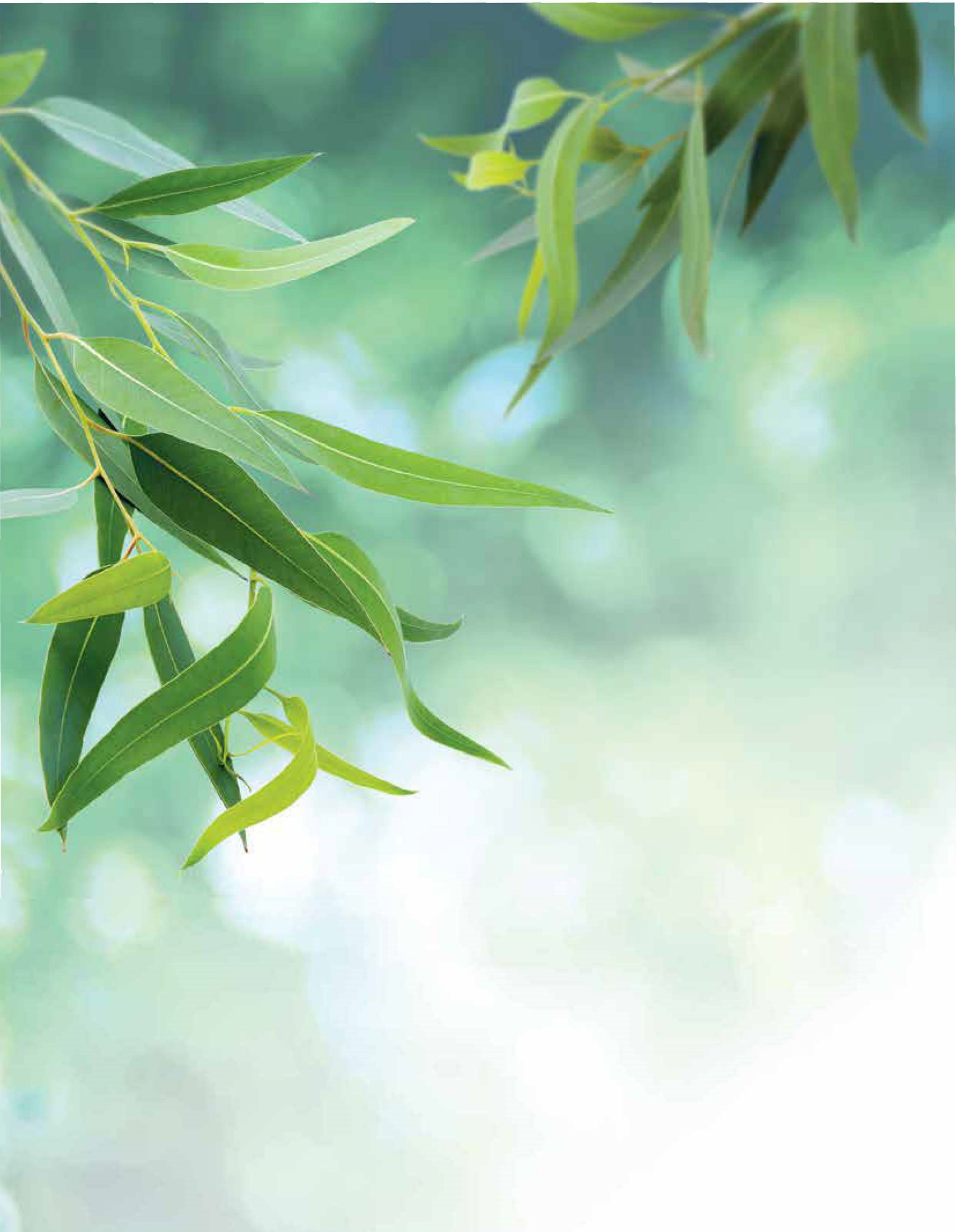


CIVICA



1 Introduction

- 1.1.1 ArborSafe Australia Pty Ltd was engaged by Andrew Piccoli on behalf of Bateman Architects (the Client) to complete an Arboricultural Impact Assessment (report) on fifty-one (51) trees located within or adjacent to proposed development areas at Rossmoyne Senior High School (RSHS), Keith Road, Rossmoyne WA.
- 1.1.2 The report has been requested as part of a Development Application (DA) that involves the demolition of existing structures and the construction of new buildings and amenities within similar locations.
- 1.1.3 The report was intended to provide information on site trees and how they may be impacted upon by the proposed development. Report findings and recommendations provided are based upon guidance provided within Australian Standard AS 4970–2009: *Protection of Trees on Development Sites*.
- 1.1.4 Observations and recommendations provided within this report are based upon information provided by the Client and an arborist site visit. Areas of potential tree conflict that are within the scope of this report were nominated by the Client.

2 Scope

- 2.1.1 Carry out a visual examination of trees, as nominated by the Client, which were located within the vicinity of proposed development areas.
- 2.1.2 Inspect the nominated trees and their growing environment in the context of the proposed development.
- 2.1.3 Provide an objective appraisal of the subject trees in relation to their species, estimated age, health, structural condition and viability within the landscape.
- 2.1.4 Based on the findings of this investigation, provide independent recommendations on the retention value of subject trees.
- 2.1.5 Nominate subject trees that can be retained or require removal to facilitate this development.
- 2.1.6 Review proposed development in the context of *Clearing Permit System Mapping for Dept. of Water and Environmental Regulation (Environmentally Sensitive Areas)*.
- 2.1.7 Identify and reduce potential conflicts between subject trees and site development by providing accurate information on the area required for tree retention and methods/techniques suitable for tree protection during construction.
- 2.1.8 Provide information on restricted activities within the area nominated for tree protection, as well as suitable construction methods to be adopted during construction.

3 Methodology

3.1 Data Collection

- 3.1.1 Nick Arnold of ArborSafe Australia Pty Ltd carried out a site inspection of the subject trees on 21 June 2022.
- 3.1.2 Trees that are the subject of this report were identified/nominated during discussions/correspondence with the Client through late May-June 2022.
- 3.1.3 The subject trees were inspected from ground level. No foliage or soil samples were taken. No aerial or internal investigations were undertaken.
- 3.1.4 Tree height and crown width were estimated and have been provided to the nearest whole metre. Trunk Diameter at Breast Height (DBH) was measured with a diameter tape and provided to the nearest centimetre.
- 3.1.5 Data collected on site was analysed by Nick Arnold, collated into report format, and relevant recommendations were formulated.

3.2 Tree Protection Zones

- 3.2.1 The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) methods have been derived from the Australian Standard AS 4970–2009: *Protection of Trees on Development Sites*.
- 3.2.2 The TPZ is defined as a specified area above and below ground and at a given distance measured radially away from the centre of the tree's trunk and which is set aside for the protection of its roots and crown. It is the area required to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development. The radius of the TPZ is calculated by multiplying its DBH by 12. TPZ radius = DBH × 12. (Note "Breast Height" is nominally measured as 1.4m from ground level).
- 3.2.3 The SRZ is the area around the base of a tree required for the tree's stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright. The SRZ is nominally circular with the trunk at its centre and is expressed by its radius in metres. SRZ radius = $(D \times 50)^{0.42 \times 0.64}$.
- 3.2.4 Retention values are determined based upon the British Standard BS 5837–2012: *Trees in Relation to Design, Demolition and Construction*. This standard categorises tree retention value based upon assessment of the tree's quality (health and structure), and life expectancy. Other criteria such as its physical dimensions, age class, location and its amenity, heritage and environmental significance are also considered. A breakdown of attributes required for each category can be obtained from Appendix B – Explanation of Tree Assessment Terms.

3.3 Images and Site Photographs

- 3.3.1 All photographs were taken at the time of the site inspection by the author. Photographs have been altered for brightness and/or cropped only. Other images used within this report have been sourced from ArborSafe or via the internet. The source of all images has been referenced accordingly.

3.4 Determining Tree Retention Values

- 3.4.1 Collectively, tree attributes are reviewed and used to categorise tree value in a development context. Additional information explaining Tree Retention Value can be found in Appendix C – Tree Retention Values.

4 Observations

4.1 Site Details

4.1.1 The site was located within the City of Melville - COM (LGA).

4.2 Site Assessment Data

4.2.1 Refer to Appendix E – Tree Assessment Data of this report for data relating to the specific trees covered within this report.

4.3 Tree / Site Images

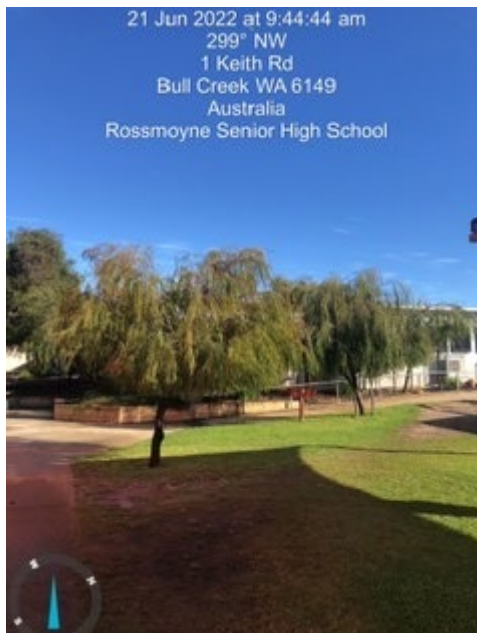


Figure 1. Trees 2 and 3. (Author, June 2022).

