

arboricultural impact assessment report

AIA-01

Revision A, Issued for Development Application
11 June, 2020

DOCUMENT INCLUDES

- T-03 Tree Retention Value Plan
- T-04 Tree Protection & Removal Plan

PROJECT

Residential Aged Care Facility

at 7 Martin Close and 42 Stronach Ave
East Maitland, NSW 2323

CLIENT / PRINCIPAL

Fresh Hope Care

Level 1, 3 Rider Boulevard
Rhodes, NSW 2138



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i EXECUTIVE SUMMARY

On the 5 February 2020, Arterra Design was engaged by Icon Project Management on behalf of Fresh Hope Care (The Church of Christ Property Trust) to undertake an arboricultural assessment of the site and prepare the relevant reports and plans to help guide the proposed re-development. This assessment was restricted to the trees within or immediately adjacent to the site that were likely to be impacted by the proposed works. The other trees within the broader vicinity and that are unlikely to be impacted by this particular development are not specifically addressed as part of this report.

A tree assessment and impact schedule was completed for all the trees. (Refer to Appendix 4.3 – Tree Impact Assessment Schedule). The trees were photographed and given a unique identification number and plotted onto a scaled survey base plan for referencing and identification throughout the report and for future discussions and co-ordination with all contractors and stakeholders.

The proposed building and surrounding landscape has been designed with a view to limit the impacts to the important surrounding trees wherever possible. This is reflected through the retention of **all 'High' retention value** trees and specifically those reflective of the locally endemic Lower Hunter Spotted Gum-Ironbark Forest EEC. Although efforts have been made to retain and protect the surrounding trees, the proposed works may still have some potential impacts on the trees within and adjacent to the site.

In summary, of the **103** trees assessed for this report:-

- **31** are within the footprint of the proposed building or earthworks and will require removal. Most of these are small or exotic trees with low retention values.
- **63** have no, or minimal, foreseeable impacts from the construction related activity;
- **7** have some minor and acceptable encroachments as defined under AS 4970;
- **2** have major encroachments as defined under AS 4970.

The two trees with major incursions are only just into the criteria (15% and 11%) for major incursions and it is the author's opinion that the potentially imposed impacts are within acceptable limits and the trees (T208 and T246) may be successfully retained with minimal likely impacts to their longer term health or stability.

A variety of construction period tree protection protocols are documented and, if conditioned, implemented and adhered to, the existing trees to be retained should be adequately and successfully protected. This is fully described within this report and the accompanying tree protection and removal plan. (Refer Appendix 4.2 T-04 -Tree Protection and Removal Plan).

As with all aspects in the development and construction process, the tree related constraints have to be weighed up against many other relevant development opportunities and constraints. The retention of the trees on the site must also consider economic, social, environmental, construction and practical realities.

This document has been prepared by Arterra Design Pty Ltd, using the expertise of our in-house consulting arborist (AQF Level 5), Robert Smart. Robert is a member of the International Society of Arboriculture - Australian Chapter and is also a Registered Consulting Arborist with Arboriculture Australia.



Robert Smart AAILA , ISA, AA

Director, Registered Landscape Architect (054), Registered Consulting Arborist (1804).

1.0 INTRODUCTION

1.1 Background

On the 5 February 2020, Arterra was engaged by Icon Project Management on behalf of Fresh Hope Care (The Church of Christ Property Trust) to undertake an arboricultural assessment of the site and prepare the relevant reports and plans to help guide the proposed re-development. This assessment was restricted to the trees within, or immediately adjacent, to the site that were likely to be impacted by the proposed works. The other trees within the broader vicinity and unlikely to be impacted are not specifically addressed as part of this report.

The client proposes to demolish an existing Residential Aged Care Facility (RACF) that has reached the end of its useful life and redevelop the site to accommodate a new, state of the art, 168 bed RACF with basement and at grade car parking. The site currently contains the RACF to be demolished, scattered trees, pathways and other infrastructure throughout. It is likely that the demolition and construction work on the site will have a variety of impacts on the numerous surrounding mature trees.

Accurate Tree Assessment, (consulting arborists) prepared a "Preliminary Assessment" of the existing trees that identified the trees and retention values. This work was distributed to the client and the design team to help guide the preliminary design process. Arterra have used this information and updated the information based on further desktop and field reviews. This impact assessment has subsequently been prepared to identify the trees to be retained and removed as part of the development and so that the client can take a proactive approach to the management of the trees to be retained and put in place appropriate measures to protect them during the construction.



Figure 1 – The site as viewed from the north-west corner looking south illustrating the trees located in the neighbouring riparian corridor area. Those that are close to the site form part of this assessment. (Photo: Arterra 15/4/2020)



Figure 2 – The site as viewed from the Martin Close looking west illustrating some of the significant endemic trees located in site that have been the focus of tree retention on the project. (Photo: Arterra 15/4/2020)

1.2 Aims of This Report

The aim of this report is to assess the impact of the new development on the existing trees within the site. Specifically the report aims to:-

- Assess the current health and condition of the trees;
- Accurately record information relevant to the existing trees;
- Assess the significance, Safe Useful Life Expectancy (SULE) and retention values of the existing trees;
- Provide clear recommendations as to which trees should ideally be retained and protected;
- Identify the proposed Tree Protection Zones (TPZ) of the trees being retained and identify and assess the likely arboricultural impacts of the development on the trees and
- Provide advice on the tree protection measures that will be required during construction to ensure the trees are successfully retained.

The following limitations apply to this report's use: -

1. Plans: All plans are based on information provided to Arterra. They should only be used relating to tree issues and are not suitable for any other purpose.
2. Notification of proposed alterations to disturbance within TPZs: Arterra must be clearly notified of any proposed alterations to the plans or additional disturbance in TPZs, so that we can advise on the implications before any work is undertaken.

1.3 Relevant Controls or Legislation

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 regulates clearing of vegetation across NSW on non-rural land. Maitland Council DCP 2011, Part B.5, Tree Management, applies to trees and vegetation within the LGA other than land zoned R1 Primary Production or R2 Rural Landscape. Part 1: Definitions States: Vegetation is defined as a plant that has:

- a height of three (3) metres or greater;
- branch spread of three (3) metres or greater and
- trunk diameter of 100mm or more at any point.

1.4 Conduct and Author Qualifications

Given the above stated aims of this report, as author of this report, Arterra Design confirms that Robert Smart is suitably qualified (AQF 5 Consulting Arborist) to provide comment and the required arboricultural advice pertaining to these matters.

Furthermore, Mr Smart confirms that he has read and agrees to be bound by the NSW Uniform Civil Procedure Rules 2005, Part 31 Division 2 Provisions, Schedule 7 - Expert witness code of conduct.

Arterra provides specialist consulting arborist services only and does not provide any physical tree work services such as climbing, pruning, removal, root investigations or root pruning. Our advice is based on impartial professional assessment only, as we do not derive any financial benefit from specifying pruning or other physical services. We will not specify any such activities unless we determine them to be essential to ongoing tree health or stability.

1.5 Key Definitions and Abbreviations

The following abbreviations are used throughout this report.

"TPZ" = Tree Protect Zone

This is the area as defined by AS 4970 – "Protection of Trees on Development Sites" and means the typical minimum area above and below ground at a given distance from the trunk to provide for protection of the tree. Most importantly it represents the root zone required to be left undisturbed to maintain a healthy and viable tree. Please note, that roots will usually extend well beyond this zone, so this represents the minimum remaining root zone required, assuming all others are lost or damaged due to construction. It is typically calculated as a circle centred on the trunk unless existing site conditions can be assessed and indicate otherwise.

"TPA" = Tree Protection Area

Although based on the nominal TPZ above, this is a consolidated and often simplified area to be applied during construction for tree protection. This area is often shaped to deal with practical construction realities whilst maintaining appropriate protection of the nominal TPZ (i.e fencing a nominal circular TPZ can be difficult and impractical. TPA areas often define a square or rectangular shape which includes the area calculated as the nominal TPZ). It often amalgamates and simplifies tree protection zones, particularly when they are overlapping and can be amended for items such as buildings, walls, pathways and existing fences. It also protects areas that are contiguous to the calculated nominal TPZ, which are to be applied when the nominal TPZ is not completely circular due to structures potentially impeding root growth, or when there is an incursion calculated within the TPZ.

"SRZ" = Structural Root Zone

This is the area as defined by AS 4970 – "Protection of Trees on Development Sites" and means the area immediately around the base of the tree at a given distance from the trunk within which the woody roots and soil cohesion are considered vital to the structural stability of the tree. Disturbance, damage or removal of soil and roots within this area will typically render the tree unstable and require its removal. It is typically calculated as a circle, centred on the trunk, unless existing site conditions can be assessed and indicate otherwise.

DBH = Diameter at Breast Height

This is the diameter of the trunk measured at 1.4m above ground level.

DGL = Diameter at Ground Level

This is the diameter of the trunk measured at ground level, but just above any root flare.

Inclusion or Included Bark Branch Union

Growth of bark at the interface of two or more branches on the inner side of the branch union which is unable to be lost from the tree and accumulates, or is trapped, between the acutely divergent branches. This can form a weakened branch union in some species.

Epicormic Growth

Juvenile shoots produced along branches or trunks from dormant or latent buds concealed beneath bark. Production can be stimulated by fire, pruning, wounding or root damage and may also be an indicator of tree stress or decline.

1.6 Documents Reviewed

Plans and documents referenced and reviewed as part of this tree impact assessment were:-
Calder Flower Architects (CFA)

- Lower Ground Floor Plan – A100 rev A
- Ground Floor Plan – A101 rev A
- Level1 Floor Plan – A102 rev A
- Level2 Floor Plan – A103 rev A
- Roof Plan – A104 rev A

Arterra

- Overall Landscape Plan – L-SD-02 rev A

David Cant Surveyors

Topographic Survey over Lot 57 DP260833 dated 7 July 2019

NGH Environmental

Fresh Hope Biodiversity Assessment dated 14 March 2019

Previously commissioned tree reports and studies:-

- Accurate Tree Assessment – Preliminary Arboricultural Assessment 7 Martin Close, East Maitland, Dated: February 2019.
- Accurate Tree Assessment – Draft Arboricultural Impact Assessment 38-44 Stronach Ave East Maitland, Dated: February 2020.

We have reviewed various preliminary servicing plans and reports for the development and at present understand that no new services are proposed to be extended into the proposed TPAs, beyond the already noted incursions for the proposed electrical substation/kiosk. Any existing services that run through the designated TPA's, that are no longer required, will be appropriately capped off and left in situ, thereby limiting disturbance to the trees to be retained.

1.7 Site Location, History and Context

The site is located in East Maitland, approximately 650m west of the New England Highway and less than 300m from the existing Stocklands Green Hills shopping centre. The site is bounded by Stronach Avenue to the east, Martin Close and existing low density residential development to the south, and the Two Mile Creek riparian corridor to the west and north. There is a substantial area of bushland extending west beyond the Two Mile Creek riparian corridor. Existing informal pedestrian pathways and a concrete pedestrian bridge pass through the riparian corridor linking the RACF site with the adjacent Fresh Hope Care independent living development to the northwest. The existing site is accessed from Martin Close.



Figure 3 – Plan illustrating the project site and trees located in the site and on neighbouring properties that form part of this assessment. (Source : Aerial – NearMap dated October 2019)

1.8 Site Ownership and Zoning

The site is owned and managed by The Church of Christ Property Trust and is identified as Lot 5 of DP 258655 and Lot 57 of DP 260833. The development includes No. 7 Martin Close as well as No. 42 Stronach Ave. The site has an approximate area of 1.39ha and is currently zoned R1 (General Residential) under Maitland Council LEP 2011 Land Zoning Map (<http://www.legislation.nsw.gov.au> accessed 07/04/2020).

1.9 Assessment Methodology

On 15 April 2020 Rob Smart of Arterra attended the site to field check the tree data provided from a preliminary arboricultural assessment of the trees within and immediately adjacent to the site. The original preliminary assessment was completed in February 2019 by Accurate Tree Assessments (Ian Hills). Although largely accurate, the previous work was slightly updated to better reflect the identified trees species and trunk DBH's.

Tree species were identified and high resolution digital photographs were taken of the trees likely to be impacted by the proposed works. Requisite tree data (including DBH, DGL, height & canopy spread, condition & proximity to services) were reviewed and updated as required and recorded using an Apple iPad and Filemaker Pro database.

The basic health and condition criteria that were inspected for each tree can be summarised as follows: -

- Tree size, broad age-class and general balance of the tree;
- Above ground obstructions;
- Evidence of recent site disturbance;
- Canopy foliage size, colour and density;
- Dieback and epicormic growth;
- Trunk or branch wounding, branch tear outs and pruning history;
- Structural defects such as any co-dominant stems, cracks, splits, included bark, decay and
- Pests and disease evidence or occurrence.

All assessed trees were photographed and given a unique identification number and plotted onto a scaled base plan for referencing and identification throughout the report and for future discussions and co-ordination (Refer Appendix 4.3 and 4.1 TP-01 'Tree Retention Value Plan'). The photographic record of trees and general site context was taken using the inbuilt Apple iPad camera and a Panasonic Lumix TZ220 digital camera. Files have been resized, dated, named and filed in accordance with normal office procedures and protocols. No other image manipulation has been undertaken.

A representative soil sample was taken in the immediate vicinity of the trees adjacent to Martin Close and tested for pH, structure, colour and soil texture class to get a basic understanding of likely soil conditions and topsoil depths surrounding the trees. The testing was done using a Dormer 50mmØ hand soil auger.

Tests for pH were done using a Manutec field pH test kit. Soil structure was assessed by observation of soil pedality and soil texture assessment was done using procedures outlined for the field-testing of a moist bolus by McDonald et al, 1998 and Roberts, et al, 2006.

No exploratory excavations were done to determine location and condition of roots and no detailed soil laboratory testing was undertaken. No specialised equipment or methods were employed to test for the extent of decay in any of the trees, apart from a nylon 'sounding' mallet. No plant samples were analysed or independently tested to verify or formally identify any pests or diseases.

Desktop Review and Research

Digital AutoCAD files of the proposed works were imported into Arterra's standard CAD software (ArchiCAD v21) and superimposed over the tree and site survey information. The extent of site disturbance was analysed for the proposed building works, landscaping, services and other site grading. An assessment was made of the likely extent of impacts on the TPZs, taking into account the likely construction impacts depending on the type of work being undertaken (ie: cut or fill, suspended slabs, decks, service trenches, pathways). Various area calculations and measurements were made in the CAD software of the likely incursions into the TPZs or SRZs.

Recent aerial photography data was obtained from the Nearmap website with aerial photos of the site dating from October 2019 imported into the above software for cross checking and assessment. (<http://www.nearmap.com/> accessed 17 February 2020)

Climatic data was obtained from the Bureau of Meteorology using statistics from Tocal which is located approximately 20km to the north of the site. (<http://www.bom.gov.au/climate/data/> accessed 9 April 2020).

1.10 Pre-Development Tree Assessment – Tree Retention Values

Tree value was assessed using a combination of techniques commonly used and recognised in the arboricultural industry. The tree life expectancy was established using the Safe Useful Life Expectance (SULE) system. A brief summary of these systems is provided below.

