

McArdle and Sons Arboricultural Services Pty Ltd Consulting Arborist

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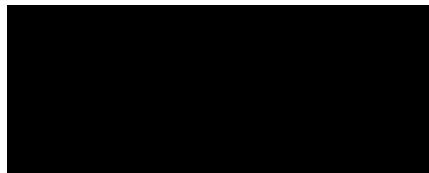
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ARBORIST REPORT

SITE: 3 McFarlane St Mudgee.

Client: Hamish Rowe



Inspection date: 16/8/2023

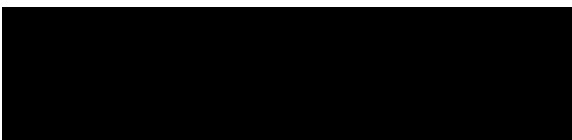
CONSULTING ARBORIST

Dan McArdle

QAF 5 Arborist, *Dip Arboriculture, Dip Agriculture*

Licence No: TCAA: 99/1003/20

Public liability \$20m & Professional Indemnity \$5m



SCOPE

McArdle and Sons Arboricultural Services Pty Ltd has been requested by Hamish Rowe Arborist Report relating to 3 x Eucalyptus tree located in rear yard of 3 McFarlane St Mudgee. The client has concerns of safety and property damage in and adjacent properties.

REQUESTED: Inspection by Qualified Consulting Arborist to attend site and complete assessment of 3 x trees and a reference to safety in the report.

LIMITATIONS

- The inspection was ground based, a Visual Tree Assessment (VTA) and Visual Tree Risk Assessment (vTRA) was completed.

Site Inspection

Mr Dan McArdle AQF 5 Consulting Arborist has over 30 years industry experience and has completed this inspection on the 16th of August 2022.

The inspection was ground-based, one tree was tested by invasive drill test for soundness, no other tissue samples were extracted for verification only observations and documentation including photos is presented in this Statement document.