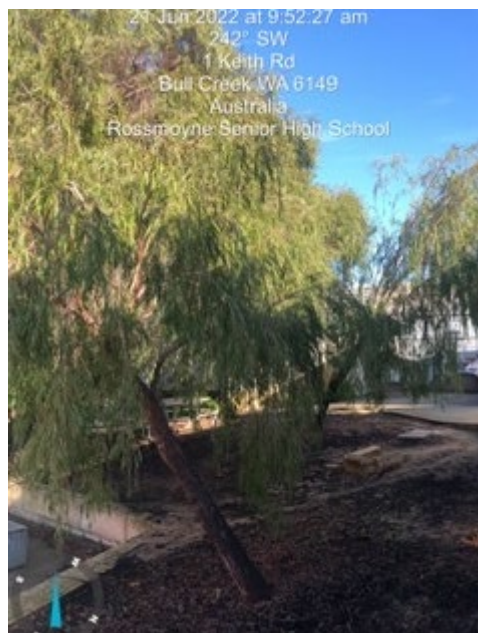


Figure 2. Trees 7 and 8. (Author, June 2022).



Figure 3. Tree 9. (Author, June 2022).



Figure 4. Trees 16, 17 and 18. (Author, June 2022).



Figure 5. Trees 19 and 20. (Author, June 2022).



Figure 6. Tree 24. (Author, June 2022).



Figure 7. Grass trees adjacent to Tree 25. (Author, June 2022).



Figure 8. Trees 28–33. (Author, June 2022).



Figure 9. Tree 34. (Author, June 2022).



Figure 10. Tree 36. (Author, June 2022).

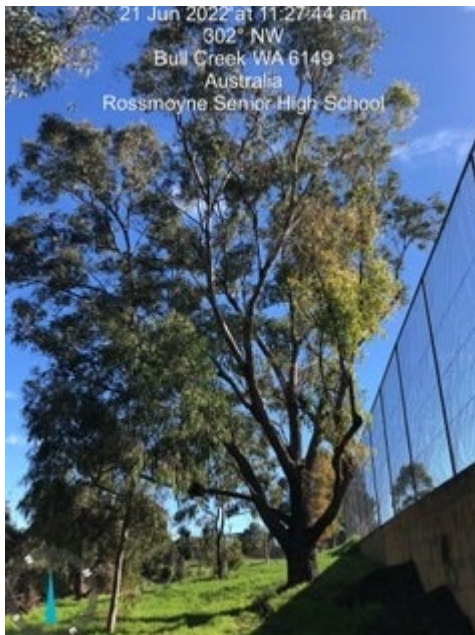


Figure 11. Tree 39. (Author, June 2022).

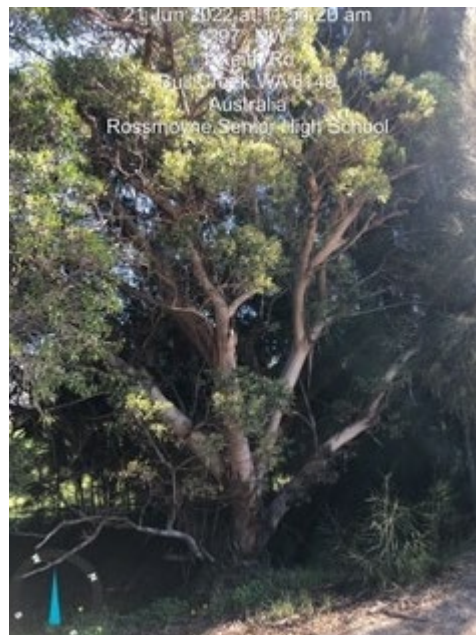


Figure 12. Tree 45. (Author, June 2022).



Figure 13. Tree 49. (Author, June 2022).



Figure 14. Trees 40 to 51. (Author, June 2022).

4.4 Heritage Status

4.4.1 The heritage status of the site was not reviewed as part of this report.

4.5 Environmentally Sensitive Areas

4.5.1 A search of the subject site within (WA) *Department of Water and Environmental Regulation Mapping* returned overlays for *Environmentally Sensitive Areas* (ESA) to which clearing regulations apply.

4.5.2 Where tree/native vegetation is proposed for removal within ESAs a **clearance permit will be required**.

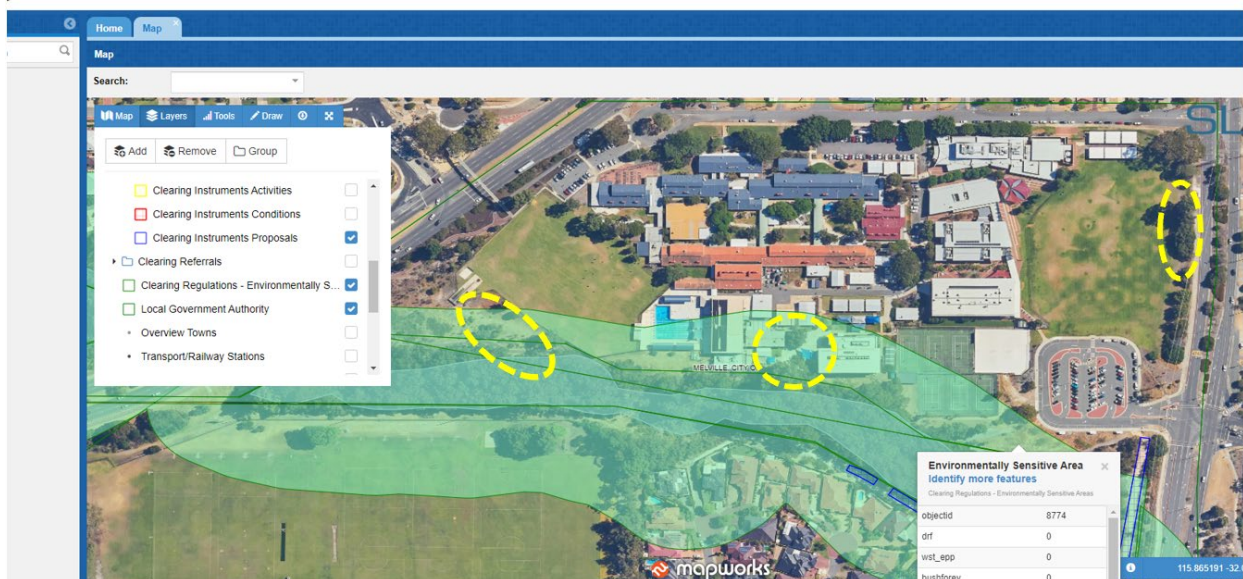


Figure 15. Excerpt from *Clearing Permit System Mapping for Dept. of Water and Environmental Regulation*. Areas in yellow indicate approximate locations of subject trees (added by Author June 2022). (DWER, 2022).

4.5.3 For the purposes of this report and any subsequent clearance permit application, the following subject trees were located within the area mapped as *Environmentally Sensitive*:

- Trees 1–23 were deemed to be ‘*intentionally planted*’ irrespective of origin. All trees, with the exception of Tree 9 (which was evidently longer established), presented as juvenile to semi-mature landscape plantings, located in border gardens and beds. Many of these trees still had tree stakes installed.
- Trees 34, 35, 37 and 38 were identified as *Angophora costata* (Smooth-barked Apple Myrtle) – an Australian Eucalypt species from NSW commonly used as a Perth landscape planting. As such this group were deemed ‘*intentionally planted*’ and were not considered WA ‘native’ trees.
- Trees 24–33 and Trees 36 and 39 were all identified as WA native species. The removal of these trees (in addition to any unmapped vegetation including grass trees – *Xanthorrhoea* sp.) **should not be undertaken without the relevant clearance permit and/or approvals.**
- The WA She-oaks in this group (Trees 26–33) were considered juvenile and potentially replaceable within 10–15 years.

4.5.4 It is recommended that the Department of Water and Environmental Regulation be contacted prior to any (vegetation) works within areas mapped as ESA.

4.6 Proposed Construction

4.6.1 Plans of the existing site and of the proposed development areas were provided to ArborSafe in May-June 2022 and include:

- *Site and Demolition Plans, Dwg. No. A0.101–104, Rev. E. Bateman Architects, 9 June 2022*
- *Site Plans (detail by area), Dwg. No. L1.01–04, Rev. D. CAPA Architects, 25 June 2022*
- *Layout Plan, Sports Changerooms, Dwg. No. C.10, Rev. E. BG & E, 6 May 2022*

4.6.2 There are several areas of proposed development across the RSHS campus. Areas nominated by the Client for tree assessment (as per this report) include a proposed science building towards the southern/central area of the campus (Trees 1–23), an oval expansion to the site’s south west (Trees 24–39) and a proposed library/general learning building to the site’s east (Trees 40–51).