SULE

This is a system developed by Jeremy Barrell in 1993 that determines the time a tree may be expected to be retained based on its age, health, condition, safety and location. This is then moderated by the economics of maintenance or other costs of retaining the tree. A long SULE means the tree is presently expected to live longer than 40 years with minimal intervention and cost. A short SULE indicates a tree that is not expected to live longer than 5 years or may require substantial intervention or costs to retain it.

RETENTION VALUE

The proposed retention value of the trees was determined based on a considered combination of the size, age, condition and suitability of the tree. Each tree was then ranked according to one of 4 retention categories.

1. **"High" Retention Value** – these are trees that are typically in good or very good condition, large and visually prominent, historically or environmentally important. They may also be lesser quality trees, but part of an important grouping of trees. They should represent a serious physical constraint to the development and their removal avoided where possible and feasible.
2. **"Moderate" Retention Value** – these are trees that are in good to reasonable condition and should be retained where possible and feasible to do so. They may also be lesser trees, but part of an important grouping of trees and therefore warrant retention based on the group's value.
3. **"Low" Retention Value** – these are trees that are in poor condition or have structural defects, are particularly small or commonplace, are not historically, environmentally or socially significant and should not be considered as a constraint to the development. They could be retained only if they are not likely to be impacted by, or constrain potential desirable, development outcomes.
4. **"Should Remove" / No Retention Value** – these are trees that are in very poor health, exhibit poor form, or have serious structural defects, are considered weeds or combination of all these, and therefore should be considered for removal regardless of any development.

Consideration has also been given to the relationship of the trees to one and other and their proximity to the likely development areas on the site. For example, trees that are part of a closely spaced group, or are likely to be significantly misshapen or unstable with the removal of surrounding trees and structures are considered with these factors in mind.

1.11 Tree Assessment – Tree Protection Zones

In order to ensure the long-term survival and growth of any tree to be retained on the development site, a suitable area is required to be protected around the tree. This area should typically be as large as possible. It should also take into consideration: -

- The size and age of the tree;
- Above and below ground properties;
- The health and condition of the tree;
- The species of tree and its tolerance to disturbance;
- Soil conditions, type, depth and site hydrology and
- Site specific conditions and any existing obstructions to root development

The Tree Protection Zones (TPZs) have been calculated using the formula and criteria outlined in AS 4970-2009 Protection of Trees on Development Sites. In summary the standard applies the calculation for the radius of the TPZ as $12 \times$ (the tree trunk diameter (in metres) calculated at breast height (DBH)). DBH is taken at 1.4m above ground level.

A maximum TPZ radius will be 15m (unless crown protection is required) while the minimum TPZ radius shall be 2m.

The TPZ is typically assumed to be radial and centred on the centre of the tree's trunk unless other site factors or tree canopy size and location dictate an adjustment. Encroachments of up to 10% of the area may be accepted within the TPZ as long as it is outside of the Structural Root Zone (SRZ). This is known as a "minor encroachment". Encroachments greater than this, known as "major encroachments" will only be accepted with additional specific evidence that the tree will not be unduly impacted.

Whenever an encroachment is made into a TPZ, a suitable compensation should be made elsewhere and physically contiguous to the remaining TPZ.

The Structural Root Zone (SRZ) is the area defined as the minimum area required to retain the structural stability of the tree. The formula for calculating the SRZ is outlined in AS 4970 Section 3.3.5. No encroachment into the SRZ shall typically be allowed.

2.0 KEY FINDINGS & OBSERVATIONS

2.1 The Proposed Development

The proposed demolition and redevelopment will result in major site disturbance. The building has a substantial footprint and significant earthworks will be required to provide the appropriate levels for basement parking, ground floor entry and surrounding circulation driveways and pathways. Provision of services (electricity, gas, water and communications) is also likely to result in further site disturbance.



Figure 4 – Rendered overview of proposed new RACF and associated external and landscape works. (Image Source: Arterra accurate site model render)

The proposed building has been designed with a view to limit the impacts to the important surrounding trees wherever possible. This is reflected through the retention of all High retention value trees and specifically those reflective of the locally endemic Lower Hunter Spotted Gum-Ironbark Forest EEC. Although efforts have been made to retain and protect the surrounding trees, the proposed works may still have some potential impacts on the trees within and adjacent to the site.

Specifically the proposed development will involve:-

- Major demolition works;
- Use of large scale civil and earthmoving equipment;
- Access to and from the site with large trucks and construction plant;
- Major excavations;
- Large stockpiles of excavated material and demolition waste;
- Stockpiles/ storage of building materials;
- Regrading and filling of the surface levels;
- Trenching for services;
- Major building works involving concreting, painting and general construction;
- Use of large cranes;
- Parking for site personnel and deliveries;
- Paving and retaining walls and
- Landscaping.

Key Assumptions:-

- All excavations in close proximity to TPA's are to be undertaken and retained using sheet, soldier or contiguous piling techniques. Even relatively small excavations, when done near trees are to be retained using soldier piling or similar.
- Despite the above, the line of disturbance outside of the building line has been typically estimated at 2.5m from the face of the building to allow for provision of water proofing, services, access and scaffolding around the building during construction.
- Services for the building will enter and exit from Martin Close and will be clear of any retained trees TPAs

- Construction access and deliveries are to be made from Martin Close and Stronarch Avenue. Concrete will typically be pumped and will not require any truck movements through TPAs to deliver concrete.
- Where no spot levels are indicated it is assumed that the existing surface levels are retained.
- It is assumed that any new landscape grading within the TPAs will be minimal.
- Unless otherwise noted, that traditional cantilevered retaining wall footings will be used (ie: footings extending to the rear of the face of the wall, typically equalling the height of the wall).
- No works will be carried out in the Two Mile Creek riparian corridor that are close to existing trees within the corridor.

2.2 Climate and Microclimate

The site is located in the Hunter Valley, NSW and therefore would share the general climate of this region with moderate temperatures, good rainfall and minimal climatic and weather extremes. It is typically described as a temperate climate with hot to warm summers and cool winters, with relatively uniform rainfalls greater than 800mm/year. The drier months are typically July-September however there is no distinct dry season.

It has an average annual rainfall of 930mm, fairly evenly spread across the year but with a slightly drier period during the late winter and early spring months. The highest rainfall period is usually February and March with an average of 118mm and the driest month being August with an average of only 37mm.

Maximum average daily temperatures range from 30.0°C in January and to 17.5°C in July. The minimum average daily temperatures range from a high of 17.8°C in January down to lows of 6.2°C in July.

The primary wind direction is from the south-east in the afternoons while it is predominantly from the west and north-east in the mornings. The strongest winds (>40km/h) are normally experienced from the west or north-westerly directions both in the morning and afternoon. There are no prominent microclimatic influences visible on the site.

2.3 Soils and Landform

The site has a moderate slope generally to the west, towards the Two Mile Creek riparian corridor. Elevation ranges from approximately 19m near the Creek up to 25m at the area around the highest point near the Martin Close cul-de-sac (an elevation change of approximately 5m). On the proposed development site the slopes are typically grades around 1 in 16 to 1 in 10 (6% - 10% slopes).

The natural 'Soil-landscape Association' expected in this area is known as the 'Beresfield' Association. This is typically low to undulating hills on Permian sediments, typically overlying a mixture of shales, silt stones, mudstones, thin sandstones, coal and clays. The naturally occurring soils are moderately deep, but usually less than 1.2m. They usually consist of Yellow Podzolic soils, which can often be poorly drained on the lower slopes. Topsoils are typically brownish-black sandy or silty loams with a very pedal brown plastic clay subsoil. (1:100,000 Newcastle Soil Series, 1995)

A representative soil sample was taken (to 700mm depth) in the vicinity of the main group of trees in the north eastern portion of the site. There was evidence that the site topsoils are likely to be variously disturbed in some places. The profile that was taken exhibited evidence of some previous minor filling that had occurred over a relatively undisturbed natural soil profile. It would appear from the sampling that a thin layer of some excavated subsoil (unknown origin but assumed to be from the site) had been spread out (to about 200mm depth) and then topped by imported topsoil (approx. 100mm depth). The soil profile below this appeared to be more in-keeping with the naturally expected soil profiles and is therefore assumed to be representative of the remnant soils.

The sample displayed the following characteristics:

- The topsoil taken from 400mm below the surface (below the disturbed and assumed unnatural filled soil) had a neutral pH of 7.0 and was weakly pedal with fine sub-angular blocky peds. It was a sandy clay loam texture.
- The subsoil taken from 700mm depth was a strongly pedal soil with coarse angular and blocky peds. It was a heavy plastic brown clay. It had a moderately acidic pH of 5.0-5.5.
- The topsoils (both natural and the artificially placed material) appear relatively good quality and are likely to present very few problems in terms of future landscaping or tree retention. These topsoils will have reasonable nutrient and water holding capacity, while being reasonably free draining.

The clay filling material and the lower subsoils, however are very heavy clays and will potentially pose greater issues for waterlogging and potential soil compaction, if trafficked when moist or by heavy equipment. It will therefore be very important to ensure, during construction, that the tree protection areas are well protected and trafficking of the areas with any machinery is prohibited, particularly when the ground is wet or through the cooler months. The very heavy nature of the soils may also lead to waterlogging during particularly wet periods or if too

much irrigation is applied. Care will need to be exercised in the landscape design and implementation to ensure that excess water does not accumulate in any unnatural or localised low points which may lead to potential waterlogging and health issues for the existing trees and future landscaping.



Figure 5 – Typical Soil Profile to a depth of 700mm. (Photo: Arterra 15/4/2020)

2.4 Tree Assessment - General

The majority of the trees around the broader site occur within the Two Mile Creek riparian corridor and therefore outside the area of the site likely to be impacted by the proposed redevelopment works. These trees have not been included in this report except where within 10-15m of the site boundary.

A total of 103 trees were assessed for this report. A substantial number of those (72) are to be retained and protected. A total of 31 trees are recommended for removal, most of these are low retention value trees. All the trees as assessed having 'High' retention value are to be retained and protected. The trees to be retained and protected occur in three main groups with other individual trees distributed across the site. Refer to the following photos which illustrate these important stands of trees. The three main groups of trees are broadly identified as follows:

- Group 1 – 10 trees in the north-eastern corner of the site,
- Group 2 – 3 trees in the middle of the eastern site boundary between the two existing driveways and
- Group 3 – 7 trees in the south-east corner of the site.



Figure 6 – Group 1 is a significant stand of endemic trees and these have been a focus of tree retention on the project. (Photo: Arterra 15/4/2020)



Figure 7 – Group 2 is a significant stand of endemic trees and these have been a focus of tree retention on the project. It is proposed to retain existing ground levels around these trees. (Photo: Arterra 15/4/2020)



Figure 8 – Group 3 is a significant stand of endemic trees and these have been a focus of tree retention on the project. It is proposed to retain existing ground levels around the trees and a new retaining wall will be built in front of the existing level change in order to protect and retain the trees (Photo: Arterra 15/4/2020)

Numerous trees on and adjacent to the site are representative of the Lower Hunter Spotted Gum-Ironbark Forest (in the Sydney Basin Bioregion). This is an Endangered Ecological Community (EEC) listed under the *Biodiversity Conservation Act 2016* as being at risk of extinction unless threats affecting these areas are managed and reduced. The Lower Hunter Spotted Gum-Ironbark Forest is associated with the moderately fertile yellow podzolic and solodic soils of the Lower Hunter soil landscapes of Maitland, Aberdare, Branxton and Neath areas.

The most dominant trees that characterise this community are:

- *Corymbia maculata* (Spotted Gum)
- *Eucalyptus fibrosa* (Broad-leaved Ironbark)
- *Eucalyptus punctata* (Grey Gum).

Some of the other tree species most likely to be occurring naturally on the site include:

- *Eucalyptus acmenioides* (White Mahogany)
- *Eucalyptus agglomerata* (Blue-leaved Stringybark)
- *Eucalyptus globoidea* (White stringybark)
- *Eucalyptus moluccana* (Grey Box)
- *Eucalyptus paniculata* (Grey Ironbark)
- *Eucalyptus siderophloia* (Small-fruited Grey Gum)
- *Eucalyptus crebra* (Narrow-leaved Ironbark)
- *Eucalyptus tereticornis* (Forest Red Gum)
- *Eucalyptus umbra* (White Mahogany)
- *Syncarpia glomulifera* (Turpentine)

The prevalence of the above species is due to the heavy clay soils associated with the site and the proximity to the lower lying and riparian corridor. Some other species do occur within the Lower Hunter Spotted Gum-Ironbark Forest community but they typically occur west of Cessnock or on drier ridge locations.

The five most prevalent species recorded in this assessment on, or immediately adjacent, the site are:

- *Corymbia maculata* (Spotted Gum) – 44
- *Casuarina cunninghamiana* (Swamp She Oak) – 9
- *Eucalyptus fibrosa* (Red Ironbark) – 8
- *Eucalyptus paniculata* (Grey Box) – 5
- *Eucalyptus punctata* (Grey Gum) – 5

The remainder of the population (32 trees) is made up of a variety of species represented by no more than 1-3 individual specimens. Detailed information on each tree including; heights, trunk diameters, canopy spreads, age classes and condition are all provided in Appendix 4.3 - 'Tree Impact Assessment Schedule'.



Figure 9 – Numerous existing endemic trees occur along the adjoining riparian corridor of Two Mile Creek. It is proposed to retain existing ground levels and avoid disturbance around these trees that are mostly outside the site's boundaries. (Photo: Arterra 15/4/2020)

2.5 Tree Biology and Tree Care Basics

Trees are dynamic living organisms. Trees can be very susceptible to damage, stress and declining rapidly if overly impacted by construction. Trees take decades to grow but can be injured and killed in a very short time frame. This is particularly due to the irreparable damage to the often shallow, extensive and unseen root systems. It is rarely possible to repair a stressed or damaged tree, after the damage has occurred. Proper protection is the key to minimising construction related impacts. Severing of roots within the Structural Root Zone (SRZ) can also lead to potentially unsafe instability of the tree as a structure.

