



Dural NSW 2158  
Tuggerah NSW 2259  
West Gosford NSW 2250

[Info@mcardlearborist.com.au](mailto:Info@mcardlearborist.com.au)  
0420 745 658

## REPORT

**Arboricultural Impact Assessment**

## PREPARED FOR

Leeds Investments Pty Ltd

Llewellyn St Rhodes NSW 2138  
(2a Llewellyn St Rhodes, 43- 57 Blaxland Rd, 448-  
458 Concord Rd and 2a, 2b 2d Cavelle Ave)

1<sup>st</sup> August 2025

Version 12

## PREPARED BY

**Jim McArdle**  
**AQF 5 Consulting Arborist**  
**B Ed (ACU) Dip Arb (Ryde)**  
**Tree Contractors Association of Australia (TCAA)**  
**Arboriculture Australia**  
**QTRA Registered and vTRA Trainer**



## Table of Content

<b>1. EXECUTIVE SUMMARY</b> .....	<b>3</b>
<b>2. INTRODUCTION</b> .....	<b>4</b>
2.1 AIMS.....	4
2.2 SCOPE.....	4
2.3 METHODOLOGY.....	5
<b>3. SITE ANALYSIS</b> .....	<b>6</b>
3.1 THE SITE.....	6
3.2 LEGISLATION AND SIGNIFICANCE IN THE ENVIRONMENT.....	7
3.3 PLANNING CONTROL MAPS.....	7
<b>4. RESULTS</b> .....	<b>8</b>
4.1 TREE SCHEDULE.....	8
4.2 PHOTOGRAPHIC OBSERVATIONS.....	16
4.3 IMPACT ASSESSMENT.....	22
<b>5. DISCUSSION</b> .....	<b>23</b>
5.1 TREE USEFUL LIFE EXPECTANCY (TULE) AND LANDSCAPE SIGNIFICANCE.....	23
5.2 RETENTION VALUES.....	23
5.3 CUMULATIVE IMPACT ANALYSIS.....	24
5.4 TREES PROPOSED FOR REMOVAL.....	24
5.5 CANOPY COVER LOSS.....	25
5.6 REPLENISHMENT PLANTING.....	25
5.7 TREES PROPOSED FOR RETENTION.....	25
<b>6. RECOMMENDATION</b> .....	<b>26</b>
6.1 TREES PROTECTION PLAN.....	27
6.2 SENSITIVE CONSTRUCTION METHODS.....	27
6.3 PROJECT ARBORIST HOLD POINTS.....	28
<b>7. TREE MANAGEMENT PLANS</b> .....	<b>28</b>
7.1 TPZ ENCROACHMENT PLAN.....	28
7.2 TREE PROTECTION PLAN.....	28
7.3 TREE REMOVAL PLAN.....	28
<b>8. GLOSSARY</b> .....	<b>31</b>
<b>9. BIBLIOGRAPHY</b> .....	<b>31</b>
<b>APPENDIXES</b> .....	<b>32</b>
APPENDIX A VISUAL TREE ASSESSMENT (VTA).....	32
APPENDIX B TREE USEFUL LIFE EXPECTANCY – TULE.....	33
APPENDIX C TREE A-Z CATEGORIES AND RETENTION VALUE RATING.....	34
APPENDIX D LANDSCAPE SIGNIFICANCE RATING.....	35
APPENDIX E TREE PLANTING SPECIFICATIONS.....	36
<b>DISCLAIMER</b> .....	<b>37</b>

## 1. EXECUTIVE SUMMARY

1.0.1 Leeds Investments Pty Ltd commissioned an Arboricultural Impact Assessment to determine the potential impacts of a proposed infill affordable housing development on trees. The assessment provides recommendations to minimise the impacts on trees, if viable.

1.0.2 This Arboricultural Impact Assessment has been prepared by McArdle Arboricultural Consultancy Ltd Pty to accompany a detailed State Significant Development Application (SSDA) for the in-fill affordable housing development at 43B – 57 Blaxland Road, 2A, 2B and 2D Cavell Avenue, 448-458 Concord Road and 2A Llewellyn Street, Rhodes. The site is made up of multiple lots, the legal description is outlined in the table 1.

*Table 1 - Legal Description of the Site*

Property Address	Title Description
43B – 57 Blaxland Road, Rhodes 2A, 2B and 2D Cavell Avenue, Rhodes 448-458 Concord Road, Rhodes 2A Llewellyn Street, Rhodes	Blaxland Road - Lot A in DP 348494, Lot A in DP 350757, Lot B in DP 350757, Lot C in DP 350757, Lot 29 in DP 5923, Lot 1 in DP 874487, Lot 2 in DP 874487, Lot 2 in DP 218467, Lot 1 in DP 218467, Lot A in DP 339030, Lot 25 in DP 5923 Cavell Ave - Lot 3 in DP 310311, Lot 480 in DP 816840, Lot 481 in DP 816840 Concord Road - Lot 3 in DP 805684, Lot 2 in DP 805684, Lot 12 in DP 792101, Lot 13 in DP 792101, Lot 14 in DP 792101, Lot 15 in DP 792101, Lot 16 in DP 792101, Lot 2 in DP 310311 Llewellyn Street - Lot B in DP 348494
Site Area	14,380sqm

1.0.3 This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the project (SSD-67508739).

1.0.4 The assessment was conducted on the 4 April 2024 by Jim McArdle AQF 5 Arborist Dip. Arb (Ryde).

1.0.5 One hundred and forty-five (145) trees and groups were assessed on site, including the public domain. Street trees are numbered 1-25 and remaining trees 25-145 are on site.

*Table 2: Summary of tree management plan based on retention values.*

Remove One hundred and twenty-three (123) trees				
High (9) trees	Moderate (16) trees	Moderate to Low (10) trees	Low (60) trees	Very Low (28) trees
11, 39, 44, 77, 80, 112, 119, 120, 125.	30, 45, 50, 51, 52, 63, 66, 78, 79, 88, 89, 90, 111, 121, 137.  <b>Exempt Height:</b> 35.	40, 47, 53, 60, 65, 67, 75, 98.  <b>Poor health:</b> 61, 62.	31, 33, 34, 36, 42, 43, 48, 64, 68, 69, 74, 81, 84, 92, 93, 94, 96, 99, 100, 122, 123, 124, 126, 127, 128, 129, 130, 132, 133, 134, 135, 136, 138, 139, 143, 144.  <b>Poor health:</b> 21, 28, 59, 115. <b>Exempt species:</b> 38, 49, 54, 70, 95, 97, 102, 105, 109, 110, 113, 116, 117, 118, 131, 140, 141, 142, 145. <b>Exempt height:</b> 114.	<b>Dead:</b> 37, 55, 83, 86, 91, 107.  <b>Poor health:</b> 2, 24, 82.  <b>Exempt species</b> 29, 32, 41, 46, 56, 57, 58, 71, 72, 73, 85, 87, 101, 103, 104, 106, 108. <b>Exempt height:</b> 26, 27.
Retain Twenty-two (22) trees				
High (5) trees	Moderate (7) trees	Moderate to Low (6) trees	Low (4) trees	Very Low -
9, 10, 12, 13, 25.	4, 5, 7, 8, 20, 22, 23.	1, 6, 15, 16, 17, 19.	3, 14, 18, 76.	-

*Table3: Summary of tree protection plan*

Tree Protection Measures	Tree No.
Trunk Protection	1, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 25, 76.
Sensitive Construction Measures	9, 10, 12, 13.

1.0.6 Thirty-two (32) new tree plantings of 45L volume pots are required to compensate for the proposed removal of High and Moderate value trees.

1.0.7 This report concludes that the proposed development is suitable and warrants approval subject to the implementation of the mitigation measures outlined in this report. Following the implementation of the above mitigation measures, the remaining impacts are appropriate.

## 2. INTRODUCTION

### 2.1 Aims

2.1.1 To evaluate the condition of trees, their value for retention and identify any potential effects of the proposed development. To provide feasible alternatives to mitigate detrimental effects on trees and provide suggestions for the management and protection of the trees throughout the development process.

2.1.2 To designate and preserve Tree Protection Zones (TPZ) for trees proposed for retention, to maintain their vitality and ensure that the tree protection measures are compliant throughout the duration of works.

### 2.2 Scope

2.2.1 An Arboricultural Impact Assessment has been prepared by McArdle Arboricultural Consultancy to accompany a detailed State Significant Development Application (SSDA) for the in-fill affordable housing development at 43B – 57 Blaxland Road, 2A, 2B and 2D Cavell Avenue, 448-458 Concord Road and 2A Llewellyn Street, Rhodes. The site is made up of multiple lots.

2.2.2 The application seeks consent for the development of an infill affordable housing development that is a result of an Architectural Design Competition that was undertaken in mid 2024, which resulted in a high-quality urban design outcome that aligns with the desired future character of the Rhodes Precinct. Specifically, the SSDA seeks consent for:

- Site preparation works including demolition and removal of existing structures on the site, tree and vegetation removal.
- Bulk excavation to accommodate the basement structure and site remediation.
- Construction of seven (7) residential buildings comprising two (2) townhouse buildings ranging from four (4) to five (5) storeys (plus roof terrace), and five (5) residential flat buildings ranging from eight (8) to 29 storeys.
- Together these buildings comprise:
  - Nine (9) townhouses and 640 apartments comprising 15% affordable housing
  - Basement parking for private vehicles, visitors and service vehicles.
  - Storage areas and services.
  - Communal open spaces.
- Construction of a public road connecting Blaxland Road and Cavell Avenue
- Associated landscaping and public domain improvements

2.2.3 The purpose of this project is to facilitate the growth of residential development and affordable housing within the Rhodes precinct that aligns with the Rhodes Precinct Plan.

2.2.4 This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 14 February 2025 and issued for the SSDA (SSD-67508739). Specifically, this report has been prepared to respond to the SEARs requirement issued below.

*Table 4 - Relevant SEARs being addressed in this report*

Item	Description of Requirements
14 Trees and Landscaping	Provide an Arboricultural Impact assessment that assesses the number, location, condition and significance of trees to be removed and retained, including -existing canopy coverage to be retained on-site. -tree root mapping. if the proposal involves significant impacts to tree-protection zones of retained trees identified as being significant.

2.2.6 The assessment was conducted on the 4 April 2024 by Jim McArdle, B Ed Sc (ACU), Dip Arb, AQF L5 (Ryde), Tree Risk Assessment Qualified (TRA), Quantified Tree Risk Assessment (QTRA) & Tree Contractors Association of Australia (TCAA) President and registered consultant arborist with Arboriculture Australia.

2.2.7 The Visual Tree Assessment (VTA) does not include below ground root excavation and no expert laboratory analyses - including internal diagnostics, inaccessible trunk and aerial inspections – were conducted. No pathology tests or soil analyses were conducted. Sketches, diagrams, graphs and photographs in this report, being intended as visual aids, are not necessarily to scale.

### 2.3. Methodology

2.3.1 The inspection was primarily conducted using ground-based collection of data to identify visible signs of tree health, structure and potential hazards. Collection data methods may include a mallet for sound test, trowel, screwdriver for compaction and probing cavities to identify pathogens pests and disease. The assessments do not involve laboratory analysis and include the following methods.

2.3.2 **Visual Tree Assessment (VTA)** (Mattheck and Breloer 1996) is a method assessing for biological and lower-level mechanical functions and signs of decay, damage or defects (Appendix A).

2.3.3 **Tree Useful Life Expectancy (TULE)** (Barrell 2001, adapted with permission for TCAA 2014) determines the time a tree can be expected to be usefully retained in normal circumstance. **Long TULE** is >40 years; **Medium TULE** is 15-40 years; **Short TULE** is 5-15 years; **No retention potential** is 0-5 years; **Remove** next 5 years; **Move or Replace** and **small, young, regularly clipped** (Appendix B).

2.3.4 **Tree AZ Categories** (Barrell 2019) classifies importance of trees on development sites, (Appendix B). **Category A:** suitable for retention and **Category Z:** not worthy of constraint (Appendix C).

2.3.5 **Retention Value Rating** (Morton 2011) determined by considering both TULE and the Landscape Significance. **High** Retention are a priority for retention. **Moderate** Retention are retained where possible. **Low** Retention are generally not a constraint to development and **Very Low** Retention may have potential hazards (Appendix C).

2.3.6 **Landscape Significance Rating** (Morton 1996) rates trees as **Significant** – based on heritage or ecological value. **Very high** – based on adjacent area surrounding the site. **High** - neighbourhood status but may have some conditions or health issues. **Moderate** - Good and Worthy of Preservation, may have minor health issues. **Low** - Worthy of Preservation, may have major conditions or health issues. **Very low** - Retain if possible and **Insignificant** - Exempt from retention (Appendix D).

2.3.7 **Planting Specifications from NATSPEC** (Clark 2003) and Australian Standard ® AS 2303-2018 Tree Stock for Landscape Use. (Appendix E).

2.3.8 Tree management and protection during development is in accordance with **Australian Standard ® AS 4970 (2009) Protection of Trees on Development Sites.**

2.3.9 Pruning of Amenity Trees is in accordance with **Australian Standards ®AS 4373 (2007)**

2.3.10 Photos with GPS waypoints were captured using the SOLOCATOR app and GARMN. An iPhone 16 is used for taking the photos and these were not digitally altered.

### 3. SITE ANALYSIS

#### 3.1 The Site

3.1.1 The site is located at 43 – 57 Blaxland Road, 2A, 2B and 2D Cavell Avenue, 448-458 Concord Road and 2A Llewellyn Street, Rhodes. which is within the City of Canada Bay Local Government Area (LGA). The site is legally described in Table 1 above and is currently owned by Leeds Investment Pty Ltd.

3.1.2 The site has frontages to Blaxland Road, Cavell Avenue, Llewellyn Street and Concord Road and is also highly accessible by public transport with the Rhodes Train Station and bus services within easy walking distance.

3.1.3 The site currently accommodates multiple one and two storey detached dwellings which will require demolition in order to allow for the construction of the proposed residential flat buildings and terraces.

The surrounding locality is described below:

3.1.4 The surrounding locality is described below:

- North: Directly north of the site is the St. Mary & St. Merkorious Coptic Orthodox Church and Rhodes Community Centre, together with more low density / detached residential buildings.
- East: To the east of the site is Concord Road. Further the east is residential development consisting of detached dwellings and townhouses.
- South: Directly to the south is a recently demolished site. The site has an active DA with Canada Bay Council for a mixed-use development.
- West: To the west of the site is the T9 rail line. Further to the west (across the railway line) is the Rhodes West mixed-use precinct.

3.1.5 The site is located in Rhodes. Rhodes has been identified as an important Strategic Centre in the Eastern City District Plan, with significant opportunities to create additional jobs and homes. Rhodes is approximately 12km north-west of Sydney Central Business District (CBD) and approximately 7.5km east of Parramatta CBD. To the South of Rhodes is the Concord Health district which comprises a Public Teaching Hospital and various other health services.

3.1.6 The site benefits from excellent access to the arterial road network (via Concord Road), which provides connections to key centres in Greater Sydney. Further to this, the site is also in close proximity to Rhodes Train Station which runs on the T9 (Northern) rail line. This line runs from Hornsby through Rhodes to Sydney CBD and north to Gordon.

3.1.7 The land has a gentle decline to the South-east.

3.1.8 The subsoil texture in this region consists of light clay and the topsoil texture is loam. (eSpade soils 2025)

3.1.9 The weather in the Sydney region experiences moderate temperatures and with Southeast winds sometimes stronger in the winter.

