



Arborist report

Pre development Tree Health and Condition assessment.

17 Mc Donald Place Evans Head NSW
2473

June 2023

Written For:

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1.0 Liability and Limitations:

This report has been compiled using knowledge & expertise relating to trees, and makes recommendations based on this. It should be noted that trees are affected by many elements, environmental and situational, some of which cannot be predicted or foreseen even by Qualified Arborists.

The client when reading this report should take the following factors into consideration; it is not feasible to assume that Arborists identify all hazards or risks associated with trees at the time of consultation or indeed in this report. This Assessment is valid for 3 months from the date stipulated on the report, and may need to be updated after this.

Regular maintenance and monitoring by a Qualified Arborist will minimize the risks associated with tree and contribute to its longevity in its growing environment, however there is no guarantee that all risks are to be eliminated and that the tree is not privy to external factors that will impact on the tree after it has been assessed by our service.

The report is compiled in good faith, where any information given to our service is correct and true, and where interested parties and /or stakeholders are notified. This includes title and ownership of property, orders as directed by relevant authorities, development application determinations and other matters that affect the tree/s in question.

The Arborist shall not be required to give testimony or to attend court by reason of this report unless other arrangements are made prior. This Arborist Report does not issue permission for any recommendations made in this report, particularly where trees are to be removed. Permission must be sought and obtained from Council and owner/s of trees.

Any treatments recommended by the Arborist cannot be guaranteed, due to the volatile environment in which trees are growing. Clients may choose to accept or disregard the recommendations of the Arborist, or to seek additional advice. This report is intended for the Recipient, no part of this report is to be copied or altered without the authors permission

2.0 Summary

- 2.1 Modern Tree Consultants was commissioned by Lewis Barakat, regarding the inspection of trees as a preliminary measure for a residential and retail project at 17 Mc Donald Place, Evans Head.
- 2.2 6x Trees were assessed native and exotic.
- 2.3 A visual tree health and condition assessment (VTA) was carried out by the author of this report on 5th June 2023, which recorded the subject trees in a poor condition and poor vigour.
- 2.4 Demolition of old buildings and Construction of new buildings requires careful planning and a requirement for longevity and purpose out of surrounding vegetation.
- 2.5 The trees provide poor amenity value based on their current vigour and condition, being neglected in a hostile environment of salt and wind for many years has caused significant decline, poor structure and has reduced their ability to contribute to the environment in a safe and positive way moving forward.

3.0 Brief:

- 3.1 Modern Tree Consultants were commissioned by Lewis Barakat to provide assessment information and advice on 6x trees.
- 3.2 The remnant site trees will be impacted by the proposed development to occur in the near future
- 3.3 The report is to outline assessment information and make recommendations based on industry assessment tools and to result in a positive canopy cover outcome.

4.0 Aims:

- 4.1 This report aims to:
- 4.2 Identify and comment on the subject tree using data collected from the site tree assessment on 5th June 2023.
- 4.3 Identify and assess the work and location of proposed building in relation to the existing trees.
- 4.4 Provide objective assessment on the trees.
- 4.5 Provide some observations, conclusions and recommendations for the trees based on the assessment and best possible outcomes moving forward.

5.0 Methodology:

- 5.1 A site inspection was undertaken on 5th June 2023 by the author of this report, Timothy Beck.
- 5.2 The subject tree was assessed by the process of a stage one visual tree assessment (VTA) as formulated by Mattheck & Broloer (1994) and practices consistent with modern arboriculture.
- 5.3 The trees were inspected from ground level without the use of any invasive or diagnostic tools or testing.
- 5.4 No aerial inspections or root mapping were undertaken.
- 5.5 Safe Useful Life Expectancy (SULE), (Tree AZ 2010.10) & Significance of a Tree Assessment Rating System STARS (IACA 2010) were used to achieve a tree significance and retention value.
- 5.6 Trunk diameter was recorded using a Specter diameter tape
- 5.7 Photos were taken on Google Pixel 6.
- 5.8 Data captured using Fulcrum version 3.2.13.

