Moore Trees
Arboricultural Services

ABN 90887347745

Arboricultural Development Assessment Report

Lot 2 Sturdee Avenue
Bulli NSW 2516
Lot 2 DP 1176767

July 2018
FINAL

Prepared for: Anglicare
c/o EPM Projects Pty Limited

Prepared by: Paul Vezgoff
Consulting Arborist
ISA, AA
Arboriculture Australia
Registered Consultant

Member 2018

PO Box 3114 Austinmer NSW 2515
Ph: 0242 680 425
Mob: 0411 712 887
Email: enquiries@mooretrees.com.au
Web: www.mooretrees.com.au
PI/PL Insurance: Fitzpatrick & Company

Summary

This report has been compiled for Anglicare c/o EPM Projects Pty Ltd, Level 2, 146 Arthur Street, North Sydney NSW 2060. The report concerns a proposed Development Application for Lot 2 Sturdee Avenue, Bulli NSW 2516. This Arborist Report refers to three hundred and fifty four (354) individual trees however the E2 area has dense vegetation across most of the area.

This report contains the following information required in Wollongong City Council Development guidelines:-

1) All trees were assessed for Safe Useful Life Expectancy (SULE).
2) Genus and species of each tree.
3) Impact of the proposed development on each tree.
4) Impact of retaining tree on the proposed development.
5) The Tree Protection Zone (TPZ) for each tree to be retained.
6) Any branch or root pruning that may be required for trees.

All of the designated E2 will be retained. The area that adjoins the E2 area and heads east that will be retained is heavily weed affected and is likely to be subject of a Vegetation Management Plan. Trees to be removed are numbered as 1-166, 168-178, 187-197, 224-236, 258-264, 268, 272-288, 334-340.

Trees to be retained will require tree protection fencing as specified in Section 5.2 of this report. This fencing will be located at the Tree Protection Zones (TPZ) listed in the Tree Schedule (Appendix 2) or otherwise the drip line shall be used. The specifications for a TPZ are in Section 5.3 of this report.

Table of Contents

VERSION CONTROL

Date of Issue	Details
3rd August 2018	Draft 1 issued
17th August 2018	Draft 2 issued
27 August 2901	Final version issue

1 INTRODUCTION

1.1 This report has been conducted to assess the health and condition of three hundred and fifty four (354) individual trees however the E2 area has dense vegetation across most of the area located at Lot 2 Sturdee Avenue, Bulli, NSW 2516. This report has been prepared for Anglicare c/o EPM Projects Pty Ltd, Level 2, 146 Arthur Street, North Sydney NSW 2060 as required for a Development Application with Wollongong City Council at this site.

The purpose of this report is to collect the appropriate tree related data on the subject trees and to provide advice and recommendations to the design and possible construction alternatives to aid against any adverse impacts on the subject trees' to be retained, health.

The subject trees were assessed for their health and condition. Also included in this report are tree protection measures that will help retain and ensure that the long term health of the trees to be retained are not adversely affected by the proposed development in the future.

Although this site is covered by a State Environmental Planning Policy (Major Development) Amendment (Sandon Point) 2009, the Wollongong Development Control Plan has been used for the purpose of this report in terms of the site trees. As specified in the Wollongong City Council Development Application guidelines the following data was collected for each tree:

1) A site plan locating tree coverage.
2) All trees were assessed for Safe Useful Life Expectancy (SULE), health and amenity value.
3) Genus and species identification of the site trees.
4) Impact of the proposed development on each tree.
5) The Tree Protection Zone (TPZ) for each tree to be retained.
6) Any branch or root pruning that may be required for trees.

Also noted for the purpose of this report were:

- Health and Vigour; using foliage colour and size, extension growth, presence of deadwood, dieback and epicormic growth throughout the tree.
- Structural condition using visible evidence of bulges, cracks, leans and previous pruning.
- The suitability of the tree taking into consideration the proposed development.
- Age rating; Over-mature (>80% life expectancy), Mature (20-80% life expectancy), Young, Sapling (<20% life expectancy).

1.2 Documents and information provided: For this Arborist Report I was given a site plan of the location, undertaken by Dennis Smith Surveys marked PR 5224-37 dated 17/7/18 Sheets 1-5. The plan showed the proposed building and existing trees on the site. State Environmental Planning Policy (Major Development) Amendment (Sandon Point) 2009 has also been referenced. Also Refer to Appendix 10.

Concept Bulk earthworks Sections by Cardno, dated 13.8.2018, Rev 1. SK011

Concept Bulk earthworks layout plan by Cardno, dated 13.8.2018, Rev 1. SK010

1.3 Location: The proposed development site is located at Lot 2 Sturdee Avenue, Bulli, NSW 2516, known as Lot 2 in DP 1176767. The proposed development site from herein will be referred to as "the Site".

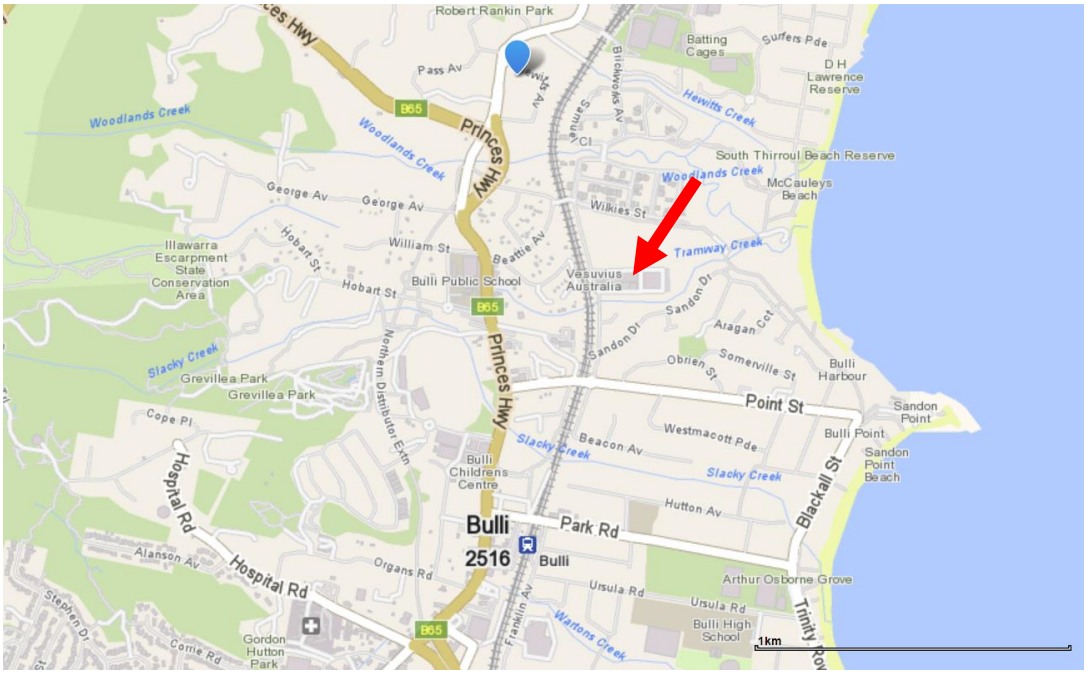


Diagram 1: Location of subject site, Lot 2 Sturdee Avenue, Bulli, NSW 2516 (Red arrow) (whereis.com.au, 2018)

Diagram 2: Location of the study area for this report (WCC, Dekho Maps, 2018)

2 METHODOLOGY

2.1 To record the health and condition of the trees, a Visual Tree Assessment (VTA) was undertaken on the subject trees on 26th and 27th June 2018. This method of tree evaluation is adapted from Matheny and Clark, 1994 and is recognised by The International Society of Arboriculture. Individual tree assessments are listed in Appendix 2 of this report. All inspections were undertaken from the ground. No diagnostic devices were used on these trees.

2.2 Condition 21 of the State Environmental Planning Policy (Major Development) Amendment (Sandon Point) 2009 generally is similar to the requirements listed in the Wollongong City Council Development Control Plan, 2009 (Chapter E17 Preservation and management of Trees and vegetation). Condition 21 also notes;

A development control plan may prescribe the trees or other vegetation to which this clause applies by reference to species, size, location or other manner.

This report is only concerned with trees on the site that come under the Tree management permit policy that is part of the Wollongong City Council Development Control Plan, 2009 (Chapter E17 Preservation and management of Trees and vegetation). Under this Chapter (E17), a person must not ringbark, cut down, top, lop, remove, injure or wilfully destroy any prescribed tree or other vegetation, without development consent or a permit being granted by Council. Refer to Part 3 (Chapter E17) Definitions for the meaning of 'prescribed tree' and 'prescribed other vegetation'. Two application processes have been established to deal with the assessment and approval for prescribed trees:

a) Tree Management Permit (generally for individual/small scale tree removal and pruning in urban areas) - refer to Council's website for the Tree Management Permit Policy;

b) Development consent via either Complying Development or Development Application. This Chapter of the DCP should be read in conjunction with clauses 5.9 Preservation of trees or vegetation, 5.10 Heritage conservation, 5.11 Bush fire hazard

reduction work and 7.2 Natural resource sensitivity – biodiversity of Wollongong Local Environmental Plan 2009.

This Report is required as per clause (b) via a Development Application for the site. This report takes no account of any tree or shrub under three (3) metres in height.

2.3 Height: The heights and distances within this report have been measured with a Bosch DLE 50 laser measure.

2.4 Tree Protection Zones (TPZ): The Tree Protection Zone (TPZ) is the principal means of protecting trees on development sites. The TPZ is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable. TPZ's have been calculated for each tree to determine construction impacts. The TPZ calculation is based on the Australian Standard *Protection of trees on development sites,* AS 4970, 2009.

2.5 Structural Root Zone (SRZ): The SRZ is a specified distance measured from the trunk that is set aside for the protection of tree roots, both structural and fibrous. The woody root growth and soil cohesion in this area are necessary to hold the tree upright. The TPZ and SRZ are measured as a radial measurement from the trunk. No roots should be severed within this area. A detailed methodology on the TPZ and SRZ calculations can be found in Appendix 4.

2.6 SULE: The subject trees were assessed for a Safe Useful Life Expectancy (SULE). The SULE rating for each tree can be seen the Tree Assessment Schedule (Appendix 2). A detailed explanation of SULE can be found in Appendix 3.

2.7 Plans provided: Refer to Appendix 10.

2.8 Impact Assessment: An impact assessment was conducted on the site trees. This was conducted by assessing the site survey and plans provided by EPM Projects Pty Limited. The plans provided were assessed for the following:

- Reduced Level (R.L.) at base of tree.
- Incursions into the Tree Protection Zone (TPZ).
- Assessment of the likely impact of the works.
- Assessment of impacts to the E2 area
- Assessment of impacts to the Aboriginal Heritage area within the E2 area.

3 RELEVANT BACKGROUND INFORMATION

3.1 The site is located east of the Illawarra Railway Line between two recent Stockland developments consisting mostly of residential development. The site is surround by four creeks flowing eastward. A section of Tramway Creek flows through the site. The site would be considered highly disturbed as it was mostly cleared during the late 1800's for pastoral purposes. A section of the Turpentine forest (Plate 1) survived these initial clearing periods to become an established section that would be considered remnant Turpentine forest. The Brick factory was constructed in more recent times and this would appear to help date the vegetation along the southern and eastern boundaries where dense plantings have occurred in order to help screen the factory. Majority of the industrial area has been confined to the southern area of the site with access from Geraghty Street.

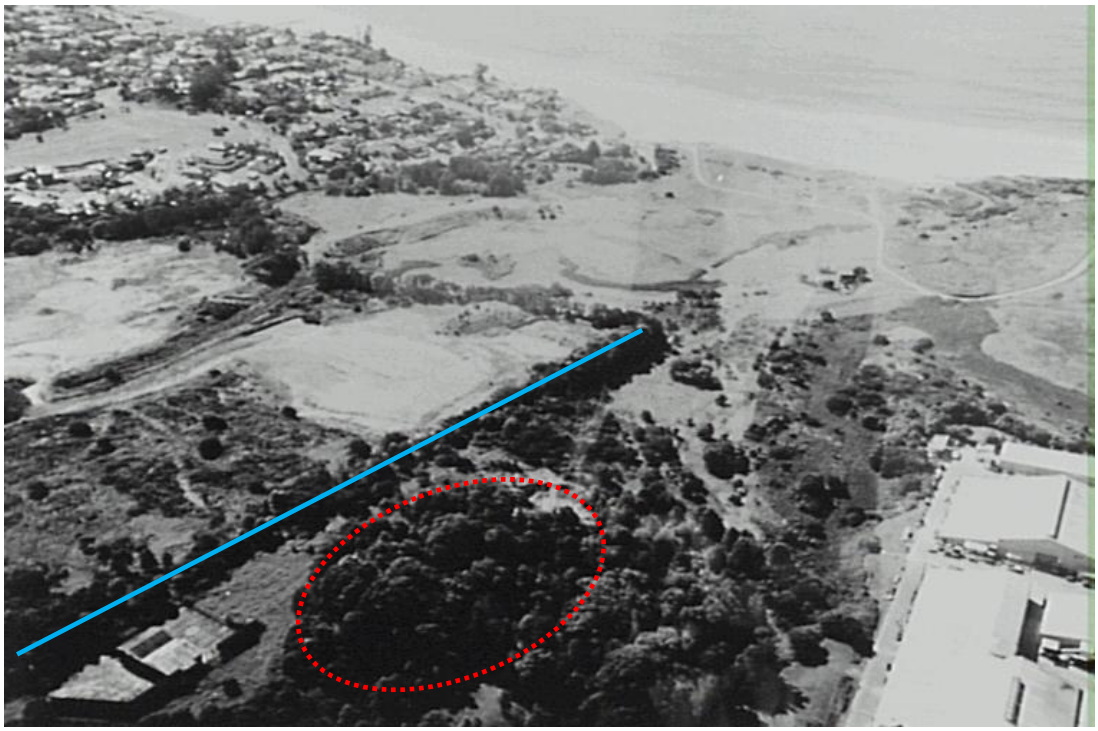


Plate 1: Image showing the site looking east pre 2000. The Turpentine forest can be seen within the red circle. Wilkies Street now located along the blue line and the brick factory to the right of the image. Neg number FM2/305/5/25.

3.2 Soil mapping of Illawarra area by Hazelton and Tille (1990) indicates the occurrence of the *Swamp landscape* Soil Landscape Group over the site. Soils of the *Swamp landscape* are characterised by alluvial plains, floodplains, valley flats and terraces below the Illawarra Escarpment. The soils consist of friable alluvial loams, siliceous sands and heavy clays and yellow podzolic soils on lower alluvial flats. (Hazelton and Tille 1990).