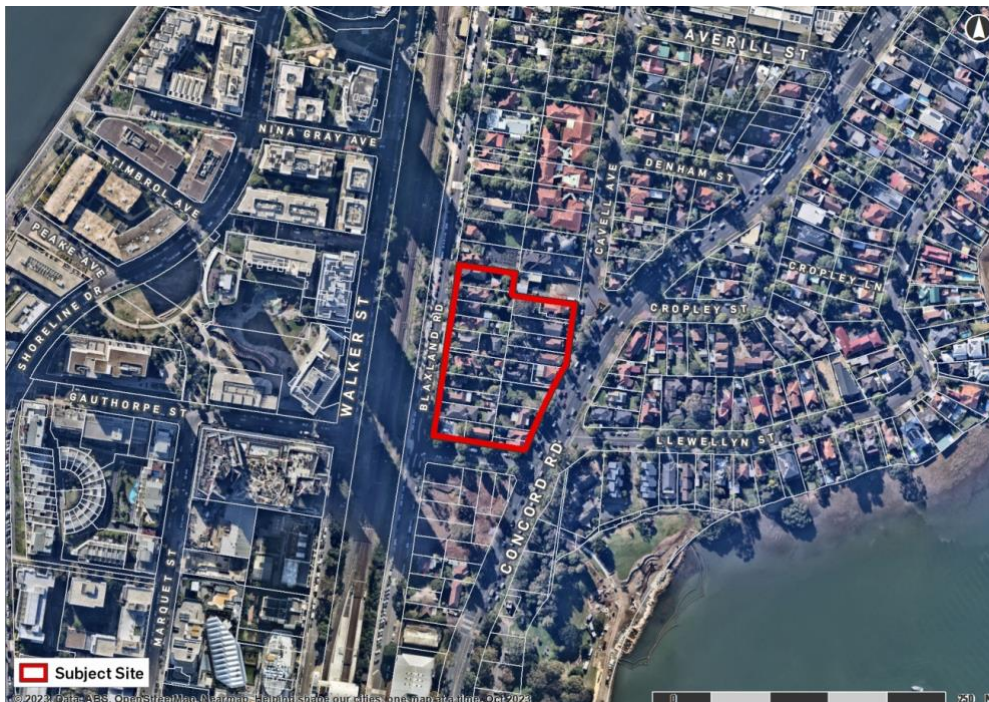


Figure 1: Source Urbis  
Aerial map of site capturing 2a Llewellyn St Rhodes,  
43- 57 Blaxland Rd, 448-458 Concord Rd, 2ab & d Cavelle Ave.

## 3.2 Legislation And Significance In The Environment

3.2.1 Commonwealth legislation regulates the **Biosecurity Act 2015**, (diseases and pests) and **Environmental Protection & Biodiversity Conservation Act 1999 (EPBC Act)** manages nationally significant species, ecological communities, and habitat protection.

3.2.2 The **NSW Biodiversity Conservation Act 2016 (BC Act)** repealed the **NSW Threatened Species Conservation Act, 1995** however, there are transitional arrangements in place between the two pieces of legislation.

3.2.3 The **NSW Environmental Planning and Assessment Act 1979 (EP&A Act)** provides the legislative framework. The **Department of Planning, Housing and Infrastructure** is responsible for establishing the framework for **Environmental Planning Instruments (EPI)**, which include **Local Environmental Plans (LEP)** and **Development Control Plans (DCP)**. **Local Government Areas (LGA)** are responsible for implementing these instruments. Tree protection is managed through **Tree Preservation Orders (TPO)**, which are part of the EPIs. The **LEP** sets zoning and tree protection rules, while the **DCP** provides guidelines to manage trees during development.

3.2.4 **State Environmental Planning Policy (SEPP) (Biodiversity and Conservation) 2021** focuses protecting biodiversity, conserving natural areas, and managing sustainable development in sensitive environments and takes precedence over a Council's **LEP** and **DCP**.

3.2.5 **State Environmental Planning Policy (SEPP) (Transport and Infrastructure) 2021** focuses on the planning and development of transport and infrastructure projects in New South Wales, ensuring they align with sustainable growth, environmental protection, and community needs.

3.2.5 The **10/50 Vegetation Clearing Code** under the **NSW Rural Fires Act 1997** allows tree removal within 10 metres and shrub clearing within 50 metres of homes in **bushfire-prone areas** to reduce bushfire risk.

3.2.6 Trees are regulated under Canada Bay Council, DCP 2023 and LEP 2013. The Canada Bay Council LGA defines a tree as having a height of 5 metres or greater or a trunk diameter of 300mm or greater or a canopy spread of over 4 metre or is a native palm, cycad or mangrove, irrespective of its dimensions. (Canada Bay Council 2025)

3.2.6 According to the Planning Portal 2025:

- a) The Local Aboriginal Land Council is Metropolitan.
- b) Land zoning is classified as: R4: High Density Residential.
- c) Canopy Cover 2022 for this area averages approximately 27 %.
- d) Heritage items: The neighbouring site at 59 Blaxland Road has a house and garden significant land and heritage street trees on Cavelle Avenue, no trees are located within this heritage area.
- e) Local Provisions: Affordable Housing Contribution Area and Intensive Urban Development Area.
- f) Key Sites: Rhodes Precinct and Station Gateway West Character Area.

## 3.3 Planning Control Maps



Figure 2: Land Zoning: R4: High Density Residential



Figure 3: Canopy Cover 2022 is averaged as 27% for the area.



Figure 4: Heritage Items; Cavelle St trees and neighbouring site 59 Blaxland Rd.

## 4. RESULTS

### 4.1 Tree Schedule

Table 5: Tree Schedule - Health and Structural Condition of Trees.

(\* DBH- Diameter Breast Height, DRC- Diameter Root Collar. \* TPZ- Tree Protection Zone. SRZ- Structural Root Zone. \* TULE-Tree Useful Life Expectancy, \*Palm TPZ are 1m out from the fronds.

Tree No.	Location	Botanical Name Common Name	Canopy (m)	Height (m)	DBH* DRC* (cm)	TPZ* SRZ* (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	TULE* A-Z	Retention Value
1	Council street tree, 57 Blaxland Road.	<i>Tristaniopsis laurina</i> Water Gum	6	7	10/12/15/20 50	3.5 2.5	Mature, previously pruned, with 60% pre-existing hard-surface impacts.	2d A2	Low-Moderate
2	Council street tree, 55 Blaxland Road.	<i>Tristaniopsis laurina</i> Water Gum	4	5	10/12 25	2.0 1.9	Mature, with twin stems, physical damage to the west at 50cm height, and over 60% dehydration.	5e Z10	Very Low
3	Council street tree, 53a Blaxland Road.	<i>Tristaniopsis laurina</i> Water Gum	3	4	14 20	2.0 1.7	Semi-mature, with decay at the base of the tree, and over 20% dieback. (Exempt size).	3d A2	Low
4	Council street tree, 53 Blaxland Road.	<i>Tristaniopsis laurina</i> Water Gum	6	7	15/26 32	3.6 2.1	Semi-mature, good condition but poor development, with three (3) co-dominant stems.	2d A1	Moderate
5	Council street tree, 49 Blaxland Road.	<i>Melaleuca spp.</i> Paperbark	NS 7 EW 6	8	25/28 52	4.6 2.5	Mature, good condition but poor development, with twin stems.	3a A1	Moderate
6	Council street tree, 47 Blaxland Road.	<i>Tristaniopsis laurina</i> Water Gum	5	6	10/14/15 20	2.8 1.7	Semi-mature, heavily pruned to the west, with a cavity to the west at 1m height.	3d Z	Low-Moderate
7	Council street tree, 45a Blaxland Road.	<i>Tristaniopsis laurina</i> Water Gum	6	8	21/25 40	4.0 2.3	Semi-mature, good condition but poor development, with a minor cavity at the base of the tree.	2d A1	Moderate
8	Council street tree, 45 Blaxland Road.	<i>Tristaniopsis laurina</i> Water Gum	5	6	10/20 30	2.6 2.0	Semi-mature, previously pruned, with decay at 1m height.	3a A2	Moderate
9	Council street tree, 43a Blaxland Road.	<i>Tristaniopsis laurina</i> Water Gum	8	9	32/33/34 50	6.8 2.5	Mature, good condition but poor development, with a lean to the west, and a branch failure to the west at 3m height.	3a A2	High
10	Council street tree, Llewellyn Street.	<i>Lophostemon confertus</i> Brush Box	12	14	72 95	8.6 3.2	Mature, good condition but poor development, previously pruned.	2d A1	High
11	Council street tree, Llewellyn Street.	<i>Lophostemon confertus</i> Brush Box	12	15	62 66	7.4 2.8	Mature, crown-lifted, with 60% pre-existing hard-surface impacts, and minor dehydration.	3a A2	High
12	Council street tree, 2a Llewellyn Street.	<i>Lophostemon confertus</i> Brush Box	NS 14 EW 13	18	65 76	7.8 3.0	Mature, good condition but poor development, with 50% pre-existing hard-surface impacts, and minor root damage.	2a A2	High
13	Council street tree, Llewellyn Street.	<i>Lophostemon confertus</i> Brush Box	12	14	76 74	9.1 2.9	Mature, good condition but poor development, with a lean to the west, and 65% pre-existing hard-surface impacts.	3a A2	High
14	Council street tree, 450 Concord Road.	<i>Melia azedarach</i> White Cedar	NS 5 EW 4	5	5/8 12	2.0 1.5	Immature, good condition but poor development, with a lean to the south, and minor decay.	5e A2	Low
15	Council street tree, 450 Concord Road.	<i>Tristaniopsis laurina</i> Water Gum	4	5	18 20	2.2 1.7	Immature, good condition but poor development, with pre-existing hard-surface impacts.	2d A2	Low-Moderate
16	Council street tree, 452 Concord Road.	<i>Tristaniopsis laurina</i> Water Gum	4	6	12 16	2.0 1.5	Immature, good condition but poor development, previously pruned, with hard-surface impacts from the footpath.	2d A2	Low-Moderate
17	Council street tree, 452 Concord Road.	<i>Tristaniopsis laurina</i> Water Gum	5	6	20 23	2.4 1.8	Immature, good condition but poor development, previously pruned, with physical damage from motor vehicles.	2a A2	Low-Moderate

Tree No.	Location	Botanical Name Common Name	Canopy (m)	Height (m)	DBH* DRC* (cm)	TPZ* SRZ* (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	TULE* A-Z	Retention Value
18	Council street tree, 450 Concord Road.	<i>Tristaniopsis laurina</i> Water Gum	3	4	10 12	2.0 1.5	Immature, good condition but poor development, with epicormics at the base of the tree. Under 5m in height - exempt	2d A2	Low
19	Council street tree, 454 Concord Road.	<i>Tristaniopsis laurina</i> Water Gum	4	5	20 26	2.4 1.9	Immature, previously pruned, with epicormics at the base of the tree, and 45% pre-existing hard-surface impacts.	2a A2	Low-Moderate
20	Council street tree, 458 Concord Road.	<i>Archontophoenix spp.</i> Phoenix Palm*	6	6	20 30	3.5 2.0	Semi-mature, good condition but poor development.	2d A1	Moderate
21	Council street tree, 458 Concord Road.	<i>Acer negundo</i> Boxelder Maple	4	6	25 45	3.0 2.4	Post-mature, with decay, a suppressed canopy, and borers.	5e Z10	Low
22	Council street tree, 458 Concord Road.	<i>Callistemon viminalis</i> Weeping Bottlebrush	8	9	20/30 40	4.3 2.3	Mature, good condition but poor development, previously pruned, with twin stems.	3a A1	Moderate
23	Council street tree, Concord Road.	<i>Leptospermum spp.</i> Tea Tree	NS 8 EW 6	11	22/25 40	4.0 2.3	Mature, with twin stems, and an unbalanced canopy to the east.	2d A1	Moderate
24	2m north of Tree 23, Concord Road.	<i>Celtis spp.</i> Hackberry	NS 14 EW 11	8	18/22/35 50	5.4 2.5	Semi-mature, with a lean to the north, decay, and an inclusion.	5e Z3	Very Low
25	Council street tree, 2a Concord Road.	<i>Archontophoenix spp.</i> Phoenix Palm*	8	17	56 65	4.5 2.8	Mature, good condition but poor development.	2a A1	High
26 (x 8)	Eastern boundary, 2b Cavell Avenue.	<i>Photinia spp.</i> Photinia	3	4	5 5	2.0 1.5	EXEMPT HEIGHT Immature, hedge. Under 5m.	2d Z1	Very Low
27 (x 4)	Adjacent dwelling, 2b Cavell Avenue.	<i>Syzygium spp.</i> Lilly Pilly	3	4	10 10	2.0 1.5	EXEMPT HEIGHT Immature, good condition. Under 5m.	2d Z1	Very Low
28 (x 5)	Adjacent dwelling, 2b Cavell Avenue.	<i>Viburnum spp.</i> Viburnum	3-4	6	10-20 25	2.4 1.9	Immature, moderate condition, with poor form, and pre-existing hard-surface impacts.	5e Z10	Low
29	Adjacent driveway, 2b Cavell Avenue.	<i>Celtis spp.</i> Hackberry	6	7	20 25	2.4 1.9	EXEMPT SPECIES Immature, good condition but poor development.	2a Z3	Very Low
30	Adjacent dwelling, 2b Cavell Avenue.	<i>Archontophoenix spp.</i> Phoenix Palm*	4	10	24/20 50	2.5 2.5	Semi-mature, good condition but poor development, with co-dominant stems, and 70% pre-existing hard-surface impacts.	2d Z12	Moderate
31 (x 5)	Adjacent dwelling, 2b Cavell Avenue.	<i>Dyopsis lutescens</i> Golden Cane Palm*	4	5	10/10/10 30	2.5 2.0	Immature, good condition but poor development, with multiple stems.	2d Z1	Low
32	Adjacent dwelling, 2d Cavell Avenue.	<i>Celtis spp.</i> Hackberry	5	6	10/15 12	2.2 1.5	EXEMPT SPECIES Immature, good condition but poor development.	2d Z3	Very Low
33	Adjacent dwelling, 2d Cavell Avenue.	<i>Cyathea australis</i> Rough Tree Fern	4	5	12 14	2.0 1.5	Immature, good condition but poor development, with physical damage from the fence to the north at the base of the tree.	2d Z1	Low
34 (x 2)	Adjacent dwelling, 2d Cavell Avenue.	<i>Yucca spp.</i> Yucca	3	5	20-25 25-50	3.0 2.5	Immature, good condition but poor development.	2a Z3	Low
35	Adjacent dwelling, 2d Cavell Avenue.	<i>Cycad species</i>	4	2	40 40	4.8 2.3	EXEMPT HEIGHT Mature, good condition but poor development. Under 5m	2a Z1	Moderate
36	Adjacent driveway, 2d Cavell Avenue.	<i>Platycladus orientalis</i> Oriental Thuja	5	5	10 (x 10) 52	3.8 2.5	Mature, good condition but poor development.	2d Z1	Low

Tree No.	Location	Botanical Name Common Name	Canopy (m)	Height (m)	DBH* DRC* (cm)	TPZ* SRZ* (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	TULE* A-Z	Retention Value
37	North-eastern cnr., 2a Cavell Avenue.	<i>Species unknown</i>	0	9	34/47 54	7.0 2.6	EXEMPT DEAD Dead, with no hollows.	4a Z4	Very Low
38	Adjacent dwelling, 2a Cavell Avenue.	<i>Eriobotrya japonica</i> Loquat	6	8	10/12 20	2.0 1.7	EXEMPT SPECIES Immature, good condition but poor development.	2d Z3	Low
39	Backyard, 2d Cavell Avenue.	<i>Eucalyptus globulus</i> Tasmanian Blue Gum	NS 20 EW 16	25	90 100	10.8 3.3	Mature, with a branch failure and mycelial growth to the south at 3m height, a lean to the west, and minor dead wood.	3a Z5	High
40	Adjacent driveway, 2a Cavell Avenue.	<i>Cryptomeria japonica</i> Sugi	4	6	10/15 12	2.0 1.5	Immature, good condition but poor development, previously pruned.	2d Z1	Low-Moderate
41 (x 2)	Front garden, 458 Concord Road.	<i>Celtis spp.</i> Hackberry	5	6	10/10 14	2.0 1.5	EXEMPT SPECIES Immature, good condition but poor development.	2d Z3	Very Low
42	Front garden, 458 Concord Road.	<i>Tibouchina spp.</i> Tibouchina	6	5	10/12 20	2.0 1.7	Semi-mature, good condition but poor development, with minor dehydration.	3d Z2	Low
43 (x 4)	Rear of dwelling, 458 Concord Road.	<i>Dypsis lutescens</i> Golden Cane Palm*	4-6	6	10 10	3.5 1.5	Immature, good condition.	2a Z1	Low
44	Adjacent garage, 458 Concord Road.	<i>Eucalyptus elata</i> River Peppermint	NS 17 EW 10	18	101 102	12.1 3.3	Mature, good condition but poor development, with a canker in decline.	3a Z4	High
45	Adjacent garage, 458 Concord Road.	<i>Eucalyptus elata</i> River Peppermint	NS 16 EW 13	18	56 63	6.7 2.7	Mature, good condition but poor development, with a lean to the west, and a canker. In decline.	3a Z4	Moderate
46	2/456 Concord Road.	<i>Ligustrum spp.</i> Privet	5	6	10/10 20	2.0 1.7	EXEMPT SPECIES Immature, good condition but poor development, with physical damage from the fence.	5e Z3	Very Low
47	2/456 Concord Road.	<i>Jacaranda mimosifolia</i> Jacaranda	7	10	15 20	2.0 1.7	Immature, good condition but poor development, with twin stems and physical damage from the fence.	2d Z10	Low-Moderate
48	1/456 Concord Road.	<i>Palm species</i>	3	7	10 10	1.5 1.5	Immature, good condition, with a parasitic vine.	2a Z11	Low
49	Front garden, 1/456 Concord Road.	<i>Syagrus romanzoffiana</i> Cocos Palm*	6	10	30 32	3.5 2.1	EXEMPT SPECIES Semi-mature, good condition but poor development.	2a Z3	Low
50	Front garden, 454 Concord Road.	<i>Archontophoenix alexandrae</i> Alexander Palm*	5	16	25 50	3 2.5	Semi-mature, good condition but poor development.	2a Z10	Moderate
51	Adjacent driveway, 454a Concord Road.	<i>Callistemon viminalis</i> Weeping Bottlebrush	8	9	15/20/27 30	4.4 2.0	Semi-mature, previously pruned.	2d Z10	Moderate
52	Southern boundary, 452 Concord Road.	<i>Casuarina spp.</i> She-Oak	NS 14 EW 15	12	38 54	4.6 2.6	Mature, good condition but poor development, with decay in the canopy to the west.	3d Z7	Moderate
53	Southern boundary, 452 Concord Road.	<i>Callistemon viminalis</i> Weeping Bottlebrush	NS 7 EW 8	8	10/15/30 30	4.2 2.0	Semi-mature, good condition, with an unbalanced canopy to the east.	2a Z12	Low-Moderate
54	Southern boundary, 452 Concord Road.	<i>Celtis spp.</i> Hackberry	4	6	10/10 15	2.0 1.5	EXEMPT SPECIES Immature, good condition but poor development.	2d Z3	Low
55	452 Concord Road.	<i>Cinnamomum camphora</i> Camphor Laurel (stag)	12	14	80 90	9.6 3.2	EXEMPT DEAD Dead, with no hollows.	4a Z4	Very Low
56	3m north of Tree 55, 452 Concord Road.	<i>Ligustrum spp.</i> Privet	8	8	20/20 35	3.4 2.1	EXEMPT SPECIES Semi-mature, good condition but poor development.	5e Z3	Very Low

