

# **Tree report**

**4-18 Northwood Road,  
274 & 274A Longueville Road.  
Lane Cove NSW.**

**Prepared by:**  
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**October 10- 2020**

## Introduction

This amended Tree Report was prepared at the request of the Pathways Property Group to assist the development of the site known as 4-18 Northwood Road, and 274 & 274A Longueville Road, Lane Cove NSW following a request from Council to provide additional details with regard to tree protection during the proposed site development.

The report reflects the condition of the trees at the time of inspections in accordance with AS4970-2009 which states that the project arborist will be suitably experienced and competent in arboriculture and horticulture having acquired through training, qualification (minimum Australian Qualification Framework (AQF) Level 5, Diploma of Horticulture (Arboriculture)) and/or **equivalent experience, the knowledge and skills enabling that person to perform the tasks required by this Standard**

The report is prepared in accordance with **Section 2 Planning and the Tree Management Process Cl. 2.3.2 Preliminary Tree Assessment of AS 4970-2009 Protection of trees on development sites**

The report addresses existing trees noted on the survey and development plans provided over 14-18 Northwood Road, 274-274A Longueville Road, Lane Cove NSW. together with additional trees indigenous to the locality that are growing within 5-10m of the subject site.

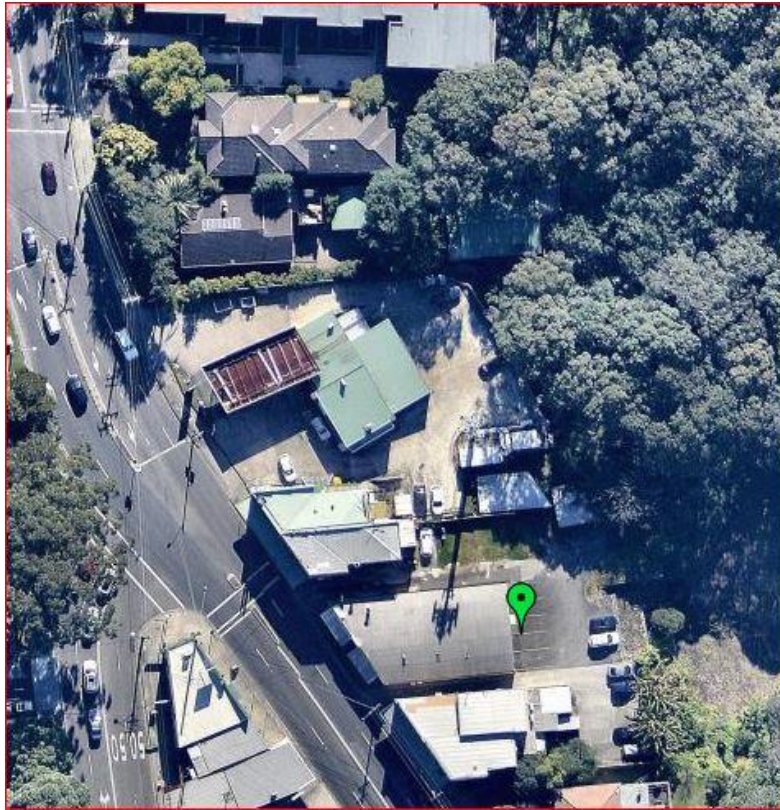
The trees assessed are noted on the attached Tree Location Impact Plan #TP O2 dated October 2020.

Plans referred to in the preparation of this tree report include:

- Site Survey – untitled
- Landscape Master Plan LP02 prepared by Syalbe & Co.
- Tree Protection Plan

This report is prepared in accordance with the Regulatory controls in the Lane Cove Local Government Area with respect to the Preservation of Trees and Vegetation