3.3 **Environmental Significance**: All trees in the Wollongong Local Government Area are protected and cannot be removed without the adequate requirements being met. Specifications relating to what can and cannot be removed are detailed in the Wollongong City Council Development Control Plan (DCP), 2009 in Chapter E17 *'Preservation of trees & management of trees and vegetation'*. This DCP protects all trees above three (3) metres in height with a girth of twenty (20) centimetres or more, measured at a distance of one hundred (100) centimetres above the ground. It should be noted that the site is under the authority of a State Environmental Planning Policy (State Significant Precincts) 2005 and is part of the State Environmental Planning Policy (Major Development) Amendment (Sandon Point) 2009.

3.4 **Heritage Significance:** The Turpentine forest within the site is listed as a Landscape Heritage Item within the State Environmental Planning Policy (State Significant Precincts) 2005 and is part of the State Environmental Planning Policy (Major Development) Amendment (Sandon Point) 2009. This Landscape Heritage area can be seen in Diagram 3.

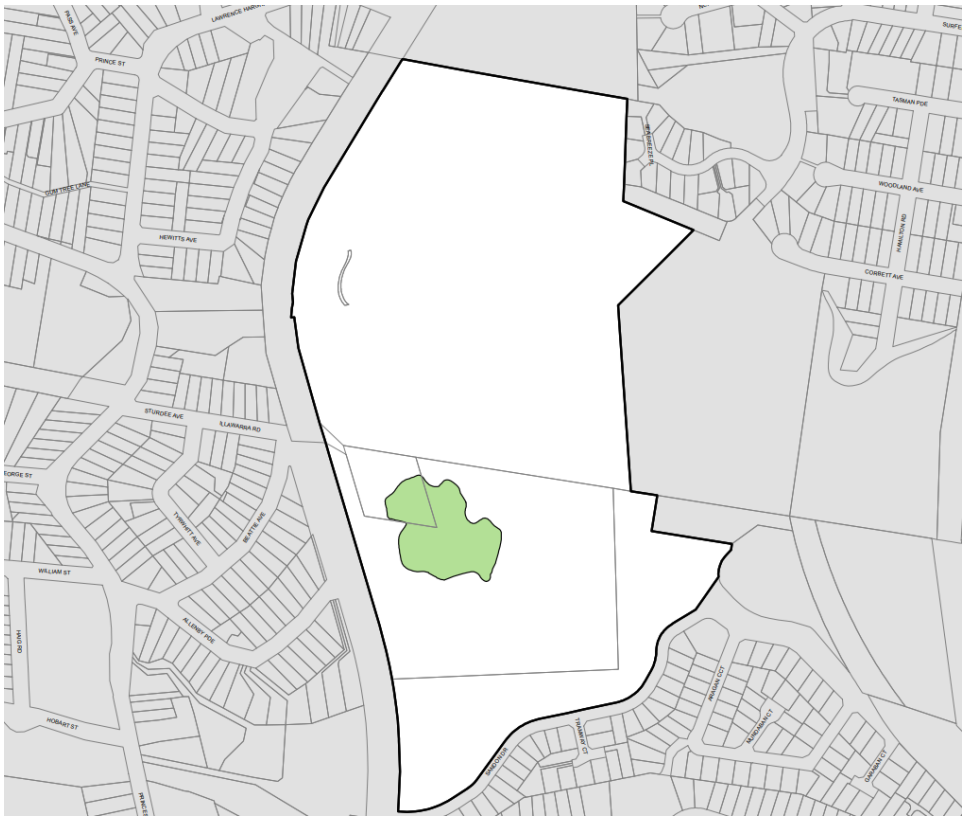


Diagram 3: The Turpentine Forest area is listed as a Landscape Heritage Item (Sandon Point) 2009.

3.5 **Illegal tree removal:** Damaging or removing trees can result in heavy fines. Local Government does have the authority to issue on the spot fines known as penalty infringement notices (PINS) starting from $3,000 or can elect to have a potential tree damaging incident addressed in the Local Court. Recent cases, for example, include two (2) mature trees removed for development (Sutherland Shire Council (SSC) v Palamara, 2008) costing $4,500 in fines and $5,000 in court costs. SSC v El-Hage, 2010 concerning illegal tree removal of a single tree costing $31,500 in fines and $5,000 in costs. Poisoning trees can also incur substantial fines (SSC v Hill) resulted in a single tree fine that totalled $14,000 plus a $10,000 bond for a replacement tree. All of the above cases resulted in a criminal conviction for the guilty parties.

3.6 **OEH Native vegetation Mapping:** The online Native Vegetation Regulatory (NVR) Map was prepared by OEH under Part 5A of the amended *Local Land Services Act 2013* (LLS Act) and supporting regulation.

The Native Vegetation Regulatory Map is a tool to give landholders certainty when planning future management of their land. The Map is a regulatory requirement. Part 5A of the Local Land Services Act 2013 (LLS Act), requires the Chief Executive of the Office of Environment and Heritage (OEH) to prepare and maintain a Native Vegetation Regulatory (NVR) Map.

The NVR Map generally covers rural land in NSW. It categorises land where management of native vegetation can occur without approval or where management of native vegetation may be carried out in accordance with Part 5A of the LLS Act. A summary of categories used in the NVR Map is shown below (Table 1).

Colour	Category	Definition
Blue	**Category 1** Unregulated Land	Rural lands where clearing is not regulated by the Part 5A of the LLS Act. Other legislation may apply.
Yellow	**Category 2** Regulated Land	Rural lands where clearing is regulated and can be carried out in accordance with the Part 5A of the LLS Act or other legislation. This includes complying with the Codes and Allowable activities.
Orange	**Category 2** Vulnerable Regulated Land	Rural land where clearing of native vegetation is more restricted than on other Category 2 land. This includes steep and highly erodible lands and riparian land and special category land (as declared).
Pink	**Category 2** Sensitive Regulated Land	Rural lands where clearing of native vegetation is more restricted than other Category 2 land. This includes lands that are Sensitive Lands due to factors such as the presence of coastal wetlands, littoral rainforests, rainforest, or land that is subject to protection covenants such as conservation or incentive property vegetation plans.
Grey	Excluded Land	Land not regulated by the Part 5A of the LLS Act. This land includes urban zones, environmental conservation zones and R5 large lot residential as gazetted under a Local Environment Plan (LEP). It also includes public conservation lands such as National Parks and State Forests.

Table 1: Categories used in the NVR Map (OEH 2018)

Diagram 4: Native Vegetation Regulatory Map (OEH 2018)

3.7 **Zoning:** The site is zoned as R2 and E2 (Diagram 5). These zonings are based on the Map detailed in State Environmental Planning Policy (State Significant Precincts) 2005 and are part of the State Environmental Planning Policy (Major Development) Amendment (Sandon Point) 2009.

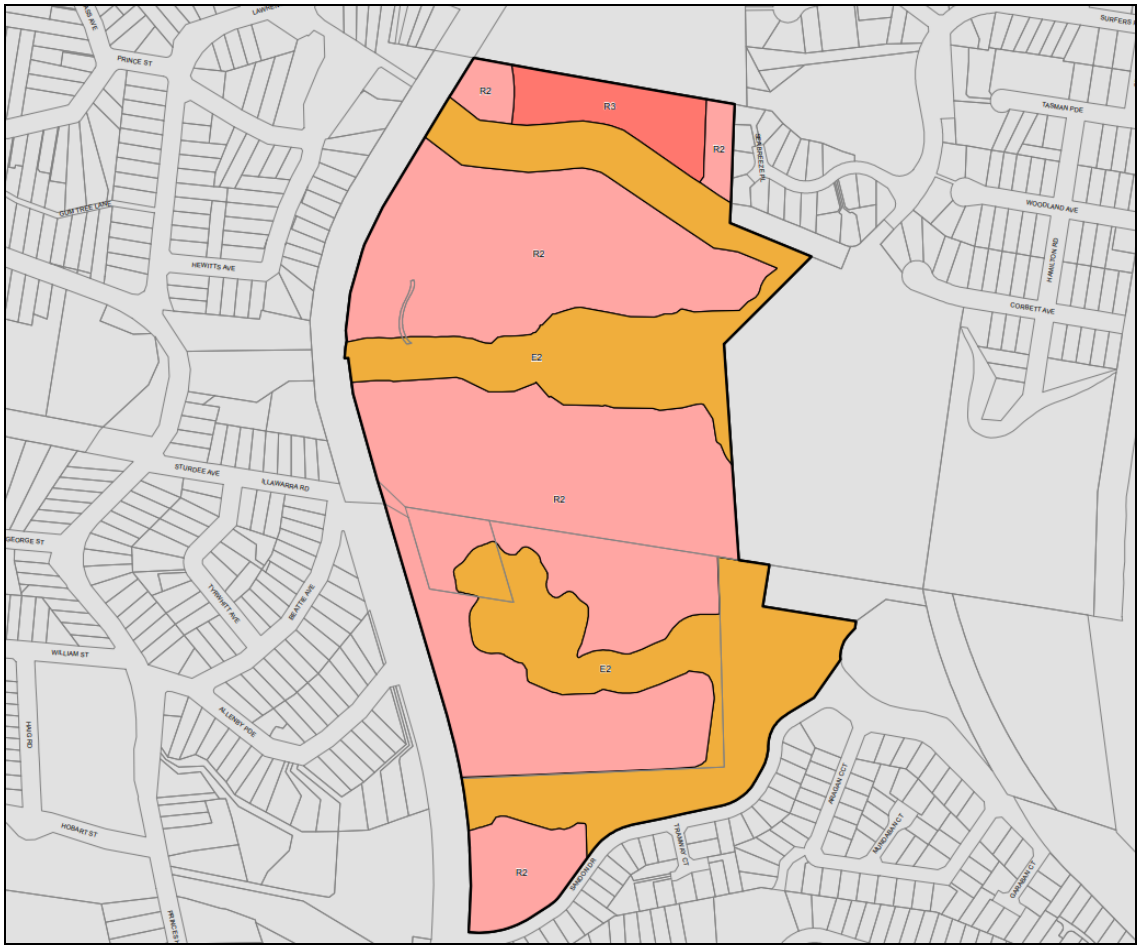


Diagram 5: State Environmental Planning Policy (Major Development) Amendment (Sandon Point) 2009 Land Zoning Map 2018.

3.8 **The Site Trees:** The site was inspected on 26th and 27th June 2018. Each tree has been given a unique number for this site and can be viewed on the Tree Protection Plan (Appendix 1). This plan is based on the plans provided by EPM Projects Pty Limited. All site trees have been tagged to correspond with the Tree Protection Plan.

3.9 For the purpose of this report I have divided the site into three (3) areas. Area 1 being the immediate area surrounding the existing buildings to the south of the site. Area 2 to the north of the existing structures including the E2 zoned areas up to Wilkies Street. Area 3 is the existing road/driveway that extends from Geraghty Street along the western end of the site, along the railway corridor.

Plate 1: Trees 1-100 along the southern boundary. P. Vezgoff.

3.10 Area 1 (Diagram 6), surrounding the existing structures, contains mostly native species that appear to have been planted to form a dense screen along the southern and eastern borders of the site (Plate 1). The species identified in this area include large quantities of Swamp mahogany *(Eucalyptus robusta),* River she oak *(Casuarina cunninghamiana),* Sydney blue gum *(Eucalyptus saligna),* Spotted gum *(Corymbia maculata),* Tallowwood *(Eucalyptus microcorys),* with scattered specimens of Grey gum *(Eucalyptus punctata),* Bangalay *(Eucalyptus botryoides),* Native daphne

(Pittosporum undulatum), Acacia maidenii, Cheese tree *(Glochidion ferdinandi),* Broad leaved paperbark *(Melaleuca quinquenervia),* Coastal banksia *(Banksia integrifolia).* The numbering of these trees contains 1 through to 130. As these trees have grown in close proximity to each other and developed dense codominant canopies it would be difficult to retain individual examples.

Diagram 6: Image showing Area 1 (Red) of the Arboricultural Study area.

3.11 Area 2 (Diagram 7) is the area north of the existing structures containing the E2 area through to Wilkies Street includes Grey gum *(Eucalyptus punctata),* Swamp mahogany *(Eucalyptus robusta),* River she oak *(Casuarina cunninghamiana),* Sydney blue gum *(Eucalyptus saligna),* Spotted gum *(Corymbia maculata),* Tallowwood *(Eucalyptus microcorys),* Bangalay *(Eucalyptus botryoides),* Native daphne *(Pittosporum undulatum), Acacia maidenii,* Cheese tree *(Glochidion ferdinandi),* Broad leaved paperbark *(Melaleuca quinquenervia),* Coastal banksia *(Banksia integrifolia).* Scattered and random plantings are located along the northern section of the factory structures. The section of creek here that forms part of the E2 area is heavily weed infested mostly with *Lantara camara*. Through the creek area are scattered specimens of Native daphne *(Pittosporum undulatum)* and *Melaleuca styphelioides* that are quite small.

3.12 Area 2 (Diagram 7) also contains the Turpentine forest that is listed as a Landscape Heritage Item. There are many older specimens of Turpentine *(Syncarpia glomulifera)* located in this area that can readily be identified by their size but also their finer, more detailed branching habit (Plate 3). Clearly regrowth is occurring as evidenced by the tall single stem specimens that are located surrounding the main E2 area. One of the main walking paths currently bisects this Turpentine forest area.

Diagram 7: Image showing Area 2 (Green) of the Arboricultural Study area.

Plate 2: Transitional vegetation of the E2 area. P. Vezgoff.

Plate 3: Remnant Turpentine specimens. P. Vezgoff.

3.13 The Aboriginal context to the Turpentine area within the site appears well documented. For the purpose of this report I have included some basic background as to the Aboriginal significance of this area.

In 2016, Biosis Pty Ltd wrote an extensive report for the site and detailed the following;

'the women's area is located north west of Sandon Point. The area extended from the north of Tramway Creek to the Wilkies Track to the north and was used for a range of activities including birthing, ceremonies and gathering of resources' (Biosis 2016).

These *'resources'* that the Biosis Report is referring to are the fact that the Aboriginal people of Australia have gathered over 40,000 years of knowledge of flora and fauna as sources of food, healing agents, and other resources. Numerous plant species have been utilised as traditional medicines by Australian Aboriginal people, one of these being the Turpentine tree.