Tree No.	Location	Botanical Name Common Name	Canopy (m)	Height (m)	DBH* DRC* (cm)	TPZ* SRZ* (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	TULE* A-Z	Retention Value
57	Western boundary, 452 Concord Road.	<i>Celtis spp.</i> Hackberry	14	11	40 40	4.8 2.3	EXEMPT SPECIES Mature, good condition but poor development.	3d Z3	Very Low
58 (x 3)	North-western cnr., 452 Concord Road.	<i>Ligustrum spp.</i> Hackberry & <i>Morus spp.</i> (Mulberry)	8	8	20-25 20-30	3.0 2.0	EXEMPT SPECIES Mature, good condition but poor development.	3a Z3	Very Low
59	North-western cnr., 450 Concord Road.	<i>Juniperus virginiana</i> Red Cedar	4	6	10/10 20	2.0 1.7	Immature, heavily pruned, with physical damage.	5e Z10	Low
60	Adjacent dwelling, 450 Concord Road.	<i>Cupressus spp.</i> Cypress	8	8	12/12/20 30	3.1 2.0	Semi-mature, good condition but poor development, heavily pruned.	2d A1	Low-Moderate
61	Adjacent dwelling, 450 Concord Road.	<i>Cupressus spp.</i> Cypress	8	14	10/30 40	3.8 2.3	Mature, poor condition, with 30% dehydration.	5e Z10	Low-Moderate
62	Front garden, 450 Concord Road.	<i>Cupressus spp.</i> Cypress	8	14	12/20/20/20 50	4.4 2.5	Mature, poor condition, with two (2) dehydrated stems.	5e Z10	Low-Moderate
63	Front garden, 450 Concord Road.	<i>Cupressus spp.</i> Cypress	7	14	40 42	4.8 2.3	Mature, heavily pruned at the base of the tree, with a suppressed canopy.	3a A2	Moderate
64	Front garden, 450 Concord Road.	<i>Murraya spp.</i> Murraya	3-6	6	10 10	2.0 1.5	Semi-mature hedge, good condition but poor development.	2d A1	Low
65	Rear yard, 450 Concord Road.	<i>Cedrus deodara</i> Deodar Cedar	6	8	22 24	2.6 1.8	Immature, in decline, with a dehydrating canopy.	2d A2	Low-Moderate
66	Rear yard, 450 Concord Road.	<i>Callistemon viminalis</i> Weeping Bottlebrush	8	10	18/22/34 45	5.3 2.4	Semi-mature, good condition but poor development.	2a A1	Moderate
67	448a Concord Road.	<i>Leptospermum spp.</i> Tea Tree	6	8	10/10/25 40	3.5 2.3	Semi-mature, moderate condition, with fungal attack to the east at 2m height.	2d A2	Low-Moderate
68	448a Concord Road.	<i>Leptospermum spp.</i> Tea Tree & <i>Dypsis lutescens</i> Golden Cane Palm*	4	6	15 16	2.5 1.5	Immature, good condition but poor development.	2d A1	Low
69 (x 2)	Adjacent driveway, 2a Llewellyn Street.	<i>Murraya spp.</i> Murraya	5	6	5/10 10	2.0 1.5	Immature, good condition but poor development.	2d A1	Low
70	Rear yard, 43a Blaxland Road.	<i>Celtis spp.</i> Hackberry	14	13	15/15/15/20/25 60	4.9 2.7	EXEMPT SPECIES Mature, good condition but poor development, with physical damage from the building.	2d Z3	Low
71	Rear yard, 43a Blaxland Road.	<i>Ligustrum spp.</i> Privet	5	5	10/10/10 30	2.0 2.0	EXEMPT SPECIES Mature, poor condition, with decay.	4c Z3	Very Low
72	Front garden, 43 Blaxland Road.	<i>Ligustrum spp.</i> Privet	8	10	20/20 40	3.4 2.3	EXEMPT SPECIES Semi-mature, good condition but poor development, previously pruned.	5e Z3	Very Low
73 (x 3)	Front garden, 43a Blaxland Road.	<i>Cotoneaster spp.</i> Cotoneaster & <i>Ligustrum spp.</i> Privet	6	6	15 20	2.0 1.7	EXEMPT SPECIES Immature, good condition but poor development.	5e Z3	Very Low
74	Front garden, 43a Blaxland Road.	<i>Spiraea cantoniensis</i> May Bush	7	5	10/10/10 18	2.0 1.6	Semi-mature, good condition but poor development, previously pruned.	2d Z1	Low
75	Adjacent driveway, 43a Blaxland Road.	<i>Eucalyptus grandis</i> Flooded Gum	8	9	22 24	2.6 1.8	Immature, good condition but poor development, with physical damage from the fence at 1m height, and root damage.	2a Z6	Low-Moderate

Tree No.	Location	Botanical Name Common Name	Canopy (m)	Height (m)	DBH* DRC* (cm)	TPZ* SRZ* (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	TULE* A-Z	Retention Value
76	Front garden, 45 Blaxland Road.	<i>Stereospermum fimbriatum</i> Snake Tree	4	6	20 22	2.4 1.8	Immature, heavily pruned, with physical damage, and a suppressed canopy.	3a Z3	Low
77	Front garden, 45a Blaxland Road.	<i>Podocarpus elatus</i> Brown Pine	NS 6 EW 10	10	58 66	7.0 2.8	Semi-mature, good condition but poor development, previously pruned.	2d Z7	High
78	Front garden, 45a Blaxland Road.	<i>Podocarpus elatus</i> Brown Pine	NS 4 EW 6	12	36 47	4.3 2.4	Semi-mature, with a lean to the north, and a suppressed canopy.	2d Z7	Moderate
79	Front garden, 45a Blaxland Road.	<i>Podocarpus elatus</i> Brown Pine	NS 4 EW 8	12	28 37	3.4 2.2	Semi-mature, with a suppressed canopy, and root damage.	2d Z7	Moderate
80	Front garden, 45a Blaxland Road.	<i>Podocarpus elatus</i> Brown Pine	8	12	44 48	5.3 2.4	Semi-mature, with twin stems.	2d Z7	High
81	Northern boundary, 45 Blaxland Road.	<i>Casuarina glauca</i> Swamp She-Oak	4	10	10 12	2.0 1.5	Immature, good condition but poor development, with physical damage from the fence and the roof.	2d Z1	Low
82	Rear yard. 47 Blaxland Road.	<i>Archontophoenix spp.</i> Phoenix Palm*	4	6	100 100	2.5 3.3	Mature, poor condition, with spiky fronds.	5e Z10	Very Low
83	Adjacent dwelling, 47 Blaxland Road.	<i>Species unknown</i> (stag)	0	7	12 14	2.0 1.5	EXEMPT DEAD Dead, with mycelial growth at the base of the tree, and no hollows.	4a Z4	Very Low
84	Northern boundary, 47 Blaxland Road.	<i>Pittosporum spp.</i> Pittosporum	6	9	15 15	2.0 1.5	Semi-mature, good condition but poor development, with a parasitic vine.	3d Z7	Low
85	Front garden, 47 Blaxland Road.	<i>Ligustrum spp.</i> Privet	6	8	5/15 15	2.0 1.5	EXEMPT SPECIES Semi-mature, previously pruned, with a parasitic vine, and decay.	5e Z3	Very Low
86	Front garden, 47 Blaxland Road.	<i>Species unknown</i> (stag)	6	8	22 25	2.6 1.9	EXEMPT DEAD Dead, with no hollows, and a lean to the north.	4a Z4	Very Low
87 (x 3)	Front garden, 47 Blaxland Road.	<i>Ligustrum spp.</i> Privet	4	6	10 10	2.0 1.5	EXEMPT SPECIES Immature, good condition but poor development.	5e Z3	Very Low
88	Front garden, 49 Blaxland Road.	<i>Archontophoenix spp.</i> Phoenix Palm*	6	8	45 50	3.5 2.5	Semi-mature, good condition but poor development.	2a Z7	Moderate
89	Front garden, 49 Blaxland Road.	<i>Archontophoenix spp.</i> Phoenix Palm*	6	8	45 50	3.5 2.5	Mature, good condition but poor development.	2d Z7	Moderate
90	Adjacent dwelling, 49 Blaxland Road.	<i>Jacaranda mimosifolia</i> Jacaranda	12	12	33/40 52	6.2 2.5	Mature, good condition but poor development, with twin stems, and physical damage from the building.	2a Z6	Moderate
91	Adjacent dwelling, 49 Blaxland Road.	<i>Species unknown</i> (stag)	4	7	20 22	2.4 1.8	EXEMPT DEAD Dead, with no hollows.	4a Z4	Very Low
92	Northern boundary, 49 Blaxland Road.	<i>Tristaniopsis laurina</i> Water Gum	3	5	10 10	2.0 1.5	Immature, excellent condition.	1a Z1	Low
93 (x 12)	Western boundary, 49 Blaxland Road.	<i>Photinia spp.</i> Photinia	3	6	10-15 25	2.0 1.9	Immature hedge, heavily pruned.	3b A1	Low
94	Northern boundary, 49 Blaxland Road.	<i>Archontophoenix spp.</i> Phoenix Palm*	6	9	24 25	3.5 1.9	Immature, good condition but poor development.	2a Z7	Low
95	Northern boundary,	<i>Acer negundo</i>	8	8	32	3.8	EXEMPT SPECIES	3a	Low

Tree No.	Location	Botanical Name Common Name	Canopy (m)	Height (m)	DBH* DRC* (cm)	TPZ* SRZ* (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	TULE* A-Z	Retention Value
	49 Blaxland Road.	Variiegated Boxelder Maple			40	2.3	Semi-mature, with borers.	Z3	
96	Northern boundary, 49 Blaxland Road.	<i>Trachycarpus fortunei</i> Chinese Windmill Palm*	4	8	14 20	2.5 1.7	Immature, good condition.	2d Z7	Low
97	Adjacent dwelling, 49 Blaxland Road.	<i>Syagrus romanzoffiana</i> Cocos Palm*	6	11	25 35	3.5 2.1	EXEMPT SPECIES Semi-mature, good condition but poor development.	2d Z3	Low
98	Adjacent dwelling, 49 Blaxland Road.	<i>Archontophoenix alexandrae</i> Alexander Palm*	4	9	22 24	2.5 1.8	Immature, good condition, with root damage.	2d Z7	Low-Moderate
99	Adjacent dwelling, 49 Blaxland Road.	<i>Archontophoenix alexandrae</i> Alexander Palm*	3	5	11 12	2 1.5	Immature, good condition.	2d Z7	Low
100 (x 2)	Northern boundary, 49 Blaxland Road.	<i>Camellia japonica</i> Japanese Camellia	3-6	4-6	10 10	2.0 1.5	Immature, good condition but poor development, previously pruned.	2d Z1	Low
101	Southern boundary, 49 Blaxland Road.	<i>Ligustrum spp.</i> Privet	4	5	10/10 15	2.0 1.5	EXEMPT SPECIES Immature, good condition but poor development, previously pruned.	5e Z3	Very Low
102	Southern boundary, 49 Blaxland Road.	<i>Celtis spp.</i> Hackberry	6	6	10/10 22	2.0 1.8	EXEMPT SPECIES Immature, with twin stems.	2d Z3	Low
103	Southern boundary, 49 Blaxland Road.	<i>Ligustrum spp.</i> Privet	4	6	5/5/10 15	2.0 1.5	EXEMPT SPECIES Immature, good condition but poor development.	5e Z3	Very Low
104	Southern boundary, 49 Blaxland Road.	<i>Ligustrum spp.</i> Privet	6	7	24 26	2.9 1.9	EXEMPT SPECIES Semi-mature, good condition but poor development.	5e Z3	Very Low
105	Adjacent garage, 49 Blaxland Road.	<i>Morus spp.</i> Mulberry	4	5	10 10	2.0 1.5	EXEMPT SPECIES Immature, good condition, with a suppressed canopy.	2a Z3	Low
106	Eastern boundary, 49 Blaxland Road.	<i>Ligustrum spp.</i> Privet	8	8	15/20 30	3.0 2.0	EXEMPT SPECIES Semi-mature, good condition but poor development, with a suppressed canopy.	5e Z3	Very Low
107	Eastern boundary, 49 Blaxland Road.	<i>Species unknown</i> (stag)	0	14	25 23	3.0 1.8	EXEMPT DEAD Dead, with no hollows.	4a Z4	Very Low
108	Eastern boundary, 49 Blaxland Road.	<i>Ligustrum spp.</i> Privet	10	10	40 44	4.8 2.3	EXEMPT SPECIES Mature, good condition but poor development.	5e Z3	Very Low
109	Eastern boundary, 49 Blaxland Road.	<i>Eriobotrya japonica</i> Loquat	5	7	20 22	2.4 1.8	EXEMPT SPECIES Immature, good condition but poor development.	2a Z3	Low
110	Northern boundary, 49 Blaxland Road.	<i>Senna pendula var. glabrata</i> Cassia	3 x 6	5	10 10	2.0 1.5	EXEMPT SPECIES Immature, good condition but poor development.	5e Z3	Low
111	Eastern boundary, 51a Blaxland Road.	<i>Casuarina glauca</i> Swamp She-Oak	NS 11 EW 14	18	40 56	4.8 2.6	Mature, good condition but poor development, with an unbalanced canopy to the west.	2d A1	Moderate
112	North-western cnr., 51a Blaxland Road.	<i>Melaleuca styphelioides</i> Prickly-Leaved Paperbark	10	20	28/33/67 90	9.6 3.2	Mature, good condition but poor development, growing in a planter.	2a Z6	High
113	Front garden, 51 Blaxland Road.	<i>Celtis spp.</i> Hackberry	6	7	10/10 20	2.0 1.7	EXEMPT SPECIES Immature, good condition but poor development.	2d Z3	Low
114	Front garden, 51 Blaxland Road.	<i>Photinia spp.</i> Photinia	3	4	10 10	2.0 1.5	EXEMPT HEIGHT Immature hedge.	2a Z1	Low