Figure 1 Site Map: An aerial image of the site (orange) with the subject trees assessed in yellow/orange. The red marker shows the approximate location and dimensions of the new driveway crossover *Image- Nearmaps April 2nd 2023.*

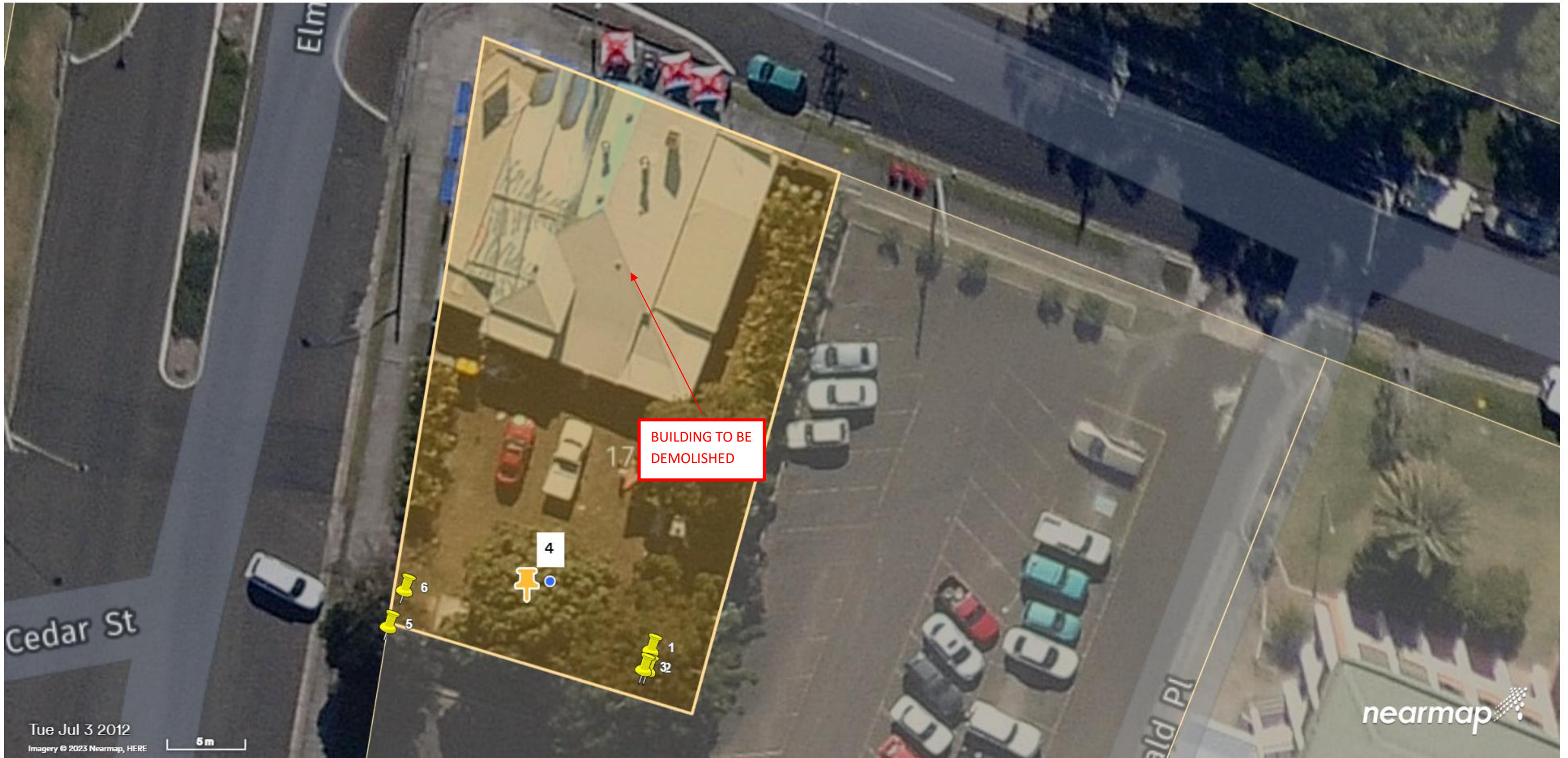


Table 1-Tree Health and Condition Assessment- Correlates to Figure 1- Tree location Plan

Tree no.	Botanical name	Common name	Origin	Tree AZ-ULE	Vigour	Condition	Observations	Height (m)	Canopy Spread (m)	DBH/ TPZ (mm)/(m)	DAB/SRZ (mm)/ (m)	Age class	Arborist comment	STARS	SRIV	Proposed-Retain/remove
1	<i>Araucaria cunninghamiana</i>	Hoop pine	Native	5-15	Poor	Fair	Upper canopy dieback of apical leader	22	12x12	800/9.6	1000/3.31	Mature	Encroachment	Short	4	Remove
2	<i>Cupaniopsis anacardioides</i>	Tuckeroo	Native	5-15	Poor	Poor	Poor form	6	6x6	300/3.6	400/2.25	Mature	Encroachment	Priority for removal	2	Remove
3	<i>Delonix regia</i>	Poinciana	Exotic	5-15	Poor	Poor	Half dead	5	4x2	350/4.2	400/2.25	Mature	Encroachment	Priority for removal	2	Remove
4	<i>Mangifera indica</i>	Mango	Exotic	5-15	Fair	Fair	Fruit tree	7	8x7	800/9.6	900/3.01	Mature	Encroachment	Short	4	Remove
5	<i>Cupaniopsis anacardioides</i>	Tuckeroo	Native	5-15	Poor	Poor	Multi-stemmed	6	6x6	1100/13.2	1100/3.44	Mature	Encroachment	Priority for removal	2	Remove
6	<i>Eucalyptus tereticornis</i>	Forest red gum	Native	5-15	Poor	Fair	Some twig dieback	9	8x8	500/6	500/2.47	Mature	Encroachment	Short	4	Remove

