

ARBORICULTURAL IMPACT ASSESSMENT REPORT

**51 GRANDVIEW DRIVE
NEWPORT NSW 2106**

Prepared for Ms. Maxworthy
c/o Jeremy Adams
Lifestyle Home Designs

13 June 2019
Revision A

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1. INTRODUCTION

- 1.1 This report was commissioned by Ms. Maxworthy, the owner of 51 Grandview Drive, Newport to provide an Arboricultural Impact Assessment (AIA) report relating to the proposed alterations and additions and the existing trees located on the site and within five metres of the proposed works. As part of a future development application with Northern Beaches Council the owner is seeking permission to construct a car stand area with studio beneath at the front of the site, ground floor building works to the existing residence and new timber decking to the front and rear of the existing residence.
- 1.2 This arboricultural assessment is limited to native trees located within five metres of the proposed works that are located on the site or on the council verge at the front of the site. Based on the scope set out by the applicant, this report does not include any non-native (ie. exotic) tree species located within 5 metres of the proposed works, nor are any native or non-native trees located on neighbouring sites included in this assessment. Ten (10) native trees (or groups of trees) are included in this assessment, including eight (8) located within the site boundaries and two (2) located on the Council verge at the front of the site. Generally, a tree is protected in accordance with the Northern Beaches Council Local Environment Plan if it is a height greater than five (5) metres. In some cases a tree may be greater than the prescribed size, however may not be protected for other reasons such as it being a noxious weed species or a species listed as exempt.
- 1.3 The purpose of this report is to undertake a visual assessment of the native trees located within five metres of the proposed works, determine the sustainability of the trees in the landscape, determine the impact of the proposed works on the trees and provide recommendations for tree protection measures.
- 1.4 This report shall reflect the expert opinion of the Arborist. The Arborist is acting independently of and not as the advocate for the owner. The Arborist shall not receive any commission to prune or remove the tree/s which is the subject of this report.
- 1.5 This report has been prepared in accordance the Australian Standard “*Protection of Trees on Development Sites*” (AS 4970:2009).
- 1.6 Details shown on the following plans were reviewed in this assessment:

Title	Author	Dwg. No.	Date
Architectural drawings	Lifestyle Home Design	1841	June 2019

- 1.7 Key Definitions and Abbreviations used in this report.
- **TPZ = Tree Protection Zone.** This is the area as defined by AS 4970 – “*Protection of trees on development sites*” and means the typical minimum area above and below ground at a given distance from the trunk to provide for protection of the tree. Most importantly it represents the root zone required to be kept uninjured to maintain a healthy and viable tree. Note, roots will usually extend well beyond this zone, so this represents the minimum remaining root zone required, assuming all others are lost or damaged due to construction. It is typically calculated as a circle centred on the trunk unless existing site conditions can be assessed and indicate otherwise. According to the Australian Standard, a minor encroachment of 10% of the TPZ is allowable, provided the 10% is compensated for elsewhere and contiguous to the TPZ. For the purpose of this report the extent of impact has been broken down to the following categories:
 - 0% of root zone impacted – no impact of significance
 - 0 to 10% of root zone impacted – low level of impact
 - 10 to 15% of root zone impacted – low to moderate level of impact
 - 15 to 20% of root zone impacted – moderate level of impact
 - 20 to 25% of root zone impacted – moderate to high level of impact
 - 25 to 35% of root zone impacted – high level of impact
 - >35% of root zone impacted – significant level of impact
 - **SRZ = Structural Root Zone.** This is the area as defined by AS 4970 – “*Protection of trees on development sites*” and means the area immediately around the base of the tree at a given distance from the trunk. The woody roots and soil cohesion in this area are considered vital to the structural stability of the tree. Damage or removal of soil and roots from this area will typically render the tree unstable and require its removal. It is typically calculated as a circle, centred on the trunk, unless existing site conditions can be assessed and indicate otherwise.

2. METHODOLOGY

2.1 Health and Condition Assessment

A site inspection was undertaken on 1 May 2019 to visually assess the trees in view from the ground level. This report is limited to the methods of assessment listed below (and outlined in **Appendix 1**), and does not include any internal probing, compaction testing, drilling, root mapping, aerial inspection or diagnostic testing.

- Tree Species (botanical and common name).
- Tree height was measured using a Nikon Rangefinder Forestry Pro (where possible) or estimated where visibility was limited.
- Canopy spread was estimated.
- Diameter at Breast Height (DBH) and Diameter at Ground Level (DGL) was measured or estimated where base of tree was inaccessible.
- Health and vigour, including foliage size, colour, extension growth, presence of disease or pest infestation, canopy density, presence of deadwood, dieback, epicormic growth as indicators.
- Condition, including visible evidence of structural defects, instability, evidence of previous pruning and physical damage as indicators.
- Life expectancy of the tree was estimated, suitability of the tree to the site and its existing location.
- The photographs included in this report were taken at the time of inspection.
- Assessment was carried out visually from ground level within the property.
- The comments and recommendations in this report are based on findings from the site inspection.

