ARBORICULTURAL REPORT

# Arboricultural Impact Assessment (AIA)

## ESR

Banksmeadow SSDA Development

49-61 Stephen Road, Banksmeadow

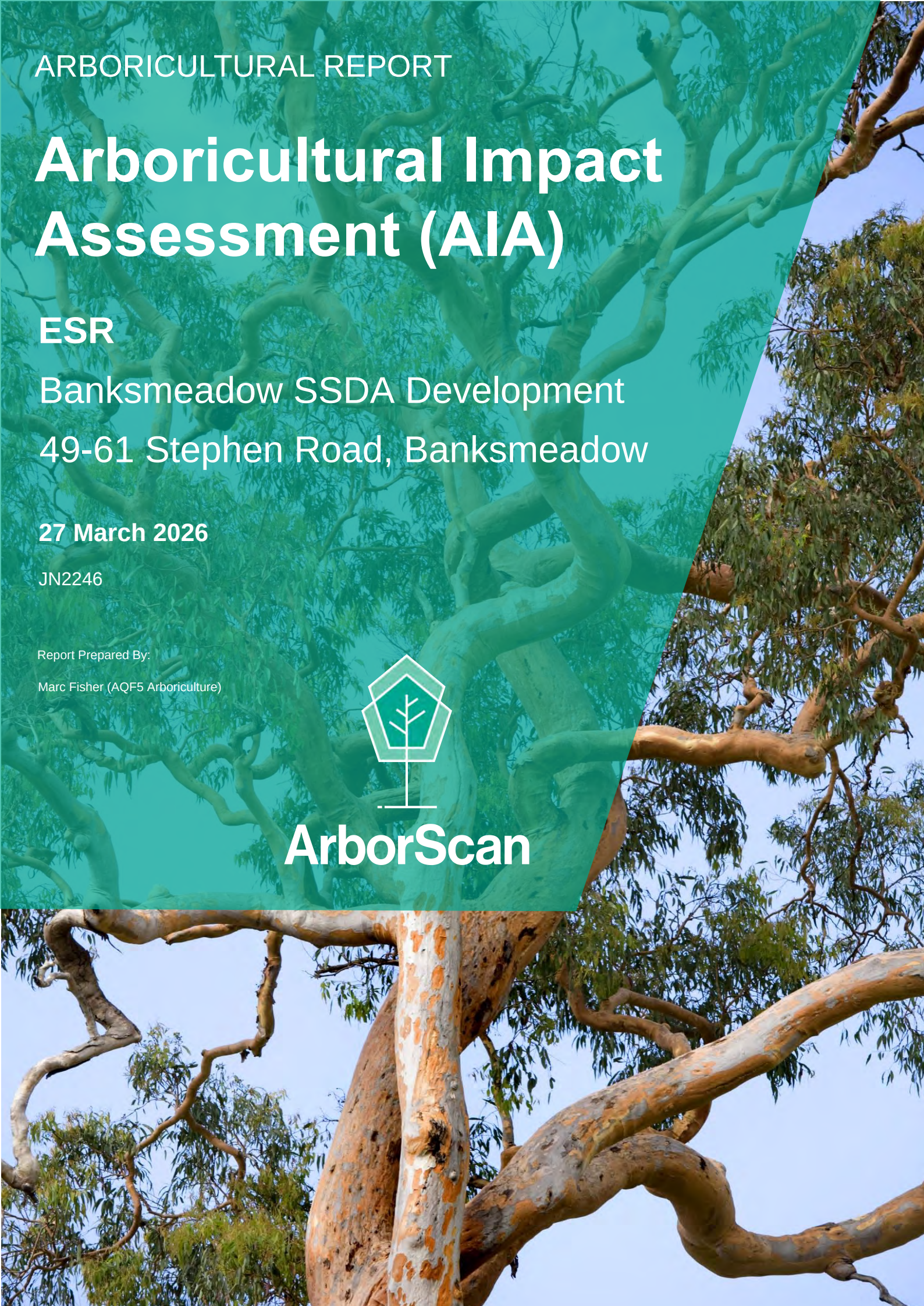
**27 March 2026**

JN2246

Report Prepared By:

Marc Fisher (AQF5 Arboriculture)

ArborScan



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| Company | ArborScan Pty Ltd |
| ABN | ABN 26 651 625 400 |
| Phone | 1800 ARBORSCAN (272 677) |
| Email | reports@arborscan.com.au |

| | |
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27 March 2026

Grace Macdonald
ESR
Level 12, 135 King Street
Sydney NSW 2000

Arboricultural Impact Assessment (AIA) for Site 49-61 Stephen Road Banksmeadow NSW 2019

Dear Grace,

We are pleased to provide you with the following report to assist with the proposed Industrial development at 49-61 Stephen Road Banksmeadow NSW 2019.

This Arboricultural Impact Assessment (AIA) report is intended to identify any significant trees that could be affected by the development and to assess the likely impact of the proposed works on these trees. The report also provides recommendations for the protection of significant trees and the appropriate management measures that should be taken during and after the construction work. Protection zone advice includes specifications for fencing/trunk guards, signage, and other measures to protect trees during the construction process.

Complete use of this report is authorised under the conditions limiting its use as stated in the Arboricultural Reporting Assumptions, Limiting Conditions & Copyright Clause. This assessment and report is supplied strictly in accordance with the inclusions, conditions, terms and exclusions as detailed within our most recent quotation.

Any recommendations of this report do not constitute consent to carry out works. Approval is required in the form of Development Consent to prune or remove trees, as well as the consent of the tree owner where trees are on adjoining lands.

ArborScan Pty Ltd declares that it has no affiliation with any private contractors, associations or nurseries involved in the tree removal, pruning and tree supply business. This ensures an impartial approach to the recommendations given within this report.

Should you have any queries relating to this report or its recommendations, please do not hesitate to contact us on 1800 ARBORSCAN (272 677).

Regards,

Marc Fisher
Consulting Arborist
ArborScan Pty Ltd

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# 1 Executive Summary

ArborScan Pty Ltd was commissioned by ESR (the Client) to undertake an Arboricultural Impact Assessment (AIA) of trees located at 49–61 Stephen Road, Banksmeadow NSW. The assessment considers 163 individually tagged trees (172 trees when grouped specimens are included), comprising 111 trees within the subject site and a further 52 trees located on adjoining or boundary land. The assessment has been prepared in accordance with recognised industry methodologies, including Visual Tree Assessment (VTA), the IACA STARS retention value system, and the Australian Standard AS 4970–2025 – Protection of Trees on Development Sites.

The proposed development results in a defined level of impact to the existing tree population, primarily associated with building footprints, bulk earthworks, and infrastructure installation. Of the 163 trees assessed, 61 trees are proposed for removal, while 102 trees are recommended for retention. Removals are predominantly attributed to trees subject to major encroachment, defined as impacts exceeding 20% of the Notional Root Zone (NRZ) or direct intrusion into the Structural Root Zone (SRZ), or where trees are located within the unavoidable development footprint or present as low retention value specimens. Conversely, trees identified for retention include all high retention value trees and a substantial proportion of medium and low value trees where impacts are considered manageable through appropriate design and construction controls.

The assessment identifies that a considerable proportion of trees are subject to major encroachment scenarios, reflecting the constrained nature of the site and the extent of proposed works. Notwithstanding this, retention has been recommended where feasible, supported by the adoption of tree-sensitive construction methodologies, including non-destructive excavation and constructing roadways above grade to minimising root disturbance. Where encroachment remains within minor to moderate thresholds, tree viability is considered achievable subject to the implementation of prescribed protection measures. Where impacts exceed acceptable thresholds and cannot be mitigated through design modification or construction methodology, removal has been recommended as the most appropriate outcome.

A number of assessed trees are located on adjoining land, and no works may be undertaken to these trees without the consent of the relevant landowner and, where applicable, the appropriate authority. Three trees (Tree 107, 110, and 151) have been identified where removal is required, and these will necessitate formal notification and approval prior to any works proceeding.

The successful retention of nominated trees is contingent upon strict adherence to the recommendations of this report and the requirements of AS 4970–2025. This includes the establishment of Tree Protection Zones (TPZs), installation of protective fencing, restriction of activities within TPZs, avoidance of soil level changes, and the use of non-destructive excavation techniques where required. Ongoing supervision and certification by a suitably qualified AQF Level 5 Project Arborist will be essential to ensure compliance and to manage unforeseen site conditions. Where conflicts arise during construction that cannot be reasonably mitigated, further assessment will be required, and recommendations may need to be updated to reflect site conditions at the time of works.

Overall, the assessment demonstrates that the proposed development can proceed with a balanced and defensible approach to tree management, facilitating the retention of higher-value trees while accommodating necessary removals driven by design constraints. This report should be read in conjunction with the detailed impact assessment schedule and tree protection plans, which provide tree-specific recommendations and are critical to the informed implementation of the proposed works.

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# 2 Introduction

## 2.1 Report Purpose

2.1.1 ArborScan Pty Ltd was commissioned by ESR (The Client) to complete an Arboricultural Impact Assessment (AIA) for 163 trees (excluding groups) at 49-61 Stephen Road Banksmeadow NSW 2019 (The Site).

2.1.2 The purpose of this Arboricultural Impact Assessment (AIA) is to outline measures for managing existing trees in relation to proposed activities such as tree removal, tree pruning, demolition and construction/development at the site.

2.1.3 Comprehensive information regarding the trees located on the site, including an assessment of any development constraints they may pose, is required. Based on this assessment, recommendations regarding the preservation of trees in the developable regions immediately and nearby need to be discussed and presented.

## 2.2 Scope

2.2.1 Carry out a visual examination of the trees within the areas that have been identified by/with the Client for inspection. This includes any trees bordering on neighbouring allotments, or Council land, which have the potential to be impacted.

2.2.2 Conduct a thorough inspection of the trees and their growing environment and provide an impartial evaluation of the trees based on their species, estimated age, expected useful life, health, structural condition, and suitability for the landscape.

2.2.3 Measure tree stems in order to identify the NRZ, TPZ and SRZ.

2.2.4 Estimate tree height and widest canopy spread.

2.2.5 Provide independent recommendations on the retention value of the trees using a recognised tree significance rating system.

2.2.6 Assign identification numbers to the trees on aerial maps to facilitate their location on the site. Where directly specified by the Client, the numbering system is to be consistent with any previous reports and plans. New trees are to be added sequentially from the last tree number listed.

2.2.7 Identify hollows/cavities and features that may benefit native Fauna.

2.2.8 Include a schedule documenting tree attributes, calculated NRZ, TPZ, SRZ, calculated development incursions (if any) and recommendations in relation to retention values in accordance with AS 4970-2025: Protection of Trees on Development Sites.

2.2.9 Create a Tree Protection Plan (TPP) identifying trees that are proposed to be retained or removed, identify the tree protection area for each tree, clearly identify the development encroachment to the TPZ and further markup an approximate location for tree protection fence installation. The plan will be site-specific and will relate to the proposed development works. The provided plan is intended to be used as a reporting guide only, and it is not intended to be used for construction/development.

2.2.10 Where required by the project scope, recommend replacement species for any trees identified for removal.

2.2.11 Identify limitations and further reporting requirements.

2.2.12 Provide supporting evidence in the form of a PDF report to aid with the local Authority's development application process.

# 3 Methodology

3.1.1 Marc Fisher (The Author) of ArborScan Pty Ltd carried out a site inspection of the subject trees during the month of February 2024.

3.1.2 Trees that are the subject of this report were identified during discussions with the Client at the time of the requested site consultation and tree assessment.

3.1.3 The subject trees were inspected from the ground using the initial component of the recognised ground-based Visual Tree Assessment (VTA) technique (without the use of binoculars) developed by Mattheck and Breloer (1994), without the use of aerial or internal investigation, foliage, wood or soil sample analysis nor an underground investigation of the root plate.

3.1.4 Unless specified otherwise, tree height and widest canopy spread were estimated.

3.1.5 In instances where there were no restrictions on accessing the tree stem, such as in neighbouring property or areas with dense vegetation, diameter measurements were taken using forestry callipers. For tree stems that were not accessible, an estimated stem size was recorded.

3.1.6 NRZ, TPZ and SRZ were calculated in accordance with the Australian Standard AS 4970–2025: Protection of Trees on Development Sites.

3.1.7 Tree retention/significance values were determined using the Institute of Australian Consulting Arboriculturists, Australia (IACA) Significance of a Tree, Assessment Rating System (STARS).

3.1.8 ArborScan did not receive georeferenced plans. Instead, the NSW Sites cadastre boundary was utilised to manually place the site plans and surveyed tree locations. It should be acknowledged that the cadastre boundary utilised to locate the plans and surveys incorporated in this report may not accurately represent the property's boundary surveyed in the field. However, the plans and surveys are presented in a consistent scale with the uploaded files.

3.1.9 The subject trees have been tagged; they have also been mapped on high-resolution aerial imagery, with their number and location readily identifiable on the plan.

3.1.10 Any photographs that were taken at the time of the site inspection by the Author and have not been altered for brightness or contrast, nor have they been cropped.

3.1.11 A visual inspection from ground level for hollows/cavities and features that may benefit native Fauna has been performed by the Author on the day of the assessment. A licenced and trained ecological consultant has not been commissioned.

3.1.12 A risk assessment has not been performed for the purpose of this report. Data collected on the Site was analysed by the Author, collated into report format, and relevant recommendations were formulated.

# 4 Observations

## 4.1 The Site

4.1.1 The property at 49 Stephen Road, Banksmeadow, is a significant former industrial site, historically utilised for chemical manufacturing. Located within the highly sought-after South Sydney precinct, this site is one of the few remaining large-scale industrial landholdings in the Botany Bay area. Its proximity to major transport links, including Sydney Airport, Port Botany, and key arterial roads such as the M5 and M1 motorways, positions it as an ideal location for logistics, warehousing, and distribution operations.

4.1.2 With a substantial land area, ESR has the opportunity to develop a state-of-the-art two-level facility offering a Gross Floor Area (GFA) of approximately 58,000 sqm. The design could cater to modern industrial and commercial needs, incorporating sustainable building practices, advanced technological infrastructure, and efficient supply chain solutions. The site's ample space and dual-level configuration provide flexibility for tenants across various sectors, including manufacturing, e-commerce, and third-party logistics.

Table 1. General Site Details (ePlanning Spatial Viewer Property Report, Accessed 27 March 2026)

| Site Details and Potential Planning Constraints | |
|---|---|
| KNOWN SITE NAME | Allnex Regional Head Office |
| STREET ADDRESS | 49-61 Stephen Road Banksmeadow NSW 2019 |
| LOT AND DP | A/-/DP190526 |
| LOCAL GOVERNMENT AREA | BAYSIDE COUNCIL |
| LOCAL ENVIRONMENTAL PLANS | Bayside Local Environment Plan (2021) |
| LAND ZONING | IN1 - General Industrial: (pub. 8-7-2022) |

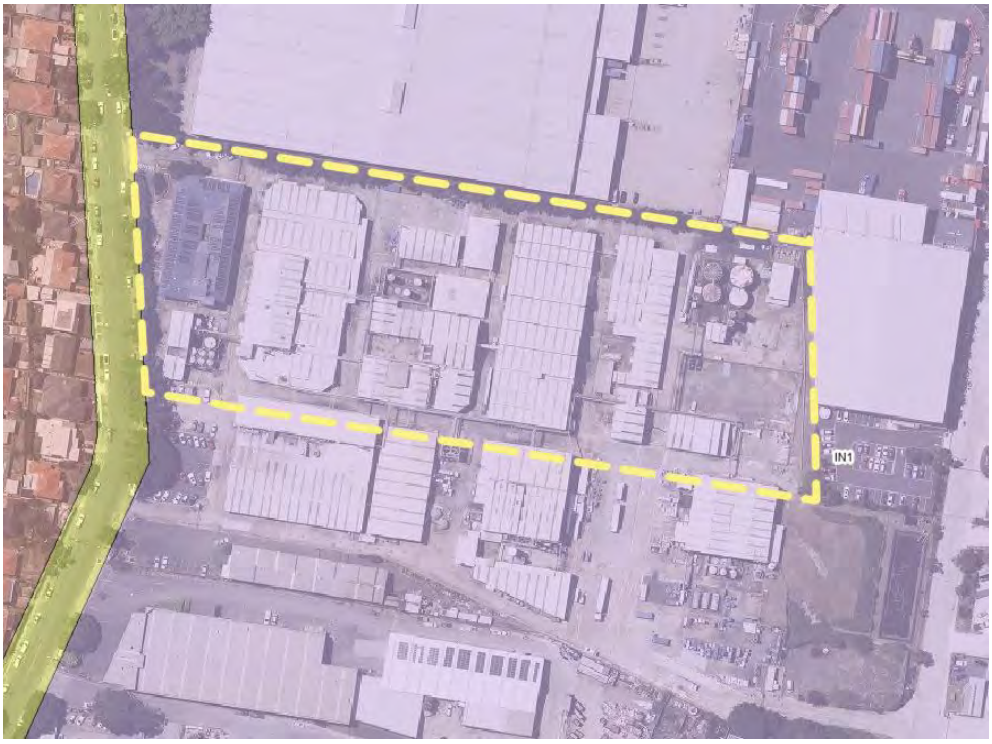


Figure 1. Site map depicting boundary and land zoning. (NSW Planning Portal Spatial Viewer, 27 March 2026)

## 4.2 Statutory Planning Mapping Constraints (Desktop Review)

4.2.1 A desktop review of publicly available NSW Government and Local Council statutory mapping layers has been undertaken to identify potential planning constraints relevant to the subject site. This review is strictly limited to the mapping layers listed in Table 2. The assessment comprises a desktop GIS interrogation only and does not include field verification, cadastral survey confirmation, ecological ground-truthing, heritage assessment, aviation assessment, hydrological investigation, or broader town planning due diligence. Other statutory, environmental, zoning, easement, infrastructure, or site-specific constraints may apply but fall outside the scope of this arboricultural assessment. The information provided is advisory in nature and should not be relied upon as a comprehensive planning feasibility assessment. Engagement of a qualified town planning professional is recommended where development approval pathways are being considered.

Table 2. Statutory Planning Mapping Layers – Desktop Review Summary

| No. | Constraint Name | Identified | Typical Advisor |
|---|---|---|---|
| 1 | Mapped Biodiversity Values | No | Ecologist |
| 2 | Mapped Terrestrial Biodiversity Values | No | Ecologist, Town Planner |
| 3 | Mapped Bushfire Prone Land, Vegetation Buffer, Vegetation Category 1 or 2 | No | Bushfire Consultant |
| 4 | Mapped Heritage - Local | No | Heritage Consultant, Town Planner |
| 5 | Mapped Heritage - State | No | Heritage Consultant, Town Planner |
| 6 | Mapped Obstacle Limitation Surface | No | Town Planner |
| 7 | Mapped Riparian Lands and Watercourses | No | Ecologist |
| 8 | Mapped Scenic Protection Land | No | Town Planner |
| 9 | Mapped Wetlands | No | Ecologist, Town Planner |
| 10 | Mapped Environmentally Significant Land | No | Ecologist, Town Planner |
| 11 | Significant Tree Register | No | Heritage Consultant, Town Planner |

## 4.3 Fauna / Wildlife Features

4.3.1 Habitat features capable of supporting Fauna such as Hollows, Stick nests, Nesting boxes, Carved hollows and Lifting loose bark were observed within none of the trees surveyed during the ground-based VTA inspection performed.