Turpentine *(Syncarpia glomulifera)* is known for having antimicrobial compounds. These antimicrobial compounds support the traditional uses of *S. glomulifera* for the treatment of skin related ailments and infections by Aboriginal people of New South Wales, Australia (Hindawi 2016).

Although Turpentine *(Syncarpia glomulifera)* is likely to have covered much of the site prior to "white" Australian colonisation, it was clearly reduced to a small area until in the last 30 years where regrowth has commenced. Some of the larger, older specimens on site are numbered as Trees 255, 289, 290, 294, 296, 299, 300, 321-323, 325 and 331.

3.14 Area 3 (Diagram 8) is the area to the west of the existing entry road (Diagram 8). The area would be considered highly disturbed due to the construction of the Illawarra railway corridor and drainage works that have occurred in this area (Plate 4). This area contains Trees 334-339.

Diagram 8: Image showing Area 3 (yellow) of the Arboricultural Study area.

3.15 Area 3 contains Native daphne *(Pittosporum undulatum), Acacia maidenii*, Cheese tree *(Glochidion ferdinandi)* and *Acacia maidenii* regrowth. There are also many weeds species in this area but the majority is Lantana *(Lantana camara).* Area 3 also has High Voltage Mains power lines running along the length of this area which has, due to the required clearance standards, required vegetation to be kept to a minimum height in this area.

Plate 4: Image showing the entry drive with the railway corridor to the left of image. P. Vezgoff.

3.16 Potential habitat: For the purpose of this report, WCC defines a "Habitat tree" as follows;

Habitat tree means any tree which is a nectar feeding tree, roost and nest tree or a hollow-bearing tree which is suitable for nesting birds, arboreal marsupials (possums), micro-bats or which support the growth of locally indigenous epiphytic plants such as orchids. (DCP, 2010, Chapter E17 *'Preservation of trees & management of trees and vegetation').*

Hollow bearing trees were noted all within the E2 area so these will all be retained and not impacted by the project. These hollows were observed from ground level thus not possible to determine if any habitat was present.

3.17 **Impacts:** Based on the current plans listed in this report trees to be removed are numbered as 1-166, 168-178, 187-197, 224-236, 258-264, 268, 272-288, 334-340. Based on the current plans all of the E2 area will be retained.

3.18 The impacts to the E2 should be minimal provided adequate TPZ fencing is installed prior to works occurring. Diagram 9 shows the required cut and fill areas across the site to achieve the required levels for development. There are some areas of regrowth that will be removed that consist of sapling and semi mature *Eucalyptus* and *Syncarpia* specimens. Any retaining wall design along the rear of the dwellings along Wilkies Street should consult the TPZ distances in this report. A 10% incursion is generally acceptable and 20% is becoming high and would require further assessment.

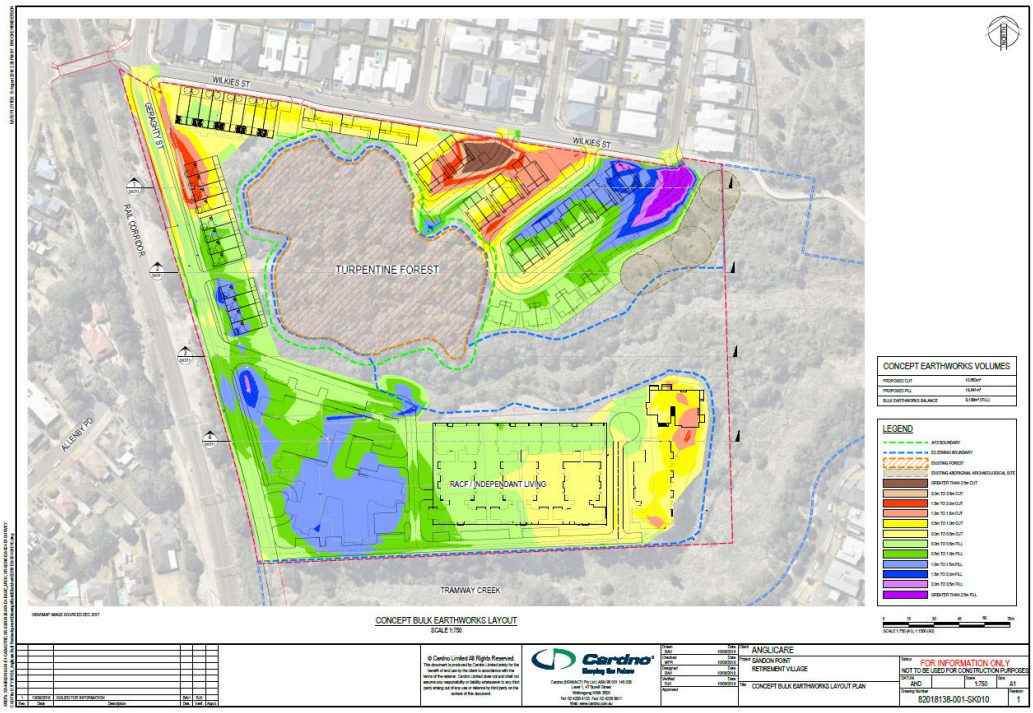


Diagram 9: Concept Bulk earthworks layout plan by Cardno, dated 13.8.2018, Rev 1. SK010.

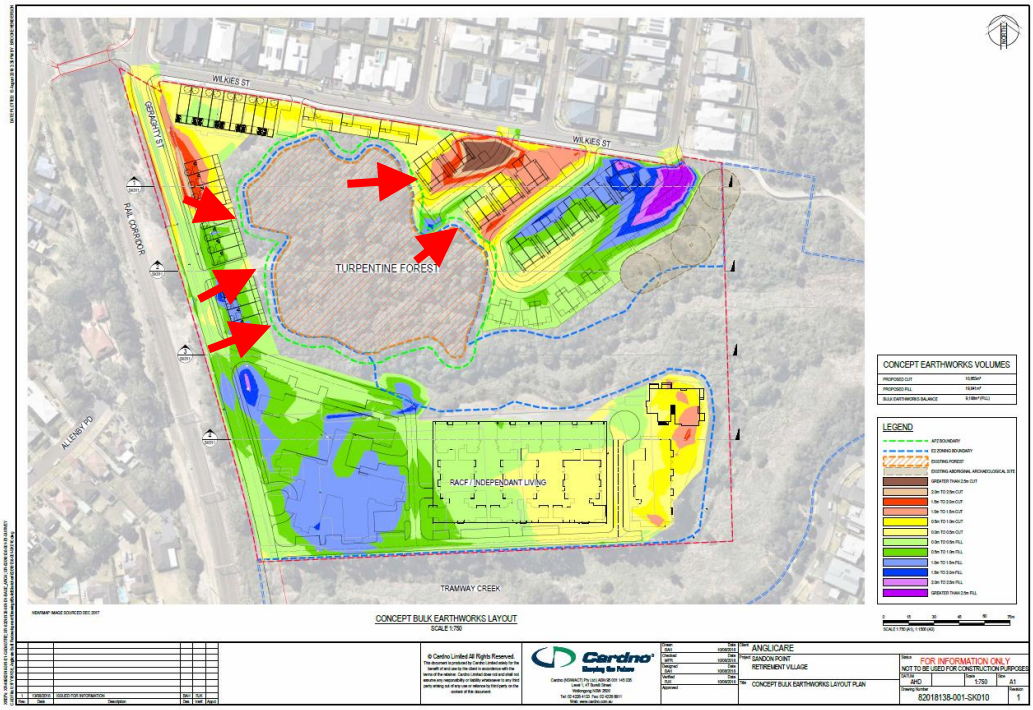


Diagram 10: The areas marked by the red arrows may be impacted by storm water connections that will entail trenching. The TPZ areas for these trees near these areas should be considered.

3.19 Additional impacts may also occur near the E2 area for stormwater for the residences. Diagram 10 shows the areas of concern trenching for services may occur not within but near the E2 area. TPZ areas and the incursions to the TPZs for these trees should be considered. These trees are numbered as 167, 183-186, 306, 345-348 and 354.

3.20 There are some quite tall mature trees within the E2 area. In terms of design and vegetation removal, safety should also be considered for the residential dwellings that will surround the E2 area. The E2 boundary line is quite clear however trees do not grow based on a zoning line. Diagram 11 shows the natural progression of a section of forest. Starting with smaller trees and shrubs (Plate 2) transitioning up to the more mature specimens. The effects of wind forces on trees and tree canopies is well researched and we can confidently say that a sudden exposure to wind forces can often lead to sudden limb failure (James, 2005). The current designs allow for the retention around most of the E2 areas transitional tree heights.

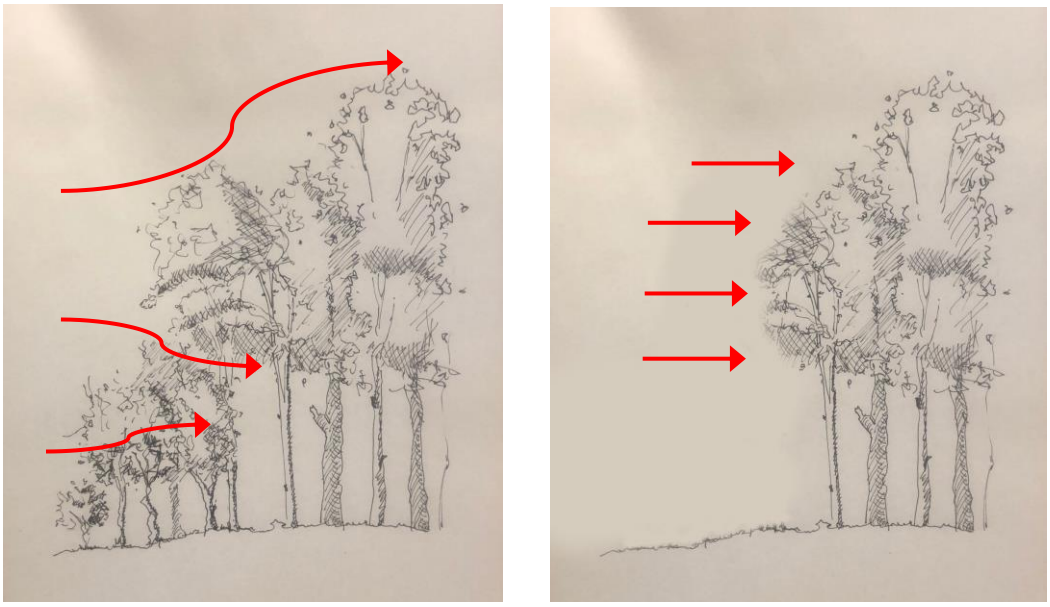


Diagram 11: The image left, showing a typical forest cross section similar to that of the E2 area, wind forces are diffused through the multi layering of vegetation. Building directly up to the E2 area (right image) may result in exposing edges of the Turpentine forest to wind forces that it will not be conditioned to leading to potential future limb failures. The current designs allow for the retention around most of the E2 areas transitional tree heights. P. Vezgoff.

4 RECOMMENDATIONS

4.1 A Project Arborist should be appointed to oversee the Arboricultural related works for the project. The Project Arborist should be used for Arboricultural certification services and also used as a point of contact should any questions arise during the project. As specified in AS 4970, 2009, a Project Arborist is a person with a minimum Australian Qualification Framework (AQF) level 5 Diploma of Arboriculture or Horticulture qualification.

4.2 Trees to be removed are due to the proposed cut and fill plans. All of the designated E2 will be retained. The area that adjoins the E2 area and heads east that will be retained is heavily weed affected and is likely to be subject of a Vegetation Management Plan.

4.3 Trees to be removed are numbered as 1-166, 168-178, 187-197, 224-236, 258-264, 268, 272-288, 334-340.

4.4 There appears to be an adequate set back to the larger more mature specimens scattered throughout the E2 area. This will ensure that there is no sudden exposure of mature canopy edges and that a good transition of canopy height can be maintained as shown in Diagram 11.

4.5 Trees to be retained will require tree protection fencing as specified in Section 5.2 of this report. This fencing will be located at the Tree Protection Zones (TPZ) listed in the Tree Schedule (Appendix 2) or otherwise the drip line shall be used. The specifications for a TPZ are in Section 5.3 of this report.

4.6 Trees that are assessed as being worthy of retention in terms of the Landscape design should be assessed for risk and limb failure where they are located near paths or sitting areas. This risk assessment should be conducted by an AQF level 5 Arborist. It is also known as a Level 1: Limited Visual Assessment Process as per the International Society of Arboriculture best management practices titled *'Tree Risk Assessment"*.

5 TREE PROTECTION

5.1 Trees to be protected: All TPZ fencing shall be installed as specified in Section 5.2 (Tree Protection – Implementation of Tree Protection Zone). Indicative locations of the fencing are shown in the Tree Protection Plan (Appendix 1).

5.2 Implementation of Tree Protection Zone: All tree protection works should be carried out before the start of demolition or clearing works. It is recommended that chain mesh fencing with a minimum height of 1.8 metres be erected as shown in the Tree Protection Plan (Appendix 1). Specifications for this fencing are shown in Tree Protection Fencing Specifications (Appendix 5).

5.3 The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ): The TPZ is implemented to ensure the protection of the trunk and branches of the subject tree. The TPZ is based on the Diameter at Breast Height (DBH) of the tree. The SRZ is also a radial measurement from the trunk used to protect and restrict damage to the roots of the tree.

The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) have been measured from the centre of the trunk. TPZ and SRZ distances are all listed in the Tree Schedule (Appendix 2). The following activities shall be avoided within the TPZ and SRZ of the trees to be retained;

- Erecting site sheds or portable toilets.
- Trenching, ripping or cultivation of soil (with the exception of approved foundations and underground services).
- Soil level changes or fill material (pier and beam or suspended slab construction are acceptable).
- Storage of building materials.
- Disposal of waste materials, solid or liquid.

5.4 **Tree Damage:** If the retained trees are damaged a qualified Arborist should be contacted as soon as possible. The Arborist will recommend remedial action so as to reduce any long term adverse effect on the tree's health.

5.5 **Signage:** Wollongong City Council requires TPZ signage is attached to the tree protection fencing. A sample sign has been attached in Appendix 6. This sign may be copied and laminated then attached to any TPZ fencing.