2.2 Landscape Significance

The significance of a tree in the landscape is a combination of its environmental, heritage and amenity values. A criteria for the assessment of landscape significance as devised by Andrew Morton (2003) and shown in **Appendix 2** have been applied. Whilst it may be somewhat subjective to assess these values consistently, it is appropriate to assign some measure to assist in determining the overall retention value of a tree.

The rating system which has been applied to the tree and to assist in determining a priority for retention, includes the following categories:

- | | |
|----------------|------------------|
| 1. Significant | 5. Low |
| 2. Very High | 6. Very Low |
| 3. High | 7. Insignificant |
| 4. Moderate | |

2.3 Tree Retention Value

The retention value shown in the Tree Assessment Schedule in **Figure 2** have been determined on the basis of the estimated longevity of the tree and its landscape significance rating, in accordance with Table 1 below. These retention values can help to determine the most appropriate position of any future building footprints and/or structures within the site, to minimise the impact on trees considered worthy of preservation. When a tree is located on a neighbouring property or public land, typically a higher retention value has been allocated given that the tree is not owned by the client and the client is therefore obligated to ensure the neighbouring or Council owned trees are not negatively impacted upon by proposed works.

	Landscape Significance Rating						
Estimated Life Expectancy	1	2	3	4	5	6	7
Long (>40 yrs)	High Retention Value						
Medium (15-40 yrs)			Moderate Retention Value				
Short (5-15 yrs)					Low Retention Value		
Transient (<5 yrs)					Very Low Retention Value		
Dead or poses an unacceptable risk to life							

Table 1: Tree Retention Values - assessment methodology (Ref:- Morton, Andrew 2006 modified from Couston, Mark & Howden, Melanie (2001) Footprint Green Pty Ltd, Sydney, Australia)

3. OBSERVATIONS

3.1 The Site

The property is legally identified as Lot 26 in D.P. 16029 and is irregular in shape with a total site area of 860 square metres. The property is located on the southern side of Grandview Drive. Residential properties adjoin the east, west and southern boundaries. The topography of the site slopes down from the street level to the rear boundary. The level changes are defined by retaining walls and steps. Exposed rock boulders are evident particularly towards the front of the site. There is currently no vehicular access on to the site.

Currently on the site is a timber residence positioned relatively central to the site. The open space areas to the front and rear of the existing residence consist mostly of informal lawn areas with trees and shrubs scattered across the site (refer to **Figure 1**).

According to Council's Local Environmental Plan (2014) the site is zoned as E4 Environmental Living, being land identified as holding biodiversity and ecological significance. The trees identified in this report are generally indicative of the vegetation found to be locally growing in the area.



Figure 1: An aerial image of the site with boundary lines highlighted in red (accessed from <http://maps.six.nsw.gov.au/> on 6/6/19).

3.2 The Trees

The site is well treed with a range of native species located within the front building setback. The information and characteristics of the trees are set out in the Tree Assessment Schedule in **Figure 2**. Each tree has been provided with an identification number for reference purposes which is noted on the Tree Location Plan (**Figure 8**) prepared by Lifestyle Home Designs and correlates with the Tree Assessment Schedule. Site photos can be found in **Figure 3-7**.