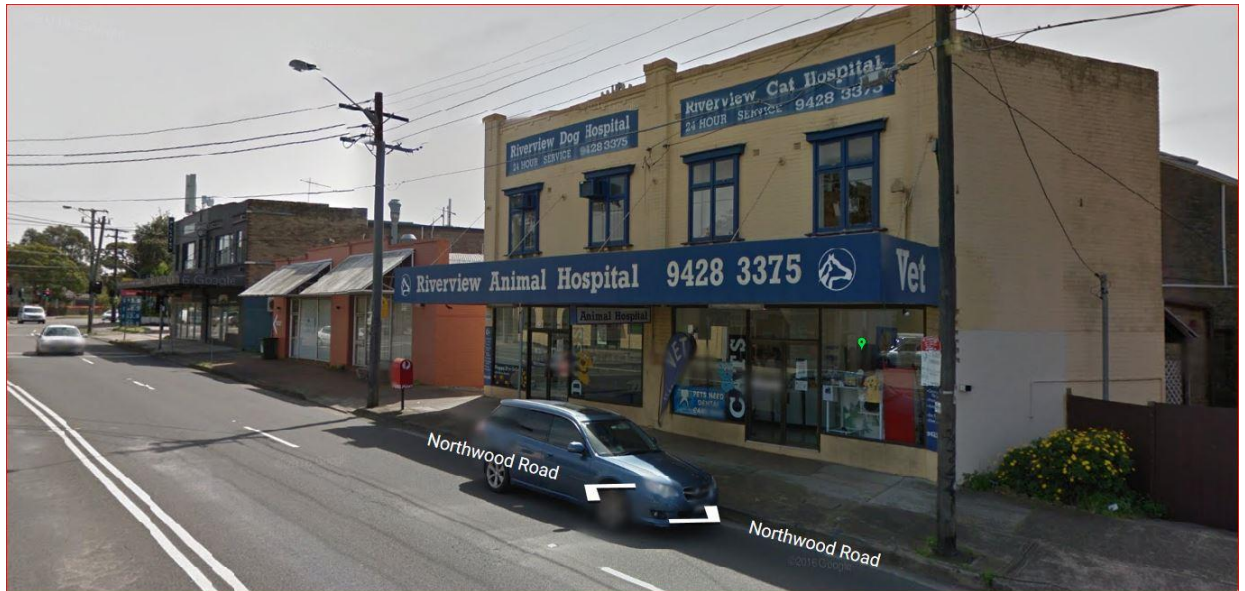
Stuart Pittendrigh and his field assistant conducted the site assessment prior to the preparation of the tree Report.



**The Site 4-18 Northwood Road & 274-274A Longueville Road, Lane Cove.**



**View of site looking east from Northwood Road**



### View of site looking north from Northwood Road

The subject development sites comprising a number of residential dwellings, a service station and three commercial buildings.

Existing natural vegetation throughout the locality comprises Sydney Blue Gum (*Eucalyptus saligna*) Smooth Bark Apple (*Angophora costata*) Turpentine (*Syncarpia glomulifera*), Grey Iron Bark (*Eucalyptus paniculata*) and Native Daphne (*Pittosporum undulatum*).

The locality supports a diversified range of introduced cultural plantings comprising ornamental trees, conifers, deciduous trees and tall evergreen hedges and screen plantings.

### Aims

The aims of this report are to:

- Address the Regulatory controls in the Lane Cove Local Government Area with respect to the Preservation of Trees and Vegetation
- Identify the subject trees shown on survey plans
- Appraise and assess the trees' condition, health, structure physical dimensions and form at the time of inspection
- Determine the Safe Useful Life Expectancy (SULE) of the tree (s)
- The landscape amenity provided by each individual tree
- Identify trees to be retained and
- Identify trees to be removed due to failing health, condition and perceived adverse impacts from the proposed civil works.



## Methodology

The comments and recommendations in this report are based on observations and findings from the site inspection.

The trees were assessed from ground observation using standard methods of visual assessment criteria. No probing or coring, testing of woody tissue. No non-invasive root investigations were carried out

Tree health was determined by:

Canopy density, extension growth, foliage size applicable to the species, and colour.