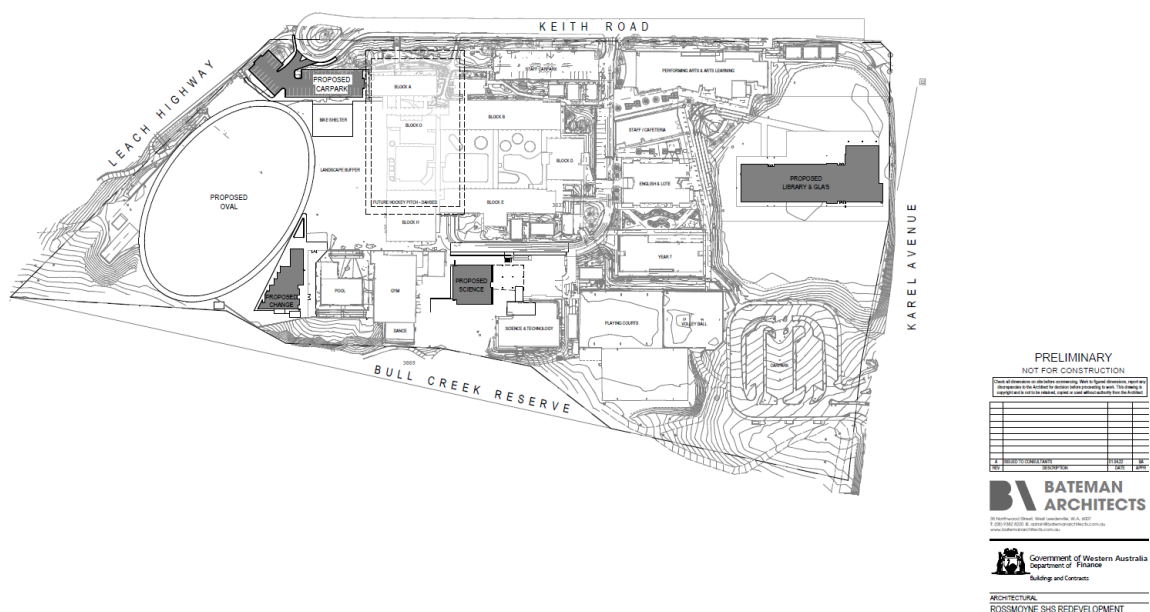


Figure 16. Excerpt from Proposed Site Plan – Overall, Dwg No. A0.101, Rev. A. (Bateman Architects, 2022).

4.7 Outline of Site Trees

- 4.7.1 Fifty-one (51) trees were inspected and are the subject of this report. Complete attributes for each tree can be found in Appendix E of this report.
- 4.7.2 The subject trees have been numbered in line with the ArborSafe tree numbering system. Trees were not tagged as part of this report.
- 4.7.3 Subject trees included a mixture of WA and Australian native landscape plantings in addition to a number of WA native trees adjacent to the southern oval area.

5 Discussion

5.1 Bushfire Landscaping Plan

- 5.1.1 This report is to be considered in conjunction with the findings of the *Bushfire Landscape Plan* completed for RSHS (Bushfire Prone Planning, 22 April 2022).

5.2 Unwanted Tree Species (in adjacent LGA)

- 5.2.1 Trees 40, 41, 45 and 50 were identified as *Eucalyptus conferruminata* (Bald Island Marlock). This species is listed within the City of Canning (COC) LP.09 Appendix 1 – Unwanted Tree Species (City of Canning, 2015). The COC LGA is immediately adjacent to the subject site.
- 5.2.2 Trees 42 and 47 were identified as *Casuarina cunninghamiana* (River She-oak), this species is listed within the City of Canning (COC) LP.09 Appendix 1 – Unwanted Tree Species (City of Canning, 2015). The COC LGA is immediately adjacent to the subject site.

5.3 TPZ Encroachment

- 5.3.1 **Major encroachment.** As per the Australian Standard AS 4970–2009: Protection of Trees on Development Sites, a major encroachment into the TPZ of any tree is considered to occur when it is beyond 10% of the total TPZ area.
- 5.3.2 **Minor encroachment.** A minor encroachment is determined as being less than 10% of the total TPZ area. Trees with minor encroachment may be retained with specific, generic or no protection requirements throughout the construction stage.
- 5.3.3 **No encroachment.** Trees with no encroachment may be retained with specific, generic or no protection requirements throughout the construction stage.
- 5.3.4 For the purposes of this report, trees to be removed or retained have been identified as those:
- Requiring removal due to major encroachment into their TPZ
 - Retainable and requiring specific protection requirements throughout construction (i.e. generic requirements plus arborist supervision and careful construction methods within their TPZ)
 - Retainable and requiring generic tree protection measures only (i.e. protective fencing and restriction of activities within the TPZ).

5.4 Additional Excavation/Trenching within TPZs

- 5.4.1 In the event additional excavation is required within the TPZs of retained trees as identified within this report, or any other site trees, arborist involvement will be required to ensure works are undertaken in accordance with the Australian Standard AS 4970–2009: *Protection of Trees on Development Sites*.
- 5.4.2 Excavation/trenching within the TPZs of retained trees should only be undertaken using sensitive construction methods such as manual excavation, hydro-vac or air spade (only).

6 Recommendations

6.1 Tree Removal

- 6.1.1 Forty-six (46) surveyed trees would require removal to facilitate this development, including trees subject to clearance permits/location in ESAs – refer to Section 4.5 of this report.
- 6.1.2 Where areas of native vegetation are proposed for clearance, the appropriate permits will be required **in advance of works**. All trees/shrubs in these areas are to be manually 'cut' subject to the relevant permits and controls.

6.2 Tree Retention

- 6.2.1 Five (5) subject trees were recommended for retention and require specific and/or generic protection measures during construction to ensure that they remain viable following the completion of works. These were Trees 24, 25, 28, 36 and 49.
- 6.2.2 Unmapped bushland areas to the south of the existing oval are to be protected by way of generic measures (i.e. rigid fencing and signage) for the duration of the development.

6.3 Trees 24, 25, 36 and 49 – Specific Control Measures

- 6.3.1 Trees 24, 25 and 36 were located within the bush fringes (ESA) south of the existing oval. Plans for the shed rebuild and oval extension (C.10 E, 08.02.22) indicate oval expansion and retaining works within this area. Tree 49 was located to the site's east adjacent to the proposed library building.
- 6.3.2 No excavation should occur within the SRZ of these trees. Encroachments into the TPZ of these trees should not exceed 20%.
- 6.3.3 Preference should be given to root sensitive construction measures such as suspended or cantilevered sections and non-contiguous piles/piers.
- 6.3.4 Works within the TPZs of trees to be retained (not to exceed 20% of TPZ area) should be undertaken using techniques that are sensitive to tree roots to avoid unnecessary damage. Such techniques include:
- Excavation using a high-pressure water jet and vacuum truck
 - Excavation using an Air Spade with vacuum truck
 - Excavation by hand.
- 6.3.5 Machine excavation should be prohibited within the TPZs of retained trees unless undertaken at the direct consent of the project arborist.
- 6.3.6 Roots discovered are to be treated with care and minor roots (<40mm diameter) pruned with a sharp, clean handsaw or secateurs. All significant roots (>40mm diameter) are to be recorded, photographed and reported to the project arborist.

6.4 Tree 49

- 6.4.1 Where encroachments greater than 20% of the total TPZ area are proposed, root sensitive exploratory (documented) excavation works will be required in order to further guide design and preserve significant root mass. Exploratory works are to be undertaken under arborist supervision using one of the 'root sensitive' techniques listed in Section 6.3.4 of this report.

6.5 Tree Pruning

- 6.5.1 All pruning/tree removal is to be undertaken in accordance with the Australian Standard AS 4373–2007: *Pruning of Amenity Trees* (Standards Australia, 2007) and undertaken by a suitably qualified arborist (minimum AQF 3 arborist).

6.6 Offset Tree Planting/Revegetation

- 6.6.1 Offset/mitigation tree planting and revegetation has been proposed as part of the *application for new permit or referral to clear native vegetation*.
- 6.6.2 The area designated for revegetation is to be contiguous with existing areas of bushland to the south of the site known as 'Bull Creek Reserve' which forms part of the Bull Creek Catchment Area managed by the Friends of Bull Creek – a volunteer restoration group working in partnership with the COM (amongst others).
- 6.6.3 Whilst the total proposed revegetation area (see Figure 17) equates to approximately 800-850m², the available area for planting, taking into account informal pathways and existing vegetation, was estimated to be approximately 350m² (see Figure 18) – City of Melville Intra maps (City of Melville, 2022).
- 6.6.4 A planting density of one (1) plant per m² is recommended, i.e. approximately 350 plants in total, the species composition of which is to be made up of WA indigenous riparian/bush species including but not limited to *Eucalyptus rudis*, *Allocasuarina fraseriana*, *Melaleuca sp.*, *Banksia sp.* and *Jacksonia sp.* – TBC.
- 6.6.5 Offset planting should reflect the number of trees removed and the initial loss of amenity and biomass. New plants should be of long-term potential and sourced from a reputable supplier.
- 6.6.6 Replacement tree species must suit their location on the site in terms of their potential physical size and their tolerance(s) to the surrounding environmental conditions. To avoid unethical or unprofessional tree selection and/or their placement within the landscape, replacement plant species must be selected in consultation with a consulting arborist/horticulturalist/landscape designer and/or the Friends of Bull Creek, who can also assist in implementing successful tree establishment techniques.
- 6.6.7 Replacement tree species must have the genetic potential to reach the dimensions (at maturity) of those trees removed to facilitate the development.
- 6.6.8 Replacement tree/plant species and planting locations are to form part of the site's final landscape plan.
- 6.6.9 Planting and aftercare is to be undertaken by a suitably qualified and experienced landscape/revegetation contractor as part of a documented deliverable/service agreement.
- 6.6.10 A suitable aftercare period (which is to include the replacement of failed plants during this period) of between 24-36 months is recommended to ensure the establishment of new plantings.
- 6.6.11 A proportional and documented weed control program is to form part of the documented aftercare works/deliverable.