Tree No.	Plant Name (Species/Common Name)	Age	Tree Height (m)	Average Canopy spread (m)	DBH (m)	DGL (m)	Crown Class	Vigour	Condition	Useful Life Expectancy	Landscape Significance	Tree Retention Value	Observations/ comments	Tree Protection Zone (TPZ) radius in metres	Structural Root Zone (SRZ) radius in metres	Plan status	Impact / Incursion
1	<i>Eucalyptus botryoides</i> * (Bangalay)	mature	10.0	7.0 (canopy bias to north)	0.53	0.63	dominant	normal	fair	medium (15-40yrs)	high	moderate to high	Council owned tree. Canopy bias over road due, minor deadwood.	6.4	2.7	retain	New driveway crossover located in TPZ of tree representing an encroachment of 9%
2	<i>Eucalyptus botryoides</i> (Bangalay)	mature	14.0	9.0	0.37	0.44	co-dominant	normal	fair	medium (15-40yrs)	high	moderate	Some deadwood, limited crown size.	4.4	2.3	retain	Proposed carstand/studio and timber steps located in TPZ representing an encroachment of 29%.
3	<i>Syncarpia glomulifera</i> * (Turpentine)	mature	12.0	10.0	0.45	0.55	supressed	normal	good	long (>40yrs)	high	high	Council owned tree.	5.4	2.6	retain	New driveway crossover located in TPZ of tree representing an encroachment of 27%
4	<i>Syncarpia glomulifera</i> (Turpentine)	mature	10.0	12.0	0.55	0.67	dominant	normal	good	long (>40yrs)	high	high	Typical representation for the species.	6.6	2.8	remove	Located in footprint of new car stand area with studio below.
5	<i>Ficus coronata</i> (Sandpaper Fig)	mature	13.0	6.0	2 x 0.12	0.25	supressed	normal	fair	medium (15-40yrs)	moderate	moderate	Two main trunks with branch junction at 500mm above ground level.	2.0	1.8	retain	Timber steps located in TPZ of tree representing an encroachment of 10%
6	<i>Flindersia australis</i> (Crows Ash) - possibly	mature	6.0	4.0	0.20	0.25	supressed	normal	fair	medium (15-40yrs)	moderate	low	Suppressed specimen.	2.4	1.8	retain	Timber steps located in TPZ of tree representing an encroachment of 13%
7	<i>Eucalyptus</i> spp. (Eucalypt)	mature	10.0	6.5	0.30	0.35	co-dominant	normal	fair	medium (15-40yrs)	moderate	moderate	Limited crown volume	3.6	2.1	retain	Studio deck located in TPZ of tree representing an encroachment of 14%
8	<i>Syzygium smithii</i> (formerly <i>Acmena smithii</i>) (Common Lilly Pilly)	mature	11.0	7.0	0.30	0.35	co-dominant	low	fair	medium (15-40yrs)	high	moderate to high	Typical representation for the species. Asymmetric crown	3.6	2.1	retain	Proposed building works located outside TPZ of tree
9	<i>Livistona australis</i> (Cabbage tree palm)	mature	10.0	4.0	0.30	n/a	co-dominant	normal	good	long (40+ yrs)	high	high	Typical representation for the species.	3.0	n/a	retain	Proposed building works located outside TPZ of tree
10a-b	<i>Cyathea cooperi</i> (Coin Spot Fern)	mature	5.0-6.0	3.0	est. 0.15	n/a	dominant	normal	good	medium (15-40yrs)	moderate	moderate	Located to rear of site	2.5	n/a	retain	Proposed deck to rear of dwelling represents a minor encroachment (ie. less than 10%) in the TPZ of the tree ferns.

* denotes those trees located on the Council reserve at the front of the subject site.

Figure 2: Tree Assessment Schedule



Figure 3: Viewing west up Grandview Drive with Tree No. 1 visible to the left hand side.

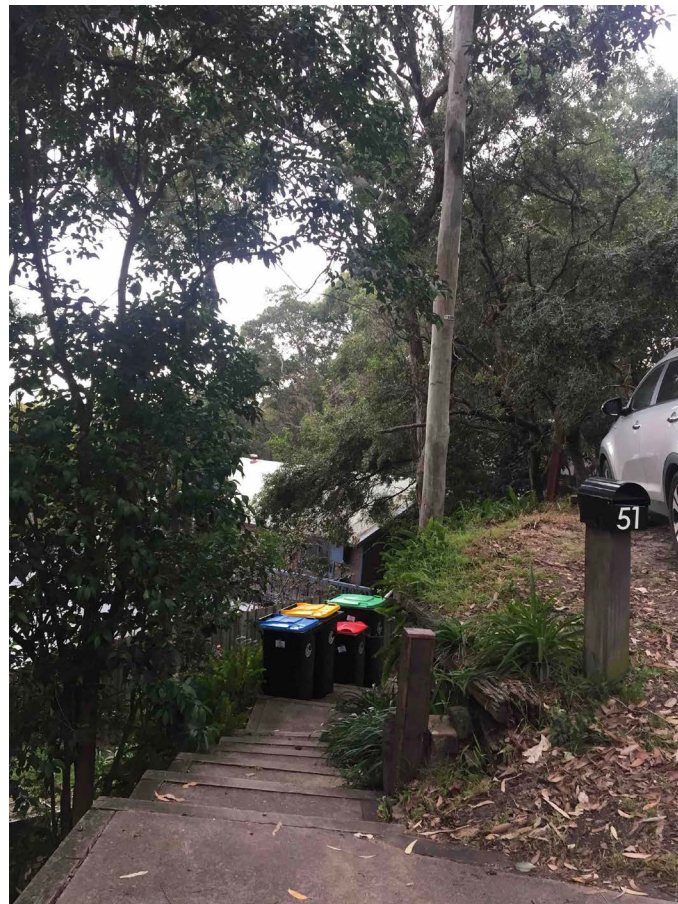


Figure 4: Viewing southwest at the existing steps located on the council verge which provide pedestrian access onto the site.