## 4.4 Ecological Considerations – Threatened Flora & Fauna

4.4.1 This report does not constitute an ecological assessment. ArborScan specialises in arboricultural tree care and management. Matters concerning protected vegetation communities or threatened species have not been addressed in this Arboricultural Impact Assessment (AIA). The report aims to evaluate the specific impacts on trees resulting from the proposed development design to determine the feasibility of tree retention or removal. While the loss of key vegetation species and threatened plants or wildlife is highly significant, this must be addressed by an expert in the field.

## 4.5 Tree Protection and Preservation Within the Local Government Area

4.5.1 Trees and vegetation, even those on private land, are protected under the State Environmental Planning Policy (Biodiversity and Conservation) 2021 (NSW), which prescribes that tree and vegetation works are to be processed using a permit system administered by BAYSIDE COUNCIL through its Development Control Plan.

4.5.2 Any exemptions under the BAYSIDE COUNCIL DCP may not be applicable to land that is a heritage item or within a heritage conservation area, Threatened Ecological Communities or for Native vegetation that is on land included on the Biodiversity Values Map. See the tree data table for guidance on trees that are deemed a proscribed tree, requiring approval from the land authority.

## 4.6 Tree Location & Ownership

4.6.1 A total of 163 tree numbers have been assessed as part of this report which includes a total of 172 trees when considering tree grouping (The criteria for tree grouping has been based on the selection of nearby trees which are of a similar species and size/condition attribute).

4.6.2 The subject site has a total of 111 assessed trees. In addition, there are 52 trees situated on adjoining lands or which are located beyond the fenced perimeter boundary. Trees on adjoining lands include 4, 5, 6, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 107, 108, 109, 110, 111, 124, 125, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163.

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## 4.7 Summary Of Tree Retention Values

4.7.1 Retention values have been determined using the Retention Value - Priority Matrix of the IACA Significance of a Tree, Assessment Rating System (STARS) (IACA, 2010).

4.7.2 This method uses a scale of High, Medium and Low significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined. Other criteria such as its physical dimensions, age class, location and its Amenity, Heritage and Environmental significance are also considered.

4.7.3 In accordance with the STARS Tree Significance - Assessment Criteria and Tree Retention Value - Priority Matrix, the retention value categories include:

Table 3. Summary Of IACA Significance of a Tree, Assessment Rating System (STARS)

| STARS© Retention Value | Qty | % | Tree Numbers |
|---|---|---|---|
| HIGH | 11 | 6.7 | 4, 117, 118, 137, 140, 141, 143, 144, 147, 159, 161 |
| MEDIUM | 74 | 45.4 | 2, 6, 12, 13, 14, 17, 19, 20, 22, 23, 24, 25, 28, 29, 30, 32, 33, 35, 43, 46, 47, 50, 51, 53, 55, 56, 57, 58, 60, 61, 66, 67, 68, 69, 70, 88, 89, 91, 92, 93, 94, 95, 96, 98, 99, 100, 101, 102, 105, 106, 107, 108, 110, 111, 114, 115, 116, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 136, 138, 156, 162, 163 |
| LOW | 77 | 47.2 | 1, 3, 5, 7, 8, 9, 10, 11, 15, 16, 18, 21, 26, 27, 31, 34, 36, 37, 38, 39, 40, 41, 42, 44, 45, 48, 49, 52, 54, 59, 62, 63, 64, 65, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 90, 97, 103, 109, 112, 113, 119, 132, 133, 134, 135, 139, 142, 145, 146, 148, 149, 150, 151, 152, 153, 154, 155, 157, 158, 160 |
| PRIORITY FOR REMOVAL | 1 | 0.7 | 104 |

## 4.8 Proposed Development

4.8.1 An overview of the works being proposed is as follows:

- Demolition of existing structures, above ground services and hard surfaces
- Contaminated soil remediation
- Tree removal
- Grading and level changes
- Road construction and road widening
- Development of structures & essential service installation
- Landscaping works

4.8.2 Plans and associated reports provided by the Client include:

- CO14950.01 - 26.03.04 Revised Civil Package
- Appendix F - Architectural Plans

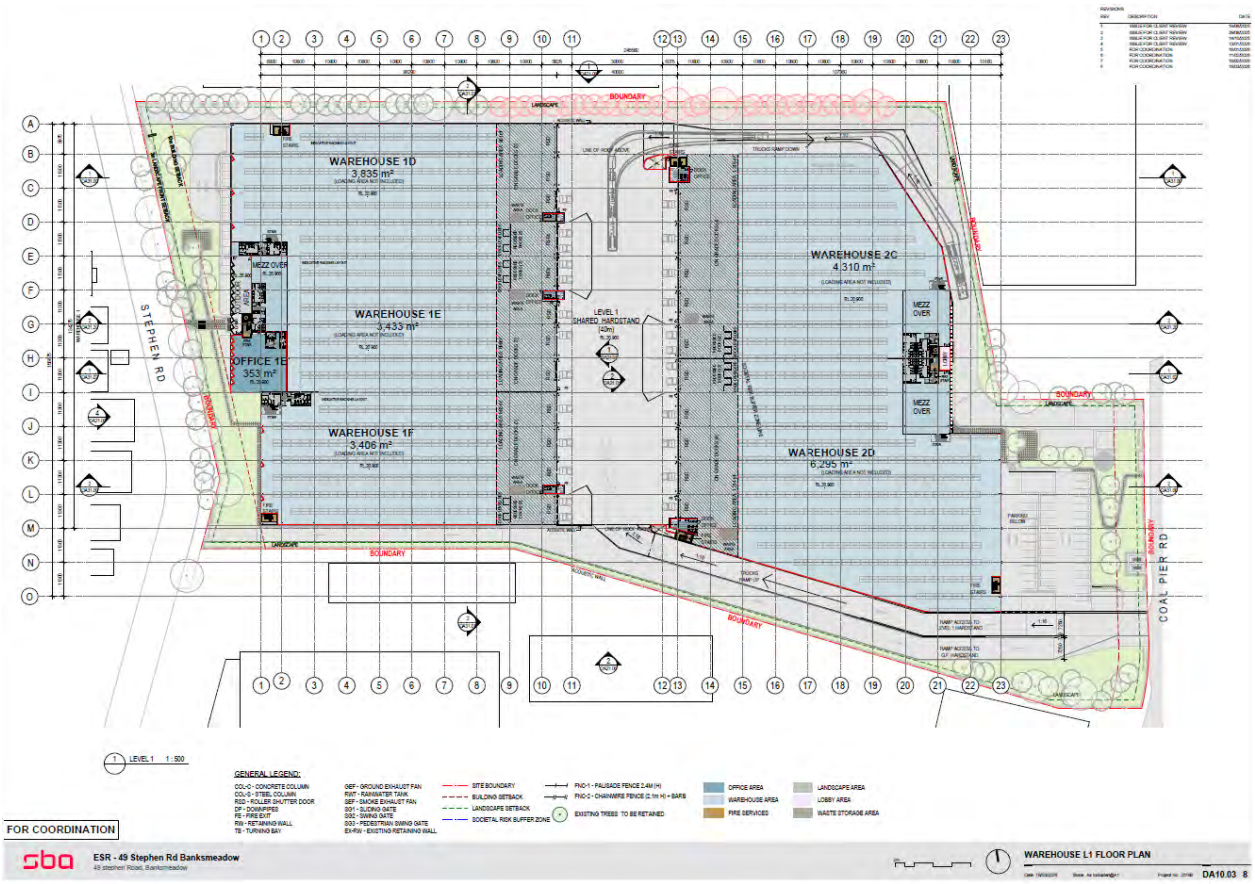


Figure 2. Client plans representing the development works proposed. (Viewed, 27 March 2026)

## 4.9 Notional Root Zone Encroachment

4.9.1 As per the Australian Standard AS 4970–2025: Protection of Trees on Development Sites, it may be possible to encroach into or modify the Notional Root Zone (NRZ) under specific conditions. Encroachment may include activities such as excavation, the placement of compacted fill, or machine trenching. Where encroachment results in the loss of NRZ area, an equivalent area must be compensated for elsewhere.

4.9.2 Tree-sensitive construction methods such as pier and beam footings, suspended slabs, cantilevered building elements, screw piles, or contiguous piling should be adopted where feasible to minimise disturbance to the NRZ and TPZ.

4.9.3 The levels of permissible encroachment are defined within AS 4970–2025, and must be carefully assessed by a qualified arborist to determine whether the level of intrusion constitutes a minor or major encroachment. Where a major encroachment is proposed or unavoidable, specific tree protection and mitigation measures will be required to support tree retention.

4.9.4 The levels of encroachment are defined below:

Table 4. Encroachment AS 4970–2025: Protection of Trees on Development Sites

| | |
|---|---|
| Major Encroachment (>20% NRZ or SRZ Impact) | Major encroachment is considered to occur when development works impact more than 20% of the total NRZ area or directly intrude into the SRZ. Trees affected by major encroachment are at significant risk of structural failure or long-term decline. In most cases, tree removal will be required unless non-destructive root mapping confirms minimal impact to critical structural roots and appropriate design modifications can be implemented. Where retention is proposed, extensive arboricultural supervision and ongoing tree protection measures will be required throughout all construction stages. |
| Moderate Encroachment (10%–20% NRZ) | Moderate encroachment occurs where development works impact between 10% and 20% of the total NRZ area. Trees with moderate encroachment require assessment and written justification by an AQF Level 5 consulting arborist to demonstrate that the tree can be viably retained. Exploratory root mapping and non-destructive excavation techniques may be necessary to identify the extent and significance of roots within the affected area. Where retention is feasible, design modifications such as bridging slabs, pier and beam footings, or boring for services must be implemented to minimise impacts. Tree removal may be recommended where roots critical to tree stability and health are likely to be irreparably damaged. |
| Minor Encroachment (<10% NRZ) | Minor encroachment is determined as being less than 10% of the total NRZ area and outside the SRZ. Trees with minor encroachment can generally be retained with standard tree protection measures, or with specific low-impact protection requirements as recommended by a consulting arborist. Where encroachment cannot be avoided, works must be undertaken using non-destructive techniques such as pneumatic, hydraulic, or hand digging to ensure critical roots (typically >30 mm diameter) are preserved. Tree removal is generally not required for minor encroachments unless pre-existing health or structural concerns render the tree unsuitable for retention. |
| No NRZ Encroachment (0%) | No encroachment is determined where development works are located entirely outside the NRZ and SRZ. Trees with no encroachment can typically be retained with standard tree protection fencing and exclusion zones installed prior to works commencing. No further arboricultural intervention is required unless site conditions change during the course of the project. |

Table 5. Notional Root Zone Encroachment Summary

| Encroachment Type | Qty | % | Tree Number(s) |
|---|---|---|---|
| Major Encroachment (>20% NRZ or SRZ Impact) | 97 | 59.5 | 1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 104, 105, 106, 107, 108, 109, 110, 129, 130, 131, 133, 151 |
| Moderate Encroachment (10%–20% NRZ) | 6 | 3.7 | 25, 26, 93, 94, 128, 132 |
| Minor Encroachment (<10% NRZ) | 4 | 2.5 | 92, 126, 127, 156 |
| No Encroachment (0% NRZ) | 56 | 34.4 | 4, 5, 90, 91, 95, 96, 97, 98, 99, 100, 101, 102, 103, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 152, 153, 154, 155, 157, 158, 159, 160, 161, 162, 163 |

## 4.10 Mitigating Development Impacts

4.10.1 The following table details the requirements according to AS 4970-2025, alongside the necessary mitigation measures for each encroachment category. These mitigation measures are applicable only if the trees are intended to be preserved.

| Encroachment Type | Mitigation Measures |
|---|---|
| No Encroachment (0% NRZ) | • Not applicable. |
| Minor Encroachment (<10% NRZ) | • The area lost to this encroachment should be compensated for elsewhere, contiguous with the NRZ.<br>• Detailed root investigations are generally not required.<br>• Tree protection must be installed and maintained. |
| Moderate Encroachment (10%–20% NRZ) | • The project arborist must demonstrate that the tree(s) would remain viable post-encroachment.<br>• Root investigation by non-destructive methods may be required to confirm root location and distribution.<br>• The area lost to this encroachment should be compensated for elsewhere, contiguous with the NRZ.<br>• Tree protection must be installed and maintained.<br>• The project arborist must supervise any works within the NRZ. |
| Major Encroachment (>20% NRZ or SRZ Impact) | • The project arborist must demonstrate the tree(s) would remain viable post-encroachment.<br>• Detailed root investigation by non-destructive methods will likely be required for any trees proposed for retention.<br>• A thorough assessment of relevant factors (tree species, condition, site constraints, design factors) must be undertaken.<br>• The area lost to this encroachment should be compensated for elsewhere, contiguous with the NRZ.<br>• Tree protection must be installed and maintained.<br>• The project arborist must supervise any works within the NRZ. |

# 5 Impact Assessment

5.1.1 The presumption of permissible encroachment on trees, while minimising any potential long-term health or structural damage, is contingent upon a comprehensive approach. This involves adherence to root-sensitive construction methods within the TPZ, limited excavation within the TPZ to avoid root severance, avoidance of any construction within the SRZ, availability of compensatory space surrounding the unaffected aspects of the tree, and enhancement of the existing TPZ through techniques such as mulching, soil conditioning, and irrigation as needed.

5.1.2 A review of the proposed design has been undertaken in the context of tree retention and removal across the site; the following trees have been identified to be impacted by the proposal –

Table 6. No Encroachment (0% NRZ)

| Category | Qty | Tree Number(s) |
|---|---|---|
| Retain - Retained with no encroachment based on the development design. | 54 | 4, 5, 90, 91, 95, 96, 97, 98, 99, 100, 101, 102, 103, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 152, 153, 154, 155, 157, 158, 159, 160, 161, 162, 163 |
| Remove - Reasons unrelated to development impacts alone. | 2 | 134, 135 |

Table 7. Minor Encroachment (<10% NRZ)

| Category | Qty | Tree Number(s) |
|---|---|---|
| Retain - Susceptible to minor encroachment as a result of the development. | 4 | 92, 126, 127, 156 |

Table 8. Moderate Encroachment (10%–20% NRZ)

| Category | Qty | Tree Number(s) |
|---|---|---|
| Retain - Conflicts exist between the NRZs and the disturbance footprint. However, these impacts are considered manageable, and the trees are expected to remain viable for retention, provided that the specified tree protection measures and any root investigation works are strictly followed. Please refer to the data table and the assigned tree protection requirements for each tree to guide their retention and management. | 5 | 25, 26, 93, 94, 128 |

| Category | Qty | Tree Number(s) |
|---|---|---|
| Remove – These trees fall within the disturbance footprint of the proposed development. Regrettably, due to the expected extent of root severance or damage from the proposed construction activities, these trees are classified as having a 'Moderate' encroachment. Consequently, the retention of these trees is not feasible within the current development design. | 1 | 132 |

Table 9. Major Encroachment (>20% NRZ or SRZ Impact)

| Category | Qty | Tree Number(s) |
|---|---|---|
| Retain - Conflicts exist between the NRZs and the disturbance footprint. However, these impacts are considered manageable, and the trees are expected to remain viable for retention, provided that the specified tree protection measures and any root investigation works are strictly followed. Please refer to the data table and the assigned tree protection requirements for each tree to guide their retention and management. | 39 | 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 108, 109, 130, 131 |
| Remove – These trees fall within the disturbance footprint of the proposed development. Regrettably, due to the expected extent of root severance or damage from the proposed construction activities, these trees are classified as having a significant 'Major' encroachment. Consequently, the retention of these trees is not feasible within the current development design. | 58 | 1, 2, 3, 16, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 104, 105, 106, 107, 110, 129, 133, 151 |

Table 10. Total Tree Summary Based On Design Proposal or When Considering Poor Tree Condition or Hazardous Trees

| Status Breakdown | | | |
|---|---|---|---|
| Item | Tree Qty. | % | Tree Number(s) |
| Remove | 61 | 37.4 | 1, 2, 3, 16, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 104, 105, 106, 107, 110, 129, 132, 133, 134, 135, 151 |
| Retain | 102 | 62.6 | 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 108, 109, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 130, 131, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163 |

Table 11. Summary Of the Tree Status Breakdown Based On STARS Retention Value

| Status Breakdown | | | |
|---|---|---|---|
| Item | Qty Retain | Qty Remove | Qty Habitat prune |
| HIGH | 11 | 0 | 0 |
| MEDIUM | 50 | 24 | 0 |
| LOW | 41 | 36 | 0 |
| PRIORITY FOR REMOVAL | 0 | 1 | 0 |

Table 12. Summary Of The Tree Species Proposed For Removal

| Status Breakdown | |
|---|---|
| Botanical Species | Qty |
| *Callistemon viminalis* | 14 |
| *Casuarina cunninghamiana* | 1 |
| *Casuarina glauca* | 25 |
| *Corymbia gummifera* | 1 |
| *Corymbia maculata* | 1 |
| *Cupressus torulosa* | 7 |
| *Elaeocarpus reticulatus* | 1 |
| *Eucalyptus sp.* | 1 |
| *Ficus sp.* | 1 |
| *Fraxinus angustifolia ssp. oxycarpa 'Raywood'* | 2 |
| *Glochidion ferdinandi* | 1 |
| *Hibiscus sp* | 1 |
| *Plumeria rubra var. acutifolia* | 2 |
| *Ricinus communis* | 1 |
| *Syagrus romanzoffiana* | 1 |
| *Unknown sp.* | 1 |

# 6 Recommendations

## 6.1 Modifying Site Plans and Survey

6.1.1 The client must ensure that all site plans, survey plans, and associated project documentation are reviewed and, where necessary, revised to align with the specifications and requirements outlined in this Arboricultural Impact Assessment (AIA) report. This includes accurately reflecting the Tree Protection Zones (TPZs), Structural Root Zones (SRZs), tree numbers/IDs, and any additional trees identified during the assessment. The radial distances and tree numbers detailed in the data table of this report should be used as a minimum standard of accuracy. Furthermore, suitable locations for soil stockpiling, material waste (e.g. skip bins), site offices and sheds, parking, material delivery areas, and material storage/set-down areas must also be clearly shown on the plans where applicable.