Tree No.	Location	Botanical Name Common Name	Canopy (m)	Height (m)	DBH* DRC* (cm)	TPZ* SRZ* (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	TULE* A-Z	Retention Value
115	Front garden, 51 Blaxland Road.	<i>Archontophoenix spp.</i> Phoenix Palm*	3	5	50 60	2 2.7	Semi-mature, poor condition, heavily pruned.	3a Z10	Low
116	Northern boundary, 51 Blaxland Road.	<i>Celtis spp.</i> Hackberry	5	6	12 12	2.0 1.5	EXEMPT SPECIES Immature, good condition but poor development.	2d Z3	Low
117 (x 2)	Northern boundary, 51 Blaxland Road.	<i>Celtis spp.</i> Hackberry	6	6	20 22	2.4 1.8	EXEMPT SPECIES Immature, good condition but poor development, with physical damage, and root damage.	2d Z3	Low
118 (x 2)	Northern boundary, 51 Blaxland Road.	<i>Celtis spp.</i> Hackberry	6	7	15/15 20	2.5 1.7	EXEMPT SPECIES Immature, good condition but poor development.	2d Z3	Low
119	Eastern boundary, 53 Blaxland Road.	<i>Jacaranda mimosifolia</i> Jacaranda	10	15	43/46 65	7.6 2.8	Mature, good condition but poor development, with co-dominant stems.	2a Z8	High
120	Northern boundary, 53a Blaxland Road.	<i>Archontophoenix spp.</i> Phoenix Palm*	8	9	50 60	4.5 2.7	Mature, good condition but poor development.	2d Z8	High
121	Northern boundary, 53a Blaxland Road.	<i>Archontophoenix alexandrae</i> Alexander Palm*	6	12	20/28 50	3.5 2.5	Mature, good condition but poor development, with twin stems.	2d Z7	Moderate
122	Front garden, 53a Blaxland Road.	<i>Camellia spp.</i> Camellia	5	6	10 10	2.0 1.5	Immature, good condition, heavily pruned.	2d Z7	Low
123	Front garden, 55 Blaxland Road.	<i>Cupressocyparis leylandii</i> Leighton Pine	6	6	20 22	2.4 1.8	Immature, moderate condition, with a suppressed canopy.	2d Z7	Low
124 (x 4)	Front garden, 55 Blaxland Road.	<i>Cupressocyparis leylandii</i> Leighton Pine	4	5	10 12	2.0 1.5	Immature, moderate condition, with a lean and an unbalanced canopy.	2d Z7	Low
125	Front garden, 55 Blaxland Road.	<i>Eucalyptus saligna</i> Sydney Blue Gum	16	21	53 65	6.4 2.8	Semi-mature, good condition but poor development, previously pruned.	2d Z12	High
126 (x 6)	Front garden, 55 Blaxland Road.	<i>Cupressocyparis leylandii</i> Leighton Pine	6	8	10-20 10-25	2.4 1.9	Immature, good condition but poor development, with a suppressed canopy.	2d Z7	Low
127	Northern boundary, 55 Blaxland Road.	<i>Cupressocyparis leylandii</i> Leighton Pine	NS 6 EW 4	9	20 22	2.4 1.8	Immature, with a lean and an unbalanced canopy to the north.	2d Z7	Low
128	Northern boundary, 55 Blaxland Road.	<i>Cupressocyparis leylandii</i> Leighton Pine	4	10	20 22	2.4 1.8	Immature, good condition but poor development, with a suppressed canopy.	2d Z7	Low
129	Northern boundary, 55 Blaxland Road.	<i>Cupressocyparis leylandii</i> Leighton Pine	4	7	12 14	2.0 1.5	Immature, moderate condition.	2d Z7	Low
130	Northern boundary, 55 Blaxland Road.	<i>Cupressocyparis leylandii</i> Leighton Pine	5	7	12 14	2.0 1.5	Immature, good condition but poor development.	2d Z7	Low
131 (x 2)	Adjacent pool, 55 Blaxland Road.	<i>Celtis spp.</i> Hackberry	6	8	10 14	2.0 1.5	EXEMPT SPECIES Immature, good condition but poor development.	2d Z3	Low
132	Adjacent pool, 55 Blaxland Road.	<i>Cupressocyparis leylandii</i> Leighton Pine	6	8	10-20 20	2.4 1.7	Immature, good condition but poor development.	2d Z7	Low
133 (x 4)	Adjacent pool, 55 Blaxland Road.	<i>Archontophoenix alexandrae</i> Alexander Palm*	5	6-10	20 25	3 1.9	Immature, good condition but poor development.	2d Z7	Low
134	Southern boundary, 57 Blaxland Road.	<i>Melaleuca spp.</i> Paperbark	6	6	20 22	2.4 1.8	Immature, good condition.	2d Z7	Low

Tree No.	Location	Botanical Name Common Name	Canopy (m)	Height (m)	DBH* DRC* (cm)	TPZ* SRZ* (m)	Visual Tree Assessment (VTA) – Tree Health & Condition	TULE* A-Z	Retention Value
135 (x 2)	South-eastern cnr., 55 Blaxland Road.	<i>Corymbia maculata</i> Spotted Gum	4	5	10 15	2.0 1.5	Immature, good condition but poor development, heavily pruned.	2d Z1	Low
136	South-eastern cnr., 55 Blaxland Road.	<i>Archontophoenix sp</i> Alexander Palm*	4	6	15 20	2.5 1.7	Immature, good condition but poor development.	2d Z1	Low
137	Southern boundary, 57 Blaxland Road.	<i>Plumeria spp.</i> Frangipani	8	8	16/16/29 36	4.4 2.1	Mature, good condition but poor development, previously pruned.	2d Z3	Moderate
138	Northern boundary, 55 Blaxland Road.	<i>Cupressocyparis leylandii</i> Leighton Pine	6	12	28 30	3.4 2.0	Immature, good condition but poor development, with a lean.	2a Z6	Low
139	Northern boundary, 55 Blaxland Road.	<i>Cupressocyparis leylandii</i> Leighton Pine	8	10	20 30	2.4 2.0	Immature, with a lean to the north.	2a Z6	Low
140	Rear yard, 57 Blaxland Road.	<i>Cinnamomum camphora</i> Camphor Laurel	6	8	15 15	2.0 1.5	EXEMPT SPECIES Immature, good condition.	2d Z3	Low
141	Rear yard, 57 Blaxland Road.	<i>Musa spp.</i> Banana Palm*	6	8	20 20	3.5 1.7	EXEMPT SPECIES Immature, good condition.	2a Z3	Low
142 (x 2)	Rear yard, 57 Blaxland Road.	<i>Celtis spp.</i> Hackberry	8	8	10/20 30	2.6 2.0	EXEMPT SPECIES Immature, good condition.	2a Z3	Low
143	Northern boundary, 57 Blaxland Road.	<i>Cupressocyparis leylandii</i> Leighton Pine	4	6	20 22	2.4 1.8	Immature, good condition.	2a A1	Low
144	Northern boundary, 57 Blaxland Road.	<i>Cupressocyparis leylandii</i> Leighton Pine	8	10	35 37	4.2 2.2	Immature, good condition but poor development.	2a A1	Low
145 (x 2)	Northern boundary, 57 Blaxland Road.	<i>Celtis spp.</i> Hackberry	6	8	20 20	2.4 1.7	EXEMPT SPECIES Immature, good condition but poor development.	2a Z3	Low

4.2 Photographic Observations



Plate 1: Tree 1 *Tristaniopsis laurina* (Water Gum).



Plate 2: Tree 2 *Tristaniopsis laurina* (Water Gum).



Plate 3: Tree 3 *Tristaniopsis laurina* (Water Gum).



Plate 4: Tree 4 *Tristaniopsis laurina* (Water Gum).



Plate 5: Tree 6 *Tristaniopsis laurina* (Water Gum).



Plate 6: Tree 7 *Tristaniopsis laurina* (Water Gum).



Plate 7: Tree 8 *Tristaniopsis laurina* (Water Gum).



Plate 8: Tree 10 *Lophostemo confertus* (Brush Box).



Plate 9: Tree 11 *Lophostemo confertus* (Brush Box).



Plate 10: Tree 12 *Lophostemo confertus* (Brush Box).



Plate 11: Tree 13 *Lophostemo confertus* (Brush Box).



Plate 12: Tree 14 *Melia azedarach* (White Cedar).



Plate 13: Tree 16 *Tristaniopsis laurina* (Water Gum).



Plate 14: Tree 17 *Tristaniopsis laurina* (Water Gum).



Plate 15: Tree 18 *Tristaniopsis laurina* (Water Gum).



Plate 16: Tree 19 *Tristaniopsis laurina* (Water Gum).



Plate 17: Tree 20 *Archontophoenix* spp. (Phoenix Palm)



Plate 18: Tree 21 *Acer negundo* (Boxelder Maple).



Plate 19: Tree 22 *Callistemon viminalis* (Weeping Bottlebrush).



Plate 20: Tree 23 *Leptospermum* spp. (Tea Tree)



Plate 21: Tree 24 has a lean and an unbalanced canopy to the east.



Plate 22: Tree 24 *Celtis* spp. (Hackberry).



Plate 23: Tree Group 26 *Photinia* spp. (Photinia).



Plate 24: Tree Group 27 *Syzygium* spp. (Lilly Pilly)



Plate 25: Tree Group 28 *Viburnum* spp. (Viburnum).



Plate 26: Tree 29 *Celtis* spp. (Hackberry).



Plate 27: Tree 30 *Archontophoenix* spp. (Phoenix Palm).



Plate 28: Trees 34 *Yucca* spp. (*Yucca*) & 35 *Cycad* species.



Plate 29: Tree 37.



Plate 30: Tree 39 *Eucalyptus globulus* (*Tasmanian Blue Gum*)



Plate 31: Tree 45 *Eucalyptus elata* (*River Peppermint*).



Plate 32: Tree 46 *Ligustrum* spp. (*Privet*).



Plate 33: Trees 60-63, *Cupressus* spp. (*Cypress*).



Plate 34: Trees 65 *Cedrus deodara* (*Deodar Cedar*) & 66 *Callistemon viminalis* (*Weeping Bottlebrush*).



Plate 35: Tree 70 *Celtis* spp. (*Hackberry*).



Plate 36: Tree 75 *Eucalyptus grandis* (*Flooded Gum*).



Plate 37: Trees 77-80  
*Podocarpus elatus* (Brown Pine).



Plate 38: Tree 82  
*Archontophoenix* spp. (Phoenix Palm).



Plate 39: Tree 86  
Species unknown (stag).



Plate 40: Tree 90  
*Jacaranda mimosifolia* (Jacaranda).



Plate 41: Tree 91  
Species unknown (stag).



Plate 42: Tree 112  
*Melaleuca styphelioides*  
(Prickly-Leaved Paperbark)



Plate 43: Tree 119  
*Jacaranda mimosifolia* (Jacaranda).



Plate 44: Trees 123-129  
*Cupressocyparis leylandii*  
(Leighton Pine).



Plate 45: Tree 125 *Eucalyptus saligna*  
(Sydney Blue Gum).



Plate 46: Tree 131 *Celtis* spp.  
(Hackberry).



Plate 47: Tree 132 x2  
*Cupressocyparis leylandii*  
(Leighton Pine).



Plate 48: Trees 138-141.



Plate 49: Tree 145 *Celtis* spp.  
(Hackberry).

### 4.3 Impact Assessment

4.3.1 The assessment evaluates the impacts of the proposed development on the TPZ, categorising the impacts based on the extent of TPZ encroachments. Encroachments under 10% are **minor**, encroachments between 10-20% are **moderate**, while those exceeding 20% are considered **major**.

4.3.2 Twenty (20) trees have **no encroachments**.

4.3.3 One (1) tree has a **minor encroachment**; numbered 9.

4.3.4 Two (2) tree have **moderate encroachments**; numbered 10, 12.

4.3.5 One-hundred and eighteen (124) trees have **major encroachments** that range from 70-100%; numbered 12, 13, 26 to 143, 144, 145.

*Table 7: Summary of TPZ Encroachments that are sustainable.*

Tree	Scientific Name	TPZ (m) r	Retention Value	TPZ % Encroachment
9	<i>Tristaniopsis laurina</i>	6.8	High	5.9%
10	<i>Lophostemon confertus</i>	8.6	High	11.3%
11	<i>Lophostemon confertus</i>	7.4	High	36.6%
12	<i>Lophostemon confertus</i>	7.8	High	14.3%
13	<i>Lophostemon confertus</i>	9.1	High	22.2%
143	<i>Cupressocyparis leylandii</i>	2.4	Low	71.3%
144	<i>Cupressocyparis leylandii</i>	4.2	Low	88.5%

## 5. DISCUSSION

5.0.1 One hundred and forty-five (145) trees and groups were assessed on site, including the public domain. Street trees are numbered 1-25 and remaining trees 25-145 are on site.

### 5.1 Tree Useful Life Expectancy (TULE) and Landscape Significance

5.1.1 One (1) tree are rated as **long TULE (1A 1B 1C)** indicating a useful life expectancy of more than 40 years. of more than 40 years. These trees are numbered 92.

5.1.2 Ninety-five (95) trees are rated as having a **medium TULE (2A 2B 2C 2D)** indicating a useful life expectancy of 15 to 40 more years with adequate intervention works. These trees are numbered 1, 4, 7, 10, 12, 15, 16, 17, 18, 19, 20, 23, 25, 26, 27, 29, 30, 31, 32, 33, 34, 35, 36, 38, 40, 41, 43, 47, 48, 49, 50, 51, 53, 54, 60, 64, 65, 66, 67, 68, 69, 70, 74, 75, 77, 78, 79, 80, 81, 88, 89, 90, 94, 96, 97, 98, 99, 100, 102, 105, 109, 111, 112, 113, 114, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144 and 145.

5.1.3 Twenty-one (21) trees are rated as **short TULE (3A 3B 3C 3D)** indicating a useful life expectancy of 5 to 15 more years with substantial intervention works. These trees are numbered 3, 5, 6, 8, 9, 11, 13, 22, 39, 42, 44, 45, 52, 57, 58, 63, 76, 84, 93, 95 and 115.

5.1.4 Seven (7) trees are rated as remove **(4A 4B 4C) TULE** rating as they are dead these trees are numbered 37, 55, 71, 83, 86, 91 and 107.

5.1.5 Twenty-one (21) trees are rated as hazardous **TULE (5E 5C)** due to instability, these trees are numbered 2, 14, 21, 24, 28, 46, 56, 59, 61, 62, 72, 73, 82, 85, 87, 101, 103, 104, 106, 108, 110,

#### Landscape Significance

5.1.6 While the street trees on Cavelle Avenue are identified as having heritage significance, this site only adjoins a small section of Cavelle Avenue where no trees are present.

### 5.2 Retention Values

5.2.1 Retention values are established by evaluating both the factors of TULE and Landscape Significance. (Appendix C, D & E). Retention values are determined as follows.

Table 6: Retention Values

High 14 trees	Moderate 23 trees	Low-Moderate 16 trees	Low 64 trees and tree groups	Very Low 28 trees/tree groups
9, 10, 11, 12, 13, 25, 39, 44, 77, 80, 112, 119, 120, 125.	4, 5, 7, 8, 20, 22, 23, 30, 35, 45, 50, 51, 52, 63, 66, 78, 79, 88, 89, 90, 111, 121, 137.	1, 6, 15, 16, 17, 19, 40, 47, 53, 60, 61, 62, 65, 67, 75, 98.	3, 14, 18, 21, 28, 31, 33, 34, 36, 38, 42, 43, 48, 49, 54, 59, 64, 68, 69, 70, 74, 76, 81, 84, 92, 93, 94, 95, 96, 97, 99, 100, 102, 105, 109, 110, 113, 114, 115, 116, 117, 118, 122, 123, 124, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 138, 139, 140, 141, 142, 143, 144, 145.	2, 24, 26, 27, 29, 32, 37, 41, 46, 55, 56, 57, 58, 71, 72, 73, 82, 83, 85, 86, 87, 91, 101, 103, 104, 106, 107, 108.

### 5.3 Cumulative Impact Analysis

The following tree numbers are impacted by the new development according to the AS4970 2025 Tree protection on Development Sites.

Table 7: TPZ Encroachment Summary.

Minor 1	Moderate 2	Major 124
9	10, 12.	12, 13, 26 to 143, 144, 145.

#### Street Trees

5.1.1 Street tree 9 *Tristaniopsis laurina*, has a *High Retention Value* and a **minor encroachment** of 5.9%, this tree can be retained and protected.

5.2.1 Street tree 10 *Lophostemon confertus*, has a *High Retention Value* and a **moderate encroachment** of 11.3%, this tree can be retained and protected.

5.2.2 Street tree 11 *Lophostemon confertus*, has a *High Retention Value* and a **major encroachment** 36.6% from the proposed driveway on the ground floor, as the majority of the SRZ is impacted, this tree is proposed for removal.

5.2.3 Street tree 12 and 13 *Lophostemon confertus* have *High Retention Value* and a **moderate encroachment** of 14.3% and 22.2% respectively from the basement excavation, as these trees not impacted within the SRZ, they can be retained and protected.