Figure 5: Viewing east at the lower section of trunk of Tree No. 4 (Turpentine)



Figure 6: Viewing north at the lower section of trunk of Tree No. 4 (Turpentine)

Tree No. 7
(Eucalypt)

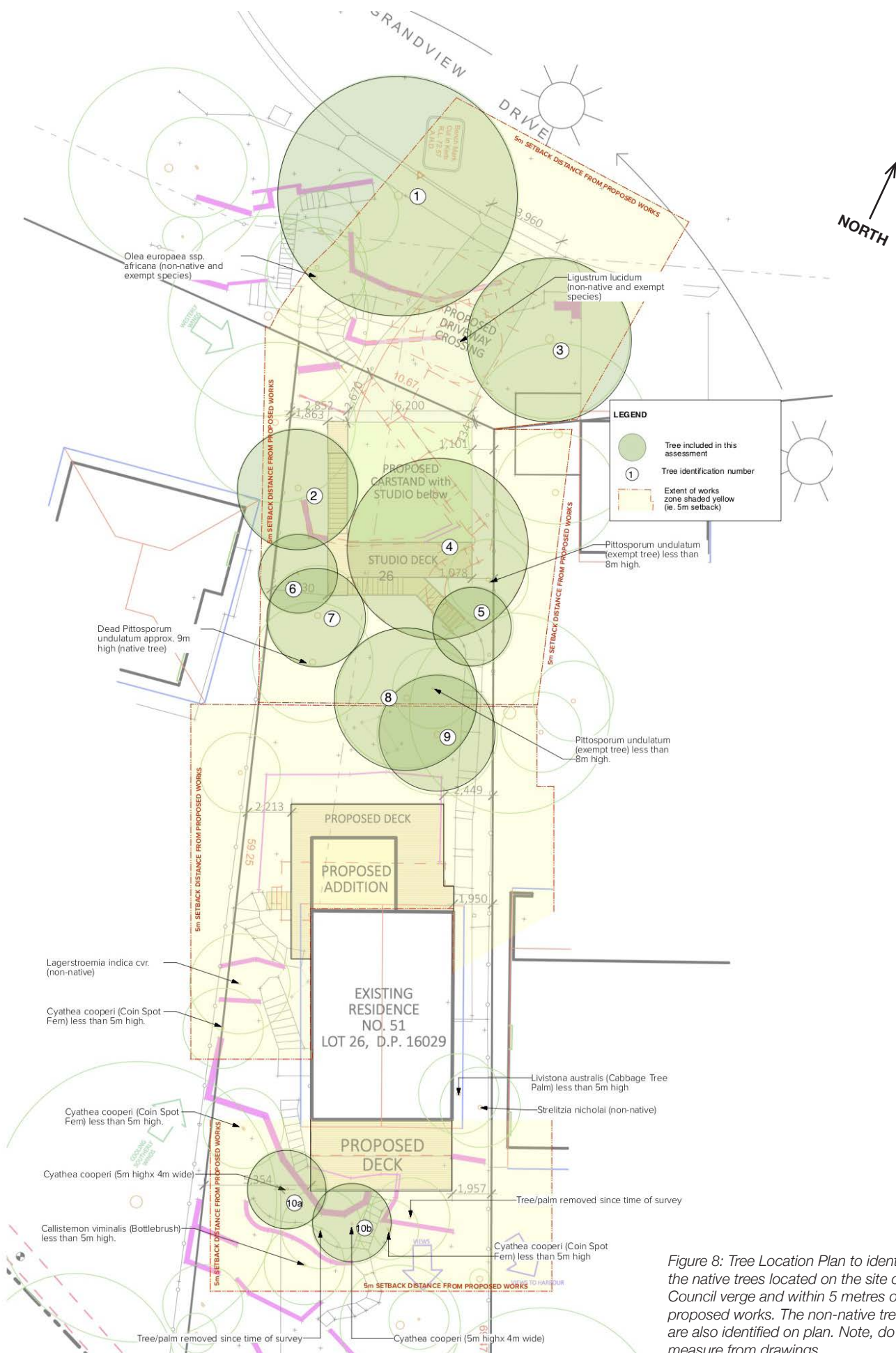
Dead
Pittosporum
(not included
in this
assessment)