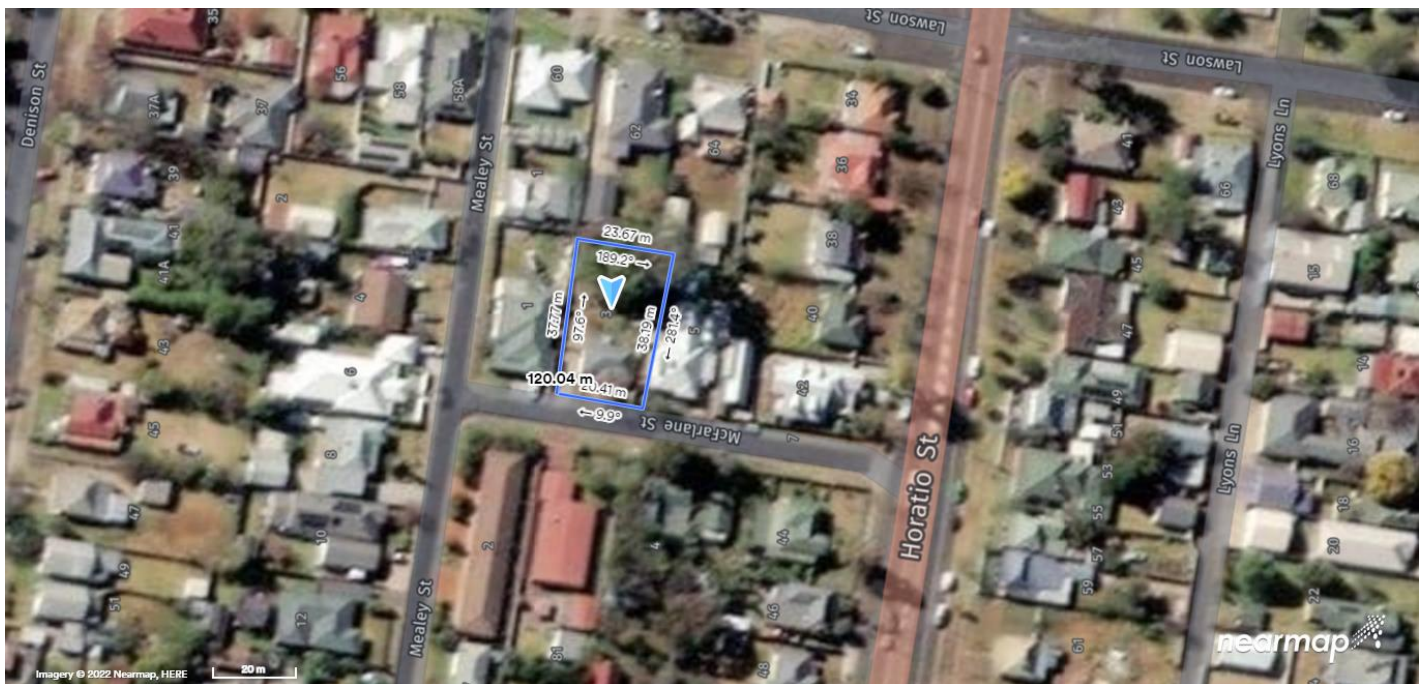


Fig 1 Site Location Plan 3 McFarlane St Mudgee (photo courtesy of Nearmaps)



FIG 2 Tree Location : TREE 1 TREE 2 TREE 3

Tree	Species	Height (m)	DBH (cm)	Crown	Maturity Condition	TULE	Risk	Comments
1	<i>Eucalyptus nicholii</i>	14	55	10	Mature good condition suppressed by adjacent tree	D2	ALARP	Group planting , leader extension long and reaching for sunlight.
2	<i>Euclaptus botryoides</i>	12	60	12	Mature good condition, leader extension end weighted.	D2	ALARP	Group lanting, leader extension long and reaching for sunlight. Exposed to western side
	<i>Euclaptus globulus</i>	18	110	12	Mature good condition, leans North, has corrected apical growth,decay found at base east side	D3	Medium	Group planting, alignment corrected natural, Review 3 months

DISCUSSION

The 3 x Eucalyptus trees are mature and not local indigenous to the area, they have been planted. (Suggesting 30-40 years ago.)

They donminate the rear yard and could restrict the area usage, the client is requestion the tree be removed because of safety reasons.

The trees all appear sound and in good health, Trees 3 growth habit indicates that at some point in the tree life the root plate has moved and theresult the trunk on a 5° off vertical lean, from the photo (Fig 2) the apical stem has corrected the growth habit to vertical, this has occurred some time ago, certinally prior to the last significant storm event of 2017, the tree suggest possiblly greater than 10 years ago.

Of the 3 trees the *E.nicolii* typical lif span is 30-40 years outside their natural locality of Niangla district (Northern Tableland regions).

I estimate all the trees to be in a range of 30-40 years old but have no method available to be exact on the age.

The location of the trees to adjacent building immediately within the tree range are mostly secondary structures, however direction can not be predicted in any event causing failure.

The trees are reliant on each other for harmony of wind dynamics and stability.

Reviweing other site within the street block it appears that these trees are the only large trees in existence.

The site 3 Mcfarlane is located within the Heritage Conservation area (*See Appendix C*).



(Fig 3) TREE 1 & 2 (foreground)



(Fig 4) TREE 3 Alignment



(Fig 5) TREE 3 Evident of raised soil minimal.

RISK

The assessment of the hazard being related to TREE 3; root plate and tree failure from that point, the risk is determined by the following (See Risk Matrix Appendix B)

Unlikely x Frequent use = Medium Risk

CONCLUSION

Researching Mid-Western Regional Council's Local Environmental Plan 2012 I have determined that the site 3 McFarlane Street Mudgee is in the Heritage Conservation Area, no Heritage Items are indicated for the site.

Tree removal or pruning will require a development application to be made to MWRC.

The trees in their location rear yard of 3 McFarlane St, do not form part of the street scape or tree amenity of the local area, whereas there is no other such planting in the same block, although the tree amenity is a consideration of my conclusion but not significant in this situation, the dominance of these trees in a single back is restrictive in area usage of the rear yard of 3 McFarlane Street.

TREE 1: *Eucalyptus nicholii* is relative in the context of the other tree short lived tree and decline as the do as their age nears the 30- years, this is typical of the trees around town. The growth habit indicate that it is suppressed by the adjacent trees (2 & 3) causing phototropism for sunlight.

TREE 2: *Euclaptus botryoides*; Typical growth habit displayed again competition for sunlight causing branch extension and canopy heavier on the sunny side being the west.