6.7 Grass Trees (*Xanthorrhoea preissii*)

- 6.7.1 The area to the south of the existing oval site included several unsurveyed Grass Trees (*Xanthorrhoea preissii*) – see Figure 7. These trees should be retained and incorporated into the final design (refer to Section 4.6) where practicable.
- 6.7.2 Where trees are directly within the development footprint or are located >0.5m from any retaining edge or point of excavation, such trees should be transplanted/relocated PRIOR to the commencement of site/construction/demolition works.
- 6.7.3 Where possible, all transplanted Grass Trees are to be relocated elsewhere within the physical boundary of RSHS, preferably in a manner contiguous with existing bushland areas.
- 6.7.4 A preliminary assessment and the excavation/transplanting process should be conducted by an appropriately licenced and experienced commercial operator (Grass Tree transplanting).
- 6.7.5 The method of transplanting should be based upon the following guidelines (Botanic Gardens and Parks Authority, Government of WA, 2021):
- Trim off leaves of the grass-tree with shears or tie them up with string.
 - Dig around the base of the plant severing the old roots* (*~10cm minimum from base of stem). Do not push on the top of the plant as it may snap off.
 - Wrap the root system in damp hessian or canvas to prevent desiccation whilst transporting the plant.
 - Plant the grass-tree as soon as possible at the same depth at which it was growing. Fill in the soil around the root system, keeping a hose running to moisten the soil and eliminate any air pockets.
 - As soon as transplanting is finished make a depression or 'saucer' around the plant for future hand watering or install trickle irrigation.
 - Trim off the leaves to reduce water loss. Within a few weeks new leaves should appear from the centre of the plant.
 - Water the plants regularly until the onset of heavy winter rains and then water once a week, starting in early Spring and continuing through Summer and Autumn until the onset of further winter rain.
- 6.7.6 A physical tree count and location map showing the total number and final location of transplanted trees should be made available by the nominated contractor to the Client upon completion of works.
- 6.7.7 A specified aftercare period/recommendations should also be provided by the designated contractor to the Client.
- 6.7.8 Where the designated contractor deems appropriate, transplanted trees may be moved off site for a designated holding period and/or be replaced by existing/supplied (same species) trees of healthy, disease free and sustainable stock and be of similar dimensions at planting.

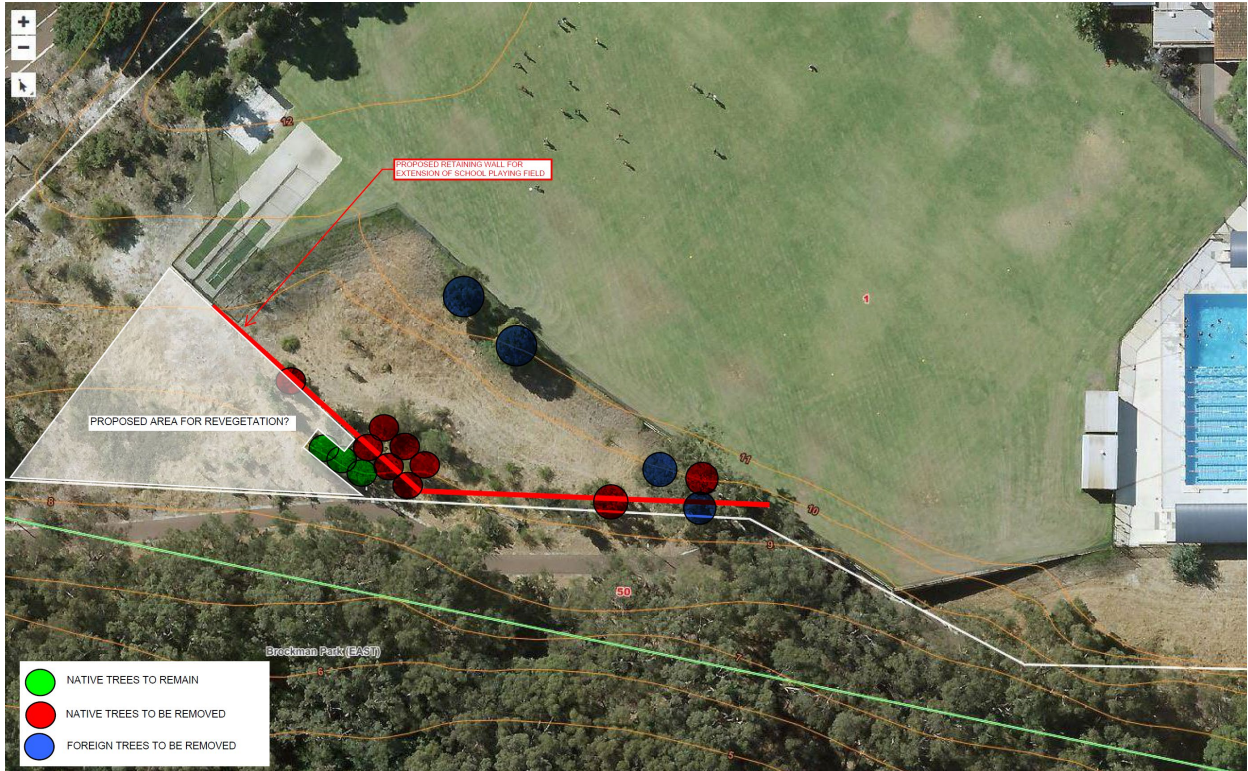


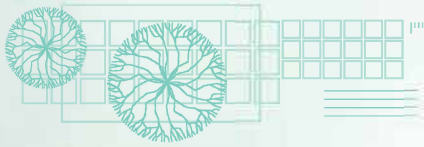
Figure 17. Excerpt from RSHS Clearing Permit Detail (Bateman Architects, June 2022).

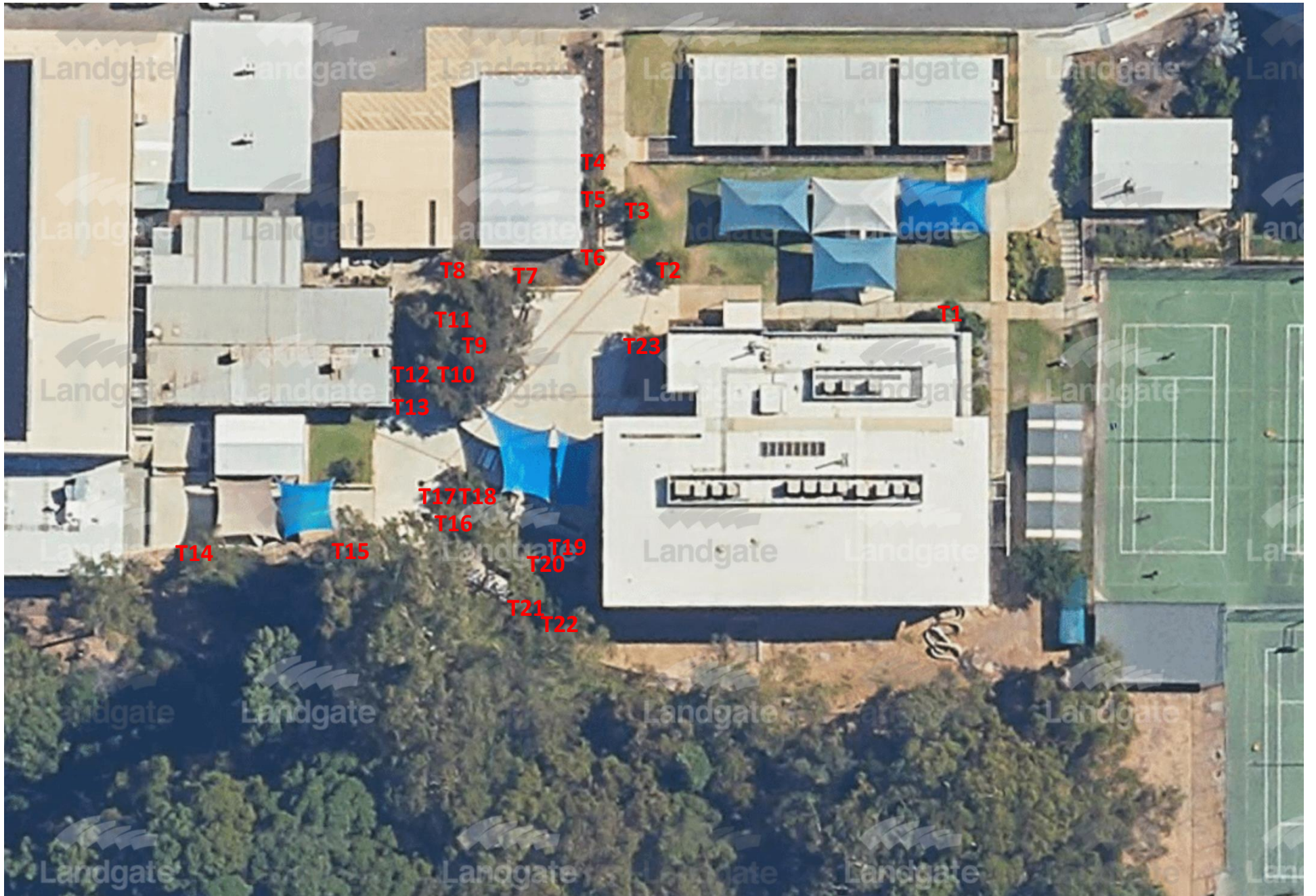


Figure 18. Excerpt from *Proposed Site Plan – Overall, A0.101 A* (Bateman Architects, 2022).

