Arboricultural Impact Assessment

72-88 Water Street, Strathfield South
November 4, 2025

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Contents

Summary

Tree Management Strategies has been commissioned by HCM to provide an Arboricultural Impact Assessment (AIA) for forty-three trees. The AIA has been prepared to support a State Significant Development Application (SSDA) for a proposed mixed-use development at 72-88 Water Street, Strathfield South.

This report aims to:

- Respond to the Planning Secretary's Environmental Assessment Requirements (SEARS) No. 14 Trees and Landscaping.
- Assess the health and vitality of forty-three trees.
- Calculate the impact the proposed development will have on forty-three trees.
- Suggest sensitive construction or tree protection methods to retain high to medium-value trees on the subject site or neighbouring site.
- Recommend the retention or removal of the subject tree.

The health, condition and retention values of forty-three trees are recorded in the Tree Data Schedule (Appendix 1) and shown on the Tree Impact Plan (Appendix 2).

The developmental Impacts are shown on the Tree Impact Plan (Appendix 2) and explored in Developmental Impact and Observations (Section 2) of this report.

The proposal requires the removal of 23 trees and the retention and protection of 20 trees.

Conclusion

Low retention valued Trees 22 to 34, 36, 38, 39, 42 and 43 have major or total incursions to their NRZ's that require their removal as part of the proposed development.

Medium retention valued Trees 6, 7, 35, 37 and 40 have major or total incursions to their NRZ's that require their removal as part of the proposed development.

Trees 1, 2, 3, 4, 5, 8, 11, 14, 16, 17, 19, 20 and 41 have acceptable incursions into their NRZ's considering the implementation of tree protection measures and project arborist supervision throughout construction.

Trees 9, 10, 12, 13, 15, 18 and 21 are unaffected by the development.

The landscape plan prepared by Payl Scrivener Landscapes recommends the planting of 53 trees to compensate for tree removals.

The development will affect a total of 43 trees. 17 trees are located within site boundaries, and 26 trees are located within the adjacent Strathfield Council-owned land between Water Street and Clareville Close.

Existing total canopy cover within the site and adjacent council owned land, comprising of 43 trees, is calculated at 1608.35 square metres.
17 trees are recommended for removal within the subject site. The calculated canopy cover of 17 trees is 562.29 square metres.

A total of 23 trees are proposed to be removed, both within the site and adjacent Strathfield Council owned land, with a remaining canopy over of 590.57 square metres. Note this is an interim construction scenario and does not include new additional trees that are to be planted as part of the proposed development as detailed in the supporting landscape plans.

Recommendations

- Remove Trees 6, 7, 22 to 34, 35, 36, 37, 38, 39, 40, 42 and 43. Tree removal work to be undertaken in accordance with *AS 4373 Pruning of Amenity Trees*, using a qualified Arborist (minimum Australian Qualification Framework (AQF3) Level Arborist).

- Adhere to the Tree Protection Specifications (Section 3) of this report to ensure the ongoing health of trees to be retained.

1.0 Introduction

Tree Management Strategies has been commissioned by HCM to provide an Arboricultural Impact Assessment (AIA) for forty-three trees. The AIA has been prepared to support a State Significant Development Application (SSDA) for a proposed mixed-use development at 72-88 Water Street, Strathfield South.

This report aims to:

- Respond to the Planning Secretary's Environmental Assessment Requirements (SEAR) No 14 Trees and Landscaping.
- Assess the health and vitality of forty-three trees.
- Calculate the impact the proposed development will have on forty-three trees.
- Suggest sensitive construction or tree protection methods to retain high to medium-value trees on the subject site or neighbouring site.
- Recommend the retention or removal of the subject tree.

1.1 Proposal

The proposed development includes a mixed-use shop top housing scheme including a full-line supermarket at the ground floor and residential units above. In summary, the proposed development includes:

- Demolition of existing structures.
- Construction of a shop top housing building between four (4) and eight (8) storeys, comprising approximately 132 residential apartments, including a minimum 10% affordable housing.
- Provision for approximately 4,000m^2 retail Gross Floor Area (GFA) at lower levels, including a supermarket and specialty shops.
- Five (5) levels of basement parking (servicing residential, visitor and retail uses).
- Removal of trees.
- Extensive new landscaping across the site.
- Public domain works, including embellishment of the interface to the existing pedestrian laneway to the northern boundary of the site.
- Associated utility and stormwater connections.

1.2 Site Description

The site is located at 72-88 Water Street, Strathfield South, refer to (Figure 1) and comprises a total of nine (9) allotments located north of Punchbowl Road to the western side of Water Street, refer to (Table 1). The site is located within the Strathfield Local Government Area (LGA) and is in proximity to the Canterbury Bankstown LGA, located to the south across Punchbowl Road. The site is irregular in shape, with a total area of approximately 5,088m^2 and currently accommodates a series of nine (9) single detached dwellings.

Table 1: Lot Descriptions

Address	**Lot**	**DP**	**Area**
72 Water Street, Strathfield South	Z	402256	636m2
74 Water Street, Strathfield South	A	319354	544m2
76 Water Street, Strathfield South	S	394194	513m2
78 Water Street, Strathfield South	C	319354	509m2
80 Water Street, Strathfield South	6	253882	605m2
82 Water Street, Strathfield South	5	253882	593m2
84 Water Street, Strathfield South	4	253882	561m2
86 Water Street, Strathfield South	3	253882	562m2
88 Water Street, Strathfield South	2	253882	565m2
Total Site Area (Approx.)			5,088m2

Figure 1: Site Location

1.3 SEARS

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) issues for the project dated July 2, 2025. Specifically, this report has been prepared to respond to the requirements issued below, refer to (Table 2).

Table 2: SEARS

14. Trees and Landscaping
 	
• Provide a landscape plan, that:
  ○ details the proposed site planting, including location, number and species of plantings, heights of trees at maturity and proposed canopy coverage (as a percentage of the site area).
  ○ provides evidence that opportunities to retain significant trees have been explored and/or inform the plan.
• If the proposal involves impacts to trees, provide an Arboricultural Impact assessment that assesses the number, location, condition and significance of trees to be removed and retained including:
  ○ any 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
	Landscape Plan
	
	If required:
	
	Arboricultural Impact Assessment

2.0 Developmental Impacts and Observations

On the 2nd of June 2025, a site inspection was conducted. The health, condition and retention values of the forty-three trees assessed is recorded in the Tree Data Schedule (Appendix 1) and shown on the Tree Impact Plan (Appendix 2).

17 trees are located within the subject and 26 within the council verge, refer to the Tree Impact Plan (Appendix 2) and the Tree Date Schedule (Appendix 1).

The method for this report is outlined in (Appendix 3) Method.

Trees with minor incursions into their NRZ's of below 10% were deemed acceptable with adequate tree protection measures allowed for.

Trees with moderate incursions into their NRZ's of between 10 and 20% were deemed acceptable with project arborist supervision and tree protection measures allowed for.

Trees with major incursions into their NRZ's of above 20%, with no impact into their Structural Root Zone (SRZ) were deemed acceptable with project arborist supervision and tree protection measures allowed for.

