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Arborist Impact Assessment

Proposed Residential Subdivision
69 Kensington Rd, Bolwarra NSW

Prepared for: **Koby properties No 1 Pty Ltd**

20 December 2022
AEP Ref: 2526
Revision: 01

P 0418 681 581 E CRAIG@ANDERSONEP.COM.AU PO BOX210 ADAMSTOWN NSW 2289 ABN 27 170 660 510

Document Control

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Project Number	2526
Client Name	Koby Properties No 1 Pty Ltd
AEP Project Team	Warwick Muir Natalie Black Edouard Loisance

Revision

Revision	Date	Author	Reviewed	Approved
00	13/01/2022	Warwick Muir	Edouard Loisance	Edouard Loisance
01	16/12/2022	Warwick Muir	Natalie Black	Warwick Muir

Distribution

Revision	Date	Name	Organisation
00	13/01/2022	Kate Young	Koby Properties Pty Ltd
01	13/01/2022	Kate Young	Koby Properties Pty Ltd

Contents

Tables

Figures

Appendices

1.0 Introduction

1.1 Background

At the request of Koby Properties No 1 Pty Ltd (the client), Anderson Environment & Planning (AEP) have prepared a report to assess mature and semi-mature trees for suitability of retention and inform the design of a proposed residential subdivision at 69 Kensington Rd, Bolwarra, NSW.

1.2 Objectives

Further to the above the following objectives of this report have been assigned as follows:

- Tree identification plan and schedule identifying tree species, size, canopy spread and the like;
- Assessment of all trees including, but not limited to, the health and vigour of the trees, structural integrity, life expectancy, retention value and landscape significance;

1.3 Site Description and Locality

- **Location –** 69 Kensington Road, Bolwarra, NSW 2320
- **Title –** Lot 150 DP 826463
- **LGA –** Maitland City Council
- **Zoning –** The entire Lot is zoned R1– General Residential
- **Subject Site –** The Subject Site is currently a residential lot with a dwelling, sheds and large vegetated back garden.
- **Surrounding Land Use –** Adjoining lots to the north, east, and south are residential lots also zoned R1 – General Residential. To the west is Kensington Rd.

2.0 Proposed Development

The proposal is for the subdivision of the existing residential lot into 3 separate lots, with 2 additional dwellings and a driveway

Figure 1 depicts the location of the site and **Figure 2** shows a concept plan for the proposed development.

AEP

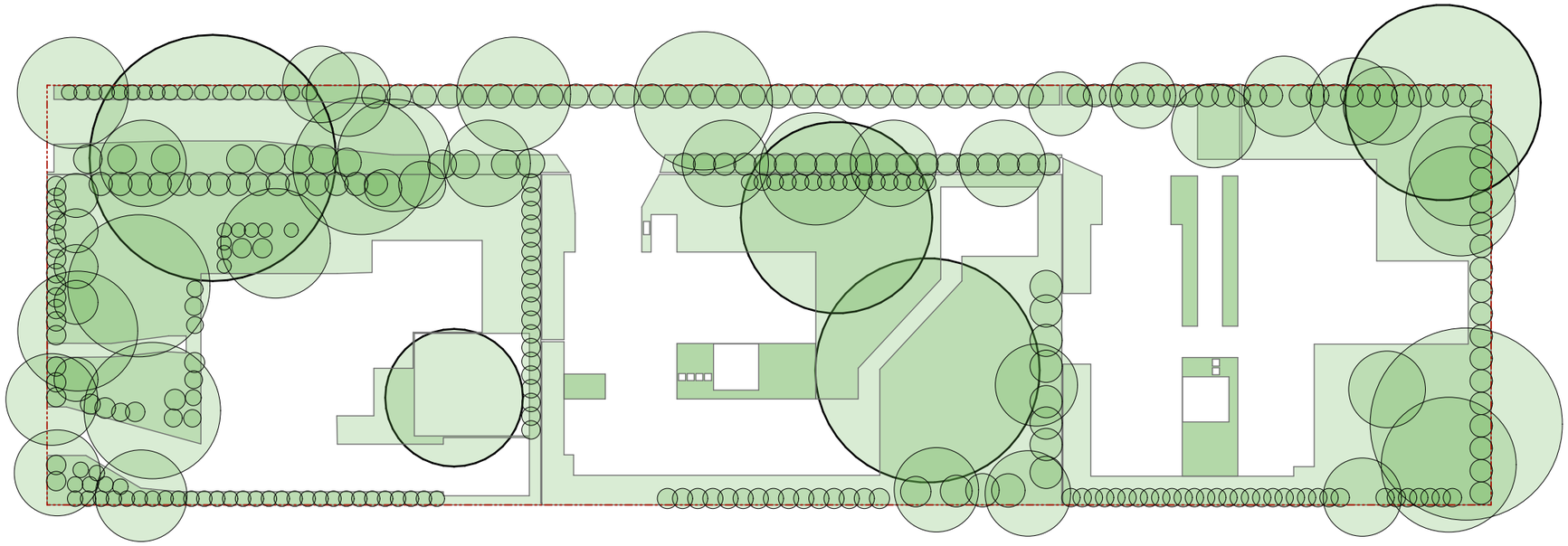
Title: Figure 1 - Site Location

Location: 69 Kensington Rd, Bolwarra

Date: December 2022

Client: Koby Properties Pty Ltd

AEP ref: 2526



EXTRACT OF ALL TREES AND SHRUBS (RETAINED & PROPOSED)

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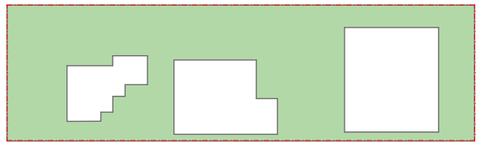
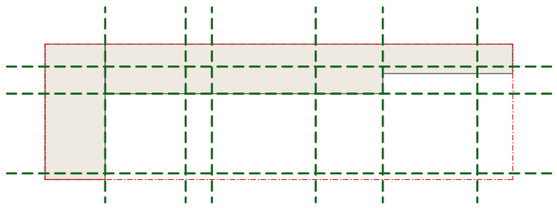
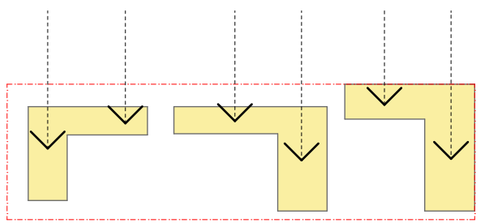


PRESERVE LARGE QUANTITY OF EXISTING LANDSCAPE / RESPECTFULLY SIZED BUILDING ENVELOPES



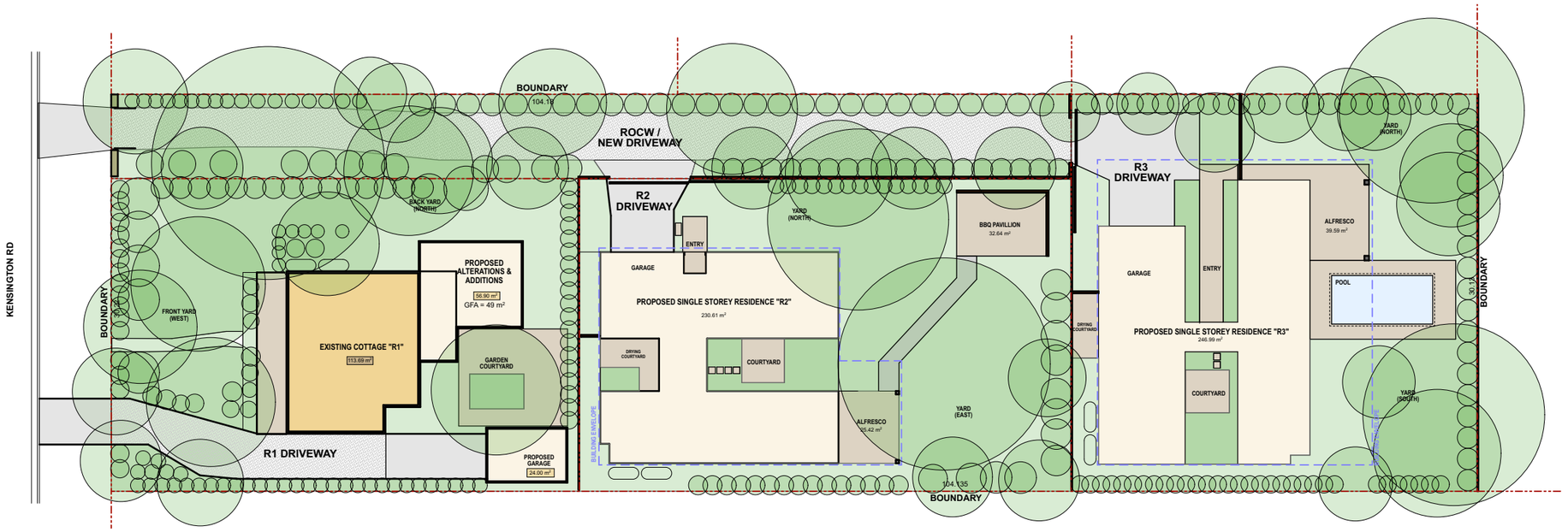
LARGE INTERNAL AND PERIMETER SETBACKS TYPICALLY / LARGE BUFFER TO NORTHERN NEIGHBOURS