#### Trees on On-site

5.2.4 Trees 143 and 144 have *Low Retention Value* and **major encroachments** of 71.3% and 88.5% respectively, both trees have an SRZ impact from the basement excavation and are therefore recommended for removal

### 5.4 Trees Proposed For Removal

5.4.1 One hundred and twenty-three (123) trees and groups are proposed for removal.

- Four (4) trees (shrubs) are **exempt under 5m in height** are numbered 26, 27, 35 and 114.
- Thirty-six (36) trees are **exempt species**, these are numbered 29, 32, 38, 41, 46, 49, 54, 56, 57, 58, 70, 71, 72, 73, 85, 87, 95, 97, 101, 102, 103, 104, 105, 106, 108, 109, 110, 113, 116, 117, 118, 131, 140, 141, 142 and 145.
- Six (6) trees are **dead stags with no hollows**, these are numbered 37, 55, 83, 86, 91 and 107.
- Sixty-eight (68) trees are removed due to **major impacts** from the proposed development, these trees are numbered 11, 30, 31, 33, 34, 36, 39, 40, 42, 43, 44, 45, 47, 48, 50, 51, 52, 53, 60, 63, 64, 65, 66, 67, 68, 69, 74, 75, 77, 78, 79, 80, 81, 84, 88, 89, 90, 92, 93, 94, 96, 98, 99, 100, 111, 112, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 132, 133, 134, 135, 136, 137, 138, 139, 143, 144.
- Nine (9) trees are removed due to **very poor health, form and/or structure**, these trees are numbered 2, 21, 24, 28, 59, 61, 62, 82 and 115 (trees numbered 2, 21 and 24 are Council trees).

5.4.2 A summary of all trees proposed for removal, categorized by their Retention Value.

Table 8: Tree removal by retention values

Tree Removal by Retention Values				
High (9) trees	Moderate (16) trees	Moderate to Low (10) trees	Low (60) trees	Very Low (28) trees
11, 39, 44, 77, 80, 112, 119, 120, 125.	30, 45, 50, 51, 52, 63, 66, 78, 79, 88, 89, 90, 111, 121, 137.  <b>Exempt Height:</b> 35.	40, 47, 53, 60, 65, 67, 75, 98.  <b>Poor health:</b> 61, 62.	31, 33, 34, 36, 42, 43, 48, 64, 68, 69, 74, 81, 84, 92, 93, 94, 96, 99, 100, 122, 123, 124, 126, 127, 128, 129, 130, 132, 133, 134, 135, 136, 138, 139, 143, 144.  <b>Poor health:</b> 21, 28, 59, 115. <b>Exempt species:</b> 38, 49, 54, 70, 95, 97, 102, 105, 109, 110, 113, 116, 117, 118, 131, 140, 141, 142, 145. <b>Exempt height:</b> 114.	<b>Dead:</b> 37, 55, 83, 86, 91, 107.  <b>Poor health:</b> 2, 24, 82.  <b>Exempt species</b> 29, 32, 41, 46, 56, 57, 58, 71, 72, 73, 85, 87, 101, 103, 104, 106, 108. <b>Exempt height:</b> 26, 27.

## 5.5 Canopy Cover Loss

### 5.5.1 Canopy Cover Loss calculation ( $r^2 \times \pi$ ), **excludes trees with an exempt species height status.**

Table 9: Existing canopy cover for retained trees.

Canopy Diameter (m)	Canopy area (per tree m <sup>2</sup> )	Trees and tree groups	Count	Total Loss (m <sup>2</sup> )
3	7.068	3, 18.	2	14.136
4	12.566	15, 16, 19, 76.	4	50.264
5	19.634	6, 8, 14, 17.	4	78.536
6	28.274	1, 4, 5, 7, 20.	5	141.37
8	50.265	9, 22, 23, 25.	4	201.06
12	113.097	10, 13.	2	226.194
13	132.732	12.	1	132.732
Total			22	844.29m <sup>2</sup>

Table 10: Canopy cover loss for trees proposed for removal with High, Moderate and Moderate-low Retention Values.

Canopy Diameter (m)	Canopy area (per tree m <sup>2</sup> )	Trees and tree groups	Count	Total Loss (m <sup>2</sup> )
4	12.566	30, 40, 78, 98.	4	50.264
5	19.634	50.	1	19.634
6	28.274	65, 67, 77, 79, 88, 89, 121.	7	197.918
7	38.484	47, 63.	2	76.968
8	50.265	51, 53, 60, 66, 75, 80, 120, 137.	8	402.12
10	78.539	112, 119.	2	157.078
11	95.033	111.	1	95.033
12	113.097	11, 90.	2	226.194
14	153.938	52.	1	153.938
16	201.061	125.	1	201.061
18	254.469	44, 45.	2	508.938
20	314.159	39.	1	314.159
Total			32	2403.305m <sup>2</sup>

## 5.6 Replenishment Planting

5.6.1 Seventy-six (76) trees are proposed for removal.

5.6.2 Thirty-two (32) trees have High, Moderate and Moderate-low Retention Values, resulting in a canopy loss of 2403.3m<sup>2</sup>.

5.6.3 The replacement of thirty-two (32) trees is expected to achieve a 10-metre canopy diameter at maturity and projected to establish a total canopy cover of 2513.24m<sup>2</sup>. A landscape plan will detail the replacement planting to ensure the new trees effectively offset the canopy loss.

## 5.7 Trees Proposed For Retention

5.7.1 Twenty-two (22) trees are proposed for retention, these are numbered 1, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 25 & 76.

5.7.2 All retained trees require **trunk Protection**, see section 6.1.

5.7.3 Four (4) trees numbered 9, 10, 12, 13 require **sensitive construction methods**, see section 6.2.

## 6. RECOMMENDATION

6.0.1 One hundred and forty-five (145) trees and groups were assessed on site, including the public domain. Street trees are numbered 1-25 and remaining trees 25-145 are on site.

*Table 11: Summary of tree management plan based on retention values.*

<b>Remove One hundred and twenty-three (123) trees</b>				
High (9) trees	Moderate (16) trees	Moderate to Low (10) trees	Low (60) trees	Very Low (28) trees
11, 39, 44, 77, 80, 112, 119, 120, 125.	30, 45, 50, 51, 52, 63, 66, 78, 79, 88, 89, 90, 111, 121, 137.  <b>Exempt Height:</b> 35.	40, 47, 53, 60, 65, 67, 75, 98.  <b>Poor health:</b> 61, 62.	31, 33, 34, 36, 42, 43, 48, 64, 68, 69, 74, 81, 84, 92, 93, 94, 96, 99, 100, 122, 123, 124, 126, 127, 128, 129, 130, 132, 133, 134, 135, 136, 138, 139, 143, 144.  <b>Poor health:</b> 21, 28, 59, 115. <b>Exempt species:</b> 38, 49, 54, 70, 95, 97, 102, 105, 109, 110, 113, 116, 117, 118, 131, 140, 141, 142, 145. <b>Exempt height:</b> 114.	<b>Dead:</b> 37, 55, 83, 86, 91, 107.  <b>Poor health:</b> 2, 24, 82.  <b>Exempt species:</b> 29, 32, 41, 46, 56, 57, 58, 71, 72, 73, 85, 87, 101, 103, 104, 106, 108. <b>Exempt height:</b> 26, 27.
<b>Retain Twenty-two (22) trees</b>				
High (5) trees	Moderate (7) trees	Moderate to Low (6) trees	Low (4) trees	Very Low -
9, 10, 12, 13, 25.	4, 5, 7, 8, 20, 22, 23.	1, 6, 15, 16, 17, 19.	3, 14, 18, 76.	-

*Table 12: Summary of tree protection plan*

Tree Protection Measures	Trees
Trunk Protection	1, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 25, 76.
Sensitive Construction Measures	9, 10, 12, 13.

6.0.2 Thirty-two (32) new tree plantings of 45L volume pots are required to compensate for the proposed removal of High and Moderate value trees.

## 6.1 Trees Protection Plan

6.1.1 All retained trees require tree protection and are summarised as follows,

6.1.2 Twenty-two (22) trees require **trunk protection**, these are numbered; 1, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 25, 76.

- a) **Trunk Protection.** Wrap the trunk with geofabric, then place 50mm x 100mm hardwood planks over it, spaced 300mm apart and secured with 8-gauge wire. Trunk protection must extend to a height of at least 2 metres or to the first branch. Do not drive nails into the trunk.

## 6.2 Sensitive Construction Methods

6.2.1 Four (4) trees numbered 9, 10, 12, 13 require sensitive construction methods protect trees during development and must be supervised by an AQF 5 Arborist.

### 6.2.2 Non-destructive digging (NDD).

- a) Low impact excavation techniques must be used, such as methods, including lightweight excavators on tracks, hand tools or high-pressure water vacuums. For structural woody roots 20mm or greater, sever cleanly to avoid tearing. For vigorous trees near buildings, consider installing a root barrier next to the building footing or reinforcing the footings to act as a barrier.
- b) No tracking through TPZ by machinery and place soil outside the TPZ during excavation.

### 6.2.3 Underground service installation.

- a) Thrust Boring will be used for deeper installation of services that bypasses the tree root entirely without disturbing the surface soil.
- b) Hand excavation or high-pressure water vacuum will be used when installing surface level utilizes around TPZs to minimizing soil compaction and protecting the root system.
- c) Sleeve or case pipes to protect root.
- d) Position entry and exit pits outside the TPZ.

### 6.2.4 Demolition within TPZ.

- a) Protect TPZs with temporary ground protection prior to relocating fences.
- b) Add a gravel layer, 20-40mm in size and 150mm deep, must be placed under geofabric. Then plywood timber sleepers or steel plates should be laid on top to provide access during excavation.
- c) Gravel must be placed around tree root zones to ensure no damage occurs during fence relocation.
- d) Hand demolition must be employed within the TPZ.
- e) A qualified arborist or site supervisor must be present on-site during the fence relocation to ensure TPZs are protected, and no damage occurs to the trees or their root zones.

### 6.2.5 Kerb, gutter and footpath.

- a) Footpaths within TPZ are to remain in place until after construction is complete. These paths should be demolished during the landscaping phase under the direction of the AQF 5 arborist.
- b) Footpaths must be constructed at grade by raking to expose the topsoil, ensuring minimal disturbance to tree roots. To protect root health and maintain gaseous exchange, use a gap-graded fill material- such as 40mm gravel- to a depth of 100mm. If any structural roots 20mm or larger are encountered and require severing, consult the AQF5 Project Arborist.

### 6.2.6 Relocating fences during works within TPZ zones.

- a. Protect TPZs with temporary ground protection prior to relocating fences.
- b. Clearly mark the TPZs using hi-visibility flags, tape or signage before moving fences.
- a. The fence panels should be lifted, not dragged and avoid heavy machinery should be avoided.

### 6.2.7 Basement excavation.

- a. Piling rigs will be positioned away from the TPZ to prevent any damage and root disturbance. If Piling rigs are entering TPZ an AQF level 5 arborist must be present. If pruning specification is required, then documentation will satisfy As4373 2007 Pruning of Amenity Trees.
- b. Machinery must maneuver around the perimeter of the TPZ zone, ensuring minimal impact on the protected trees.
- c. A shoring system will be designed to be self-supporting to prevent over-excavation, thereby mitigating any risk of root damage during excavation.

6.2.8 **Canopy tie back** must be used as a preferred method alternative to pruning, this method provides clearances to building during construction. Tie-backs may be installed with adjustable tensioning systems or offset brackets to maintain necessary clearances while still securing the canopy.

### 6.3 Project Arborist Hold Points

6.3.1 **Hoarding Waste and Amenities (HWA)** must be stored outside the TPZ's of trees.

6.3.2 **Signage**, with the project arborist's contact details reading 'Tree Protection Zone: Do Not Enter' in accordance with AS 1319-1994 – Safety Signage.

6.3.3 Appointment of an **AQF 5 Project Arborist** to implement and adhered to the Tree Protection Plan during works in accordance with Australian Standards *AS 4970-2009 Protection of Trees on Development Sites*.

6.3.4 **Supervise** all activities within the TPZ that may impact the tree roots, such as excavation and trenching, must be supervised by AQF 5 project arborist. The use of machinery within the TPZ is prohibited without appropriate ground protection, excavators must be on rolled tracks and not exceed 5 tonne.

6.3.5 **Root pruning** can be performed by an AQF 3 Arborist or higher under the direction of the Project Arborist. No root in the Structural Root Zone (SRZ) shall be pruned. No more than 20% of the total root system must be pruned at a time. Root must be pruned with sharp clean tools. Any roots in the TPZ over 40 mm in diameter must be pruned by the Project Arborist.

6.3.6 **Remediation plan** by project arborist is required if trees decline or are damaged.

*Table 13: Project Arborist Hold Points & Monitoring Schedule*

Project Arborist Hold Points & Monitoring Schedule	Timing
Obtain DA approval for Tree Protection Plan (TPP).	Pre-construction & pre-demolition
<b>Appoint an AQF 5 Project Arborist</b> to implement the TPP during works in accordance with Australian Standards <i>AS 4970-2009 Protection of Trees on Development Sites</i> .	
Certify tree protection installation measures for all retained trees.	
<b>Inspect and monitor retained</b> trees regularly and record with photographs.	During Construction
<b>Supervise approved works within the TPZ</b> including installation of underground services, driveway, piers or anything that may adversely affect the tree.	
Undertake any remedial works if necessary for declining tree health.	Post construction
Final certificate.	

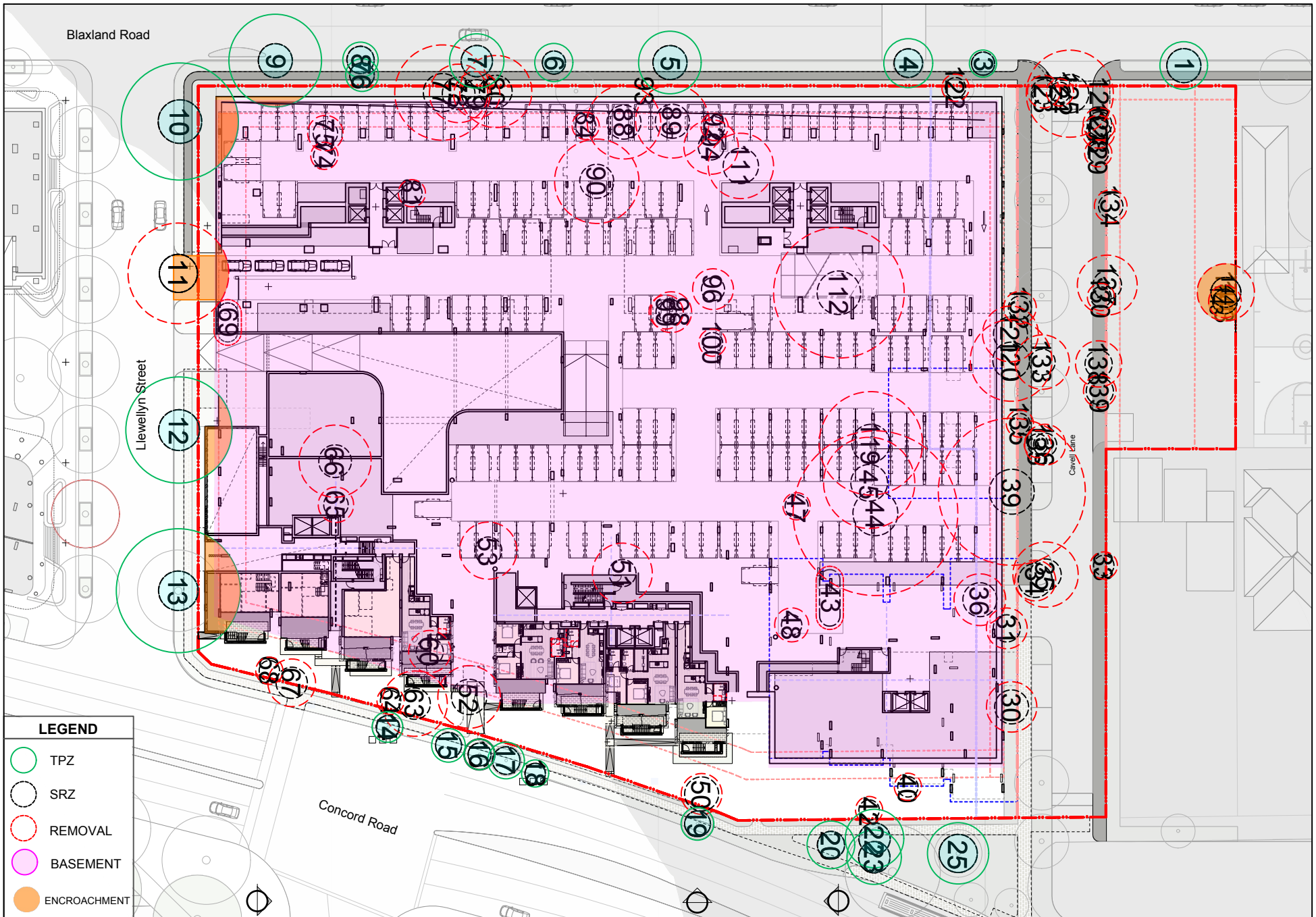
## 7. TREE MANAGEMENT PLANS

The following pages include,

7.1 [TPZ Encroachment Plan](#)

7.2 [Tree Protection Plan](#)

7.3 [Tree Removal Plan](#)



**LEGEND**

- TPZ
- SRZ
- REMOVAL
- BASEMENT
- ENCROACHMENT

**GENERAL NOTES**

1. Tree measurements, TPZ and SRZ are in metres.
2. Tree locations are indicative and based on supplied survey/base plans. Minor discrepancies may exist.
3. Additional site survey may be required where precise tree positioning is critical to design or construction.
4. Tree IDs and species correspond with the accompanying Arborist Report.
5. Refer to legend for arborist symbols and code keys.
6. This is a digital drawing. Do not scale from this plan—use figured dimensions only.
7. This drawing must be read in conjunction with all relevant architectural, engineering and consultant drawings.
8. McARDLE Arboricultural Consultancy. All rights reserved.

