PRELIMINARY ARBORICULTURAL REPORT

SITE ADDRESS:
15-17 Eric St, Preston Vic. 3072

REPORT DATE:
17 April 2026

TREETEC REFERENCE:
eric0426hh_PAR

PREPARED FOR:
Homes Victoria c / o
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Contents

1 Introduction

1.1 Purpose

Treetec have been engaged to assess the tree population at, or in close proximity to, 15-17 Eric St, Preston (the site). In accordance with AS4970-2025 *Protection of trees on development sites* (section 2.3.2), this report provides information to assist with the design and location of all 'works', and advice on the protection of those trees likely to be retained within, or near the site. Following finalisation of designs, an Arboricultural Impact Assessment (AIA) report should be prepared to be submitted with the planning application (if required).

1.2 Scope

- Assess the tree population at, or in close proximity to, the subject site.
- Provide details on the subject trees including their species, arboricultural values, condition, and dimensions.
- Provide general comments on measures likely to be required to enable the protection of the subject trees.

1.3 Method

- Hayden Hatcher undertook an arboricultural assessment on 7 April 2026.
- Proofsafe digital data collection software was used during the fieldwork in conjunction with an Arrow 100 Differential GPS unit.
- All observations were taken at ground level, using the Visual Tree Assessment (VTA) method (Mattheck and Breloer 1994).
- Trunk measurements were collected with a DSH measuring tape.
- A photograph of each tree was collected within the Proofsafe software.

1.4 Limitations

- Root assessment requiring excavation was not undertaken. Therefore, root condition has not been included unless above-ground signs, such as soil heaving or cracking were observed.
- Aerial examination (tree climbing) was not undertaken.
- Tree height and canopy width were estimated.
- Environmental weeds, shrubs, dead trees and juvenile exotic trees of very low amenity/retention value were not assessed individually.
- Diameter at Standard Height (DSH) of trees on neighbouring properties was estimated.

1.5 Documents viewed

Basic Feature and Level Survey. Dated – 04/03/2024. Job Number – 306109. Prepared by – Veris

1.6 Planning scheme and applicable overlays

The site is covered by the Darebin Planning Scheme and is zoned General Residential Zone – Schedule 2 (GRZ2).

Local law

Darebin City Council Tree Protection on Private Property Local Law No. 1 of 2019 applied within the municipality.

Relevant planning provisions

- Clause 52.37 – Canopy trees
- Clause 55.02-7 – Tree canopy objectives

2 Findings

2.1 Site summary

The ~ 3024 site currently comprises two triple-storey residential buildings. Vegetation is predominantly made up of exotic canopy trees, generally of moderate maturity and size. The land has a moderate slope with a westerly aspect, and access to the site is provided via two crossovers located on Eric Street.