Presence of pest and disease

Termite activity

The amount of deadwood and dieback throughout the crown

Small branch and twig dieback and

Presence of epicormics

Tree structure was assessed by

Visual evidence of structural faults and potential points of failure

Evidence of past poor pruning practices

Physical and or storm damage

The heights of the trees were measured with a Nikon Forestry Pro hypsometer; the crown spread and trunk diameters were measured at breast height (DBH). The stem diameters above the root buttress (DRB) were determined using a diameter measuring tape in accordance with **AS 4970 –2009 Protection of trees on development sites**.

The nominated Tree Protection Zones and Structural Root Zones were determined by applying the methodology detailed in **Section 3 of AS 4070-2009 Protection of trees on development sites**. Refer to **Appendix A - Terms used in tree report**.

## Tree Assessment.

Refer to **Appendix B - Tree Survey Assessment Sheets**

## Impact on Trees and Recommendations

Refer to attached table **Appendix C**

## Summary and Recommendations

### Trees to be removed / retained

- A total of 40 trees were assessed. on the development and the adjoining properties. Refer to Appendix C.
- 5 Trees will be retained on the subject site i.e Trees # 15,16,17, 37 and 38
- 14 Trees will be removed to accommodate the proposed development, Trees 1-14 inclusive.
- 21 Trees will be retained as they are located on adjoining property clear of the proposed development at 4-18 Northwood Road. Trees 18-36 inclusive and
- Trees 39 and 40

- Trees to be retained and managed throughout the development shall be fenced off from the proposed development or in some situations depending on site access may require trunk protection as detailed in **Section 4 -Tree Protection Measures of AS4970 - 2009 The Protection of Trees on Development Sites** or in some situation the existing boundary fence shall be retained throughout proposed development so as to provide tree protection barrier
- Demolition works within the TPZ of trees to be preserved shall be carried out so as to avoid damage to the tree's roots. In sensitive areas manual excavation may be necessary Manual excavation shall be by hand under the direction of the project arborist.
- Where the project arborist identifies roots to be pruned within or at the outer edge of the TPZ, they should be pruned with a final cut to undamaged wood. Pruning cuts should be made with sharp tools such as secateurs, pruners, handsaws or chainsaws. Pruning wounds should not be treated with dressings or paints. It is totally unacceptable acceptable for roots within the TPZ to be 'pruned' with machinery such as backhoes or excavators.
- Where roots within the TPZ are exposed by excavation, temporary root protection should be installed to prevent them drying out This may include jute mesh or hessian sheeting as multiple layers over exposed roots and excavated soil profile, extending to the full depth of the root zone. Root protection sheeting should be pegged in place and kept moist during the period that the root zone is exposed
- All areas enclosed by protective fencing must have the entire ground surface mulched to a depth of 100 mm with composted Eucalyptus leaf and woodchip to help retain soil moisture and reduce erosion.
- Any site activity close to or beneath the drip line of Trees 15-17 inclusive shall have elevated protection installed clear of the ground to avoid compaction and damage to roots. Protection may comprise timber planks or metal decking supported on scaffolding or the like.
- Hydraulic plans have been provided. Where stormwater and sewer lines need to be installed within the TPZ of trees nominated for preservation. Trenching for stormwater / sewer installation within the TPZ and SRZ shall be avoided. Adopt directional drilling / approved under boring techniques as per **Section 4 of AS4970 CL.4.4.5** to avoid adverse impacts on tree roots.
- The directional drilling bore should be at least 600 mm deep. The project arborist shall assess the likely impacts of boring and bore pits on retained trees. Bore pits within the TPZ shall be hand dug under the direction of an Arborist. No excavation shall occur within the Structural Root Zones of trees nominated for preservation.
- The crowns of all significant trees nominated for preservation are clear of the proposed development.

## **Tree Work / Pruning.**

Pruning shall be carried out in accordance with the Australian Standard **AS 4373 Pruning of Amenity Trees** and **Occupational Health and Safety Act 2001**.

