trees that offer little in terms of contributing to the future landscape.
Medium	Trees with some beneficial attributes that may benefit the site. Could be considered for retention if possible.
High	Trees with the potential to positively contribute to the site. Should be considered for retention if possible.

ULE (Useful Life Expectancy):

Long	Trees that appear retainable with an acceptable level of risk for more than 40 years.
Medium	Trees that appear retainable with an acceptable level of risk for 15- 40 years.
Short	Trees that appear retainable with an acceptable level of risk for 5-15 years.
Remove	Trees with a high level of risk that would require removal within the next 5 years.

Tree age:

Juvenile	A recently planted tree.
Young	Tree is actively establishing.
Semi-mature	Tree is actively growing.
Maturing	Tree has reached expected size in existing conditions.

Tree health:

Good	Foliage is entire and with good colour, very little sign of pathogens and good density. Growth indicators are good i.e., extension growth of twigs and wound wood development. Minimal or no canopy dieback (deadwood).
Average	Tree is showing one or more of the current symptoms; <25% deadwood, minor canopy dieback, foliage with good colour though with some imperfections may be present. Minor pathogen damage present with growth indicators typical for the species and location of tree.
Poor	Tree is showing one or more of the following symptoms: >25% deadwood, canopy dieback is observable, discoloured, or distorted leaves. Pathogens present, stress symptoms are observable as reduced leaf size, extension growth and canopy density.

Tree structure:

Good	Trunk and scaffold branches show good taper and attachment with minor or no structural defects. Tree is a good example of species with a well-developed form showing no obvious root problems, pests, or disease.
Average	Tree shows minor structural defects or minor damage to trunk e.g., bark missing, cavities present. Minimal damage to structural roots. Tree could be seen as an average/typical example of its species.
Poor	There are major structural defects, damage to trunk or bark missing. Co-dominant stems present, or poor structure with points of failure. Girdling or damaged roots can be observed. Tree is structurally problematic.



8.0. Glossary of terms

Term	Definition
Arb Value	The Arboricultural value of a tree
Compaction	The process of removing aeration from between soil aggregate via pressure applied to the soil. Pressure can be applied via pedestrian, vehicular or machinery methods. Compaction is damaging to tree roots and overall tree health and vitality
DAB	Diameter at base, as measured from just above the root flare of tree
DBH	Diameter at Breast Height, as measured at 1.4m from the ground
Encroachment (%)	The percentage of total TPZ area to be impacted via demolition, access, or construction. Lesser than 10% is acceptable minor encroachment. Above 10% is major, unacceptable encroachment.
Health	The health of a tree, gauged from a visual inspection, including but not limited to: canopy %, photosynthetic material quantity and quality, apical bud health & bark condition.
Height	An estimate of the height of a tree
Measurements	All measurements within the report, including DBH, DAB, height, Spread, etc are measured in metres.
Overlay	Any vegetation or tree related regulations as imposed by the determining authority (i.e., local council).
POF	Probability of Failure
Project Arborist	An AQF Level 5 or higher qualified consulting Arborist
Pruning	The process of removing branch or root material from a tree
QTRA	Quantified Tree Risk Assessment
Spread	The combination of east-west & north-south canopy width estimates
SRZ	Structural Root Zone (SRZ) refers to the structural roots within closer vicinity to the trunk which are required by the tree to remain upright. Encroachment into the SRZ of an existing tree is not permitted without authorization. Root cuts conducted within the SRZ may destabilise the tree, requiring removal to avoid subsequent tree failure.
SRZ breach	Disturbance of any kind within the Structural Root Zone via any unapproved or unscheduled works.
Structure	The structural integrity of a tree, i.e., architecture, root structure,
TPZ	A tree protection zone is calculated ($DBH \times 12$) to establish the acceptable proximity of works, equipment, and construction practices/procedures from an existing tree. This measurement represents a radius from the centre of the tree trunk and encompasses both below and above ground aspects.
TPZ Mulching	The procedure of applying mulch within the TPZ of a tree. Mulch must be of a heavy, wood chip variety and applied at a minimum of 100mm depth. To avoid burns and health complications, mulch must not be allowed to come in contact with the immediate tree trunk
ULE	Useful Life Expectancy



9.0 References

1. Bardgett, R, 2005, *The Biology of Soil: A Community and Ecosystem Approach*, Oxford University Press, New York
2. Costello, L, Perry, E, Matheny, N, Henry, J, Geisel, P, 2003, *Abiotic disorders of landscape plants: a diagnostic guide*, Oakland, Calif.: University of California, Agriculture and Natural Resources
3. Draper, D, Richards, P, 2009, *Dictionary for Managing Trees in Urban Environments*, CSIRO Publishing, Collingwood
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5. Harris, R, 1992, *Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines*, 2nd edn, Prentice Hall Career & Technology, New Jersey
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7. Moore, G.M., 2003, Crown Thinning and Weight Reduction, Proceedings, ISAA Conference, Annual
8. Standards Australia, 4970-2009 – *Protection of Trees on Development Sites*.
9. Standards Australia 4373-2007 – *Pruning of Amenity Trees*
10. Urban, J, 2008, *Up By The Roots: Healthy Soils and Trees in the Built Environment*, International Society of Arboriculture.



10.0. Terms of advice and service

Prior to reading this report and subsequently following any advice, opinions, recommendations, or findings provided, you must hereby understand and agree to the following:

- This assessment and subsequent report findings are the culmination of research combined with the professional opinion of a qualified consulting arborist. Our consultants pride themselves on independent reports. This report has not been produced to support a particular motive, produce a desired value, or predict a desired occurrence. All findings are reported without bias towards certain parties or results.
- To the authors knowledge, all facts, assessment techniques and material presented is current and accurately researched. Opinions expressed within this report are supported by current research.
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- Representatives of *Future Tree Health* are not required to give testimony or appear in court as a result of this tree report. An expert opinion may be presented by *Future Tree Health* where further arrangements are made; however, this is not a requirement or contractual obligation of this report.
- *Future Tree Health* and its representatives will not be held responsible for occurrences outside the consultants' control.
- This report is the product of a tree assessment, undertaken at the specific time and date listed on the Cover Page, within specific weather and environmental conditions. Thus, all information expressed within is relevant to this time, and date only. As a result, *Future Tree Health* will be in no way held responsible for damages, matters, occurrences, or other issues occurring after this inspection was completed. Following the inspection, all aspects pertaining to the tree/s and site/s in question are considered out of the control of *Future Tree Health*.
- Alterations or loss of this report will result in the entire report being deemed invalid.
- Publication and ownership rights of this report remain with *Future Tree Health*, and no file sharing, hard copy sharing, unauthorised publication or other unintended use will be undertaken without gaining prior consent from *Future Tree Health*.
- This report will not include or pertain to matters other than those aforementioned within the introductory letter and will not include any items listed within the 'Report exclusions' section.
- *Future Tree Health* cannot guarantee that any opinions expressed will come to fruition and will not be held responsible should matters discussed either eventuate or fail to do so.

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