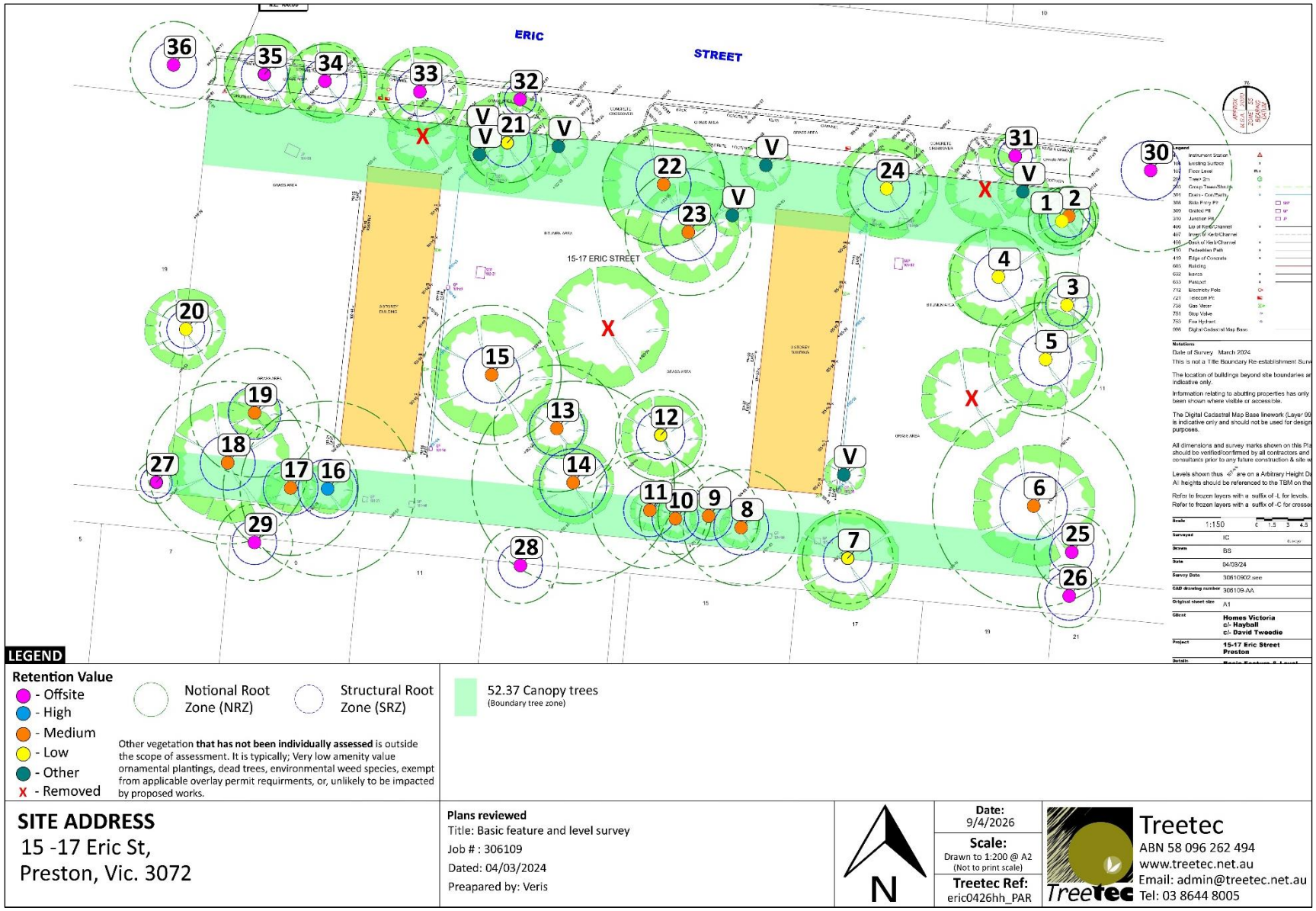
2.2 Vegetation on adjoining land

Tree number	Location
Trees 25 & 26	Neighbouring property to the east
Trees 28 & 29	Neighbouring property to the south
Tree 27	Neighbouring property to the west
Trees 30-36	Nature strip/street tree

2.3 Vegetation not detailed

Some additional vegetation has been identified on the plan (plotted as 'V'), these have not been individually assessed as they are very low amenity value shrubs/plants.

2.4 Site map


ERIC
STREET
15-17 ERIC STREET
LEGEND
Retention Value
- Offsite
- High
- Medium
- Low
- Other
X - Removed
Notional Root Zone (NRZ)
Structural Root Zone (SRZ)
Other vegetation that has not been individually assessed is outside the scope of assessment. It is typically; Very low amenity value ornamental plantings, dead trees, environmental weed species, exempt from applicable overlay permit requirments, or, unlikely to be impacted by proposed works.
52.37 Canopy trees
(Boundary tree zone)
SITE ADDRESS
15 -17 Eric St,
Preston, Vic. 3072
Plans reviewed
Title: Basic feature and level survey
Job # : 306109
Dated: 04/03/2024
Preapared by: Veris
N
Date: 9/4/2026
Scale: Drawn to 1:200 @ A2 (Not to print scale)
Treetec Ref: eric0426hh_PAR
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2.5 Tree data – Within Subject site

Tree #	Species	Common name	Type	DSH (cm)	Height (m)	Spread (m)	Structure	Health	Age	Retention value	ULE (yrs)	NRZ (m)	SRZ (m)
1	*Fraxinus angustifolia* subsp. *angustifolia*	Desert Ash	Exotic	23	9	5	Fair	Poor	Semi-mature / mature	Low	5 to 15	2.8	2.0
	Notes: Sparse canopy. Trunk is ~50cm from Tree 2. Trunk lean and crown bias to north, suppressed by Tree 2. prior branch failure at 1m. Clause 52.37 – **'boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Remove Tree. Not suitable to long-term retention.												
2	*Ulmus procera*	English Elm	Exotic	27	11	8	Good	Fair	Semi-mature	Medium	15 to 40	3.2	2.0
	Notes: No lower crown. Moderate Elm leaf beetle damage. Clause 52.37 – **'boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												
3	*Pittosporum undulatum*	Sweet Pittosporum	Vic native	26	10	6	Fair / good	Good	Semi-mature / mature	Low	15 to 40	3.1	2.0
	Notes: Uplifted and lopped to boundary. No crown to east. Clause 52.37 – **'canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Remove Tree. Not suitable to long-term retention.												
4	*Pittosporum undulatum*	Sweet Pittosporum	Vic Native	38	9	8	Fair	Good	Semi-mature / mature	Low	15 to 40	4.6	2.3
	Notes: Codominant stems from 1m. Uplifted and pruned to boundary, no crown to east, has degraded structure / amenity. Protected under **local law**. Clause 52.37 – **'canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where desired. Consider NRZ/SRZ at design phase.												