7 References

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Appendix A. Arboricultural Reporting Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. Any titles and ownership of any property are assumed to be good. No responsibility is assumed for matters legal in character.
2. It is assumed that any property/project is not in violation of any applicable codes, ordinances, statutes or other government regulations.
3. Care has been taken to obtain all information from reliable sources. All data has been verified in so far as possible, however, the consultant can neither guarantee nor be responsible for the accuracy of the information provided by others.
4. The consultant shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.
5. Loss or alteration of any part of this report invalidates the entire report.
6. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by anyone but the person to whom it is addressed, without the prior written consent of the consultant.
7. Neither all nor any part of the contents of this report, nor any copy thereof, shall be used for any purpose by anyone but the person to whom it is addressed, without the written consent of the consultant. Nor shall it be conveyed by anyone, including the Client, to the public through advertising, public relations, news, sales or other media, without the written consent of the consultant.
8. This report and any values expressed herein represent the opinion of the consultant and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
9. Sketches, diagrams, graphs and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys unless expressed otherwise.
10. Information contained in this report covers only those items that were examined and reflect the condition of those items at the time of inspection.
11. Inspection is limited to visual examination of accessible components without dissection, excavation or probing. There is no warranty or guarantee expressed or implied that the problems or deficiencies of the plants or property in question may not arise in the future.

Appendix B. Explanation of Tree Assessment Terms

Tree number: Refers to the individual identification number assigned within the ArborSafe software to each assessed tree on the site and the number which appears of the tree's tag.

Tree location: Refers to the easting and northing coordinates assigned to the location of the tree as obtained from the geo-referenced aerial image within the ArborSafe software.

Tree species: Provides the botanic name (genus, species, sub-species, variety and cultivar where applicable) in accordance with the International Code of Botanical Nomenclature (ICBN), and the accepted common name.

Trees in group: The number of trees encompassing a collective assessment of more than one tree. Typically grouped trees have similar attributes that can be encompassed within one data record.

Height: The estimated range in metres attributed to the tree from its base to the highest point of the canopy. Where required height will be estimated to the nearest metre.

Diameter at Breast Height (DBH): Refers to the tree's estimated trunk diameter measured 1.4m from ground level for a single trunked tree. These estimates increase in 50mm increments. Where required DBH will be measured to give an accurate measurement for single trunked trees, trees with multiple trunks, significant root buttressing, bifurcating close to ground level or trunk defects and will be measured as per the Australian Standard AS 4970–2009: *Protection of Trees on Development Sites*.

Tree Protection Zone (TPZ): A specified area above and below ground and at a given distance measured radially away from the centre of the tree's trunk and which is set aside for the protection of its roots and crown. It is the area required to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development. The radius of the TPZ is calculated by multiplying its DBH by 12. TPZ radius = DBH × 12. (Note "Breast Height" is nominally measured as 1.4m from ground level). TPZ is a theoretical calculation and can be influenced by existing physical constraints such as buildings, drainage channels, retaining walls, etc. (Standards Australia, 2009).

Structural Root Zone (SRZ): The area close to the base of a tree required for the tree's anchorage and stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright. The SRZ is nominally circular with the trunk at its centre and is expressed by its radius in metres. SRZ radius = $(D \times 50)^{0.42 \times 0.64}$ (Standards Australia, 2009).

Canopy spread: The estimated range in metres attributed to the spread of the tree's canopy on its widest axis. Where required crown spread will be estimated to the nearest metre.

Origin: Refers to the origin of the species and its type.

Category	Description
Indigenous	Occurs naturally in the local area and is native to a given region or ecosystem.
State Native	Occurs naturally within State but is not indigenous.
Australian Native	Occurs naturally within Australia and its territories but is not a State native or indigenous.
Exotic Evergreen	Occurs naturally outside of Australia and its territories and typically retains its leaves throughout the year.
Exotic Deciduous	Occurs naturally outside of Australia and its territories and typically loses its leaves at least once a year.

Health: Refers to the health and vigour of the tree.

Category	Description
Excellent	Canopy full with even foliage density throughout, leaves are entire and are of an excellent size and colour for the species with no visible pathogen damage. Excellent growth indicators, e.g. seasonal extension growth. Exceptional specimen.
Good	Canopy full with minor variations in foliage density throughout, leaves are entire and are of good size and colour for the species with minimal or no visible pathogen damage. Good growth indicators, none or minimal deadwood.
Fair	Canopy with moderate variations in foliage density throughout, leaves not entire with reduced size and/or atypical in colour, moderate pathogen damage. Reduced growth indicators, visible amounts of deadwood, may contain epicormic growth.
Poor	Canopy density significantly reduced throughout, leaves are not entire, are significantly reduced in size and/or are discoloured, significant pathogen damage. Significant amounts of deadwood and/or epicormic growth, noticeable dieback of branch tips, possibly extensive.
Dead	No live plant material observed throughout the canopy, bark may be visibly delaminating from the trunk and/or branches.

Age: Refers to the life cycle of the tree.

Category	Description
Young	Newly planted small tree not fully established may be capable of being transplanted or easily replaced.
Juvenile	Tree is small in terms of its potential physical size and has not reached its full reproductive ability.
Semi-mature	Tree in active growth phase of life cycle and has not yet attained an expected maximum physical size for its species and/or its location.
Mature	Tree has reached an expected maximum physical size for the species and/or location and is showing a reduction in the rate of seasonal extension growth.
Senescent	Tree is approaching the end of its life cycle and is exhibiting a reduction in vigour often evidenced by natural deterioration in health and structure.

Structure: Refers to the structure of the tree from roots to crown.

Category	Description
Good	Sound branch attachments with no visible structural defects, e.g. included bark or acute angled unions. No visible wounds to the trunk and/or root plate. No fungal pathogens present.
Fair	Minor structural defects present, e.g. apical leaders sharing common union(s). Minor damage to structural roots. Small wounds present where decay could begin. No fungal pathogens present.
Poor	Moderate structural defects present, including bifurcations with included bark with union failure likely within 0–5 years. Wounding evident with cavities and/or decay present. Damage to structural roots.
Hazardous	Significant structural defects with failure imminent (3–6 months). Defects may include active splits and/or partial branch or root plate failures. Tree requires immediate arboricultural works to alleviate the associated risk.

Useful Life Expectancy (ULE): Useful life expectancy refers to an expected period of time the tree can be retained within the landscape before its amenity value declines to a point where it may detract from the appearance of the landscape and/or presents a greater risk and/or more hazards to people and/or property. ULE values consider tree species, current age, health, structure and location. ULE values are based on the tree at the time of assessment and do not consider future changes within the tree's location and environment which may influence the ULE value.

Category
0 Years
<5 Years
5–10 Years
10–15 Years
15–25 Years
25–50 Years
>50 Years

Defects: Visual observations made of the presenting defects of the tree and its growing environment that are, or have the capacity to impact upon, the health, structural condition and/or the useful life expectancy of the tree. Defects may include adverse physical traits or conditions, signs of structural weaknesses, plant disease and/or pest damage, tree impacts to assets or soil related issues.

Tree Significance: Includes environmental, social or historical reasons why the tree is significant to the site. The tree may also be rare under cultivation or have a rare or localised natural distribution.

Arborist Actions: A list of arboricultural and/or plant health care works that are aimed at maintaining or improving the tree's health, structural condition or form. Actions may also directly or indirectly reduce the risk potential of the tree such as via the removal of a particular branch or the moving of infrastructure from under its canopy.

Appendix C. Tree Retention Values

Based upon a modified version of the British Standard BS 5837–2012: *Trees in relation to design, demolition and construction – recommendations*.