5.6 **Arborist Certification:** Wollongong City Council requires the developer to supply Council or the Principal Certifying Authority with certification from the Project Arborist three (3) times during the construction phase of the development (as outlined in Council's Development Control Plan, 2009), in order to verify that retained trees have been correctly retained and protected as per the conditions of consent and Arborist's recommendations. The certification is to be conducted by a Qualified Consulting Arborist with AQF level 5 qualifications that has current membership with either Arboriculture Australia (AA) or Institute of Australian Consulting Arboriculturists (IACA). Arborist certification is recommended:

(1) Before the commencement of demolition or construction to confirm the TPZ fencing has been installed;
(2) At mid point of the construction phase;
(3) At completion of the construction phase.

If you have any questions in relation to this report please contact me.

Paul Vezgoff
Consulting Arborist
Dip Arb (Dist), Arb III, Hort cert, AA, ISA

17th August 2018

www.mooretrees.com.au

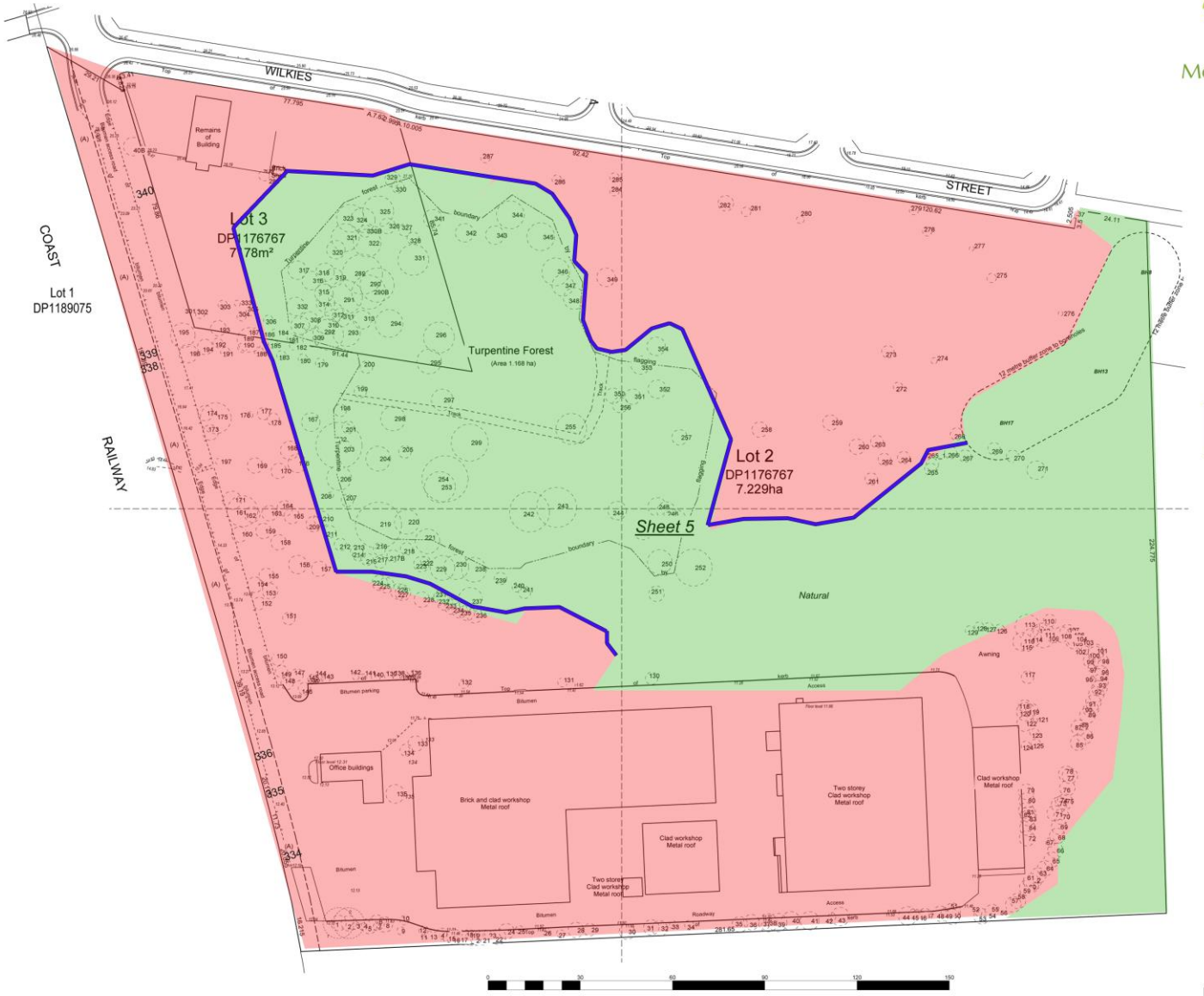
Appendix 1

Plan 1

Tree Protection Plan

Tree protection plan

Moore Trees



Total vegetation removal based on the cut and fill plans. Trees 334-340 are not survey accurate.

Vegetation possible to retain. May be subject to Vegetation Management Plan.

Fence. Implementation of tree protection zone (TPZ). All tree protection works should be carried out before the start of demolition or building works. It is recommended that chain mesh fencing with a minimum height of 1.8 metres be erected

Date:	17.8.18
Drawn:	P.Vezgoff
Site Address:	Sturdee Avenue, Bulli
	TITLE: Lots 2 & 3 DP1176767

Appendix 2

Tree health & condition assessment schedule

TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE – Lot 2 Sturdee Ave, Bulli

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
1	Sydney blue gum (Eucalyptus saligna)	17	5	0.4	95	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
2	Sydney blue gum (Eucalyptus saligna)	17	5	0.4	95	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
3	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature		3	1.9
4	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature		3	1.9
5	Sydney blue gum (Eucalyptus saligna)	19	5	0.6	95	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.8
6	Sydney blue gum (Eucalyptus saligna)	19	5	0.6	95	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.8
7	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature		3	1.9
8	Sydney blue gum (Eucalyptus saligna)	17	5	0.4	95	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
9	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature	Group of 8	3	1.9
10	Coastal banksia (Banksia integrifolia)	6	3	0.26	95	No visual defects	2a May only live for 15-40 years	Good	Mature	On lean north	3.1	1.9
11	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature		3	1.9
12	Coastal banksia (Banksia integrifolia)	6	3	0.26	0	Dead wood >50mm	4a Dead, dying or declining.	Dead	Mature	On lean north	3.1	1.9
13	Turpentine (Syncarpia glomulifera)	8	3.5	0.25	50	No visual defects	3a May only live for 5-15 years.	Poor	Mature	Suppressed	3	1.9
14	Turpentine (Syncarpia glomulifera)	8	3.5	0.25	50	No visual defects	3a May only live for 5-15 years.	Poor	Mature	Suppressed. Multi stemmed specimen	3	1.9
15	Turpentine (Syncarpia glomulifera)	8	3.5	0.25	50	No visual defects	3a May only live for 5-15 years.	Poor	Mature	Suppressed	3	1.9

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
16	River she oak (Casuarina cunninghamiana)	13	5	0.5	90	No visual defects	2a May only live for 15-40 years	Fair	Mature		6	2.6
17	River she oak (Casuarina cunninghamiana)	13	5	0.45	90	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
18	River she oak (Casuarina cunninghamiana)	13	5	0.45	90	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
19	River she oak (Casuarina cunninghamiana)	13	5	0.45	90	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
20	River she oak (Casuarina cunninghamiana)	13	5	0.45	90	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
21	River she oak (Casuarina cunninghamiana)	13	5	0.45	90	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
22	Sydney blue gum (Eucalyptus saligna)	17	5	0.4	95	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
23	Sydney blue gum (Eucalyptus saligna)	6	3	0.2	95	No visual defects	2a May only live for 15-40 years	Fair	Mature	Suppressed	2.4	1.9
24	Sydney blue gum (Eucalyptus saligna)	17	5	0.4	95	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
25	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature	Group of 4	3	1.9
26	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature	Group of 4	3	1.9
27	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature	Group of 4	3	1.9
28	Sydney blue gum (Eucalyptus saligna)	17	5	0.4	95	Fruiting body (large)	2a May only live for 15-40 years	Poor	Mature	Basal decay	4.8	2.4
29	Grey gum (Eucalyptus punctata)	16	4	0.5	95	Storm damage	2a May only live for 15-40 years	Fair	Mature		6	2.6
30	River she oak (Casuarina cunninghamiana)	17	5	0.4	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Multi stemmed specimen	4.8	2.4
31	Sydney blue gum (Eucalyptus saligna)	17	5	0.4	95	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
32	Sydney blue gum (Eucalyptus saligna)	17	5	0.2	95	Fruiting body (Small)	3a May only live for 5-15 years.	Good	Mature		2.4	1.9

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
33	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature	Group of 4	3	1.9
34	Bangalay (Eucalyptus botryoides)	6	3	0.2	95	No visual defects	2a May only live for 15-40 years	Fair	Mature	Suppressed	2.4	1.9
35	River she oak (Casuarina cunninghamiana)	17	5	0.4	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Multi stemmed specimen	4.8	2.4
36	Sydney blue gum (Eucalyptus saligna)	17	5	0.3	95	No visual defects	3a May only live for 5-15 years.	Fair	Mature		3.6	2.2
37	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature		3	1.9
38	Sydney blue gum (Eucalyptus saligna)	17	6	0.45	95	No visual defects	2a May only live for 15-40 years	Fair	Mature		5.4	2.2
39	Sydney blue gum (Eucalyptus saligna)	17	6	0.45	95	No visual defects	2a May only live for 15-40 years	Fair	Mature		5.4	2.2
40	Sydney blue gum (Eucalyptus saligna)	17	6	0.45	95	No visual defects	2a May only live for 15-40 years	Fair	Mature		5.4	2.2
41	Sydney blue gum (Eucalyptus saligna)	17	6	0.45	95	No visual defects	2a May only live for 15-40 years	Fair	Mature		5.4	2.2
42	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature		3	1.9
43	Sydney blue gum (Eucalyptus saligna)	17	6	0.6	95	No visual defects	2a May only live for 15-40 years	Fair	Mature		7.2	2.8
44	Spotted gum (Corymbia maculata)	16	6	0.5	95	No visual defects	2a May only live for 15-40 years	Good	Mature		6	2.6
45	River she oak (Casuarina cunninghamiana)	7	4	0.15	90	No visual defects	2a May only live for 15-40 years	Good	Mature		1.8	1.6
46	Spotted gum (Corymbia maculata)	16	4	0.4	95	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
47	Tallowwood (Eucalyptus microcorys)	16	4	0.4	95	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
48	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
49	Spotted gum (Corymbia maculata)	9	2	0.15	95	No visual defects	2a May only live for 15-40 years	Good	Mature		1.8	1.6

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
50	Spotted gum (Corymbia maculata)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
51	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
52	Bangalay (Eucalyptus botryoides)	9	2	0.15	95	No visual defects	2a May only live for 15-40 years	Good	Mature		1.8	1.6
53	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
54	Bangalay (Eucalyptus botryoides)	9	2	0.15	95	No visual defects	2a May only live for 15-40 years	Good	Mature		1.8	1.6
55	Spotted gum (Corymbia maculata)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
56	Bangalay (Eucalyptus botryoides)	9	2	0.15	95	No visual defects	2a May only live for 15-40 years	Good	Mature		1.8	1.6
57	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
58	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
59	Spotted gum (Corymbia maculata)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
60	Spotted gum (Corymbia maculata)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
61	Bangalay (Eucalyptus botryoides)	16	5	0.25	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3	1.9
62	Spotted gum (Corymbia maculata)	16	5	0.25	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3	1.9
63	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
64	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
65	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
66	Spotted gum (Corymbia maculata)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
67	Broad leaved paperbark (Melaleuca quinquenervia)	7	3	0.3	20	No visual defects	4a Dead, dying or declining.	Poor	Mature		3.6	2.2
68	Spotted gum (Corymbia maculata)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
69	Spotted gum (Corymbia maculata)	16	5	0.2	95	No visual defects	2a May only live for 15-40 years	Good	Mature		2.4	1.9
70	Spotted gum (Corymbia maculata)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.4
71	Spotted gum (Corymbia maculata)	16	5	0.2	95	No visual defects	2a May only live for 15-40 years	Good	Mature		2.4	1.9
72	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
73	Spotted gum (Corymbia maculata)	16	5	0.2	95	No visual defects	2a May only live for 15-40 years	Good	Mature		2.4	1.9
74	Broad leaved paperbark (Melaleuca quinquenervia)	7	3	0.3	20	No visual defects	4a Dead, dying or declining.	Poor	Mature		3.6	2.2
75	Grey gum (Eucalyptus punctata)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
76	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
77	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
78	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
79	Bangalay (Eucalyptus botryoides)	16	5	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
80	Bangalay (Eucalyptus botryoides)	16	5	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
81	Bangalay (Eucalyptus botryoides)	16	5	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
82	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	Included bark	3a May only live for 5-15 years.	Good	Mature		5.4	2.6
83	Bangalay (Eucalyptus botryoides)	16	5	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
84	Bangalay (Eucalyptus botryoides)	16	5	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
85	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	Included bark	3a May only live for 5-15 years.	Good	Mature		5.4	2.6
86	Bangalay (Eucalyptus botryoides)	16	5	0.3	95	Included bark	3a May only live for 5-15 years.	Good	Mature		3.6	2.6
87	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	Included bark	3a May only live for 5-15 years.	Good	Mature		5.4	2.6
88	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature		3	1.9
89	Bangalay (Eucalyptus botryoides)	16	5	0.45	95	Fruiting body (Small)	3a May only live for 5-15 years.	Fair	Mature		5.4	2.6
90	Sydney blue gum (Eucalyptus saligna)	17	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
91	Sydney blue gum (Eucalyptus saligna)	17	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
92	Bangalay (Eucalyptus botryoides)	16	5	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
93	Sydney blue gum (Eucalyptus saligna)	17	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
94	Sydney blue gum (Eucalyptus saligna)	17	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Northern lean	5.4	2.6
95	Broad leaved paperbark (Melaleuca quinquenervia)	6	2	0.2	50	No visual defects	3a May only live for 5-15 years.	Fair	Mature		2.4	1.9
96	Bangalay (Eucalyptus botryoides)	17	5	0.45	95	Included codom stems	2a May only live for 15-40 years	Good	Mature		5.4	2.6
97	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature		3	1.9
98	Sydney blue gum (Eucalyptus saligna)	17	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
99	Sydney blue gum (Eucalyptus saligna)	17	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
100	Sydney blue gum (Eucalyptus saligna)	17	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
101	Sydney blue gum (Eucalyptus saligna)	17	5	0.45	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.4	2.6
102	River she oak (Casuarina cunninghamiana)	9	2.5	0.25	90	No visual defects	2a May only live for 15-40 years	Fair	Mature		3	1.9
103	Melaleuca styphelioides	8	4	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
104	Bangalay (Eucalyptus botryoides)	16	5	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
105	Bangalay (Eucalyptus botryoides)	16	5	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
106	Melaleuca styphelioides	8	4	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
107	Bangalay (Eucalyptus botryoides)	16	5	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
108	Bangalay (Eucalyptus botryoides)	16	5	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
109	Swamp mahogany (Eucalyptus robusta)	12	4	0.7	70	No visual defects	2a May only live for 15-40 years	Fair	Mature		8.4	2.9
110	Melaleuca styphelioides	8	4	0.3	90	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
111	Blackbutt (Eucalyptus pilularis)	15	8	0.5	0	No visual defects	2a May only live for 15-40 years	Good	Mature		6	2.8
112	River she oak (Casuarina cunninghamiana)	12	4	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
113	Blackbutt (Eucalyptus pilularis)	15	8	0.5	0	No visual defects	2a May only live for 15-40 years	Good	Mature		6	2.8
114	Lemon-scented gum tree (Corymbia citriodora)	14	6	0.5	0	Included bark	2a May only live for 15-40 years	Good	Mature		6	2.6
115	Tallowwood (Eucalyptus microcorys)	14	4	0.45	80	No visual defects	3a May only live for 5-15 years.	Fair	Mature		5.4	2.4
116	Sydney red gum (Angophora costata)	14	6	0.3	95	Included bark	2a May only live for 15-40 years	Good	Mature		3.6	2.2
117	Tallowwood (Eucalyptus microcorys)	14	4	0.45	80	No visual defects	3a May only live for 5-15 years.	Fair	Mature		5.4	2.4