Tree #	Species	Common name	Type	DSH (cm)	Height (m)	Spread (m)	Structure	Health	Age	Retention value	ULE (yrs)	NRZ (m)	SRZ (m)
5	*Ulmus glabra 'lutescens'*	Golden Elm	Exotic	45	10	10	Poor / fair	Poor	Mature	Low	5 to 15	5.4	2.5
	Notes: Uplifted, pruned to boundary. Decay in north stem and east stub. Protected under **local law**. Clause 52.37 – **'canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where desired. Consider NRZ/SRZ at design phase.												
6	*Fraxinus oxycarpa* 'Raywood'	Claret Ash	Exotic	80	13	16	Fair	Good	Mature	Medium	15-40	9.6	3.2
	Notes: Recently uplifted pruned to boundary, has degraded structure / amenity. Multiple lions tailed branches. Large (~200mm) pruning wound at base, no signs of decay. Protected under **local law**. Clause 52.37 – **'canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												
7	*Pittosporum undulatum*	Sweet Pittosporum	Vic Native	36	9	11	Good	Good	Semi-mature / mature	Low	5 to 15	4.3	2.3
	Notes: Against rear fence. Concrete retaining wall abuts trunk. Providing screening. Cambial damage on low trunk, close to base. Protected under **local law**. Clause 52.37 – '**boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Remove Tree. Location not suitable to long-term retention.												
8	*Cupressus torulosa*	Bhutan Cypress	Exotic	46	14	6	Fair	Good	Semi-mature / mature	Medium	15 to 40	5.5	2.6
	Notes: Low crown uplifted over adjacent brick building. Existing building (strip footings) likely inhibiting root development. Codominant stems from union ~ 3m, bark inclusion forming, swelling at union. Protected under **local law**. Clause 52.37 – '**boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												

Tree #	Species	Common name	Type	DSH (cm)	Height (m)	Spread (m)	Structure	Health	Age	Retention value	ULE (yrs)	NRZ (m)	SRZ (m)
9	*Cupressus torulosa*	Bhutan Cypress	Exotic	40	12	4	Poor / fair	Good	Semi-mature / mature	Medium	15 to 40	4.8	2.3
	Notes: Codominant stems from union ~2m, included bark and cracking below. Protected under **local law.** Clause 52.37 – **'boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Remove tree. Unsuitable for long-term retention.												
10	*Cupressus torulosa*	Bhutan Cypress	Exotic	28	10	2	Fair	Fair	Semi-mature / mature	Medium	15 to 40	3.4	2.2
	Notes: Codominant stems from 1m. Northern stem removed at base. Clause 52.37 – '**boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												
11	*Cupressus torulosa*	Bhutan Cypress	Exotic	46	10	2	Fair	Good	Semi-mature / mature	Medium	15 to 40	5.5	2.5
	Notes: Codominant stems from a union 1m. Protected under **local law.** Clause 52.37 – '**boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												
12	*Fraxinus angustifolia* subsp. *angustifolia*	Exotic	Exotic	41	9	11	Fair / good	Good	Mature	Low	15 to 40	4.9	2.4
	Notes: Low north branch broken. Vigorous tree. Girdling root on base of trunk. Protected under **local law.** Clause 52.37 – **'canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where desired. Consider NRZ/SRZ at design phase.												

Tree #	Species	Common name	Type	DSH (cm)	Height (m)	Spread (m)	Structure	Health	Age	Retention value	ULE (yrs)	NRZ (m)	SRZ (m)
13	*Cupressus torulosa*	Bhutan Cypress	Exotic	50	16	9	Good	Good	Semi-mature / mature	Medium	>40	6.0	2.6
	Notes: Tallest tree within central courtyard. Protected under **local law.** Clause 52.37 – **'canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												
14	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Vic native	56	9	12	Fair	Good	Mature	Medium	15 to 40	6.7	2.6
	Notes: Measured below multi stem union. Approx. 100mm concrete retaining wall against trunk. Protected under **local law.** Clause 52.37 – **'canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												
15	*Ulmus glabra* 'Lutescens'	Golden Wych Elm	Exotic	55	12	14	Fair	Fair	Mature	Medium	15 to 40	6.6	2.7
	Notes: Elm leaf beetle damage. Uplifted to west over building. Multiple pruning wounds (~100mm) on low trunk, all with decay. Northern stem poor branch attachment, mechanical damage midway up. Protected under **local law.** Clause 52.37 – **'canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												
16	*Cupressus torulosa*	Bhutan Cypress	Exotic	69	16	8	Good	Good	Mature	High	>40	8.3	2.8
	Notes: Cambial wound on low trunk (east). Brick dwelling (strip footings) within SRZ, will have inhibited root development. Protected under **local law.** Clause 52.37 – '**boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												