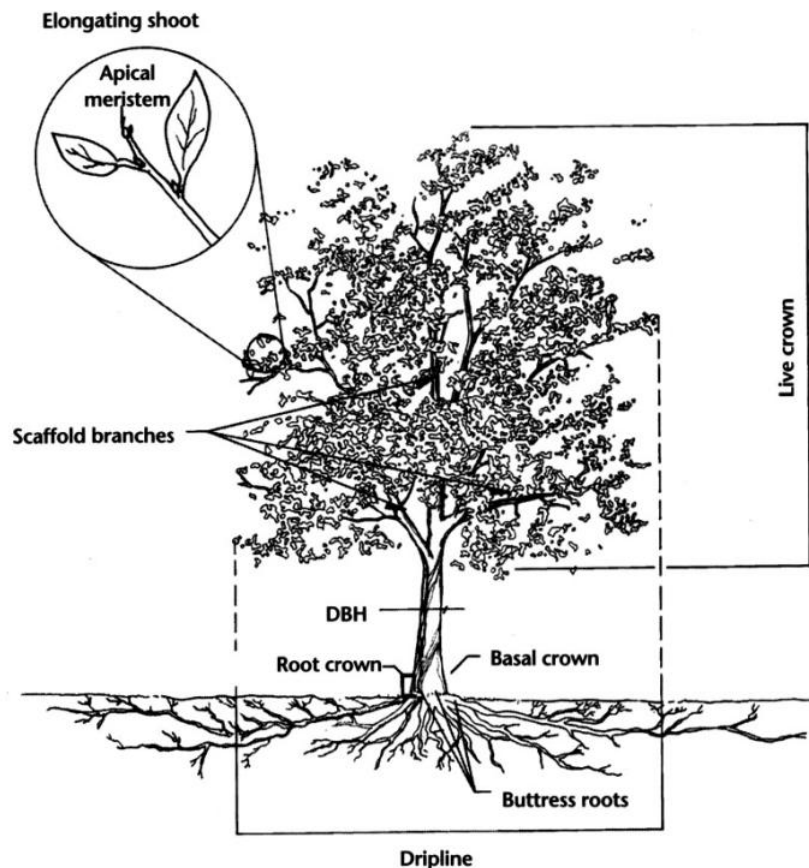


Figure 10 – Typical form and structure of a tree illustrating the typical form, location and extent of root growth (Source: Matheny and Clark, 1998)

Basic Tree Needs

As a living organism a tree remains alive by completing the following chemical reaction -
Carbon Dioxide and water in combination with chlorophyll and light is converted to Glucose and Oxygen [CO₂ + H₂O + light = sugar (CH₂O [Glucose]) + O₂]

The process ultimately leads to the plant cells 'respiring' and producing energy for survival, a natural requirement for all living cells. Anything that affects a plant's photosynthesis and then cellular respiration will affect the overall plant health. The limiting factors of photosynthesis and respiration will typically be the availability of oxygen, water and nutrients that make up the important chemical molecules and reactions.

Trees therefore have five basic requirements to survive and successfully grow:-

1. Oxygen (and particularly oxygen within the soil);
2. Water (a cellular necessity and primarily taken up by the tree roots);
3. Light & Sufficient Foliage (in order to photosynthesise and create the resources needed for cellular survival);
4. Soil (for physical anchorage and critical chemical nutrients) and
5. Physical Space (both above and below ground to grow).

Importantly, a minimum of 15% soil oxygen is required for active root growth and nutrient uptake. Less than 10% available soil oxygen starts to restrict root extension and growth and a minimum of 3% soil oxygen is required to just maintain root existence. Less than this will result in root death (Harris 1999).

One of the most insidious affects of construction on trees is often that of soil compaction or covering of root zones with impervious surfaces, as it:-

- Reduces infiltration rates of surface water;
- Reduces the availability of water to the roots as they can't naturally extract remaining moisture when soil becomes too dry;
- Reduces air to roots (roots cease to function properly and die without oxygen);
- Increased soil strength caused by compaction mean that roots need more energy to growth through it or can't even physically penetrate the soil;
- Roots are physically broken or crushed and there is increased potential for fungal and pathogen attack. (Harris 1999).

Tree Tolerance

Typically older and larger trees are less tolerant of construction impacts. Different species also have different tolerance of injury and disturbance. Importantly it needs to be stressed, that a tree does not "heal" from injury as animals do. Typically any injury made to a tree results in the tree expending considerable energy reserves to create new growth that "seals" and surrounds a wound and then attempting to compensate structurally and physically for any losses. Impacts to trees are therefore cumulative and a series of otherwise small and unrelated impacts can easily result in the death of a tree.

A tree that is already compromised or showing signs of stress is far less likely to tolerate construction impacts due to its lower levels of energy reserves and already weakened state. Therefore a tree that is only in a fair condition or poor condition is less likely to tolerate construction impacts than a young tree in good or excellent condition.

Weakened or stressed trees are also far less able to combat the myriad of normal environmental stresses and pathogens that are naturally imposed against them such as drought, decay, fungi, bacteria and insect pests.

2.6 Tree Impact Assessment

The intention of this assessment is to clearly illustrate the trees to be retained and removed as part of the development. It is also to determine any incursions into the retained trees' root zones and canopies by the proposed development and evaluate the likely impact of the proposed works on the trees. A detailed listing of the incursions and likely impacts of the proposed development on each tree is shown in Appendix 4.3 – Tree Impact Assessment Schedule.

Of the 103 trees assessed:-

- 31 are within the footprint of the proposed building or earthworks and require removal;
- 63 have no or minimal foreseeable impacts from construction related activity;
- 7 have minor encroachments as defined under AS 4970;
- 2 have major encroachments as defined under AS 4970.

Table 1: Trees Retained & Removed by Retention Value

Retention Value	Total No. Trees	Trees Retained	Trees Removed
High	37	37 (100%)	0
Moderate	34	25 (74%)	9 (26%)
Low	30	9 (30%)	21 (70%)
Very Low / Remove	2	1 (50%)	1 (50%)
Qty	103	72	31

Table 2: Tree Impacts - Incursion into nominal TPZ

Tree ID #	Species	Common	Retention Value	TPZ Incursion %
T174	<i>Eucalyptus fibrosa</i>	Broad-Leaved Ironbark	High	2%
T208	<i>Corymbia maculata</i>	Spotted Gum	High	15%
T209	<i>Corymbia maculata</i>	Spotted Gum	Moderate	10%
T210	<i>Corymbia maculata</i>	Spotted Gum	High	9%
T222	<i>Corymbia maculata</i>	Spotted Gum	High	7%
T226	<i>Corymbia maculata</i>	Spotted Gum	High	5%
T241	<i>Corymbia citriodora</i>	Lemon-scented Gum	High	5%
T245	<i>Eucalyptus nicholli</i>	Narrow-leaved Black Peppermint	Low	7%
T246	<i>Corymbia maculata</i>	Spotted Gum	High	11%

Most incursion have been maintained at very minor incursions, less than 10%, which is considered acceptable. The two trees with, what may be termed, major encroachments are discussed further below and also outlined graphically in Appendix 4.2 TP-02 - Tree Protection and Removal Plan.

Tree 208 - *Corymbia maculata* (Spotted Gum)

This tree has a nominal TPZ radius of 6.96m and is located between the two site driveways off Martin Close. It is mature and in good condition.

The cause of the likely incursion from the proposed development will be from the relatively minor excavation for an adjoining pedestrian pathway and the proposed new electrical kiosk which needs to be located adjoining the road reserve. The incursion is approximately 15% of the nominal TPZ. Although technically considered a major incursion, it is the author's opinion that this level of disturbance is acceptable due to the following reasons.

- A suitable area outside of the nominal TPZ, but contiguous with it, is to be retained and compensates for the slightly greater incursion. An existing carpark already occurs very close to the tree to the south.
- The adjoining pathway levels are very close to the existing levels and should only result in relatively shallow excavations and therefore roots located deeper than 250mm will likely be retained, despite being calculated as fully impacted. Some of this area is already partially included within an existing car parking area and therefore roots are likely to be deeper in this area, if they occur at all.
- Excavations and trenching for the electrical kiosk are occurring in an area already disturbed by brick walling and previously occupied by other small trees that were recently removed (in late 2019 or early 2020).
- The tree shares a generous Tree Protection Area with adjoining similar species
- The tree is currently healthy and vigorous and should withstand the nominal 15% incursion.
- Work will be done to improve the growing conditions surrounding the tree the removal of grasses and mulching of the tree surrounds and supplementary irrigation during construction.



Figure 10 – Area adjacent to T208 illustrating the existing impacts of walling and carpark in the vicinity of the tree. (Photo: Arterra 17/2/2020)

Tree 246 - *Corymbia maculata* (Spotted Gum)

This tree is located in the neighbouring property of No. 44 Stronach Ave and has a nominal TPZ radius of 6.00m. It is mature and in good condition. The calculated incursion is only very marginally over the acceptable 10% incursion and it is the author’s opinion that this level of incursion is acceptable and likely to have only a very limited impact on the health and condition of the tree. The incursion is from the construction of a low-key access trail and the level of excavation is likely to be extremely shallow in the vicinity of the tree and therefore roots lower than 250mm below ground level are likely to be able to be retained, despite the worst case scenario being calculated.

Other noted Tree Impacts

The remaining impacts to existing trees, that are proposed to be retained, are typically very minor surface impacts for the construction of minor pedestrian pathways. These will be designed and installed to be at or above existing ground levels when within TPAs and therefore the root loss is expected to be very minimal.

For example, the proposed accessible boardwalk in the northern portion of the site is designed to be a slightly elevated walkway and has been located outside the trees’ SRZ’s. Supports for the walkway shall be via low impact screw piling. Temporary mulching of the ground surface will help limit the soil compaction and other disturbances during construction.



Figure 11 – Area adjacent to important trees T222-229 illustrating the low impact construction of a pedestrian boardwalk that will float just above the existing ground levels and be supported by screw piles. No grading or services are proposed in the TPA. All boardwalk work is contained outside of the SRZ of the trees. (Image Source: Arterra accurate site model render)

2.7 Potential Tree Related Impacts to be Managed During Construction

The main potential impacts from the proposed construction activity can be summarised as tree damage and 'reduced life expectancy' caused by:-

- Root loss and disturbance due to excavations for building, driveway or services;
- Compaction of the root zone from storage and stockpiling of materials;
- Contamination of the soil from; the preparation of chemicals, wash down/ cleaning of equipment, refuelling of vehicles and dumping of waste;
- Compaction of the root zone from temporary haul roads and the parking of vehicles/ plant equipment;
- Root disturbance from cut and fill and soil level changes;
- Physical damage to the tree trunks and branches from passing machinery;
- Damage to the tree roots from landscaping and pedestrian pathway construction.

The following Section provides the recommendations and proposed measures that aim to minimise and avoid these impacts as much as realistically possible.

3.0 TREE MANAGEMENT RECOMMENDATIONS

3.1 Potential Amendments to Site Layout and Design

The landscape concept design and proposed building layout have been developed in consultation with the Client and Architects. Arterra, as both the consulting arborists and landscape architects for the project have aimed to minimise the impact on the existing site trees to be retained and the design has been modified to this effect wherever possible. The trees noted for removal, as well as those to be retained, have been given careful consideration and recommendation for removal has not been given lightly.

As the current design has been developed in consultation with the consulting arborist, appropriate changes have been implemented throughout the design development process to accommodate existing trees wherever possible. On this basis there are no recommendations to alter the design further at this time, for arboricultural reasons.

3.2 Key Recommendations to Reduce Tree Impacts

The following recommendations are made to potentially reduce the negative construction impacts on the trees.

- Ensure that an appropriately qualified Arborist is on site and supervises all demolition work within the identified TPAs.
- Appropriately fence all TPAs outside of the already noted incursion for the duration of all major site construction work. See Appendix 4.2 TP-02 'Tree Protection & Removal Plan' for locations.
- Carefully control and fence access to and from the construction area so that movement does not occur through any TPAs.
- Ensure all the above and below ground services are excluded from running through any TPAs beyond the already noted incursions.
- Minimise the re-grading of the ground surface within the TPA, beyond the noted building incursion, to meet and match proposed pathways and building levels. Where it is required, limit it to a maximum depth of 300mm above existing ground levels and ensure it is only quality sandy manufactured organic garden mix. No excavation below existing levels is allowed.
- Mulching of the entire identified TPAs, beyond the noted building incursion, for all retained trees as noted on the Tree Protection and Removal Plan. This will aid tree health with moisture retention, remove competition from grasses, and improve soil condition within the TPAs.
- Avoid digging into existing root zones for the installation of the proposed landscaping around the trees and installation sizes of new plants to be 5L or less to ensure that excavations are less than 200mm in depth. Build up soil levels when planting to a maximum of 200mm to enable the planting to occur without disturbing roots.
- Do not allow storage or stockpiling of any materials or site sheds within established TPAs unless that it can be demonstrated that this will not impact on the tree retention and is approved in writing by the Consulting Arborist.

3.3 Proposed Tree Protection & Construction Activity Sequencing

The following sequence of activities should be followed for this project: -

1. A Tree Protection Specification & Plan be prepared and issued as part of the construction contract prior to any construction work.
2. Project Consulting Arborist, Landscape Architect, Civil and Structural Engineers, Client and Contractors Site Foreman are to meet prior to beginning any work on the site to discuss and review all work procedures, construction access routes, stockpiling and tree protection measures (ie: fence types and locations, access, craneage points, piling methods etc.).
3. Contractor's to discuss locations and type of any sediment and erosion controls (if any) and install them with minimal tree impact when within or passing through the TPAs.
4. Existing pathways, fences, driveways, furniture and shrubs are to be carefully removed from within the TPAs.
5. Existing surrounding trees are to be removed. Stumps are to be ground to avoid the use of excavators and the like from grubbing out stumps, which may lead to damage of any intertwined roots when within TPAs.
6. Designated TPAs are to be mulched with 75mm of recycled hardwood woodchip mulch to improve soil conditions around tree and remain in place until future landscaping.
7. Trunk protection to be placed on all trees to be retained where noted on Tree Protection and Removal Plan.
8. The Construction Phase TPA is to be defined and fenced off with a 1.8m high metal or plywood temporary fence prior to any further work within the vicinity of the trees. Any required rumble boards installed to protect TPAs where access is required and can't occur elsewhere.
9. Install temporary irrigation system to TPAs where noted or if instructed by the Project Consulting Arborist.
10. A utility Arborist is to undertake selective pruning of canopy or branches to facilitate construction of the building and the use of any large scale piling equipment without accidental damage to the tree canopy.

Pruning to be done in accordance with AS4373 - Pruning of Amenity Trees and performed by staff with minimum AQF 3 arboricultural qualification.

11. Plywood is to be placed under any scaffolds or works paths when running through TPAs
12. Building works to be completed (external).
13. Contractor to remove the TPZ fencing and then install final pathways and landscaping within the TPA under the trees, only after construction of the building exterior is completed.

3.4 Demolition Work Near Trees or within TPZs

Demolition of paths and other structures required within a TPZ shall be done with small tracked equipment or by hand, with care to limit damage and disturbance of the root zone. All such work within TPZs shall be supervised and overseen by a qualified Project Consulting Arborist.

3.5 Tree Protection Fencing & Definition of TPZs

Establish a clearly defined tree protection zone as indicated in Appendix 4.2 - "T-02 Tree Protection and Removal Plan". Install a 1.8m high temporary fence with either plywood hoarding or temporary steel mesh or chain wire fencing with adequate lateral bracing. Fencing shall comply with the requirements of AS 4687-2007 Temporary fencing and hoardings. These areas around the trees shall be delineated as a "Tree Protection Zone" during the remaining construction process, via appropriate weatherproof signage. Access will typically be excluded from these zones and the levels will be left largely at the existing levels with the exception of the installation of the 75mm of mulch. No stockpiling, excavation, trenching, re-fuelling or material storage should be allowed in this area.