VER.	ACTION	DATE
2	Base Plan FJC 20LG 01	12/06/2025
1	Base Plan FJC 20LG 01	01/05/2025

McARDLE Arboricultural Consultancy Pty. Ltd.  
 ABN 87 145 760 461  
 2 / 39 Central Coast Highway,  
 West Gosford NSW 2250  
 www.mcardlearborist.com.au  
 T 0420 745 668

**MCARDLE**  
 ARBORICULTURAL  
 CONSULTANCY

**PROJECT ADDRESS:**  
 LLEWELLYN STREET RHODES

**PREPARED FOR:**  
 BILLBERGIA PTY LTD

**DRAWING TITLE:**  
 TPZ ENCROACHMENT PLAN

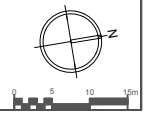
**BASE PLAN / REFERENCE:**  
 FJCSTUDIO PTY. LTD. BLS 20LG 01-WIP 14/04/2025

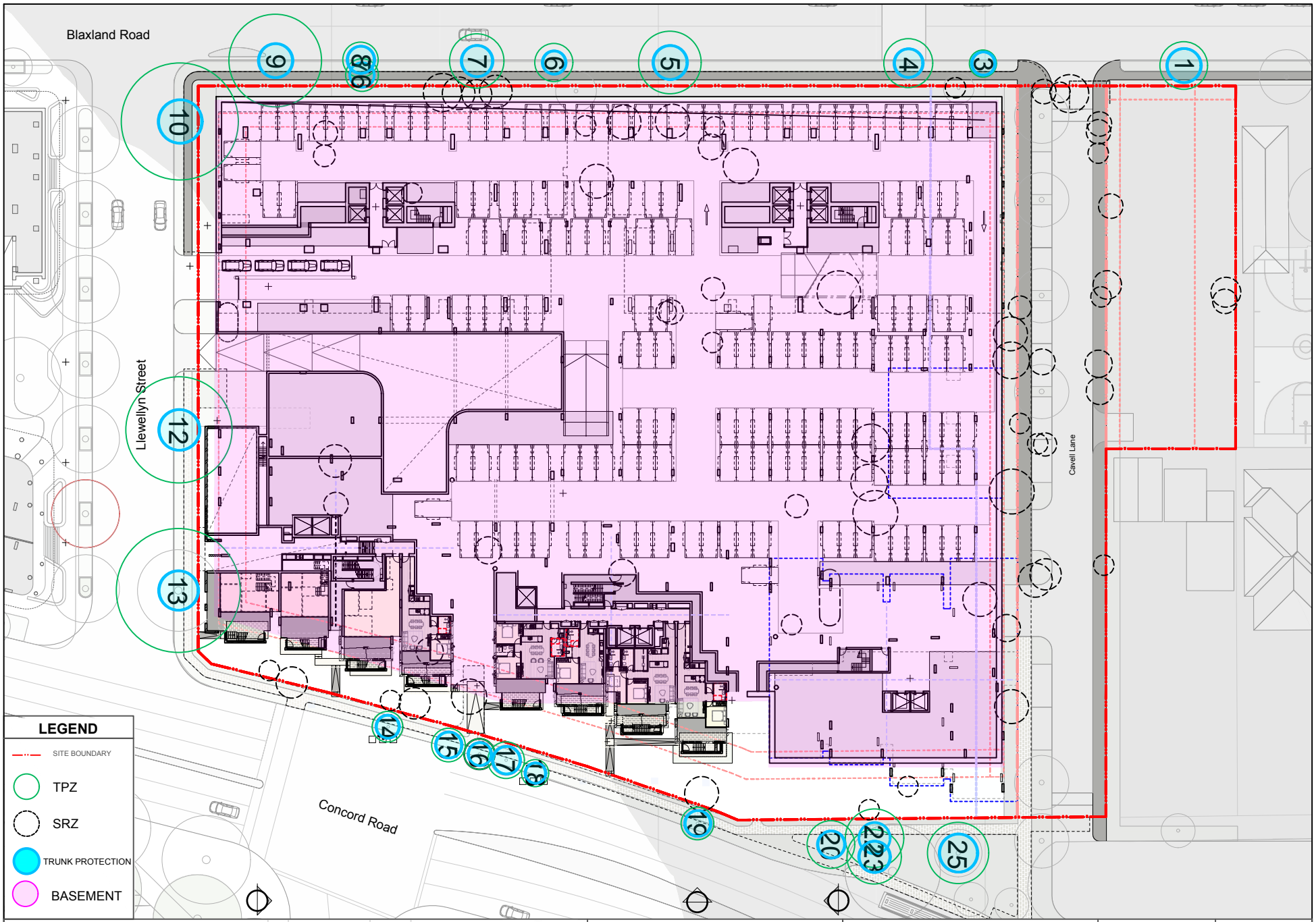
**DATE:**  
 12/06/2025

**VERSION:** 2

**SCALE:**  
 1:750 A4

**OUR PROJECT NO.:**  
 24100





**LEGEND**

- - - SITE BOUNDARY
- TPZ
- SRZ
- TRUNK PROTECTION
- BASEMENT

**GENERAL NOTES**

1. Tree measurements, TPZ and SRZ are in metres.
2. Tree locations are indicative and based on supplied survey/base plans. Minor discrepancies may exist.
3. Additional site survey may be required where precise tree positioning is critical to design or construction.
4. Tree IDs and species correspond with the accompanying Arborist Report.
5. Refer to legend for arborist symbols and code keys.
6. This is a digital drawing. Do not scale from this plan—use figured dimensions only.
7. This drawing must be read in conjunction with all relevant architectural, engineering and consultant drawings.
8. McARDLE Arboricultural Consultancy. All rights reserved.

VER.	ACTION	DATE
1	Base Plan FJC 20L G 01	12/06/2025
2	Base Plan FJC 20L G 01	01/05/2025

McARDLE Arboricultural Consultancy Pty. Ltd.  
 ABN 87 145 760 461  
 2 / 39 Central Coast Highway,  
 West Gosford NSW 2250  
 www.mcardlearborist.com.au  
 T 0420 745 668

**MCARDLE**  
 ARBORICULTURAL  
 CONSULTANCY

**PROJECT ADDRESS:**  
 LLEWELLYN STREET RHODES

**PREPARED FOR:**  
 BILLBERGIA PTY LTD

**DRAWING TITLE:**  
 TREE PROTECTION PLAN

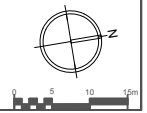
**BASE PLAN / REFERENCE:**  
 FJCSTUDIO PTY. LTD. BLS 20L G 01-WIP 14/04/2025

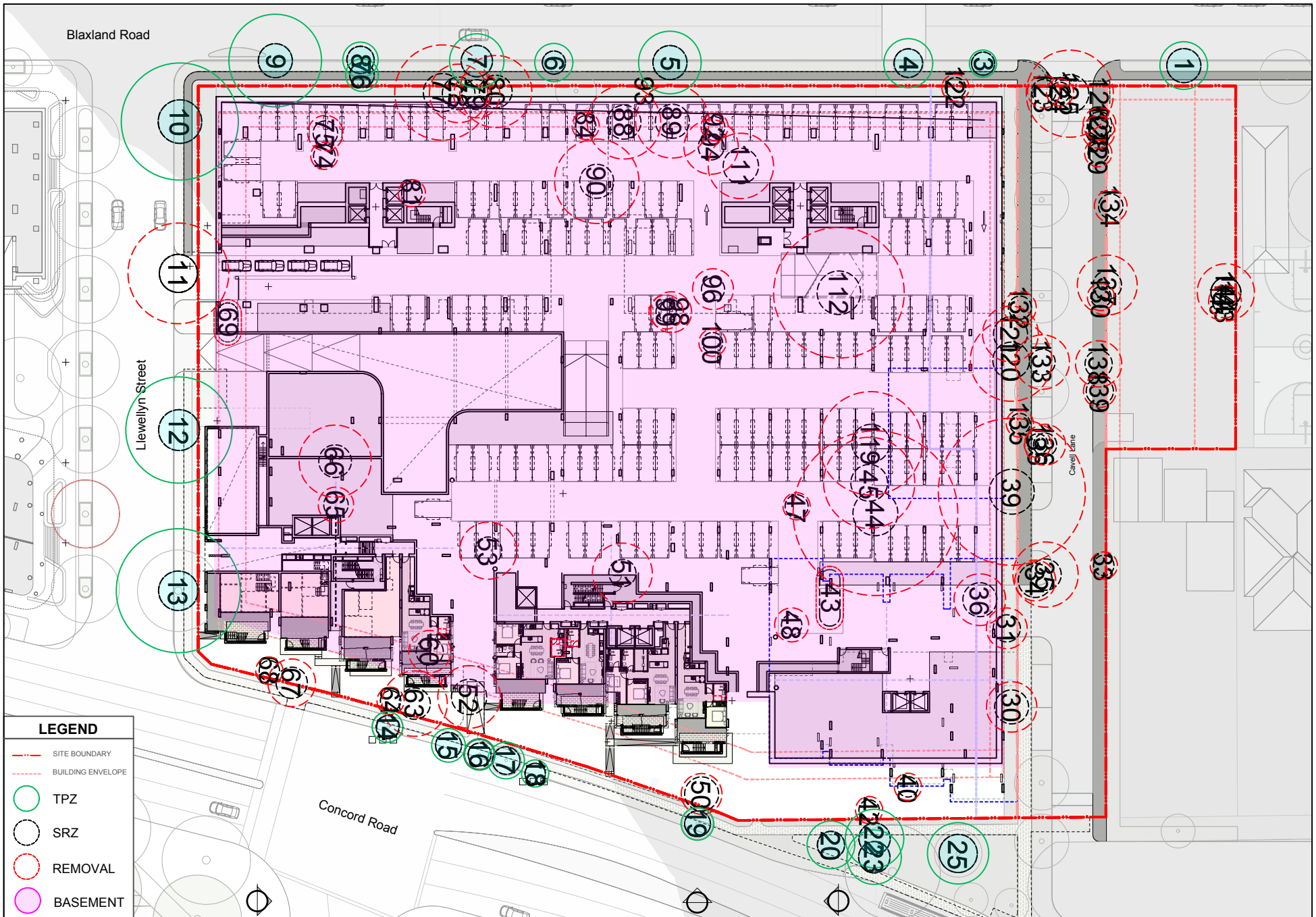
**DATE:**  
 12/06/2025

**VERSION:** 2

**SCALE:**  
 1:750 A4

**OUR PROJECT NO:**  
 24100





**LEGEND**

- SITE BOUNDARY
- BUILDING ENVELOPE
- TPZ
- SRZ
- REMOVAL
- BASEMENT

**GENERAL NOTES**

1. Tree measurements, TPZ and SRZ are in metres.
2. Tree locations are indicative and based on supplied survey/base plans. Minor discrepancies may exist.
3. Additional site survey may be required where precise tree positioning is critical to design or construction.
4. Tree IDs and species correspond with the accompanying Arborist Report.
5. Refer to legend for arborist symbols and code keys.
6. This is a digital drawing. Do not scale from this plan—use figured dimensions only.
7. This drawing must be read in conjunction with all relevant architectural, engineering and consultant drawings.
8. McARDLE Arboricultural Consultancy. All rights reserved.

VER.	ACTION	DATE
1	Base Plan FJC 20L.G 01	12/06/2025
1	Base Plan FJC 20L.G 01	01/05/2025

McARDLE Arboricultural Consultancy Pty. Ltd.  
 ABN 87 145 760 461  
 2 / 39 Central Coast Highway,  
 West Gosford NSW 2250  

 www.mcardlearborist.com.au  
 T 0420 745 658

**PROJECT ADDRESS:**  
**LLEWELLYN STREET RHODES**

**PREPARED FOR:**  
 BILLBERGIA PTY LTD

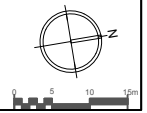
**DRAWING TITLE:**  
**TREE RETENTION AND REMOVAL PLAN**

**BASE PLAN / REFERENCE:**  
 FJCSTUDIO PTY. LTD. BLS 20LG 01-WIP 14/04/2025

**DATE:**  
**12/06/2025**

**VERSION:** 2  
**SCALE:** 1:750 A4

**OUR PROJECT NO:**  
**24100**



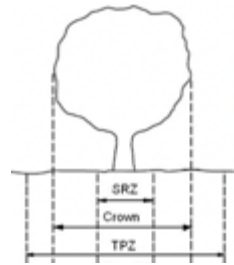
7.4 General Tree Management Specifications

Based on Australian Standard® 4970-2009 Protection of Trees on Development Sites.

**Tree Protection Zones**

Tree Protection Zone (TPZ) distances are measured as a radius from the centre of the trunk at ground level and must be protected during construction. Structural Root Zone (SRZ) is a critical area for a tree’s stability.

AS 4970-2009 Protection of Trees on Development Sites permits a 10% incursion into the TPZ (with Conditions) and incursions greater than 10% will require additional TPM.



**Prohibitions for TPZ’s**

Prohibited activities within the TPZ of protected trees during demolition, excavation and construction, include entry onto or across protected surfaces, disposal of chemicals and liquids (including concrete and mortar slurry, solvents, paint, fuel or oil), stockpiling, storage or mixing of materials, refueling, parking, storing, washing and repairing tools, equipment, machinery and vehicles and disposal of building materials and waste.

**Demolition**

Tree Protection is to be installed around the retained trees and certified by the project arborist prior to any demolition, development or soil stripping.

**Post Construction**

Tree Protection may be removed after the final certification is determined to be compliant.

**Hoarding Waste & Amenities (HWA)**

HWA’s should be stored outside the TPZs of the retained trees.

**Installing Underground Services Within TPZ**

All services should be routed outside the TPZ. If underground services must be routed within the TPZ, they should be installed by directional drilling or in manually excavated trenches.

The directional drilling boring methods, such as horizontal directional drilling (HDD) may be at least 600 mm deep. The project arborist should assess the likely impacts of bore and bore pits on retained trees.

Excavations for entry/exit pits must be located outside the TPZ.

**Excavation Within TPZ’s**

Excavations shall be undertaken under supervision of the project arborist, using sensitive, non-destructive methods (e.g., Manual excavation (hand tools), Air-spade or Hydro-vacuum excavations (sucker-truck).

Excavation is to be carried out in a manner that prevents tearing, splitting and displacement of the remaining roots; no roots greater than 40mm in diameter are damaged, pruned or removed. All care shall be taken to preserve and avoid damaging roots; excavation should not occur within the SRZ. Exposed roots shall be protected from direct sunlight by covering them with hessian or similar fabric and always kept moist.

Hand excavation and root mapping shall be undertaken along excavation lines within the TPZ Any conflicting roots (>40mm in diameter) shall be pruned using clean, sharp secateurs or a pruning saw to ensure a clean cut, free from tears.

Backfilling is to be carried out as soon as possible.