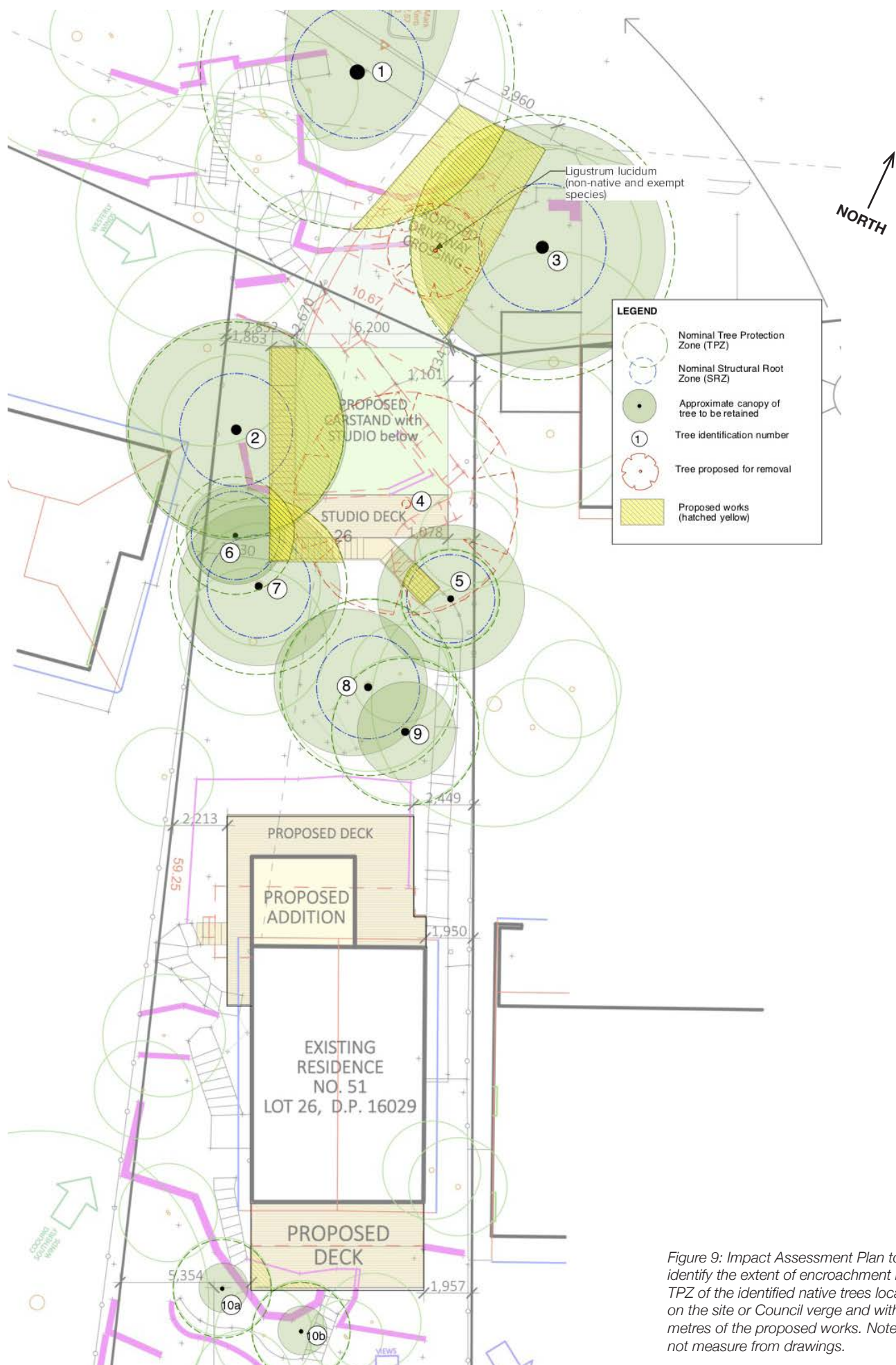
Tree No. 9
(Cabbage
Tree Palm)

Tree No. 8
(Lilly Pilly)



Figure 7: Viewing north from the front of the existing dwelling at the trees located within the front building setback. Note, two photos joined together above.