3.6 Ground Protection within TPZs

Vehicular movement and access shall typically not be required or approved through the TPZ areas. If it is necessary and it is proposed to create any access or haul road, or similar, within the TPZ of a retained tree, the Contractor shall install rumble strips / boards over the TPZ ground surface. No excavation shall be allowed. Contractor shall first place a suitable permeable geotextile to the extent required and then a 100mm thick layer of wood chip mulch or coarse no-fines gravel over the extent to be covered with the rumble strip / boards. Then place hardwood boards (minimum 3600 x 200 x 75mm) on their flat edge, side by side, with a 30 - 50mm gap to form a rumble strip. These boards are to be held together with three galvanised metal bracing straps nailed to each board. The two outer straps are to be approximately 200mm in from the ends of the boards. The third strap is to be along the centre line of the boards.



Figure 10 – Example of acceptable Tree Protection Area ground protection

3.7 Trunk and Lower Branch Protection

A trunk barrier is to be erected around the circumference of the tree trunk and trunk flare and root buttress. This barrier will consist of a double layer of suitable 'used' artificial grass matting, carpet or carpet underfelt placed

around the trunk. A layer of battens is to be placed over the underfelt. The battens are to have a maximum spacing of 50-100mm. The height of the battens is to be 2 metres or to the height of the first branches. Lower large branches may require the same protection if they are likely to be damaged by passing vehicles or equipment. Secure in place with galvanised steel bracing straps. Do not nail into or otherwise injury the trunk or bark. Battens may be made from any suitable waste timber of similar sizes and depths. All sharp or protruding edges are to be properly covered with tape or similar padding.



Figure 11 – Example of acceptable Trunk Protection batten installation

3.8 Provision of Temporary Irrigation

A temporary and automated (battery powered timer is sufficient) watering system to be placed within the identified TPAs (within the site only) to maintain adequate water to the retained trees and help maintain their healthy condition. This can be a surface mounted 'residential-style' soaker hose and/or surface sprinkler systems. It is to be surface visible and spray delivered so that its operation can be easily visible and verified. It should be on a designated supply line, separate from other construction related water supplies to minimise its likelihood of being disconnected.

Typically, during spring and summer months it should be set to run for a minimum of 20 minutes every day, in the early morning. During, autumn and winter months it should be set to run for 30 minutes once every week. The operation can be suspended temporarily in periods of extensive and prolonged rain.

The system is to remain in place for the duration of construction, or until the project consulting arborist approves its removal. It may be removed to allow final landscape treatments to proceed. If accidentally disturbed or damaged by construction activities, it is to be reinstated as soon as practicable.

3.9 Final Landscaping within TPZs

Once final levels are set by the finished structural elements. The final trimming and landscaping shall be judiciously undertaken. The final pedestrian pavements shall be installed without undue excavation or compaction to the soil and all soft landscaping within the tree protection zone will be installed with care to avoid root disturbance via irrigation trenching, lighting installation and the planting of larger plants. The installation of 100-200mm of new

garden mix topsoil over the pre-existing soil will provide a suitable medium in which to plant new plants without damage to existing tree roots. Permanent irrigation (if used) shall be installed as spray heads located outside of TPZs and spraying inwards. All other services such as electrical services shall also be designed and installed to avoid any excavation or trenching around the trees.

3.10 Final Building and Pedestrian Clearance Pruning

Once the final levels and finishes are in place the Project Consulting Arborist shall supervise the selective pruning of any lower peripheral branches to retained trees to achieve any clearances for final pedestrian access. This shall be minimised as much as possible. It is anticipated that the final pruning of any of the retained trees will be less than 5% of the existing canopy and will not have any serious impact to the trees' health or habit.

The branches of the tree shall only be pruned as specifically needed and directed by the Project Consulting Arborist. Work is to be in strictly accordance with AS4373 - Pruning of Amenity Trees. Do not treat wounds. Only clean, sharp pruning implements shall be used for all pruning work, ensuring that cuts are made without damage, tearing or bruising of the vascular tissue.

3.11 Other Tree Protection Measures to be Implemented

The following is a summary of the main measures that will be required during construction. These should be adopted for the Construction Contract and conditioned by Council.

Controlled Construction Access & Parking

Construction access points and stockpiling and storage areas shall be clearly identified and fenced where appropriate. Uncontrolled access points and parking of vehicles outside of designated areas is to be avoided. If temporary access is required through a tree protection zone, ground protection shall be employed to limit soil compaction and root damage and disturbance.

Clearing and Removal of Trees to be Removed

Removal and clearing of existing trees should be done by qualified arboricultural staff with care not to impact or damage other surrounding trees throughout the process. Existing stumps should be grubbed out or ground in a controlled fashion to remove wood that may decay and promote unwanted pathogens.

Communication - Tool Box Meetings and Construction Inductions

All contractors and subcontractors shall be inducted prior to working on the site. All inductions shall include description and identification of the Tree Protection Zones and the restriction on work and activities with regard to trees. The site foreman shall ensure that all new staff and contractors are appropriately inducted and that brief "tool box" meetings are conducted regularly to ensure Tree Protection is maintained at the forefront of all construction workers minds.

3.12 References

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- Wrigley J.W. and Fagg M. 1996, *Australian Native Plants: Propagation, Cultivation and Use in Landscaping*, 4th Ed. Reed Books, Sydney, NSW.

- End of report.

4.0 APPENDICES

4.1 T-03 Tree Retention Value Plan



Tree Retention Value Legend

- High Retention value
- Moderate Retention value
- Low Retention value
- Very Low Retention value (should remove)
(Note: no TPZ's shown for these trees)
- Nominal Tree Protection Zone (TPZ)
- Tree Identification Number

NOTE
 Refer to the accompanying **Arboricultural Impact Assessment Report** for full description of trees, measurements and methods used to assess the trees, and proposed tree protection measures.

TREE RETENTION VALUE NOTES

The proposed retention value of the trees was determined based on a considered combination of the size, age, condition and suitability of the tree. Each tree was then ranked according to one of 4 retention categories:

1. **"High" Retention Value** — these are trees that are typically in good or very good condition, large and visually prominent, historically or environmentally important. They should represent a serious physical constraint to development and their removal avoided where possible and feasible.
2. **"Moderate" Retention Value** — these are trees that are in good to reasonable condition, with no major structural defects and could be retained where possible and feasible to do so.
3. **"Low" Retention Value** — these are trees that are of poor condition or have structural defects, are particularly small or common place, are not historically, environmentally or socially significant and should not be considered as a constraint to development. They could be retained only if they are not likely to be impacted by or constrain potentially desirable development outcomes.
4. **"Very Low" Retention Value** — these are trees that are in very poor health, or poor form, or have serious structural defects, are considered weeds or combination of all these, and therefore should be considered for removal regardless of any development.

Consideration has also been given to the relationship of the trees to one another and their proximity to the likely development areas on the site. For example, trees that are part of a closely spaced group, or are likely to be significantly misshapen or unstable with the removal of surrounding trees and structures are considered with these factors in mind.



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REVISION	DESCRIPTION	CHKD	DATE
A	Issue for Development Application	RWS	11/06/20

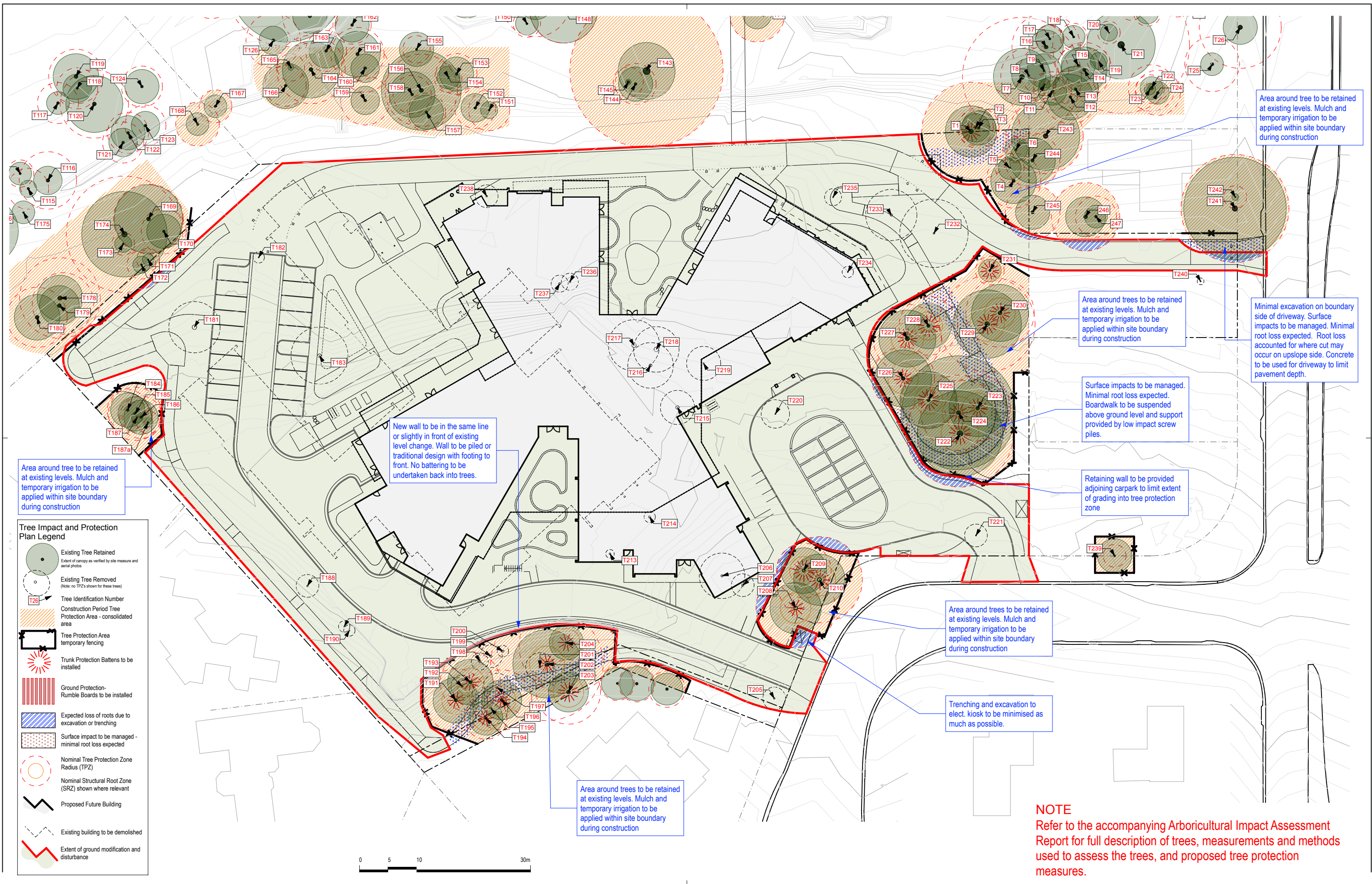
PROJECT & CLIENT
Residential Aged Care Facility

Fresh Hope Care
 DRAWING TITLE
Tree Retention Value Plan

Project No : 20.01
 Designed : RWS
 Drawn : RWS/BT
 North Scale : 1:300@A1/1:600@A3

DRAWING NUMBER
T-03 REVISION
A

4.2 T-04 Tree Protection and Removal Plan



Area around tree to be retained at existing levels. Mulch and temporary irrigation to be applied within site boundary during construction

New wall to be in the same line or slightly in front of existing level change. Wall to be piled or traditional design with footing to front. No battering to be undertaken back into trees.

Area around tree to be retained at existing levels. Mulch and temporary irrigation to be applied within site boundary during construction

Area around trees to be retained at existing levels. Mulch and temporary irrigation to be applied within site boundary during construction

Minimal excavation on boundary side of driveway. Surface impacts to be managed. Minimal root loss expected. Root loss accounted for where cut may occur on upslope side. Concrete to be used for driveway to limit pavement depth.

Surface impacts to be managed. Minimal root loss expected. Boardwalk to be suspended above ground level and support provided by low impact screw piles.

Retaining wall to be provided adjoining carpark to limit extent of grading into tree protection zone

Area around trees to be retained at existing levels. Mulch and temporary irrigation to be applied within site boundary during construction

Trenching and excavation to elect. kiosk to be minimised as much as possible.

Area around trees to be retained at existing levels. Mulch and temporary irrigation to be applied within site boundary during construction

Tree Impact and Protection Plan Legend

- Existing Tree Retained
Extent of canopy as verified by site measure and aerial photos
- Existing Tree Removed
(Note: no TPZs shown for these trees)
- Tree Identification Number
- Construction Period Tree Protection Area - consolidated area
- Tree Protection Area temporary fencing
- Trunk Protection Battens to be installed
- Ground Protection-Rumble Boards to be installed
- Expected loss of roots due to excavation or trenching
- Surface impact to be managed - minimal root loss expected
- Nominal Tree Protection Zone Radius (TPZ)
- Nominal Structural Root Zone (SRZ) shown where relevant
- Proposed Future Building
- Existing building to be demolished
- Extent of ground modification and disturbance



NOTE
Refer to the accompanying **Arbicultural Impact Assessment Report** for full description of trees, measurements and methods used to assess the trees, and proposed tree protection measures.