Category and definition	Criteria (including sub-categories where appropriate)		
Category U			
Trees in such a condition that they cannot realistically be retained as viable trees in the context of the current land use for longer than 5 years.	<ul style="list-style-type: none"> Trees that have a severe structural defect that are not remediable such that their failure is expected within 12 months. Trees that will become unviable after removal of other Category U trees (e.g. where for whatever reason the loss of companion shelter cannot be mitigated by pruning). Trees that are dead or are showing signs of significant, immediate and irreversible overall decline. Trees infected with pathogens of significance to the health and or safety of other trees nearby Low quality trees suppressing adjacent trees of better quality. Noxious weeds or species categorised as weeds within the local area. <p>Note: Category U trees can have existing or potential conservation value* which might make it desirable to preserve.</p>		
	1. Arboricultural Qualities	2. Landscape qualities	3. Cultural and environmental values
Category A			
Trees of High Quality with an estimated remaining life expectancy of at least 25 years and of dimensions and prominence that it cannot be readily replaced in <20 years.	Trees that are particularly good examples of their species, especially if rare or unusual (in the wild or under cultivation); or those that are important components of groups or avenues.	Trees or groups of significant visual importance as arboricultural and/or landscape features. (e.g. feature and landmark trees).	Trees, groups or plant communities of significant conservation, historical, commemorative or other value (e.g. remnant trees, aboriginal scar trees, critically endangered plant communities, trees listed specifically within a Heritage statement of significance).
Category B			
Trees of Moderate Quality with an estimated remaining life expectancy of 15–25 years and of dimensions and prominence that cannot be readily replaced within 10 years.	Trees that might be included within Category A but are downgraded because of diminished condition such that they are unlikely to be suitable for retention beyond 25 years.	Trees that are visible from surrounding properties and/or the street but make little visual contribution to the wider locality.	Trees with conservation or other cultural value (trees within conservation areas or landscapes described within a statement of significance, locally indigenous species).
Category C			
Trees of Low Quality with an estimated remaining life expectancy of 5–15 years, or young trees that are easily replaceable.	Trees of very limited value or such impaired condition that they do not qualify in higher categories.	Trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural value.

* Where trees would otherwise be categorised as U, B or C but have significant identifiable conservation, heritage or landscape value even though only for the short term, they may be upgraded, although they might be suitable for retention only.

Tree Quality

		Health**			
		Excellent/ Good	Fair	Poor	Dead
Structure	Good	A	B	C	U
	Fair	B	B	C	U
	Poor	C	C	U	U
	Hazard *	U	U	U	U

* Structural hazard that cannot be remediated through mitigation works to enable safe retention.

** Trees of short term reduced health that can be remediated via basic, low cost plant health care works (e.g. mulching, irrigation etc.) may be designated in a higher health rating to ensure correct retention value nomination.

Category A	Typically trees in this category are of high quality with an estimated remaining life expectancy of at least 25 years and of dimensions and prominence that it cannot be readily replaced in <20 years. The tree may make significant amenity contributions to the landscape and may make high environmental contributions. In some cases, trees within this category may not meet the above criteria, however possess significant heritage or ecological value. Trees of this retention value warrant design consideration and amendment to ensure their viable retention.
Category B	Typically trees in this category are of moderate quality with an estimated remaining life expectancy of 15–25 years and prominence of size dimensions that cannot be readily replaced within 10 years. They may make moderate amenity contributions to the landscape and make low/moderate environmental contributions. Trees with this retention value warrant lesser design consideration in an attempt to allow for their retention.
Category C	Trees in this category are of low quality with an estimated remaining life expectancy of 5–15 years, or young trees that are easily replaceable, may have poor health and/or structure, are easily replaceable, or are of undesirable species and do not warrant design consideration.
Category U	Trees in this category are found to be in such a condition that they cannot realistically be retained as viable trees in the context of the current land use for longer than five years. These trees may be dead and/or of a species recognised as a weed that resulted in them being unretainable.

Appendix D. Tree Protection Measures

All trees to be retained require protection during the construction stage. Tree protection measures include a range of:

- Activities restricted within the TPZ
- Protective fencing
- Trunk and ground protection
- Tree protection signage
- Involvement from the project arborist
- Project milestones
- Compliance reporting

Activities Prohibited within the TPZ

- Machine excavation including trenching
- Storage
- Preparation of chemicals, including cement products
- Parking of vehicles and plant
- Refuelling
- Dumping of waste
- Wash down and cleaning of equipment
- Placement of fill
- Lighting of fires
- Soil level changes
- Temporary or permanent installation of utilities and signs
- Physical damage to the tree

Protective Fencing Specification

Protective fencing is to be installed as far as practicable from the trunk of any retained trees. Fencing should be erected as per the image below before any machinery or materials are brought to site and before commencement of works (including demolition).

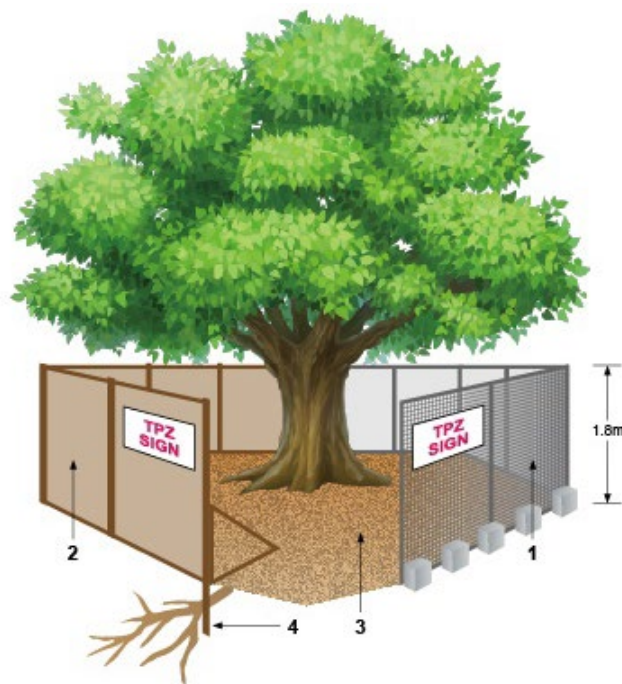
In some areas of the site (i.e. protection of trees on neighbouring properties) existing boundary fencing may be used as an alternative to protective fencing.

Once erected, protective fencing must not be removed or altered without approval from the project arborist. The TPZ fencing should be secured to restrict access.

TPZ fencing is to be a minimum of 1.8m high and mesh or wire between posts must be highly visible – an example is shown in Appendix Figure 1. Fence posts and supports should have a diameter greater than 20mm and should ideally be freestanding, otherwise be located clear of the roots. See image below.

Tree protection fencing must remain intact throughout all proposed construction works and must only be dismantled after their conclusion. The temporary dismantling of tree protection fencing must only be done with the authorisation of a consulting arborist and/or the responsible authority.

The subject trees themselves must also not be used as a billboard to support advertising material. Affixing nails or screws into the trunks of trees to display signs of any type is not a recommended practice in the successful retention of trees.



Legend:

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

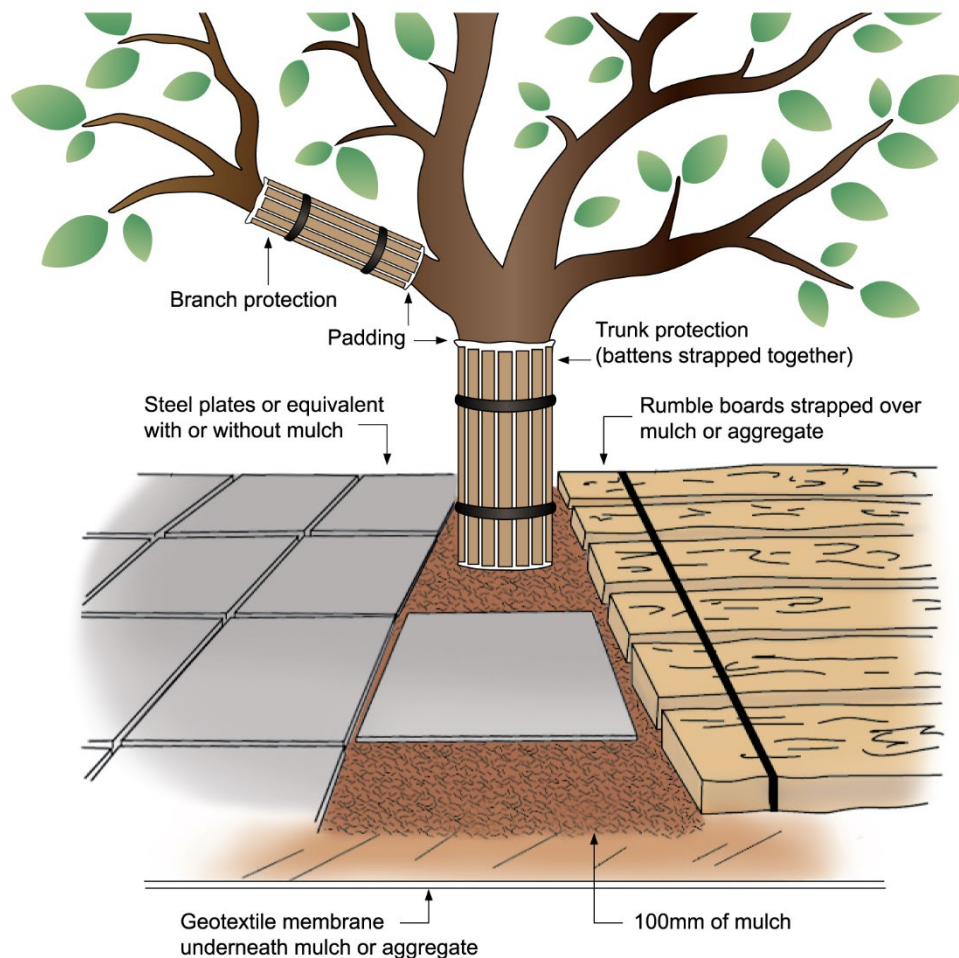
Appendix Figure 1. Depicts standard fencing techniques. (AS 4970–2009).