Key:			
DBH	Diameter at Breast Height (1.4m)	Epicormic growth	Shoots coming from the sapwood of the tree as a lack of attachment
TPZ	Tree Protection Zone (12xDBH at 1.4m)	Tree AZ SULE	Categorization of trees with regards to development see appendix C
SRZ	Structural Root Zone (Dx50) ^{0.42} x0.64 where D= Diameter of the trunk at the root flare	Retention value	See appendix B- Significance of a tree retention assessment rating system STARS
MM	Millimetres	Spread	Canopy width in meters
M	Meters		

Health/Vitality

Poor – Surviving, but moribund, with low vigour; reduced leaf growth and shoot extension- above normal damage/wound occlusion

Fair – Surviving, but constrained, with medium vigour: acceptable leaf growth and shoot extension-Acceptable damage/wound occlusion.

Good – Healthy, unrestricted, with normal vigour; acceptable leaf/shoot size/extension-Acceptable damage/wound occlusion.

Excellent – Healthy, unrestricted, with exceptional vigour-Above normal leaf/shoot size/extension; Minimal damage/wound occlusion.

Condition

Poor – Serious/severe/un-survivable decline associated with pathogenic infection/infestation-Physical damage and/or environmental deterioration; advanced/extensive decay/dieback-Deadwood; structural defects render tree unstable with risk of part/whole failure.

Fair – Moderate/survivable damage seen as decay/dieback/deadwood arising from-pathogenic infection/infestation and/or physical damage and/or environmental modification-Isolated/moderate structural defects that can be managed/treated to reduce risk of failure.

Good – Sound/undamaged structure free from signs of debilitating/fatal decay/dieback and/or damage/defects with only acceptable/minimal deadwood throughout crown-intact/typical branch development; normal bud growth and shoot extension; no pruning/works requirement unless for amenity/shaping/balancing reasons.

Excellent – Sound/undamaged structure free from signs of debilitating/fatal decay/dieback and/or damage/defects with no/negligible deadwood throughout crown; intact/typical branch development; above normal bud growth and shoot extension; no pruning/works requirement unless for amenity/shaping/balancing reasons

6.0 Discussion, Tree condition, Indirect/ Direct Impacts

- 6.1 Tree 1, a large mature Hoop pine had a dead apical leader and lion's tailed branches seen blow in figure 2.
- 6.2 The death of the apical leader is evident when a tree is not performing its biological functions anymore.
- 6.3 The lion's tailed branches are due to the harsh coastal conditions. The foliage is whipped off the branches and reduces the tree's photosynthetic area.
- 6.4 A large tree such as this requires a high percentage live Crown Ration LCR.

Figure 2 *Death of the apical leader and lion's tailed branches are a sign of poor tree health and a harsh environment*