All tree retention values are in accordance with IACA Significance of a Tree, Assessment Rating System (STARS) © (IACA 2010) ©.

The tree impacts detailed below are based on the plans referenced in (Section 4) of this report.

The incursions to the Notional Root Zones (NRZ) potentially affecting trees assessed on the subject site are shown on the Tree Impact Plan (Appendix 2).

2.1 Tree Removals

2.1.2 Low Retention Value (Clareville Close Laneway)

As per the Tree Data Schedule (Appendix 1) and the Tree Impact Plan (Appendix 2), Trees 22, 23 and 24 within the Clareville Close Laneway are given low retention values due to their age, health and position in the landscape. Trees 22, 23 and 24 have major total incursions into their NRZ's by the stormwater design and site entry point that requires their removal to support the proposed development.

2.1.2 Low Retention Value

As per the Tree Data Schedule (Appendix 1) and the Tree Impact Plan (Appendix 2), Trees 25 to 34, 36, 38, 39, 42 and 43 located within the subject site are given low retention values due to their age, health and position in the landscape. Trees 25 to 34, 38, 39, 42 and 43 have total incursions into their NRZ's by the proposed developments envelope that requires their removal.

2.1.3 Medium Retention Valued (Water Street)

As per the Tree Data Schedule (Appendix 1) and the Tree Impact Plan (Appendix 2), Trees 6 and 7 located on the council verge are given medium retention values due to their age, health and position in the landscape. Trees 6 and 7 have major incursions

into their SRZ's and NRZ's by the proposed entry driveway that requires their removal to support the proposed development.

2.1.4 Medium Retention Value

As per the Tree Data Schedule (Appendix 1) and the Tree Impact Plan (Appendix 2), Trees 35, 37 and 40 located within the subject site are given medium retention values due to their age, health and position in the landscape. Trees 35, 37 and 40 have total incursions into their NRZ's that requires their removal to support the proposed development.

2.2 Tree Retention

2.2.1 Trees with Minor Incursions of below 10% into Their NRZ's

As per the Tree Data Schedule (Appendix 1) and the Tree Impact Plan (Appendix 2), Trees 3, 5, 11, 14, 16, 19, 20 and 41 have minor acceptable incursions of below 10% into their NRZ's by the proposed stormwater design and building envelope. The trees will remain healthy and viable with tree protection measures and project arborist supervision, refer to the Tree Protection Specifications outlined in (Section 3) of this report.

2.2.2 Trees with Moderate Incursions of between 10-20% into Their NRZ's

As per the Tree Data Schedule (Appendix 1) and the Tree Impact Plan (Appendix 2), Trees 2, 4, 8 and 17 have moderate incursions of between 10-20% into their NRZ's by the proposed stormwater design and building envelope. The incursions are deemed acceptable with the following tree protection measures.

- A project arborist should supervise the excavation around Trees 2, 4, 8 and 17.
- Temporary irrigation and addition of mulch should be placed within the tree protection zone of Trees 2, 4, 8 and 17.

Refer to the Tree Protection Specifications outlined in (Section 3) of this report.

2.2.2 Trees with Major Incursions of above 20% into their NRZ's

As per the Tree Data Schedule (Appendix 1) and the Tree Impact Plan (Appendix 2), Tree 1 has a major incursion of 28% into its NRZ's by the proposed building envelope. Tree 1 is a *Lophstemon confertus* (Brush Box), the species is used throughout Sydney's Local Government Areas due to its hardiness and adaptability to changes in its growing environment. The incursion is deemed acceptable with the following tree protection measures allowed for.

- Project arborist supervision the excavation around Tree 1.
- Temporary irrigation and addition of mulch be placed within the tree protection zone of Tree 1.

Refer to the Tree Protection Specifications outlined in (Section 3) of this report.

2.2.3 Canopy Coverage

The development will affect a total of 43 trees. 17 trees are located within site boundaries, and 26 trees are located within the adjacent Strathfield Council-owned land between Water Street and Clareville Close.

Existing total canopy cover within the site and adjacent council-owned land, comprising of 43 trees, is calculated at 1608.35 square metres.

17 trees are recommended for removal within the subject site. The calculated canopy cover of 17 trees is 562.29 square metres.

A total of 23 trees are proposed to be removed, both within the site and adjacent Strathfield Council-owned land, with a remaining canopy over of 590.57 square metres. Note this is an interim construction scenario and does not include new additional trees that are to be planted as part of the proposed development, as detailed in the supporting landscape plans.

For proposed canopy cover, please refer to the supporting Landscape Plans and Landscape Design Report, prepared by Paul Scrivener Architects.

3.0 Tree Protection Specifications

The Tree Protection Specifications is designed to offer detailed design modifications or sensitive construction methods and a step-by-step timeline for Tree Protection Measures.

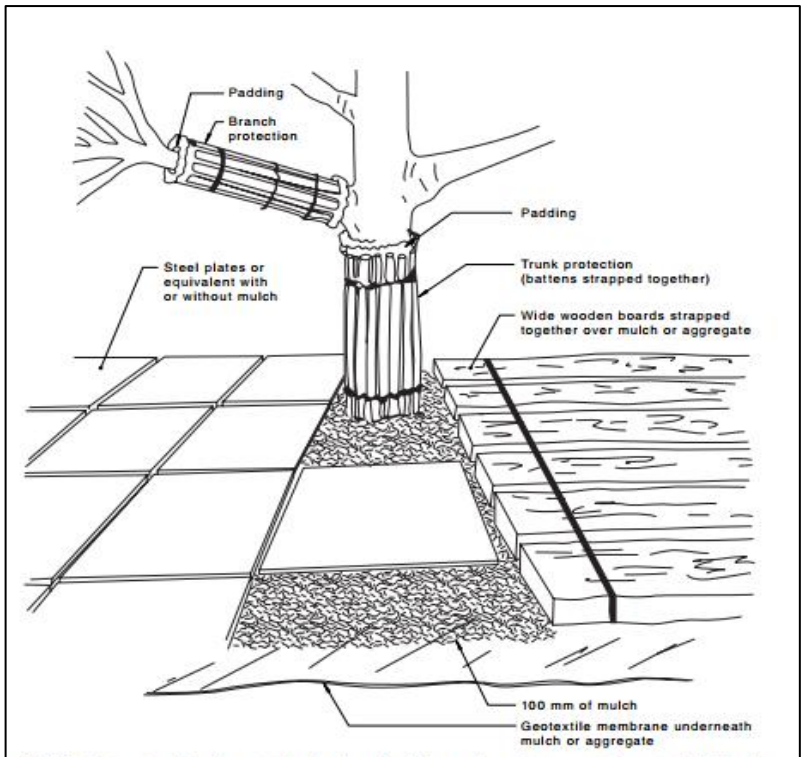
The Tree Protection Plan (Appendix 4) shows the indicative location of tree protection measures.

Step 1: Trunk Battening

To ensure the protection of Trees 1, 2, 3, 4, 5, 8 16, 17, 18 and 19, trunk protection is recommended as per the detail outlined in (Figure 2). The Trunk Battening must be installed prior to demolition and remain in place throughout construction.