Trunk and Ground Protection

Given that proposed works are often within the TPZs of retained trees, standard protective fencing may not always be a viable method of protection. In these areas trunk protection and ground protection should be installed prior to the commencement of works and remain in place until after construction works have been completed.

Where construction access into the TPZ of retained trees cannot be avoided, the root zone of each tree must be protected using either steel plates or rumble board strapped over mulch/aggregate until such a time as permanent above ground surfacing (cellular confinement system or similar) is to be installed.

Trunk and ground protection should be undertaken in line with the Australian Standard AS 4790–2009: *Protection of Trees on Development Sites* as per the image below:



Notes:

1. For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed.
2. Rumble boards should be of a suitable thickness to prevent soil compaction and root damage.

Appendix Figure 2. Depicts trunk and ground protection techniques. (AS 4970–2009).

Tree Protection Signs

Signs identifying the TPZ should be placed at 10m intervals around the edge of the TPZ and should be visible from within the development site. An example is shown below in Appendix Figure 3.



Appendix Figure 3. Depicts standard fencing techniques. (AS 4970–2009).

Appendix E. Tree Assessment Data

Tree no.	Botanical Name	Common Name	Trees in group	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m ²)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	TLE (Yrs.)	Defects	Significance	Arborist comments	Tree Quality Score	Tree Retention value subcategory	Recommendation
1	<i>Grevillea x banksii</i>	Banks' Grevillea	1	19	24	2.3	16.33	1.8	5-10	5-10	Good	Fair	Semi-Mature	5-10	Co-dominant stems;	Attractive landscape feature;	21-06-2022 : Nick Arnold : Border garden adjacent to building.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
2	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	13	18	2.0	12.57	1.6	<5	5-10	Good	Good	Juvenile	25-50	Co-dominant stems;	Amenity value/shade;	21-06-2022 : Nick Arnold : Juvenile landscape planting.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
3	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	14	19	2.0	12.57	1.6	<5	5-10	Good	Good	Juvenile	25-50	Co-dominant stems;	Amenity value/shade;	21-06-2022 : Nick Arnold : Juvenile landscape planting (staked).	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
4	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	12	15	2.0	12.57	1.5	<5	<5	Good	Fair	Juvenile	10-15	Co-dominant stems; Epicormic growth; Girdling root(s);	Amenity value/shade;	21-06-2022 : Nick Arnold : Located in border garden.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
5	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	15	19	2.0	12.57	1.6	<5	<5	Good	Fair	Juvenile	10-15	Co-dominant stems; Included bark;	Amenity value/shade;	21-06-2022 : Nick Arnold : Located in border garden.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
6	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	12	14	2.0	12.57	1.5	<5	<5	Good	Fair	Juvenile	10-15	Co-dominant stems; Epicormic growth;	Amenity value/shade;	21-06-2022 : Nick Arnold : Located in border garden.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
7	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	16	19	2.0	12.57	1.6	<5	<5	Good	Fair	Juvenile	5-10	Co-dominant stems; Crossing/rubbing branches; Girdling root(s); Included bark;	Amenity value/shade;	21-06-2022 : Nick Arnold : Located in border garden. Push test indicates that tree is yet to fully establish.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
8	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	14	17	2.0	12.57	1.6	5-10	<5	Good	Fair	Juvenile	10-15	Co-dominant stems; Included bark; Suppressed;	Amenity value/shade;	21-06-2022 : Nick Arnold : Juvenile landscape planting adjacent to footpath.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
9	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	106	135	12.7	508.30	3.8	5-10	10-15	Fair	Fair	Semi-Mature	15-25	Co-dominant stems; Deadwood/stubs < 30mm; Included bark; Previous failure(s);	Amenity value/shade; Attractive landscape feature;	21-06-2022 : Nick Arnold : In border garden adjacent to seating area. Evidence of previous limb failure(s).	B	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
10	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	10	100	2.0	12.57	3.3	<5	<5	Good	Fair	Juvenile	10-15	Suppressed;	New Planting;	21-06-2022 : Nick Arnold : Suppressed under dripline of T9.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
11	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	10	100	2.0	12.57	3.3	<5	<5	Fair	Fair	Juvenile	5-10	Hanger(s); Suppressed;	New Planting;	21-06-2022 : Nick Arnold : Suppressed under dripline of T9.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
12	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	10	100	2.0	12.57	3.3	<5	<5	Fair	Fair	Juvenile	5-10	Inappropriate location; Previous failure(s); Wound(s);	New Planting;	21-06-2022 : Nick Arnold : Planted close to building.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
13	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	10	12	2.0	12.57	1.5	<5	<5	Good	Fair	Juvenile	15-25	Co-dominant stems;	New Planting;	21-06-2022 : Nick Arnold : Raised lawn area.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
14	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	10	11	2.0	12.57	1.5	<5	<5	Good	Fair	Juvenile	10-15	Co-dominant stems; Inappropriate location;	New Planting;	21-06-2022 : Nick Arnold : Planted close to lamp post/boundary fence.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
15	<i>Hakea laurina</i>	Pin Cushion Hakea	1	10	100	2.0	12.57	3.3	<5	<5	Good	Fair	Juvenile	10-15	Co-dominant stems;		21-06-2022 : Nick Arnold : Located in border garden.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
16	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	10	12	2.0	12.57	1.5	<5	<5	Good	Fair	Juvenile	10-15	Co-dominant stems; Girdling root(s); Included bark;	New Planting;	21-06-2022 : Nick Arnold : Push test indicates that tree is yet to fully establish.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
17	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	14	18	2.0	12.57	1.6	5-10	5-10	Good	Fair	Juvenile	15-25	Co-dominant stems;	New Planting;	21-06-2022 : Nick Arnold : Juvenile landscape planting.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
18	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	12	16	2.0	12.57	1.5	5-10	5-10	Good	Fair	Juvenile	10-15	Co-dominant stems; Included bark;	New Planting;	21-06-2022 : Nick Arnold : Juvenile landscape planting next to shade sail.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
19	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	10	100	2.0	12.57	3.3	5-10	5-10	Good	Fair	Juvenile	10-15	Co-dominant stems;	New Planting;	21-06-2022 : Nick Arnold : Next to building.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
20	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	10	100	2.0	12.57	3.3	5-10	5-10	Good	Fair	Juvenile	15-25	Co-dominant stems;	New Planting;	21-06-2022 : Nick Arnold : Next to building (south).	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
21	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	12	14	2.0	12.57	1.5	5-10	<5	Good	Fair	Juvenile	15-25	Co-dominant stems; Crossing/rubbing branches; Included bark;	New Planting;	21-06-2022 : Nick Arnold : Next to bike stand.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
22	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	12	14	2.0	12.57	1.5	5-10	<5	Good	Fair	Juvenile	15-25	Co-dominant stems; Included bark;	New Planting;	21-06-2022 : Nick Arnold : Next to lower boundary fence.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
23	<i>Agonis flexuosa</i>	Willow Myrtle/Peppermint	1	12	13	2.0	12.57	1.5	<5	<5	Good	Fair	Juvenile	10-15	Co-dominant stems;	New Planting;	21-06-2022 : Nick Arnold : Adjacent to corner of building.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
24	<i>Banksia ilicifolia</i>	Holly-Leaved Banksia	1	25	35	3.0	28.27	2.1	5-10	5-10	Good	Fair	Semi-Mature	10-15	Co-dominant stems; Previous failure(s);	Attractive landscape feature; Rare or localised distribution;	21-06-2022 : Nick Arnold : A cluster of stems.	B	3	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
25	<i>Banksia ilicifolia</i>	Holly-Leaved Banksia	1	12	15	2.0	12.57	1.5	5-10	<5	Good	Fair	Semi-Mature	10-15		Attractive landscape feature; Rare or localised distribution;		B	3	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
26	<i>Allocasuarina fraseriana</i>	Western She-oak	1	14	18	2.0	12.57	1.6	5-10	<5	Good	Fair	Juvenile	25-50	Co-dominant stems; Included bark;	Rare or localised distribution;	21-06-2022 : Nick Arnold : Juvenile native tree considered replaceable within <10-15 yrs.	C	1	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
27	<i>Allocasuarina fraseriana</i>	Western She-oak	1	18	30	2.2	14.66	2.0	5-10	<5	Good	Fair	Juvenile	25-50	Co-dominant stems; Included bark;	Rare or localised distribution;	21-06-2022 : Nick Arnold : Juvenile native tree considered replaceable within <10-15 yrs.	C	1	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
28	<i>Allocasuarina fraseriana</i>	Western She-oak	1	29	37	3.5	38.05	2.2	5-10	5-10	Fair	Fair	Juvenile	15-25	Co-dominant stems; Disease pathogens; Included bark;	Rare or localised distribution; Amenity value/shade;	21-06-2022 : Nick Arnold : Mutated growth.	C	1	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
29	<i>Allocasuarina fraseriana</i>	Western She-oak	1	20	30	2.4	18.10	2.0	5-10	<5	Good	Fair	Juvenile	25-50	Co-dominant stems; Included bark;	Rare or localised distribution;	21-06-2022 : Nick Arnold : Multi-stemmed at base. Juvenile native tree considered replaceable within <10-15 yrs.	C	1	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.