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REVISION	DESCRIPTION	CHKD	DATE
A	Issue for Development Application	RWS	11/06/20

PROJECT & CLIENT
Residential Aged Care Facility
Fresh Hope Care

Project No : 20.01
Designed : RWS
Drawn : RWS/BT
North Scale : 1:300@A1/1:600@A3

DRAWING NUMBER
Tree Protection & Removal Plan

REVISION
T-04

Plotted at : 6:22 pm 11/6/20

4.3 Tree Impact Assessment Schedule

Fresh Hope Care Maitland - Tree Assessment Schedule

Tree ID	Trees in Group	Tree Species	Common Name	Height (m)	Spread (m)	Trunk Diameter Breast Height (dbh) (m)	Trunk Diameter at base (dgl) (m)	Nominal TPZ radius (m) 12xdbh (AS 4970)	Nominal SRZ radius (m) (AS 4970)	Age Class	Current Vigour	Current Form	Tree Type	Defects	SULE	Retention Value	General Comments and Notes	Incursion and Impact	Recommendation
1	1	<i>Corymbia maculata</i>	Spotted Gum	24.0	9.0	0.72	0.80	8.64	3.01	Mature	Fair	Average	Evergreen	Cavity, Branch Tearouts	Long (>40 years)	High	Hollow bearing tree, high environmental significance.	In riparian corridor, nil impacts expected	Retain and Protect
2	1	<i>Corymbia maculata</i>	Spotted Gum	12.0	5.0	0.26	0.30	3.12	2.00	Over-mature	Fair	Poor	Evergreen	Branch Tearouts	Long (>40 years)	Low	Damage from tearout, somewhat suppressed by nearby trees. Very close to adjoining trees	In riparian corridor, nil impacts expected	Retain and Protect
3	1	<i>Corymbia maculata</i>	Spotted Gum	18.0	6.0	0.30	0.40	3.60	2.25	Mature	Fair	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
4	1	<i>Corymbia maculata</i>	Spotted Gum	24.0	8.0	0.40	0.50	4.80	2.47	Mature	Good	Good	Evergreen	Branch Tearouts	Long (>40 years)	High	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
5	1	<i>Corymbia maculata</i>	Spotted Gum	12.0	4.0	0.21	0.30	2.52	2.00	Mature	Fair	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
6	1	<i>Corymbia maculata</i>	Spotted Gum	10.0	4.0	0.19	0.30	2.28	2.00	Mature	Fair	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
7	1	<i>Eucalyptus paniculata</i>	Grey Ironbark	23.0	10.0	0.87	0.80	10.44	3.01	Mature	Fair	Average	Evergreen	Co-dominant Stems	Long (>40 years)	High	Co-dominant from 1.4 metres, otherwise appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
8	1	<i>Eucalyptus paniculata</i>	Grey Ironbark	10.0	6.0	0.41	0.55	4.92	2.57	Mature	Fair	Average	Evergreen	Co-dominant Stems	Long (>40 years)	Moderate	Tri-dominant from base, otherwise appears structurally sound	In riparian corridor, nil impacts expected	Retain and Protect
9	1	<i>Corymbia maculata</i>	Spotted Gum	20.0	6.0	0.36	0.36	4.32	2.15	Mature	Fair	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
10	1	<i>Corymbia maculata</i>	Spotted Gum	9.0	2.0	0.12	0.20	2.00	1.68	Semi-mature	Fair	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
11	1	<i>Eucalyptus globoides</i>	White Stringybark	10.0	5.0	0.28	0.50	3.36	2.47	Mature	Fair	Average	Evergreen	Deadwood-Minor, Tip Dieback	Long (>40 years)	Moderate	Minor deadwood noted.	In riparian corridor, nil impacts expected	Retain and Protect
12	1	<i>Corymbia maculata</i>	Spotted Gum	20.0	8.0	0.39	0.40	4.68	2.25	Mature	Fair	Average	Evergreen		Long (>40 years)	Moderate	End-weighted Branches over adjoining property.	In riparian corridor, nil impacts expected	Retain and Protect
13	1	<i>Eucalyptus paniculata</i>	Grey Ironbark	16.0	8.0	0.33	0.40	3.96	2.25	Mature	Good	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
14	1	<i>Corymbia maculata</i>	Spotted Gum	22.0	8.0	0.44	0.50	5.28	2.47	Mature	Fair	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
22	1	<i>Eucalyptus globoides</i>	White Stringybark	16.0	4.0	0.34	0.50	4.08	2.47	Mature	Fair	Average	Evergreen	Epicormic Growth, Tip Dieback	Long (>40 years)	Moderate	Appears structurally sound. Relatively sparse canopy and extensive epicormic growth.	In riparian corridor, nil impacts expected	Retain and Protect
23	1	<i>Eucalyptus paniculata</i>	Grey Ironbark	11.0	2.0	0.21	0.30	2.52	2.00	Semi-mature	Good	Average	Evergreen		Long (>40 years)	Moderate	Appears structurally sound. Growing immediately adjacent to adjoining tree.	In riparian corridor, nil impacts expected	Retain and Protect
24	1	<i>Eucalyptus globoides</i>	White Stringybark	12.0	4.0	0.33	0.40	3.96	2.25	Mature	Fair	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
143	1	<i>Eucalyptus punctata</i>	Grey Gum	20.0	10.0	1.12	1.20	13.44	3.57	Mature	Fair	Average	Evergreen	Cavity, Epicormic Growth, Deadwood-Minor, Branch Tearouts, Decay-Minor	Long (>40 years)	High	Hollow bearing tree, high environmental significance, large basal wound, epicormic growth.	In riparian corridor, nil impacts expected	Retain and Protect
144	1	<i>Corymbia maculata</i>	Spotted Gum	20.0	6.0	0.30	0.40	3.60	2.25	Mature	Fair	Average	Evergreen	Asymmetric Canopy	Long (>40 years)	Moderate	Asymmetrical form.	In riparian corridor, nil impacts expected	Retain and Protect
145	1	<i>Corymbia maculata</i>	Spotted Gum	11.0	1.0	0.22	0.25	2.64	1.85	Over-mature	Fair	Poor	Evergreen	Epicormic Growth	Long (>40 years)	Low	Damaged, stump sprout.	In riparian corridor, nil impacts expected	Retain and Protect
151	1	<i>Melaleuca styphelioides</i>	Prickly Paperbark	10.0	3.0	0.30	0.24	3.60	1.82	Semi-mature	Good	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
152	1	<i>Eucalyptus paniculata</i>	Grey Ironbark	12.0	5.0	0.30	0.40	3.60	2.25	Mature	Good	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
156	1	<i>Eucalyptus punctata</i>	Grey Gum	18.0	14.0	0.53	0.65	6.36	2.76	Mature	Fair	Average	Evergreen	Deadwood-Minor	Long (>40 years)	Moderate	Minor deadwood noted, basal wound.	In riparian corridor, nil impacts expected	Retain and Protect
157	1	<i>Eucalyptus tereticornis</i>	Forest Red Gum	17.0	6.0	0.28	0.40	3.36	2.25	Semi-mature	Fair	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
158	1	<i>Eucalyptus punctata</i>	Grey Gum	10.0	8.0	0.28	0.40	3.36	2.25	Mature	Fair	Suppressed	Evergreen	Asymmetric Canopy, Lean-Minor	Medium (15-40 years)	Low	Major asymmetry, suppressed by adjoining tree.	In riparian corridor, nil impacts expected	Retain and Protect
159	1	<i>Glochidion ferdinandi</i>	Cheese Tree	10.0	5.0	0.36	0.40	4.32	2.25	Mature	Good	Average	Evergreen		Long (>40 years)	High	Structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
167	1	<i>Salix sp.</i>	Willow	4.0	4.0	0.24	0.40	2.88	2.25	Young	Fair	Average	Deciduous		Remove (<5 years)	V Low / Remove	Invasive species in riparian environments. Should be removed for environmental reasons.	In riparian corridor, nil impacts expected	Retain and Protect
168	1	<i>Eucalyptus fibrosa</i>	Broad-leaf Red Ironbark	12.0	4.0	0.32	0.40	3.84	2.25	Mature	Good	Good	Evergreen	Deadwood-Minor	Long (>40 years)	High		In riparian corridor, nil impacts expected	Retain and Protect
169	1	<i>Corymbia maculata</i>	Spotted Gum	19.0	12.0	0.51	0.60	6.12	2.67	Mature	Good	Average	Evergreen	Deadwood-Minor	Medium (15-40 years)	High	Some deadwood.	In riparian corridor, nil impacts expected	Retain and Protect
170	1	<i>Corymbia maculata</i>	Spotted Gum	18.0	6.0	0.33	0.40	3.96	2.25	Mature	Fair	Poor	Evergreen	Asymmetric Canopy	Long (>40 years)	Moderate	Bow in trunk, asymmetrical form.	In riparian corridor, nil impacts expected	Retain and Protect
171	1	<i>Corymbia maculata</i>	Spotted Gum	5.0	2.0	0.13	0.21	2.00	1.72	Semi-mature	Fair	Average	Evergreen		Long (>40 years)	Moderate	Appears structurally sound. Mistletoe.	In riparian corridor, nil impacts expected	Retain and Protect
172	1	<i>Corymbia maculata</i>	Spotted Gum	9.0	3.0	0.21	0.25	2.52	1.85	Semi-mature	Good	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
173	1	<i>Corymbia maculata</i>	Spotted Gum	9.0	3.0	0.15	0.20	2.00	1.68	Semi-mature	Fair	Average	Evergreen		Long (>40 years)	Moderate	Appears structurally sound.	In riparian corridor, nil impacts expected	Retain and Protect
174	1	<i>Eucalyptus fibrosa</i>	Broad-leaf Red Ironbark	22.0	15.0	0.85	0.90	10.20	3.17	Mature	Fair	Average	Evergreen	Deadwood-Minor, Branch Tearouts, Epicormic Growth	Long (>40 years)	High	Minor deadwood noted. Mistletoe in upper canopy. Major spout hollow on lower branch	In riparian corridor, very minor impacts expected due to localised filling to east of tree. 2% Incursion.	Retain and Protect
178	1	<i>Corymbia maculata</i>	Spotted Gum	18.0	8.0	0.59	0.70	7.08	2.85	Mature	Fair	Average	Evergreen	Termites, Co-dominant Stems	Long (>40 years)	Moderate	Co-dominant from base. Appears structurally sound, termite nest at base of tree.	In riparian corridor, nil impacts expected	Retain and Protect
179	1	<i>Eucalyptus fibrosa</i>	Broad-leaf Red Ironbark	15.0	7.0	0.45	0.60	5.40	2.67	Over-mature	Fair	Poor	Evergreen	Epicormic Growth, Termites, Asymmetric Canopy	Short (5-15 years)	Low	Extensive epicormic growth, wound seam in trunk, termite nest at base.	In riparian corridor, nil impacts expected	Retain and Protect
180	1	<i>Corymbia maculata</i>	Spotted Gum	12.0	8.0	0.44	0.60	5.28	2.67	Mature	Fair	Average	Evergreen	Deadwood-Minor	Medium (15-40 years)	Moderate	Mistletoe, minor deadwood.	In riparian corridor, nil impacts expected	Retain and Protect
181	1	<i>Ficus obliqua</i>	Small-leaved Fig	10.0	9.0	0.49	0.80	5.88	3.01	Semi-mature	Good	Average	Evergreen	Inclusions, Co-dominant Stems	Long (>40 years)	Moderate	Exposed roots. Multi stemmed with inclusions.	Within building and grading footprint	Remove