NORTHERLY ASPECT FOR PRIVATE YARD SPACES

SITE CONCEPTS

NOT TO SCALE



SITE MASTERPLAN

SCALE 1:400 @ A3

BUILDING ENVELOPE AREA

MM architecture	ISSUE G PRE DA COORDINATION 29.11.2022 F DEVELOPMENT APPLICATION & AUTHORITIES APPROVALS 05.12.2022		CLIENT KOBY GROUP	PROJECT 69 KENSINGTON RD BOLWARRA PROPOSED A & A AND SUBDIVISION	DATE NOVEMBER 2022	DRAWING **DA1.5** **GROUND FLOOR & LANDSCAPE PLAN**	SCALE **1:400 @ A3** PROJECT NORTH

3.0 Methodology

The site inspection was undertaken on the 17th and 20th December 2021. Each tree observed within the Subject Site was assigned a unique tree number and tagged with a plastic tag. Tree species were identified based on guidance from regional identification guides (Fairley and Moore 1989, Robinson 2003), and descriptions and records provided by the Royal Botanic Gardens (Plantnet 2021).

3.1 Visual Tree Assessment

A visual tree assessment to evaluate the health and condition of these trees in relation to the impacts of the proposed development was undertaken from ground level following the methodology described by Mattheck and Breloer (1994). Tree height was estimated following the guidance outlined in the Private Native Forestry Code of Practice (DECC 2007). The Diameter at Breast Height (DBH) and Diameter Above Buttress (DAB) were determined using a DBH tape and methods of calculation for the **Tree Protection Zone (TPZ)** and **Structural Root Zone (SRZ)** as outlined in AS 4970-2009 *Protection of trees on development Sites* (AS 4970 – 2009) (Standards Australia 2009). Tree Total Canopy Area was estimated from the formula Pi x (average canopy spread)^2. Wood decay resonance testing was conducted using a metal hammer.

3.2 SULE

The SULE method (Safe Useful Life Expectancy) estimates the suitability of the tree in the urban landscape based on the species and age of the subject tree (Barrell 1996). The following ranges have been allocated to each tree:

- Greater than 40 years (Long);
- Between 15 and 40 years (Medium);
- Between 5 and 15 years (Short);
- Dead, dying, suppressed, defective or damaged (Remove); and
- Less than 5m in height or 15years of age (Young or small tree).
- A full explanation of SULE methodology is included in **Appendix B**.

3.3 Tree Retention Value

To determine Tree Retention Value, a Landscape Significance Rating (LSR) was assigned to each tree. The LSR value provides consideration of the trees' amenity, environmental and heritage values (refer **Appendix A**). Trees are then assigned one of the following LSR categories:

- Significant (1);
- Very High (2);
- High (3);
- Moderate (4);
- Low (5);
- Very Low (6); and
- Insignificant (7).

Once the landscape significance value was determined, the following assessment matrix that utilises estimated life expectancy and landscape significance (**Table 1**) was applied to each tree.

Table 1: Tree Retention Status Matrix Assessment matrix adopted from Morton (2006).

Landscape significance rating							
Estimated Life Expectancy	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Greater than 40 Years							
15 to 40 Years			Moderate				
5 to 15 Years				Low			
Less than 5 Years					Very low		
Dead or Hazardous							

3.4 Limitations

This report utilises a rapid assessment of tree health and condition to inform retention value. Should a detailed assessment of tree structural health and condition be required, a tree risk assessment report should be commissioned.

This assessment of tree health and condition is based on non-destructive visual observations from ground level. Thus, it is not possible to identify all structural faults at high levels in the tree, internal structural faults or within the root system. Should a detailed assessment for structural faults be required, a tree risk assessment report should be commissioned.

Weather conditions such as extreme wind, storm activity, lightning as well as other events or disturbances independent of the proposed activities are unpredictable. Unforeseeable damage to trees may occur as a result of unpredictable or unplanned weather events or disturbances.

Tree identifications are based on identifying features (fruit, inflorescence, etc.) found and made at ground level from within the Subject Site during December.

The total canopy area for each tree utilised within this report is an estimation based on field observation of canopy spread and the true amount of canopy area may differ.

4.0 Tree Assessment Results

A total of **78** trees within the site were tagged and assessed. Observations were recorded and management recommendations made for each tree (**Table 2,** Full assessment Data in **Appendix B).** Tree locations are shown in **Figure 3.**

Of the 78 trees, 24 were identified as native canopy or lower stratum species that are representative of the original vegetation of the area, 13 were identified as non-local native species (planted) and a further 41 were identified as planted exotic species.

The following trees within the site are considered particularly noteworthy due to landscape significance or Poor Health or structural Condition;

- Tree 19, a mature *Corymbia maculata* (Spotted Gum). This tree is of a very large size, and is significant within the landscape. Furthermore, this tree is highly visible from the street and surrounding properties.
- Tree 39, a mature *Eucalyptus pilularis* (Blackbutt). This tree is exhibiting early subsidence of the root-ball, with a lean to the north and soil upheaval on the southern side of the tree. Additionally, there is cracking in the stem, decay with fungal fruiting bodies and cracking in large canopy branches. Further dieback was noted throughout the higher crown. This tree has a poor structural condition.
- Tree 44, a mature *Corymbia maculata* (Spotted Gum). This tree is of very large size, and is significant within the landscape. Furthermore, there is at least one hollow present within the higher canopy, which may provide habitat value for native fauna species.
- Tree 48, a mature *Eucalyptus punctata* (Grey Gum). This tree is in significant decline, with low vigour, defoliation and small photosynthetic area, and is being suppressed by Madeira Vine (*Anredera cordifolia*). Additionally, there are several large dead branches. This tree is in poor health condition.
- Tree 57, a mature *Eucalyptus pilularis* (Blackbutt). This tree is of a very large size, and is significant within the landscape. Furthermore, there is at least one hollow present within the higher canopy, which could provide habitat value for native fauna species.
- Tree 64, a mature *Eucalyptus robusta* (Swamp Mahogany). This tree is in significant decline, with low vigour, defoliation and a small photosynthetic area. Additionally, this tree has several large dead branches and co-dominant leaders with a poor branch connection. This tree is in poor health condition.
- Tree 70, a mature *Corymbia maculata* (Spotted Gum), whilst presenting a healthy crown, displays signs of advanced and significant decay within the stem, confirmed by wood resonance testing. This is associated with an old pruning wound that has incursion from fungal fruiting bodies, and is located at 1-2m above ground level and is consistent throughout the stem at this height. This tree is in Poor Structural Condition.