Tree no.	Botanical Name	Common Name	Trees in group	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m ²)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	TLE (Yrs.)	Defects	Significance	Arborist comments	Tree Quality Score	Tree Retention value subcategory	Recommendation
30	<i>Allocasuarina fraseriana</i>	Western She-oak	1	20	30	2.4	18.10	2.0	5-10	<5	Good	Fair	Juvenile	25-50	Co-dominant stems; Deadwood/stubs < 30mm; Included bark;	Rare or localised distribution; Amenity value/shade;	21-06-2022 : Nick Arnold : Multi-stemmed at base. Juvenile native tree considered replaceable within <10-15 yrs.	C	1	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
31	<i>Allocasuarina fraseriana</i>	Western She-oak	1	19	29	2.3	16.33	2.0	5-10	<5	Good	Fair	Juvenile	25-50	Co-dominant stems; Included bark;	Rare or localised distribution;	21-06-2022 : Nick Arnold : Multi-stemmed at base. Juvenile native tree considered replaceable within <10-15 yrs.	C	1	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
32	<i>Allocasuarina fraseriana</i>	Western She-oak	1	13	19	2.0	12.57	1.6	5-10	<5	Good	Fair	Juvenile	25-50	Co-dominant stems; Included bark;	Rare or localised distribution;	21-06-2022 : Nick Arnold : Juvenile native tree considered replaceable within <10-15 yrs.	C	1	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
33	<i>Allocasuarina fraseriana</i>	Western She-oak	1	18	28	2.2	14.66	1.9	5-10	<5	Good	Fair	Juvenile	25-50	Co-dominant stems; Included bark;	Rare or localised distribution;	21-06-2022 : Nick Arnold : Juvenile native tree considered replaceable within <10-15 yrs.	C	1	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
34	<i>Angophora costata</i>	Smooth-barked Apple Myrtle	1	29	34	3.5	38.05	2.1	5-10	5-10	Good	Fair	Juvenile	>50	Co-dominant stems;	Attractive landscape feature; Amenity value/shade;	21-06-2022 : Nick Arnold : Eastern states sp.	B	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
35	<i>Angophora costata</i>	Smooth-barked Apple Myrtle	1	25	31	3.0	28.27	2.0	5-10	5-10	Fair	Fair	Juvenile	25-50	Co-dominant stems; Disease pathogens; Resin exudation/kino;	Attractive landscape feature; Amenity value/shade;	21-06-2022 : Nick Arnold : Tree showing signs of reduced health/vigour.	C	1	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
36	<i>Banksia ilicifolia</i>	Holly-Leaved Banksia	1	30	39	3.6	40.72	2.2	5-10	5-10	Fair	Fair	Mature	15-25	Co-dominant stems; Deadwood/stubs > 60mm; Previous failure(s);	Amenity value/shade; Significant due to age/size; Attractive landscape feature; Rare or localised distribution;	21-06-2022 : Nick Arnold : Established native banksia.	B	3	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
37	<i>Angophora costata</i>	Smooth-barked Apple Myrtle	1	15	18	2.0	12.57	1.6	5-10	<5	Fair	Fair	Juvenile	25-50	Co-dominant stems; Suppressed;	Amenity value/shade; New Planting;	21-06-2022 : Nick Arnold : Within dripline of adjacent E. rudis.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
38	<i>Angophora costata</i>	Smooth-barked Apple Myrtle	1	12	15	2.0	12.57	1.5	5-10	<5	Good	Fair	Juvenile	25-50	Co-dominant stems; Suppressed;	Amenity value/shade; New Planting;	21-06-2022 : Nick Arnold : Within dripline of adjacent E. rudis.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
39	<i>Eucalyptus rudis ssp. rudis</i>	Flooded Gum	1	73	88	8.8	241.08	3.1	10-15	10-15	Fair	Fair	Semi-Mature	25-50	Co-dominant stems; Deadwood/stubs < 30mm; Disease pathogens; Gall(s); Pests/insects;	Attractive landscape feature; Amenity value/shade;	21-06-2022 : Nick Arnold : Several galls/areas of abnormal growth indicates pest/disease activity.	B	23	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
40	<i>Eucalyptus conferruminata</i>	Bald Island Marlock	1	30	45	3.6	40.72	2.4	5-10	10-15	Fair	Fair	Semi-Mature	15-25	Co-dominant stems; Crossing/rubbing branches; Suppressed;	Attractive landscape feature; Amenity value/shade;	21-06-2022 : Nick Arnold : Edge of group pest trees at base (peppercorn). Unwanted species in COC.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
41	<i>Eucalyptus conferruminata</i>	Bald Island Marlock	1	35	47	4.2	55.42	2.4	5-10	10-15	Fair	Fair	Semi-Mature	15-25	Co-dominant stems; Crossing/rubbing branches; Suppressed;	Attractive landscape feature; Amenity value/shade;	21-06-2022 : Nick Arnold : Inspection partially obscured. Unwanted species in COC.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
42	<i>Casuarina cunninghamiana</i>	River She-oak	1	40	47	4.8	72.38	2.4	5-10	5-10	Good	Poor	Semi-Mature	15-25	Co-dominant stems; Epicormic growth; Poor pruning;	Screen value; Amenity value/shade;	21-06-2022 : Nick Arnold : Previous pruning practices (power line clearances) have resulted in a tree of poor structure.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
43	<i>Callistemon salignus</i>	Willow Bottlebrush	1	35	45	4.2	55.42	2.4	5-10	5-10	Fair	Fair	Semi-Mature	10-15	Co-dominant stems; Suppressed;	Screen value;	21-06-2022 : Nick Arnold : Partially suppressed and located under power lines.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
44	<i>Callistemon salignus</i>	Willow Bottlebrush	1	35	40	4.2	55.42	2.3	5-10	5-10	Fair	Fair	Semi-Mature	10-15	Co-dominant stems; Suppressed;	Screen value;	21-06-2022 : Nick Arnold : Partially suppressed and located under power lines.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
45	<i>Eucalyptus conferruminata</i>	Bald Island Marlock	1	50	65	6.0	113.10	2.8	5-10	10-15	Fair	Fair	Semi-Mature	15-25	Co-dominant stems; Crossing/rubbing branches; Deadwood/stubs < 30mm; Dieback; Suppressed;	Attractive landscape feature; Amenity value/shade;	21-06-2022 : Nick Arnold : Partially suppressed and located under power lines (form diminished). Unwanted species in COC.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
46	<i>Callistemon salignus</i>	Willow Bottlebrush	1	20	25	2.4	18.10	1.8	5-10	<5	Fair	Fair	Semi-Mature	10-15	Co-dominant stems; Suppressed;	Screen value;	21-06-2022 : Nick Arnold : Partially suppressed and located under power lines.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
47	<i>Casuarina cunninghamiana</i>	River She-oak	1	45	50	5.4	91.61	2.5	5-10	<5	Good	Poor	Semi-Mature	10-15	Co-dominant stems; Epicormic growth; Inappropriate location; Poor pruning;	Screen value;	21-06-2022 : Nick Arnold : Historically lopped regrowth under power lines. Unwanted species in COC.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
48	<i>Callistemon salignus</i>	Willow Bottlebrush	1	35	37	4.2	55.42	2.2	5-10	<5	Poor	Fair	Semi-Mature	5-10	Co-dominant stems; Deadwood/stubs < 30mm; Dieback; Suppressed;	Screen value;	21-06-2022 : Nick Arnold : Tree in reduced health.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
49	<i>Corymbia maculata</i>	Spotted Gum	1	83	90	10.0	311.65	3.2	20-30	10-15	Good	Fair	Mature	25-50	Co-dominant stems; Crossing/rubbing branches; Epicormic growth;	Attractive landscape feature; Amenity value/shade; Significant due to age/size;	21-06-2022 : Nick Arnold : Established tree in good health. Historically pruned back from power lines.	B	2	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
50	<i>Eucalyptus conferruminata</i>	Bald Island Marlock	1	25	27	3.0	28.27	1.9	5-10	5-10	Fair	Fair	Semi-Mature	10-15	Co-dominant stems; Crossing/rubbing branches; Deadwood/stubs > 30mm; Dieback; Suppressed;	Screen value; Amenity value/shade;	21-06-2022 : Nick Arnold : Suppressed in bush area under powerlines. Unwanted species in COC.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
51	<i>Callistemon 'Kings Park Special'</i>	Kings Park Special Bottlebrush	1	20	28	2.4	18.10	1.9	5-10	5-10	Fair	Fair	Semi-Mature	10-15	Co-dominant stems; Suppressed;	Screen value;	21-06-2022 : Nick Arnold : Suppressed screen tree.	C	2	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.



For further information
Telephone 1300 272 671
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