**Mulch Within TPZ**

Maintain aged eucalyptus mulch to retained trees for the duration of the development in accordance with Australian Standards® AS 4454-2003 Compost, Soil Conditioners and Mulches.

Mulch should have at least 70% by mass of its particles, with a maximum size of greater than 16 mm and spread 50-75mm deep to the extent of the dripline, (never exceed 100mm depth). Mulch should not have contact with the tree trunk, apply 200mm from trunk and shaping a soil berm dish close to the root ball to facilitate establishment of watering.

Mulch across the surface of the TPZ is at the discretion of the arborist.



**Protective Fencing Specification**

Tree Protection Fencing must be installed to fully enclose the TPZ prior to demolition.

Fencing in accordance with AS4687 Temporary fencing. Existing boundary fences or walls shall constitute part of the TPZ where appropriate.

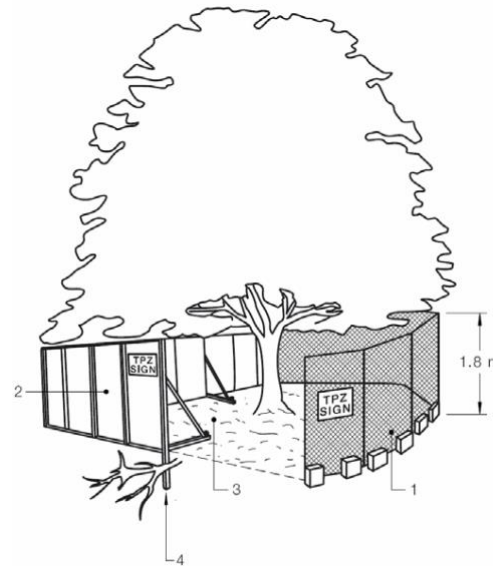
Fencing entails a 1.8-meter-high wire mesh fence, anchored with concrete.

Fencing on sloping or uneven ground will entail a 1-meter-high wire mesh fence anchored with star pickets, spaced at 2m intervals and connected by a continuous high-visibility plastic mesh fence.

Shade cloth must be affixed to the fencing.

Tree protection fencing must not be removed or altered but may be relocated with permission from the Project Arborists to access the work site.

Signage attached to the fencing and reads 'Tree Protection Zone: No Access' in accordance with AS 1319-1994 – Safety Signage.



**Tree Trunk and Branch Specification**

Tree Trunk Protection is required if tree protection fencing would be impractical and block access to the work site.

The method requires a layer of padding, geotextile or similar fabric wrapped around the trees' trunk.

Followed by a layer of 1.8-metre-long timber planks measuring 50mm x 100mm aligned vertically and spaced with small gaps (100mm) evenly around the trunk. The timber planks are securely fastened against the trunk using suitable strapping, must not be nailed or screwed into the trees.

Branch Protection requires adequate clearance of 250mm provided between the structure (hoarding/scaffolding), tree branches, limbs and trunk.

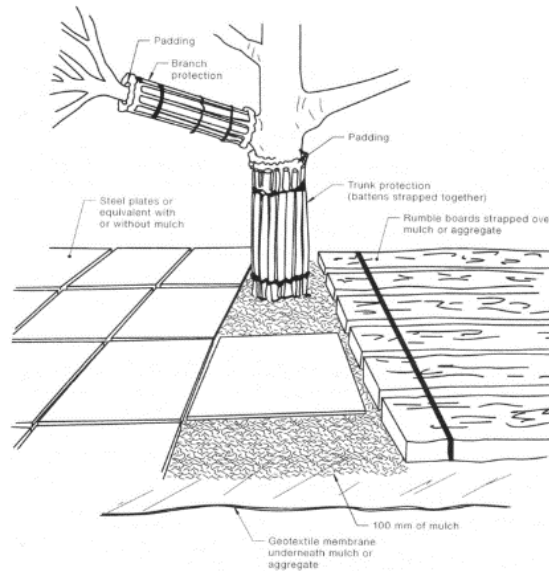
Tree trunks and or major branches located within 500mm of any hoarding or scaffolding must be protected by wrapped hessian or similar material to limit damage.

**Ground / Root Protection Specification**

Anticipate loads in the TPZ, to prevent root damage and soil compaction.

For foot traffic use a permeable membrane such as geotextile fabric beneath a layer of protective aggregate such as mulch or crushed rock (minimum depth of 75-100mm).

For loads over 3 tonnes use a permeable membrane such as geotextile fabric beneath a layer of mulch or crushed rocks (75-100mm) and a third layer of track mats (25mm thickness), steel plates or strapped rumble boards (120 x 65mm hardwood).



**Scaffolding Specification / Canopy Protection**

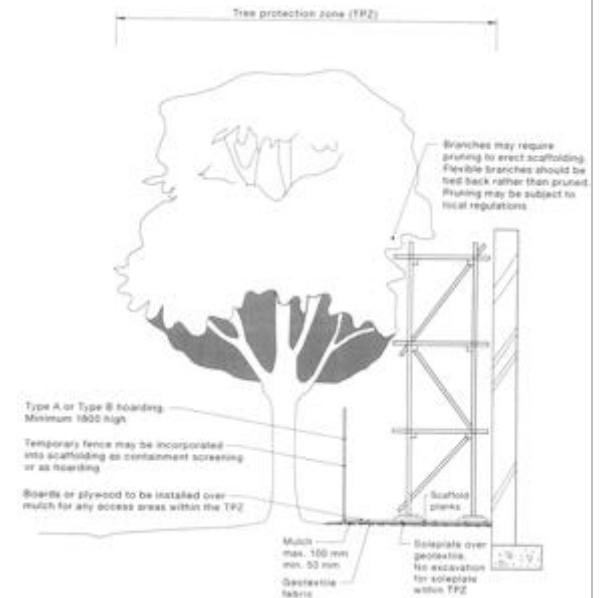
Type A hoarding may be installed directly adjacent to the tree trunk to a minimum height of 1.8m.

No branch is to be cut, broken or removed without permission from AQF5.

Branches may require pruning to erect scaffolding.

Flexible branches may be gently pushed back and tied back rather than pruned.

Support post entering the TPZ must not cut roots greater than 20mm.



## 8. GLOSSARY

**Aerial Inspection:** Where a tree is climbed by an arborist to inspect upper stem and crown for signs or symptoms of defects and disease.

**Branch collar:** The ring of wood tissue which forms around the base of a branch (near the branch attachment).

**Cavity:** A void, initiated by a wound within the trunk, branches or roots. These voids are referred to as hollows.

**Co-dominant:** Stems or branches equal in size and relative importance.

**Crown:** All the parts of a tree arising above the trunk where it terminates by its division forming branches, e.g. the branches, leaves, flowers and fruit: or the total amount of foliage supported by branches.

**Crown Lifting:** The removal of the lower branches of the tree.

**Dead wood:** Refers to any whole limb that no longer contains living tissues

**Decay:** Process of degradation of woody tissues by fungi or bacteria through decomposition of cellulose and lignin.

**Dieback:** Tree deterioration where the branches and leaves die.

**Drip line:** Where the canopy releases water shed from the foliage during precipitation.

**Epicormic Shoots:** These shoots often have a weak point of attachment. Epicormic growth/shoots are generally a survival mechanism.

**Inclusion:** The pattern of development at branch or stem junctions where bark is turned inward rather than pushed out. This fault is located at the point where the stems/branches meet.

**Maturity:** Tree age, assessed as over-mature (last 1/3 of life expectancy), mature (1/3 to 2/3 life expectancy) and semi mature (less than 1/3 life expectancy).

**Resistograph® testing:** A Resistograph® is a specialised machine that measures timber density by drilling a 3mm diameter probe through the wood, simultaneously plotting the results on a graph at full scale.

**Structural Integrity:** Describes the internal supporting timber. (Substantial to frail)

**Structural root zone (SRZ):** Refers to the radial distance in metres, measured from the centre of the tree stem, which defines the critical area required to maintain stability of the tree.

**Target:** Are people, property or activities that could be injured, damaged or disrupted by a tree.

**Tree Protection Zone (TPZ):** Refers to the radius distance in metres, measured from the centre of the tree stem which defines the *tree protection zone* for a tree to be retained. This is generally the minimum distance from the centre of the tree trunk where protective fencing is to be installed to create an exclusion zone associated with construction works.

**Vigour:** Refers to the tree's health as exhibited by the crown density, leaf colour, presence of epicormic shoots, ability to withstand disease invasion and the degree of dieback.

## 9. BIBLIOGRAPHY

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

**AS 2007, AS 4373** - Pruning of Amenity Trees, Standards Australia, Sydney.

**Barrell, J, 2012**, Balancing Tree Benefits Against Tree Security: The duty holder's dilemma, Arboricultural journal. The International Journal of Urban Forestry, 34:1,29-44.

**Barrell, J. 1993-95**, 'Pre-planning Tree Surveys: Safe Useful Life Expectancy (SULE) is the Natural Progression' Arboricultural Journal V.

**CSIRO Boland et al** Forest Trees of Australia; Nelson University Press. Australia: 1984

**Hadlington PW. and Johnston IA. 1983.** Australian Trees. Australia: NSW University press.

**Harris, R, Clark, J, & Matheny, N 2004**, Arboriculture - Integrated Management of Landscape Trees, Shrubs, and Vines, 4th Edition, Prentice Hall, New Jersey.

**Hayes, E (2001)** Evaluating Tree Defects, 2<sup>nd</sup> edition, safe trees, Rochester, MN.

**Leake S Elke H (2014)** Soil for Landscape Development; Selection, Specification and Validation. CSIRO Victoria.

**Lonsdale, D, 1999**, Principles of Tree Hazard Assessment and Management, Forestry Commission, London.

**Matheny, N.P and Clark, J.R, 1998**, Trees and Development: A Technical Guide to Preservation of Trees during Land Development', International Society of Arboriculture, Savoy, Illinois.

**Mattheck, C, 2007**, Updated Field Guide for Visual Tree Assessment, Karlsruhe Research Centre:

**Mattheck, C & Breloer, H 1994**, The Body Language of Trees – a handbook for failure analysis.

Research for Amenity Trees No 4 Sixth impression – 2008, TSO (The Stationary Office), Norwich, UK.

**Morton, A, 2011**, Determining the retention value of trees on development site, Illinois, USA E. Thomas Smiley, Nelda Matheny, and Sharon Lilly (2011) Tree Risk Assessment & Principles. ISA Printed USA.

**Watson et al, (1996)** Replacing Soil in The Root Zone of Mature Trees for Better Health, Journal Arboriculture.

**WEBSITES**

**Bureau of Meteorology**, <http://www.bom.gov.au/climate/change>

**E-Spade**, <https://www.environment.nsw.gov.au/eSpade2WebApp>

**Near Maps**, <http://maps.au.nearmap.com>

**NSW legislation**, <https://www.legislation.nsw.gov.au/>

**Planning Portal**, <https://www.planningportal.nsw.gov.au>

**Urban J (2014)** Tree Planting Specification. <https://www.jamesurban.net>

**Watering Newly-planted Trees**, viewed 2021. <https://www.treesimpact.com.au/>

APPENDIXES

Appendix A Visual Tree Assessment (VTA)

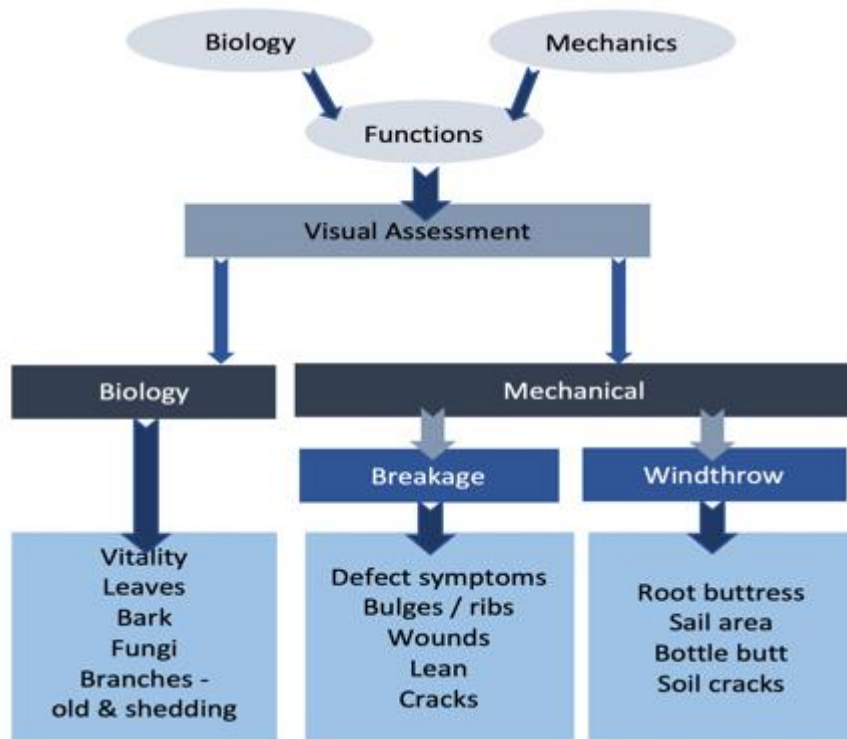


Diagram 1: VTA Chart by Claus Mattheck (1994) *The Body Language of Trees*, adapted.

Schedule 1: Categories for VTA

VISUAL TREE DIAGNOSTICS	
M-Maturity: J-Juvenile; IM-Immature; SM-Semi-Mature; M-Mature	
Health & Vigour	Condition of Tree
	3a Good Condition
	3b Good Condition but poor development
	3c Moderate.
4 Dieback is more than 20%.	
4b Epicormics	
5 Sparse Foliage Crown	5b Unbalanced Canopy
	6 Physical Damage
7 Insect damage-foilage	
7b Borers	
8 Fungal Attack -pathogen	
	9 Cavity
10 Termite activity	
	11 Lean
12b Dying	12 Heavily pruned
	13 Damage to roots
	13b Encroachment
14 Parasitic Vine Present	
15 Damage by Climbing Plant	
	16 Inclusions
17 Habitat Tree	
18 Endangered Species	

Appendix B Tree Useful Life Expectancy – TULE

Schedule 2: SULE (2001) adapted with permission from author J. Barrell (2014) for TCAA members.

	<b>1 LONG TULE</b>	<b>2 MEDIUM TULE</b>	<b>3 SHORT TULE</b>	<b>4 REMOVE</b>	<b>5 MOVE OR REPLACE</b>	<b>6 SMALL, YOUNG OR REGULARLY CLIPPED</b>
	Trees that appeared to be retainable for more than 40 years with an acceptable degree of risk, assuming reasonable maintenance. Or with low level of risk.	Trees that appeared to be retainable for 15 to 40 years with an acceptable degree of risk, assuming reasonable maintenance. Or with low to medium level of risk.	Trees that appear to be retainable at the time of assessment for 5 to 15 years with an acceptable degree of risk, assuming reasonable maintenance. Or with medium to high level of risk.	Trees which should be removed within the next 5 years. Or with high to very high level of risk.	No potential for retention. Trees which can be readily moved or replaced. Or with very high to extreme level of risk.	Trees that can be easily transplanted or replaced.
<b>A</b>	Structurally sound trees located in positions that can accommodate future growth.	Trees that may only live for between 15 and 40 more years.	Trees that may only live for between 5 and 15 more years.	Dead, dying, suppressed or declining trees through disease or inhospitable conditions.	Small trees less than 5 meters (m) in height.	Small trees less than 5 meters in height.
<b>B</b>	Trees that could be made suitable for retention in the long term by remedial tree care.	Trees that may live for more than 40 years, but would need to be removed for safety or nuisance reasons	Trees that may live for more than 15 years, but would need to be removed for safety or nuisance reasons	Dangerous trees through instability or recent loss of adjacent trees.	Young trees less than 15 years old but over 5m in height.	Young trees less than 15 years old but over 5 meters in height.
<b>C</b>	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.	Trees that may live for more than 40 years but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	Trees that may live for more than 15 years but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	Dangerous trees through structural defects including cavities, decay, bark, wounds or poor form.	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.	Trees that have been regularly pruned to artificially control growth.
<b>D</b>		Trees that could be made suitable for retention in the medium term by remedial tree care.	Trees that require substantial remedial tree care and are only suitable for retention in the short term	Damaged trees that are clearly not safe to retain.	Dangerous trees through instability or recent loss of adjacent trees.	
<b>E</b>				Trees that may live for more than 5 years but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	High Toxicity Allegan trees, asthmatic and poisonous trees and must be removed immediately.	
<b>F</b>				Trees that may cause damage to existing structures within 5 years.	Dead, dying or declining trees diseased or inhospitable conditions.	
<b>G</b>				Trees that will become dangerous after removal of other trees for reasons given in A to F.	OTHER, with legitimate explanation	
<b>INSPECTION FREQUENCY</b>						
	Every 1-5 years by a competent inspector, or event monitored.	Every 1-5 years by a competent inspector, or event monitored.	Every 1-3 years by a competent inspector, or event monitored.	Ascertain timeframe up to 1 year. By a competent inspection, or event monitored.	Ascertain timeframe up to 7-12 days. By a competent inspection, or event monitored.	Bi-annually by a competent inspector.