Tree ID	Trees in Group	Tree Species	Common Name	Height (m)	Spread (m)	Trunk Diameter Breast Height (dbh) (m)	Trunk Diameter at base (dgl) (m)	Nominal TPZ radius (m) 12xdbh (AS 4970)	Nominal SRZ radius (m) (AS 4970)	Age Class	Current Vigour	Current Form	Tree Type	Defects	SULE	Retention Value	General Comments and Notes	Incursion and Impact	Recommendation
182	1	<i>Morus nigra</i>	Mulberry	3.5	3.0	0.11	0.20	2.00	1.68	Young	Good	Average	Deciduous		Medium (15-40 years)	Low	Small exotic species.	Within building and grading footprint	Remove
183	1	<i>Sapium sebiferum</i>	Chinese Tallow Tree	9.0	10.0	0.50	0.60	6.00	2.67	Mature	Good	Good	Deciduous	Deadwood-Minor	Long (>40 years)	Moderate	Minor deadwood, exposed roots.	Within building and grading footprint	Remove
184	1	<i>Corymbia maculata</i>	Spotted Gum	15.0	6.0	0.30	0.40	3.60	2.25	Mature	Fair	Average	Evergreen		Long (>40 years)	Moderate	Appears structurally sound.	Nil impacts expected	Retain and Protect
185	1	<i>Eucalyptus fibrosa</i>	Broad-leaf Red Ironbark	16.0	6.0	0.39	0.45	4.68	2.37	Mature	Fair	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	Nil impacts expected	Retain and Protect
186	1	<i>Corymbia maculata</i>	Spotted Gum	18.0	6.0	0.31	0.40	3.72	2.25	Mature	Fair	Average	Evergreen	Asymmetric Canopy, Deadwood-Minor	Medium (15-40 years)	Moderate		Nil impacts expected	Retain and Protect
187	1	<i>Eucalyptus fibrosa</i>	Broad-leaf Red Ironbark	10.0	3.0	0.22	0.25	2.64	1.85	Semi-mature	Fair	Average	Evergreen	Asymmetric Canopy	Medium (15-40 years)	Low	Very close to adjoining trees. Somewhat suppressed form.	Nil impacts expected	Retain and Protect
187a	1	<i>Eucalyptus fibrosa</i>	Broad-leaf Red Ironbark	6.0	2.0	0.10	0.13	2.00	1.40	Young	Good	Good	Evergreen		Long (>40 years)	Moderate	Close to adjoining trees but growing normally at present.	Nil impacts expected	Retain and Protect
188	1	<i>Corymbia maculata</i>	Spotted Gum	13.5	4.0	0.27	0.30	3.24	2.00	Mature	Good	Average	Evergreen		Long (>40 years)	Moderate	Appears structurally sound.	Within building and grading footprint	Remove
189	1	<i>Callistemon viminalis cv.</i>	Weeping Bottlebrush	3.5	3.0	0.13	0.20	2.00	1.68	Mature	Fair	Average	Evergreen		Medium (15-40 years)	Low	Small native species.	Within building and grading footprint	Remove
190	1	<i>Callistemon viminalis cv.</i>	Weeping Bottlebrush	4.5	6.0	0.24	0.25	2.88	1.85	Mature	Fair	Average	Evergreen	Co-dominant Stems	Medium (15-40 years)	Low	Small native species.	Within building and grading footprint	Remove
191	1	<i>Corymbia maculata</i>	Spotted Gum	18.0	8.0	0.46	0.50	5.52	2.47	Mature	Fair	Average	Evergreen	Deadwood-Minor	Long (>40 years)	Moderate	Minor deadwood noted, otherwise appears structurally sound.	Minor surface impacts due to path construction. Minor root loss only	Retain and Protect
192	1	<i>Corymbia maculata</i>	Spotted Gum	9.0	4.0	0.23	0.30	2.76	2.00	Mature	Fair	Suppressed	Evergreen	Asymmetric Canopy	Medium (15-40 years)	Low	Suppressed by adjoining tree, poor form.	Minor surface impacts due to path construction. Minor root loss only	Retain and Protect
193	1	<i>Corymbia maculata</i>	Spotted Gum	15.0	8.0	0.44	0.50	5.28	2.47	Mature	Good	Good	Evergreen		Long (>40 years)	High	Appears structurally sound.	Minor surface impacts due to path construction. Minor root loss only	Retain and Protect
194	1	<i>Corymbia maculata</i>	Spotted Gum	12.0	6.0	0.31	0.40	3.72	2.25	Mature	Fair	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	Minor surface impacts due to path construction. Minor root loss only	Retain and Protect
195	1	<i>Corymbia maculata</i>	Spotted Gum	10.0	6.0	0.28	0.40	3.36	2.25	Mature	Fair	Poor	Evergreen	Asymmetric Canopy	Long (>40 years)	Moderate	Asymmetrical, intertwined with Tree 194	Minor surface impacts due to path construction. Minor root loss only	Retain and Protect
196	1	<i>Corymbia maculata</i>	Spotted Gum	16.0	7.0	0.44	0.50	5.28	2.47	Mature	Fair	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	Minor surface impacts due to path construction. Minor root loss only	Retain and Protect
197	1	<i>Corymbia maculata</i>	Spotted Gum	10.0	5.0	0.36	0.40	4.32	2.25	Mature	Fair	Average	Evergreen	Deadwood-Minor, Co-dominant Stems	Long (>40 years)	Low	Co-dominant leaders from 1m, minor deadwood noted. Prominent butt sweep.	Removed for the betterment of surrounding trees	Remove
198	1	<i>Casuarina cunninghamiana</i>	River She-Oak	8.0	3.0	0.30	0.40	3.60	2.25	Mature	Fair	Poor	Evergreen	Asymmetric Canopy	Long (>40 years)	Low	Asymmetrical habit, poor form.	Removed due to small size and poor form	Remove
199	1	<i>Casuarina cunninghamiana</i>	River She-Oak	10.0	4.0	0.36	0.40	4.32	2.25	Mature	Fair	Poor	Evergreen	Asymmetric Canopy	Long (>40 years)	Low	Asymmetrical habit, poor form.	Removed due to small size and poor form	Remove
200	1	<i>Casuarina cunninghamiana</i>	River She-Oak	9.0	3.0	0.25	0.40	3.00	2.25	Mature	Fair	Poor	Evergreen	Asymmetric Canopy	Long (>40 years)	Low	Asymmetrical habit, poor form.	Removed due to small size and poor form	Remove
201	1	<i>Corymbia maculata</i>	Spotted Gum	10.0	5.0	0.27	0.35	3.24	2.13	Mature	Fair	Suppressed	Evergreen	Asymmetric Canopy	Long (>40 years)	Low	Suppressed by adjoining tree, poor form.	Removed for the betterment of surrounding trees	Remove
202	1	<i>Eucalyptus fibrosa</i>	Broad-leaf Red Ironbark	19.0	12.0	0.78	0.84	9.36	3.08	Mature	Fair	Average	Evergreen	Deadwood-Minor	Long (>40 years)	Moderate	Minor deadwood noted.	Minor surface impacts due to path construction. Minor root loss only	Retain and Protect
203	1	<i>Corymbia maculata</i>	Spotted Gum	12.0	7.0	0.47	0.60	5.64	2.67	Mature	Good	Good	Evergreen	Deadwood-Minor	Long (>40 years)	High	Minor deadwood noted. Wound, split to south at 1m. Believed to be relatively superficial.	Minor surface impacts due to path construction. Minor root loss only	Retain and Protect
204	1	<i>Corymbia maculata</i>	Spotted Gum	15.0	6.0	0.63	0.70	7.56	2.85	Mature	Fair	Average	Evergreen	Co-dominant Stems, Asymmetric Canopy	Long (>40 years)	Moderate	Appears structurally sound.	Minor surface impacts due to path construction. Minor root loss only	Retain and Protect
205	1	<i>Melaleuca bracteata</i>	Black Tea-Tree	5.0	4.0	0.24	0.27	2.88	1.91	Semi-mature	Fair	Poor	Evergreen	Co-dominant Stems, Branch Tearouts	Replaceable (Small/Young)	Low	Appears structurally sound.	Removed to facilitate larger tree planting and landscaping	Remove
206	1	<i>Casuarina cunninghamiana</i>	River She-Oak	12.0	8.0	0.63	0.40	7.56	2.25	Mature	Fair	Average	Evergreen	Deadwood-Minor	Long (>40 years)	Moderate	Appears structurally sound.	Within building and grading footprint	Remove
207	1	<i>Casuarina cunninghamiana</i>	River She-Oak	8.0	4.0	0.30	0.40	3.60	2.25	Mature	Fair	Average	Evergreen	Asymmetric Canopy, Deadwood-Minor	Long (>40 years)	Low	Appears structurally sound.	Within building and grading footprint	Remove
208	1	<i>Corymbia maculata</i>	Spotted Gum	17.0	9.0	0.58	0.60	6.96	2.67	Mature	Fair	Average	Evergreen	Deadwood-Minor	Long (>40 years)	High	Minor deadwood noted, otherwise appears structurally sound.	15% incursion due to electrical kiosk construction and surface impacts due to pathway construction	Retain and Protect
209	1	<i>Corymbia maculata</i>	Spotted Gum	13.5	8.0	0.40	0.50	4.80	2.47	Mature	Fair	Average	Evergreen	Deadwood-Minor, Asymmetric Canopy	Long (>40 years)	Moderate	Mistletoe, minor deadwood noted, otherwise appears structurally sound.	10% Minor incursion due to pathway construction	Retain and Protect
210	1	<i>Corymbia maculata</i>	Spotted Gum	21.0	9.0	0.63	0.70	7.56	2.85	Mature	Good	Good	Evergreen	Deadwood-Minor	Long (>40 years)	High	Mistletoe, minor deadwood noted, otherwise appears structurally sound.	<10% Minor incursion due to driveway and pathway construction	Retain and Protect
213	1	<i>Cupressus sempervirens 'Swanes Golden'</i>	Swanes Golden Pencil Pine	4.0	1.5	0.25	0.30	3.00	2.00	Mature	Fair	Average	Conifer	Root Impacts	Replaceable (Small/Young)	Low	Insufficient available space.	Within building and grading footprint	Remove
214	1	<i>Cupressus sempervirens 'Swanes Golden'</i>	Swanes Golden Pencil Pine	9.0	2.0	0.30	0.40	3.60	2.25	Mature	Fair	Average	Conifer	Root Impacts	Replaceable (Small/Young)	Low	Insufficient available space.	Within building and grading footprint	Remove
215	1	<i>Casuarina cunninghamiana</i>	River She-Oak	12.0	6.0	0.48	0.60	5.76	2.67	Mature	Good	Average	Evergreen	Tip Dieback, Branch Tearouts	Long (>40 years)	Moderate	Appears structurally sound.	Within building and grading footprint	Remove
216	1	<i>Casuarina cunninghamiana</i>	River She-Oak	13.0	8.0	0.37	0.50	4.44	2.47	Mature	Fair	Average	Evergreen	Co-dominant Stems, Deadwood-Minor, Root Impacts	Long (>40 years)	Moderate	Minor deadwood, exposed roots, Co-dominant leaders from 3m.	Within building and grading footprint	Remove
217	1	<i>Casuarina cunninghamiana</i>	River She-Oak	12.0	9.0	0.69	0.75	8.28	2.93	Mature	Fair	Average	Evergreen	Asymmetric Canopy, Deadwood-Minor	Long (>40 years)	Moderate	Asymmetrical form, minor deadwood.	Within building and grading footprint	Remove
218	1	<i>Casuarina cunninghamiana</i>	River She-Oak	18.0	8.0	0.45	0.80	5.40	3.01	Mature	Fair	Average	Evergreen		Long (>40 years)	Moderate	Appears structurally sound.	Within building and grading footprint	Remove
219	1	<i>Citharexylum spinosum</i>	Fiddlewood	5.0	6.0	0.22	0.27	2.64	1.91	Semi-mature	Good	Average	Deciduous		Replaceable (Small/Young)	Low	Appears structurally sound.	Within building and grading footprint	Remove
220	1	<i>Jacaranda mimosifolia</i>	Jacaranda	5.0	5.0	0.14	0.20	2.00	1.68	Young	Good	Average	Deciduous		Replaceable (Small/Young)	Low	Appears structurally sound.	Within building and grading footprint	Remove
221	1	<i>Sapium sebiferum</i>	Chinese Tallow Tree	4.0	4.0	0.16	0.25	2.00	1.85	Young	Fair	Average	Deciduous		Replaceable (Small/Young)	Low	Appears structurally sound.	Removed to facilitate larger tree planting and landscaping	Remove

Tree ID	Trees in Group	Tree Species	Common Name	Height (m)	Spread (m)	Trunk Diameter Breast Height (dbh) (m)	Trunk Diameter at base (dgl) (m)	Nominal TPZ radius (m) 12xdbh (AS 4970)	Nominal SRZ radius (m) (AS 4970)	Age Class	Current Vigour	Current Form	Tree Type	Defects	SULE	Retention Value	General Comments and Notes	Incursion and Impact	Recommendation
222	1	<i>Corymbia maculata</i>	Spotted Gum	25.0	15.0	0.78	1.00	9.36	3.31	Mature	Good	Good	Evergreen	Co-dominant Stems, Deadwood-Minor	Long (>40 years)	High	Co-dominant leaders from 1m, minor deadwood.	7% Incursion due to wall construction. Minor surface impacts due to boardwalk construction. Impacts to be managed, minimal root loss expected.	Retain and Protect
223	1	<i>Corymbia maculata</i>	Spotted Gum	20.0	10.0	0.48	0.60	5.76	2.67	Mature	Good	Average	Evergreen	Lean-Minor, Asymmetric Canopy	Long (>40 years)	Moderate	Leans towards adjoining property, asymmetrical form.	Minor surface impacts due to boardwalk construction. Impacts to be managed, minimal root loss expected.	Retain and Protect
224	1	<i>Eucalyptus punctata</i>	Grey Gum	20.0	20.0	0.55	0.70	6.60	2.85	Mature	Good	Good	Evergreen		Long (>40 years)	High	Appears structurally sound.	Minor surface impacts due to boardwalk construction. Impacts to be managed, minimal root loss expected.	Retain and Protect
225	1	<i>Corymbia maculata</i>	Spotted Gum	22.0	10.0	0.40	0.50	4.80	2.47	Mature	Good	Average	Evergreen		Long (>40 years)	High	Appears structurally sound.	Minor surface impacts due to boardwalk construction. Impacts to be managed, minimal root loss expected.	Retain and Protect
226	1	<i>Corymbia maculata</i>	Spotted Gum	20.0	10.0	0.46	0.60	5.52	2.67	Mature	Good	Good	Evergreen		Long (>40 years)	High	Appears structurally sound.	5% Incursion due to wall construction. Minor surface impacts due to boardwalk construction. Impacts to be managed, minimal root loss expected.	Retain and Protect
227	1	<i>Corymbia maculata</i>	Spotted Gum	10.0	10.0	0.50	0.70	6.00	2.85	Mature	Good	Average	Evergreen	Deadwood-Minor, Co-dominant Stems	Long (>40 years)	Moderate	Minor deadwood over play equipment.	Minor surface impacts due to boardwalk construction. Impacts to be managed, minimal root loss expected.	Retain and Protect
228	1	<i>Corymbia maculata</i>	Spotted Gum	19.0	8.0	0.43	0.50	5.16	2.47	Mature	Good	Average	Evergreen	Deadwood-Minor	Long (>40 years)	High	Minor deadwood over play equipment.	Minor surface impacts due to boardwalk construction. Impacts to be managed, minimal root loss expected.	Retain and Protect
229	1	<i>Eucalyptus fibrosa</i>	Broad-leaf Red Ironbark	24.0	12.0	0.70	0.80	8.40	3.01	Mature	Good	Good	Evergreen	Deadwood-Minor	Long (>40 years)	High	Minor deadwood, otherwise appears structurally sound.	Minor surface impacts due to boardwalk construction. Impacts to be managed, minimal root loss expected.	Retain and Protect
230	1	<i>Corymbia maculata</i>	Spotted Gum	20.0	10.0	0.50	0.60	6.00	2.67	Mature	Good	Average	Evergreen	Asymmetric Canopy, Deadwood-Minor, Epicormic Growth	Long (>40 years)	Moderate	Minor deadwood, epicormic growth, branch end-weight over adjoining property.	Minor surface impacts due to boardwalk construction. Impacts to be managed, minimal root loss expected.	Retain and Protect
231	1	<i>Lophostemon confertus</i>	Brush Box	8.0	4.0	0.21	0.30	2.52	2.00	Semi-mature	Good	Good	Evergreen		Long (>40 years)	High	Appears structurally sound.	Minor surface impacts due to boardwalk construction. Impacts to be managed, minimal root loss expected.	Retain and Protect
232	1	<i>Ulmus parvifolia</i>	Chinese Elm	7.0	12.0	0.30	0.32	3.60	2.05	Mature	Good	Good	Deciduous		Long (>40 years)	Moderate	Appears structurally sound.	Within re-grading footprint	Remove
233	1	<i>Corymbia torelliana</i>	Cadaghi	9.0	9.0	0.36	0.42	4.32	2.30	Semi-mature	Fair	Average	Evergreen	Co-dominant Stems	Long (>40 years)	Low	Appears structurally sound.	Within re-grading footprint	Remove
234	1	<i>Ceratonia siliqua</i>	Carob Bean	3.0	2.0	0.14	0.20	2.00	1.68	Semi-mature	Fair	Average	Evergreen		Replaceable (Small/Young)	Low	Appears structurally sound.	Within building and grading footprint	Remove
235	1	<i>Sapium sebiferum</i>	Chinese Tallow Tree	3.0	3.0	0.15	0.20	2.00	1.68	Young	Fair	Average	Deciduous		Replaceable (Small/Young)	Low	Appears structurally sound.	Within re-grading footprint	Remove
236	1	<i>Callistemon citrinus cv.</i>	Crimson Bottlebrush	4.0	3.0	0.22	0.31	2.64	2.02	Mature	Fair	Poor	Evergreen	Co-dominant Stems, Cavity, Inclusions, Decay-Minor	Remove (<5 years)	V Low / Remove	Cavity and previous failure at base.	Within building and grading footprint	Remove
237	1	<i>Callistemon viminalis cv.</i>	Weeping Bottlebrush	4.0	3.0	0.33	0.37	3.96	2.18	Mature	Fair	Average	Evergreen	Co-dominant Stems	Replaceable (Small/Young)	Low	Appears structurally sound.	Within building and grading footprint	Remove
238	1	<i>Hibiscus tiliaceus</i>	Coast Cottonwood	6.0	4.0	0.32	0.29	3.84	1.97	Mature	Good	Average	Evergreen	Co-dominant Stems	Medium (15-40 years)	Low	Appears structurally sound. Multi-stemmed from base.	Within building and grading footprint	Remove
239	1	<i>Syzygium australe</i>	Brush Cherry	7.0	6.0		0.34	2.00	2.10	Mature	Good	Average	Evergreen		Medium (15-40 years)	Moderate	Appears structurally sound, 5m from existing dwelling at No. 38.	Within building and grading footprint	Retain and Protect
240	1	<i>Cupressus sempervirens 'Swanes Golden'</i>	Swanes Golden Pencil Pine	6.0	1.2	0.20	0.22	2.40	1.75	Mature	Fair	Average	Conifer		Medium (15-40 years)	Low	Appears structurally sound, 1m from front existing dwelling at No. 34. Needing to be removed if house is demolished.	Within building and grading footprint	Remove
241	1	<i>Corymbia citriodora</i>	Lemon Scented Gum	16.0	18.0	0.79	0.90	9.48	3.17	Mature	Fair	Good	Evergreen		Long (>40 years)	High	Within adjoining site No.44. Appears structurally sound, within front setback.	5% incursion due to excavation for driveway levelling. Other surface related impacts to be managed	Retain and Protect
242	1	<i>Cupressus sempervirens 'Stricta'</i>	Pencil Pine	5.0	1.2	0.10	0.15	2.00	1.49	Semi-mature	Fair	Average	Conifer		Short (5-15 years)	Low	Within adjoining site No.44. Appears structurally sound.	Nil Impacts expected	Retain and Protect
243	1	<i>Corymbia maculata</i>	Spotted Gum	21.0	12.0	0.55	0.75	6.60	2.93	Mature	Fair	Average	Evergreen	Branch Tearouts, Hangers	Long (>40 years)	High	Within adjoining site No.44. Damaged leader, otherwise appears structurally sound, 1m from side boundary.	Minor surface impacts to be managed	Retain and Protect
244	1	<i>Eucalyptus punctata</i>	Grey Gum	12.0	8.0	0.40	0.50	4.80	2.47	Mature	Fair	Average	Evergreen	Deadwood-Minor	Long (>40 years)	Moderate	Within adjoining site No.44. Suppressed, minor deadwood noted, otherwise appears structurally sound. Only 0.3m from boundary.	Minor surface impacts to be managed	Retain and Protect
245	1	<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint	12.0	6.0	0.40	0.50	4.80	2.47	Senescent	Poor	Poor	Evergreen		Remove (<5 years)	Low	Within adjoining site No.44. Very sparse canopy, only 0.3m from boundary. Very poor condition.	7% incursion. Minor surface impacts to be managed. Tree in very poor condition but in neighbours yard	Retain and Protect
246	1	<i>Corymbia maculata</i>	Spotted Gum	13.0	7.0	0.50	0.60	6.00	2.67	Mature	Fair	Average	Evergreen	Asymmetric Canopy, Deadwood-Minor	Long (>40 years)	High	Within adjoining site No.44. Minor asymmetrical canopy, minor deadwood noted, otherwise appears structurally sound.	11% nominal incursion due to excavation for driveway levelling. Other surface related impacts to be managed	Retain and Protect
247	1	<i>Syagrus romanzoffiana</i>	Queen Palm	7.0	4.0	0.30	0.40	3.60	2.25	Mature	Fair	Suppressed	Palm-SingleStem		Long (>40 years)	Low	Within adjoining site No.44. Growing under canopy of adjoining larger tree, otherwise appears structurally sound.	Nil Impacts expected	Retain and Protect