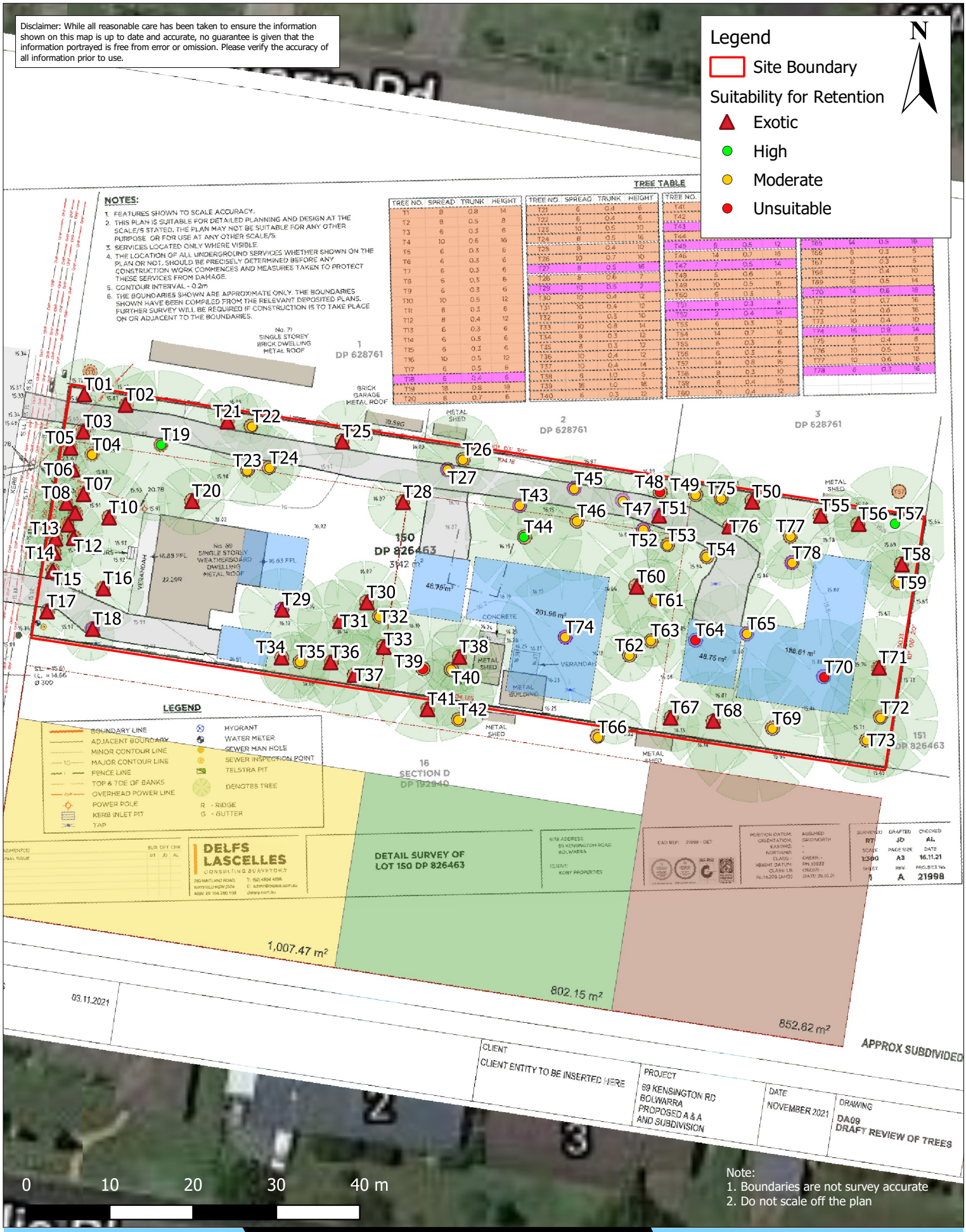
The following landscape significance ratings (LSRs) have been applied to the assessed trees;

- One (1) ‘Significant’ The tree is visually prominent in view from surrounding properties, with a very large crown size and is a representative of the original vegetation of the area;
- Three (3) ‘Very High’ These trees have a very large live crown size exceeding 200m²; a and is a representative of the original vegetation of the area;
- Eighteen (18) ‘High’, due to their canopy size and good health and are representatives of the original vegetation of the area; and

- Twenty eight (28) ‘Moderate’ due to their canopy size and higher visibility as exotic or native cultivar status; and
- Twenty eight (28) ‘Low’ as exotic shrub species of low visibility or amenity value.

With consideration of the estimated life expectancy for each tree, Retention Values were assigned to each tree within the site. This identified;

- 13 ‘High’,
- 37 ‘Moderate’; and
- 28 ‘Low’ Retention Value Trees.



AEP

Title: Figure 3 - Tree Locations and Retention Suitability

Location: 69 Kensington Rd, Bolwarra

Date: December 2022

Client: Koby Properties Pty Ltd

AEP ref: 2526

5.0 Impact Assessment

5.1 Hazardous Trees

The following trees should be removed due to observed major structural or health defects;

- Tree 39 (*Eucalyptus pilularis*). This tree is exhibiting early subsidence of the root-ball, with a lean to the north and soil upheaval on the southern side of the tree. Additionally, there is cracking in the stem, decay with fungal fruiting bodies and cracking in large canopy branches. Given the large size of the canopy, height of the tree and direction of the lean mean that these defects represent a significant hazard to future development or site usage and the tree should be removed.
- Tree 48 (*Eucalyptus punctata*). This tree is in significant decline, with low vigour, defoliation and small photosynthetic area, and is being suppressed by Madeira Vine (*Anredera cordifolia*). Additionally, there are several large dead branches. Given the height of the tree, this decline could represent a significant hazard to future development or site usage and the tree should be removed.
- Tree 64 (*Eucalyptus robusta*). This tree is in significant decline, with low vigour, defoliation and small photosynthetic area. Additionally, this tree has several large dead branches and co-dominant leaders with a poor branch connection. Given the height and size of the tree, this decline and defect could represent a significant hazard to future development or site usage and the tree should be removed.
- Tree 70 (*Corymbia maculata*). This tree appears to be healthy in the crown, but as previously discussed in **Section 4.0**, there is a large section of advanced decay within the stem centred around an old pruning wound on the western side of the tree as confirmed by wood resonance testing. Given the height of the tree, and the likely direction of failure (to the west), this defect represents a significant hazard to future development or site usage and the tree should be removed.

5.2 Development Impacts

Upon review of the supplied proposal footprint, 37 trees will require removal as they are located within the development footprint. These include:

- Six (6) High Retention Value Trees (Trees T35, T39, T54, T61, T65, T77);
- 22 Moderate Retention Value Trees; and
- Nine (9) Low Retention Value Trees.

Impacts are unlikely to be mitigated through tree protection measures without major design changes, and tree stability and viability cannot be guaranteed.

As noted above, Trees 70 and 48 have been identified as hazardous trees and should be removed, despite not being impacted by this development.

A total of 39 trees can be retained within the design. These trees include

- Tree 19 (*Corymbia maculata*). This tree has SRZ encroachment from a proposed driveway. This final design must be a permeable, non-compacted surface (gravel) driveway to retain this tree. Further ground protection measures will be required for movement of heavy equipment through the TPZ of this tree. If these measures are not taken then removal will have to be considered.
    - A further 10 trees can be retained dependent on the final design of the driveway. This final design must be a permeable, non-compacted surface (gravel) driveway to retain

these trees (as noted above), as encroachment by the driveway occurs within the TPZ or SRZ of these trees. Further ground protection measures will be required for movement of heavy equipment through the TPZ of this tree. If these measures are not taken then removal will have to be considered.