The Project Arborist must certify the protection measures are installed to the required specifications prior to commencement of demolition.

Figure 2: Trunk Battening Detail



NOTE 1 For trunk and branch protection, boards and padding may be used to prevent damage to bark. Boards shall be joined to each other using hoop straps and screws or similar. They shall not be screwed or nailed to the tree.

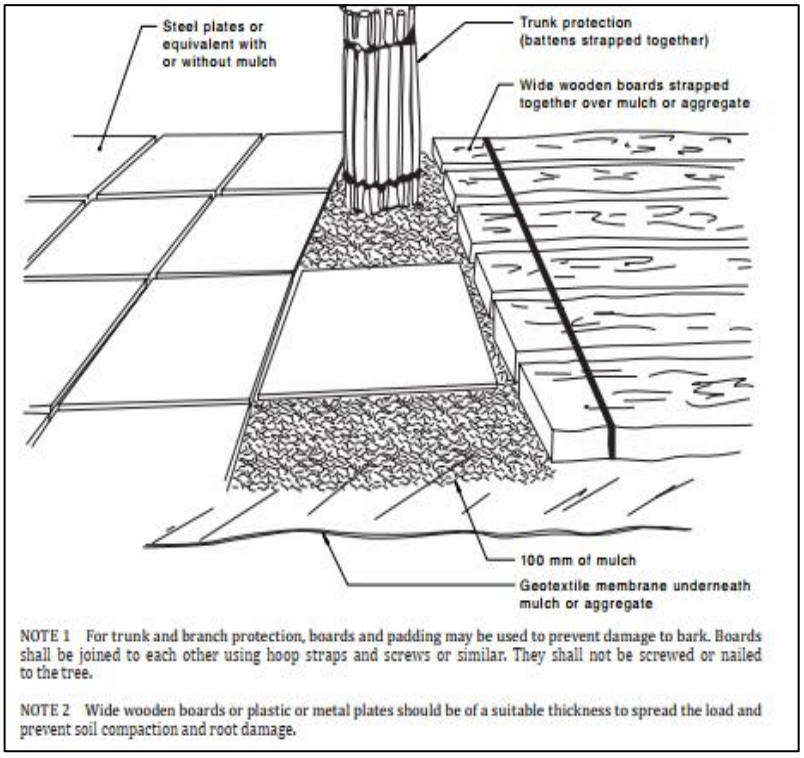
NOTE 2 Wide wooden boards or plastic or metal plates should be of a suitable thickness to spread the load and prevent soil compaction and root damage.

Step 2: Ground Protection Tree 41

To ensure the protection of Tree 41's root system throughout construction, ground protection is recommended as per the detail outlined in (Figure 3). The ground protection must be installed prior to demolition and remain in place throughout construction.

The Project Arborist must certify the protection measures are installed to the required specifications prior to commencement of demolition.

Figure 3: Ground Protection Detail



NOTE 1 For trunk and branch protection, boards and padding may be used to prevent damage to bark. Boards shall be joined to each other using hoop straps and screws or similar. They shall not be screwed or nailed to the tree.

NOTE 2 Wide wooden boards or plastic or metal plates should be of a suitable thickness to spread the load and prevent soil compaction and root damage.

Step 3: Excavation Within the NRZ of Trees 1, 2, 4, 8 and 17

Trees 1, 2, 4, 8 and 17 with moderate incursions to their NRZ's should have project arborist supervision when excavation commences. The Project Arborist needs to be on-site to identify roots larger than 50mm within and at the outer edge of the NRZ that require pruning. The roots should be pruned with a final cut to undamaged wood. Pruning cuts should be made with sharp tools such as secateurs, pruners, handsaws or chainsaws. Pruning wounds should not be treated with dressings or paints. It is not acceptable for roots within the NRZ to be 'pruned' with machinery such as backhoes or excavators (CSA 2009).

Step 4: Addition of Mulch and Irrigation for Trees 1, 2, 4, 8 and 17

To ensure Trees 1, 2, 4, 8 and 17 with a reduction of root mass have adequate access to water, nutrient and the ability to compensate for root loss the following is recommended.

• A temporary irrigation system is to be installed within the TPZ's of trees with root zone incursions, prior to the commencement of construction to ensure trees have access to water. The Project Arborist will nominate irrigation scheduling and certify its installation.

• The area within the TPZ of all trees to be retained should be mulched. The mulch must be maintained to a depth of 50–100 mm using material that complies with AS 4454 and installed prior to excavation. The Project Arborist will certify its installation.

Step 5: Monitoring

The Project Arborist must inspect all trees to be retained on a monthly basis, unless otherwise specified by the project arborist, for the duration of the project to ensure tree protection measures are being adhered to and the health of all trees are not being adversely affected. Monitoring to cease following the final inspection and report.

Step 6: General Exclusions within the TPZ

The following activities shall be excluded within the TPZ's of trees to be retained, refer to (Figure 4).

Figure 4: TPZ exclusions

4.2 Activities generally excluded from the TPZ

These include but are not limited to the following:

(a) Excavation, cultivation or disturbance of the soil, including scraping of the surface.

(b) Equipment and material storage.

(c) Preparation of chemicals, including preparation of cement products.

(d) Movement or parking of vehicles and plant.

(e) Dumping of waste.

(f) Spreading or stockpiling of fill.

(g) Refuelling.

(h) Washing down and cleaning of equipment or hard surfaces.

(i) Fires.

(j) Physical damage to the tree.

The Project Arborist must be notified in the event any disturbance within the TPZ of trees to be retained is required.

Step 7: Final Certification

Upon completion of construction the Project Arborist will certify that the health and condition of all trees to be retained have not been adversely affected by the development.

4.0 Referenced Documents

Plans that were referred to for this report include:

Plan Title	Drawing Number	Consultant	Revision
Tree Impact Plan	Bel.TIP.01	Tree Management Strategies	31/10/2025
Architectural Plans	PROJ-ARC-DRW-DA0101	Architectus	05/11/2025
Civil Plans	Stormwater Drawing Lower ground level	Mance Arraj	30/10/2025
Landscape Plans	25/2895	Paul Scrivener Landscape	25/10/2025

5.0 Conclusions & Recommendations

Conclusion

Low retention valued Trees 22 to 34, 36, 38, 39, 42 and 43 have major or total incursions to their NRZ's that require their removal as part of the proposed development.

Medium retention valued Trees 6, 7, 35, 37 and 40 have major or total incursions to their NRZ's that require their removal as part of the proposed development.

Trees 1, 2, 3, 4, 5, 8, 11, 14, 16, 17, 19, 20 and 41 have acceptable incursions into their NRZ's considering the implementation of tree protection measures and project arborist supervision throughout construction.

Trees 9, 10, 12, 13, 15, 18 and 21 are unaffected by the development.

The landscape plan prepared by Payl Scrivener Landscapes recommends the planting of 53 trees to compensate for tree removals.

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Recommendations

- Remove Trees 6, 7, 22 to 34, 35, 36, 37, 38, 39, 40, 42 and 43. Tree removal work to be undertaken in accordance with *AS 4373 Pruning of Amenity Trees*, using a qualified Arborist (minimum Australian Qualification Framework (AQF3) Level Arborist).