## 6.2 Ecological Assessment

6.2.1 Where there are concerns about the site's ecology or uncertainties regarding protected vegetation or wildlife, ArborScan encourages clients to engage a suitable contractor with expertise in this area.

## 6.3 Transplanting

6.3.1 No trees have been identified as being suitable for transplant/relocation in the landscape.

## 6.4 Tree Canopy Pruning

6.4.1 Based on the proposed development plan, An overview of the works being proposed is as follows: trees will come into contact with, or will overhang the proposed development footprint, which will require limbs to be trimmed, this includes no assessed trees.

6.4.2 Where pruning is deemed to be required, ensure a high standard of work is achieved; all proposed arboricultural works must be completed by a suitably qualified and experienced Arborist of a minimum AQF Level 3 in accordance with the principles of the Australian Standard 4373-2007 Pruning of Amenity Trees.

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## 6.5 Tree Removal

6.5.1 Out of the total number of tagged trees evaluated (163), it is proposed that a total of 61 trees be removed, which corresponds to 41.8% of the evaluated trees. This leaves a total of 102 trees that will be retained.

6.5.2 It is not permitted to perform any tree works on the trees located on adjoining property land. Performing tree works without permission can result in legal action and hefty fines, which can be avoided by seeking permission from the owner of the tree, and, where also required, the Lands Authority. It is recommended to advise the adjoining landowners of the 3 trees listed for removal, this includes Tree 107, 110, 151.

Table 13. Summary of Tree Removals

| Tree Qty. | Tree Number(s) |
|---|---|
| Remove – Significant adverse impact based on development design | |
| 58 | 1, 2, 3, 16, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 104, 105, 106, 107, 110, 129, 133, 151 |
| Remove – Unrelated to development impact (i.e. Weed species, damaging infrastructure, inappropriate location) | |
| 3 | 132, 134, 135, 135 |

6.5.3 All approved tree removal works shall be carried out by a qualified Arborist, with a minimum Level 3 AQF in arboriculture and in accordance with WorkCover's Code of Practice – Amenity Tree Industry.

6.5.4 Stumps located within the TPZ of trees to be retained shall be grubbed-out where required using a mechanical stump grinder (or by hand where less than 150mm in diameter) without damage to the root system of other trees. Stumps within the Tree Protection Zone of other trees to be retained shall not be pulled out using excavation equipment or similar without the prior consent of the Project Arborist.

6.5.5 Where trees to be removed are within the SRZ of any trees to be retained, consideration should be given to cutting the stump close to ground level and retaining the root crown intact. Grinding or excavating of stumps in the SRZ is not permitted without the prior consent of the Project Arborist.

## 6.6 Obtaining Approval For Tree Related Works

6.6.1 The following table identifies the trees that require confirmation with the land authority before removal, pruning, transplanting, or root pruning can occur. ArborScan specialises in tree-related advice and does not extend its expertise to planning controls or constraints that may be present on the site. Information provided by ArborScan regarding relevant codes and standards, including any requirements specific to trees stipulated by local councils, should serve strictly as a reference. It is recommended that this information be verified by consulting with a suitably qualified and experienced Planning consultant.

6.6.2 It is the responsibility of the landowner to confirm any exemptions with the relevant land authority prior to any tree removal taking place outside of a formal permit or development application process.

Table 14. Summary Of Tree Work Approval Needs

| Category | Qty | Tree Number(s) |
|---|---|---|
| Retain tree | 102 | 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 108, 109, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 130, 131, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163 |
| Prescribed site tree needing approval | 53 | 2, 3, 16, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 105, 106, 129, 133 |
| Prescribed tree needing approval, neighbours written consent required | 3 | 110, 107, 151 (Confirm Ownership) |
| Non-prescribed site tree which is exempt (Size / Species / Location / Condition), neighbours written consent required | 5 | 1, 104, 132, 134, 135 |

## 6.7 Offset Tree Planting

6.7.1 Replacement planting to help offset the loss of trees should aim to reflect, where possible, the number of trees removed and the associated reduction in amenity, canopy cover, and biomass. While a 1:1 planting ratio is often considered a baseline target, it is recognised that some sites may not be able to accommodate this level of replacement due to space or site constraints. In such cases, the land authority will determine the most suitable outcome in consultation with relevant stakeholders.

6.7.2 When space is limited, priority should be given to planting trees that have the potential to grow into the available space without causing infrastructure damage, and that will provide the greatest long-term benefit to the site's amenity, biodiversity, and canopy cover.

6.7.3 Replacement tree species should be chosen with a focus on contributing meaningfully to future canopy cover. This means selecting species that have the genetic potential to reach a mature size that maximises amenity, shade, and environmental benefits in their location. Suitability to site conditions, tolerance to local environmental factors, and compatibility with surrounding infrastructure should all be considered.

6.7.4 Final offset planting requirements, including the number and species of replacement trees, will be determined by the land authority. These decisions will consider site conditions, canopy cover objectives, and any practical limitations on planting opportunities.

Table 15. Summary Of The Minimum Tree Replacement Requirements To Offset Proposed Tree Removals

| Category | Qty | Tree Number(s) |
|---|---|---|
| Retain tree | 102 | 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 108, 109, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 130, 131, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163 |
| Authority to confirm replacement qty | 61 | 1, 2, 3, 16, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 104, 105, 106, 107, 110, 129, 132, 133, 134, 135, 151 |

## 6.8 Tree Damage

6.8.1 In the event of any tree becoming damaged for any reason during the construction period, a consulting arborist (Australian Qualification Framework Level 5) shall be engaged to inspect and provide advice on any remedial action to minimise any adverse impact. Such remedial action shall be implemented as soon as practicable and certified by the arborist.

# 7 Tree Protection Specifications (TPS) AS 4970–2025

7.1.1 Injury to any part of a tree during development can detrimentally affect its health or structural stability. Damage to the crown is common through pruning or accidental injury from construction activities, resulting in a reduction in foliage and photosynthesis and ultimately decreasing carbohydrate production. This weakens the tree's ability to function normally and withstand environmental stresses. Trunk wounds caused by machinery or construction works similarly interfere with the transport of water, nutrients, and carbohydrates, leaving trees susceptible to decay and structural failure over time.

7.1.2 Root damage is the most frequent form of injury to trees on development sites and can occur through root removal during excavation, mechanical wounding, soil compaction, chemical contamination, or changes in soil moisture and drainage patterns. Soil compaction, often caused by vehicle and machinery movement, reduces macropores necessary for water, gas exchange, and drainage, severely limiting root function. Even minor compaction can extend to depths of 15–20 cm, the depth at which most absorbing roots are located, leading to poor soil aeration, restricted root growth, and long-term health decline. Careful planning and implementation of tree protection measures are therefore critical to avoid these adverse impacts.

7.1.3 Where recommended, tree protection must be installed by a competent person and certified by a minimum qualified Arborist (AQF level 5) before any machinery or materials are brought to the site and before the commencement of any works.

7.1.4 The following table shows trees with specific recommendations. Please refer to the general requirements which are additionally applicable, and will be guided by the appointed project arborist.

Table 16. Summary Of Trees Proposed To Be Retained

| Tree Qty. | Tree Number(s) |
|---|---|
| Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | |
| 54 | 4, 5, 90, 91, 95, 96, 97, 98, 99, 100, 101, 102, 103, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 152, 153, 154, 155, 157, 158, 159, 160, 161, 162, 163 |
| Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | |
| 48 | 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 92, 93, 94, 108, 109, 126, 127, 128, 130, 131, 156 |

Table 17. Summary Of Proposed Specific Tree Protection Considerations To Minimise Tree-Related Impact and Damage

| Category | Qty | Tree Number(s) |
|---|---|---|
| Above grade construction techniques | 38 | 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 156 |
| Boundary fence offers protection | 16 | 4, 5, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103 |
| Document works (photos) | 45 | 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 92, 93, 94, 108, 109, 130, 131, 156 |
| Generic tree protection considerations apply | 38 | 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 152, 153, 154, 155, 157, 158, 159, 160, 161, 162, 163 |
| Project arborist engagement (AQF5) | 45 | 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 92, 93, 94, 108, 109, 130, 131, 156 |
| Soil grade change not permitted | 56 | 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 108, 109, 126, 127, 128 |
| Tree proposed for removal | 61 | 1, 2, 3, 16, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 104, 105, 106, 107, 110, 129, 132, 133, 134, 135, 151 |
| Tree protection fencing | 56 | 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 126, 127, 128, 130, 131 |
| Trunk protection | 3 | 136, 137, 156 |

## 7.2 Notional Root Zone (NRZ)

7.2.1 The NRZ is a radial distance measured from the centre of the trunk. It is a combination of the root area and crown area requiring protection from construction disturbance so that the tree remains viable.

7.2.2 Incursions into the NRZ may occur due to excavation, modification of existing ground levels, trenching or inverting the soil profile. Such works may damage part or all of the root system or affect soil structure and growing conditions required for long-term growth.

7.2.3 A NRZ should not be less than 2m nor greater than 15m (except where crown protection is required).

7.2.4 The NRZ of palms, other monocots, cycads, and tree ferns should not be less than 1m outside the crown projection. This is because these species generally have compact fibrous root systems that are largely contained beneath the crown.

7.2.5 Radial measurements for the NRZ can be found in the data schedule within this report.

## 7.3 Tree Protection Zone (TPZ)

7.3.1 The NRZ provides the baseline for determining the TPZ.

7.3.2 The TPZ is designed to offset incursions within the NRZ and protect areas of the tree, such as roots and canopy, that may be vulnerable to damage during construction.

7.3.3 The TPZ, where no change is specified, is equal to the NRZ, this is defined as the minimum TPZ area.

7.3.4 There is no defined maximum TPZ area. The TPZ may be increased on a single aspect or increased entirely. When determining the requirements of a larger TPZ area, the following factors should be taken into account where relevant:

- The location and distribution of the roots and the potential loss of root mass resulting from any encroachment, including the number and diameter of roots likely to be impacted.
- The tree species and its tolerance to root disturbance.
- Whether the works will result in a temporary (e.g. service trench) or permanent (e.g. basement or car park) reduction in available soil volume.
- The tree's age, health, current size and projected future size.
- The presence of other trees with overlapping NRZs or grafted root systems.
- The proposed staging and timing of excavation or root cutting works.
- Planned tree maintenance and tree care activities during and after construction.
- The tree's lean and structural stability.
- Soil characteristics including soil volume, texture, compaction, topography and drainage capacity.
- The presence of existing or past structures or obstacles that may have affected root growth or caused previous encroachments.
- Proposed construction methodologies and design measures that could reduce impacts on trees, such as the use of pier and beam footings, suspended slabs, cantilevered sections or screw piles.
- Whether a root investigation is required. If so, root location and distribution should be confirmed using minimally destructive methods such as pneumatic or hydraulic excavation, hand digging, or ground-penetrating radar. Where necessary, photographs and root maps should be prepared to address geospatial issues.

7.3.5 All root investigations should aim to minimise root damage. Roots must be exposed for the shortest possible time required to complete the investigation.

## 7.4 Working In Designated NRZ/TPZ

7.4.1 The following works are excluded from any NRZ/TPZ:

- Excavation
- Soil cut or fill, including trenching.
- Soil cultivation, disturbance or compaction.
- Stockpiling, storage or mixing of material.
- The parking, storing, washing and repairing of tools, equipment and machinery.
- The disposal of liquids and refuelling.
- The disposal of building materials.
- The siting of offices or sheds.
- Any other action leading to the impact on tree health or structure.

## 7.5 Structural Root Zone (SRZ)

7.5.1 The SRZ defines the area around the base of a tree that is required for the tree's stability in the ground. The woody root growth and soil cohesion in this area is necessary to hold the tree upright. The SRZ is nominally circular with the trunk at its centre and is expressed by its radius in metres. This zone considers a tree's structural stability only, not the root zone required for a tree's vigour and long-term viability, which will usually be a much larger area.

7.5.2 Incursions into the SRZ are not recommended as they are likely to result in loss or damage to woody roots, which may significantly affect stability.

7.5.3 Radial SRZ measurements can be found in the data schedule within this report.

## 7.6 Tree Protection Fencing

7.6.1 Fences should be erected before any machinery or materials are brought onto the site and before the commencement of works, including demolition, or in accordance with the TPS and as shown on the TPP. Once erected, protective fencing shall not be removed or altered without approval by the project arborist except in accordance with the TPS.

7.6.2 The fence should restrict access to the enclosed portion of the TPZ. Semi-permanent fences or options that make it difficult to move the fence should be considered where appropriate.

7.6.3 AS 4687.2 specifies applicable requirements where temporary fence panels are used. Where semi-permanent fences are used, the posts should be driven into the soil 600 mm (1000 mm in sand), and top rails should be used as required.

7.6.4 Existing perimeter fences and other structures may be used as part of the protective fence if suitable.

## 7.7 Tree Protection Signage

7.7.1 Signs identifying the TPZ is compliant with AS 4970–2025 should be placed in prominent positions at a maximum of 10m intervals around the edge of the TPZ and should be visible from within the development site. The sign should be minimum A3 size.

## 7.8 Tree Trunk Protection

7.8.1 Trunk protection should be undertaken in line with the Australian Standard AS 4790–2025: Protection of Trees on Development Sites.

7.8.2 Tree trunks and/or major branches located within close proximity to works must be wrapped with protective hessian or similar acceptable material to prevent tree injury. Major branches would typically be considered to be of a diameter greater than 100mm in diameter.

7.8.3 Timber battens (50mm x 100mm x 2m or similar) must be placed around the trunk with battens spaced at a maximum of 100mm intervals. Battens are to be strapped to the tree, not nailed or screwed into the trunk. Temporary signs, or any other items, shall not be fixed or attached to any tree.

## 7.9 Ground Protection

7.9.1 Ground protection should be undertaken in line with the Australian Standard AS 4790–2025: Protection of Trees on Development Sites.

7.9.2 Construction routes for approved equipment shall be confined to existing hard-surfaced areas wherever possible to minimise compaction and disturbance of the underlying soil profile and root zone. Where construction access into the TPZ of retained trees cannot be avoided, the root zone of each tree must be protected by placing weight distribution mats/track mats until such a time as the permanent above-ground surfacing is installed.

7.9.3 Exposed surface roots shall first be covered in a layer of mulch at a minimum thickness of 75-100mm before placing down weight distribution mats / track mats; root buttresses which are exposed shall have tree protection extended downward from the trunk to prevent tree injury.

## 7.10 Scaffolding/Hoarding

7.10.1 Where scaffolding/Hoarding is required, it should be erected outside the TPZ. Where it is essential for scaffolding/Hoarding to be erected within the TPZ, branch removal should be minimised. This can be achieved by designing scaffolding/Hoarding to avoid branches or tying back branches. The ground below the scaffolding / hoarding should be protected by boarding (e.g. scaffolding board or plywood sheeting). Where access is required, a boardwalk or other surface material should be installed to minimise soil compaction. Boarding should be placed over a layer of mulch and impervious sheeting to prevent soil contamination. The boarding should be left in place until the scaffolding is removed. If holes for supports are required, these are to be manually excavated (by hand).

## 7.11 Mulch In TPZ

7.11.1 Any TPZ, unless the existing surface is grass or garden, or specified otherwise by the Project Arborist, should be mulched to a depth of 75mm and kept free of weeds and grass for the duration of works. Mulching shall occur where existing landscape or hard surfaces are removed within the TPZ.

## 7.12 Addition of Fill (Soil)

7.12.1 Where practicable, site soil textural (field) analysis is recommended in order to help guide the composition of fill.

7.12.2 Unless otherwise specified, the selected fill should be composed of non-cohesive granular material, which is free draining.

7.12.3 As a guide (and in the absence of onsite soil analysis), fill should consist of suitably sourced and clean (i.e. free of weeds/contaminants and providing a beneficial environment for the promotion of plant growth) material consistent with a sandy loam. Indicative organic matter content should be no higher than 2–5%, with a clay content of between 10–20% by mass.

7.12.4 Backfill is to be consolidated/compacted as per construction standards/specifications.

## 7.13 Excavation In TPZ

7.13.1 Excavations within the TPZ of trees to be retained is to be carried out under arborist supervision (or with the express permission of the Project Arborist). No excavation should occur within the SRZ of these trees. Any proposed excavation should commence at the outer extent of the TPZ and move inwards to minimise root damage to these trees.

7.13.2 Works 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 a vacuum truck
- Mechanical excavation with a toothless bucket under direct Project Arborist supervision
- Manual excavation by hand.

7.13.3 Machine excavation is prohibited within the TPZ of retained trees unless undertaken at the direct consent of (or under supervision from) the Project Arborist.

7.13.4 Roots discovered are to be treated with care and minor roots (<30mm diameter) pruned with a sharp, sterile handsaw or secateurs. All significant roots (>30mm diameter) are to be recorded, photographed and reported to the Project Arborist.

## 7.14 Exploratory Root Investigation (Non-Destructive Excavation)

7.14.1 Where specifically requested, or where further information is needed to support the development proposed, non-destructive excavation along the direct edge of the alignment posing impact will be needed to determine the severity. Non-destructive excavation techniques may include the use of hand-held implements, air pressure (using an Air-spade® device) or water pressure (hydro-excavation in combination with a vacuum extraction unit).

7.14.2 Hard surfaces such as concrete restricting access to exposed soil areas may require cutting/removing prior the non-destructive excavation taking place.

7.14.3 The exploratory excavation shall be undertaken along the perimeter of the alignment (within the TPZ). The exploration should be carried out to the extent of either the maximum depth of the proposed development excavation or the depth of the subterranean rock layer, whichever comes first.

7.14.4 Where large roots greater than 40mm in diameter are present and the AQF level 5 Arborist believes that these roots belong to a tree within the site (a tree to be removed) that root must be traced back to the trees buttress (clear photographic evidence is required).