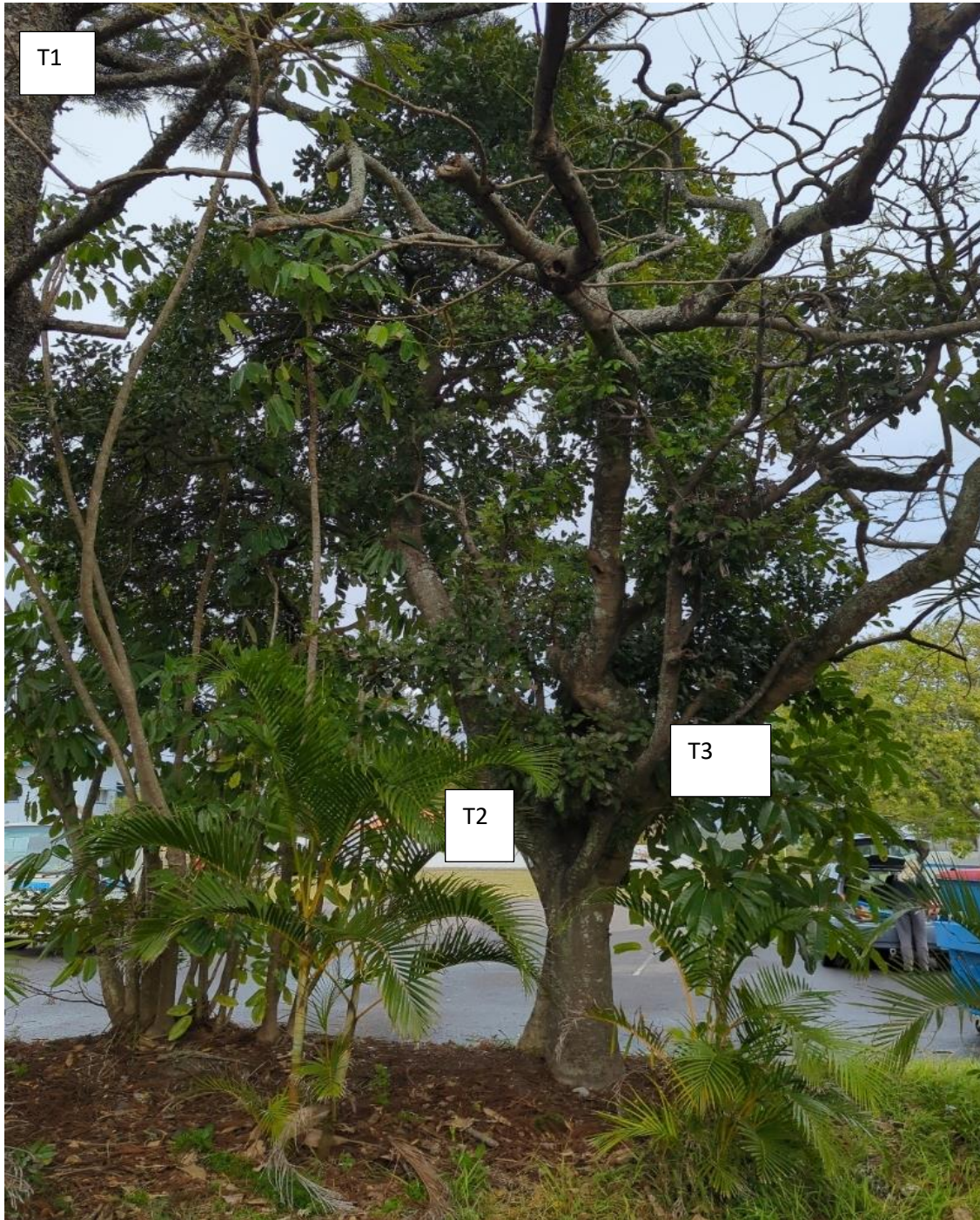


- 6.5 Tree 2 is a tuckeroo tree that is found beneath the canopy of tree 1, the larger hoop pine.
- 6.6 It has had a suppressed habitat for some time resulting in a poor growth habit

6.7 Tree 3, a poinciana grows interlocked with tree 2 and is also in a suppressed habitat.

6.8 The growth habit is structurally unsound and half the canopy is dead.

Figure 3 trees 2 and 3 have grown in a suppressed manner for many years creating a poor growth habit



- 6.9 Tree 4 is a large mango tree. This doesn't appear to be in use with its intended purpose.
- 6.10 Tree 5 is a multi-stemmed tuckeroo tree, which looks to be regrowth from 2x old stumps that has matured over time into a mature shrub.
- 6.11 Tree 6 is a forest red gum. It's positioned adjacent- to the public footpath and exhibits some twig dieback of extremity foliage in the upper canopy.

Figure 2 The development area. Ground floor Image Baker Architects 2022.



- 6.12 The new development is set to take up the entire lot and consists of an apartment block with a café underneath and public parking. There is a thoroughfare that provides vehicle movement around the intended building.
- 6.13 Based on the data collected on site, the trees have a short useful life expectancy and offer a low level of amenity value to the site.

7.0 Conclusions:

- 7.1 6x Trees were assessed for vitality and condition as well as suitability for retention during a new construction project at 17 Mc Donald street, Evans Head.
- 7.2 The trees presented in vitality and condition typical of that where no care has been administered, in a seaside location over many years.
- 7.3 The assessed trees hold low retention value, being mature trees with poor to fair vigour and condition.
- 7.4 Growth habit and biological functions of trees 1,2,3 and 6 are compromised with varying degrees of dieback, low percentage live crown ratios (LCR).
- 7.5 Tree 4 is a large mature mango tree, its purpose as a fruit tree doesn't present as applicable anymore. Its does present as a good shade tree.
- 7.6 Tree 5 has matured from regrowth of a couple of old stumps.
- 7.7 The total net canopy loss with the removal of the subject trees is 344 square metres
- 7.8 The requirement to achieve a net positive canopy cover would be to replant Canopy Trees, to achieve a 344 or more square metres at maturity. This can be carried out on or off site within the LGA Richmond Valley Council but preferably within the Township of Evans Head.
- 7.9 An example of a net positive canopy offset would be planting 10x Tuckeroo in 45lt Bags which would achieve 360 square meters of total canopy at maturity (6x6m per tree) at maturity. Ideally a mix of genus and species is preferred for diversity and lower mortality rate.