*Stuart Pittendrigh*

*Consultant Arborist M. Arb. Aust. (#2003) Registered Landscape Architect / Registered Horticulturist*

## **References**

Fakes, J. (2004)

***Introduction to Arboriculture*** RYDE TAFE

Hewett, P. in National Arborists Association of Australia (1997)

***Assessing Hazardous Trees and their Safe Useful Life Expectancy, NAAA Workshop, June 1997***

Jeremy Barrel SULE- Data collection & SULE 11 Presentation of Data in association with the National Arborists Association of Australia (2001)

**Management of Mature Trees Seminar & Workshops 2001**

Richard W. Harris

**Arboriculture – Integrated Management of Landscape Trees**

Standards Australia **AS 4970 Protection of trees on development sites.**

## Appendix A

### Terms used in Tree Report

#### Age Class

**(Y)- Young** refers to a well-established but juvenile tree.

**(SM)-Semi-mature** refers to a tree at growth stages between immaturity and full size. A tree that has reached First Adult Form i.e. displays adult characteristics.

**(M)-Mature** refers to a full-size tree with some capacity for further growth.

**(OM)-Over-mature** refers to a tree approaching decline or already declining.

**Health** refers to the trees vigour, growth rate, disease and/or insects.

**Condition** summarises observations about the health and structure of the tree on a scale of 1-5

**(G) Good, (F) Fair, (A) Average, (P) Poor and (VP) Very Poor**

**SRZ) Height** expressed in metres refers to estimated overall height of tree

**Spread** expressed in meters refers to estimated spread of crown at the drip line.

**Diameter at Breast Height (DBH)** expressed in millimetres refers to the trunk diameter at 1.4 meters above ground level.

**(DRB) Diameter above Root Buttress (DRB)** expressed in millimetres refers to the trunk diameter measured immediately above root buttress.

**Tree Protection Zone (TPZ)** refers to a specific radial offset expressed in metres to provide a specified area above and below the ground and at a given distance from the trunk set aside for the protection of a tree's roots and crown to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development.

The TPZ shall be calculated as a radial measurement based on twelve times the Diameter at Breast Height (DBH). A TPZ shall not be less than 2m.radius nor greater than a 15m radius as measured from the centre of the stem at ground level.

If an encroachment is less than 10% of the area of the TPZ and is outside the Structural Root Zone (SRZ) detailed root investigation should not be required. However, if the proposed encroachment is greater than 10% or inside the SRZ root investigation by non-destructive methods may be required.

Non-destructive investigation methods may include pneumatic, hydraulic or penetrating radar.

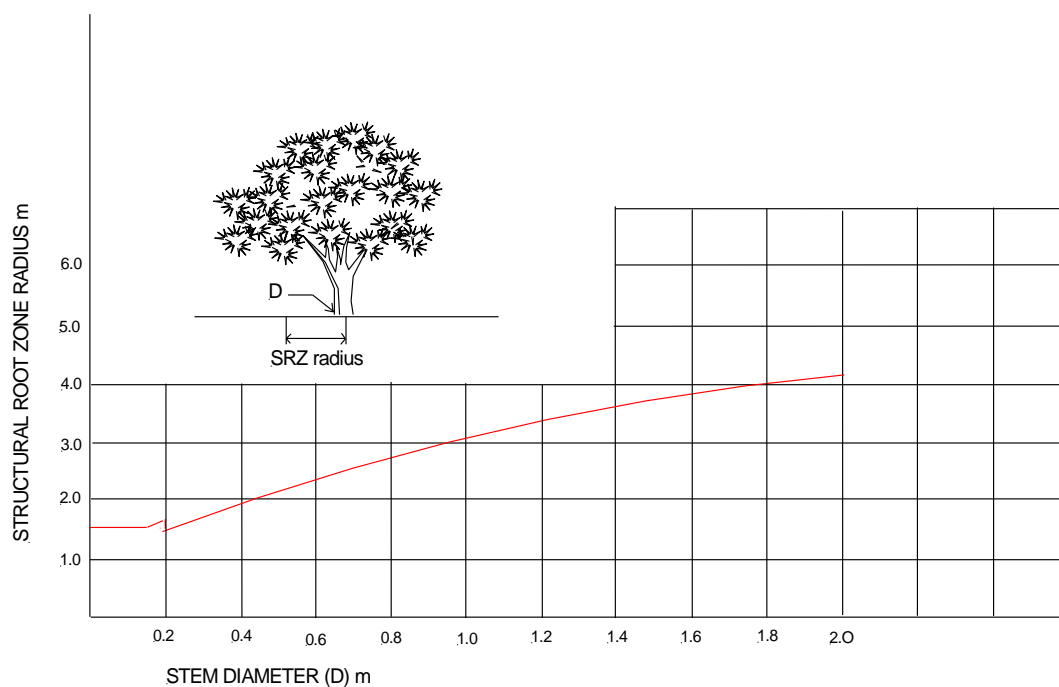
Any encroachment should be compensated for elsewhere and be contiguous with the TPZ.