TREE 3: *Euclaptus globulus*; Very large tree with potential root plate damage from previous movement from a significant event during its earlier years in development, correction of the canopy is visible.(Fig 4) There is damage at the base of the tree on the tensions root side of the tree, this may extend into the root plate. A drill test was conducted into the base of the tree, significant holding (*solid wood*) was the result, this does not give any indication regarding root plate damage or decay, the tree displays good vigour. Property damage from this tree in the event of failure is in a category of *UNLIKLEY but POSSIBLE*.

Because the trees present overall are in good vigour the options for managing the hazard can be limited. There are 3 x tree reliant of each other for stability, removal of Tree 3 which would be the logical solution because of it size and has evident of root plate movement, opens the other trees 1 & 2 to wind exposure. Tree 1 is relative short lived tree and nearing its natural term of existence in age, which leaves tree 2 centre piece. Tree 2 has log extension leaders (see Fig 2) heavy endweight. Removing Tree 1 also exposes Tree 2 to branch failure.

OPTIONS:

In consideration of the above, I conclude there is reasonable evident to suggest that the removal of all 3 trees would be a preferable solution, conditional with suitable landscape replacement of suitable specie trees.

Or

Remove Trees 1 and 3 only and retain Tree 2 with some remedial pruning to reduce end weight by 15%. This option however, will generate considerable cost to the client by increasing the difficulty of removing Tree 3, this difference in cost could be far better spent in replanting suitable species.

RECOMMENDATIONS

1. Apply to MWRC for Development Application to remove trees 1-3 with conditional replanting landscape plan. (Action within 3 months)
2. Engage a AQF 3 licenced Arborist with relevant Insurances to undertake the works as specified. (See WorkSafe NSW Engaging a Contractor).
3. Mulch material to be used on site in the landscape plan where possible.

Further information please contact Dan McArdle on 0418165650 or danmcardle@mcardleandsons.com.au.

Regards



Consulting Arborist

Dan McArdle Dip Arb Dip AG

McArdle and Sons Arboricultural Services Pty Ltd.

NOTE This report remains the property of McArdle and Sons Arboricultural Services Pty Ltd and subject to terms of payment.

GLOSSARY

Crown: The width of the foliage in the upper canopy of the assessed tree to the four cardinal points. Crown lifting means the removal of the lower branches of the tree

Crown thinning means the portion of the tree consisting of branches and leaves and any part of the stem from which branches arise.

Drip line: Where the canopy releases water shed from the foliage during precipitation.

DBH/Diameter: Diameter of trunk at 1.4meters in height of assessed tree.

Dead wooding means the removal dead branches from a tree.

Dieback: Tree deterioration where the branches and leaves die.

Flush cut: A cut, that damages or removes the branch collar or removes the branch and stem tissue and is inconsistent with the branch attachment as indicated by the bark branch ridge.

Genus/ Species: The Genus and species of each tree has been identified using its scientific name. Where the species name is not known the letters, species is used. The common name for trees may vary considerably in each area of geographical differences and so will not be used in the field survey.

Height: Height has been estimated to + / - 2 metres.

ISA: International Society of Arboriculture.

Maturity: Tree maturity has been assessed as over mature (last one third of life expectancy), mature (one third to two thirds life expectancy) and semi mature (less than one third life expectancy).

Remedial (restorative) pruning includes Removing damaged, Dead wood; trimming diseased or infested branches. Trimming branches back to undamaged tissue to induce the production of shoots from latent or adventitious buds, from which a new crown will be established.

SRZ- Structural Root Zone: An area within the tree root zone in which roots stabilize the tree. Roots cut in this zone can cause instability and lead to anchorage loss.

Structural Integrity: Describes the internal supporting timber. (Substantial to frail)

TULE- Tree Useful Life Expectancy: An estimation of the trees useful life expectancy using appropriate industry methods.

TPZ- Tree Protective Zone: This zone should be considered as optimal for tree growth and sustainability however the size of the zone is subjective and should be reassessed when individual design and construction methods are being discussed.

Tree Age: Trees have either been assessed as mature, immature, or semi-mature.

Tree Numbering: All trees listed in the tree survey have been numbered and plotted

Vigour: This is an indication of the tree health. Trees have either been assessed as Good Vigour, Normal Vigour or Low Vigour.