8.0 Recommendations:

- 8.1 Engage a suitably qualified Minimum AQF Level 3 Arborist to remove the assessed trees.
- 8.2 Arrange a suitable location for the replanting of canopy trees on or off site
- 8.3 A list of suitable Canopy trees and gross crown morphology specifications can be seen in appendix A.
- 8.4 Replanting of canopy trees needs to be ≥ 344 square metres in total at maturity.

Appendix A Suitable Canopy tree list. Note* there are some doubles in the two tables.

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acacia disparrima</i>	Hickory Wattle	<i>Acacia disparrima</i>	Hickory Wattle
<i>Alphitonia excelsa</i>	Red Ash	<i>Acacia longifolia sub sophorae</i>	Coastal Wattle
<i>Avicennia marina</i>	Grey Mangrove	<i>Acronychia imperforata</i>	Beach Acronychia
<i>Banksia aemula</i>	Wallum Banksia	<i>Alphitonia excelsa</i>	Red Ash
<i>Banksia integrifolia</i>	Coast Banksia	<i>Archontopheonix cunninghamiana</i>	Bangalow Palm
<i>Callitris columellaris</i>	Coastal Cypress Pine	<i>Banksia integrifolia</i>	Coastal Banksia
<i>Casuarina glauca</i>	Swamp Oak	<i>Banksia aemula</i>	Wallum Banksia
<i>Corymbia intermedia</i>	Pink Bloodwood	<i>Breynia oblongifolia</i>	Coffee Bush
<i>Cupaniopsis anacardioides</i>	Tuckeroo	<i>Callitris columellaris</i>	Coastal Cypress Pine
<i>Elaeocarpus reticulatus</i>	Blueberry Ash	<i>Casuarina glauca</i>	Swamp Oak
<i>Endiandra sieberi</i>	Hard Corkwood	<i>Corymbia intermedia</i>	Pink Bloodwood
<i>Eucalyptus robusta</i>	Swamp Mahogany	<i>Crinum pedunculatum</i>	River Lily
<i>Eucalyptus tereticornis</i>	Forest Red Gum	<i>Cryptocaria triplinervis var triplinervis</i>	Three Veined Laurel
<i>Euroschinus falcatus</i>	Ribbonwood	<i>Cupaniopsis anacardioides</i>	Tuckeroo
<i>Ficus fraseri</i>	Sandpaper Fig	<i>Duboisia myoporoides</i>	Corkwood
<i>Ficus sp</i>	Unidentified Fig	<i>Elaeocarpus reticulatus</i>	Blueberry Ash
<i>Ficus watkinsiana</i>	Strangling Fig	<i>Endiandra sieberi</i>	Hard Corkwood
<i>Glochidion ferdinandi</i>	Cheese Tree	<i>Eucalyptus robusta</i>	Swamp Mahogany
<i>Litsea australis</i>	Brown Bolly Gum	<i>Eucalyptus tereticornis</i>	Forest Red Gum
<i>Lophostemon suaveolens</i>	Swamp Box	<i>Euroschinus falcatus</i>	Ribbonwood
<i>Macaranga tanarius</i>	Macaranaga	<i>Ficus fraseri</i>	Forest Sandpaper Fig
<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark	<i>Ficus watkinsiana</i>	Strangler Fig
<i>Notelaea longifolia var longifolia</i>	Large Mock Olive	<i>Glochidion ferdinandi</i>	Cheese Tree
<i>Pandanus tectorius</i>	Screw Pine	<i>Hibiscus tiliaceus</i>	Cottonwood
<i>Polyscias elegans</i>	Celerywood	<i>Litsea australis</i>	Brown Bollygum
<i>Pouteria chartacea</i>	Thin leaved Coonoo	<i>Lomandra longifolia</i>	Spiny Matrush
<i>Syzygium oleosum</i>	Blue Lilly Pilly	<i>Macaranga tanarius</i>	Macaranga
Species table 1		<i>Melaleuca quinquenervia</i>	Broad Leaved Paperbark
		<i>Myoporum acuminatum</i>	Boobialla
		<i>Notelaea longifolia var longifolia</i>	Large Leaved Mock Olive
		<i>Pandanus tectorius</i>	Pandanus
		<i>Planchonella chartacea</i>	Thin leaved Coonoo
		<i>Polyscias elegans</i>	Celerywood
		<i>Syzygium oleosum</i>	Blue Lillypilly
		Species table 2	