**Structural Root Zone (SRZ)** The area around the base of a tree required for the tree's stability in the ground that is necessary to hold the tree upright. The SRZ is nominally circular with the trunk at its centre and is expressed by its radius in metres.

This zone considers a tree's structural stability only, **not** the root zone required for a tree's vigour and long-term viability, which will usually be a much larger area.

The SRZ only needs to be calculated when major encroachment into a TPZ is likely to occur



The curve can be expressed by the following formula

$$R_{SRZ} = (D \times 50)^{0.42 \times 0.64}$$

#### NOTES

- 1  $R_{SRZ}$  is the structural root zone radius
- 2  $D$  is the stem diameter measured immediately above to root buttress
- 3 The SRZ for trees less than 0.15 m diameter is 1.5m
- 4 The SRZ formula and graph do not apply to palms, other monocots, cycads & tree ferns
- 5 This does not apply to trees with an asymmetrical root plate

## STRUCTURAL ROOT ZONE

**S.U.L.E. Safe useful Life Expectancy** Refer to attachment

## **Landscape Amenity Rating Scale**

**The landscape amenity value provided by trees indicates:**

- How highly the tree is regarded as part of the local landscape
- How the tree provides and enhances the visual quality of the site
- The importance of the tree's historical and cultural significance
- The provision of habitat and vegetation linkages within development sites, streetscapes, recreation areas or open space.

The protection, preservation and enhancement of the landscape amenity, particularly community and residential amenity are a core objective of site design, land use and planning.

The following rating scale is designed to assist in the site planning process for the proposed site works/development. Each tree in Schedule B is rated accordingly.

### **No 1 Rating**

- ***Recognised landmark***
- ***Contributes to high visual amenity***
- ***Major contribution to the sites landscape amenity***
- ***Excellent condition, health, structure and form***
- ***Forms part of a listed Critically Endangered Ecological Community***
- ***Significant introduced native species that has successfully adapted to the site conditions and environment.***
- ***Significant introduced evergreen or deciduous species that has successfully adapted to the site conditions and environment***
- ***Indigenous to the locality***
- ***Significant remnant species indigenous to site and locality***
- ***Historic importance***
- ***Cultural importance***
- ***Recorded on significant tree register***
- ***Listed as a threatened species***
- ***Identified habitat tree***
- ***Contributes to the bio-diversity of native vegetation within the locality***

### **No 2 Rating**

Contributes to good visual amenity

- ***Makes substantial contribution to the sites landscape amenity***
- ***Good/Fair condition, health, structure and form***
- ***Forms part of a listed Critically Endangered Ecological Community***
- ***Indigenous to the locality***
- ***Remnant species indigenous to site and locality***
- ***Introduced native species that has adapted to the site conditions and environment.***
- ***Introduced evergreen or deciduous species that has adapted to the site conditions and environment***
- ***Listed as a threatened species***
- ***Possible habitat tree***
- ***Contributes to the bio-diversity of native vegetation within the locality***

### **No 3 Rating**

- *Minor contribution to the sites landscape amenity*
- *Fair/Average condition, health, structure and form*
- *Average/poor visual amenity*
- *Indigenous to the locality*
- *Introduced species*
- *Forms part of a listed Critically Endangered Ecological Community*
- *Growth and development suppressed*
- *Wounds, structural fault extensive storm damage*
- *Observance of Pests and disease impacting on health and condition.*
- *Hazardous trees*