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WEBSITE

www.treesaregood.com/treecare/hazards.asp

www.safeworkaustralia.gov.au

www.environment.nsw.gov.au/soils

[/](#)

www.tcaa.com.au

www.warrumbungle.nsw.gov.au

www.dpi.nsw.gov.au

SECTION II

APPENDIX A TULE – TREE USEFUL LIFE EXPECTANCY

McArdle & Sons Pro Tree Service

Categories and Sub-Categories

	1 Long TULE	2 Medium TULE	3 Short TULE	4 Remove	5 No Potential for Retention REMOVE IMMEDIATELY	6 Small, Young or regularly clipped:
	Trees that appeared to be retainable at the time of assessment for more than 40 years with low level of risk	Trees that appeared to be retainable at the time of assessment for 15 to 40 years with and with low to medium level risk	Trees that appeared to be retainable at the time of assessment for 5 to 15 years with medium to high level of risk	Trees that should be removed within the next 5 years High to Medium level of risk	Trees that must be removed immediately. Medium to Extreme level of risk	Trees that can be easily transplanted or replaced.
A	Structurally sound trees located in positions that can accommodate future growth	Trees that may only live for between 15 and 40 more years	Trees that may only live for between 5 and 15 more years	Dead, dying, suppressed or declining trees through disease or inhospitable conditions.	Dead, dying or declining trees diseased or inhospitable conditions.	Small trees less than 5 meters in height
B	Trees that could be made suitable for retention in the long term by Intervention Works.	Trees that may live for more than 40 years, but would need to be removed for safety or Nuisance reasons	Trees that may live for more than 15 years, but would need to be removed for safety or nuisance reasons	Dangerous trees through instability or recent loss of adjacent trees	Dangerous trees through instability or recent loss of adjacent trees	Young trees less than 15 years old but over 5 meters in height
C	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention	Trees that may live for more than 40 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting	Trees that may live for more than 15 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form	Trees that have been regularly pruned to artificially control growth
D		Trees that could be made suitable for retention in the medium term by Intervention Works.	Trees that require substantial Intervention Works, and are only suitable for retention in the short term	Damaged trees that are clearly not safe to retain	Damaged trees that are clearly not safe to retain and must be removed immediately	
E				Trees that may live for more than 5 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting	High Toxicity Allegan trees, asthmatic and poisonous trees and must be removed immediately.	
F				Trees that may cause damage to existing structures within 5 years	OTHER with legitimate explanation to be removed immediately	
G				Trees that will become dangerous after removal of other trees for reasons given in 1A-1F		
INSPECTION FREQUENCY	Inspection frequency 1-5 Years by competent inspector unless event monitored.	Inspection frequency 1-5 Years by competent inspector unless event monitored.	Inspection frequency 1-3 years by competent inspector unless event monitored.	Inspection frequency to 1 year by competent inspector unless event monitored.	1-7 days by competent inspector and event monitored	Inspection frequency Biannually by competent inspector

TULE Adapted with permission Jeremy Burrell 2014 for TCAA licensed Climbing Arborist.

APPENDIX B TREE RISK ASSESSMENT MATRIX

McArdle & Sons Pro Tree Service

Categories and Sub-Categories

		RISK TARGET RATING				
		OCCASIONAL USE	INTERMITTENT USE	FREQUENT USE	CONSTANT USE	CONTINUAL USE
FAILURE POTENTIAL	VERY LIKELY Almost certain to occur in most circumstances	Medium	High 1	HigHigh 1	High 2	High 3
	LIKELY May occur frequently	Medium	Medium	HigHigh 1	High 2	High 3
	SOMEWHAT LIKELY Possible and likely to occur at some time	ALARP	Medium	HigHigh 1	HigHigh 1	High 2
	UNLIKELY Not likely to occur but could happen	ALARP	ALARP	Medium	Medium	Medium
	HIGHLY UNLIKELY May occur in rare and exceptional circumstance	ALARP	ALARP	ALARP	ALARP	ALARP

Table: Risk Matrix Adapted with permission Bill Sullivan 2019 for TCAA licensed climbing Arborists.

The risk rating score is determined after assessing the Failure Potential and Target Rating of an identified hazard tree. The determination of these calculations will indicate a priority and course of action when implementing the risk reduction measures.