Appendix B Significance of a Tree Assessment Rating System (STARS)

Tree Significance - Assessment Criteria - STARS®		
Low	Medium	High
<p>The tree is in fair-poor condition and good or low vigour.</p> <p>The tree has form atypical of the species</p> <p>The tree is not visible or is partly visible from the surrounding properties or obstructed by other vegetation or buildings</p> <p>The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area</p> <p>The tree is a young specimen which may or may not have reached dimensions to be protected by local Tree Preservation Orders or similar protection mechanisms and can easily be replaced with a suitable specimen</p> <p>The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa in situ – tree is inappropriate to the site conditions</p> <p>The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms</p> <p>The tree has a wound or defect that has the potential to become structurally unsound.</p> <p>The tree is an environmental pest species due to its invasiveness or poisonous/allergenic properties.</p> <p>The tree is a declared noxious weed by legislation</p>	<p>The tree is in fair to good condition</p> <p>The tree has form typical or atypical of the species</p> <p>The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area</p> <p>The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street</p> <p>The tree provides a fair contribution to the visual character and amenity of the local area</p> <p>The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situation.</p>	<p>The tree is in good condition and good vigour</p> <p>The tree has a form typical for the species</p> <p>The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age.</p> <p>The tree is listed as a heritage item, threatened species or part of an endangered ecological community or listed on council's significant tree register</p> <p>The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity.</p> <p>The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values.</p> <p>The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ – tree is appropriate to the site conditions.</p>

		Tree Significance			
		High	Medium	Low	
Safe Useful Life Expectancy	Long >40 years				
	Medium 15-40 years				
	Short <1-15 years				
	Dead				

Legend for Matrix Assessment	
	Priority for retention (High): These trees are considered important for retention and should be retained and protected.
	Consider for retention (Medium): These trees may be retained and protected although these are considered less critical.
	Consider for removal (Low): These trees are not considered important for retention.

Appendix C: Safe Useful Life Expectancy description and categories

Safe Useful Life Expectancy (SULE)

SULE is the length of time that the arboriculturist assesses an individual tree can be retained with an acceptable level of risk based on the information available at the time of inspection. It is a snapshot in time of the potential an individual tree has for survival in the eyes of the assessor. SULE is not static – it is closely related to tree health and the surrounding conditions. Alterations in these variables may result in changes to the SULE assessment. Consequently, the reliability all SULE assessments have will decrease as time passes from the initial assessment and the potential for changes in variables increases.

SULE Assessment Categories

Long SULE: Trees that appear to be retainable with an acceptable level of risk for more than 40 years.

- (a) Structurally sound trees located in positions that can accommodate future growth.
- (b) Storm damaged or defective trees that could be made suitable for retention in the long term by remedial tree surgery.
- (c) Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.

Medium SULE: Trees that appear to be retainable with an acceptable level of risk for 15 to 40 years.

- (a) Trees that may only live between 15 and 40 more years.
- (b) Trees that may live for more than 40 years but would be removed to allow the safe development of more suitable individuals.
- (c) Trees that may live for more than 40 years but would be removed during normal management for safety or nuisance reasons.
- (d) Storm damaged or defective trees that can be made more suitable for retention in the medium term by remedial work.

Short SULE: Trees that appear to be retainable with an acceptable level of risk for 5 to 15 years.

- (a) Trees that may only live between 5 and 15 more years.
- (b) Trees that may live for more than 15 years but would be removed to allow the safe development of more suitable individuals.
- (c) Trees that may live for more than 15 years but would be removed during normal management for safety or nuisance reasons.
- (d) Storm damaged or defective trees that require substantial remedial work to make safe and are only suitable for retention in the short term.

Remove: Trees with a high level of risk that would need removing within the next 5 years.

- (a) Dead trees.
- (b) Dying or suppressed and declining trees through disease or inhospitable conditions.
- (c) Dangerous trees through instability or recent loss of adjacent trees.
- (d) Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.
- (e) Damaged trees that are considered unsafe to retain.
- (f) Trees that will become dangerous after removal of other trees for the reasons given in (a) to (e).

Young or Small Trees:

- (a) Trees which are less than 5 meters (m) in height. (b) Trees which are over 5m in height but less than 25 years old.