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
118	Red cedar (Toona ciliata)	15	4	0.35	90	No visual defects	2a May only live for 15-40 years	Good	Mature		4.2	2.6
119	Tallowwood (Eucalyptus microcorys)	14	4	0.45	80	No visual defects	3a May only live for 5-15 years.	Fair	Mature		5.4	2.4
120	Sydney red gum (Angophora costata)	14	6	0.3	95	Included bark	2a May only live for 15-40 years	Good	Mature		3.6	2.2
121	Melaleuca bracteata	5	1.5	0.15	60	No visual defects	3a May only live for 5-15 years.	Poor	Mature		1.8	1.6
122	Bangalay (Eucalyptus botryoides)	16	5	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
123	Broad leaved paperbark (Melaleuca quinquenervia)	7	3	0.3	20	No visual defects	4a Dead, dying or declining.	Poor	Mature		3.6	2.2
124	Broad leaved paperbark (Melaleuca quinquenervia)	7	3	0.3	20	No visual defects	4a Dead, dying or declining.	Poor	Mature		3.6	2.2
125	Broad leaved paperbark (Melaleuca quinquenervia)	7	3	0.3	20	No visual defects	4a Dead, dying or declining.	Poor	Mature		3.6	2.2
126	Broad leaved paperbark (Melaleuca quinquenervia)	7	3	0.3	20	No visual defects	4a Dead, dying or declining.	Poor	Mature		3.6	2.2
127	Broad leaved paperbark (Melaleuca quinquenervia)	7	3	0.3	20	No visual defects	4a Dead, dying or declining.	Poor	Mature		3.6	2.2
128	Broad leaved paperbark (Melaleuca quinquenervia)	7	3	0.3	20	No visual defects	4a Dead, dying or declining.	Poor	Mature		3.6	2.2
129	Broad leaved paperbark (Melaleuca quinquenervia)	7	3	0.3	20	No visual defects	4a Dead, dying or declining.	Poor	Mature		3.6	2.2
130	Native daphne (Pittosporum undulatum)	8	4	0.5	0	No visual defects	2a May only live for 15-40 years	Good	Mature		6	2.6
131	Acacia maidenii	10	3	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature	Group of 6 trees	7.2	2.8
132	Cheese tree (Glochidion ferdinandi)	6	3	0.4	90	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
133	Sydney blue gum (Eucalyptus saligna)	18	5	0.8	80	No Value	2a May only live for 15-40 years	Good	Mature		9.6	3.1
134	Sydney blue gum (Eucalyptus saligna)	18	4	0.5	80	No Value	2a May only live for 15-40 years	Good	Mature		6	2.6

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
135	Swamp mahogany (Eucalyptus robusta)	12	6	0.6	0	Fruiting body (large)	3a May only live for 5-15 years.	Good	Mature		7.2	2.8
136	Coastal banksia (Banksia integrifolia)	7	3	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.6
137	Coastal banksia (Banksia integrifolia)	7	3	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.6
138	Coastal banksia (Banksia integrifolia)	7	3	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.6
139	Coastal banksia (Banksia integrifolia)	7	3	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.6
140	Coastal banksia (Banksia integrifolia)	7	3	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.6
141	Coastal banksia (Banksia integrifolia)	4	2	0.1	80	No visual defects	2a May only live for 15-40 years	Good	Mature		1.2	1.6
142	Coastal banksia (Banksia integrifolia)	4	2	0.1	80	No visual defects	2a May only live for 15-40 years	Good	Mature		1.2	1.6
143	Coastal banksia (Banksia integrifolia)	7	3	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.6
144	Coastal banksia (Banksia integrifolia)	7	3	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.6
145	Coastal banksia (Banksia integrifolia)	7	3	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.6
146	Sydney blue gum (Eucalyptus saligna)	15	4	0.7	80	Fruiting body (large)	2a May only live for 15-40 years	Good	Mature		8.4	2.9
147	Sydney blue gum (Eucalyptus saligna)	15	4	0.7	80	No Value	2a May only live for 15-40 years	Good	Mature		8.4	2.9
148	Sydney blue gum (Eucalyptus saligna)	15	4	0.7	80	No Value	2a May only live for 15-40 years	Good	Mature		8.4	2.9
149	Sydney blue gum (Eucalyptus saligna)	15	4	0.7	80	No Value	2a May only live for 15-40 years	Good	Mature		8.4	2.9
150	Sydney blue gum (Eucalyptus saligna)	15	4	0.7	80	No Value	2a May only live for 15-40 years	Good	Mature		8.4	2.9
151	Agonis flexuosa	7	4	1	90	No visual defects	2a May only live for 15-40 years	Good	Mature		12	3.3

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
152	Swamp mahogany (Eucalyptus robusta)	12	4	0.5	80	Fruiting body (Small)	2a May only live for 15-40 years	Good	Mature		6	2.6
153	Sydney blue gum (Eucalyptus saligna)	15	5	0.5	80	No visual defects	2a May only live for 15-40 years	Good	Mature		6	2.6
154	Sydney blue gum (Eucalyptus saligna)	15	5	0.5	80	No Value	2a May only live for 15-40 years	Good	Mature		6	2.6
155	Sydney blue gum (Eucalyptus saligna)	15	5	0.5	80	No Value	2a May only live for 15-40 years	Good	Mature		6	2.6
156	Forest red gum (Eucalyptus tereticornis)	15	6	0.5	800	No visual defects	1a >40 years	Good	Mature		6	2.6
157	Swamp mahogany (Eucalyptus robusta)	10	5	0.6	80	Storm damage	2a May only live for 15-40 years	Good	Mature		7.2	2.8
158	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
159	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
160	Cheese tree (Glochidion ferdinandi)	8	5	0.3	80	No visual defects	1a >40 years	Good	Mature		3.6	2.8
161	Grey gum (Eucalyptus punctata)	20	10	1	80	Cavity	2a May only live for 15-40 years	Good	Mature		12	3.3
162	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
163	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
164	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
165	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
166	Turpentine (Syncarpia glomulifera)	12	6	0.7	900	No visual defects	2a May only live for 15-40 years	Good	Mature		8.4	3.5
167	Turpentine (Syncarpia glomulifera)	12	6	0.7	900	No visual defects	2a May only live for 15-40 years	Good	Mature		8.4	3.5
168	Forest red gum (Eucalyptus tereticornis)	15	6	0.5	70	No visual defects	2a May only live for 15-40 years	Good	Mature	Nest in fork	6	2.6
169	Grey gum (Eucalyptus punctata)	12	5	0.6	70	No Value	2a May only live for 15-40	Fair	Mature		7.2	2.9

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
							years					
170	Grey gum (Eucalyptus punctata)	12	5	0.4	70	Stem wounds	2a May only live for 15-40 years	Fair	Mature		4.8	2.4
171	Acacia maidenii	12	6	0.6	90	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.8
172	Native daphne (Pittosporum undulatum)	7	4	0.3	90	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.2
173	Sydney blue gum (Eucalyptus saligna)	18	5	0.7	90	No visual defects	1a >40 years	Good	Mature		8.4	2.9
174	Sydney blue gum (Eucalyptus saligna)	10	5	0.5	90	No visual defects	2a May only live for 15-40 years	Good	Mature		6	2.6
175	Blackbutt (Eucalyptus pilularis)	20	10	1.4	80	Fruiting body (large)	2a May only live for 15-40 years	Good	Mature		16.8	3.7
176	Turpentine (Syncarpia glomulifera)	8	2	0.4	50	No visual defects	3a May only live for 5-15 years.	Poor	Mature		4.8	2.4
177	Turpentine (Syncarpia glomulifera)	12	4	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.9
178	Turpentine (Syncarpia glomulifera)	12	4	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.9
179	Forest red gum (Eucalyptus tereticornis)	15	3	0.5	80	No visual defects	1a >40 years	Good	Mature		6	2.6
180	Swamp mahogany (Eucalyptus robusta)	12	3	0.3	50	No visual defects	4a Dead, dying or declining.	Poor	Mature		3.6	2.2
181	Swamp mahogany (Eucalyptus robusta)	12	3	0.3	70	No visual defects	2a May only live for 15-40 years	Fair	Mature		3.6	2.2
182	Coastal banksia (Banksia integrifolia)	8	3	0.3	80	No visual defects	1a >40 years	Good	Mature		3.6	2.2
183	Swamp mahogany (Eucalyptus robusta)	12	3	0.3	70	No visual defects	2a May only live for 15-40 years	Fair	Mature		3.6	2.2
184	Swamp mahogany (Eucalyptus robusta)	12	3	0.3	70	No visual defects	2a May only live for 15-40 years	Fair	Mature		3.6	2.2
185	Coastal banksia (Banksia integrifolia)	8	3	0.3	80	No visual defects	1a >40 years	Good	Mature		3.6	2.2
186	Hakea salicifolia	6	3	0.3	70	No visual defects	3a May only live for 5-15 years.	Good	Mature	Hakea salicifolia	3.6	2.4
187	Swamp mahogany (Eucalyptus	12	3	0.3	70	No visual defects	2a May only live for 15-40	Fair	Mature		3.6	2.2

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
	robusta)						years					
188	Swamp mahogany (Eucalyptus robusta)	12	3	0.3	70	No visual defects	2a May only live for 15-40 years	Fair	Mature		3.6	2.2
189	Blackbutt (Eucalyptus pilularis)	15	8	0.6	89	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.8
190	Melaleuca bracteata	8	3	0.2	80	Included codom stems	2a May only live for 15-40 years	Good	Mature	Melaleuca bracteata	2.4	1.9
191	Swamp mahogany (Eucalyptus robusta)	12	3	0.3	70	No visual defects	2a May only live for 15-40 years	Fair	Mature		3.6	2.2
192	Coastal banksia (Banksia integrifolia)	8	3	0.3	80	No visual defects	1a >40 years	Good	Mature		3.6	2.2
193	Coastal banksia (Banksia integrifolia)	15	5	0.5	80	No visual defects	1a >40 years	Good	Mature		6	2.6
194	Coastal banksia (Banksia integrifolia)	15	5	0.5	80	Storm damage	2a May only live for 15-40 years	Good	Mature		6	2.6
195	Sydney blue gum (Eucalyptus saligna)	15	8	0.6	80	No visual defects	1a >40 years	Good	Mature		7.2	2.8
196	Sydney blue gum (Eucalyptus saligna)	15	6	0.5	80	No visual defects	1a >40 years	Good	Mature		6	2.8
197	Weeping bottle brush (Callistemon viminalis)	5	2	0.1	80	No visual defects	2a May only live for 15-40 years	Good	Mature	Group of about 25 trees	1.2	1.9
198	Turpentine (Syncarpia glomulifera)	10	4	0.4	0	No visual defects	1a >40 years	Good	Mature		4.8	2.4
199	Turpentine (Syncarpia glomulifera)	12	4	0.8	0	No visual defects	1a >40 years	Good	Mature		9.6	3.1
200	Turpentine (Syncarpia glomulifera)	15	4	0.8	0	No visual defects	1a >40 years	Good	Mature		9.6	3.1
201	Turpentine (Syncarpia glomulifera)	10	4	0.4	0	No visual defects	1a >40 years	Good	Mature		4.8	2.4
202	Grey iron bark (Eucalyptus paniculata)	25	15	0.9	60	Included codom stems	2a May only live for 15-40 years	Good	Mature	Split at base one side dead	10.8	3.6
203	Turpentine (Syncarpia glomulifera)	10	4	0.4	0	No visual defects	1a >40 years	Good	Mature		4.8	2.4
204	Turpentine (Syncarpia glomulifera)	20	8	1	70	Stem wounds	2a May only live for 15-40 years	Good	Mature		12	3.5
205	Turpentine (Syncarpia glomulifera)	15	4	0.8	0	No visual defects	1a >40 years	Good	Mature		9.6	3.1
206	Turpentine (Syncarpia glomulifera)	15	8	0.6	79	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	3.2
207	Cheese tree (Glochidion ferdinandi)	12	4	0.4	80	No visual defects	2a May only live for 15-40	Good	Mature		4.8	2.4