7.14.5 An Exploratory Root Investigation Report must be prepared and submitted to and approved by Council's Planning Manager prior to the commencement of any such works, the report must:

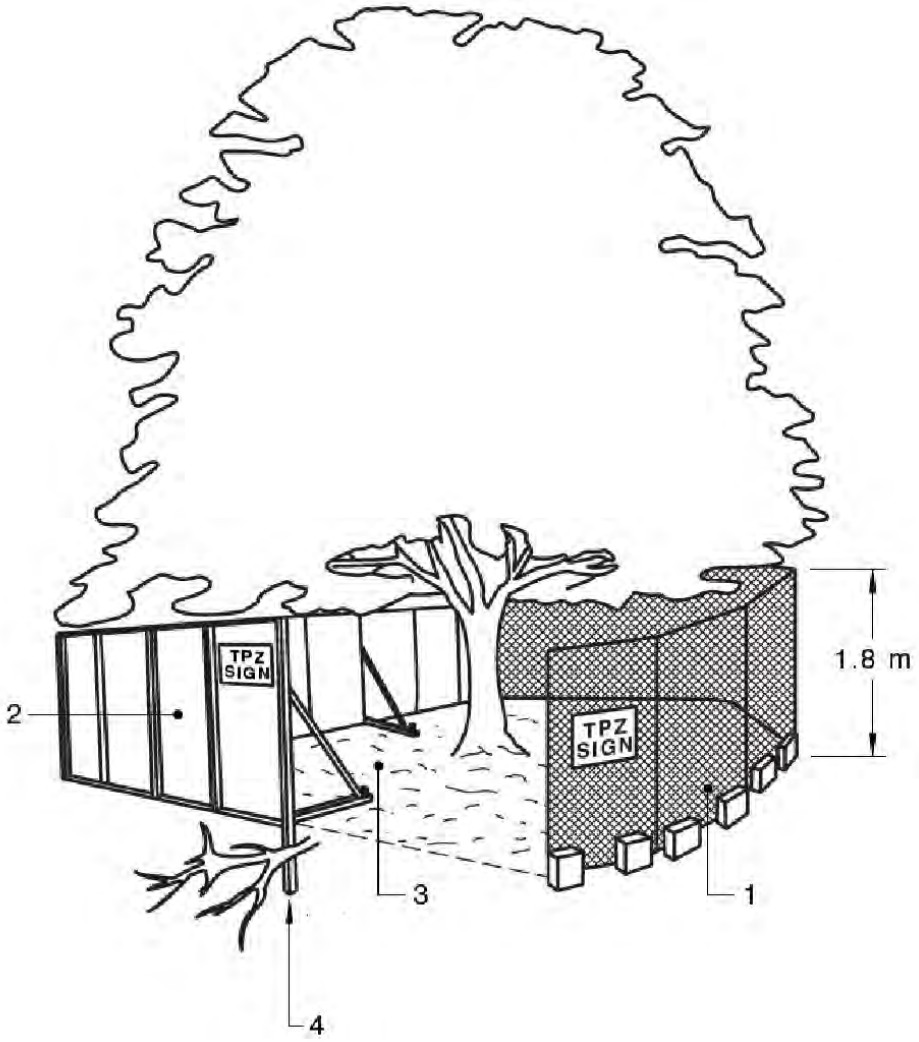
- Be prepared by a qualified Arborist (minimum AQF Level 5).
- Include the assessment and documentation (including photos) of tree root size, number and condition is to be prepared. Include a site plan showing all excavation lines and root locations in relation to the proposed works.
- Information on the Arborist's involvement during these works.
- All care shall be undertaken to preserve woody roots intact and undamaged during exploratory excavation. Any roots encountered of less than 30mm in diameter may be cleanly severed with clean sharp pruning implements at the face of the excavation. Where large woody roots (greater than 30mm diameter) are encountered during exploratory excavations, they are to be documented only and not severed.
- Where vacuum excavation requires backfilling of holes or trenches, a clean-washed sand is to be used.

## 7.15 TPZ and SRZ Setbacks

7.15.1 Trees and their root systems may occupy a substantial part of any development site and, because of their potential size, can have a major influence on planning the use of the site. Early identification and protection of important trees on development sites is essential from the outset and will minimise the problems of retaining inappropriate trees.

7.15.2 The extent of encroachment within the tree protection zone (greater than 20%) will result in damage to structural roots. The structural roots and structural root zone (SRZ) are the area of the root system required for stability and anchorage of the tree.

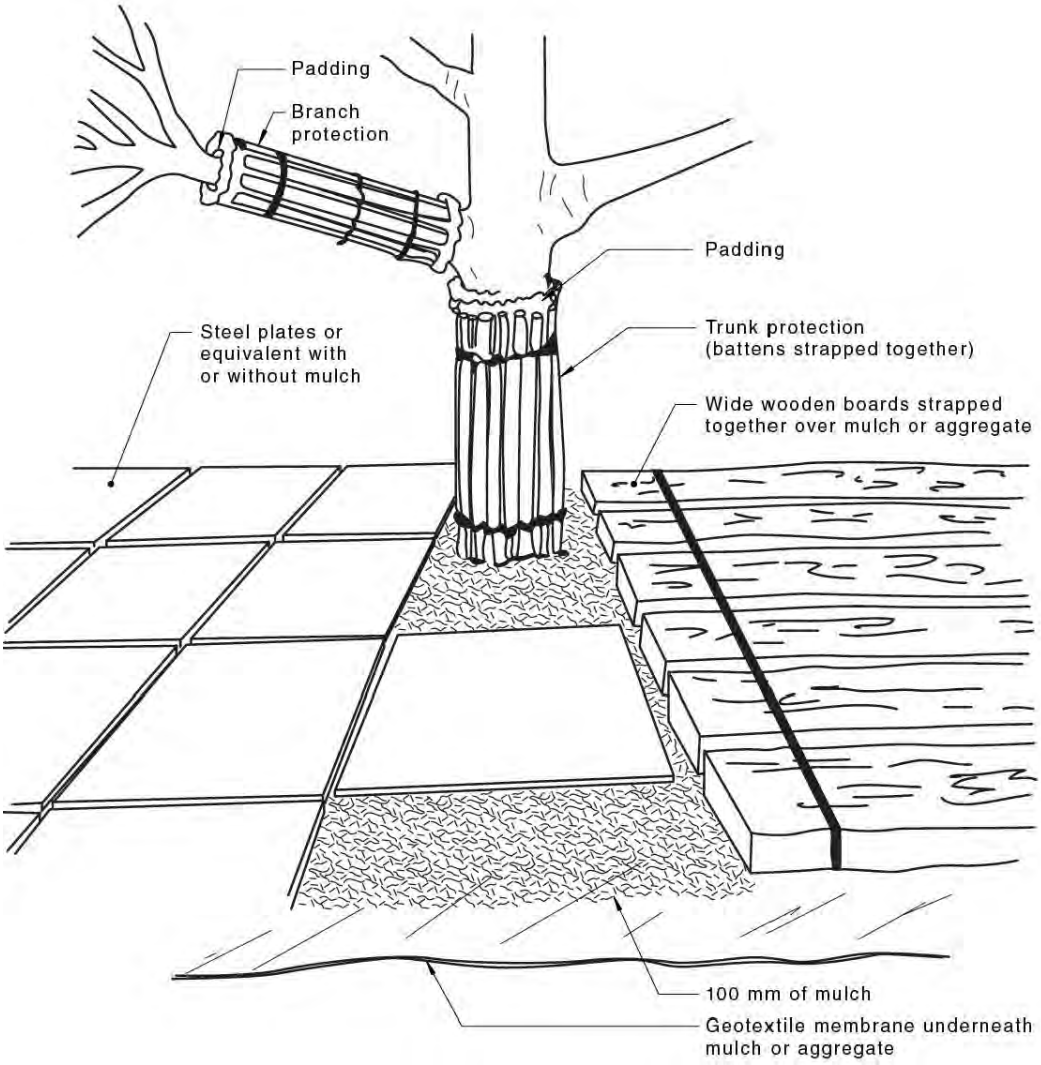
7.15.3 The below TPZ and SRZ radius measurements are to be taken from the centre of the stem at ground level.




Legend:

1. Chain wire mesh panels that are held in place with concrete feet.
2. Alternatively, plywood or wooden paling fence panels may be used. This fencing material also prevents building materials or soil from entering the TPZ.
3. Mulch installation across the surface of the TPZ (as detailed in the TPS). No excavation, construction activity grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ other than those indicated in the TPS.
4. Bracing may be used within the TPZ. Installation of posts or supports should avoid damaging roots.

Figure 3. Depicts standard fencing techniques. (AS 4970–2025).




Notes:

1. For trunk and branch protection, boards and padding may be used to prevent damage to bark. Boards shall be joined to each other using hoop straps and screws or similar. They shall not be screwed or nailed to the tree.
2. Wide wooden boards or plastic or metal plates should be of a suitable thickness to spread the load and prevent soil compaction and root damage.

Figure 4. Depicts trunk and ground protection techniques. (AS 4970–2025).

## 7.16 Project Milestones

7.16.1 The following visits and milestones were recommended as to when on-site tree inspection by the Project Arborist is required:

Table 18. Project Milestones

| Item | Purpose of Visit | Timing of Visit | Prerequisites |
|---|---|---|---|
| 1 | Pre-start induction | Following sign-off from Item 1. Contractor to provide a minimum of five days advance notice for this visit. | Prior to the commencement of works. All parties involved in the project to attend. |
| 2 | Installation of tree protection measures. | Following the completion of its installation by a competent person. | Prior to the commencement of any site works, including demolition. |
| 3 | Supervision of works in TPZ, including all regrading and excavations | Whenever there is work planned to be performed within the TPZ. Contractor to provide a minimum of five days advance notice for such visits. | |
| 4 | Regular site inspections | Minimum frequency of 1 Monthly inspections for the duration of the project. | The checklist must be completed by the Project Arborist at each site inspection and signed by both parties. |
| 5 | Final sign off | Following completion of works. | Practical completion of works prior to tree protection removal. |

## 7.17 Compliance Reporting

7.17.1 Following each inspection, the Project Arborist shall prepare a report detailing the condition of the trees. These reports should certify whether or not the works have been completed in compliance with the consent relating to tree protection.

7.17.2 These reports should contain photographic evidence where required to demonstrate that the work has been carried out as specified.

7.17.3 Matters to be monitored and included in these reports should include tree condition, tree protection measures and the impact of site works that may arise from changes to the approved plans.

7.17.4 The reports and Compliance Statements shall be submitted to the Project Manager (as well as the Clients' nominated representative) following each inspection.

7.17.5 The reports and any Non-Compliance Statements shall be submitted to the Project Manager (as well as the Clients' nominated representative) if tree protection conditions have been breached. Reports should contain clear remedial action specifications to minimise any adverse impact on any subject tree.

## 7.18 Project Arborist

7.18.1 An official "Project Arborist" must be commissioned to oversee the tree protection, any works within the TPZ's and complete regular monitoring compliance certification.

7.18.2 The project arborist must have minimum five (5) years industry experience in the field of arboriculture, horticulture with relevant demonstrated experience in tree management on construction sites, and Diploma level qualifications in arboriculture – AQF Level 5.

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# 9 Impact Assessment Schedule

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| Tree Id | Botanical Name | Trees In Group | DSH [cm] | DRC [cm] | Height [m] | Canopy [m] | Health | Structure | Tree age | ULE [yrs] | Landscape Significance (STARS) | Retention Value (STARS) | Radial NRZ [m] | TPZ Status | Radial SRZ [m] | Likely Encroachment | Encroachment Area [m2] | Encroachment Area [%] | Encroachment Type | Development Recommendation | Tree Protection Considerations | Retention Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | *Fraxinus angustifolia ssp. oxycarpa 'Raywood'* | 1 | 14 | 17 | <5m | <5m | Fair | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.57 | Excavation impacts, Soil grade change | 12.56 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 2 | *Unknown sp.* | 1 | 33 | 36 | 5-10m | 5-10m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 3.96 | Unmodified | 2.15 | Directly within the footprint | 49.24 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 3 | *Fraxinus angustifolia ssp. oxycarpa 'Raywood'* | 1 | 29 | 25 | 5-10m | 5-10m | Poor | Fair | Semi-Mature | Short (5-15 years) | Low | LOW | 3.48 | Unmodified | 1.85 | Directly within the footprint | 38.03 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 4 | *Ficus benjamina* | 1 | 45 | 65 | 10-15m | 10-15m | Good | Fair | Mature | Long (Over 40 years) | High | HIGH | 5.40 | Unmodified | 2.76 | | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Boundary fence offers protection | Retain |
| 5 | *Elaeocarpus reticulatus* | 1 | 18 | 22 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.16 | Unmodified | 1.75 | | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Boundary fence offers protection | Retain |
| 6 | *Cupaniopsis anacardioides* | 1 | 60 | 70 | 5-10m | 10-15m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 7.20 | Unmodified | 2.85 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 38.64 | 24 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 7 | *Cupressus torulosa* | 1 | 22 | 24 | 10-15m | <5m | Good | Good | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.64 | Unmodified | 1.82 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 8.89 | 41 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 8 | *Cupressus torulosa* | 1 | 17 | 20 | 10-15m | <5m | Fair | Fair | Semi-Mature | Short (5-15 years) | Low | LOW | 2.04 | Unmodified | 1.68 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 4.37 | 33 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 9 | *Cupressus torulosa* | 1 | 26 | 31 | 10-15m | <5m | Good | Fair | Semi-Mature | Short (5-15 years) | Low | LOW | 3.12 | Unmodified | 2.02 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 11.92 | 39 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 10 | *Cupressus torulosa* | 1 | 30 | 39 | 10-15m | <5m | Good | Fair | Semi-Mature | Short (5-15 years) | Medium | LOW | 3.60 | Unmodified | 2.23 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 17.25 | 42 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 11 | *Cupressus torulosa* | 1 | 35 | 40 | 10-15m | <5m | Good | Good | Mature | Short (5-15 years) | Medium | LOW | 4.20 | Unmodified | 2.25 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 25.83 | 47 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 12 | *Cupressus torulosa* | 1 | 38 | 39 | 10-15m | <5m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.56 | Unmodified | 2.23 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 29.57 | 45 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 13 | *Cupressus torulosa* | 1 | 36 | 41 | 10-15m | <5m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.32 | Unmodified | 2.28 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 25.83 | 44 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 14 | *Cupressus torulosa* | 1 | 37 | 42 | 10-15m | <5m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.44 | Unmodified | 2.3 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 29.08 | 47 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |

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| Tree Id | Botanical Name | Trees In Group | DSH [cm] | DRC [cm] | Height [m] | Canopy [m] | Health | Structure | Tree age | ULE [yrs] | Landscape Significance (STARS) | Retention Value (STARS) | Radial NRZ [m] | TPZ Status | Radial SRZ [m] | Likely Encroachment | Encroachment Area [m2] | Encroachment Area [%] | Encroachment Type | Development Recommendation | Tree Protection Considerations | Retention Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | *Cupressus torulosa* | 1 | 40 | 49 | 10-15m | <5m | Good | Fair | Mature | Short (5-15 years) | Medium | LOW | 4.80 | Unmodified | 2.45 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 33.68 | 47 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 16 | *Elaeocarpus reticulatus* | 1 | 6 | 9 | <5m | <5m | Good | Excellent | Juvenile | Short (5-15 years) | Low | LOW | 2.00 | Unmodified | 1.2 | Directly within the footprint | 12.56 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 17 | *Casuarina glauca* | 1 | 38 | 48 | 10-15m | 5-10m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.56 | Unmodified | 2.43 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 20.18 | 31 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 18 | *Casuarina glauca* | 1 | 41 | 54 | 10-15m | 5-10m | Good | Good | Mature | Short (5-15 years) | Medium | LOW | 4.92 | Unmodified | 2.55 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 24.66 | 32 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 19 | *Casuarina glauca* | 1 | 33 | 43 | 10-15m | 5-10m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 3.96 | Unmodified | 2.32 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 15.45 | 31 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 20 | *Casuarina glauca* | 1 | 33 | 50 | 10-15m | 5-10m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 3.96 | Unmodified | 2.47 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 14.82 | 30 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 21 | *Casuarina glauca* | 1 | 44 | 61 | 10-15m | 5-10m | Good | Good | Mature | Short (5-15 years) | Medium | LOW | 5.28 | Unmodified | 2.69 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 30.74 | 35 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 22 | *Casuarina glauca* | 1 | 25 | 37 | 10-15m | <5m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.00 | Unmodified | 2.18 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 7.57 | 27 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 23 | *Casuarina glauca* | 1 | 30 | 45 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.60 | Unmodified | 2.37 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 12.3 | 30 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 24 | *Casuarina glauca* | 1 | 34 | 46 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 4.08 | Unmodified | 2.39 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 16.55 | 32 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 25 | *Casuarina glauca* | 1 | 47 | 56 | 10-15m | 10-15m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 5.64 | Unmodified | 2.59 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 19.43 | 19 | Moderate | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 26 | *Casuarina glauca* | 1 | 16 | 24 | 5-10m | <5m | Fair | Good | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.82 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 2.46 | 20 | Moderate | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 27 | *Casuarina glauca* | 1 | 40 | 54 | 10-15m | 5-10m | Good | Good | Mature | Short (5-15 years) | Medium | LOW | 4.80 | Unmodified | 2.55 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 26.15 | 36 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |

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| Tree Id | Botanical Name | Trees In Group | DSH [cm] | DRC [cm] | Height [m] | Canopy [m] | Health | Structure | Tree age | ULE [yrs] | Landscape Significance (STARS) | Retention Value (STARS) | Radial NRZ [m] | TPZ Status | Radial SRZ [m] | Likely Encroachment | Encroachment Area [m2] | Encroachment Area [%] | Encroachment Type | Development Recommendation | Tree Protection Considerations | Retention Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28 | *Casuarina glauca* | 1 | 38 | 49 | 10-15m | 5-10m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.56 | Unmodified | 2.45 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 23.24 | 36 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 29 | *Casuarina glauca* | 1 | 37 | 47 | 10-15m | 5-10m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.44 | Unmodified | 2.41 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 20.39 | 33 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 30 | *Casuarina glauca* | 1 | 28 | 37 | 10-15m | 5-10m | Fair | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 3.36 | Unmodified | 2.18 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 10.22 | 29 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 31 | *Cupressus torulosa* | 1 | 35 | 37 | 5-10m | <5m | Fair | Poor | Semi-Mature | Short (5-15 years) | Low | LOW | 4.20 | Unmodified | 2.18 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 18.03 | 33 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 32 | *Cupressus torulosa* | 1 | 34 | 30 | 10-15m | <5m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.08 | Unmodified | 2 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 17.74 | 34 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 33 | *Casuarina glauca* | 1 | 32 | 41 | 15-20m | 5-10m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 3.84 | Unmodified | 2.28 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 16.55 | 36 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 34 | *Casuarina glauca* | 1 | 26 | 31 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 3.12 | Unmodified | 2.02 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 10.04 | 33 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 35 | *Casuarina glauca* | 1 | 37 | 54 | 15-20m | 10-15m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.44 | Unmodified | 2.55 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 26.23 | 42 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 36 | *Cupressus torulosa* | 1 | 29 | 32 | 5-10m | <5m | Good | Good | Semi-Mature | Medium (15-40 years) | Low | LOW | 3.48 | Unmodified | 2.05 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 18.82 | 49 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 37 | *Eucalyptus punctata* | 1 | 40 | 46 | 10-15m | 10-15m | Fair | Poor | Semi-Mature | Limited (Under 5 years) | Low | LOW | 4.80 | Unmodified | 2.39 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 35.07 | 48 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 38 | *Casuarina glauca* | 1 | 14 | 18 | 10-15m | <5m | Good | Fair | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.61 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 4.19 | 33 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 39 | *Cupressus torulosa* | 1 | 21 | 28 | 10-15m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.52 | Unmodified | 1.94 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 7.49 | 38 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 40 | *Casuarina glauca* | 1 | 21 | 27 | 10-15m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.52 | Unmodified | 1.91 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 7.44 | 37 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |

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| Tree Id | Botanical Name | Trees In Group | DSH [cm] | DRC [cm] | Height [m] | Canopy [m] | Health | Structure | Tree age | ULE [yrs] | Landscape Significance (STARS) | Retention Value (STARS) | Radial NRZ [m] | TPZ Status | Radial SRZ [m] | Likely Encroachment | Encroachment Area [m2] | Encroachment Area [%] | Encroachment Type | Development Recommendation | Tree Protection Considerations | Retention Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 41 | *Cupressus torulosa* | 1 | 29 | 32 | 10-15m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 3.48 | Unmodified | 2.05 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 17.61 | 46 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 42 | *Cupressus torulosa* | 1 | 28 | 31 | 10-15m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 3.36 | Unmodified | 2.02 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 15.74 | 44 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 43 | *Casuarina glauca* | 1 | 31 | 39 | 15-20m | 5-10m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 3.72 | Unmodified | 2.23 | Road construction, Root zone disturbance, Soil compaction, Soil grade change | 18.6 | 43 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Encroachment considerations, Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 44 | *Cupressus torulosa* | 1 | 20 | 25 | 5-10m | <5m | Fair | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.85 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 45 | *Cupressus torulosa* | 1 | 26 | 28 | 5-10m | <5m | Fair | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 3.12 | Unmodified | 1.94 | Directly within the footprint | 30.57 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 46 | *Casuarina glauca* | 1 | 51 | 66 | 15-20m | 10-15m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 6.12 | Unmodified | 2.78 | Directly within the footprint | 117.61 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 47 | *Casuarina glauca* | 1 | 36 | 43 | 10-15m | 5-10m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.32 | Unmodified | 2.32 | Directly within the footprint | 58.6 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 48 | *Casuarina glauca* | 1 | 36 | 48 | 10-15m | 5-10m | Fair | Good | Mature | Short (5-15 years) | Medium | LOW | 4.32 | Unmodified | 2.43 | Directly within the footprint | 58.6 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 49 | *Casuarina glauca* | 1 | 25 | 37 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Short (5-15 years) | Medium | LOW | 3.00 | Unmodified | 2.18 | Directly within the footprint | 28.26 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 50 | *Casuarina glauca* | 1 | 32 | 43 | 15-20m | 5-10m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 3.84 | Unmodified | 2.32 | Directly within the footprint | 46.3 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 51 | *Casuarina glauca* | 1 | 34 | 55 | 10-15m | 5-10m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.08 | Unmodified | 2.57 | Directly within the footprint | 52.27 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 52 | *Cupressus torulosa* | 1 | 19 | 22 | 5-10m | <5m | Fair | Fair | Semi-Mature | Short (5-15 years) | Low | LOW | 2.28 | Unmodified | 1.75 | Directly within the footprint | 16.32 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 53 | *Casuarina glauca* | 1 | 25 | 32 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.00 | Unmodified | 2.05 | Directly within the footprint | 28.26 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 54 | *Cupressus torulosa* | 1 | 22 | 27 | 5-10m | <5m | Fair | Fair | Semi-Mature | Short (5-15 years) | Low | LOW | 2.64 | Unmodified | 1.91 | Directly within the footprint | 21.88 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 55 | *Casuarina glauca* | 1 | 33 | 44 | 10-15m | 5-10m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 3.96 | Unmodified | 2.34 | Directly within the footprint | 49.24 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 56 | *Casuarina glauca* | 1 | 36 | 47 | 10-15m | 5-10m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.32 | Unmodified | 2.41 | Directly within the footprint | 58.6 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 57 | *Casuarina glauca* | 1 | 24 | 35 | 5-10m | <5m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 2.88 | Unmodified | 2.13 | Directly within the footprint | 26.04 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 58 | *Casuarina glauca* | 1 | 37 | 50 | 15-20m | 5-10m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.44 | Unmodified | 2.47 | Directly within the footprint | 61.9 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |

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| Tree Id | Botanical Name | Trees In Group | DSH [cm] | DRC [cm] | Height [m] | Canopy [m] | Health | Structure | Tree age | ULE [yrs] | Landscape Significance (STARS) | Retention Value (STARS) | Radial NRZ [m] | TPZ Status | Radial SRZ [m] | Likely Encroachment | Encroachment Area [m2] | Encroachment Area [%] | Encroachment Type | Development Recommendation | Tree Protection Considerations | Retention Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 59 | *Cupressus torulosa* | 1 | 25 | 26 | 10-15m | <5m | Good | Fair | Semi-Mature | Short (5-15 years) | Low | LOW | 3.00 | Unmodified | 1.88 | Directly within the footprint | 28.26 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 60 | *Casuarina glauca* | 1 | 26 | 33 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.12 | Unmodified | 2.08 | Directly within the footprint | 30.57 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 61 | *Cupressus torulosa* | 1 | 32 | 41 | 10-15m | <5m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 3.84 | Unmodified | 2.28 | Directly within the footprint | 46.3 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 62 | *Casuarina glauca* | 1 | 12 | 16 | 5-10m | <5m | Good | Good | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.53 | Directly within the footprint | 12.56 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 63 | *Casuarina glauca* | 1 | 12 | 16 | 5-10m | <5m | Good | Good | Juvenile | Limited (Under 5 years) | Low | LOW | 2.00 | Unmodified | 1.53 | Directly within the footprint | 12.56 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 64 | *Casuarina glauca* | 1 | 12 | 16 | 5-10m | <5m | Good | Good | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.53 | Directly within the footprint | 12.56 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 65 | *Cupressus torulosa* | 1 | 24 | 23 | 10-15m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.88 | Unmodified | 1.79 | Directly within the footprint | 26.04 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 66 | *Casuarina glauca* | 1 | 30 | 37 | 10-15m | 5-10m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.60 | Unmodified | 2.18 | Directly within the footprint | 40.69 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 67 | *Casuarina glauca* | 1 | 38 | 47 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 4.56 | Unmodified | 2.41 | Directly within the footprint | 65.29 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 68 | *Casuarina glauca* | 1 | 23 | 28 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 2.76 | Unmodified | 1.94 | Directly within the footprint | 23.92 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 69 | *Casuarina glauca* | 1 | 25 | 33 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.00 | Unmodified | 2.08 | Directly within the footprint | 28.26 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 70 | *Casuarina glauca* | 1 | 35 | 40 | 10-15m | 5-10m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 4.20 | Unmodified | 2.25 | Directly within the footprint | 55.39 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 71 | *Casuarina glauca* | 1 | 35 | 41 | 10-15m | 5-10m | Good | Good | Semi-Mature | Short (5-15 years) | Medium | LOW | 4.20 | Unmodified | 2.28 | Directly within the footprint | 55.39 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 72 | *Casuarina glauca* | 1 | 26 | 29 | 5-10m | <5m | Fair | Fair | Semi-Mature | Short (5-15 years) | Low | LOW | 3.12 | Unmodified | 1.97 | Directly within the footprint | 30.57 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 73 | *Casuarina glauca* | 1 | 11 | 15 | <5m | <5m | Good | Good | Juvenile | Limited (Under 5 years) | Low | LOW | 2.00 | Unmodified | 1.49 | Directly within the footprint | 12.56 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 74 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 75 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 76 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 77 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |

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| Tree Id | Botanical Name | Trees In Group | DSH [cm] | DRC [cm] | Height [m] | Canopy [m] | Health | Structure | Tree age | ULE [yrs] | Landscape Significance (STARS) | Retention Value (STARS) | Radial NRZ [m] | TPZ Status | Radial SRZ [m] | Likely Encroachment | Encroachment Area [m2] | Encroachment Area [%] | Encroachment Type | Development Recommendation | Tree Protection Considerations | Retention Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 78 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 79 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 80 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 81 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 82 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 83 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 84 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 85 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 86 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 87 | *Callistemon viminalis* | 1 | 20 | 23 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.40 | Unmodified | 1.79 | Directly within the footprint | 18.09 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 88 | *Plumeria rubra var. acutifolia* | 1 | 22 | 35 | 5-10m | <5m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 2.64 | Unmodified | 2.13 | Directly within the footprint | 21.88 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 89 | *Plumeria rubra var. acutifolia* | 1 | 21 | 28 | 5-10m | <5m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 2.52 | Unmodified | 1.94 | Directly within the footprint | 19.94 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 90 | *Melaleuca quinquenervia* | 1 | 16 | 19 | 5-10m | <5m | Good | Fair | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.65 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Boundary fence offers protection, Soil grade change not permitted, Tree protection fencing | Retain |
| 91 | *Melaleuca quinquenervia* | 1 | 20 | 24 | 5-10m | 5-10m | Good | Fair | Juvenile | Medium (15-40 years) | Medium | MEDIUM | 2.40 | Unmodified | 1.82 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Boundary fence offers protection, Soil grade change not permitted, Tree protection fencing | Retain |
| 92 | *Melaleuca quinquenervia* | 1 | 26 | 30 | 5-10m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.12 | Unmodified | 2 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 2.27 | 7 | Minor | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Boundary fence offers protection, Document works (photos), Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 93 | *Melaleuca quinquenervia* | 1 | 32 | 36 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.84 | Unmodified | 2.15 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 5.12 | 11 | Moderate | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Boundary fence offers protection, Document works (photos), Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |
| 94 | *Melaleuca quinquenervia* | 1 | 36 | 38 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 4.32 | Unmodified | 2.2 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 8.6 | 15 | Moderate | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Boundary fence offers protection, Document works (photos), Project arborist engagement (AQF5), Soil grade change not permitted, Tree protection fencing | Retain |

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| Tree Id | Botanical Name | Trees In Group | DSH [cm] | DRC [cm] | Height [m] | Canopy [m] | Health | Structure | Tree age | ULE [yrs] | Landscape Significance (STARS) | Retention Value (STARS) | Radial NRZ [m] | TPZ Status | Radial SRZ [m] | Likely Encroachment | Encroachment Area [m2] | Encroachment Area [%] | Encroachment Type | Development Recommendation | Tree Protection Considerations | Retention Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 95 | *Corymbia maculata* | 1 | 21 | 27 | 10-15m | 5-10m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 2.52 | Unmodified | 1.91 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Boundary fence offers protection, Soil grade change not permitted, Tree protection fencing | Retain |
| 96 | *Banksia integrifolia* | 1 | 20 | 25 | 5-10m | <5m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 2.40 | Unmodified | 1.85 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Boundary fence offers protection, Soil grade change not permitted, Tree protection fencing | Retain |
| 97 | *Banksia integrifolia* | 1 | 10 | 16 | <5m | <5m | Good | Good | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.53 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Boundary fence offers protection, Soil grade change not permitted, Tree protection fencing | Retain |
| 98 | *Corymbia maculata* | 1 | 22 | 28 | 10-15m | 5-10m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 2.64 | Unmodified | 1.94 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Boundary fence offers protection, Soil grade change not permitted, Tree protection fencing | Retain |
| 99 | *Banksia integrifolia* | 1 | 17 | 25 | 5-10m | <5m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 2.04 | Unmodified | 1.85 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Boundary fence offers protection, Soil grade change not permitted, Tree protection fencing | Retain |
| 100 | *Corymbia maculata* | 1 | 11 | 15 | 5-10m | <5m | Good | Good | Juvenile | Medium (15-40 years) | Medium | MEDIUM | 2.00 | Unmodified | 1.49 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Boundary fence offers protection, Soil grade change not permitted, Tree protection fencing | Retain |
| 101 | *Corymbia maculata* | 1 | 18 | 21 | 10-15m | 5-10m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 2.16 | Unmodified | 1.72 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Boundary fence offers protection, Soil grade change not permitted, Tree protection fencing | Retain |
| 102 | *Banksia integrifolia* | 1 | 14 | 18 | 5-10m | <5m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 2.00 | Unmodified | 1.61 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Boundary fence offers protection, Soil grade change not permitted, Tree protection fencing | Retain |
| 103 | *Corymbia maculata* | 1 | 7 | 11 | 5-10m | <5m | Good | Good | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.31 | Excavation impacts, Landscaping, Retaining wall(s), Road construction | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Boundary fence offers protection, Soil grade change not permitted, Tree protection fencing | Retain |
| 104 | *Ricinus communis* | 1 | 27 | 35 | 5-10m | 5-10m | Fair | Fair | Semi-Mature | Short (5-15 years) | Environmental Pest / Noxious Weed Species | PRIORITY FOR REMOVAL | 3.24 | Unmodified | 2.13 | Directly within the footprint | 100 | 303 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 105 | *Casuarina glauca* | 1 | 23 | 28 | 5-10m | <5m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 2.76 | Unmodified | 1.94 | Directly within the footprint | 100 | 418 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 106 | *Casuarina glauca* | 1 | 38 | 49 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 4.56 | Unmodified | 2.45 | Directly within the footprint | 100 | 153 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 107 | *Corymbia gummifera* | 1 | 16 | 20 | 5-10m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 2.00 | Unmodified | 1.68 | Directly within the footprint | 100 | 796 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 108 | *Corymbia gummifera* | 1 | 27 | 38 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.24 | Unmodified | 2.2 | Excavation impacts, Soil grade change | 10.51 | 32 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Document works (photos), Project arborist engagement (AQF5), Soil grade change not permitted | Retain |
| 109 | *Corymbia gummifera* | 1 | 12 | 14 | 5-10m | <5m | Good | Fair | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.45 | Excavation impacts, Soil grade change | 5.6 | 45 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Document works (photos), Project arborist engagement (AQF5), Soil grade change not permitted | Retain |

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| Tree Id | Botanical Name | Trees In Group | DSH [cm] | DRC [cm] | Height [m] | Canopy [m] | Health | Structure | Tree age | ULE [yrs] | Landscape Significance (STARS) | Retention Value (STARS) | Radial NRZ [m] | TPZ Status | Radial SRZ [m] | Likely Encroachment | Encroachment Area [m2] | Encroachment Area [%] | Encroachment Type | Development Recommendation | Tree Protection Considerations | Retention Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 110 | *Corymbia maculata* | 1 | 32 | 41 | 10-15m | 5-10m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.84 | Unmodified | 2.28 | Below ground services, Excavation impacts, Soil grade change | 19.23 | 42 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 111 | *Eucalyptus robusta* | 1 | 29 | 35 | 10-15m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.48 | Unmodified | 2.13 | | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | None specified | Retain |
| 112 | *Eucalyptus haemastoma* | 1 | 22 | 28 | <5m | 5-10m | Fair | Fair | Semi-Mature | Short (5-15 years) | Low | LOW | 2.64 | Unmodified | 1.94 | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 113 | *Eucalyptus haemastoma* | 1 | 14 | 18 | 5-10m | 5-10m | Good | Fair | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.61 | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 114 | *Eucalyptus haemastoma* | 1 | 16 | 20 | 5-10m | <5m | Good | Good | Juvenile | Medium (15-40 years) | Medium | MEDIUM | 2.00 | Unmodified | 1.68 | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 115 | *Banksia integrifolia* | 1 | 16 | 19 | 5-10m | 5-10m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 2.00 | Unmodified | 1.65 | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 116 | *Banksia integrifolia* | 1 | 15 | 18 | 5-10m | 5-10m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 2.00 | Unmodified | 1.61 | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 117 | *Eucalyptus microcorys* | 1 | 45 | 55 | 15-20m | 10-15m | Good | Fair | Semi-Mature | Medium (15-40 years) | High | HIGH | 5.40 | Unmodified | 2.57 | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 118 | *Corymbia maculata* | 1 | 45 | 52 | 15-20m | 10-15m | Good | Fair | Mature | Medium (15-40 years) | High | HIGH | 5.40 | Unmodified | 2.51 | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 119 | *Celtis sinensis* | 1 | 37 | 44 | 10-15m | 10-15m | Good | Good | Mature | Long (Over 40 years) | Environmental Pest / Noxious Weed Species | LOW | 4.44 | Unmodified | 2.34 | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 120 | *Casuarina cunninghamiana* | 1 | 47 | 58 | 15-20m | 10-15m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 5.64 | Unmodified | 2.63 | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 121 | *Casuarina cunninghamiana* | 1 | 38 | 44 | 15-20m | 5-10m | Fair | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.56 | Unmodified | 2.34 | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 122 | *Casuarina cunninghamiana* | 1 | 42 | 49 | 15-20m | 10-15m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 5.04 | Unmodified | 2.45 | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 123 | *Casuarina cunninghamiana* | 1 | 40 | 49 | 15-20m | 10-15m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.80 | Unmodified | 2.45 | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 124 | *Livistona australis* | 2 | 26 | | 5-10m | <5m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 2.00 | Unmodified | | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |

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| Tree Id | Botanical Name | Trees In Group | DSH [cm] | DRC [cm] | Height [m] | Canopy [m] | Health | Structure | Tree age | ULE [yrs] | Landscape Significance (STARS) | Retention Value (STARS) | Radial NRZ [m] | TPZ Status | Radial SRZ [m] | Likely Encroachment | Encroachment Area [m2] | Encroachment Area [%] | Encroachment Type | Development Recommendation | Tree Protection Considerations | Retention Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 125 | *Casuarina cunninghamiana* | 1 | 32 | 38 | 10-15m | 5-10m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.84 | Unmodified | 2.2 | Landscaping | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 126 | *Casuarina cunninghamiana* | 1 | 39 | 43 | 15-20m | 10-15m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 4.68 | Unmodified | 2.32 | Landscaping, Road construction, Soil grade change | 3.47 | 5 | Minor | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Soil grade change not permitted, Tree protection fencing | Retain |
| 127 | *Casuarina cunninghamiana* | 1 | 42 | 54 | 15-20m | 10-15m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 5.04 | Unmodified | 2.55 | Landscaping, Road construction, Soil grade change | 8.12 | 10 | Minor | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Soil grade change not permitted, Tree protection fencing | Retain |
| 128 | *Casuarina cunninghamiana* | 1 | 42 | 53 | 15-20m | 10-15m | Good | Good | Mature | Medium (15-40 years) | Medium | MEDIUM | 5.04 | Unmodified | 2.53 | Landscaping, Road construction, Soil grade change | 13.57 | 17 | Moderate | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Soil grade change not permitted, Tree protection fencing | Retain |
| 129 | *Casuarina cunninghamiana* | 1 | 50 | 64 | 15-20m | 10-15m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 6.00 | Unmodified | 2.74 | Excavation impacts, Road construction, Soil grade change | 34.17 | 30 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 130 | *Callistemon viminalis* | 1 | 45 | 53 | 5-10m | 5-10m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 5.40 | Unmodified | 2.53 | Demolition of hard ground surfaces, Soil grade change | 33.9 | 37 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Document works (photos), Project arborist engagement (AQF5), Structure prevents tree access, Tree protection fencing | Retain |
| 131 | *Ficus benjamina* | 1 | 74 | 65 | 10-15m | 15-20m | Good | Fair | Mature | Medium (15-40 years) | Medium | MEDIUM | 8.88 | Unmodified | 2.76 | Demolition of hard ground surfaces, Landscaping, Soil grade change | 97.09 | 39 | Major | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Document works (photos), Project arborist engagement (AQF5), Structure prevents tree access, Tree protection fencing | Retain |
| 132 | *Syagrus romanzoffiana* | 1 | 24 | | 5-10m | <5m | Fair | Fair | Semi-Mature | Medium (15-40 years) | Low | LOW | 2.50 | Unmodified | | Directly within the footprint | 2.91 | 15 | Moderate | Remove - Reasons unrelated to direct development impact (i.e. Weed species, damaging infrastructure, inappropriate location) | Tree proposed for removal | Remove |
| 133 | *Eucalyptus sp.* | 2 | 13 | 16 | 5-10m | <5m | Fair | Fair | Juvenile | Short (5-15 years) | Low | LOW | 2.00 | Unmodified | 1.53 | Directly within the footprint | 12.56 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 134 | *Hibiscus sp* | 1 | 28 | 30 | 5-10m | <5m | Good | Fair | Mature | Medium (15-40 years) | Low | LOW | 3.36 | Unmodified | 2 | | 0 | 0 | Nil | Remove - Reasons unrelated to direct development impact (i.e. Weed species, damaging infrastructure, inappropriate location) | Tree proposed for removal | Remove |
| 135 | *Glochidion ferdinandi* | 1 | 14 | 17 | 5-10m | <5m | Good | Good | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.57 | | 0 | 0 | Nil | Remove - Reasons unrelated to direct development impact (i.e. Weed species, damaging infrastructure, inappropriate location) | Tree proposed for removal | Remove |
| 136 | *Platanus X acerifolia* | 1 | 42 | 42 | 10-15m | 5-10m | Fair | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 5.04 | Unmodified | 2.3 | Material delivery & storage, Site access | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Trunk protection | Retain |
| 137 | *Eucalyptus botryoides* | 1 | 75 | 82 | 15-20m | 10-15m | Good | Fair | Mature | Medium (15-40 years) | High | HIGH | 9.00 | Unmodified | 3.04 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Trunk protection | Retain |
| 138 | *Eucalyptus botryoides* | 1 | 43 | 51 | 10-15m | 10-15m | Good | Fair | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 5.18 | Unmodified | 2.49 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 139 | *Eucalyptus botryoides* | 1 | 38 | 38 | 10-15m | 5-10m | Fair | Fair | Semi-Mature | Short (5-15 years) | Medium | LOW | 4.59 | Unmodified | 2.2 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |

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| Tree Id | Botanical Name | Trees In Group | DSH [cm] | DRC [cm] | Height [m] | Canopy [m] | Health | Structure | Tree age | ULE [yrs] | Landscape Significance (STARS) | Retention Value (STARS) | Radial NRZ [m] | TPZ Status | Radial SRZ [m] | Likely Encroachment | Encroachment Area [m2] | Encroachment Area [%] | Encroachment Type | Development Recommendation | Tree Protection Considerations | Retention Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140 | *Eucalyptus botryoides* | 1 | 44 | 46 | 10-15m | 10-15m | Fair | Fair | Semi-Mature | Medium (15-40 years) | High | HIGH | 5.28 | Unmodified | 2.39 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 141 | *Eucalyptus botryoides* | 1 | 62 | 66 | 15-20m | 10-15m | Good | Good | Mature | Medium (15-40 years) | High | HIGH | 7.44 | Unmodified | 2.78 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 142 | *Eucalyptus botryoides* | 1 | 41 | 49 | 15-20m | 10-15m | Poor | Fair | Semi-Mature | Short (5-15 years) | Medium | LOW | 4.92 | Unmodified | 2.45 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 143 | *Eucalyptus botryoides* | 1 | 61 | 67 | 10-15m | 10-15m | Fair | Good | Mature | Medium (15-40 years) | High | HIGH | 7.32 | Unmodified | 2.8 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 144 | *Eucalyptus botryoides* | 1 | 54 | 53 | 15-20m | 10-15m | Fair | Good | Mature | Medium (15-40 years) | High | HIGH | 6.48 | Unmodified | 2.53 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 145 | *Beaucarnea recurvata* | 7 | 11 | 16 | <5m | <5m | Fair | Fair | Mature | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.53 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 146 | *Beaucarnea recurvata* | 1 | 11 | 16 | <5m | <5m | Poor | Fair | Mature | Limited (Under 5 years) | Low | LOW | 2.00 | Unmodified | 1.53 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 147 | *Eucalyptus botryoides* | 1 | 67 | 68 | 10-15m | 10-15m | Good | Fair | Mature | Medium (15-40 years) | High | HIGH | 8.04 | Unmodified | 2.81 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 148 | *Ficus sp.* | 1 | 29 | 28 | 5-10m | <5m | Good | Fair | Juvenile | Medium (15-40 years) | Low | LOW | 3.48 | Unmodified | 1.94 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 149 | *Ficus sp.* | 1 | 23 | 29 | 5-10m | <5m | Good | Fair | Juvenile | Medium (15-40 years) | Low | LOW | 2.80 | Unmodified | 1.97 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 150 | *Beaucarnea recurvata* | 2 | 10 | 17 | <5m | <5m | Fair | Fair | Mature | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.57 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 151 | *Ficus sp.* | 1 | 16 | 17 | <5m | <5m | Good | Fair | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.57 | Directly within the footprint | 12.56 | 100 | Major | Remove - Significant adverse impact based on development design | Tree proposed for removal | Remove |
| 152 | *Ficus sp.* | 1 | 22 | 25 | <5m | <5m | Good | Fair | Juvenile | Medium (15-40 years) | Low | LOW | 2.64 | Unmodified | 1.85 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 153 | *Ficus sp.* | 1 | 14 | 14 | <5m | <5m | Good | Fair | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.45 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |

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| Tree Id | Botanical Name | Trees In Group | DSH [cm] | DRC [cm] | Height [m] | Canopy [m] | Health | Structure | Tree age | ULE [yrs] | Landscape Significance (STARS) | Retention Value (STARS) | Radial NRZ [m] | TPZ Status | Radial SRZ [m] | Likely Encroachment | Encroachment Area [m2] | Encroachment Area [%] | Encroachment Type | Development Recommendation | Tree Protection Considerations | Retention Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 154 | *Ficus sp.* | 1 | 18 | 24 | <5m | <5m | Good | Fair | Juvenile | Medium (15-40 years) | Low | LOW | 2.16 | Unmodified | 1.82 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 155 | *Eucalyptus sp.* | 1 | 9 | 11 | <5m | <5m | Good | Fair | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.31 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 156 | *Eucalyptus botryoides* | 1 | 57 | 60 | 10-15m | 10-15m | Poor | Fair | Mature | Short (5-15 years) | High | MEDIUM | 6.84 | Unmodified | 2.67 | Root zone disturbance, Site access, Soil grade change | 14.66 | 10 | Minor | Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements) | Above grade construction techniques, Document works (photos), Project arborist engagement (AQF5), Trunk protection | Retain |
| 157 | *Eucalyptus sp.* | 1 | 9 | 11 | <5m | <5m | Good | Fair | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 1.31 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 158 | *Tristaniopsis laurina* | 1 | 4 | 5 | <3m | <5m | Good | Good | Juvenile | Medium (15-40 years) | Low | LOW | 2.00 | Unmodified | 0.94 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 159 | *Eucalyptus saligna x botryoides* | 1 | 45 | 52 | 10-15m | 10-15m | Good | Fair | Semi-Mature | Medium (15-40 years) | High | HIGH | 5.40 | Unmodified | 2.51 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 160 | *Eucalyptus saligna x botryoides* | 1 | 32 | 33 | 10-15m | 5-10m | Poor | Fair | Semi-Mature | Short (5-15 years) | Medium | LOW | 3.84 | Unmodified | 2.08 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 161 | *Eucalyptus saligna x botryoides* | 1 | 53 | 53 | 10-15m | 10-15m | Good | Fair | Mature | Medium (15-40 years) | High | HIGH | 6.36 | Unmodified | 2.53 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 162 | *Melaleuca quinquenervia* | 1 | 29 | 37 | 5-10m | 5-10m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.48 | Unmodified | 2.18 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |
| 163 | *Melaleuca quinquenervia* | 1 | 27 | 32 | 5-10m | 5-10m | Good | Good | Semi-Mature | Medium (15-40 years) | Medium | MEDIUM | 3.24 | Unmodified | 2.05 | Material delivery & storage | 0 | 0 | Nil | Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ) | Generic tree protection considerations apply | Retain |

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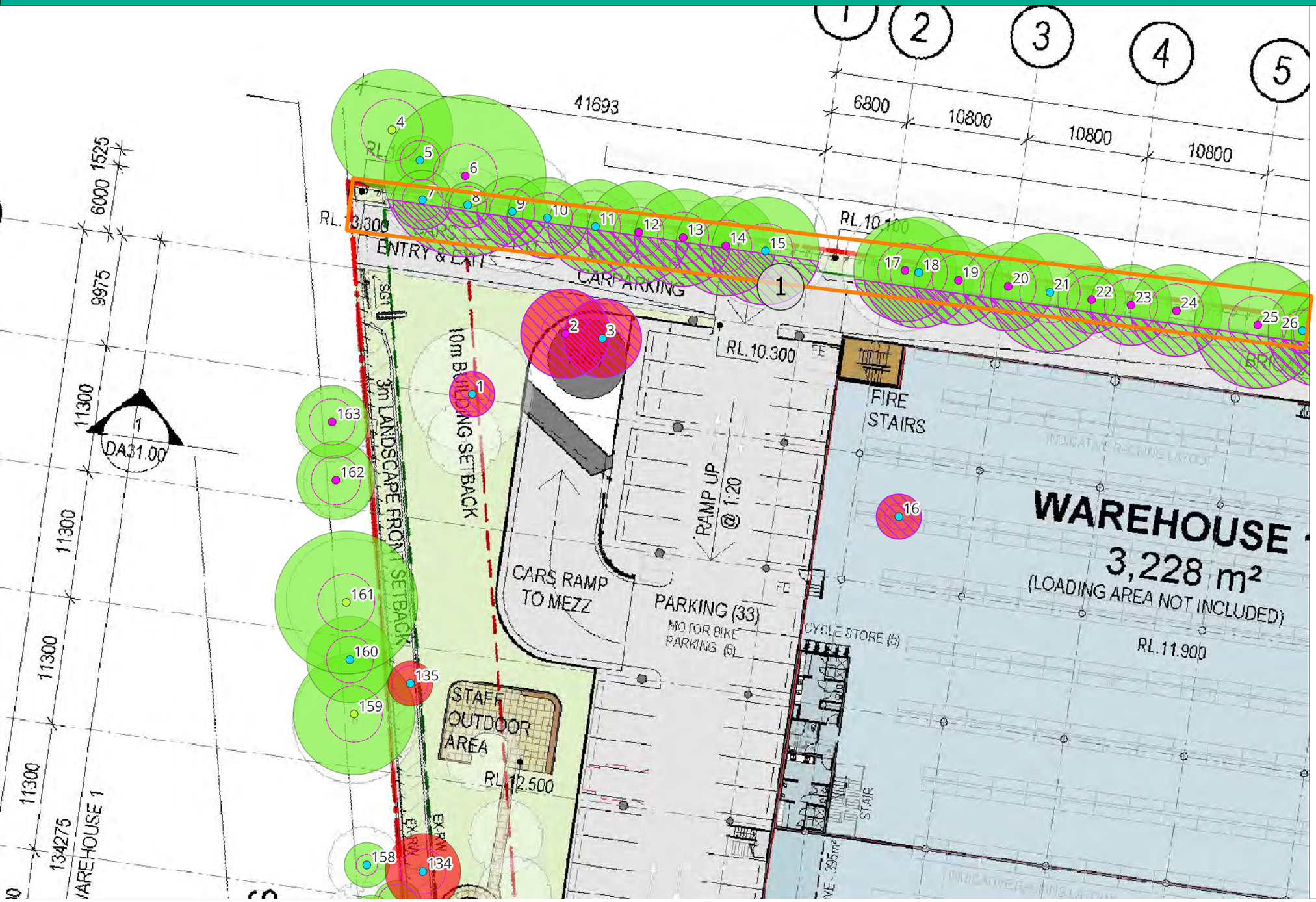
# 10 Tree Protection Plan (TPP)

# Tree Protection Plan (TPP) - Stephen Road Banksmeadow NSW 2019

**MAP 1**




**PROJECT NOTES**

1 - All works within the TPZ are to be undertaken under AQF5 Project Arborist supervision to ensure root preservation and compliance with AS 4970:2025. Tree protection fencing is to be used to exclude the trees from damagages. Changes to the clients design have been made which include the construction of the roadway to be above grade. No excavation below the natural grade is permitted. The encroachment considers a maximum potential value. The existing hard ground surfaces within the tree protection zone are to be demolished towards the end of the project, so it can be used to maintain vehicle access, and reduce the impact to the tree root system.

**MAP LEGEND**

- STARS RETENTION STATUS - HIGH x 11
- STARS RETENTION STATUS - MEDIUM x 74
- STARS RETENTION STATUS - LOW x 77
- STARS RETENTION STATUS - PRIORITY FOR REMOVAL x 1
- Tree Protection Zone (TPZ)
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- Notional Root Zone (NRZ) Proposed Retention - 102 Trees
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- Trunk protection requirements
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- Further Investigation

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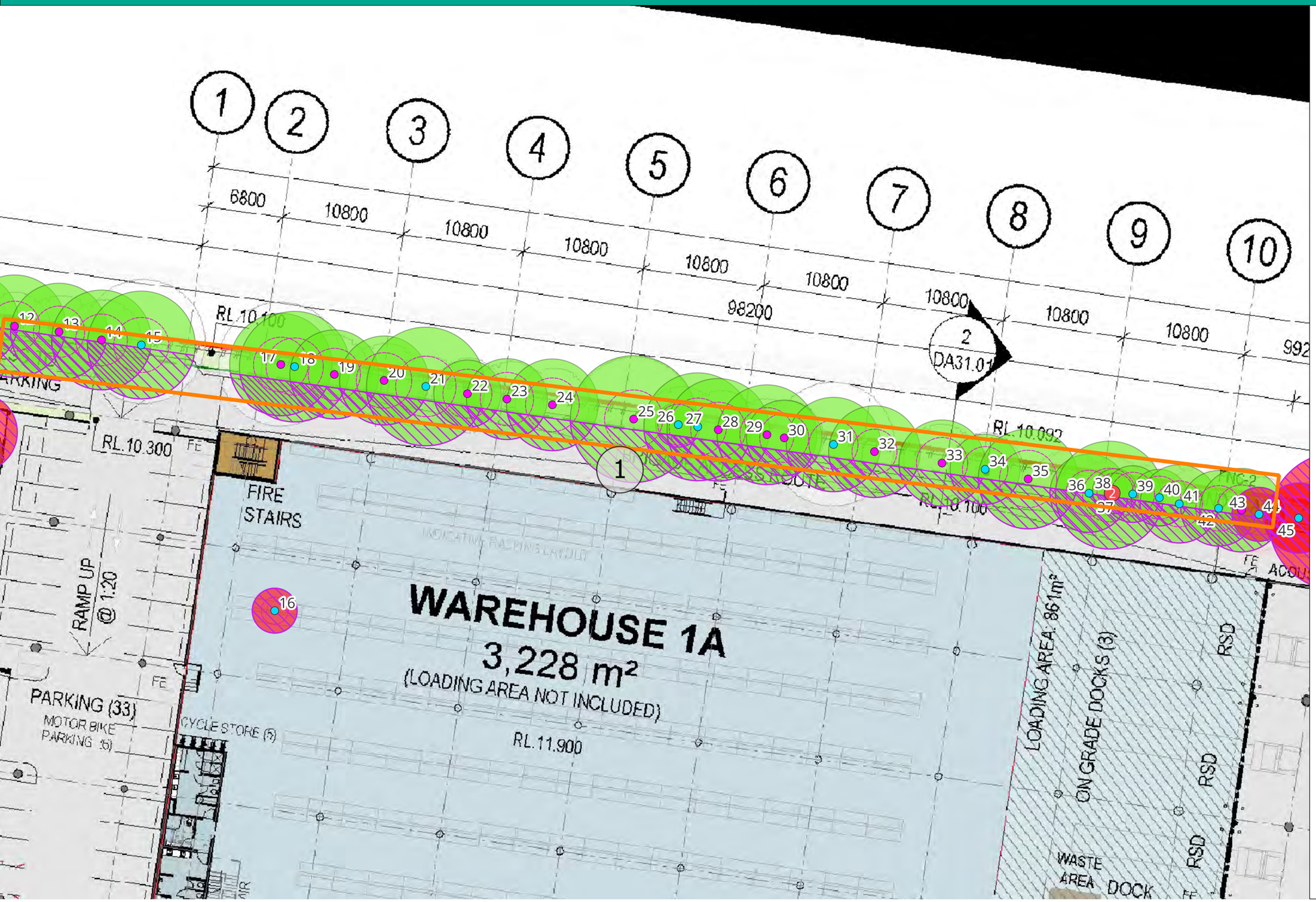
**MAP 2**