- Adhere to the Tree Protection Specifications (Section 3) of this report to ensure the ongoing health of trees to be retained.

6.0 References

Shigo, A., 1986, A New Tree Biology and Dictionary: facts, photos, and philosophies on trees and their problems and proper care, Snohomish, WA

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7.0 Appendices

Appendix 1: Tree Data Schedule

Tree Data Schedule Appendix 1

Tree No	Genus-Species	Common Name	DAB metres (radius) Above Buttress	DSH metres (radius) Standard Ht	SRZ (radius) Metres	NRZ (radius) Metres	Height Metres	Canopy Spread (Metres) (radius)	Canopy Coverage	NRZ Incursion %	Age Young, Semi-Mature, Mature Over Mature	Health Good Fair Fair/Poor Poor Dead	Condition Good Fair Fair/Poor Poor Failed	Useful Life Expectancy High Medium Low	Landscape significance High Medium Low	Retention value High Medium Low	Retain/ Remove	Tree Protection	Tree Location
1	*Lophostemon confertus*	Brush Box	0.55	0.6	2.57	7.2	10	4	50.27	27.14	Mature	Fair	Fair	Medium	Medium	Medium	Retain	Trunk Battening	Outside the site
2	*Lophostemon confertus*	Brush Box	0.5	0.4	2.47	4.8	10	3	28.27	16.08	Mature	Fair	Fair	Medium	Medium	Medium	Retain	Trunk Battening	Outside the site
3	*Tristaniopsis laurina*	Water Gum	0.4	0.3	2.25	3.6	6	3	28.27	5.6	Mature	Fair	Fair	Medium	Medium	Medium	Retain	Trunk Battening	Outside the site
4	*Lophostemon confertus*	Brush Box	0.45	0.4	2.37	4.8	10	4	50.27	15.75	Mature	Fair	Fair	Medium	Medium	Medium	Retain	Trunk Battening	Outside the site
5	*Tristaniopsis laurina*	Water Gum	0.4	0.3	2.25	3.6	6	2	12.56	4.74	Mature	Poor	Poor	Medium	Low	Low	Retain	Trunk Battening	Outside the site
6	*Lophostemon confertus*	Brush Box	0.5	0.4	2.47	4.8	10	4	50.27	28.03	Mature	Fair	Fair	Medium	Medium	Medium	Remove		Outside the site
7	*Lophostemon confertus*	Brush Box	0.5	0.4	2.47	4.8	10	4	50.27	100	Mature	Fair	Fair	Medium	Medium	Medium	Remove		Outside the site
8	*Lophostemon confertus*	Brush Box	0.5	0.4	2.47	4.8	10	4	50.27	15	Mature	Fair	Fair	Medium	Medium	Medium	Retain	Not required	Outside the site
9	*Callistemon viminalis*	Weeping Bottlebrush	0.2	0.17	1.68	2.04	6	2	12.56	0	Semi Mature	Fair	Fair	Medium	Low	Low	Retain	Not required	Outside the site
10	*Callistemon viminalis*	Weeping Bottlebrush	0.2	0.17	1.68	2.04	6	2	12.56	0	Semi Mature	Fair	Fair	Medium	Low	Low	Retain	Not required	Outside the site
11	*Callistemon viminalis*	Weeping Bottlebrush	0.2	0.17	1.68	2.04	6	2	12.56	0.92	Semi Mature	Fair	Fair	Medium	Low	Low	Retain	Not required	Outside the site
12	*Callistemon viminalis*	Weeping Bottlebrush	0.2	0.17	1.68	2.04	6	2	12.56	0	Semi Mature	Fair	Fair	Medium	Low	Low	Retain	Not required	Outside the site
13	*Callistemon viminalis*	Weeping Bottlebrush	0.2	0.17	1.68	2.04	6	2	12.56	0	Semi Mature	Fair	Fair	Medium	Low	Low	Retain	Not required	Outside the site
14	*Callistemon viminalis*	Weeping Bottlebrush	0.2	0.17	1.68	2.04	6	2	12.56	4.36	Semi Mature	Fair	Fair	Medium	Low	Low	Retain	Not required	Outside the site
15	*Callistemon viminalis*	Weeping Bottlebrush	0.2	0.17	1.68	2.04	6	2	12.56	0	Semi Mature	Fair	Fair	Medium	Low	Low	Retain	Not required	Outside the site
16	*Corymbia maculata*	Spotted Gum	0.4	0.3	2.25	3.6	14	3	28.27	0.71	Semi Mature	Fair	Fair	Medium	Medium	Medium	Retain	Not required	Outside the site
17	*Corymbia maculata*	Spotted Gum	0.5	0.4	2.47	4.8	16	4	50.27	18.31	Mature	Fair	Fair	Medium	Medium	Medium	Retain	Not required	Outside the site
18	*Corymbia maculata*	Spotted Gum	0.65	0.56	2.76	6.72	16	4	50.27	0	Mature	Fair	Fair	Medium	Medium	Medium	Retain	Not required	Outside the site
19	*Corymbia maculata*	Spotted Gum	0.65	0.56	2.76	6.72	16	4	50.27	1.13	Mature	Fair	Fair	Medium	Medium	Medium	Retain	Not required	Outside the site
20	*Jacaranda mimosifolia*	Jacaranda	0.3	0.2	2.00	2.4	6	2	12.56	2.48	Semi Mature	Fair	Poor	Medium	Low	Low	Retain	Not required	Outside the site
21	*Callistemon viminalis*	Weeping Bottlebrush	0.25	0.2	1.85	2.4	6	2	12.56	0	Semi Mature	Fair	Fair	Medium	Low	Low	Retain	Not required	Outside the site
22	*Nerium oleander*	Oleander	0.3	0.2	2.00	2.4	4	1	3.14	100	Mature	Fair	Poor	Medium	Low	Low	Remove		Outside the site
23	*Callistemon viminalis*	Weeping Bottlebrush	0.15	0.13	1.49	2.00	5	1	3.14	100	Semi Mature	Fair	Fair	Medium	Low	Low	Remove		Outside the site
24	*Callistemon viminalis*	Weeping Bottlebrush	0.15	0.13	1.49	2.00	5	1	3.14	100	Semi Mature	Fair	Fair	Medium	Low	Low	Remove		Outside the site
25	Cupressus sempervirens 'Stricta'	Italian Cypress	0.23	0.17	1.79	2.04	14	1	3.14	100	Mature	Fair	Fair	Medium	Low	Low	Remove		Outside the site
26	Cupressus sempervirens 'Stricta'	Italian Cypress	0.23	0.17	1.79	2.04	14	1	3.14	100	Mature	Fair	Fair	Medium	Low	Low	Remove		Inside the site
27	Cupressus sempervirens 'Stricta'	Italian Cypress	0.23	0.17	1.79	2.04	14	1	3.14	100	Mature	Fair	Fair	Medium	Low	Low	Remove		Inside the site
28	*Plumeria sp*	Frangipani	0.3	0.2	2.00	2.4	4	2	12.56	100	Mature	Fair	Fair	Medium	Low	Low	Remove		Inside the site
29	*Callistemon viminalis*	Weeping Bottlebrush	0.2	0.15	1.68	2.00	6	1	3.14	100	Semi Mature	Fair	Fair	Medium	Low	Low	Remove		Inside the site