4. IMPACT ASSESSMENT

- 4.1 The intention of this assessment is to determine the incursion to the root zones and canopies created by the proposed works and evaluate the likely impact of the works on the native trees located on the site or council verge and within five metres of the proposed works. The Tree Location Plan (**Figure 8**) identifies the native tree species included in this assessment. The Impact Assessment Plan (**Figure 9**) illustrates the encroachment of the proposed works in relation to the indicative Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) of each tree (if applicable). The level of impact is also described in the Tree Assessment Schedule (**Figure 2**). The following criteria have been examined as part of this assessment:-
- Existing Relative Levels (RL)
 - Tree Protection Zone (TPZ)
 - Structural Root Zone (SRZ)
 - Footprint of the proposed development and any temporary structures (such as scaffolding)
 - Incursions to the TPZ & SRZ, including excavation, filling, and potential above ground impacts to tree canopy;
 - Existing structures located in the TPZ of the retained trees; and
 - Assessment of the likely impact of the works on the existing trees.
- 4.2 The proposed car stand area with studio beneath will necessitate the removal of Tree No. 4 (Turpentine). The tree is a locally occurring species and is a mature specimen with a dominant crown class. The tree exhibits normal vigour and good condition and overall is considered to hold a high retention value on the basis of ecological significance and estimated long life expectancy. Based on discussions with the applicant, alternative designs have been explored in an attempt to retain the tree and accommodate adequate space for a car stand area. However, due to various constraints on the site it is understood the positioning of the car stand area cannot be shifted in a way that will ensure the safe retention of the tree.
- 4.3 The proposed studio/car stand structure and associated decking and steps is located in the TPZ of Tree No. 2 (Bangalay) representing a numerical encroachment of 29% which is considered to be major and could potentially result in a high level of impact upon the tree. Based on the architectural drawings the studio/car stand structure shall be suspended above existing ground levels and supported on four piers to be positioned to each corner of the structure. On the basis that excavation will be limited to footings for piers and the light weight timber decking and steps, and existing levels in the TPZ remain unchanged, the proposed works would be considered acceptable. Tree protection measures would need to be implemented to ensure the tree is not damaged during the construction activities.
- 4.4 The proposed studio timber deck and steps are located in the TPZ of Tree No. 5 (Sandpaper Fig), No. 6 (Crow's Ash) and No. 7 (Eucalypt), representing a numerical encroachment between 10-14%. On the basis that the timber deck and steps shall be a light weight structure supported on post footings, and existing levels in the TPZ remain unchanged, the proposed works should not result in any long term impact upon the trees.
- 4.5 The proposed timber deck located to the rear of the existing dwelling is located in the TPZ of the two tree ferns (identified as Tree No. 10a and 10b), representing a minor encroachment of less than 10%. As such, the proposed timber deck should not result in any adverse impact upon the tree ferns.
- 4.6 It is proposed to construct a driveway crossover (where there is currently none) to provide vehicular access from Grandview Drive to the car stand area. The concrete driveway extends through the TPZ of two trees located on the Council verge, including Tree No. 1 (Bangalay) and Tree No. 3 (Turpentine). Whilst the driveway represents a minor numerical encroachment of 9% in the TPZ of Tree No. 1, the driveway extends through the SRZ of Tree No. 3, representing a major encroachment of 27%. The architectural drawing, labelled Section C-C illustrates the new driveway relative to existing ground levels which slope down sharply through the TPZ of Tree No. 3. The sectional drawing illustrates much of the driveway crossover shall be elevated well above existing ground levels and constructed on piers. With consideration to the section of driveway

suspended above existing levels, the extent of driveway crossover that shall sit on existing grade will be approximately 10% of the tree's TPZ and located outside the SRZ of the tree. The remaining 17% encroachment shall be suspended over the TPZ and SRZ of the tree. On the basis that the driveway crossover is primarily suspended across the TPZ of the tree, the proposed works are considered acceptable.

- 4.7 Additional note: The driveway crossover will necessitate the removal of one (1) non-native tree identified as *Ligustrum lucidum* (Large Leaf Privet). As the tree is considered a noxious weed species which is exempt from Council protection, the tree is not considered worthy of being a constraint to any future development of the site.
- 4.8 The proposed works should not result in any canopy pruning of the trees identified in this report. If any pruning is required, the pruning works would be minimal and not result in the removal of any more than 10% of the tree's existing canopy. No large woody limbs will need to be removed to accommodate the works.
- 4.9 The proposed works are located outside the TPZ of the remaining trees included in this assessment, and as such should not be adversely impacted upon by the works. Tree protection measures should still be implemented to ensure the trees are not inadvertently damaged during construction activities.