Appendix D- Glossary of Arboricultural Terms

Taken from: Draper, D. B and Richards, P.A. (2009) Dictionary for Managing Trees in Urban Environments, CSIRO Publishing, Victoria, Australia.

Arborist An individual with competence to cultivate, care and maintain trees from amenity or utility purposes.
Basal Proximal end of the trunk or branch, e.g., trunk wound extending to the ground is a basal wound, or as epicormic shoots arising from lignotuber

Branch failure the structural collapse of a branch that is physically weakened by wounding or from the actions of pests and diseases or overcome by loading forces in excess of its load – bearing capacity.

Buttress A flange of adaptive wood occurring at a junction of a trunk and root or trunk and branch in response to addition loading.

Callus wood Undifferentiated and unligified wood that forms initially after wounding around the margins of a wound separating damaged existing wood from the later forming lignified wood or wound wood.

Canker A wound created by repeated localized killing of the vascular cambium and bark by wood decay fungi and bacteria usually marked by concentric disfiguration. The wound may appear as a depression as each successive growth increment develops around the lesion forming a wound margin (Shigo 1991, p. 140)

Canopy cover the amount of area of land covered by the lateral spread of the tree canopy, when viewed from above that land. Codominant stem Two or more first order structural branches or lower order branches of similar dimensions arising from about the same position from a trunk or stem.

Crown Of an individual tree all the parts arising above the trunk where it terminates by its division forming branches, e.g., the branches, leaves, flowers and fruits; or the total amount of foliage supported by the branches.

Decline The response of the tree to a reduction of energy levels resulting from stress. Recovery from a decline is difficult and slow, and decline is usually irreversible.

Diameter at Breast Height (DBH) Measurement of a trunk width calculated at a given distance from above ground from the base of the tree often measured at 1.4m.

Dominance A tendency in a leading shoot to maintain a faster rate of apical elongation and expansion other than other nearby lateral shoots, and the tendency also for a tree to maintain a taller crown than its neighbours (Lonsdale 1999, p.313)

Dripline A line formed around the edge of a tree by the lateral extent of the crown.

Dynamic Load Loading force that is moving and changes over time, e.g., from wind movement (James 2003, p. 166)

Endemic A native plant usually with a restricted occurrence limited to a particular country, geographic region or area and often further confined to a specific habitat.

Epicormic Branch derived from an epicormic shoot

Frass The granular wood particles produced from borer insects and can be categorized as fine frass, medium frass, and coarse frass with the different types being of different sizes and caused by different insects.

Habitat tree a tree providing a niche supporting the life processes of a plant or animal

Hazard The threat of danger to people or property from a tree or tree part resulting from changes in the physical condition, growing environment, or existing physical attributes of the tree, e.g., included bark, soil erosion, or thorns or poisonous parts, respectively.

Included bark the bark on the inner side of the branch union, or in within a concave crotch that is unable to be lost from the tree and accumulates or is trapped by acutely divergent branches forming a compression fork

Indigenous A native plant usually with a broad distribution in a particular country, geographic region or area. See also Endemic, Locally indigenous and non-locally indigenous.

In situ Occurring in its original place, e.g., soil level, remnant vegetation, the place from where a tree was transplanted, or where a tree is growing. Irreversible decline the decline of a tree where it has progressively deteriorated to a point where no remedial works will be sufficient to prevent its demise, usually of poor form and low vigour.

Isolated tree a tree growing as a solitary specimen in an exposed location away from other trees as a result of natural or artificial causes and may be naturally occurring.

Kino The extractive polyphenols (tannins) formed in veins in a cambial zone as a defence in response to wounding in eucalypts. Often visible as an exudate when the Kino veins rupture or are injured (Boland, et al. 2006, p. 691)

Lignotuber A woody tuber developed in the axils of the cotyledons.

Loading Weight that is carried, e.g., as bending stress on a branch.

Locally Indigenous A native plant as remnant vegetation, self-sown or planted in an area or region where it occurred originally.

Longevity Long lived, referring to a plant living for a long period of time.

Mechanical wound -Wound inflicted by abrasion, by mechanical device

Naturalized A plant introduced from another country or region to a place where it was not previously indigenous where it has escaped from agriculture or horticulture or as a garden escape and has sustained itself unassisted and given rise to successive generations of viable progeny.

Necrotic Dead area of tissue that may be localized e.g., on leaves, branches, bark or roots

Negligence With regard to trees, failure to take reasonable care to prevent hazardous situations from occurring which may result in injury to people or damage to property (Lonsdale 1999, p. 317)

Noxious weed a plant species of any taxa declared a weed by legislation. Treatment for the control or eradication of such weeds is usually prescribed by legislation...