- Tree 44 (*Corymbia maculata*). This tree has a 13.5 % encroachment into the TPZ by a building footprint. To retain this tree, either TPZ Fencing as displayed in **Figure 4**. will be required to be established at the boundary of the building footprint closest to this tree, or ground protection measures placed within unimpacted areas of the TPZ (**Appendix D**). The TPZ of this tree can feasibly offset into unimpacted areas. Tree-sensitive construction techniques should be considered for the building footprint within the TPZ of this tree.
- Tree 57 (*Eucalyptus pilularis*). This tree has a 5.4 % encroachment into the TPZ a building footprint. To retain this tree, TPZ Fencing will be required to be established at the boundary of the building footprint closest to this tree. The TPZ of this tree can feasibly offset into unimpacted areas.
- Tree 74 (*Ulmus parviflora*). This tree has a large, low canopy which will be encroached in the west by a building footprint. Canopy branches within the footprint should be pruned.
- Tree 55, 56, 58 & 59 will require a continuous TPZ fence in conjunction with Tree 57 as displayed in **Figure 4**.
- Tree 62, 66 will require a continuous TPZ fence in conjunction with Tree 74 as displayed in **Figure 4**.
- Trees 72 and 73 will require a continuous TPZ fence as displayed in **Figure 4**.
- Trees 3- 18, & 20, are either of small size, or are unlikely to be impacted by this proposal and can be retained without fencing.
- Tree 29 will require tree-sensitive construction of the courtyard and pruning for building footprints within the design.

Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

Legend

N
W E
S

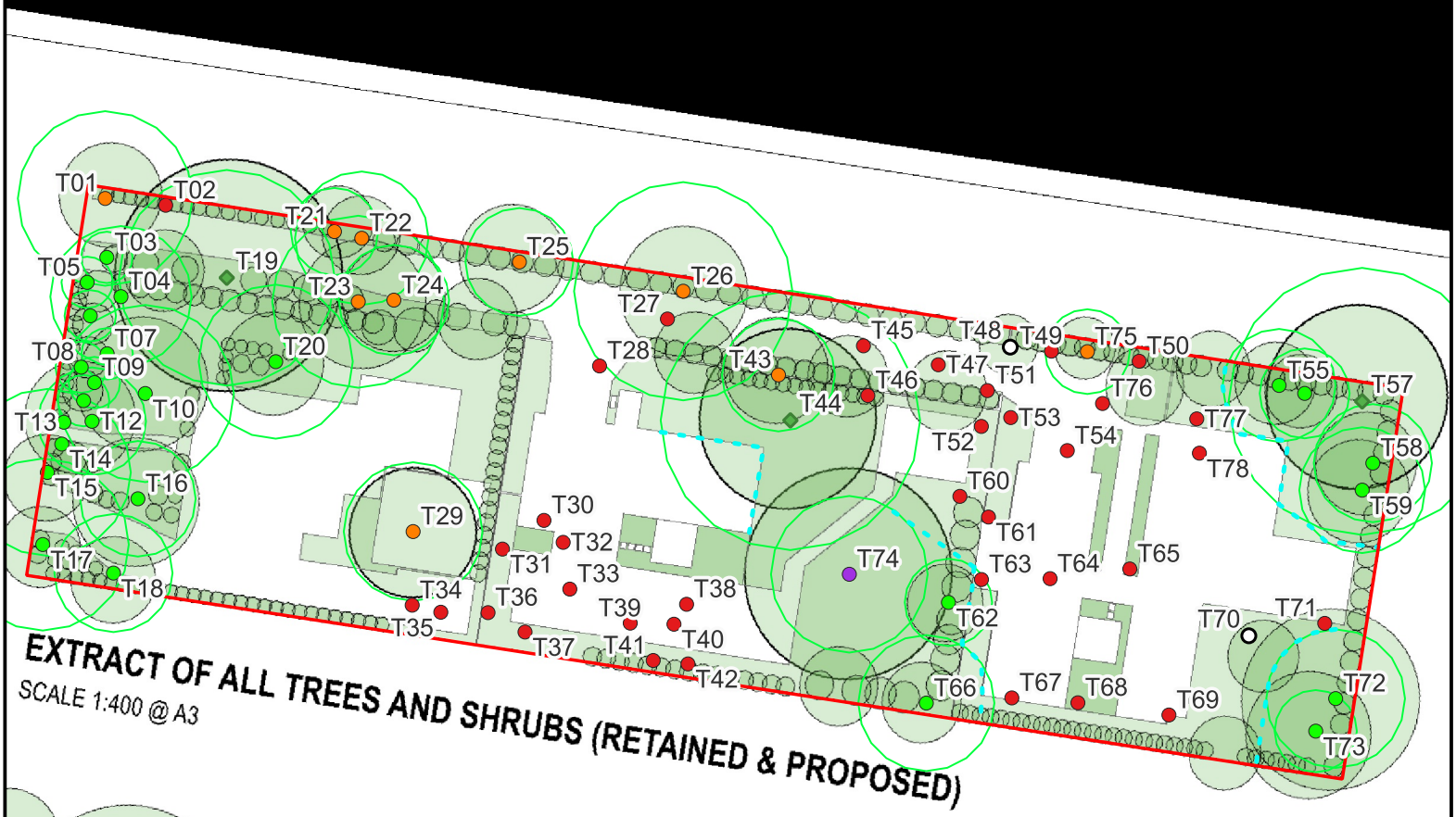
Site Boundary

Tree Assessment

- Remove (Footprint)
- Remove (Hazardous)
- Retain
- Retain (Design Dependent)
- Retain (Pruning)
- Retain (Tree Protection)

TPZ

TPZ Fencing



EXTRACT OF ALL TREES AND SHRUBS (RETAINED & PROPOSED)

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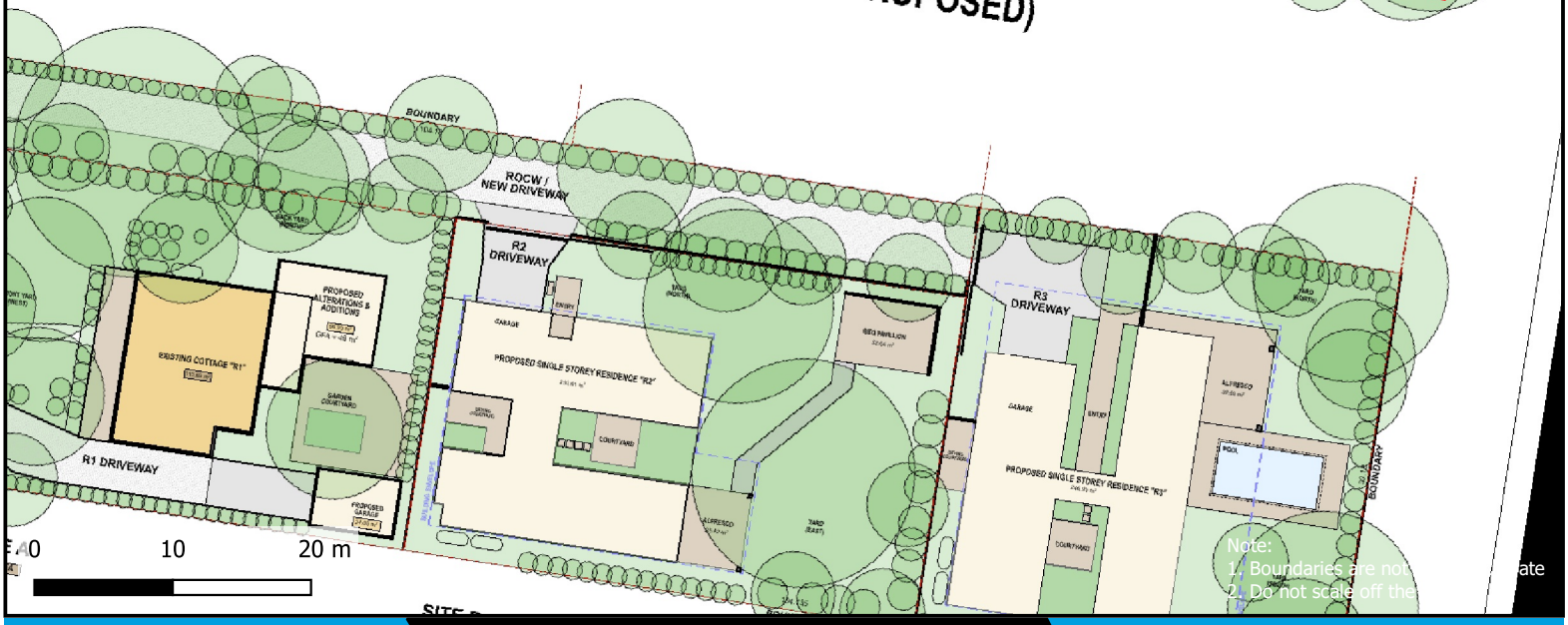


Note:
1. Boundaries are not [illegible] ate
2. Do not scale off the

AEP

Title: Figure 4 - Tree Assessment

Date: December 2022

Location: 69 Kensington Rd, Bolwarra

Client: Koby Properties Pty Ltd

AEP ref: 2526

6.0 Recommendations

6.1 Tree Retention and Removal

- Trees designated for removal within this report as outlined in **Section 5** should be removed by a qualified tree worker with appropriate professional liability insurance, and removed in a manner to prevent damage to retained trees.
- Trees designated for retention within this report as outlined in **Section 5** to the development footprint should be retained with Tree Protection Measures.