Tree Data Schedule Appendix 1

Tree No	Genus-Species	Common Name	DAB metres (radius) Above Buttress	DSH metres (radius) Standard Ht	SRZ (radius) Metres	NRZ (radius) Metres	Height Metres	Canopy Spread (Metres) (radius)	Canopy Coverage	NRZ Incursion %	Age Young, Semi-Mature, Mature Over Mature	Health Good Fair Fair/Poor Poor Dead	Condition Good Fair Fair/Poor Poor Failed	Useful Life Expectancy High Medium Low	Landscape significance High Medium Low	Retention value High Medium Low	Retain/ Remove	Tree Protection	Tree Location
30	*Lagerstroemia indica*	Crepe-Myrtle	0.3	0.28	2.00	3.36	8	3	28.27	100	Mature	Fair	Fair	Medium	Low	Low	Remove		Inside the site
31	*Pinus radiata*	Monterey Pine	0.8	0.69	3.01	8.28	14	6	113.1	100	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	Remove		Inside the site
32	*Callistemon viminalis*	Weeping Bottlebrush	0.2	0.18	1.68	2.16	6	1	3.14	100	Mature	Fair	Fair	Medium	Low	Low	Remove		Inside the site
33	*Callistemon viminalis*	Weeping Bottlebrush	0.2	0.18	1.68	2.16	6	1	3.14	100	Mature	Fair	Fair	Medium	Low	Low	Remove		Inside the site
34	*Callistemon viminalis*	Weeping Bottlebrush	0.2	0.18	1.68	2.16	6	1	3.14	100	Mature	Fair	Fair	Medium	Low	Low	Remove		Inside the site
35	*Tristaniopsis laurina*	Water Gum	0.5	0.4	2.47	4.8	12	3	28.27	100	Mature	Fair	Fair/Poor	Medium	Medium	Medium	Remove		Inside the site
36	Acmena smithii	Lilly Pilly	0.5	0.4	2.47	4.8	8	2	12.56	100	Mature	Fair/Poor	Poor	Low	Low	Low	Remove		Inside the site
37	*Livistona australis*	Cabbage-tree palm	0.3	0.2	2.00	2.4	10	2	12.56	100	Mature	Fair	Fair	Medium	Medium	Medium	Remove		Inside the site
38	Acmena smithii	Lilly Pilly	0.25	0.2	1.85	2.4	6	1	3.14	100	Mature	Poor	Poor	Low	Low	Low	Remove		Inside the site
39	*Plumeria sp*	Frangipani	0.3	0.2	2.00	2.4	4	2	12.56	100	Mature	Fair	Fair/Poor	Medium	Low	Low	Remove		Inside the site
40	*Jacaranda mimosifolia*	Jacaranda	0.9	0.76	3.17	9.12	16	8	201.06	100	Mature	Fair	Fair	Medium	Medium	Medium	Remove		Inside the site
41	*Corymbia citriodora*	Lemon-Scented Gum	0.4	0.5	2.25	6	20	5	78.54	4.97	Mature	Fair	Fair	Medium	Medium	Medium	Retain	Ground protection	Outside the site
42	*Plumeria sp*	Frangipani	0.3	0.2	2.00	2.4	6	3	28.27	100	Mature	Fair	Fair	Medium	Low	Low	Remove		Inside the site
43	Acmena smithii	Lilly Pilly	0.22	0.18	1.75	2.16	8	2	12.56	100	Mature	Fair	Fair	Medium	Low	Low	Remove		Inside the site