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
							years					
208	Turpentine (Syncarpia glomulifera)	8	2	0.2	80	No visual defects	2a May only live for 15-40 years	Good	Mature		2.4	1.9
209	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
210	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
211	Cheese tree (Glochidion ferdinandi)	12	4	0.8	80	No visual defects	2a May only live for 15-40 years	Good	Mature		9.6	3.1
212	Cheese tree (Glochidion ferdinandi)	12	4	0.8	80	No visual defects	2a May only live for 15-40 years	Good	Mature		9.6	3.1
213	Cheese tree (Glochidion ferdinandi)	12	4	0.8	80	No visual defects	2a May only live for 15-40 years	Good	Mature		9.6	3.1
214	Cheese tree (Glochidion ferdinandi)	12	4	0.8	80	No visual defects	2a May only live for 15-40 years	Good	Mature		9.6	3.1
215	Cheese tree (Glochidion ferdinandi)	12	4	0.8	80	No visual defects	2a May only live for 15-40 years	Good	Mature		9.6	3.1
216	Cheese tree (Glochidion ferdinandi)	12	4	0.8	80	No visual defects	2a May only live for 15-40 years	Good	Mature		9.6	3.1
217	Cheese tree (Glochidion ferdinandi)	12	4	0.8	80	No visual defects	2a May only live for 15-40 years	Good	Mature		9.6	3.1
218	Cheese tree (Glochidion ferdinandi)	12	4	0.8	80	No visual defects	2a May only live for 15-40 years	Good	Mature		9.6	3.1
219	Blackbutt (Eucalyptus pilularis)	25	15	1.5	90	No visual defects	1a >40 years	Good	Mature		18	4.1
220	Blackbutt (Eucalyptus pilularis)	20	8	1	90	Included codom stems	1a >40 years	Good	Mature		12	3.7
221	Turpentine (Syncarpia glomulifera)	20	8	1.2	60	Open cavity with evidence of decay	2a May only live for 15-40 years	Good	Mature	Extensive basal decay	14.4	4.3
222	Cheese tree (Glochidion ferdinandi)	12	3	0.2	80	No visual defects	2a May only live for 15-40 years	Good	Mature		2.4	1.9
223	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	4a Dead, dying or declining.	Dead	Mature		7.2	2.9
224	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
225	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
226	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	4a Dead, dying or declining.	Dead	Mature		7.2	2.9
227	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
228	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
229	Cheese tree (Glochidion ferdinandi)	15	8	0.5	80	No visual defects	1a >40 years	Good	Mature		6	2.6
230	Cheese tree (Glochidion ferdinandi)	15	8	0.5	80	No visual defects	1a >40 years	Good	Mature		6	2.6
231	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
232	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
233	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
234	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
235	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
236	River she oak (Casuarina cunninghamiana)	15	5	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.9
237	Cheese tree (Glochidion ferdinandi)	15	8	1	80	No visual defects	1a >40 years	Good	Mature		12	3.3
238	Cheese tree (Glochidion ferdinandi)	15	8	0.4	80	No visual defects	1a >40 years	Good	Mature		4.8	2.4
239	Cheese tree (Glochidion ferdinandi)	12	4	0.4	80	Stem wounds	2a May only live for 15-40 years	Good	Mature	Split in fork	4.8	2.4
240	Turpentine (Syncarpia glomulifera)	12	3	0.3	70	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.2
241	Cheese tree (Glochidion ferdinandi)	12	4	0.4	80	Stem wounds	2a May only live for 15-40 years	Good	Mature	Split in fork	4.8	2.4
242	Turpentine (Syncarpia glomulifera)	20	13	1.3	89	No visual defects	1a >40 years	Good	Mature		15.6	3.7
243	Turpentine (Syncarpia glomulifera)	20	13	1.3	89	Storm damage	1a >40 years	Good	Mature		15.6	3.7

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
244	Turpentine (Syncarpia glomulifera)	15	6	0.6	80	No Value	1a >40 years	Good	Mature		7.2	2.8
245	Turpentine (Syncarpia glomulifera)	15	6	0.6	80	No Value	1a >40 years	Good	Mature		7.2	2.8
246	Turpentine (Syncarpia glomulifera)	15	6	0.6	80	No Value	1a >40 years	Good	Mature		7.2	2.8
247	Turpentine (Syncarpia glomulifera)	15	6	0.6	80	No Value	1a >40 years	Good	Mature		7.2	2.8
248	Turpentine (Syncarpia glomulifera)	15	6	0.6	80	No Value	1a >40 years	Good	Mature		7.2	2.8
249	Turpentine (Syncarpia glomulifera)	15	8	0.4	80	No visual defects	1a >40 years	Good	Mature		4.8	3.6
250	Turpentine (Syncarpia glomulifera)	15	8	0.4	80	No visual defects	1a >40 years	Good	Mature		4.8	3.6
251	Cheese tree (Glochidion ferdinandi)	10	5	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
252	Turpentine (Syncarpia glomulifera)	20	12	1.2	80	No visual defects	2a May only live for 15-40 years	Good	Mature		14.4	3.6
253	Turpentine (Syncarpia glomulifera)	20	10	1.2	89	No visual defects	1a >40 years	Good	Mature		14.4	3.6
254	Blackbutt (Eucalyptus pilularis)	20	15	1.1	80	Open cavity with evidence of decay	2a May only live for 15-40 years	Good	Mature		13.2	3.6
255	Turpentine (Syncarpia glomulifera)	20	10	1.1	100	No visual defects	1a >40 years	Good	Mature	Large old specimen on path	13.2	3.5
256	Turpentine (Syncarpia glomulifera)	15	5	0.5	80	No visual defects	2a May only live for 15-40 years	Good	Mature		6	2.6
257	Turpentine (Syncarpia glomulifera)	10	5	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
258	Turpentine (Syncarpia glomulifera)	10	5	0.4	80	No visual defects	2a May only live for 15-40 years	Good	Mature		4.8	2.4
259	Acacia maidenii	10	5	0.6	70	No visual defects	3a May only live for 5-15 years.	Good	Mature		7.2	2.8
260	Acacia maidenii	9	5	0.4	95	No visual defects	3a May only live for 5-15 years.	Fair	Mature		4.8	2.4
261	Cheese tree (Glochidion ferdinandi)	9	4	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Part of a group	3.6	2.2
262	Cheese tree (Glochidion ferdinandi)	9	4	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Part of a group	3.6	2.2
263	Native daphne (Pittosporum undulatum)	6	4	0.25	90	No visual defects	2a May only live for 15-40 years	Good	Mature	Multi stemmed specimen	3	1.9

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
										surrounded by dense acacia regrowth. Group of 7 specimens		
264	Cheese tree (Glochidion ferdinandi)	9	4	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Part of a group	3.6	2.2
265	Cheese tree (Glochidion ferdinandi)	9	4	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Part of a group	3.6	2.2
266	Cheese tree (Glochidion ferdinandi)	9	4	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Part of a group	3.6	2.2
267	Cheese tree (Glochidion ferdinandi)	9	4	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Part of a group	3.6	2.2
268	Native daphne (Pittosporum undulatum)	6	4	0.25	90	No visual defects	2a May only live for 15-40 years	Good	Mature	Multi stemmed specimen surrounded by dense acacia regrowth	3	1.9
269	Cheese tree (Glochidion ferdinandi)	9	4	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Part of a group. Multi stemmed specimen	3.6	2.2
270	Cheese tree (Glochidion ferdinandi)	9	4	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Part of a group	3.6	2.2
271	Cheese tree (Glochidion ferdinandi)	11	6	0.4	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Multi stemmed specimen	4.8	2.2
272	Acacia maidenii	4	3	0.2	70	No visual defects	2a May only live for 15-40 years	Fair	Mature		2.4	1.9
273	Native daphne (Pittosporum undulatum)	6	4	0.25	90	No visual defects	2a May only live for 15-40 years	Good	Mature	Multi stemmed specimen surrounded by dense acacia regrowth	3	1.9
274	Acacia maidenii	3	2	0.15	70	No visual defects	4a Dead, dying or declining.	Poor	Mature		1.8	1.6
275	Acacia maidenii	6	3	0.2	70	No visual defects	2a May only live for 15-40 years	Fair	Mature		2.4	1.9
276	River she oak (Casuarina cunninghamiana)	5	1.5	0.1	95	No visual defects	1a >40 years	Good	Sapling		1.2	1.6

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
277	River she oak (Casuarina cunninghamiana)	5	1.5	0.1	95	No visual defects	1a >40 years	Good	Sapling	Group of 10 regrowth specimens	1.2	1.6
278	River she oak (Casuarina cunninghamiana)	7	3	0.2	95	No visual defects	1a >40 years	Good	Mature	Group of 4 similar sized specimens	2.4	1.9
279	Blackbutt (Eucalyptus pilularis)	7	3	0.2	95	No visual defects	1a >40 years	Good	Mature		2.4	1.9
280	Acacia mearnsii	5	2.5	0.15	90	No visual defects	3a May only live for 5-15 years.	Fair	Mature	Surrounded by dense acacia regrowth and scattered weeds.	1.8	1.6
281	Turpentine (Syncarpia glomulifera)	7	3	0.3	95	No visual defects	1a >40 years	Good	Mature		3.6	2.2
282	Turpentine (Syncarpia glomulifera)	9	5	0.5	95	No visual defects	2a May only live for 15-40 years	Fair	Mature	Multi stemmed specimen stunted	6	2.6
283	Acacia mearnsii	7	3	0.25	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3	1.9
284	Acacia mearnsii	7	3	0.25	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3	1.9
285	Acacia mearnsii	7	3	0.25	95	No visual defects	3a May only live for 5-15 years.	Poor	Mature	Group of 4	3	1.9
286	Acacia mearnsii	7	3	0.25	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3	1.9
287	Acacia mearnsii	8	3	0.25	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3	1.9
288	Acacia maidenii	7	3.5	0.15	90	No visual defects	2a May only live for 15-40 years	Good	Mature		1.8	1.6
289	Turpentine (Syncarpia glomulifera)	19	13	1.1	100	Dead wood >50mm	1a >40 years	Good	Mature	Large old specimen . Scattered dead wood	13.2	3.5
290	Turpentine (Syncarpia glomulifera)	19	11	0.9	100	No visual defects	1a >40 years	Good	Mature	Large old specimen	10.8	3.2
291	Blackbutt (Eucalyptus pilularis)	19	11	0.9	100	No visual defects	1a >40 years	Good	Mature		10.8	3.2
292	Blackbutt (Eucalyptus pilularis)	19	10	0.7	100	No visual defects	1a >40 years	Good	Mature		8.4	2.9

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
293	Turpentine (Syncarpia glomulifera)	17	9	0.7	90	No visual defects	1a >40 years	Good	Mature		8.4	2.9
294	Turpentine (Syncarpia glomulifera)	19	9	0.6	100	No visual defects	1a >40 years	Good	Mature	Large old specimen	7.2	2.8
295	Turpentine (Syncarpia glomulifera)	18	8	0.45	100	No visual defects	1a >40 years	Good	Mature		5.4	2.6
296	Turpentine (Syncarpia glomulifera)	20	10	0.6	100	No visual defects	1a >40 years	Good	Mature	Large old specimen	7.2	2.8
297	Turpentine (Syncarpia glomulifera)	13	7	0.3	100	No visual defects	1a >40 years	Good	Mature		3.6	2.2
298	Turpentine (Syncarpia glomulifera)	16	8	0.7	95	No visual defects	1a >40 years	Good	Mature	Multi stemmed specimen	8.4	2.9
299	Blackbutt (Eucalyptus pilularis)	20	12	1.1	90	No visual defects	1a >40 years	Good	Mature	Large old specimen on south side of path	13.2	3.5
300	Turpentine (Syncarpia glomulifera)	18	8	0.9	90	No visual defects	1a >40 years	Good	Mature	Large old specimen on south side of path. Ficus obliqua attached to main stem	10.8	3.2
301	Native daphne (Pittosporum undulatum)	6	3	0.2	70	No visual defects	3a May only live for 5-15 years.	Good	Mature		2.4	1.9
302	Native daphne (Pittosporum undulatum)	6	3	0.2	70	No visual defects	3a May only live for 5-15 years.	Good	Mature		2.4	1.9
303	Coastal banksia (Banksia integrifolia)	10	3	0.3	80	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.2
304	Coastal banksia (Banksia integrifolia)	10	3	0.3	80	No visual defects	2a May only live for 15-40 years	Good	Mature	Group of 6	3.6	2.2
305	Coastal banksia (Banksia integrifolia)	10	3	0.3	80	No visual defects	2a May only live for 15-40 years	Good	Mature	Group of 6	3.6	2.2
306	Swamp mahogany (Eucalyptus robusta)	12	3	0.2	80	No visual defects	2a May only live for 15-40 years	Good	Mature		2.4	1.9
307	Turpentine (Syncarpia glomulifera)	12	6	0.3	70	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
308	Turpentine (Syncarpia glomulifera)	15	6	0.6	70	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.8
309	Turpentine (Syncarpia glomulifera)	12	6	0.3	70	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
310	Turpentine (Syncarpia glomulifera)	12	6	0.3	70	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
311	Turpentine (Syncarpia glomulifera)	12	6	0.3	70	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
312	Turpentine (Syncarpia glomulifera)	12	6	0.3	70	No visual defects	2a May only live for 15-40 years	Good	Mature	Group of 3	3.6	2.6
313	Turpentine (Syncarpia glomulifera)	12	6	0.3	70	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
314	Turpentine (Syncarpia glomulifera)	12	6	0.3	70	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
315	Turpentine (Syncarpia glomulifera)	12	6	0.3	70	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
316	Turpentine (Syncarpia glomulifera)	12	6	0.3	70	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.6
317	Turpentine (Syncarpia glomulifera)	15	6	0.5	70	No visual defects	2a May only live for 15-40 years	Good	Mature		6	2.9
318	Turpentine (Syncarpia glomulifera)	15	6	0.5	70	No visual defects	2a May only live for 15-40 years	Good	Mature		6	2.9
319	Turpentine (Syncarpia glomulifera)	15	6	0.5	70	No visual defects	2a May only live for 15-40 years	Good	Mature		6	2.6
320	Turpentine (Syncarpia glomulifera)	15	6	1.2	70	No visual defects	2a May only live for 15-40 years	Good	Mature		14.4	3.7
321	Turpentine (Syncarpia glomulifera)	19	9	6	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Large mature specimen	72	2.8
322	Turpentine (Syncarpia glomulifera)	19	9	0.8	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Large mature specimen. Codom stems	9.6	3.1
323	Turpentine (Syncarpia glomulifera)	19	9	0.8	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Large mature specimen. Codom stems	9.6	3.1
324	Turpentine (Syncarpia glomulifera)	13	8	0.25	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3	1.9
325	Turpentine (Syncarpia glomulifera)	19	10	0.8	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Large mature specimen	9.6	3.1