6.2 Tree Protection Measures

- All tree maintenance and pruning works should be carried out by a qualified tree worker in accordance with AS4373 –2007 Pruning of Amenity Trees.
- A Tree Protection Zone (TPZ) should be established for trees to be retained within close proximity to the construction footprint. The TPZ shall be delineated by a 1.8m interlocking chain wire fence located at the TPZ boundary (As shown in **Table 2**) of trees designated to be retained within close proximity to the Works, in accordance with AS 4687. **Appendix D** details tree protection fencing that should be implemented.
- TPZ fencing must be installed before the commencement of any works. The fencing should not be removed or altered until after the completion of works. Where a TPZ fence cannot be erected around the boundary of a TPZ, for example if it would interfere with a driveway, the fence should be erected at the closest practicable point to the boundary and ground protection measures should be utilised within the remainder of the TPZ.
- The TPZ fencing and zone should be certified by the project arborist before construction commences.
- Tree health and condition should be monitored by the project arborist at regular stages during construction, at practical completion of construction, and after completion.
- Tree tags should remain in place on retained trees until after tree removal, construction and tree pruning works have been completed.
- The following activities should be avoided within the TPZ of trees to be retained where practicable:
    - Machine excavation of soil including trenching;
    - Operation of heavy equipment;
    - Stockpiling of soils;
    - Storage of heavy or other equipment;
    - Parking of vehicles;
    - Wash down and cleaning of equipment;
    - Excavation for silt fencing;
    - Dumping of waste;
    - Change of soil level or gradient; and
    - Covering with concrete, impermeable, or compacted surfaces.
- Where works are required that encroach into TPZ of trees to be retained, additional protection measures, which include trunk and low branch guards, and ground protection measures

should be implemented following guidance in Australian standard *AS 4970 – 2009 Protection of trees on development Sites.* These works should only be conducted under supervision of the project arborist. The use of "soft" construction methods including manual and vacuum removal of soils is recommended for works conducted within the TPZ of Trees to be retained.

7.0 Other Recommendations

- Clothing, equipment and boots should be clean and sanitised prior to each site visit to prevent onsite introduction of plant pests and diseases such as Myrtle rust.
- Vehicles and construction equipment should utilise designated entry and egress points to avoid potential of impacts on Trees to be retained. Where heavy equipment or vehicles are to be moved through a TPZ, ground protection measures should be implemented as stated above.

8.0 Conclusion

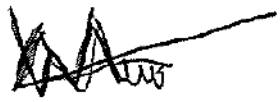
The recommendations for tree retention and removal have been made with consideration of minimising arboricultural impacts.

Based on the tree retention and removal proposed above the current proposal footprint will require the direct removal of 39 of the assessed trees, while 39 assessed trees can be retained within the site.

The implementation of a detailed Tree Protection Plan and Tree Protection measures will be an essential part of the Construction Environment Management Plan to avoid further loss of trees in close proximity to the construction footprint.

We trust this meets your requirements. Should you require further details or clarification, please do not hesitate to contact the author of the report (0448 689 698) or Natalie Black (Senior Environmental Manager - 0431 249 360).

Yours faithfully,



Warwick Muir
Ecologist / Arborist
BSc DipArb (AQF5)

9.0 References

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Appendix A – Tree Assessment Schedule

Appendix A - Tree Assessment Schedule

Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)	Canopy Spread (m)				Canopy Spread Average (m)	Estimated Total Canopy Area (m^2)	Height (m)	SULE	Age Class	Structure	Health	Landscape significance rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
					N	E	S	W													
1	*Jacaranda mimosifolia*	Jacaranda	0.57	0.78	3	4	4	3	4	38	14	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	6.8	3.0	Retain (Design Dependent)
2	*Ligustrum lucidum*	Large-Leaf Privet	0.47	0.55	2	4	4	6	4	50	8	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	5.7	2.6	Remove (Footprint)
3	*Ligustrum lucidum*	Large-Leaf Privet	0.30	0.3							6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	3.6	2.6	Retain
4	*Grevillea robusta*	Silky Oak	0.46	0.56	6	7	6	6	6	123	16	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	5.5	2.6	Retain
5	*Ligustrum lucidum*	Large-Leaf Privet	0.30	0.3							6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	3.6	2.6	Retain
6	*Ligustrum lucidum*	Large-Leaf Privet	0.30	0.3							6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	3.6	2.6	Retain
7	*Olea europaea var. africana*	African Olive	0.30	0.3							6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	3.6	2.6	Retain
8	*Olea europaea var. africana*	African Olive	0.30	0.3							6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	3.6	2.6	Retain
9	*Olea europaea var. africana*	African Olive	0.30	0.3							6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	3.6	2.6	Retain
10	*Jacaranda mimosifolia*	Jacaranda	0.57	0.57	7	7	5	6	6	123	12	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	6.9	2.6	Retain
11	*Ligustrum lucidum*	Large-Leaf Privet	0.30	0.3							6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	3.6	2.0	Retain
12	*Jacaranda mimosifolia*	Jacaranda	0.35	0.46	7	8	7	4	7	133	10	Moderate (15-40)	Mature	Fair	Good	Moderate	40+	Moderate	4.2	2.4	Retain
13	*Ligustrum lucidum*	Large-Leaf Privet	0.30	0.3							6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	3.6	2.0	Retain
14	*Ligustrum lucidum*	Large-Leaf Privet	0.30	0.3							6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	3.6	2.0	Retain
15	*Duranta erecta*	Golden	0.54	0.55	4	3	4	4	4	44	6	Moderate	Mature	Good	Good	Low	15-40	Low	6.5	2.6	Retain

Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)	Canopy Spread (m)				Canopy Spread Average	Estimated Total Canopy	Height (m)	SULE	Age Class	Structure	Health	Landscape significance rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
		Dewdrop										(15-40)									
16	*Jacaranda mimosifolia*	Jacaranda	0.38	0.54	7	7	3	7	6	113	9	Short (5-15)	Mature	Fair	Good	Moderate	40+	Moderate	4.5	2.6	Retain
17	*Lagerstroemia indica*	Crepe Myrtle	0.56	0.39	4	3	4	3	4	38	6	Moderate (15-40)	Mature	Fair	Good	Low	40+	Low	6.7	2.2	Retain
18	*Olea europaea var. africana*	African Olive	0.38	0.32	3	4	4	4	4	44	6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	4.6	2.1	Retain
19	*Corymbia maculata*	Spotted Gum	0.70	0.82	9	9	9	9	9	254	18	Moderate (15-40)	Mature	Good	Fair	Very High	40+	High	8.4	3.0	Retain (Tree Protection)
20	*Pistacia chinensis*	Chinese Pistachio	0.50	0.58	7	5	5	6	6	104	6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	6.0	2.6	Retain
21	*Harpephyllum caffrum*	Kaffir Plum	0.28	0.29	4	5	4	5	5	64	6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	3.4	2.0	Retain (Design Dependent)
22	*Callistemon sp*	A Botllebrush	0.43	0.4	4	4	3	3	4	38	6	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.2	2.3	Retain (Design Dependent)
23	*Melaleuca styphelioides*	Prickly-Leaved Paperbark	0.55	0.58	6	6	4	4	5	79	10	Moderate (15-40)	Mature	Fair	Fair	High	15-40	Moderate	6.7	2.6	Retain (Design Dependent)
24	*Grevillea robusta*	Silky Oak	0.36	0.44	6	5	5	5	5	87	18	Moderate (15-40)	Mature	Good	Good	Moderate	40+	Moderate	4.3	2.3	Retain (Design Dependent)
25	*Harpephyllum caffrum*	Kaffir Plum	0.35	0.38	5	6	5	7	6	104	10	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	4.2	2.2	Retain (Design Dependent)
26	*Melaleuca styphelioides*	Prickly-Leaved Paperbark	0.71	0.68	6	7	7	5	6	123	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	8.5	2.8	Retain (Design Dependent)
27	*Grevillea robusta*	Silky Oak	0.48	0.57	6	6	5	6	6	104	16	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	5.8	2.6	Remove (Footprint)
28	*Morus alba*	White Mulberry	0.55	0.5	3	2	7	1	3	33	7	Short (5-15)	Mature	Poor	Poor	Low	,5-15	Low	6.6	2.5	Remove (Footprint)
29	*Pistacia chinensis*	Chinese Pistachio	0.45	0.5	7	6	5	6	6	113	7	Short (5-15)	Mature	Fair	Good	Low	15-40	Low	5.4	2.5	Retain (Design Dependent)

Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)	Canopy Spread (m)				Canopy Spread Average	Estimated Total Canopy	Height (m)	SULE	Age Class	Structure	Health	Landscape significance rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
30	*Jacaranda mimosifolia*	Jacaranda	0.29	0.33	8	6	3	4	5	87	12	Short (5-15)	Mature	Fair	Good	Moderate	15-40	Moderate	3.5	2.1	Remove (Footprint)
31	*Jacaranda mimosifolia*	Jacaranda	0.35	0.38	8	2	8	2	5	79	12	Short (5-15)	Mature	Fair	Fair	Moderate	40+	Moderate	4.2	2.2	Remove (Footprint)
32	*Pittosporum undulatum*	Sweet Pittosporum	0.20	0.25	3	3	3	3	3	28	10	Moderate (15-40)	Mature	Fair	Good	Moderate	40+	Moderate	2.4	1.8	Remove (Footprint)
33	*Harpephyllum caffrum*	Kaffir Plum	0.80	0.85	5	6	5	5	5	87	14	Moderate (15-40)	Mature	Fair	Good	Low	40+	Low	9.6	3.1	Remove (Footprint)
34	*Olea europaea var. africana*	African Olive	0.35	0.45	6	2	2	5	4	44	12	Short (5-15)	Mature	Fair	Good	Low	15-40	Low	4.2	2.4	Remove (Footprint)
35	*Pittosporum undulatum*	Sweet Pittosporum	0.30	0.35	5	4	3	3	4	44	12	High (40+)	Mature	Good	Good	High	40+	High	3.6	2.1	Remove (Footprint)
36	*Jacaranda mimosifolia*	Jacaranda	0.47	0.45	6	5	6	6	6	104	12	Short (5-15)	Mature	Fair	Good	Moderate	40+	Moderate	5.7	2.4	Remove (Footprint)
37	*Cinnamomum sp*		0.40	0.5	5	4	5	5	5	71	14	Short (5-15)	Mature	Poor	Good	Low	15-40	Low	4.8	2.5	Remove (Footprint)
38	*Phoenix canariensis*	Canary Date Palm	0.70	0.75	5	6	5	5	5	87	5	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	8.4	2.9	Remove (Footprint)
39	*Eucalyptus pilularis*	Blackbutt	1.05	1.25	11	9	9	9	10	284	18	Short (5-15)	Mature	Poor	Fair	Very High	15-40	High	12.6	3.6	Remove (Footprint)
40	*Grevillea robusta*	Silky Oak	0.21	0.26	3	3	3	3	3	28	12	Moderate (15-40)	Mature	Good	Good	Moderate	40+	Moderate	2.5	1.9	Remove (Footprint)
41	*Phoenix canariensis*	Canary Date Palm	0.80	0.8	5	5	5	5	5	79	12	High (40+)	Mature	Good	Good	Low	15-40	Low	9.6	3.0	Remove (Footprint)
42	*Melaleuca styphelioides*	Prickly-Leaved Paperbark	0.00	0.3	2	4	4	4	4	38	4	Moderate (15-40)	Mature	Fair	Fair	High	15-40	Moderate	0.0	2.0	Remove (Footprint)
43	*Brachychiton populneus*	Kurrajong	0.37	0.5	6	6	4	5	5	87	6	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	4.4	2.5	Retain (Design Dependent)
44	*Corymbia maculata*	Spotted Gum	0.84	1.02	6	8	8	6	7	154	19	Moderate (15-40)	Mature	Good	Good	High	15-40	High	10.1	3.3	Retain (Tree Protection)
45	*Eucalyptus robusta*	Swamp Mahogany	0.48	0.52	6	7	1	7	5	87	12	Short (5-15)	Mature	Fair	Poor	High	,5-15	Moderate	5.8	2.5	Remove (Footprint)

Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)	Canopy Spread (m)				Canopy Spread Average	Estimated Total Canopy	Height (m)	SULE	Age Class	Structure	Health	Landscape significance rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
46	*Corymbia maculata*	Spotted Gum	0.52	0.63	6	7	8	8	7	165	20	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.2	2.7	Remove (Footprint)
47	*Grevillea robusta*	Silky Oak	0.36	0.44	4	4	4	5	4	57	14	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	4.3	2.3	Remove (Footprint)
48	*Eucalyptus punctata*	Grey Gum	0.51	0.6	4	4	3	4	4	44	14	Remove (<5)	Mature	Fair	Poor	High	<5	Low	6.1	2.7	Remove (Hazardous)
49	*Grevillea robusta*	Silky Oak	0.49	0.59	5	5	6	4	5	79	16	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	5.9	2.7	Remove (Footprint)
50	*Olea europaea var. africana*	African Olive	0.39	0.3	6	5	4	5	5	79	5	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	4.7	2.0	Remove (Footprint)
51	*Grevillea robusta*	Silky Oak	0.21	0.29	5	3	5	4	4	57	8	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	2.5	2.0	Remove (Footprint)
52	*Grevillea robusta*	Silky Oak	0.24	0.32	3	2	2	3	2	16	14	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	2.9	2.1	Remove (Footprint)
53	*Celtis australis*	Hackberry	0.37	0.3	4	6	4	3	4	57	12	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	4.4	2.0	Remove (Footprint)
54	*Eucalyptus punctata*	Grey Gum	0.58	0.67	10	10	7	7	9	227	16	Moderate (15-40)	Mature	Fair	Good	Very High	40+	High	7.0	2.8	Remove (Footprint)
55	*Harpephyllum caffrum*	Kaffir Plum	0.36	0.4	4	4	5	5	5	64	6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	4.4	2.3	Retain
56	*Ligustrum lucidum*	Large-Leaf Privet	0.29	0.32	4	4	3	4	4	41	6	Moderate (15-40)	Mature	Good	Good	Low	15-40	Low	3.5	2.1	Retain
57	*Eucalyptus piluaris*	Blackbutt	0.87	1.05	9	10	7	9	9	241	16	Moderate (15-40)	Mature	Fair	Good	Significant	40+	High	10.4	3.4	Retain (Tree Protection)
58	*Harpephyllum caffrum*	Kaffir Plum	0.39	0.25	5	6	5	6	6	95	10	Moderate (15-40)	Mature	Good	Good	Low	15-40	Moderate	4.6	1.8	Retain
59	*Corymbia maculata*	Spotted Gum	0.41	0.45	4	5	5	5	5	71	16	Moderate (15-40)	Mature	Fair	Good	High	40+	High	4.9	2.4	Retain
60	*Jacaranda mimosifolia*	Jacaranda	0.59	0.45	7	5	7	5	6	113	12	Moderate (15-40)	Mature	Fair	Good	Moderate	40+	Moderate	7.0	2.4	Remove (Footprint)
61	*Corymbia maculata*	Spotted Gum	0.37	0.51	7	7	7	6	7	143	18	Moderate (15-40)	Mature	Good	Fair	High	40+	High	4.4	2.5	Remove (Footprint)
62	*Grevillea robusta*	Silky Oak	0.28	0.32	3	4	3	3	3	33	16	Moderate (15-40)	Mature	Good	Good	Moderate	40+	Moderate	3.4	2.1	Retain

Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)	Canopy Spread (m)				Canopy Spread Average	Estimated Total Canopy Area	Height (m)	SULE	Age Class	Structure	Health	Landscape significance rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
63	*Grevillea robusta*	Silky Oak	0.28	0.37	5	4	4	3	4	50	16	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	3.4	2.2	Remove (Footprint)
64	*Eucalyptus robusta*	Swamp Mahogany	0.48	0.57	7	5	8	3	6	104	18	Remove (<5)	Mature	Poor	Poor	High	15-40	Moderate	5.8	2.6	Remove (Footprint)
65	*Corymbia maculata*	Spotted Gum	0.43	0.51	8	8	8	8	8	201	18	High (40+)	Mature	Fair	Good	High	40+	High	5.2	2.5	Remove (Footprint)
66	*Ficus obliqua*	Small- Leaved Fig	0.44	0.35	5	3	5	3	4	50	5	Moderate (15-40)	Mature	Fair	Good	High	40+	High	5.3	2.1	Retain
67	*Jacaranda mimosifolia*	Jacaranda	0.39	0.31	7	4	5	5	5	87	5	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	4.7	2.0	Remove (Footprint)
68	*Jacaranda mimosifolia*	Jacaranda	0.73	0.62	6	7	6	9	7	148	10	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	8.8	2.7	Remove (Footprint)
69	*Ficus obliqua*	Small- Leaved Fig	0.35	0.36	5	4	5	4	4	57	14	Moderate (15-40)	Semi-mature	Good	Good	Moderate	15-40	Moderate	4.2	2.2	Remove (Footprint)
70	*Corymbia maculata*	Spotted Gum	0.46	0.53	8	8	7	7	8	177	18	Remove (<5)	Mature	Poor	Fair	High	15-40	High	5.5	2.5	Remove (Hazardous)
71	*Jacaranda mimosifolia*	Jacaranda	0.60	0.7	8	5	4	6	6	104	16	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	7.2	2.8	Remove (Footprint)
72	*Corymbia maculata*	Spotted Gum	0.45	0.5	7	8	8	7	8	177	16	Moderate (15-40)	Mature	Fair	Good	High	40+	High	5.4	2.5	Retain
73	*Corymbia torelliana*	Cadaghi	0.27	0.35	5	3	5	5	4	60	10	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	3.2	2.1	Retain
74	*Ulmus parvifolia*	Chinese Elm	0.51	0.6	8	9	9	9	9	241	14	Moderate (15-40)	Mature	Fair	Good	Moderate	40+	Moderate	6.1	2.7	Retain (Pruning)
75	*Eucalyptus robusta*	Swamp Mahogany	0.28	0.35	2	3	2	2	2	16	8	Short (5-15)	Mature	Good	Fair	High	15-40	Moderate	3.3	2.1	Retain (Design Dependent)
76	*Jacaranda mimosifolia*	Jacaranda	0.60	0.5	8	5	2	4	5	71	12	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	7.2	2.5	Remove (Footprint)
77	*Corymbia maculata*	Spotted Gum	0.44	0.55	6	6	4	5	5	87	16	Moderate (15-40)	Mature	Good	Good	High	40+	High	5.3	2.6	Remove (Footprint)
78	*Grevillea robusta*	Silky Oak	0.26	0.38	4	5	5	3	4	57	16	Moderate (15-40)	Mature	Good	Good	Moderate	15-40	Moderate	3.1	2.2	Remove (Footprint)

Appendix B – SULE Methodology and Glossary

SULE (Safe Useful Life Expectancy)

In planning context, the time a tree can expect to be usefully retained is the most important long- term consideration. SULE i.e. a system designed to classify trees into a number of categories so that information regarding tree retention can be concisely communicated in a non-technical manner. SULE categories are easily verifiable by experienced personnel without great disparity. A tree's SULE category is the life expectancy of the tree modified first by its age, health, condition, safety and location (to give safe life expectancy), then by economics (i.e. cost of maintenance: retaining trees at an excessive management cost is not normally acceptable), effect on better trees, and sustained amenity (i.e. establishing a range of age classes in a local population). SULE assessments are not static but may be modified as dictated by changes in tree health and environment. Trees with a short SULE may be at present by making a contribution to the landscape but their value to the local amenity will decrease rapidly towards the end of this period, prior to their being removed for safety or aesthetic reasons.

SULE Methodology

1. Long SULE - tree appeared retainable at the time of assessment for over 40 years with an acceptable degree of risk, assuming reasonable maintenance;

A. Structurally sound trees located in positions that can accommodate future growth.

B. Trees which could be made suitable for long term retention by remedial care

C. Trees of special significance which would warrant extraordinary efforts to secure their long-term retention.

2. Medium SULE- tree appeared to be retainable at the time of assessment for 15 to 40 years with an acceptable degree of risk, assuming reasonable maintenance;

A. Trees which may only live from 15 to 40 years.

B. Trees which may live for more than 40 years but would be removed for safety or nuisance reasons.

C. Trees which may live for more than 40 years but would be removed to prevent interference with more suitable individuals or to provide space for new planting.

D. Trees which could be made suitable for retention in the medium term by remedial care.

3. Short SULE - tree appeared to be retainable at the time of assessment for 5 to 15 years with an acceptable degree of risk, assuming reasonable maintenance:

A. Trees which may only live from 5 to 15 years.

B. Trees which may live for more than 15 years but would be removed for safety or nuisance reasons.

C. Trees which may live for more than 15 years but would be removed to prevent interference with more suitable individuals or to provide space for new planting.

D. Trees which require substantial remediation and are only suitable for retention in the short term.

4. Removal - trees which should be removed within the next 5 years;

A. Dead, dying, suppressed or declining trees.

B. Dangerous trees through instability or recent loss of adjacent trees.

C. Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.

D. Damaged trees that are clearly not safe to retain.

E. Trees which may live for more than 5 years but would be removed to prevent interference with more suitable individuals or to provide space for new planting.

F. Trees which are damaging or may cause damage to existing structures within the next 5 years.

G. Trees that will become dangerous after removal of other trees for the reasons given in (a) to (f).

H. Trees in categories (a) to (g) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.

5. Small, young or regularly pruned - Trees that can be moved or replaced;

A. Small trees less than 5m in height.

B. Young trees less than 15 years old but over 3m in height.

C. Formal hedges and trees intended for regular pruning to artificially control growth.

GLOSSARY

Age Classes

- Juvenile refers to an immature tree.
- Semi-mature refers to a tree between immaturity and full size.
- Mature refers to a full-sized tree with some capacity for further growth.
- Over-mature refers to a tree already in decline.

Diameter at breast height (DBH)

Tree stem diameter at 1.4 metres above ground level.

Diameter at buttress (DAB)

Tree stem diameter as measured above the root buttress at ground level.

Tree Protection Zone (TPZ)

An indicative measure of the area necessary to protect for tree viability, encompassing the area necessary to protect both the crown and woody roots as calculated by the formula SRZ= $(DAB*50)^{0.42}*0.64$

Structural Root Zone (SRZ)

An indicative measure of the spread of the primary woody and structural roots necessary for tree stability, as calculated by the formula SRZ= $(DAB*50)^{0.42}*0.64$

Visual Tree Assessment (VTA)

Visual inspection of tree only.

Co-dominant leaders

A tree where two or more stems are of similar diameter.

Included Bark Junctions

A junction where the angle of the union creates an area of ingrown bark. This can create a structural weakness, and is often found on co-dominant stems.

Crown

The portion of the tree consisting of branches and leaves and any part of the trunk from which branches arise.

Stem

The position of the tree consisting of branches and leaves and any part of the trunk from which branches arise. An organ which supports branches, leaves, flowers and fruits.

Epicormic Growth

Refers to shoots produced by dormant buds within the bark or stem of a tree as a result of stress, incorrect pruning or increased light.