Appendix 2: Tree Impact Plan

Incursion

T01
TPZ = 163.07sqm
Incursion Zone =44.25sqm
Incursion = 27.14%

T02
TPZ = 72.38sqm
Incursion Zone =11.64sqm
Incursion = 16.08%

T03
TPZ = 40.72sqm
Incursion Zone =2.28sqm
Incursion = 5.6%

T04
TPZ = 72.38sqm
Incursion Zone =11.4sqm
Incursion = 15.75%

T05
TPZ = 40.72sqm
Incursion Zone =1.93sqm
Incursion = 4.74%

T06
TPZ = 72.38sqm
Incursion Zone =20.29sqm
Incursion = 28.03%

T08
TPZ = 72.38sqm
Incursion Zone =10.85sqm
Incursion = 15%

T11
TPZ = 13.07sqm
Incursion Zone =0.12sqm
Incursion = 0.92%

T14
TPZ = 13.07sqm
Incursion Zone =0.57sqm
Incursion = 4.36%

T16
TPZ = 40.72sqm
Incursion Zone =0.07sqm
Incursion = 0.71%

T17
TPZ = 72.38sqm
Incursion Zone =13.12sqm
Incursion = 18.13%

T19
TPZ = 142.03sqm
Incursion Zone =1.6sqm
Incursion = 1.13%

T20
TPZ = 18.17sqm
Incursion Zone =0.45sqm
Incursion = 2.48%

T41
TPZ =113.1sqm
Incursion Zone =5.62sqm
Incursion = 4.97%

T09, 10, 12, 13, 15, 18, 21
No Impact

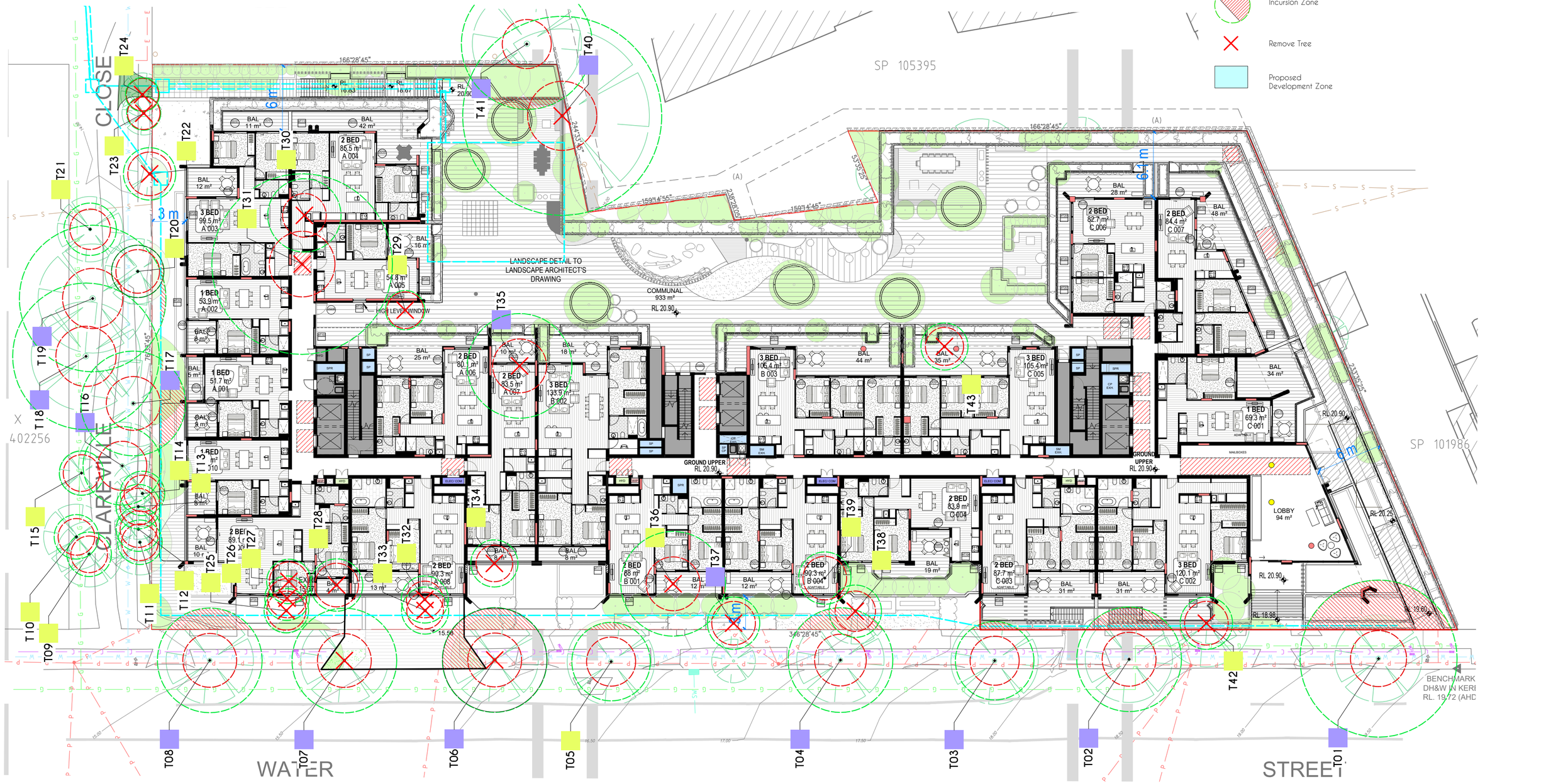
T06, 07, 22-40, 42, 43
To Be Removed

Legend

- TPZ - Tree Protection Zone
- SRZ - Structural Root Zone
- Incursion Zone
- Remove Tree
- Proposed Development Zone

Retention Value

- High
- Medium
- Low



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Tree Impact Plan - Appendix 2

Tree Management Strategies
T: 0447 356059
E: leigh@treems.com.au
W: www.treems.com.au

DATE: 31/10/2025	DWG: Bel.TIP01	REVISION: 02	SCALE @ A2 1:250	DRAWN Mark Hill

ADDRESS
72-88 Water St
Strathfield South

PLAN TITLE Tree Impact Plan

Appendix 3: Method

Site Assessment

From the ground, the following information was recorded and displayed in the Tree Data Schedule (Appendix 1).

- Tree genus and species.
- Approximate height spread if deemed applicable.
- Trunk diameter at breast height and above the buttress.
- Age class: young, semi mature, mature, over mature.
- Health.
- Condition.

Observations were recorded and photographed.

Research

The following legislation, documents or websites were reviewed:

- The Australian Standard for the Protection of Trees on Development Sites (AS 4970 – 2025).
- City of Canterbury Bankstown Council Development Control Plan 2023.
- City of Canterbury Bankstown Council Environmental Plan 2023.

Tree Data Schedule Method

The health and condition of trees assessed are shown in the Tree Data Schedule (**Appendix 1**) with the methods explained below:

Tree Health

Overall Health (Vigour/Vitality)	Tree vigour is exhibited by crown density, crown cover, leaf colour, leaf size, leaf texture, presence of epicormic growth, ability to withstand predation by pest and disease, resistance and degree of dieback.
Good (Excellent)	Good tree vigour exhibited by no decline in overall health and vigour, height and shape. The specimen is observed to be of excellent condition displaying characteristics that is known for that particular species (what would be the expected condition for that particular species of that age in that location), 0% dieback, full crown density, leaf health, no pest or disease present.
Fair	Fair tree vigour exhibited by moderate decline in overall health and vigour, height and shape. The specimen is observed to be of moderate condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), less than 10% dieback, 90% of crown foliage density, more than 90% leaf health, acceptable level of pest or disease is evident for the assessing arborist (where it is considered the tree's overall health or condition will not be affected or lead to irreversible decline from pest or disease).
Fair/Poor	Fair to poor tree vigour exhibited by considerable decline in overall health and vigour, height and shape. The specimen is observed to be of less than acceptable condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), 10-20% dieback, considerable foliage deficiencies, 70-90% foliage density, 70-90% leaf health, pest or disease infestation at acceptable thresholds for the assessing arborist (where it is considered the tree's overall health or condition will not be affected or lead to irreversible decline from pest or disease).

Poor	Poor vigour exhibited by substantial decline in overall health and vigour, height and shape. The specimen is observed to be of poor condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), 20-30% dieback, considerable foliage deficiencies, 50-70% leaf health, pest or disease infestation at unacceptable infestation level that exceeds thresholds for the assessing arborist (where it is considered the tree's overall health or condition will be affected or lead to irreversible decline from pest or disease).
Very Poor	Very poor vigour exhibited by irreversible decline in overall health and vigour, height and shape. The specimen is observed to be of less than acceptable condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), 15-50% dieback; severe foliage deficiencies; 30-50% density; 30-50% leaf health; pest or disease infestation at severe infestation level that exceeds thresholds for the assessing arborist (where it is considered the tree's overall health or condition will be affected or lead to irreversible decline from pest or disease).
Dead	Dead tree vigour exhibited by complete decline in overall health and vigour, height and shape. The specimen is observed to be dead by not displaying any characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), tree holds less than 15% foliage; branching is dead throughout canopy, pest or disease infestation at severe infestation level that exceeds thresholds for the assessing arborist (where it is considered the tree's overall health or condition will be affected or lead to irreversible decline from pest or disease).

Tree Condition

Overall Condition (Structure/Stability)	The tree condition as identified by the arborist in regard to defects in structure and stability.
Good (Exceptional specimen)	No damage or decay observed to the root plate, visible basal and /or root flare, stable in ground, well tapered branches with sound open unions. All characteristics within thresholds for the assessing arborist.
Fair (Standard tree – no observable major defects to suggest that there is an increased likelihood of tree or part of tree failure)	Minor damage or decay observed to root plate, trunk or primary branches or branch unions (1st or 2nd branch order or scaffolding branch), well-formed branch unions, minor branch end weight or over-extensions within thresholds for the assessing arborist.
Fair/Poor	Moderate damage or decay observed to root plate, trunk or primary branches or branch unions (1st or 2nd branch order or scaffolding branch); minimal basal/root flare; acute branch; past branch failure(s); moderate branch end-weight or over-extension approaching thresholds for the assessing arborist.
Poor	Major damage or decay observed to root plate, trunk or primary branches or branch unions (1st or 2nd branch order or scaffolding branch) no observable basal and /or root flare; acute branch unions starting to include bark; major branch end-weight or over-extension at or exceeds thresholds for the assessing arborist.
Very Poor	Excessive damage or decay observed to root plate, trunk, primary branch or branch unions (1st or 2nd branch order or scaffolding branch), excessive decay or hollows compromising the structural integrity, unstable in ground, excessive branch end-weight, included-bark unions, exceeding thresholds for assessing arborist. Failure probable.
Failed	Failure of root plate or trunk or primary branch or branch unions (1st or 2nd branch order or scaffolding branch) or active split between branch unions or severe damage to primary tree structure.