5. CONCLUSION | RECOMMENDATIONS

- 5.1 A total of ten (10) native trees are included in this assessment, including eight (8) trees located on the site and two (2) trees located on the Council verge at the front of the property.
- 5.2 The proposed development will result in the removal of one (1) native tree, identified as Tree No. 4 (Turpentine). The tree is considered to have a high retention value on the basis of ecological significance and estimated long life expectancy. Following discussions with the applicant, the author acknowledges there are constraints relating to the site that restrict the positioning of a car stand area. Whilst it may be possible to shift the structure away from the tree and amend the decking so as to retain Tree No. 4, it is the author's opinion the new structure will inevitably result in an adverse impact upon the above and below ground components of the tree. In this particular instance it is recommended Council consider granting permission to remove the tree on the basis that compensatory planting is carried out on the site. The replacement tree should be the same locally occurring species that is being removed ie. *Syncarpia glomulifera* (Turpentine).
- 5.3 To ensure the safe retention of the remaining trees on the site and council verge to be retained, it is recommended the following tree protection measures are implemented as part of the future works occurring in the TPZ of the trees:
- (i) Prior to any commencement of works** it is recommended trunk protection is installed around the retained trees identified in this report. As a minimum, the trunk protection shall consist of 1.8 metre lengths of pine board timbers (90 x 45mm) spaced at 100-150mm centres secured together with perforated metal straps. These shall be strapped around the trunk (not fixed in any way) to avoid mechanical injury or damage. Trunk protection should be installed prior to any site works and maintained in good condition for the duration of the construction period. Due to the steep topography of the site, tree protection fencing would not be practical in this instance so trunk protection will serve to protect the trees from any inadvertent damage that may result from construction activities during the course of the works.
 - (ii) During excavation works for the car stand/studio structure and associated decking and steps** it is recommended the excavation for all piers and footings located in the TPZ of retained trees are initially hand dug to a depth of 800mm. If any woody roots greater than 50mm diameter are encountered and the footing cannot be relocated, further advice must be sought from a qualified Arborist prior to root severance. Any roots less than 50mm in diameter shall be cut cleanly with sharp pruning implement. Mechanical excavation may occur following the initial preliminary hand digging.
 - (iii) During driveway crossover works** it is assumed the concrete driveway shall be on or above existing levels. If any woody roots greater than 50mm diameter are uncovered during excavation for piers in the TPZ of Tree No. 1 and No. 3, further advice must be sought from a qualified Arborist prior to root severance.
 - (iv) General tree protection measures during demolition, excavation and construction activities:** The TPZ of all trees identified in this report should be recognised and the following activities be avoided within the specified radius noted in Figure 2 (Tree Assessment Schedule):
 - Excavations and trenching;
 - Ripping or cultivation of soil;
 - Modification of existing soil levels;
 - Mechanical removal of vegetation;
 - Soil disturbance or movement of natural rock;
 - Temporary or permanent location of services, or the works required for their installation;
 - Movement and storage of plant & equipment;
 - Affixing of signage or hoardings to trees;
 - Storage of building materials, waste and waste receptacles;
 - Disposal of waste materials and chemicals including paint, solvents, cement slurry, fuel, oil and other toxic liquids;
 - Other physical damage to the trunk or root system; and
 - Any other activity likely to cause damage to the tree.
- 5.4 Written approval from Council will be required to undertake tree removal of Tree No. 4. Tree removal works are only to be undertaken by a qualified arborist (ISAAC member under the supervision of a person with AQF Level 3 or above).

If you have any questions regarding this report please do not hesitate to contact the undersigned.



Joanne Willis

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Member of I.A.C.A. (Institute of Australian Consulting Arborists)

Member of I.S.A (International Society of Arboriculture)

Assumptions

Care has been taken to obtain all information from reliable sources. All data has been verified as far as possible. However Joanne Leigh – Consulting Arborist can neither guarantee nor be responsible for the accuracy of information provided by others.

Unless stated otherwise:

- Information contained in this report covers only the tree that was examined and reflects the condition of the tree at the time of inspection: and
- The inspection was limited to visual examination of the subject tree without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject tree may not arise in the future.

6. REFERENCES

- Draper, Danny B. and Richards, Peter A (2009) "Dictionary for Managing Trees in Urban Environments". CSIRO Publishing, Collingwood, VIC Australia
- Harris, R.W; Clark, J.R; & Matheny, N.P (2004) Arboriculture; Integrated Management of Landscape Trees, Shrubs & Vines 4th Edition, Prentice Hall, New Jersey.
- Mattheck, Claus (2007) "Updated Field Guide for Visual Tree Assessment". Karlsruhe Research Centre, Germany.
- Standards Australia (2009) AS2970-2009 "Protection of Trees on Development Sites", Sydney.
- Council's relevant tree planning documents.

APPENDIX 1: TREE INSPECTION INVENTORY NOTES

The values for terminology provided below are sourced from SRIV© Sustainable Retention Index Value © From Draper BD and Richards PA 2009, Dictionary for Managing Trees in Urban Environments, Institute of Australian Consulting Arboriculturists (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.

Age: Most trees have a stable biomass for the major proportion of their life. The estimation of the age of a tree is based on the knowledge of the expected lifespan of the taxa in situ divided into three distinct stages of measurable biomass, when the exact age of the tree from its date of cultivation or planting is unknown and can be categorized as Young, Mature and Over-mature.

Young - Tree aged less 20% of life expectancy, in situ.

Mature - Tree aged 20-80% of life expectancy, in situ.

Over-mature - Tree aged greater than >80% of life expectancy, in situ, or senescent with or without reduced vigour, and declining gradually or rapidly but irreversibly to death.