### **No 4 Rating**

- *Little or no contribution to the sites landscape amenity*
- *Poor/very poor visual amenity*
- *Growth and development over-mature / suppressed*
- *Major structural faults that cannot be mitigated*
- *Recognised invasive or weed species*
- *Dangerous tree*
- *Species unsuitable for site conditions and environment*
- *Species exempt LGA Tree Protection Order/Management Plan*

Tree No.	Botannical Name	Condition	TPZ	SRZ	Encroachment		Comments / Recommendations
	Common Name		m. rad.	m. rad.	TPZ	SRZ	
1	Syncarpia glomulifera	Average	9.1	2.5			Tree will need to be removed to accommodate the intended site planning approach and proposed development
	Turpentine	Area m2	260	20			
2	Syncarpia glomulifera	Average	7.7	2.8			Tree will need to be removed to accommodate the intended site planning approach and proposed development
	Turpentine	Area m2	186	25			
3	Syncarpia glomulifera	Fair	3.2	2.2			Tree will need to be removed to accommodate the intended site planning approach and proposed development
	Turpentine	Area m2	32	15			
4	Syncarpia glomulifera	Fair	6.9	2.8			Tree will need to be removed to accommodate the intended site planning approach and proposed development
	Turpentine	Area m2	150	25			
5	Syncarpia glomulifera	Good	4.2	2.3			Tree will need to be removed to accommodate the intended site planning approach and proposed development
	Turpentine	Area m2	55	17			
6	Syncarpia glomulifera	Good	6.4	2.7			Tree will need to be removed to accommodate the intended site planning approach and proposed development
	Turpentine	Area m2	129	23			
7	Phoenix canariensis	Good	12.1	3.6			Removal recommended,undesirable species invasive of bushlands, gardens and open space areas
	Canary Island date palm	Area m2	460	41			
8	Cupressus sempervirens 'Stricta'	Good	2.5	2			Tree will need to be removed to accommodate the intended site planning approach and proposed development
	Narrow Italian cypress	Area m2	20	13			
9	Syagrus romanzoffiana	Good	2.5	2.3			Tree will need to be removed to accommodate the intended site planning approach and proposed development
	Cocos palm	Area m2	20	17			
10	Syncarpia glomulifera	Good	8.4	3			Tree will need to be removed to accommodate the intended site planning approach and proposed development
	Turpentine	Area m2	222	28			
11	Syncarpia glomulifera	Good	6.6	2.9			Tree will need to be removed to accommodate the intended site planning approach and proposed development
	Turpentine	Area m2	137	26			

Tree No.	Botannical Name	Condition	TPZ	SRZ	Encroachment		Comments / Recommendations
	Common Name		m. rad.	m. rad.	TPZ	SRZ	
12	Archontophoenix alexandrae	Good	2.9	2.5			Tree will need to be removed to accommodate the intended site planning approach and proposed development
	Alexander palm	Area m2	26	20			
13	Archontophoenix alexandrae	Good	3.1	2.6			Tree will need to be removed to accommodate the intended site planning approach and proposed development
	Alexander palm	Area m2	30	21			
14	Archontophoenix alexandrae	Good	3	2.6			Tree will need to be removed to accommodate the intended site planning approach and proposed development
	Alexander palm	Area m2	28	21			
15	Syncarpia glomulifera	Good	3.4	2.2	0.0%	0.0%	Retain tree, acceptable incursion within TPZ and SRZ from soft landscape plantings.Manage tree during development in accordance with Section 4 Tree protection Measures set out in AS4970-2009 The Protection of Trees on Development Sites and the attached Tree Protection and Management plan .
	Turpentine	Area m2	36	15	0	0	
16	Angophora costata	Good	6.6	3	0.0%	0.0%	Retain tree, acceptable incursion within TPZ and SRZ from soft landscape plantings.Manage tree during development in accordance with Section 4 Tree protection Measures set out in AS4970-2009 The Protection of Trees on Development Sites and the attached Tree Protection and Management plan .
	Smooth bark apple	Area m2	137	28	0	0	
17	Syncarpia glomulifera	Fair	5.8	2.8	0.0%	0.0%	Retain tree, acceptable incursion within TPZ and SRZ from soft landscape plantings.Manage tree during development in accordance with Section 4 Tree protection Measures set out in AS4970-2009 The Protection of Trees on Development Sites and attached the Tree Protection and Management plan .
	Turpentine	Area m2	106	25	0	0	
18	Syncarpia glomulifera	Fair	2.1	1.8			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	Turpentine	Area m2	14	10			
19	Eucalyptus saligna	Good	7.2	2.9			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	Sydney Blue gum	Area m2	163	26			
20	Syncarpia glomulifera	Good	1.6	1.6			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	Turpentine	Area m2	8	8			
21	Syncarpia glomulifera	Good	2.3	1.8			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	Turpentine	Area m2	17	10			
22	Syncarpia glomulifera	Good	2.5	2			etain tree, tree located on adjoining property clear of impacts from development on subject site
	Turpentine	Area m2	20	13			