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

In the development of this document IACA acknowledges the contribution and original concept of the Footprint Green Tree Significance & Retention Value Matrix, developed by Footprint Green Pty Ltd in June 2001.

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process all definitions for terms used in the Tree Significance - Assessment Criteria and Tree Retention Value - Priority Matrix, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

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

Tree Significance - Assessment Criteria

High Significance in landscape

- The tree is in good condition and good vigour. The tree has a form typical for the species.
- The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age.
- The tree is listed as a Heritage Item, Threatened Species or part of an Endangered Ecological Community or listed on a council's Significant Tree Register.
- The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity.
- The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values.
- The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ - tree is appropriate to the site conditions.

Medium Significance in landscape

- The tree is in fair to good condition and good or low vigour.
- The tree has form typical or atypical of the species.
- The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area.
- The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street.
- The tree provides a fair contribution to the visual character and amenity of the local area.
- The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situ.

Low Significance in landscape

- The tree is in fair to poor condition and good or low vigour.
- The tree has form atypical of the species.
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings.
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area.
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen.
- The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa in situ - tree is inappropriate to the site conditions.
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms.
- The tree has a wound or defect that has potential to become structurally unsound.
- Environmental Pest/Noxious Weed Species.
- The tree is an Environmental Pest Species due to its invasiveness or poisonous/allergenic properties.
- The tree is a declared noxious weed by legislation.
- Hazardous and or Irreversible Decline.
- The tree is structurally unsound and/or unstable and is considered potentially dangerous.
- The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

The tree is to have a minimum of three (3) criteria in a category to be classified in that group.

Note: The assessment criteria are for individual trees only, however, can be applied to a mono-cultural stand in entirety.

Useful Life Expectancy (ULE)

Useful life expectancy (ULE) is a measure of a trees remaining lifespan regarding its health, condition and locality ULE categories were measured as:

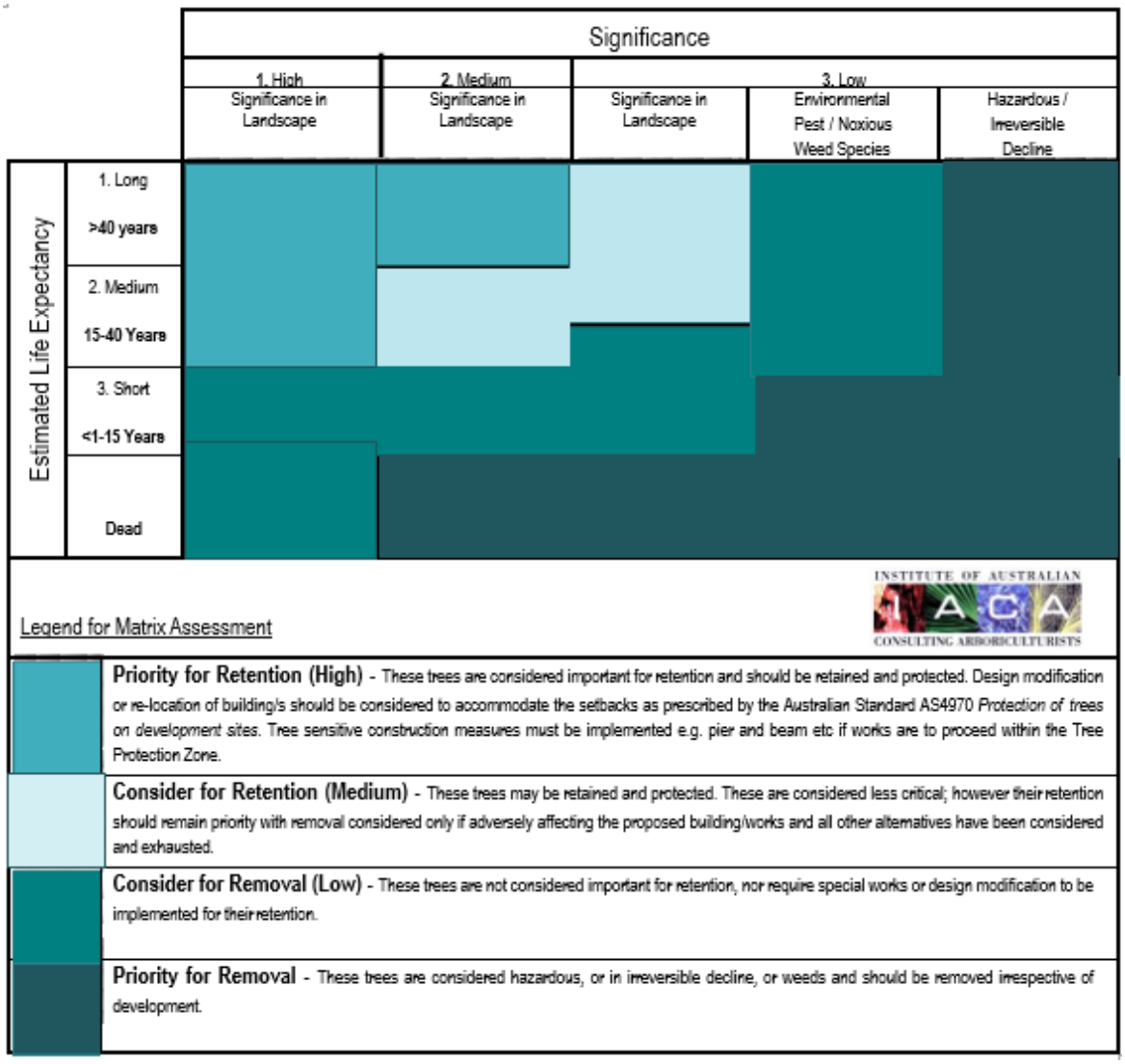
a) Long (greater than 40 years)

b) Medium (between 15 and 40 years)

c) Short (between 1 and 15 years)

d) Dead

Tree Retention Value - Priority Matrix



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Australia ICOMOS Inc. 1999, *The Burra Charter – The Australian ICOMOS Charter for Places of Cultural Significance*, International Council of Monuments and Sites, www.icomos.org/australia

Draper BD and Richards PA 2009, *Dictionary for Managing Trees in Urban Environments*, Institute of Australian Consulting Arboriculturist (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.