Height: In metres (estimated)

Spread: Average diameter of canopy in metres (estimated)

Crown class:

(D) Dominant (crown extends above general canopy; not restricted by other trees)

(C) Co-dominant (crown forms the bulk of the general canopy but crowded by other trees)

(I) Intermediate (crown extends into dominant/codominant canopy but quite crowded on all sides)

(S) Suppressed (crown development restricted from overgrowing trees)

Vigour: Ability of a tree to sustain its life processes. This is independent of the condition of a tree but may impact upon it. Vigour can appear to alter rapidly with change of seasons (seasonality) e.g. dormant, deciduous or semi-deciduous trees. Vigour can be categorized as:

Normal Vigour Ability of a tree to maintain and sustain its life processes. This may be evident by the typical growth of leaves, crown cover and crown density, branches, roots and trunk and resistance to predation. This is independent of the condition of a tree but may impact upon it, and especially the ability of a tree to sustain itself against predation.

High Vigour Accelerated growth of a tree due to incidental or deliberate artificial changes to its growing environment that are seemingly beneficial, but may result in premature aging or failure if the favourable conditions cease, or promote prolonged senescence if the favourable conditions remain, e.g. water from a leaking pipe; water and nutrients from a leaking or disrupted sewer pipe; nutrients from animal waste, a tree growing next to a chicken coop, or a stock feed lot, or a regularly used stockyard; a tree subject to a stringent watering and fertilising program; or some trees may achieve an extended lifespan from continuous pollarding practices over the life of the tree.

Low Vigour Reduced ability of a tree to sustain its life processes. This may be evident by the atypical growth of leaves, reduced crown cover and reduced crown density, branches, roots and trunk, and a deterioration of their functions with reduced resistance to predation. This is independent of the condition of a tree but may impact upon it, and especially the ability of a tree to sustain itself against predation.

Dormant Tree Vigour Determined by existing turgidity in lowest order branches in the outer extremity of the crown, with good bud set and formation, and where the last extension growth is distinct from those most recently preceding it, evident by bud scale scars. Normal vigour during dormancy is achieved when such growth is evident on a majority of branches throughout the crown.

Useful Life Expectancy: The life span of a tree in the urban environment may often be reduced by the influences of encroachment and the dynamics of the environment and can be categorized as Immediate, Short Term, Medium Term and Long Term.

Short Term - Period of time less than 15 years.

Medium Term - Period of time 15 - 40 years.

Long Term - Period of time greater than >40 years.

Condition: A tree's crown form and growth habit, as modified by its environment (aspect, suppression by other trees, soils), the stability and viability of the root plate, trunk and structural branches (first (1st) and possibly second (2nd) order branches), including structural defects such as wounds, cavities or hollows, crooked trunk or weak trunk/branch junctions and the effects of predation by pests and diseases. These may not be directly connected with vigour and it is possible for a tree to be of normal vigour but in poor condition. Condition can be categorized as:

Good Condition - Tree is of good habit, with crown form not severely restricted for space and light, physically free from the adverse effects of predation by pests and diseases, obvious instability or structural weaknesses, fungal, bacterial or insect infestation and is expected to continue to live in much the same condition as at the time of inspection provided conditions around it for its basic survival do not alter greatly. This may be independent from, or contributed to by vigour.

Fair Condition - Tree is of good habit or misshapen, a form not severely restricted for space and light, has some physical indication of decline due to the early effects of predation by pests and diseases, fungal, bacterial, or insect infestation, or has suffered physical injury to itself that may be contributing to instability or structural weaknesses, or is faltering due to the modification of the environment essential for its basic survival. Such a tree may recover with remedial works where appropriate, or without intervention may stabilise or improve over time, or in response to the implementation of beneficial changes to its local environment. This may be independent from, or contributed to by vigour.

Poor Condition - Tree is of good habit or misshapen, a form that may be severely restricted for space and light, exhibits symptoms of advanced and irreversible decline such as fungal, or bacterial infestation, major die-back in the branch and foliage crown, structural deterioration from insect damage e.g. termite infestation, or storm damage or lightning strike, ring barking from borer activity in the trunk, root damage or instability of the tree, or damage from physical wounding impacts or abrasion, or from altered local environmental conditions and has been unable to adapt to such changes and may decline further to death regardless of remedial works or other modifications to the local environment that would normally be sufficient to provide for its basic survival if in good to fair condition. Deterioration physically, often characterised by a gradual and continuous reduction in vigour but may be independent of a change in vigour, but characterised by a proportionate increase in susceptibility to, and predation by pests and diseases against which the tree cannot be sustained. Such conditions may also be evident in trees of advanced senescence due to normal phenological processes, without modifications to the growing environment or physical damage having been inflicted upon the tree. This may be independent from, or contributed to by vigour.

APPENDIX 2: CRITERIA FOR ASSESSMENT OF LANDSCAPE SIGNIFICANCE

The level of landscape significance has been determined using the following key criteria as a guide:

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;
- The subject tree is scheduled as a Threatened Species or is a key indicator species of an Endangered Ecological Community as defined under the 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

Ref:- Morton, Andrew (2003) *Criteria for Assessment of Landscape Significance Earthscape Horticultural Services. Sydney, Australia*