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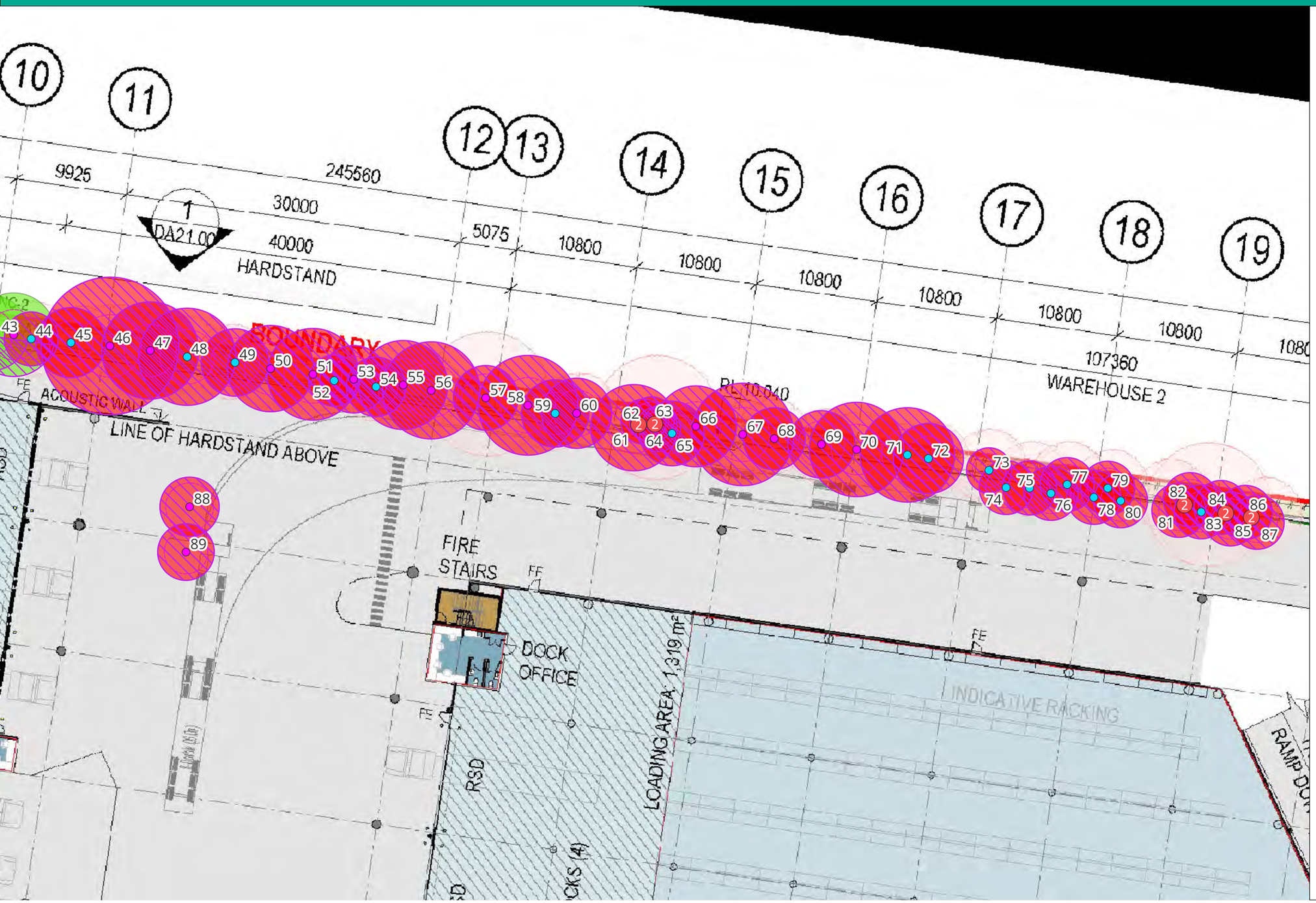


**PROJECT NOTES**

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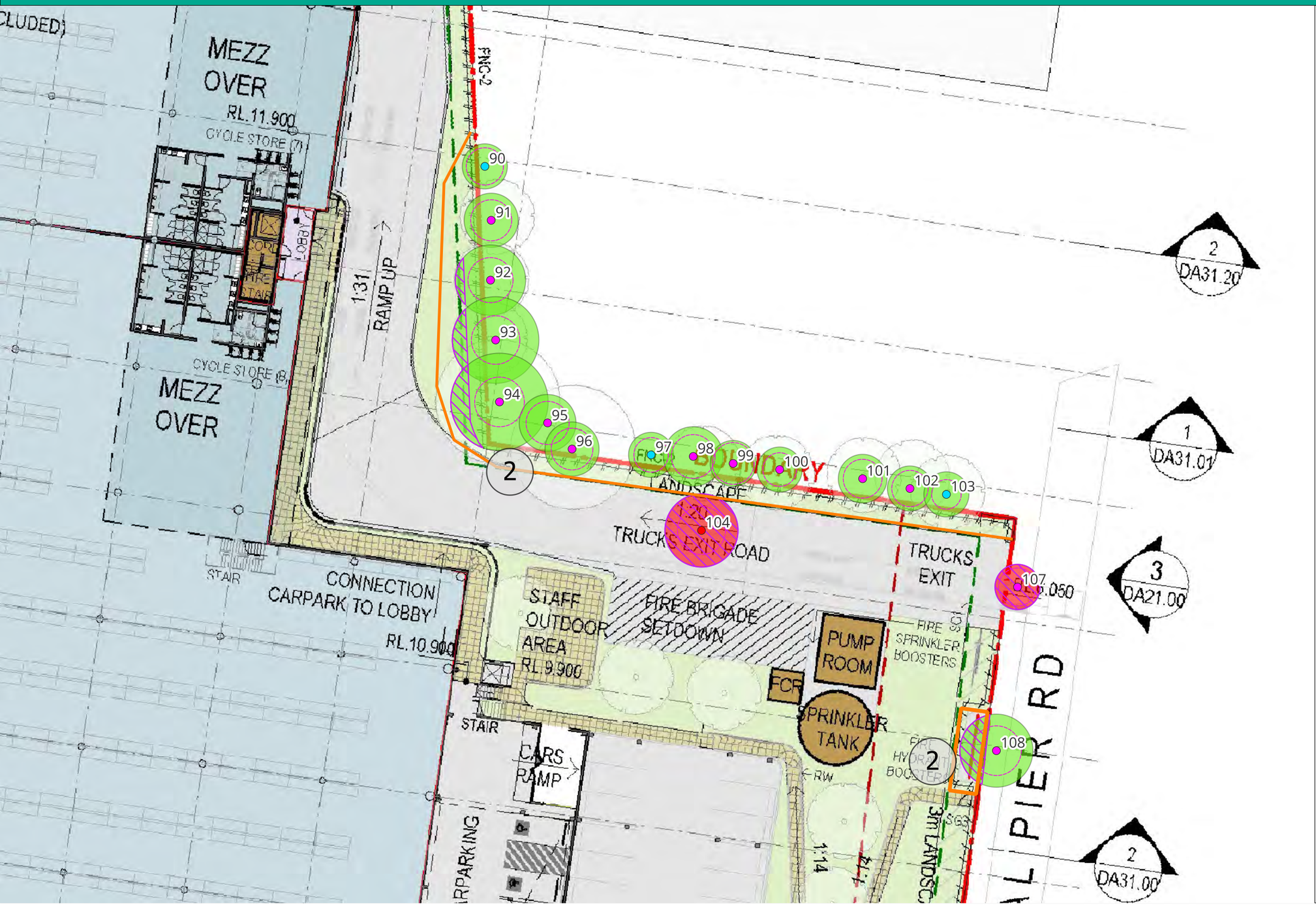


**PROJECT NOTES**

2 - All works within the TPZ are to be undertaken under AQF5 Project Arborist supervision to ensure root preservation and compliance with AS 4970:2025. Tree protection fencing is to be used to exclude the trees from damagages.

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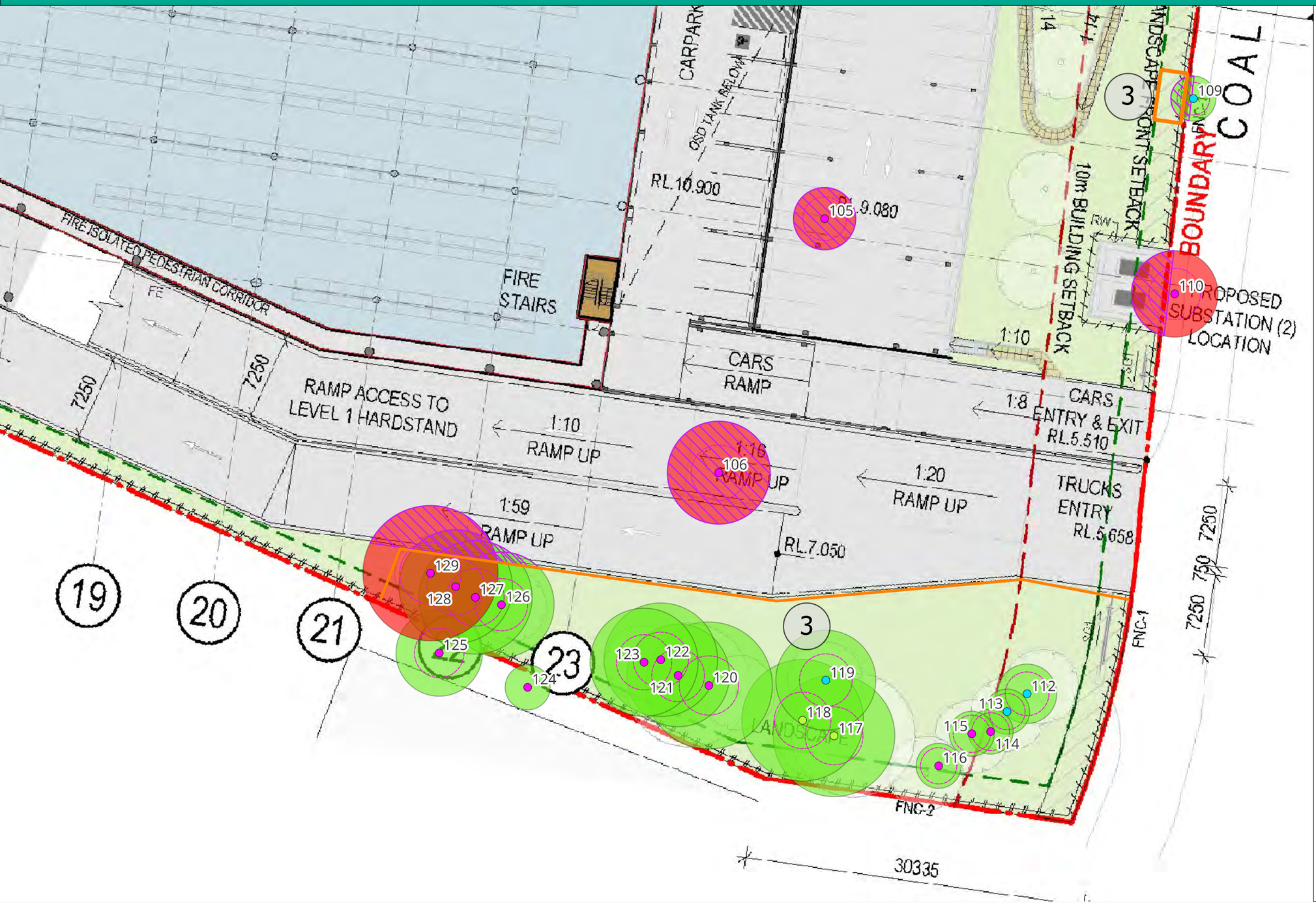


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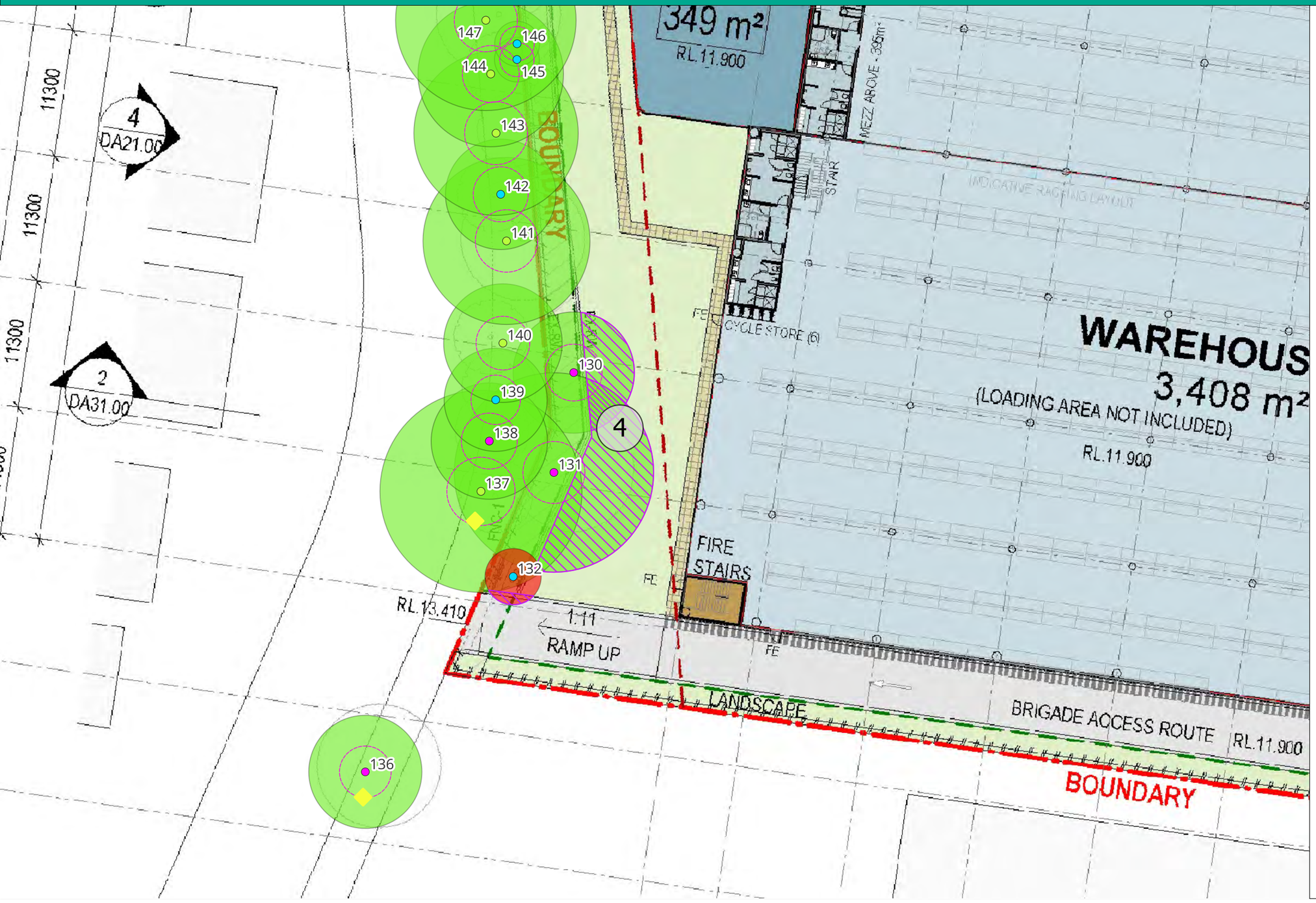


**PROJECT NOTES**

4 - Trees 130 & 131 are situated above the lower soil grade, and the retaining wall must remain in place to ensure its stability. While none have been specified, any modifications to the tree canopy need to be approved by the local authority. It is likely that tree roots have extended below the bitumen into the area proposed for filling, so caution is required when removing the bitumen from the lower surface. The tree is expected to tolerate the proposed raising of the lower areas grade. A project arborist should be engaged to oversee all works conducted within the Tree Protection Zone. The estimated encroachment percentage of the root zone area is not entirely accurate as a result of the tree being positioned on the upper level.

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Tree Protection Zone (TPZ)

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Proposed Retention - 102 Trees

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Trunk protection requirements

Ground protection requirements

Branch protection requirements

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Further Investigation

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**MAP 7**

**PROJECT NOTES**

## MAP LEGEND

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# APPENDIX 1. ASSUMPTIONS AND LIMITING CONDITIONS

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The report and any values expressed therein represent the opinion of ArborScan Pty Ltd's consultants and ArborScan Pty Ltd's fee is in no way conditional upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.

Sketches, diagrams, graphs and photographs used in the report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural drawings, reports or surveys.

Unless expressed otherwise: i) Information contained in this report covers only those items that were covered in the project brief or that were examined during the assessment and reflect the condition of those items at the time of inspection; and ii) The inspection is limited to visual examination of accessible components without dissection, excavation, further testing or probing unless otherwise stipulated.

There will be no warranty or guarantee, expressed or implied by ArborScan Pty Ltd, that failures, problems or deficiencies of the trees subject to the report (or parts thereof) may not arise at any time in the future.

All instructions (verbal or written) that define the scope of the report have been included in the report and all documents and other materials that the ArborScan Pty Ltd consultant has been instructed to consider or to take into account in preparing this report have been included or listed within the report. To the writer's knowledge all facts, matter and all assumptions upon which the report proceeds have been stated within the body of the report and all opinion contained within the report have been fully researched and referenced and any such opinion not duly researched is based upon the writer's experience and observations.

Tree risk assessment is limited in scope to the specific risk of interest and does not include any and all risks. The tree risk assessment will consider significant known and/or assigned targets and visible or detectable tree conditions, the risk assessment will represent the assessed tree and site at the time of the inspection. For the purpose of this report, the timeframe considered for likelihood of failure is 12 months. It is important to note that the timeframe should not be considered a 'guarantee period' for the risk assessment.

# APPENDIX 2. DESCRIPTION OF SURVEY ASSESSMENT TERMS

The trees assessed by visual examination which form the survey reflect an impartial assessment by the assessor and is based on the assessor's arboriculture experience and on the condition of the tree on the day of its survey. The following definitions have been provided to guide a better understanding of the assessment categories included within the issued report. Depending on the report type, all categories may not be applicable.

- **Tree Number** – Number assigned to the tree, often referenced on an aerial site map, depending on the project scope, a physical tag with the trees corresponding number may also be installed.
- **Tree Location Coordinates** – Easting and northing coordinates Geocentric Datum of Australia 1994 (GDA94) will be collected for each tree surveyed and will be displayed within the reports inventory. Coordinates unless otherwise specified are +/- 4m in accuracy.
- **Tree Height & Canopy Spread** – Estimated size range in metres on its broadest axis. Where required tree height and canopy spread will be estimated to the nearest metre. Heights and spreads will only be measured where required by the scope.
- **Diameter At Standard Height (DSH)** – Estimated trunk diameter size range in 'mm' at its broadest axis at 1.4m from ground level for a single trunked tree. DBH will be accurately measured as per the Australian Standard AS 4970–2025: Protection of Trees on Development Sites when defined in the projects scope.
- **Diameter At Root Crown (DRC)** – Estimated trunk diameter size range in 'mm' at its broadest axis at immediately above the buttress. The DRC will be accurately measured as per the Australian Standard AS 4970–2025: Protection of Trees on Development Sites when defined in the projects scope.
- **Tree Species** – The accepted common name and botanical name (genus and species) will be identified and documented in the report where reproductive material and features of the tree are available to the assessor. Where species cannot be accurately identified, the assessor will a identify the genus, where the genus cannot be identified, a family or general identification reference will be otherwise assigned.