Footprint Green Pty Ltd 2001, *Footprint Green Tree Significance & Retention Value Matrix*, Avalon, NSW Australia, www.footprintgreen.com.au

Notional Root Zone and Structural Root Zone Method

Following the VTA, the Notional Root Zones and Structural Root zones were calculated and added to the Tree Data Schedule (Appendix 1) and the Tree Impact Plan (Appendix 2) with the methods explained below:

The Structural Root Zone (SRZ) is the area around the base of a tree required for its stability. The woody root growth and soil cohesion in this area are necessary to hold the tree upright; therefore, there are no variations to its size. The SRZ is normally circular with the trunk at its centre and is expressed by its radius in metres (AS – 4970). Due to the potential of causing instability of a tree, it is highly recommended that no roots within its SRZ are pruned or removed. SRZ, which is the area required for tree stability, was calculated as follows: SRZ radius = (D x 50) 0.42 x 0.64.

The Notional Root Zones (NRZ) is the principle means of protecting trees on development sites. The NRZ is a combination of the root area and crown area that requires protection. It is an area isolated from construction disturbance, so that the tree remains viable (AS – 4970). The radius of the NRZ is calculated for each tree by multiplying its DSH x 12. NRZ = DSH x 12 (DSH = trunk diameter measured at 1.4m above ground level). The radius of the NRZ is measured from COT (Centre of the trunk).

Variations to the Notional Root Zones (NRZ)

General

It may be possible to encroach into or make variations to the standard NRZ. Encroachment Includes excavation, compacted fill and machine trenching.

Minor encroachment

If the proposed encroachment is less than or equal to 10% of the area of the NRZ and is outside the SRZ, detailed root investigations should not be required. The area lost to this encroachment should be compensated for elsewhere and be contiguous with the NRZ. Variations must be made by the project arborist, considering relevant factors. (Figure 5) demonstrates some examples of possible encroachment into the NRZ up to 10% of the area.

Moderate encroachment

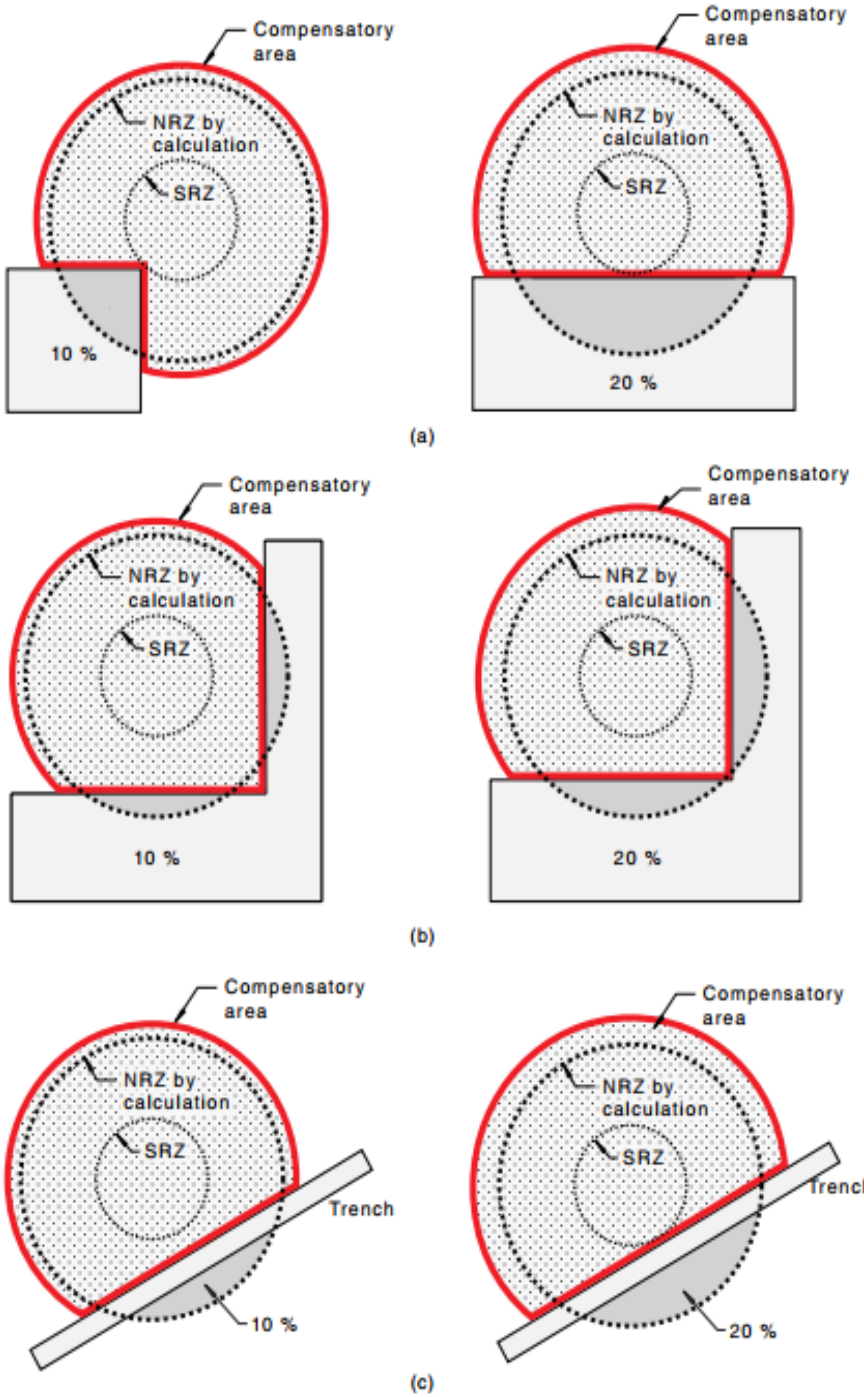
The proposed encroachment is considered moderate if it is greater than 10 % and less than or equal to 20 % of the area of the NRZ and is outside of the SRZ. A project arborist shall be engaged to review the proposed impact and undertake any other necessary investigation to address the factors. This may be through the implementation of suitable design measures and construction controls to mitigate impacts during the development process as part of a TPS and TPP. To avoid a net loss of soil area and volume, an area equivalent to the encroachment shall be incorporated into the NRZ, unless the project arborist otherwise demonstrates that the tree will remain viable.

Major encroachment

The proposed encroachment is considered major if it is greater than 20 % of the area of the NRZ or inside the SRZ. The project arborist shall be engaged to explore alternative designs with the design team and/or demonstrate that the tree will remain viable.

For the assessment of major encroachment, a more detailed investigation is necessary. This can include research such as root investigation, soil analysis, historical records of the tree or site, relevant literature and examples of similar encroachments. A TPS and TPP should be prepared to support the retention of the tree. To avoid a net loss of soil area and volume, an area equivalent to the encroachment shall be incorporated into the NRZ, unless the project arborist otherwise demonstrates that the tree will remain viable.

Figure 5: Examples of possible encroachment



NOTE These examples are not to scale and are for illustrative purposes. The proposed encroachment is considered minor if it is less than or equal to 10 % of the area of the NRZ, has not had recent TPZ encroachments and is outside of the SRZ (see Clause 3.4). The proposed encroachment is considered moderate if it is greater than 10 % and less than or equal to 20 % of the area of the NRZ and is outside of the SRZ (see Clause 3.4).