4.4 Tree Summary Data Sheets

ID # 01
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 24.0
 DBH (m): 0.72 DGL (m): 0.8
 TPZ (m): 8.64 SRZ (m): 3.01
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 05
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 12.0
 DBH (m): 0.21 DGL (m): 0.3
 TPZ (m): 2.52 SRZ (m): 2
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 02
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 12.0
 DBH (m): 0.26 DGL (m): 0.3
 TPZ (m): 3.12 SRZ (m): 2
 Current Form: Poor
 Current Vigour: Fair
 Age Class: Over-mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: Low

ID # 06
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 10.0
 DBH (m): 0.19 DGL (m): 0.3
 TPZ (m): 2.28 SRZ (m): 2
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 03
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 18.0
 DBH (m): 0.3 DGL (m): 0.4
 TPZ (m): 3.6 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 07
 Species: *Eucalyptus paniculata subsp. paniculata*
 Common: Grey Ironbark



Height (m): 23.00
 DBH (m): 0.87 DGL (m): 0.80
 TPZ (m): 10.44 SRZ (m): 3.01
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 04
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 24.0
 DBH (m): 0.4 DGL (m): 0.5
 TPZ (m): 4.8 SRZ (m): 2.47
 Current Form: Good
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 08
 Species: *Eucalyptus paniculata subsp. paniculata*
 Common: Grey Ironbark



Height (m): 10.0
 DBH (m): 0.41 DGL (m): 0.55
 TPZ (m): 4.92 SRZ (m): 2.57
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: Moderate

ID # **09**
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 20
 DBH (m): 0.36 DGL (m): 0.36
 TPZ (m): 4.32 SRZ (m): 2.15
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **High**

ID # **13**
 Species: *Eucalyptus paniculata* subsp. *paniculata*
 Common: Grey Ironbark



Height (m): 16.0
 DBH (m): 0.33 DGL (m): 0.4
 TPZ (m): 3.96 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **High**

ID # **10**
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 9.0
 DBH (m): 0.12 DGL (m): 0.2
 TPZ (m): 2 SRZ (m): 1.68
 Current Form: Average
 Current Vigour: Fair
 Age Class: Semi-mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **High**

ID # **14**
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 22.0
 DBH (m): 0.44 DGL (m): 0.50
 TPZ (m): 5.28 SRZ (m): 2.47
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **High**

ID # **11**
 Species: *Eucalyptus globoidea*
 Common: White Stringybark



Height (m): 10.0
 DBH (m): 0.28 DGL (m): 0.50
 TPZ (m): 3.36 SRZ (m): 2.47
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**

ID # **22**
 Species: *Eucalyptus globoidea*
 Common: White Stringybark



Height (m): 16.0
 DBH (m): 0.34 DGL (m): 0.5
 TPZ (m): 4.08 SRZ (m): 2.47
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**

ID # **12**
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 20.0
 DBH (m): 0.39 DGL (m): 0.4
 TPZ (m): 4.68 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**

ID # **23**
 Species: *Eucalyptus paniculata* subsp. *paniculata*
 Common: Grey Ironbark



Height (m): 11.0
 DBH (m): 0.21 DGL (m): 0.30
 TPZ (m): 2.52 SRZ (m): 2
 Current Form: Average
 Current Vigour: Good
 Age Class: Semi-mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**

ID # 24
 Species: *Eucalyptus globoidea*
 Common: White Stringybark



Height (m): 12.0
 DBH (m): 0.33 DGL (m): 0.40
 TPZ (m): 3.96 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 151
 Species: *Melaleuca styphelioides*
 Common: Prickly Paperbark



Height (m): 10.0
 DBH (m): 0.30 DGL (m): 0.24
 TPZ (m): 3.6 SRZ (m): 1.82
 Current Form: Average
 Current Vigour: Good
 Age Class: Semi-mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 143
 Species: *Eucalyptus punctata*
 Common: Grey Gum



Height (m): 20.0
 DBH (m): 1.12 DGL (m): 1.2
 TPZ (m): 13.44 SRZ (m): 3.57
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 152
 Species: *Eucalyptus paniculata* subsp. *paniculata*
 Common: Grey Ironbark



Height (m): 12.0
 DBH (m): 0.30 DGL (m): 0.40
 TPZ (m): 3.6 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 144
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 20.0
 DBH (m): 0.30 DGL (m): 0.40
 TPZ (m): 3.6 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: Moderate

ID # 156
 Species: *Eucalyptus punctata*
 Common: Grey Gum



Height (m): 18.00
 DBH (m): 0.53 DGL (m): 0.65
 TPZ (m): 6.36 SRZ (m): 2.76
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: Moderate

ID # 145
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 11.0
 DBH (m): 0.22 DGL (m): 0.25
 TPZ (m): 2.64 SRZ (m): 1.85
 Current Form: Poor
 Current Vigour: Fair
 Age Class: Over-mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: Low

ID # 157
 Species: *Eucalyptus tereticornis*
 Common: Forest Red Gum



Height (m): 17.0
 DBH (m): 0.28 DGL (m): 0.40
 TPZ (m): 3.36 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Fair
 Age Class: Semi-mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 158
 Species: *Eucalyptus punctata*
 Common: Grey Gum



Height (m): 10.0
 DBH (m): 0.28 DGL (m): 0.40
 TPZ (m): 3.36 SRZ (m): 2.25
 Current Form: Suppressed
 Current Vigour: Fair
 Age Class: Mature
 SULE: Medium (15-40 years)
 Tree Origin: Endemic
Retention Value: Low

ID # 169
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 19.0
 DBH (m): 0.51 DGL (m): 0.60
 TPZ (m): 6.12 SRZ (m): 2.67
 Current Form: Average
 Current Vigour: Good
 Age Class: Mature
 SULE: Medium (15-40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 159
 Species: *Glochidion ferdinandi*
 Common: Cheese Tree



Height (m): 10
 DBH (m): 0.36 DGL (m): 0.40
 TPZ (m): 4.32 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 170
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 18.0
 DBH (m): 0.33 DGL (m): 0.40
 TPZ (m): 3.96 SRZ (m): 2.25
 Current Form: Poor
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: Moderate

ID # 167
 Species: *Salix sp.*
 Common: Willow



Height (m): 4.0
 DBH (m): 0.24 DGL (m): 0.4
 TPZ (m): 2.88 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Fair
 Age Class: Young
 SULE: Remove (<5 years)
 Tree Origin: Invasive
Retention Value: V Low / Remove

ID # 171
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 5.0
 DBH (m): 0.13 DGL (m): 0.21
 TPZ (m): 2 SRZ (m): 1.72
 Current Form: Average
 Current Vigour: Fair
 Age Class: Semi-mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: Moderate

ID # 168
 Species: *Eucalyptus fibrosa subsp. fibrosa*
 Common: Broad-leaf Red Ironbark



Height (m): 12.0
 DBH (m): 0.32 DGL (m): 0.40
 TPZ (m): 3.84 SRZ (m): 2.25
 Current Form: Good
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 172
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 9.0
 DBH (m): 0.21 DGL (m): 0.25
 TPZ (m): 2.52 SRZ (m): 1.85
 Current Form: Average
 Current Vigour: Good
 Age Class: Semi-mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High

ID # 173
 Species: *Corymbia maculata*
 Common: Spotted Gum

Height (m): 9.0
 DBH (m): 0.15 DGL (m): 0.20
 TPZ (m): 2 SRZ (m): 1.68
 Current Form: Average
 Current Vigour: Fair
 Age Class: Semi-mature
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: Moderate



ID # 180
 Species: *Corymbia maculata*
 Common: Spotted Gum

Height (m): 12.0
 DBH (m): 0.44 DGL (m): 0.60
 TPZ (m): 5.28 SRZ (m): 2.67
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Medium (15-40 years)
 Tree Origin: Endemic

Retention Value: Moderate



ID # 174
 Species: *Eucalyptus fibrosa subsp. fibrosa*
 Common: Broad-leaf Red Ironbark

Height (m): 22.0
 DBH (m): 0.85 DGL (m): 0.90
 TPZ (m): 10.2 SRZ (m): 3.17
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: High



ID # 181
 Species: *Ficus obliqua*
 Common: Small-leaved Fig

Height (m): 10.0
 DBH (m): 0.49 DGL (m): 0.80
 TPZ (m): 5.88 SRZ (m): 3.01
 Current Form: Average
 Current Vigour: Good
 Age Class: Semi-mature
 SULE: Long (>40 years)
 Tree Origin: Native

Retention Value: Moderate



ID # 178
 Species: *Corymbia maculata*
 Common: Spotted Gum

Height (m): 18.0
 DBH (m): 0.59 DGL (m): 0.70
 TPZ (m): 7.08 SRZ (m): 2.85
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: Moderate



ID # 182
 Species: *Morus nigra*
 Common: Mulberry

Height (m): 3.5
 DBH (m): 0.11 DGL (m): 0.20
 TPZ (m): 2 SRZ (m): 1.68
 Current Form: Average
 Current Vigour: Good
 Age Class: Young
 SULE: Medium (15-40 years)
 Tree Origin: Exotic

Retention Value: Low



ID # 179
 Species: *Eucalyptus fibrosa subsp. fibrosa*
 Common: Broad-leaf Red Ironbark

Height (m): 15.0
 DBH (m): 0.45 DGL (m): 0.60
 TPZ (m): 5.4 SRZ (m): 2.67
 Current Form: Poor
 Current Vigour: Fair
 Age Class: Over-mature
 SULE: Short (5-15 years)
 Tree Origin: Endemic

Retention Value: Low



ID # 183
 Species: *Sapium sebiferum*
 Common: Chinese Tallow Tree

Height (m): 9.0
 DBH (m): 0.50 DGL (m): 0.60
 TPZ (m): 6 SRZ (m): 2.67
 Current Form: Good
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Exotic

Retention Value: Moderate



ID # 184

Species: *Corymbia maculata*

Common: Spotted Gum

Height (m): 15.0
 DBH (m): 0.30 DGL (m): 0.40
 TPZ (m): 3.6 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: Moderate



ID # 187.1

Species: *Eucalyptus fibrosa subsp. fibrosa*

Common: Broad-leaf Red Ironbark

Height (m): 6.0
 DBH (m): 0.10 DGL (m): 0.13
 TPZ (m): 2 SRZ (m): 1.5
 Current Form: Good
 Current Vigour: Good
 Age Class: Young
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: Moderate



ID # 185

Species: *Eucalyptus fibrosa subsp. fibrosa*

Common: Broad-leaf Red Ironbark

Height (m): 16.0
 DBH (m): 0.39 DGL (m): 0.45
 TPZ (m): 4.68 SRZ (m): 2.37
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: High



ID # 188

Species: *Corymbia maculata*

Common: Spotted Gum

Height (m): 13.5
 DBH (m): 0.27 DGL (m): 0.30
 TPZ (m): 3.24 SRZ (m): 2
 Current Form: Average
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: Moderate



ID # 186

Species: *Corymbia maculata*

Common: Spotted Gum

Height (m): 18.0
 DBH (m): 0.31 DGL (m): 0.40
 TPZ (m): 3.72 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Medium (15-40 years)
 Tree Origin: Endemic

Retention Value: Moderate



ID # 189

Species: *Callistemon viminalis cv.*

Common: Weeping Bottlebrush

Height (m): 3.5
 DBH (m): 0.13 DGL (m): 0.20
 TPZ (m): 2 SRZ (m): 1.68
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Medium (15-40 years)
 Tree Origin: Native

Retention Value: Low



ID # 187

Species: *Eucalyptus fibrosa subsp. fibrosa*

Common: Broad-leaf Red Ironbark

Height (m): 10.0
 DBH (m): 0.22 DGL (m): 0.25
 TPZ (m): 2.64 SRZ (m): 1.85
 Current Form: Average
 Current Vigour: Fair
 Age Class: Semi-mature
 SULE: Medium (15-40 years)
 Tree Origin: Endemic

Retention Value: Low



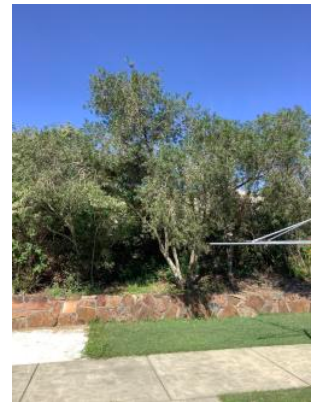
ID # 190

Species: *Callistemon viminalis cv.*

Common: Weeping Bottlebrush

Height (m): 4.5
 DBH (m): 0.24 DGL (m): 0.25
 TPZ (m): 2.88 SRZ (m): 1.85
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Medium (15-40 years)
 Tree Origin: Native

Retention Value: Low



ID # 191

Species: *Corymbia maculata*

Common: Spotted Gum

Height (m): 18.0
 DBH (m): 0.46 DGL (m): 0.50
 TPZ (m): 5.52 SRZ (m): 2.47
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: Moderate



ID # 195

Species: *Corymbia maculata*

Common: Spotted Gum

Height (m): 10.0
 DBH (m): 0.28 DGL (m): 0.40
 TPZ (m): 3.36 SRZ (m): 2.25
 Current Form: Poor
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: Moderate



ID # 192

Species: *Corymbia maculata*

Common: Spotted Gum

Height (m): 9.0
 DBH (m): 0.23 DGL (m): 0.30
 TPZ (m): 2.76 SRZ (m): 2
 Current Form: Suppressed
 Current Vigour: Fair
 Age Class: Mature
 SULE: Medium (15-40 years)
 Tree Origin: Endemic

Retention Value: Low



ID # 196

Species: *Corymbia maculata*

Common: Spotted Gum

Height (m): 16.0
 DBH (m): 0.44 DGL (m): 0.50
 TPZ (m): 5.28 SRZ (m): 2.47
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: High