Tree No.	Botannical Name <i>Common Name</i>	Condition	TPZ	SRZ	Encroachment		Comments / Recommendations
			m. rad.	m. rad.	TPZ	SRZ	
23	Eucalyptus paniculata	Fair	4	2.3			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Grey iron bark</i>	Area m2	50	17			
24	Syncarpia glomulifera	Good	5.7	2.7			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Turpentine</i>	Area m2	102	23			
25	Syncarpia glomulifera	Good	5.3	2.7			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Turpentine</i>	Area m2	88	23			
26	Syncarpia glomulifera	Good	4.1	2.2			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Turpentine</i>	Area m2	53	15			
27	Syncarpia glomulifera	Good	3.5	2.3			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Turpentine</i>	Area m2	38	17			
28	Syncarpia glomulifera	Fair	3.26	2.1			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Turpentine</i>	Area m2	331	14			
29	Syncarpia glomulifera	Fair	4.2	2.2			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Turpentine</i>	Area m2	55	15			
30	Syncarpia glomulifera	Good	5.4	2.9			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Turpentine</i>	Area m2	92	26			
31	Syncarpia glomulifera	Good	6.2	2.5			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Turpentine</i>	Area m2	121	20			
32	Syncarpia glomulifera	Good	7.6	3			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Turpentine</i>	Area m2	181	28			
33	Syncarpia glomulifera	Fair	4.8	2.7			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Turpentine</i>	Area m2	72	23			



Tree No.	Botannical Name Common Name	Condition	TPZ m. rad.	SRZ m. rad.	Encroachment TPZ	SRZ	Comments / Recommendations
34	Syncarpia glomulifera	Fair	5.7	2.7			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Turpentine</i>	Area m2	102	23			
35	Syncarpia glomulifera	Fair	3.3	2.4			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Turpentine</i>	Area m2	34	18			
36	Eucalyptus saligna	Good	4.3	2.5			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Sydney Blue gum</i>	Area m2	58	20			
37	Angophora costata	Good	8.9	3.8	0.0%	0.0%	Retain tree that is located on adjoining property. Roots constrained by existing concrete pavement to the west which is acting as a root control barrier. Acceptable incursion within TPZ and SRZ from soft landscape plantings. Manage tree during development in accordance with Section 4 Tree protection Measures set out in AS4970-2009 The Protection of Trees on Development Sites and the attached Tree Protection and Management plan .
	<i>Smooth bark apple</i>	Area m2	249	45	0	0	
38	Pittosporum undulatum	Good	2.7	2.5	0.0%	0.0%	Retain tree, tree located on adjoining property clear of impacts from development on subject site. Manage tree during development in accordance with Section 4 Tree protection Measures set out in AS4970-2009 The Protection of Trees on Development Sites and the attached Tree Protection and Management plan .
	<i>Native daphne</i>	Area m2	23	20	0	0	
39	Angophora costata	Good	4.5	2.4			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Smooth bark apple</i>	Area m2	64	18			
40	Angophora costata	Good	7.6	3			Retain tree, tree located on adjoining property clear of impacts from development on subject site
	<i>Smooth bark apple</i>	Area m2	181	28			