Appendix C Tree A-Z Categories and Retention Value Rating

Schedule 3: Tree A-Z Categories Field Sheet (version 10.10-ANZ) Barrell (2019)

Criteria for Assessing the importance of Trees on Development Sites.

**Figure 1: TreeAZ Categories (Version 10.10-ANZ)**

**CAUTION:** TreeAZ assessments must be carried out by a competent person qualified and experienced in arboriculture. The following category descriptions are designed to be a brief field reference and are not intended to be self-explanatory. They must be read in conjunction with the most current explanations published at [www.TreeAZ.com](http://www.TreeAZ.com).

**Category Z: Unimportant trees not worthy of being a material constraint**

**Local policy exemptions:** Trees that are unsuitable for legal protection for local policy reasons including size, proximity and species

- Z1** Young or insignificant small trees, i.e. below the local size threshold for legal protection, etc
- Z2** Too close to a building, i.e. exempt from legal protection because of proximity, etc
- Z3** Species that cannot be protected for other reasons, i.e. scheduled noxious weeds, out of character in a setting of acknowledged importance, etc  
**High risk of death or failure:** Trees that are likely to be removed within 10 years because of acute health issues or severe structural failure
- Z4** Dead, dying, diseased or declining  
Severe damage and/or structural defects where a high risk of failure cannot be satisfactorily reduced by reasonable remedial care, i.e. cavities, decay, included bark, wounds, excessive imbalance, overgrown and vulnerable to adverse weather conditions, etc
- Z5** Severe damage and/or structural defects where a high risk of failure cannot be satisfactorily reduced by reasonable remedial care, i.e. cavities, decay, included bark, wounds, excessive imbalance, overgrown and vulnerable to adverse weather conditions, etc
- Z6** Instability, i.e. poor anchorage, increased exposure, etc  
**Excessive nuisance:** Trees that are likely to be removed within 10 years because of unacceptable impact on people
- Z7** Excessive, severe and intolerable inconvenience to the extent that a locally recognized court or tribunal would be likely to authorize removal, i.e. dominance, debris, interference, etc
- Z8** Excessive, severe and intolerable damage to property to the extent that a locally recognized court or tribunal would be likely to authorize removal, i.e. severe structural damage to surfacing and buildings, etc  
**Good management:** Trees that are likely to be removed within 10 years through responsible management of the tree population
- Z9** Severe damage and/or structural defects where a high risk of failure can be temporarily reduced by reasonable remedial care, i.e. cavities, decay, included bark, wounds, excessive imbalance, vulnerable to adverse weather conditions, etc
- Z10** Poor condition or location with a low potential for recovery or improvement, i.e. dominated by adjacent trees or buildings, poor architectural framework, etc
- Z11** Removal would benefit better adjacent trees, i.e. relieve physical interference, suppression, etc
- Z12** Unacceptably expensive to retain, i.e. severe defects requiring excessive levels of maintenance, etc

**NOTE:** Z trees with a high risk of death/failure (Z4, Z5 & Z6) or causing severe inconvenience (Z7 & Z8) at the time of assessment and need an urgent risk assessment can be designated as ZZ. ZZ trees are likely to be unsuitable for retention and at the bottom of the categorization hierarchy. In contrast, although Z trees are not worthy of influencing new designs, urgent removal is not essential and they could be retained in the short term, if appropriate.

**Category A: Important trees suitable for retention for more than 10 years and worthy of being a material constraint**

- A1** No significant defects and could be retained with minimal remedial care
- A2** Minor defects that could be addressed by remedial care and/or work to adjacent trees
- A3** Special significance for historical, cultural, commemorative or rarity reasons that would warrant extraordinary efforts to retain for more than 10 years
- A4** Trees that may be worthy of legal protection for ecological reasons (Advisory requiring specialist assessment)

Schedule 4: Tree Retention Value. Morton, A (2011)

Evaluating Sustainability and Landscape Significance to Determine Retention Value.	
RETENTION VALUE	CRITERIA AND CATEGORIES
HIGH	<p><b>Trees considered worthy of preservation.</b> Consideration should be given to their retention as a priority. Proposed site design and placement of buildings and infrastructure should consider the TPZ's as discussed in the following section to minimise any adverse impact. In addition to TPZ's, the extent of the canopy should also be considered, particularly in relation to a high-rise development. Significant pruning of the trees to accommodate the building envelope or temporary scaffolding is generally not acceptable.</p>
MODERATE	<p><b>The retention of these trees is desirable.</b> These trees should be retained as part of any proposed development if possible, however these trees are considered less critical for retention. If these trees must be removed, replacement planting should be considered in accordance with Council's Tree Replacement Policy to compensate for loss of amenity.</p>
LOW	<p><b>Not considered worthy of special measures to ensure their preservation,</b> due to current health, condition, or suitability. They do not have any special ecological, heritage or amenity value, or these values are substantially diminished due to their SULE. These trees should not be considered as a constraint to the future development of the site.</p>
VERY LOW	<p><b>Trees are considered potentially hazardous</b> or very poor specimens or may be environmental or noxious weeds. The removal of these trees is therefore recommended regardless of the implications of any proposed development.</p>

## Appendix D Landscape Significance Rating

## Schedule 5: Criteria for Assessment of Landscape Significance. Morton, A (2006)

RATING	HERITAGE VALUE	ECOLOGICAL VALUE	AMENITY VALUE
<b>SIGNIFICANT</b>	The subject tree is listed as a Heritage Item under the Local Environment Plan (LEP) with a local, state, or national level of significance or is listed on Council's Significant Tree Register.	The subject tree is scheduled as a Threatened Species as defined under the Threatened Species Conservation Act 1995 (NSW) or the Environmental Protection and Biodiversity Conservation Act 1999.	The subject tree has a very large live crown size exceeding 300m <sup>2</sup> with normal to dense foliage cover, is in a visually prominent position in the landscape, exhibits very good form and habit typical of the species.
	The subject tree forms part of the curtilage of a Heritage Item (building/structure/artefact as defined under the LEP) and has a known or documented association with that item.	The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter, or nesting tree for endangered or threatened fauna species.	The subject tree makes a significant contribution to the amenity and visual character of the area by creating a sense of place or creating a sense of identity.
	The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event.	The subject tree is a remnant tree, being a tree in existence prior to development of the area.	The tree is visually prominent in view from surrounding areas, being a landmark or visible from a considerable distance.
<b>VERY HIGH</b>	The tree has a strong historical association with heritage items (building/structure/artefact/garden etc..) within or adjacent the property and/or exemplifies a particular era or style of landscape design associated with the original development of the site.	The tree is a locally indigenous species, representative of the original vegetation of the area and is a dominant or associated canopy species of an Endangered Ecological Community (EEC) formerly occurring in the area occupied by the site.	The subject tree has a very large live crown size exceeding 200m <sup>2</sup> , a crown density exceeding 70% (normal-dense), is a very good representative of the species in terms of its form and branching habit or is aesthetically distinctive and makes a positive contribution to the visual character and the amenity of the area.
<b>HIGH</b>	The tree has a suspected historical association with a heritage item or landscape supported by anecdotal or visual evidence.	The tree is a locally indigenous species and representative of the original vegetation of the area and the tree is located within a defined Vegetation Link/Wildlife Corridor or has known wildlife habitat value.	The subject tree has a large live crown size exceeding 100m <sup>2</sup> ; The tree is a good representative of the species in terms of its form and branching habit with minor deviations from normal (e.g., crown distortion/suppression) with a crown density of at least 70% (normal); The subject tree is visible from the street and surrounding properties and makes a positive contribution to the visual character and the amenity of the area.
<b>MODERATE</b>	The tree has no known or suspected historical association but does not detract or diminish the value of the item and is sympathetic to the original era of planting.	The subject tree is a non-local native or exotic species that is protected under the provisions of this DCP.	The subject tree has a medium live crown size exceeding 40m <sup>2</sup> ; The tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc.) with a crown density of more than 50% (thinning to normal); and The tree is visible from surrounding properties but is not visually prominent – the view may be partially obscured by other vegetation or built forms. The tree makes a fair contribution to the visual character and amenity of the area.
<b>LOW</b>	The subject tree detracts from heritage values or diminishes the value of a heritage item.	The subject tree is scheduled as exempt (not protected) under the provisions of this DCP due to its species, nuisance, or position relative to building or other structures.	The subject tree has a small live crown size of less than 40m <sup>2</sup> and can be replaced within the short term (5-10 years) with new tree planting.
<b>VERY LOW</b>	The subject tree is causing significant damage to a heritage item.	The subject tree is listed as an Environment Weed Species in the relevant Local Government Area, being invasive, or is a known nuisance species.	The subject tree is not visible from surrounding properties (visibility obscured) and makes a negligible contribution or has a negative impact on the amenity and visual character of the area. The tree is a poor representative of the species, showing significant deviations from the typical form and branching habit with a crown density of less than 50% (sparse).
<b>INSIGNIFICANT</b>	The tree is completely dead and has no visible habitat value.	The tree is a declared noxious weed under the Biosecurity Act 2015 (NSW) within the relevant Local Government Area.	The tree is completely dead and presents a potential hazard.

## Appendix E Tree Planting Specifications

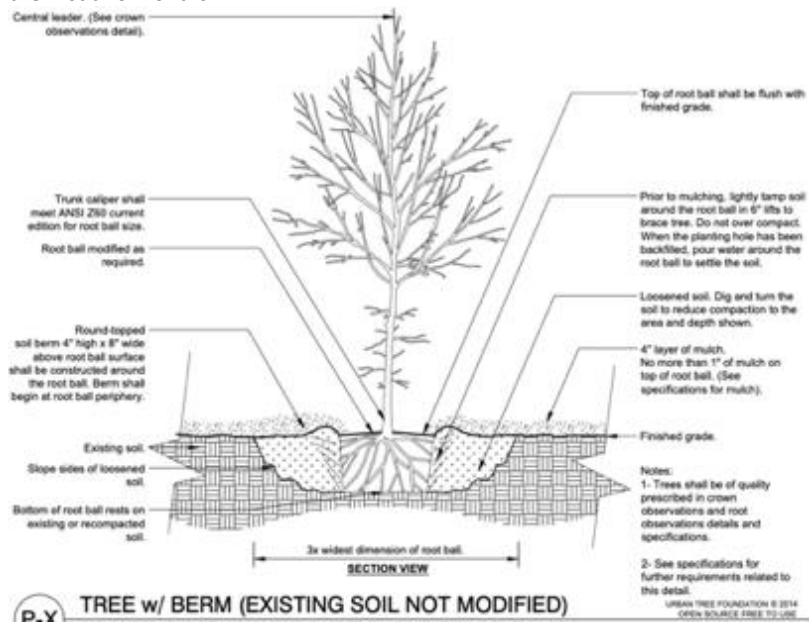
Tree planting specifications are in accordance with NATSPEC Specification for Trees, Ross Clark (2003) and Australian Standard® AS 2303-2018 – Tree Stock for Landscape Use.

### Before Planting

Don't plant trees too close to buildings, in-ground pools, avoid planting under power lines and over drainage pipes or near other large trees. A consider the effect on neighbouring properties (i.e. shade, loss of views, impact on foundations, fences and services). Plant deciduous trees if you want in summer shade and winter sun. Consider shadows cast from evergreen trees. Use locally native to attract native fauna and to reduce watering required.

### Basic Tree Planting

Dig the hole at least twice as wide as the pot size. Loosen the soil at the sides of the hole. Fill hole with water and allow to drain away. Place the loosened root ball in the hole. Fill back soil. The top of the root ball should be level with the surrounding soil. Water the plant deeply after planting, once a week for the first two months.



**Diagram 2:** Urban J (2014) Tree Planting Specification diagram

### Watering Schedule adapted from *Trees Impact: 2021*

Pot size	Watering Amounts	Watering Frequency		
		1-2 weeks	3-12 weeks	After 12 weeks
45L	3 to 6 Litres	Water daily	Water every 2-3 days	Weekly, until roots are established.
100L	5 to 8 Litres			

*Water less in winter or after rain*

### Replenishment of Native Trees Species (\* Species selected for this site)

Botanical Name	Common Name	Height at maturity (m)	Crown Spread at maturity (m)
<i>Leptospermum petersonii</i>	Lemon Scented Tea Tree	5-8	6-10
<i>Tristaniopsis laurina</i>	Water Gum	7-10	6-10
<i>Agonis flexuosa</i>	Willow Maple	7-10	6-8
<i>Callistemon salignus</i>	Willow Bottlebrush	12-14	6-8
<i>Melaleuca linariifolia</i>	Snow in summer	8-12	8-10
<i>Waterhousia floribunda</i>	Weeping Lilly Pilly	8-12	5-8
<i>Corymbia ficifolia</i>	Red Flowering Gum	8-12	5-8
<i>Syzygium leuhmannii</i>	Riberry	8-12	5-8
<i>Hymenosporum flavum</i>	Native Frangipani	8-12	6-8
<i>Acacia implexa</i>	Lightwood	8-12	6-8
<i>Elaeocarpus Eumundi</i>	Eumundi Quandong	8-12	4-8
<i>Tristaniopsis laurina</i>	Water gum	9-12	6-10
<i>Callistemon viminalis</i>	Weeping Bottlebrush	10-14	8-10
<i>Melaleuca linariifolia</i>	Flax-leaved Paperbark	10-14	8-10
<i>Cupaniopsis anacardioides</i>	Tuckeroo	10-14	6-10
* <i>Eucalyptus cinerea</i>	Argyle Apple	12-14	8-12
* <i>Elaeocarpus reticulatus</i>	Blueberry Ash	15-18	8-12
* <i>Corymbia eximia</i>	Yellow Bloodwood	10-18	8-12
* <i>Brachychiton populneus</i>	Kurrajong Tree	15-18	12-15
* <i>Flindersia australis</i>	Australian Teak	15-18	10-12
<i>Backhousia citriodora</i>	Lemon Scented Myrtle	18-20	6-8
* <i>Lophostemon confertus</i>	Brush Box	20-22	16-20
* <i>Angophora costata</i>	Smooth Bark Apple	20-22	10-12

## DISCLAIMER

McArdle Arboricultural Consultancy Pty Ltd does not assume responsibility for liability associated with the tree on/or adjacent to this project site, the future demise and/or any damage which may result therefrom. They take care to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.

The address should inform the company if any of the data or information provided is incorrect or insufficient, which may impact the findings and proposals mentioned in the report.

McArdle Arboricultural Consultancy Pty Ltd cannot be held responsible for any consequences as result of work carried out outside specifications, not in compliance with Australian Standards ® or by inappropriately qualified staff. If further investigations such as, aerial, drill and root test are recommended, the report shall not be considered final until all investigations have been completed, as further defects may be found.

## STATEMENT OF LIMITATIONS

McArdle Arboricultural Consultancy Pty Ltd makes every effort to accurately identify current tree health and hazards. Results may or may not correlate to actual tree structural integrity. There are many factors that may contribute to limb or total tree failure. Not all these symptoms are visible. There can be hidden defects that may result in a failure even though it would seem that other, more obvious defects would be the likely cause of failure. All standing trees have an element of unpredictable risk.

The inspection was limited to a visual ground examination of the tree, without aerial inspections and below ground excavations. The assessments are limited and do not include specialised analysis. No internal diagnostics, aerial inspection and pathology test were conducted. Sketches, diagrams, graphs and photographs in this report, being intended as visual aids, are not necessarily to scale.

Due to the variable nature of living organisms and the factors that can impact their health and wellbeing, the report will only be deemed valid for a period of five months from the date it was issued.

## COPYRIGHT

All rights reserved. The document is protected by copyright laws, and clients are licensed to use it for its intended purpose only upon payment of the full fee. The document cannot be used or reproduced without written consent, including electronically. Clients must respect the company's intellectual property rights.



Consulting Arborist  
Jim McArdle

B.Ed. Sci (ACU).  
Dip of Arboriculture AQF Level 5.  
Quantified Tree Risk Assessment (QTRA) Registered Member.  
Tree Contractors Association of Australia (TCAA) President.