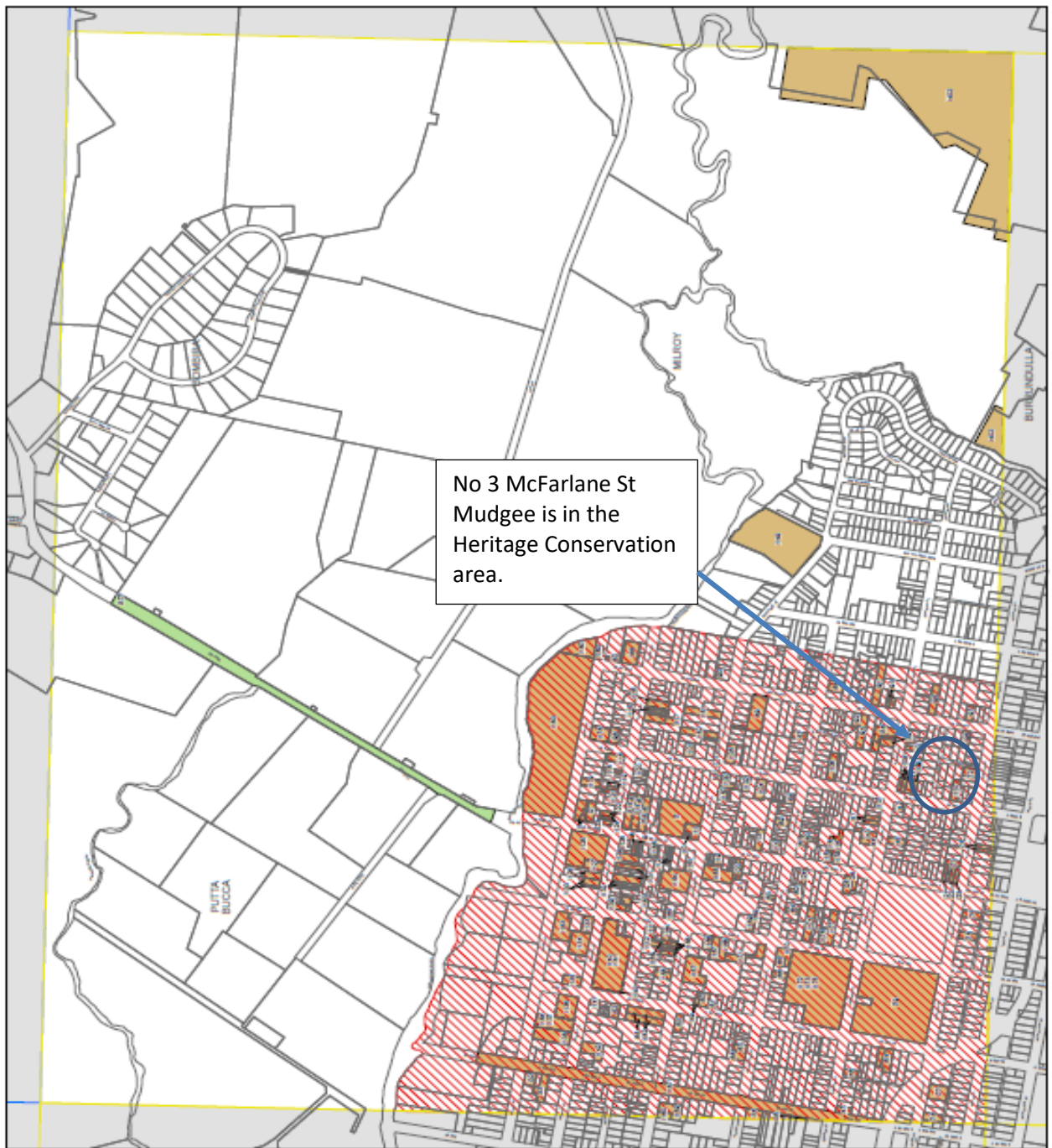
Failure Potential x Target Rating = Risk Assessment.

FAILURE POTENTIAL	
Very Likely	Partial or whole tree failure is imminent e.g. cavity in excess of 50% of the trunk. Major bark inclusions, dead limbs, leaning tree with lifting root plate, roots/trunk decayed or damaged, Tosins. HOSTING BEES (other).
Likely	Defects that could cause structural failure of the tree within the next 6 months.
Somewhat likely	Defects present that could cause portions of the tree to fail.
Unlikely	Defects are minor and not likely to cause significant harm.
Highly unlikely	Tree is healthy with no obvious defects.
TARGET RATING	
1. Occasional use	1. Suburban Park Quite Street, Restricted Area, etc. Intermittent use
2. Intermittent use	2. Parking lot, Ovals, play area in park, etc.
3. Frequent use	3. Busy street adjacent, school yard, child care centre.
4. Constant use	4. Occupied buildings, residences, CBD, etc.
5. High 1 Continual use	5. Hospitals, emergency services, High 1 Voltage power lines, busy High 1 way