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
326	Acacia maidenii	9	5	0.35	90	No visual defects	4a Dead, dying or declining.	Good	Mature		4.2	2.2
327	Turpentine (Syncarpia glomulifera)	16	4	0.6	95	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.8
328	Turpentine (Syncarpia glomulifera)	13	4	0.25	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3	1.9
329	Acacia maidenii	9	5	0.35	90	No visual defects	4a Dead, dying or declining.	Good	Mature		4.2	2.2
330	Turpentine (Syncarpia glomulifera)	13	4	0.25	95	No visual defects	2a May only live for 15-40 years	Good	Mature		3	1.9
331	Turpentine (Syncarpia glomulifera)	19	10	0.8	95	No visual defects	2a May only live for 15-40 years	Good	Mature	Large mature specimen	9.6	3.1
332	Turpentine (Syncarpia glomulifera)	15	6	0.6	80	No visual defects	2a May only live for 15-40 years	Good	Mature		7.2	2.8
333	Coastal banksia (Banksia integrifolia)	10	2	0.3	80	No visual defects	2a May only live for 15-40 years	Good	Mature		3.6	2.2
334	Cheese tree (Glochidion ferdinandi)	16	5	0.5	800	No visual defects	2a May only live for 15-40 years	Good	Mature	Located between railway line and powerlines	6	2.8
335	Acacia maidenii	11	4	0.3	90	No visual defects	2c removed for more suitable planting	Good	Mature	Located between railway line and powerlines	3.6	2.4
336	Acacia maidenii	14	9	0.6	90	No visual defects	2c removed for more suitable planting	Good	Mature	Located between railway line and powerlines	7.2	2.8
337	Cheese tree (Glochidion ferdinandi)	8	5	0.5	800	No visual defects	2a May only live for 15-40 years	Good	Mature	Located between railway line and powerlines	6	2.8
338	Flooded gum	22	10	0.7	79	No visual defects	2a May only live for 15-40 years	Good	Mature	Flooded gum	8.4	2.9
339	Acacia maidenii	14	9	0.6	90	No visual defects	2c removed for more suitable planting	Good	Mature	Located between railway line and powerlines	7.2	2.8
340	E nicholli	8	4	0.5	80	No visual defects	2a May only live for 15-40 years	Good	Sapling	E nicholli	6	2.6
341	Turpentine (Syncarpia glomulifera)	12	6	0.5	108	No visual defects	1a >40 years	Good	Mature	Multi stemmed	6	2.6

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
										specimen		
342	Turpentine (Syncarpia glomulifera)	12	6	0.5	100	No visual defects	1a >40 years	Good	Mature		6	2.6
343	Turpentine (Syncarpia glomulifera)	11	6	0.6	100	No visual defects	1a >40 years	Good	Mature		7.2	2.8
344	Turpentine (Syncarpia glomulifera)	15	9	0.8	100	No visual defects	1a >40 years	Good	Mature		9.6	3.1
345	Turpentine (Syncarpia glomulifera)	15	9	0.8	100	No visual defects	1a >40 years	Good	Mature		9.6	3.1
346	Blackbutt (Eucalyptus pilularis)	19	9	0.9	90	No visual defects	1a >40 years	Good	Mature	Asymmetrical to the north east	10.8	3.3
347	Turpentine (Syncarpia glomulifera)	15	7	0.6	100	No visual defects	1a >40 years	Good	Mature		7.2	2.8
348	Turpentine (Syncarpia glomulifera)	15	7	0.5	100	No visual defects	1a >40 years	Good	Mature		6	2.6
349	Blackbutt (Eucalyptus pilularis)	12	6	0.45	100	No visual defects	1a >40 years	Good	Mature	Growing on the edge of brick pit	5.4	2.6
350	Turpentine (Syncarpia glomulifera)	12	5	0.5	100	No visual defects	1a >40 years	Good	Mature	Turpentine regrowth of 20 semi mature specimens growing in brick pit area.	6	2.6
351	Turpentine (Syncarpia glomulifera)	12	5	0.5	100	No visual defects	1a >40 years	Good	Mature	Turpentine regrowth of 20 semi mature specimens growing in brick pit area.	6	2.6
352	Turpentine (Syncarpia glomulifera)	13	6	0.8	100	No visual defects	1a >40 years	Good	Mature	Turpentine regrowth of 20 semi mature specimens growing in brick pit area.	9.6	3.1
352	Turpentine (Syncarpia glomulifera)	13	6	0.8	100	No visual defects	1a >40 years	Good	Mature	Turpentine regrowth of 20 semi mature specimens growing in brick pit area.	9.6	3.1
353	Turpentine (Syncarpia glomulifera)	13	6	5	100	No visual defects	1a >40 years	Good	Mature	Turpentine regrowth of 20 semi mature specimens growing in brick pit area.	60	2.6
354	Turpentine (Syncarpia glomulifera)	13	6	5	100	No visual defects	1a >40 years	Good	Mature	Turpentine regrowth	60	2.6

Tree	Species	Height (m)	Spread (m)	DBH (m)	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
										of 20 semi mature specimens growing in brick pit area.		

KEY

Tree No: Relates to the number allocated to each tree for the Tree Protection Plan.

Height: Height of the tree to the nearest metre.

Spread: The average spread of the canopy measured from the trunk.

DBH: Diameter at breast height. An industry standard for measuring trees at 1.4 metres above ground level, this measurement is used to help calculate Tree Protection Zones.

Live Crown Ratio: Percentage of foliage cover for a particular species.

Age Class:	Young:	Recently planted tree	Semi-mature:< 20% of life expectancy
	Mature:	20-90% of life expectancy	Over-mature:>90% of life expectancy

SULE: See SULE methodology in the Appendix 3

Tree Protection Zone (TPZ): The minimum area set aside for the protection of the trees trunk, canopy and root system throughout the construction process. Breaches of the TPZ will be specified in the recommendations section of the report.

Structural Root Zone (SRZ): The SRZ is a specified distance measured from the trunk that is set aside for the protection of the trees roots both structural and fibrous.

Appendix 3

SULE categories (after Barrell, 2001)[1]

SULE Category	Description
Long	*Trees that appeared to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.*
1a	Structurally sound trees located in positions that can accommodate for future growth
1b	Trees that could be made suitable for retention in the long term by remedial tree care.
1c	Trees of special significance that would warrant extraordinary efforts to secure their long term retention.
Medium	*Trees that appeared to be retainable at the time of assessment for 15-40 years with an acceptable level of risk.*
2a	Trees that may only live for 15-40 years
2b	Trees that could live for more than 40 years but may be removed for safety or nuisance reasons
2c	Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide for new planting.
2d	Trees that could be made suitable for retention in the medium term by remedial tree care.
Short	*Trees that appeared to be retainable at the time of assessment for 5-15 years with an acceptable level of risk.*
3a	Trees that may only live for another 5-15 years
3b	Trees that could live for more than 15 years but may be removed for safety or nuisance reasons.
3c	Trees that could live for more than 15 years but may be removed to prevent interference with more suitable individuals or to provide for a new planting.
3d	Trees that require substantial remedial tree care and are only suitable for retention in the short term.
Remove	*Trees that should be removed within the next five years.*
4a	Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.
4b	Dangerous trees because of instability or loss of adjacent trees
4c	Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.
4d	Damaged trees that are clearly not safe to retain.
4e	Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide for a new planting.
4f	Trees that are damaging or may cause damage to existing structures within 5 years.
4g	Trees that will become dangerous after removal of other trees for the reasons given in (a) to (f).
4h	Trees in categories (a) to (g) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.
Small	*Small or young trees that can be reliably moved or replaced.*
5a	Small trees less than 5m in height.
5b	Young trees less than 15 years old but over 5m in height.
5c	Formal hedges and trees intended for regular pruning to artificially control growth.

updated 01/04/01)

1 (Barrell, J. (2001) "SULE: Its use and status into the new millennium" in *Management of mature trees*, Proceedings of the 4th NAAA Tree Management Seminar, NAAA, Sydney.

Appendix 4

TPZ and SRZ methodology

Determining the Tree Protection Zone (TPZ)

The radium of the TPZ is calculated for each tree by multiplying its DBH x 12.

TPZ = DBH x 12

Where

DBH = trunk diameter measured at 1.4 metres above ground

Radius is measured from the centre of the stem at ground level.

A TPZ should not be less than 2 metres no greater than 15 metres (except where crown protection is required.). Some instances may require variations to the TPZ.

The TPZ of palms, other monocots, cycads and tree ferns should not be less than 1 metre outside the crown projection.

Determining the Structural Root Zone (SRZ)

The SRZ is the area required for tree stability. A larger area is required to maintain a viable tree.

The SRZ only needs to be calculated when major encroachment into a TPZ is proposed.

There are many factors that affect the size of the SRZ (e.g. tree height, crown area, soil type, soil moisture). The SRZ may also be influenced by natural or built structures, such as rocks and footings. An indicative SRZ radius can be determined from the trunk diameter measured immediately above the root buttress using the following formula or Figure 1. Root investigation may provide more information on the extent of these roots.

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

Where

D = trunk diameter, in m, measured above the root buttress

NOTE: The SRZ for trees with trunk diameters less than 0.15m will be 1.5m (see Figure 1).

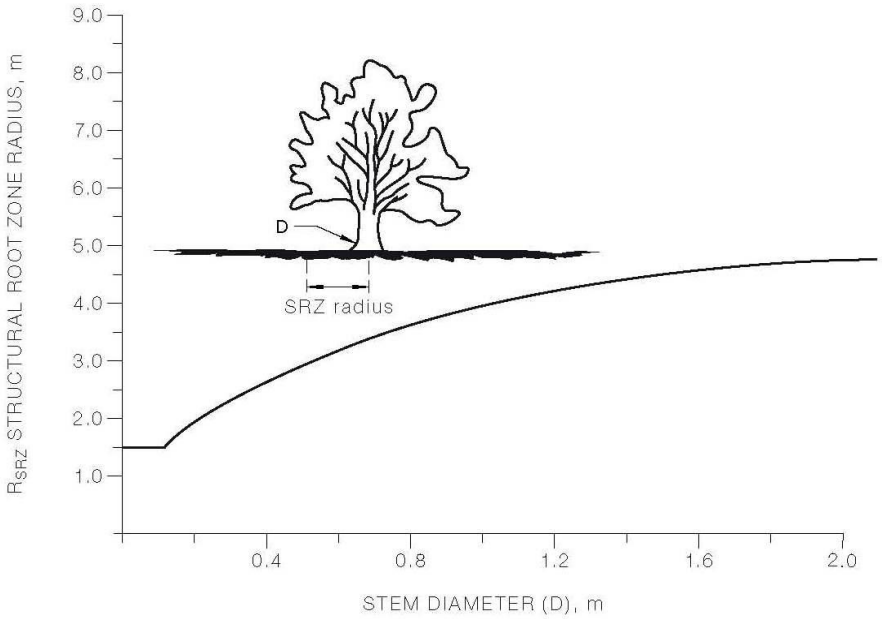


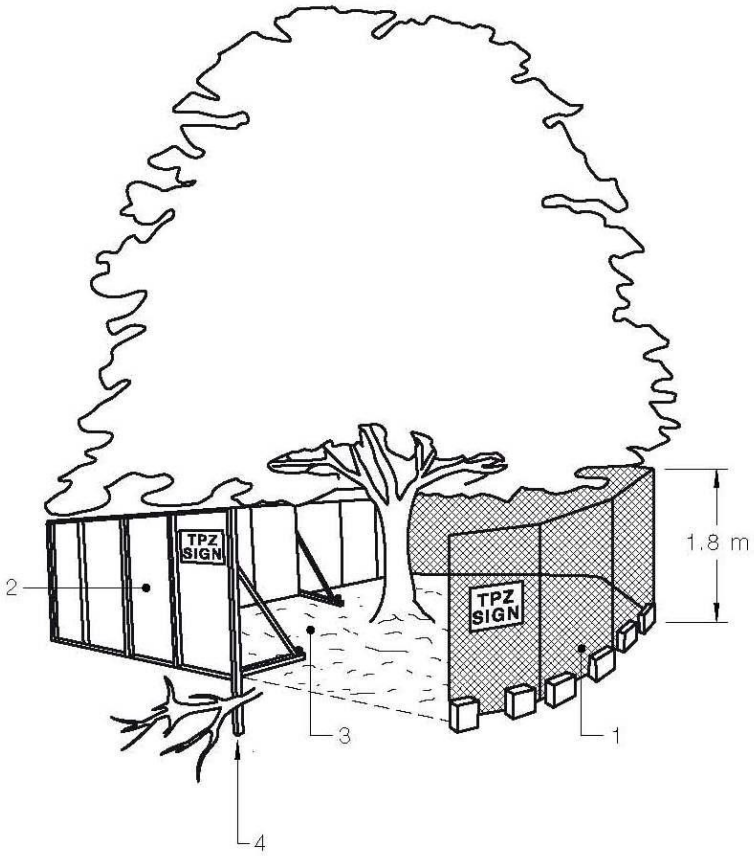
FIGURE 1 - STRUCTURAL ROOT ZONE

Notes:

1 R_{SRZ} is the structural root zone radius.
2 *D* is the stem diameter measured immediately above root buttress.
3 The SRZ for trees less than o.15 metres diameter is 1.5 metres.
4 The SRZ formula and graph do not apply to palms, other monocots, cycads and tree ferns.
5 This does not apply to trees with an asymmetrical root plate.

Appendix 5

Tree protection fencing specifications



LEGEND:

1 Chain wire mesh panels with shade cloth (if required) attached, held in place with concrete feet.
2 Alternative plywood or wooden paling fence panels. This fencing material also prevents building materials or soil entering the TPZ.
3 Mulch installation across surface of TPZ (at the discretion of the project arborist). No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.
4 Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

Figure 1: Protective fencing as specified in AS 4970, 2009.