ID # 193

Species: *Corymbia maculata*

Common: Spotted Gum

Height (m): 15.0
 DBH (m): 0.44 DGL (m): 0.50
 TPZ (m): 5.28 SRZ (m): 2.47
 Current Form: Good
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: High



ID # 197

Species: *Corymbia maculata*

Common: Spotted Gum

Height (m): 10.0
 DBH (m): 0.36 DGL (m): 0.40
 TPZ (m): 4.32 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: Low



ID # 194

Species: *Corymbia maculata*

Common: Spotted Gum

Height (m): 12.0
 DBH (m): 0.31 DGL (m): 0.40
 TPZ (m): 3.72 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: High



ID # 198

Species: *Casuarina cunninghamiana*

Common: River She-Oak

Height (m): 8.0
 DBH (m): 0.30 DGL (m): 0.40
 TPZ (m): 3.6 SRZ (m): 2.25
 Current Form: Poor
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic

Retention Value: Low



ID # 199
 Species: *Casuarina cunninghamiana*
 Common: River She-Oak

Height (m): 10.0
 DBH (m): 0.36 DGL (m): 0.40
 TPZ (m): 4.32 SRZ (m): 2.25
 Current Form: Poor
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Low**



ID # 203
 Species: *Corymbia maculata*
 Common: Spotted Gum

Height (m): 12.0
 DBH (m): 0.47 DGL (m): 0.60
 TPZ (m): 5.64 SRZ (m): 2.67
 Current Form: Good
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **High**



ID # 200
 Species: *Casuarina cunninghamiana*
 Common: River She-Oak

Height (m): 9.0
 DBH (m): 0.25 DGL (m): 0.40
 TPZ (m): 3 SRZ (m): 2.25
 Current Form: Poor
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Low**



ID # 204
 Species: *Corymbia maculata*
 Common: Spotted Gum

Height (m): 15.0
 DBH (m): 0.63 DGL (m): 0.70
 TPZ (m): 7.56 SRZ (m): 2.85
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**



ID # 201
 Species: *Corymbia maculata*
 Common: Spotted Gum

Height (m): 10.0
 DBH (m): 0.27 DGL (m): 0.35
 TPZ (m): 3.24 SRZ (m): 2.13
 Current Form: Suppressed
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Low**



ID # 205
 Species: *Melaleuca bracteata*
 Common: Black Tea-Tree

Height (m): 5.0
 DBH (m): 0.24 DGL (m): 0.27
 TPZ (m): 2.88 SRZ (m): 1.91
 Current Form: Poor
 Current Vigour: Fair
 Age Class: Semi-mature
 SULE: Replaceable (Small/Young)
 Tree Origin: Native
 Retention Value: **Low**



ID # 202
 Species: *Eucalyptus fibrosa subsp. fibrosa*
 Common: Broad-leaf Red Ironbark

Height (m): 19.0
 DBH (m): 0.78 DGL (m): 0.84
 TPZ (m): 9.36 SRZ (m): 3.08
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**



ID # 206
 Species: *Casuarina cunninghamiana*
 Common: River She-Oak

Height (m): 12.0
 DBH (m): 0.63 DGL (m): 0.40
 TPZ (m): 7.56 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**

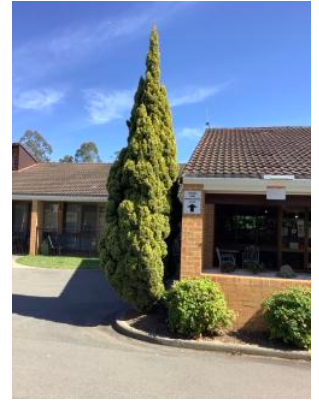


ID # 207
 Species: *Casuarina cunninghamiana*
 Common: River She-Oak



Height (m): 8.0
 DBH (m): 0.30 DGL (m): 0.40
 TPZ (m): 3.6 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Low**

ID # 213
 Species: *Cupressus sempervirens* 'Swanes Golden'
 Common: Swanes Golden Pencil Pine



Height (m): 4.0
 DBH (m): 0.25 DGL (m): 0.3
 TPZ (m): 3 SRZ (m): 2
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Replaceable (Small/Young)
 Tree Origin: Exotic
 Retention Value: **Low**

ID # 208
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 17.0
 DBH (m): 0.58 DGL (m): 0.60
 TPZ (m): 6.96 SRZ (m): 2.67
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **High**

ID # 214
 Species: *Cupressus sempervirens* 'Swanes Golden'
 Common: Swanes Golden Pencil Pine



Height (m): 9.0
 DBH (m): 0.3 DGL (m): 0.40
 TPZ (m): 3.6 SRZ (m): 2.25
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Replaceable (Small/Young)
 Tree Origin: Exotic
 Retention Value: **Low**

ID # 209
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 13.5
 DBH (m): 0.40 DGL (m): 0.50
 TPZ (m): 4.8 SRZ (m): 2.47
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**

ID # 215
 Species: *Casuarina cunninghamiana*
 Common: River She-Oak



Height (m): 12.0
 DBH (m): 0.48 DGL (m): 0.60
 TPZ (m): 5.76 SRZ (m): 2.67
 Current Form: Average
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**

ID # 210
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 21.0
 DBH (m): 0.63 DGL (m): 0.70
 TPZ (m): 7.56 SRZ (m): 2.85
 Current Form: Good
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **High**

ID # 216
 Species: *Casuarina cunninghamiana*
 Common: River She-Oak



Height (m): 13.0
 DBH (m): 0.37 DGL (m): 0.50
 TPZ (m): 4.44 SRZ (m): 2.47
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**

ID # 217
 Species: *Casuarina cunninghamiana*
 Common: River She-Oak



Height (m): 12.0
 DBH (m): 0.69 DGL (m): 0.75
 TPZ (m): 8.28 SRZ (m): 2.93
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**

ID # 221
 Species: *Sapium sebiferum*
 Common: Chinese Tallow Tree



Height (m): 4.0
 DBH (m): 0.16 DGL (m): 0.25
 TPZ (m): 2 SRZ (m): 1.85
 Current Form: Average
 Current Vigour: Fair
 Age Class: Young
 SULE: Replaceable (Small/Young)
 Tree Origin: Exotic
 Retention Value: **Low**

ID # 218
 Species: *Casuarina cunninghamiana*
 Common: River She-Oak



Height (m): 18.0
 DBH (m): 0.45 DGL (m): 0.80
 TPZ (m): 5.4 SRZ (m): 3.01
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**

ID # 222
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 25.0
 DBH (m): 0.78 DGL (m): 1.0
 TPZ (m): 9.36 SRZ (m): 3.31
 Current Form: Good
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **High**

ID # 219
 Species: *Citharexylum spinosum*
 Common: Fiddlewood



Height (m): 5.0
 DBH (m): 0.22 DGL (m): 0.27
 TPZ (m): 2.64 SRZ (m): 1.91
 Current Form: Average
 Current Vigour: Good
 Age Class: Semi-mature
 SULE: Replaceable (Small/Young)
 Tree Origin: Exotic
 Retention Value: **Low**

ID # 223
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 20.0
 DBH (m): 0.48 DGL (m): 0.60
 TPZ (m): 5.76 SRZ (m): 2.67
 Current Form: Average
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**

ID # 220
 Species: *Jacaranda mimosifolia*
 Common: Jacaranda



Height (m): 5.0
 DBH (m): 0.14 DGL (m): 0.20
 TPZ (m): 2 SRZ (m): 1.68
 Current Form: Average
 Current Vigour: Good
 Age Class: Young
 SULE: Replaceable (Small/Young)
 Tree Origin: Exotic
 Retention Value: **Low**

ID # 224
 Species: *Eucalyptus punctata*
 Common: Grey Gum



Height (m): 20.0
 DBH (m): 0.55 DGL (m): 0.70
 TPZ (m): 6.6 SRZ (m): 2.85
 Current Form: Good
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **High**

ID # 225
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 22.0
 DBH (m): 0.40 DGL (m): 0.50
 TPZ (m): 4.8 SRZ (m): 2.47
 Current Form: Average
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **High**

ID # 229
 Species: *Eucalyptus fibrosa subsp. fibrosa*
 Common: Broad-leaf Red Ironbark



Height (m): 24.0
 DBH (m): 0.70 DGL (m): 0.80
 TPZ (m): 8.4 SRZ (m): 3.01
 Current Form: Good
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **High**

ID # 226
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 20.0
 DBH (m): 0.46 DGL (m): 0.60
 TPZ (m): 5.52 SRZ (m): 2.67
 Current Form: Good
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **High**

ID # 230
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 20.0
 DBH (m): 0.50 DGL (m): 0.60
 TPZ (m): 6 SRZ (m): 2.67
 Current Form: Average
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**

ID # 227
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 10.0
 DBH (m): 0.50 DGL (m): 0.70
 TPZ (m): 6 SRZ (m): 2.85
 Current Form: Average
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **Moderate**

ID # 231
 Species: *Lophostemon confertus*
 Common: Brush Box



Height (m): 8.0
 DBH (m): 0.21 DGL (m): 0.30
 TPZ (m): 2.52 SRZ (m): 2
 Current Form: Good
 Current Vigour: Good
 Age Class: Semi-mature
 SULE: Long (>40 years)
 Tree Origin: Native
 Retention Value: **High**

ID # 228
 Species: *Corymbia maculata*
 Common: Spotted Gum



Height (m): 19.0
 DBH (m): 0.43 DGL (m): 0.50
 TPZ (m): 5.16 SRZ (m): 2.47
 Current Form: Average
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
 Retention Value: **High**

ID # 232
 Species: *Ulmus parvifolia*
 Common: Chinese Elm



Height (m): 7.0
 DBH (m): 0.30 DGL (m): 0.32
 TPZ (m): 3.6 SRZ (m): 2.05
 Current Form: Good
 Current Vigour: Good
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Exotic
 Retention Value: **Moderate**

ID # 233
 Species: *Corymbia torelliana*
 Common: Cadaghi

Height (m): 9.0
 DBH (m): 0.36 DGL (m): 0.42
 TPZ (m): 4.32 SRZ (m): 2.3
 Current Form: Average
 Current Vigour: Fair
 Age Class: Semi-mature
 SULE: Long (>40 years)
 Tree Origin: Native
 Retention Value: **Low**



ID # 237
 Species: *Callistemon viminalis* cv.
 Common: Weeping Bottlebrush

Height (m): 4.0
 DBH (m): 0.33 DGL (m): 0.37
 TPZ (m): 3.96 SRZ (m): 2.18
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Replaceable (Small/Young)
 Tree Origin: Native
 Retention Value: **Low**



ID # 234
 Species: *Ceratonia siliqua*
 Common: Carob Bean

Height (m): 3.0
 DBH (m): 0.14 DGL (m): 0.20
 TPZ (m): 2 SRZ (m): 1.68
 Current Form: Average
 Current Vigour: Fair
 Age Class: Semi-mature
 SULE: Replaceable (Small/Young)
 Tree Origin: Exotic
 Retention Value: **Low**



ID # 238
 Species: *Hibiscus tiliaceus*
 Common: Coast Cottonwood

Height (m): 6.0
 DBH (m): 0.32 DGL (m): 0.29
 TPZ (m): 3.84 SRZ (m): 1.97
 Current Form: Average
 Current Vigour: Good
 Age Class: Mature
 SULE: Medium (15-40 years)
 Tree Origin: Exotic
 Retention Value: **Low**



ID # 235
 Species: *Sapium sebiferum*
 Common: Chinese Tallow Tree

Height (m): 3.0
 DBH (m): 0.15 DGL (m): 0.20
 TPZ (m): 2 SRZ (m): 1.68
 Current Form: Average
 Current Vigour: Fair
 Age Class: Young
 SULE: Replaceable (Small/Young)
 Tree Origin: Exotic
 Retention Value: **Low**



ID # 239
 Species: *Syzygium australe*
 Common: Brush Cherry

Height (m): 7.0
 DBH (m): DGL (m): 0.34
 TPZ (m): SRZ (m): 2.1
 Current Form: Average
 Current Vigour: Good
 Age Class: Mature
 SULE: Medium (15-40 years)
 Tree Origin: Native
 Retention Value: **Moderate**



ID # 236
 Species: *Callistemon citrinus* cv.
 Common: Crimson Bottlebrush

Height (m): 4.0
 DBH (m): 0.22 DGL (m): 0.31
 TPZ (m): 2.64 SRZ (m): 2.02
 Current Form: Poor
 Current Vigour: Fair
 Age Class: Mature
 SULE: Remove (<5 years)
 Tree Origin: Native
 Retention Value: **V Low / Remove**



ID # 240
 Species: *Cupressus sempervirens* 'Swanes Golden'
 Common: Swanes Golden Pencil Pine

Height (m): 6.0
 DBH (m): 0.20 DGL (m): 0.22
 TPZ (m): 2.4 SRZ (m): 1.75
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Medium (15-40 years)
 Tree Origin: Exotic
 Retention Value: **Low**



ID # 241
 Species: *Corymbia citriodora*
 Common: Lemon Scented Gum

Height (m): 16.0
 DBH (m): 0.79 DGL (m): 0.90
 TPZ (m): 9.48 SRZ (m): 3.17
 Current Form: Good
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Native
Retention Value: High



ID # 245
 Species: *Eucalyptus nicholii*
 Common: Narrow-leaved Black Peppermint

Height (m): 12.0
 DBH (m): 0.40 DGL (m): 0.50
 TPZ (m): 4.8 SRZ (m): 2.47
 Current Form: Poor
 Current Vigour: Poor
 Age Class: Senescent
 SULE: Remove (<5 years)
 Tree Origin: Native
Retention Value: Low

ID # 242
 Species: *Cupressus sempervirens 'Stricta'*
 Common: Pencil Pine

Height (m): 5.0
 DBH (m): 0.10 DGL (m): 0.15
 TPZ (m): 2 SRZ (m): 1.5
 Current Form: Average
 Current Vigour: Fair
 Age Class: Semi-mature
 SULE: Short (5-15 years)
 Tree Origin: Exotic
Retention Value: Low



ID # 246
 Species: *Corymbia maculata*
 Common: Spotted Gum

Height (m): 13.0
 DBH (m): 0.50 DGL (m): 0.60
 TPZ (m): 6 SRZ (m): 2.67
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High



ID # 243
 Species: *Corymbia maculata*
 Common: Spotted Gum

Height (m): 21.0
 DBH (m): 0.55 DGL (m): 0.75
 TPZ (m): 6.6 SRZ (m): 2.93
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: High



ID # 247
 Species: *Syagrus romanzoffiana*
 Common: Queen Palm

Height (m): 7.0
 DBH (m): 0.30 DGL (m): 0.40
 TPZ (m): 3.6 SRZ (m): 2.25
 Current Form: Suppressed
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Invasive
Retention Value: Low



ID # 244
 Species: *Eucalyptus punctata*
 Common: Grey Gum

Height (m): 12.0
 DBH (m): 0.40 DGL (m): 0.50
 TPZ (m): 4.8 SRZ (m): 2.47
 Current Form: Average
 Current Vigour: Fair
 Age Class: Mature
 SULE: Long (>40 years)
 Tree Origin: Endemic
Retention Value: Moderate