Health Condition

Exceptional

- Visually complete crown with dense foliage throughout that indicates strong health and vigour.
- Leaf size and colour that is true to type for the species and free from pest (insect) and disease (pathogen) damage.

- Expected levels of primary growth or seasonal extension and internodal growth evident for the species.
- No evidence of colonising saprophytes and no deadwood evident.

Good

- Visually complete crown, varying in foliage density throughout.
- Leaf size and colour that is true to type for the species with none or minor levels of pest (insect) and/or disease (pathogen) damage evident.
- Expected levels of primary growth or seasonal extension and internodal growth evident for the species.
- No evidence of colonising saprophytes and low levels of deadwood present and approximately 10mm or less in size.

Fair

- Sparse crown, varying in foliage density throughout.
- Reduced leaf size and atypical in colour for the species.
- Low to medium levels of pest (insect) and/or disease (pathogen) damage.
- Reduced, seasonal extension and internodal growth.
- Deadwood easily visible and less than approximately 30mm in size.
- Epicormic growth may be evident.

Poor

- Obvious signs of crown decline, exhibiting significant reduction in live crown volume and foliage density with reduced leaf size and atypical in colour for the species.
- Evidence of defoliation and/or dieback of branch tips.
- Medium to high levels of pest (insect) and disease (pathogen) damage.
- Presence of exudates (kino and resins) from wounds (open and/or weeping).
- Significant reduction in seasonal extension and internodal growth, with significant levels of epicormic growth evident.
- Deadwood easily visible, approximately 30mm to 100mm in size.

Dead

- No evidence of live foliage observed throughout the crown.
- Obvious signs of cracking and shrinking wood.
- Visible evidence of delaminating bark to stems and branches.

Structure Condition

Very Good

- Strong branch unions at attachment points with no acute angles (compression and tension forks) and good branch taper at unions.
- No visibly, defective tree parts or structural defects.
- No wounds to stems and branches, no crossing and rubbing of branches and no wounds to exposed roots.
- No fungal fruiting bodies present to stems, branches and roots indicating, a presence of fungal pathogens.

Good to Fair

- Developing inclusions at unions of leading, codominant stems and branches.
- Evidence of defective tree parts (low levels) including branch and stem inclusions and crossing and rubbing of branches.
- Evidence of mechanical damage to periderm of stems, branches and roots, exposing vascular tissues.
- Exposed wounds for surface, colonising pathogens and entry points for developing decay.
- Presence of fungal fruiting bodies.
- Some evidence of cavities or hollows. (Fair only)
- No evidence of soil upheaval surrounding base of tree.

Poor

- Obvious signs and evidence of included bark to basal unions of codominant, leading stems and branches.
- Advanced, structural defects evident with failure of tree parts determined within 5 years from time of inspection and assessment.
- Evidence of decay from open wounds with presence of exudates (kino and resins) and exposed and degraded woody tissues.
- Presence of fungal fruiting bodies.
- Presence of cavities and hollows.
- Evidence of mechanical damage with advanced degradation of exposed roots.

Hazardous Tree

- Immediate Removal
- Advanced, structural defects evident. Open cracks to codominant stem and branch unions evident.
- Previous branch and stem failures evident. Failure of remaining tree parts determined within 3 months 6 months, from time of inspection and assessment. Arboricultural works to be scheduled immediately to mitigate associated hazard and risk.
- Severed roots and soil upheaval evident indicating failure of root zone.
- Tree failure imminent within 12 months from time of inspection and assessment

Landscape Significance

Assesses a tree within the landscape and rates according to criteria taken from Morton (2006):

1. Significant

- The subject tree is listed as a Heritage Item under the Local Environment Plan (LEP) with a local, state or national level of significance; or
- The subject tree forms part of the curtilage of a Heritage Item (building / structure /artifact as defined under the LEP) and has a known or documented association with that item; or
- The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event; or
- The subject tree is scheduled as a Threatened Species or is a key indicator species of an Endangered Ecological Community as defined under the or Threatened Species Conservation Act 1995 (NSW) or The Environmental Protection and Biodiversity Conservation Act 1999; or

- The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter or nesting tree for endangered or threatened fauna species; or
- The subject tree is a Remnant Tree, being a tree in existence prior to development of the area; or
- The subject tree has a very large live crown size exceeding 300m² with normal to dense foliage cover, is located in a visually prominent in the landscape, exhibits very good form and habit typical of the species and makes a significant contribution to the amenity and visual character of the area by creating a sense of place or creating a sense of identity; or
- The tree is visually prominent in view from surrounding areas, being a landmark or visible from a considerable distance.

2. Very high

- The tree has a strong historical association with a heritage item (building/structure/artifact/garden etc) within or adjacent the property and/or
- Exemplifies a particular era or style of landscape design associated with the original development of the site; or
- The subject tree is listed on Council's Significant Tree Register; or
- The tree is a locally-indigenous species and representative of the original vegetation of the area and the tree is located within a defined Vegetation Link/ Wildlife Corridor or has known wildlife habitat value;
- The subject tree has a very large live crown size exceeding 200m²; a crown density exceeding 70% Crown Cover (normal-dense), is a very good representative of the species in terms of its form and branching habit or is aesthetically distinctive and makes a positive contribution to the visual character and the amenity of the area.

3. High

- The tree has a suspected historical association with a heritage item or landscape supported by anecdotal or visual evidence; or
- The tree is a locally-indigenous species and representative of the original vegetation of the area; or
- The subject tree has a large live crown size exceeding 100m²; and
- The tree is a good representative of the species in terms of its form and branching habit with minor deviations from normal (eg crown distortion/suppression) with a crown density of at least 70% Crown Cover (normal); and
- The subject tree is visible from the street and surrounding properties and makes a positive contribution to the visual character and the amenity of the area.

4. Moderate

- The subject tree has a medium live crown size exceeding 40m²; and
- The tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc) with a crown density of more than 50% Crown Cover (thinning to normal); and
- The tree makes a fair contribution to the visual character and amenity of the area; and
- The tree is visible from surrounding properties, but is not visually prominent – view may be partially obscured by other vegetation or built forms.
- The tree has no known or suspected historical association

5. Low

- The subject tree has a small live crown size of less than 40m² and can be replaced within the short term with new tree planting; or
- The tree is a poor representative of the species, showing significant deviations from the typical form and branching habit with a crown density of less than 50% Crown Cover (sparse); and
- The subject tree is not visible from surrounding properties (visibility obscured) and makes a negligible contribution or has a negative impact on the amenity and visual character of the area.

6. Very low

- The subject tree is listed as an Environment Weed Species in the relevant Local Government Area, being invasive, or a nuisance species.
- The subject tree is scheduled as exempt (not protected) under the provisions of the local Council's Tree Preservation Order due to its species, nuisance or position relative to buildings or other structures.

7. Insignificant

- The tree is a declared Noxious Weed under the Noxious Weeds Act (NSW) 1993 or identified as a priority weed within the local region.

Appendix C – Site Photographs

Plate 1: Tree 57, a significant tree that should be retained.

Plate 2: Tree 64, a hazardous tree that should be removed.

Plate 3: Stem decay and fungal fruiting bodies in tree 70, a hazardous tree that should be removed.

Plate 4:Tree 74, a Tree that should be retained. Note the low canopy.

Plate 5: Tree 19, a significant tree that should be retained.

Plate 6: Tree 44, a significant tree that should be retained.

Plate 7: Tree 39, a hazardous tree that should be removed. Note the subsiding lean, which is to the North.

Plate 8: The higher canopy of Tree 39.

Appendix D – Tree Protection Fencing

Example of tree protection fencing:

1. Fence off all trees noted for retention with 1.8m steel mesh fencing at the perimeter of the designated protection zone. Attach signs relating to the importance of tree protection and penalties for breaching tree protection orders to the fencing. If the area is large, install multiple signs.

2. Signs should state that this is a restricted area, no entry unless in the company of the arborist. Authorised access to the protected zone could be through a locked gate or via ladders

3. Mulching and semi-regular watering for established protection zones.