Appendix 6

Tree protection sign

sign sample

Moore Trees
Tree Consultancy
0411 712 887

Tree Protection Zone

Fence not to be moved without approval from Arborist

Within this fence there is to be

NO

Storage of materials

Trenching or excavation

Washing of tools or equipment

Appendix 7

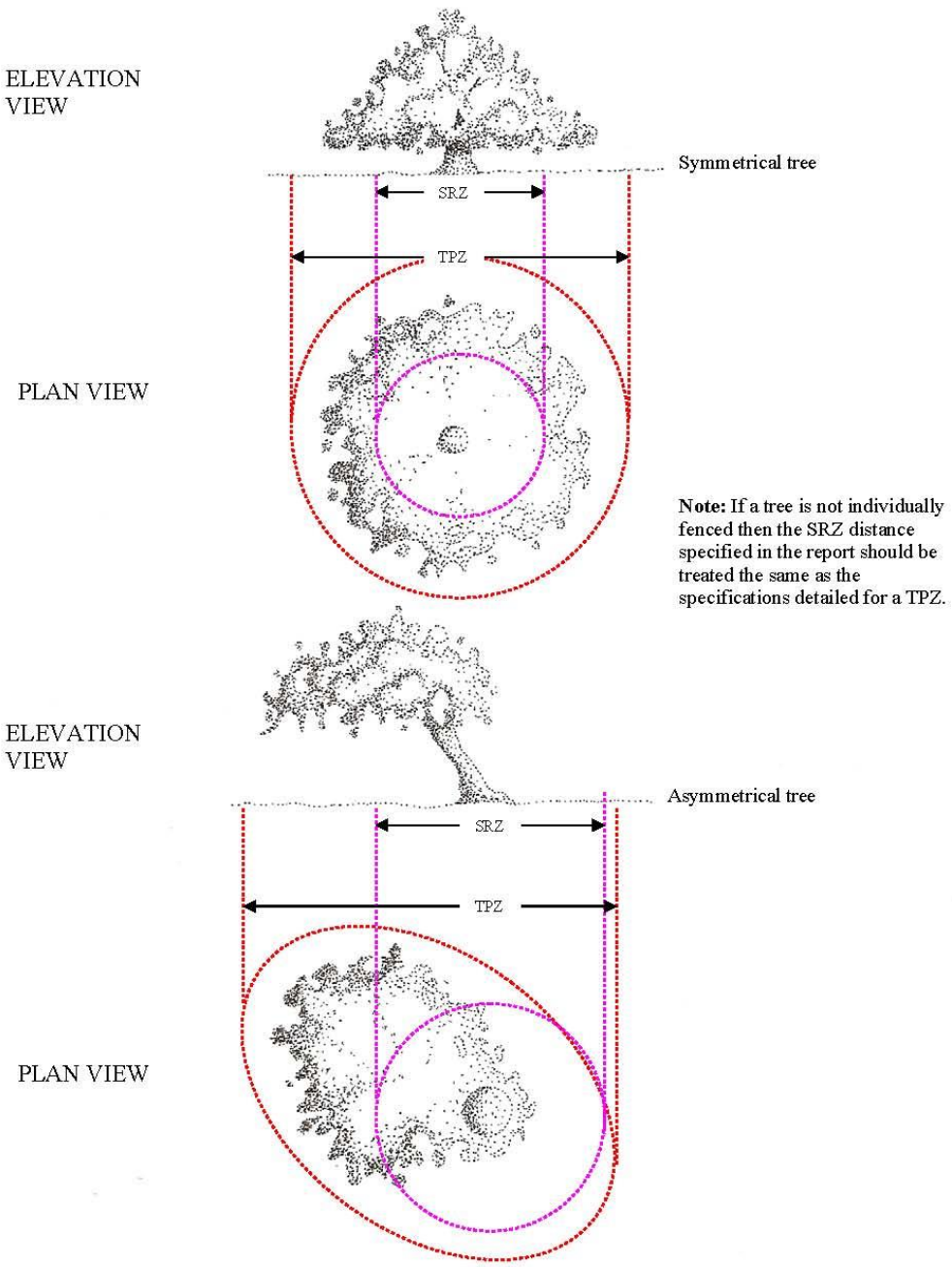


Figure 1: Indicative Tree Protection Zone (TPZ) and Root Protection Zone (SRZ)
Drawn: P. Vezgoff ©

Appendix 8

Tree structure information diagram

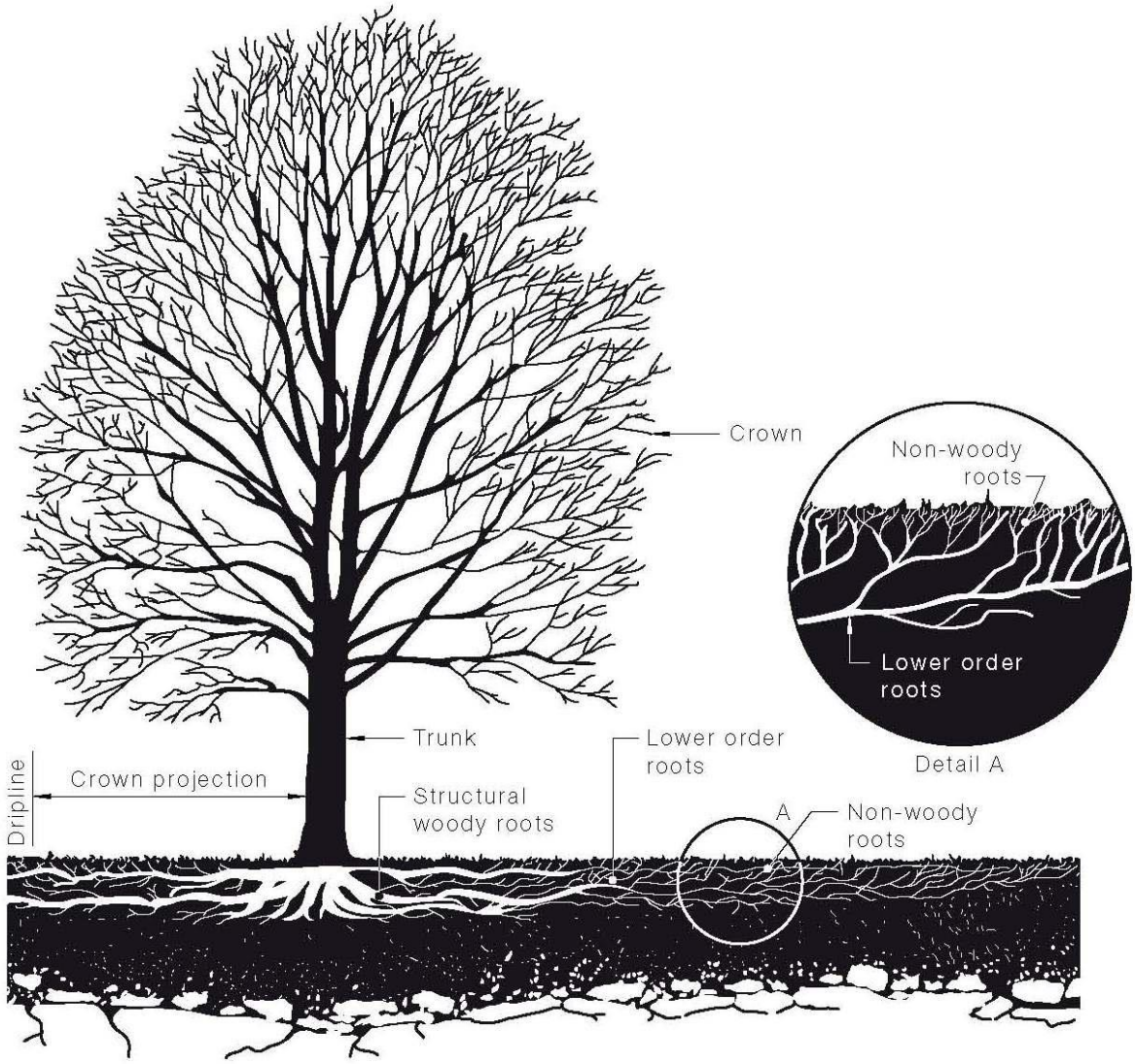


Figure 2: Structure of a tree in a normal growing environment (AS 4970, 2009.).

Appendix 9

Explanatory Notes

- **Mathematical abbreviations:** > = Greater than; < = Less than.

- **Measurements/estimates:** All dimensions are estimates unless otherwise indicated. Less reliable estimated dimensions are indicated with a '?'.

- **Species:** The species identification is based on visual observations and the common English name of what the tree appeared to be is listed first, with the botanical name after in brackets. In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicate it with a '?' after the name in order to avoid delay in the production of the report. The botanical name is followed by the abbreviation sp if only the genus is known. The species listed for groups and hedges represent the main component and there may be other minor species not listed.

- **Height:** Height is estimated to the nearest metre.

- **Spread:** The maximum crown spread is visually estimated to the nearest metre from the centre of the trunk to the tips of the live lateral branches.

- **Diameter:** These figures relate to 1.4m above ground level and are recorded in centimetres. If appropriate, diameter is measure with a diameter tape. 'M' indicates trees or shrubs with multiple stems.

- **Estimated Age:** Age is estimated from visual indicators and it should only be taken as a provisional guide. Age estimates often need to be modified based on further information such as historical records or local knowledge.

- **Distance to Structures:** This is estimated to the nearest metre and intended as an indication rather than a precise measurement.

Appendix 10

List of plans provided

Architectural Drawings

SK0.01	Cover Sheet	G
SK0.02	Compliance with Codes	A
SK0.03	Compliance with Codes	A
SK0.04	Compliance with Codes	A
SK0.05	Compliance with Codes	A
SK0.06	Compliance with Codes	A
SK0.07	Compliance with Codes	E
SK0.08	Compliance with Codes	E

Concept Plans

SK1.02	Site Plan	C
SK1.03	Concept Plan	C
SK1.04	Concept Masterplan	C
SK1.05	Riparian & APZ Buffers	C
SK1.06	Concept Plan - Linkages	C
SK7.36	Photomontage	A
SK7.37	Photomontage	A
SK7.38	Photomontage	A

Appendix - Hilltop & Ocean View Precincts

SK2.01	Hilltop & Ocean View Precincts	H
SK3.01	Townhouses - Type A	E
SK3.02	Townhouses - Type B & C	E
SK3.03	Townhouses - Type D	F
SK3.04	Townhouses - Type E	E
SK3.05	Townhouses - Type F	E
SK3.06	Townhouses - Type G	E

Appendix 11

Bibliography

Draper D B & Richards P A (2009) *Dictionary for managing trees in urban environments*

CSIRO Publishing

Collingwood, Vic

Biosis. (2016) *Sandon Point and McCauleys Beach Plan of Management: Aboriginal cultural heritage assessment report. AHIMS #103651.*

Hindawi- Kaisarun Akter, Emma C. Barnes, Joseph J. Brophy, David Harrington, Yaegl Community Elders, Subramanyam R. Vemulpad, and Joanne F. Jamie (2016) *Phytochemical Profile and Antibacterial and Antioxidant Activities of Medicinal Plants Used by Aboriginal People of New South Wales, Australia*

University of New South Wales, Sydney, NSW 2052, Australia
Yaegl Local Aboriginal Land Council, Maclean, NSW 2463, Australia.

Academic Editor: Laura De Martino

https://www.hindawi.com/journals/ecam/2016/4683059/

James K. (2005) *Dynamic Wind Loads on Trees*

Research Engineer

Burnley College

University of Melbourne

Matheny N.P & Clark J.R. (1994) *Evaluation of hazard trees in Urban areas*

Second edition, International Society of Arboriculture

Illinois.

Mattheck C & Breloer H (2003) *The Body Language of Trees: A handbook for failure analysis.* Research for Amenity Trees No. 4,

Seventh edition, The Stationary Office, London.

Schwarze, F.W.M.R, Engels, J. Mattheck. C (2000) *Fungal strategies of wood decay in trees*

Springer-Verlag Berlin Heidelberg

Germany

Standards Australia, 2007, *Pruning of amenity trees* AS 4373, 2007

Standards Australia Ltd
Sydney

Standards Australia, 2009. *Protection of trees on development sites*, AS 4970, 2009
Standards Australia Ltd
Sydney

Hazelton, P.A. and Tille, P.J. 1990. *Soil Landscapes of the Wollongong-Port Hacking 1:100 000 Sheet and Map.*
Soil Conservation Service of NSW
Sydney

Curriculum Vitae

PAUL VEZGOFF - MOORE TREES P O Box 3114, Austinmer NSW 2515
P 0242 680 425 M 0411 712 887 E enquiries@mooretrees.com.au W www.mooretrees.com.au

EDUCATION and QUALIFICATIONS

- 2013 – ISA TRAQ qualification
- 2007 – Diploma of Arboriculture (AQF Cert V) Ryde TAFE. (Distinction)
- 1997 – Completed Certificate in Crane and Plant Electrical Safety
- 1996 – Attained Tree Surgeon Certificate (AQF Cert II) at Ryde TAFE
- 1990 – Completed two month intensive course on garden design at the Inchbald School of Design, London, United Kingdom
- 1990 – Completed patio, window box and balcony garden design course at Brighton College of Technology, United Kingdom
- 1989 – Awarded the Big Brother Movement Award for Horticulture (a grant by Lady Peggy Pagan to enable horticulture training in the United Kingdom)
- 1989 – Attained Certificate of Horticulture (AQF Cert IV) at Wollongong TAFE

INDUSTRY EXPERIENCE

Moore Trees Arboricultural Services **January 2006 to date**

Tree Consultancy and tree ultrasound. Tree hazard and risk assessment, Arborist development application reports
Tree management plans.

Woollahra Municipal Council **Oct 1995 to February 2008**

ARBORICULTURE TECHNICAL OFFICER
August 2005 – February 2008
ACTING COORDINATOR OF TREES MAINTENANCE
June – July 2005, 2006
TEAM LEADER
January 2003 – June 2005
September 2000 – January 2003
HORTICULTURALIST
October 1995 – September 2000

Northern Landscape Services **July to Oct 1995**

Tradesman for Landscape Construction business

Paul Vezgoff Garden Maintenance (London, UK) **Sept 1991 to April 1995**

CONFERENCES AND WORKSHOPS ATTENDED

- International Society of Arboriculture Conference (Canberra May 2017)
- QTRA Conference, Sydney Australia (November 2016)
- TRAQ Conference, Auckland NZ (October 2013)
- International Society of Arboriculture Conference (Brisbane 2008)
- Tree related hazards: recognition and assessment by Dr David Londsdale (Brisbane 2008)
- Tree risk management: requirements for a defensible system by Dr David Londsdale (Brisbane 2008)
- Tree dynamics and wind forces by Ken James (Brisbane 2008)
- Wood decay and fungal strategies by Dr F.W.M.R. Schwarze (Brisbane 2008)
- Tree Disputes in the Land & Environment Court – The Law Society (Sydney 2007)
- Barrell Tree Care Workshop- Trees on construction sites (Sydney 2005).
- Tree Logic Seminar- Urban tree risk management (Sydney 2005)
- Tree Pathology and Wood Decay Seminar presented by Dr F.W.M.R. Schwarze (Sydney 2004)
- Inaugural National Arborist Association of Australia (NAAA) tree management workshop- Assessing hazardous trees and their Safe Useful Life Expectancy (SULE) (Sydney 1997).