**Table 19. Definition – Age / Maturity Class**

| Term | Definition |
|---|---|
| Young | Establishing tree which has been planted or self-seeded within the last 5 years, in situ. |
| Juvenile | Tree aged less than 90% of its life expectancy, in situ. |
| Semi Mature | Tree aged less than 80% of its life expectancy, in situ. |
| Mature | Tree aged 20–80% of its life expectancy, in situ. |
| Over-mature | Tree aged greater than >80% of its life expectancy, in situ, or senescent with or without reduced vigour, and declining gradually or rapidly but irreversibly to death. |

### Table 20. Definition – Tree Health

| Term | Definition |
|---|---|
| Excellent | Perfect specimen with excellent form and vigour, along with a well-balanced canopy. Trunk is sound and solid. No apparent pest problems. Normal to exceeding shoot length on new growth. Normal leaf size and colour. Exceptional life expectancy for the species. |
| Good | The tree should exhibit a full canopy of foliage. May lack natural symmetry. Good growth rate and minor deficiency in leaf development. Few pest issues or damage, and controllable if present. Normal branch and stem development with healthy growth. Typical life expectancy for the species. |
| Fair | The tree is in reasonable condition but growing well. Canopy decline and dieback up to 25% of the canopy. Fair overall symmetry. Leaf size smaller and colour somewhat chlorotic. There may be some deadwood present in the canopy. Minor decay in the trunk and major branches. Minor pathogen damage. Shoot extensions indicate some stunting and stressed growing conditions. Some signs of pest problems contributing to a lesser condition. Moderate life expectancy for the species. |
| Poor | Lacking a full canopy, with more than 50% decline and dieback that especially affects larger branches. Not growing to its full capacity. Stunting obvious, with little evidence of growth on smaller stems. Large amounts of deadwood may be evident throughout the canopy. Moderate decay in the trunk and major branches. Moderate pathogen damage. Leaf size and colour reveals overall stress in the plant. Insect or disease infestation may be severe. Low life expectancy for the species. |
| Very Poor | More than 70% of the canopy is in severe decline or dead. Canopy density is extremely low, with chlorotic and necrotic tissue dominating the canopy. Significant/Severe decay in the trunk and major branches. Significant/Severe pathogen damage. Root plate damage with a majority of roots damaged, diseased, or missing. Very low life expectancy for the species. |
| Dead | No live plant material observed. |

### Table 21. Definition – Tree Origin

| Term | Definition |
|---|---|
| Exotic | A plant introduced from another country or region to a place where it was not indigenous. Such plants may become naturalised and often originate as garden escapees. |
| Native | A plant found to occur as an endemic or indigenous species where it is growing or a plant known to have originated as an endemic or indigenous species from a particular place, e.g. continent, country, region, mountain or island. |
| Endemic | A native plant usually with a restricted occurrence limited to a particular country, geographic region or area and often further confined to a specific habitat. |
| Invasive / Noxious weed | A plant species of any taxa declared a weed by legislation. Treatment for the control or eradication of such weeds is usually prescribed by the legislation. |

### Table 22. Definition – Tree Form

| Term | Definition |
|---|---|
| Excellent | Ideal tree for that species, including shape and canopy symmetry, health, and density. Outstanding function on the site or location. |
| Good | Tree of typical canopy shape and habit with proportions representative of the taxa considering constraints such as origin, e.g. indigenous or exotic, but does not appear to have been adversely influenced in its development by environmental factors in situ such as soil water availability, prevailing wind, or cultural practices such as lopping and competition for space and light. |
| Fair | Acceptable tree for that species. Tree shape and symmetry are adequate, with some substantial asymmetry in shape and canopy form. May have considerable concerns for its use and function on the site or location. |
| Poor | Poor tree for that species. Highly irregular canopy shape and undesirable form make it unattractive and dysfunctional on the site or location. |
| Very Poor | Disagreeable tree for that species, with highly diminished function and aesthetic appeal on the site or location. |
| Dead | No live plant material observed. |

### Table 23. Definition – Vigour

| Term | Definition |
|---|---|
| Good | Accelerated growth of a tree due to incidental or deliberate artificial changes to its growing environment that are seemingly beneficial, but may result in premature aging or failure if the favourable conditions cease or promote prolonged senescence if the favourable conditions remain, e.g. water from a leaking pipe; water and nutrients from a leaking or disrupted sewer pipe; nutrients from animal waste, a tree growing next to a chicken coop, or a stock feedlot, or a regularly used stockyard; a tree subject to a stringent watering and fertilising program, or some trees may achieve an extended lifespan from continuous pollarding practices over the life of the tree. |
| Normal | Ability of a tree to maintain and sustain its life processes. This may be evident by the typical growth of leaves, Canopy cover and density, branches, roots and trunk and resistance to predation. This is independent of the condition of a tree but may impact upon it, and especially the ability of a tree to sustain itself against predation. |
| Low | Reduced ability of a tree to sustain its life processes. This may be evident by the atypical growth of leaves, reduced canopy cover and density, branches, roots, and trunk, and a deterioration of their functions with reduced resistance to predation. This is independent of the condition of a tree but may impact upon it, and especially the ability of a tree to sustain itself against predation. |

### Table 24. Definition – Structure

| Term | Definition |
|---|---|
| Good | Root plate appears normal, with no damage. No trunk defects. Good branch habit and attachment; minor dieback with no visible structural defects. There may be some signs of previous pruning. Minimal deadwood. Codominant stem formation may be present. No fungal pathogens present. |
| Fair | Root plate reveals previous minor damage or disturbance (Tree Protection Zone (TPZ) Encroachment <10%). Evidence of minor trunk damage or cavities where decay could colonise. Less than 25% of bark sections missing. Included stems are present with no evidence of cracks or splits. Some branch unions may exhibit minor structural faults. Branching habit and attachments indicate poor pruning or damage, which requires moderate corrections. Minimal previous branch failures have occurred. Fungal pathogens may be present. Removal of surrounding trees and or the removal or the addition of buildings or structures has occurred partly exposing the tree or its parts to increased wind loads. |
| Poor | Root plate disturbance and defects indicate major damage (Tree Protection Zone (TPZ) Encroachment >10%). Girdling roots around the trunk flare. Wounding evident with cavities and/or decay present. Trunk reveals more than 50% of bark section missing. Included stems are present and are considered likely to fail in 0–5 years. Branch structure has poor attachments, with several structurally important branches dead or broken. Branch unions may be poor or faulty at the point of attachment. Canopy reveals signs of damage or previous topping or lion-tailing, with major corrective action required. Fungal pathogens are present. Removal of surrounding trees and or the removal or the addition of buildings or structures has occurred fully exposing the tree or its parts to increased wind loads. |
| Very Poor | Failure imminent. Severe damage within the root plate and root collar exhibits major defects that could lead to tree death or failure. Partial root plate failure. A majority of the bark or trunk is affected, either decayed or missing. Branching is extremely poor or severely topped, with severe dieback in canopy. Active splits or partial failure. The tree has a very poorly structured canopy. Little or no opportunity for mitigation of any tree parts. Fungal pathogens are severely impacting tree structure. Tree is significantly exposed to increased wind loads as a result of the removal of surrounding trees and or the removal or the addition of buildings or structures. |

### Table 25. Definition – Estimated Useful Life Expectancy

| Term | Definition |
|---|---|
| Dead | No live plant material observed |
| Limited Term | A period of time <5 |
| Short Term | A period of time 5–15 years |
| Medium Term | A period of time 15–40 years |
| Long Term | A period of time greater than >40 years |

# APPENDIX 3. GENERAL ARBORICULTURAL TERMS

**Abrasion wound**—Mechanical wound causing laceration of tissue by an abrasive impact episode, e.g. grazed by a motor vehicle or the continuous action of the rubbing of crossed branches or stems where no graft has formed.

**Aerial inspection**—Assessment of the canopy of a tree by climbing within the canopy or by the use of an elevating work platform, often to examine a particular defect, e.g. cavity or hollow.

**Arboriculture**—The science and culture of the growth, planning, management, care and maintenance of trees primarily for amenity and utility purposes.

**Asymmetrical**—Imbalance within a canopy, where there is an uneven distribution of branches and the foliage canopy or root plate around the vertical axis of the trunk. This may be due to codominant or suppressed canopy form as a result of restrictions, e.g. buildings, or competition for space and light with other trees, or exposure to wind, or artificially caused by pruning for clearance of roads, buildings or power lines. An example of an expression of this may be, canopy asymmetrical, bias to west.

**Basal flare**—Swelling at the root crown is usually uniform around the base of the trunk involving tissue from the trunk and root crown. Here first-order roots may not be evident at the root crown.

**Basal trunk wound**—A wound on the trunk extending to the root crown where the base of the wound is open at the ground and usually truncated. Dependent upon the width of its base, such a wound may not become occluded.

**Bracing**—Systems of cables and ropes, traditionally using metal wires but generally replaced by polypropylene, used to support and prolong the life of trees in part or full; systems are susceptible to failure due to evident weaknesses in branch unions. Examples of such proprietary systems are Cobra and Yale nylon webbing.

**Bracket fungus**—The rigid sporophore of some fungus species, especially those associated with live trees or the decay of wood. Structures comprised of hyphae for the dispersal of spores, often bracket-shaped, usually protruding from the roots, trunk or branches of a host tree when the fungus matures. The fruiting body may be ephemeral or persistent and may last for only one season or persist for many years, with the fruiting body growing incrementally larger and continuing to produce new spores. Such fruiting bodies may be solitary or gregarious.

**Cavity**—A void often localised initiated by a wound and subsequent decay within the trunk, branches or roots, or beneath the bark, and maybe enclosed or have one or more openings.

**Deadwooding**—Removing of dead branches by pruning. Such pruning may assist in the prevention of the spread of decay from dieback or for reasons of safety near an identifiable target.

**Dead Tree**—A tree that does not contain any live tissue, i.e., green leaves or live limbs.

**Decay**—Process of degradation of wood by micro-organisms and fungus.

**Deciduous**—A woody plant, e.g. tree, shrub or vine, that sheds all of its leaves in one season and enters a dormant period, usually during winter.

**Defect**—In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment.

**Dieback**—The death of some areas of the canopy. Symptoms are leaf drop, bare twigs, dead branches and tree death, respectively. This can be caused by root damage, root disease, bacterial or fungal canker, severe bark damage, intensive grazing by insects, abrupt changes in growth conditions, drought, water-logging or over-maturity. Dieback often implies reduced resistance, stress or decline which may be temporary. Dieback can be categorised as Low volume dieback, Medium volume dieback and High volume dieback.

**Dormant Tree**—Vigour presently indeterminable, assessment to take place at the time of leaf return.

**Emergency removal**—Tree removal as a matter of urgency due to its imminent potential to cause damage to people or property as a result of structural defects or modifications to its growing environment rendering it vulnerable to failure in full or part, e.g. a tree in adverse weather conditions suddenly developing a progressive lean and collapsing across a busy road.

**End weight**—Excessive formation of foliage concentrated at the distal end of a branch.

**Epicormic shoots**—Juvenile shoots produced at branches or trunk from epicormic strands in some Eucalypts (Burrows 2002, pp. 111–131) or sprouts produced from dormant or latent buds concealed beneath the bark in some trees. Production can be triggered by fire, pruning, wounding, or root damage but may also be as a result of stress or decline. Epicormic shoots can be categorised as low volume epicormic shoots, medium volume epicormic shoots and high volume epicormic shoots.

**Epicormic stem**—Branch derived from an epicormic shoot.

**Flush cut**—An incorrect cut that damages or removes the branch collar or branch bark ridge and, as a result, damages stem tissue.

**Formative pruning**—The pruning of young trees is usually to assist with the development of canopy form and shape and to develop strong structure (Australian Standard 2007, p. 7). Such pruning may reduce developmental weaknesses, e.g. crossed branches, branches with branch bark inclusions, or to remove codominant first-order branches to extend the length of a trunk or to guide the canopy form of a tree to a single first-order structural branch, or to encourage branching to make a canopy shape excurrent or deliquescent, respectively.

**Habitat Features**—The habitat features described in this report are parts of the environment (living or non-living) that may provide native animals with food and shelter and sites for nesting, migration and social interaction.

**Included bark**—1. The bark on the inner side of the branch union or is within a concave crotch that is unable to be lost from the tree and accumulates or is trapped by acutely divergent branches forming a compression fork. 2. Growth of bark at the interface of two or more branches on the inner side of a branch union or in the crotch where each branch forms a branch collar, and the collars roll past one another without forming a graft where no one collar is able to subsume the other. The risk of failure is worsened where branching is acutely divergent or acutely convergent and ascending or erect.

**Lightning strike wound**—A wound from a lightning strike. Such a wound may kill a tree outright or cause it to catch fire or may destroy the tree in full or part, or no injury may be evident, and a tree gradually declines through resulting stress. Bark may be exploded from the tree by pressure radiating from the core of the lightning path resulting in further compounded damage through water heating and steam explosions in the tissues and the electrical disruption of living cells.

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**Mixed-age population**—A population of trees that contains representatives of each age class, i.e., young, mature and over-mature, so that trees in the population will not all mature or become senescent at the same time. This is usually achieved by staggering planting and/or removal of trees in a systematic manner. This also spreads the cost of planting, maintenance and removal over time.

**Mulch**—Any organic or inorganic material placed over the soil or growing media near cultivated plants primarily to suppress weeds, modify soil temperature and retain soil moisture levels. This artificial process generally imitates the function of leaf litter in a forest environment.

**Nesting hollow**—A hollow or cavity within any part of a tree utilised as habitat or shelter for any part of the life cycle of Fauna, e.g., birds, reptiles or mammals.

**Non-invasive root mapping**—Any root mapping process that does not disturb or displace soil or growing media to locate roots, e.g. ground-penetrating radar.

**Occlusion Growth**—Processes where wound wood develops to enclose the wound face by the merging of wound margins concealing the wound and restoring the growing surface of the structure with each growth increment gradually realigning fibres in the wood longitudinally along the stem to maximise uniform stress loading.

**Occupancy rating**—The frequency of use of a likely target and the possibility that people will be present when tree failure or collapse occurs.

**Pathogen**—Any organism is causing disease, e.g. fungus, bacterium, mycoplasma, virus, viriod, nematode or protozoan.

**Pruning**—Removal of any branch or root, dead or alive, by severance across the stem, back to the intersection of another live stem to a swollen area at the intersection called a branch collar where such a structure exists, with a final cut at the outer edge of the collar leaving no stub, or to undamaged woody tissue for roots. Also, the severing of any part of a tree so as to cause a reduction of the air space occupied by the branches and foliage in the canopy or roots in the root plate. Examples of pruning are dead wooding, crown lifting, formative pruning, reduction pruning, selective pruning, crown thinning, and remedial and restorative pruning (Australian Standards 2007, p. 6). Pruning should conform to recognised standards, e.g. Australian Standard® AS 4373 'Pruning of Amenity Trees'. The following are not recognised as pruning: lop, lopping, top, topping, top lopping.

**Pruning wound**—A wound created by the act of pruning.

**Radial trenching**—A series of excavated trenches near to the trunk, usually between first-order roots, allowing space for the introduction of improved growing media. This process is designed to stimulate new root growth through reduced compaction, improved aeration and removal of contaminated soil.

**Mitigations/Recommendations/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.

**Resistance Drilling**—A self-powered drilling device that operates a thin spade drill bit at a constant forward speed to record soundness of wood by measuring resistance to drilling that is plotted on graph paper or with an electronic unit that gives clear support in taking, documenting and evaluating measurements. Examples of such proprietary devices are the **IML-RESI PowerDrill® and Resistograph®**.

**Structural Root Zone (SRZ)**—An zone which defines the structural root zone which is an area required for tree stability. The SRZ is located within the TPZ.

**Notional Root Zone (NRZ)**—An exclusion area that allows for protection of canopy and roots. The radius of the NRZ is normally calculated for each tree by multiplying the DBH × 12. The minimum distance will be 2m and maximum 15m as stipulated in the Australian Standard 4970-2025: Protection of trees on development sites.

**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.

**Ultrasonic tomography**—Electronic devices that measure the transmissibility of ultrasound waves through a given section of a tree by detecting pulses through multiple sensors placed around a stem to indicate areas with the same density. An example of such a proprietary device is the Picus® Tomograph.

**Visual tree assessment (VTA)**—A visual inspection of a tree from the ground-based on the principle that, when a tree exhibits apparently superfluous material in its shape, this represents repair structures to rectify defects or to reinforce weak areas in accordance with the axiom of uniform stress. Such assessments should only be undertaken by suitably competent practitioners.

**Weed species**—Any plant species exotic or native that is known to spread by the production of viable progeny often in large numbers, outcompeting and disrupting existing vegetation, e.g. in gardens, parks or bushland. The species concerned may be introduced from outside its area of natural distribution to an area where there are few or no natural predators, or it may have an ability to spread due to changes in land use creating a favourable habitat.

Information Source: Draper, Danny B. Dictionary for Managing Trees in Urban Environments. CSIRO PUBLISHING. Kindle Edition.

# APPENDIX 4. STARS© TREE RETENTION VALUE MATRIX

## 10.1 IACA Significance of a Tree, Assessment Rating System (STARS©) (IACA 2010)©

10.1.1 In the development of this assessment rating system, the Institute of Australian Consulting Arboriculturists (IACA) acknowledges the contribution and original concept of the Footprint Green Tree Significance and Retention Value Matrix, developed by Footprint Green Pty Ltd in June 2001. The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is, therefore, necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process, all definitions for terms used in the Tree Significance - Assessment Criteria and Tree Retention Value - Priority Matrix are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

10.1.2 This rating system will assist in the planning processes for proposed works, above and below ground, where trees are to be retained on or adjacent to a development site. The system uses a scale of High, Medium and Low significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined.

**Table 26. Tree Significance - Assessment Criteria**

| 1. High Significance in landscape | 2. Medium Significance in landscape | 3. Low Significance in landscape |
|---|---|---|
| The tree is in good condition and good vigour,<br><br>The tree has a form typical for the species,<br><br>The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age,<br><br>The tree is listed as a Heritage Item, Threatened Species or part of an Endangered ecological community or listed on Councils significant Tree Register,<br><br>The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity,<br><br>The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values,<br><br>The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ - the tree is appropriate to the site conditions. | The tree is in fair-good condition and good or low vigour,<br><br>The tree has form typical or atypical of the species,<br><br>The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area,<br><br>The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street,<br><br>The tree provides a fair contribution to the visual character and amenity of the local area,<br><br>The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situ. | The tree is in fair-poor condition and good or low vigour,<br><br>The tree has form atypical of the species,<br><br>The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings,<br><br>The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area,<br><br>The tree is a young specimen that may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen,<br><br>The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa in situ - the tree is inappropriate to the site conditions,<br><br>The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,<br><br>The tree has a wound or defect that has the potential to become structurally unsound. |
| | | Environmental Pest / Noxious Weed Species |
| | | The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties,<br><br>The tree is a declared noxious weed by legislation. |
| | | Hazardous/Irreversible Decline |
| | | The tree is structurally unsound and/or unstable and is considered potentially dangerous,<br><br>The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term. |

The tree is to have a minimum of three (3) criteria in a category to be classified in that group. Note: The assessment criteria are for individual trees only; however, they can be applied to a monocultural stand in its entirety

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