Remnant A plant /s of any taxa and their progeny as part of the floristics of the recognized endemic ecological community remaining in a given location after alteration of the site or its modification or fragmentation by activities on that land or on adjacent land

Useful Life Expectancy (ULE) A system used to determine the time a tree can be expected to be usefully retained

Shedding - Shedding of plant organs when it is mature or aged, by the formation of a corky layer across its base. This may be influenced by stress, drought, senescence, declining condition, reduced vigour and also occurs

Stability Resistance to change especially from loading forces or physical modifications to a tree growing environment

Stress A factor in a plants environment that can have adverse impacts on its life processes e.g., altered soil conditions, root damage, toxicity, drought or water logging. The impact t of stress may be reversible given good arboricultural practices that may lead to plant decline.

Structural defect a weak point in or on a tree causing its structural deterioration diminishing its stability in full or part

Structural integrity the ability of a load bearing part of a tree, and its resistance to loading forces

Structural roots- Roots supporting the infrastructure of the root plate providing strength and stability of the tree.

Symbiotic An association between different species usually but not always mutually beneficial.

Termite leads Tunnels of mud on the stem and between the bark created by termites that may be active or inactive.

Tree Protection Zone (TPZ) A combination of RPZ and CPZ as an area around the tree set aside for the protection of a tree and a sufficient proportion of its growing environment above and below ground established



prior to demolition or construction and maintained until the completion of works to allow for its viable retention including stability.

Visual Tree Assessment (VTA) A visual inspection of a tree from the ground. Such assessment should only be undertaken by suitably competent practitioners.

Regards,

TL Beck

Timothy Beck

Consulting & Project Arborist

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Disclaimer

Tree risk assessments and tree health assessments are based on practicable methods of assessment. Any condition that could possibly lead to stem or tree failure cannot expect to be detected. Trees are living organisms and may fail from a range of many reasons, some of which are still not scientifically proven. Recommendations following tree inspections may or may not be accepted by the client. Assessment tools are variable and unless otherwise stated, inspections are undertaken at ground level, based on the permissible access granted. Inspections of underground areas are limited and potential reasons for tree failure are not always available for consideration. Modern Tree Consultants cannot guarantee against tree failure. It is not possible to make a tree "safe", rather they can be managed, to reduce the potential risk of harm to acceptable levels, should the consultant feel it is necessary. Recommendations in this report are based on the qualifications, experience and knowledge and the use of assessment tools deemed necessary for the inspection. The report is to be considered in full and sections are not to be selected for legal consideration without advice and approval from Modern Tree Consultants. No portion of this report may be forwarded without the expressed permission of the author.

END REPORT

Modern Tree Consultants, June 2023

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Bibliography

- Australian Standards, 2009. “Protection of Trees on Development Sites”, (AS 4970-2009) Standards Australia, Sydney, Australia.
- Australian Standards, 2007. “Pruning of Amenity Trees”, (AS 4373/2007) Standards Australia, Sydney, Australia
- Barrell, J.D., (2009) TreeAZ. Detailed guidance on its use. Version 10.10 – ANZ. United Kingdom
- Botanica (2001), Trees & Shrubs, Random House, Australia
- Cronin, L. (2002), Australian Trees, 2nd edition, Envirobook, Australia
- Draper, D. B and Richards, P.A. (2009), Dictionary for Managing Trees in Urban Environments, CSIRO Publishing, Victoria, Australia
- Environmental Protection & Biodiversity Conservation Act 1999 (Commonwealth Government)
http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/
- Footprint Green Pty Ltd. 2001, Footprint Green Tree Significance & Retention Value Matrix, Avalon, NSW Australia, www.footprintgreen.com.au
- Holliday, I., and Watton, G. (2002) Gardeners Companion to Eucalypts 4th revised Edition Reed New Holland, Australia
- IACA, 2010, IACA Significance of a Tree, Assessment Rating System (STARS), Institute of Australian Consulting Arboriculturists, Australia, www.iaca.org.au
- Matheny, N. & Clark, J (1994). A Photographic guide to Hazard Trees in Urban Areas. 2nd Edition. Illinois, (USA).
- Matheny, N. & Clark, J (1998). Trees & Development, A technical Guide to Preservation of Trees during Land Development. International Society of Arboriculture, Champaign, USA.
- Matheny, N. & Clark, J (2004), Arboriculture. Fourth Edition. Pearson Education Incorporated. New Jersey, USA.
- Mattheck, C. (1999). Body Language of trees. Forschungszentrum Karlsruhe, Germany
- Treetec (2014) www.treetec.net.au . Melbourne, Australia