Priority work is governed by the degree of risk as follows;

TARGET RATING	PRIORITY TIMEFRAME	RECOMMENDED CONTROL MEASURES & TREE AT ALARP
ALARP	n/a	no work required
Medium	Within 3 months	Recommended Control Measure can mean isolating a tree until work can be done
High 1	Within 1 month	
High 2	Within 7 days	
High 3	Within 24 hours	

APPENDIX C Heritage Conservation map HER 006G (MWRC/LEP 2012)



Mid-Western Regional Local Environmental Plan 2012
Heritage Map - Sheet HER_006G

Heritage

- Conservation Area - General (Red diagonal lines)
- Item - General (Orange)
- Item - Landscape (Green)

Callouts

- Callouts 15/12/2013 Land and Property Information (LPI)

Scale: 1:10,000 @ A3
 Project: LEP 100
 Map Identification number: 1072_CCM_HER_006G_072_02/2018

APPENDIX D DISCLAIMER

McArdle & Sons Pro Tree Service

McArdle and Sons Arboricultural Services Pty Ltd does not assume responsibility for liability associated with the tree on or adjacent to this project site, their future demise and/or any damage, which may result therefrom.

Any legal description provided to McArdle and Sons Arboricultural Services Pty Ltd is assumed to be correct. Any titles and ownerships to any property are assumed to be good and sound. McArdle and Sons Arboricultural Services Pty Ltd takes care to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.

McArdle and Sons Arboricultural Services Pty Ltd reports and recommendations shall not be viewed by others or for any other reason outside its intended target, either partially or whole, without the prior written consent of the consultant. Unauthorised alteration or separate use of any section of the report invalidates the whole report. McArdle and Sons Arboricultural Services Pty Ltd cannot be held responsible for any consequences as a result of work carried out outside specifications, not in compliance with Australian Standards or by inappropriately qualified staff.

Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale. All recommendations contained within this report represent the current industry best practice methods of inspection. McArdle and Sons Arboricultural Services Pty Ltd shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.

LIMITS OF OBSERVATION

McArdle and Sons Arboricultural Services Pty Ltd makes every effort to accurately identify current tree health and safety issues. Results may or may not correlate to actual tree structural integrity. There are many factors that may contribute to limb or total tree failure. Not all these symptoms are visible. There can be hidden defects that may result in a failure even though other, more obvious defects would be the likely cause of failure.

All standing trees have an element of unpredictable risk. McArdle and Sons Arboricultural Services Pty Ltd endeavours to identify the risk that the tree represents; however, a level of risk associated with every tree will remain. McArdle and Sons Arboricultural Services Pty Ltd does not provide any warranty or guarantee that problems, deficiencies or failures with regard to the plant/s, property or building/s will not arise in the future.

Ongoing monitoring may foresee deterioration of a tree and allow remedial action to be taken to prevent injury or damage. The timing for re-inspection on individual trees is subjective and will vary however an annual inspection is advisable for trees in subsequent years.

FURTHER RESEARCH The report does not cover threatened, heritage or existing trees in relation to remnant forest. Further reporting may be considered as part of the relevant RISK ASSESSMENT.

LIMIT OF OBSERVATIONS BY RODNEY M. PAGE

“There are many factors that may contribute to limb or total tree failure. Factors include, decay (in the trunk, crown or branch junctions), external damage to branches leading to decay, poor branch taper, included bark, root rot/ decay. Not all these symptoms are visible i.e. internal decay; of these some external symptoms may indicate the presence of Dead wood but not the extent of decay. The most solid looking piece of timber may be riddled with breaks in continuity of growth caused by insect damage or poor pruning practices, or other physical damage caused many years previous. Trees don’t heal; they simply box in the damaged area ((CODIT) Compartmentalization of Decay In Trees.) and continue to expand in girth, completely disguising the fact that the branch or trunk has a hollow or decayed section. Having said this, not all areas, of decay past or present suggest a point of failure.”

In addition to this information, other variables that can contribute to limb or total tree failure are tree species, wood densities, weight, age, location, exposure to the elements, soil types, disease and pests, birds using trees as habitat and food sources, termites causing structural problems and human influences such as, altered drainage, compaction or leaching of minerals.