Tree #	Species	Common name	Type	DSH (cm)	Height (m)	Spread (m)	Structure	Health	Age	Retention value	ULE (yrs)	NRZ (m)	SRZ (m)
17	*Cupressus torulosa*	Bhutan Cypress	Exotic	53	14	6	Good	Good	Mature	Medium	>40	6.4	2.6
	Notes: Cambial Mechanical damage on low trunk. Suppressed by adjacent trees. Protected under **local law.** Clause 52.37 – '**boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												
18	*Fraxinus angustifolia* subsp. *angustifolia*	Desert Ash	Exotic	64	12	14	Fair	Good	Mature	Medium	15 to 40	7.7	2.8
	Notes: ~300mm failure suspended in crown. Protected under **local law.** Clause 52.37 – '**boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												
19	*Cupressus torulosa*	Bhutan Cypress	Exotic	51	13	7	Fair	Good	Mature	Medium	15 to 40	6.1	2.5
	Notes: Suppressed by Tree 18. Codominant stems from ~2m, swelling. Resin bleed bark inclusion. Protected under **local law.** Clause 52.37 – '**boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												
20	*Fraxinus angustifolia* subsp. *angustifolia*	Desert Ash	Exotic	21	8	7	Fair / good	Good	Semi-mature	Low	5 to 15	2.5	1.8
	Notes: Covered in creeper. Against fence. Clause 52.37 – **'canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where desired. Consider NRZ/SRZ at design phase.												

Tree #	Species	Common name	Type	DSH (cm)	Height (m)	Spread (m)	Structure	Health	Age	Retention value	ULE (yrs)	NRZ (m)	SRZ (m)
21	*Cercis griffithii*	Afghan redbud	Exotic	32	10	11	Poor / fair	Fair	Mature	Low	5 to 15	3.8	2.3
	Notes: Codominant stems at base. Third stem removed. Prior central branch failure. Protected under **local law.** Clause 52.37 – '**boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where desired. Consider NRZ/SRZ at design phase.												
22	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Vic native	48	9	11	Good	Good	Mature	Medium	15 to 40	5.8	2.6
	Notes: Form typical of species. Protected under **local law.** Clause 52.37 – '**boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												
23	*Cercis griffithii*	Afghan redbud	Exotic	50	9	13	Fair	Fair	Mature	Medium	15 to 40	6.0	2.7
	Notes: Sparse crown, limited terminal growth. Codominant stems from the base. Juvenile Privet in union. Protected under **local law.** Clause 52.37 – **'canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Retain where practicable. Consider NRZ/SRZ at design phase.												
24	*Fraxinus angustifolia subsp. angustifolia*	Desert Ash	Exotic	31	10	8	Poor / fair	Good	Semi-mature	Low	5 to 15	3.7	2.2
	Notes: Trunk wound at branch scar. Clause 52.37 – '**boundary canopy tree'**.												
	Impact assessment: TBC.												
	Recommendations: Remove. Unsuitable to long-term retention.												

2.6 Tree data – Offsite trees

Tree #	Species	Common name	Type	DSH (cm)	Height (m)	Spread (m)	Structure	Health	Age	Retention value	ULE (yrs)	NRZ (m)	SRZ (m)
25	*Robinia pseudoacacia*	Black Locust	Exotic	30	7	9	Fair	Good	Mature	Offsite	15 to 40	3.6	2.1
	Notes: Crown to edge of site.												
	Impact assessment: TBC.												
	Recommendations: Consider NRZ/SRZ at design phase.												
26	*Callistemon viminalis*	Weeping Bottlebrush	Aus native	25	7	6	Unknown - tree obscured	Good	Mature	Offsite	15 to 40	3.0	2.0
	Notes: Canopy bias to south.												
	Impact assessment: TBC.												
	Recommendations: Consider NRZ/SRZ at design phase.												
27	*Pyrus calleryana*	Callery's Pear	Exotic	15	7	5	Unknown - tree obscured	Good	Semi-mature / mature	Offsite	15 to 40	2.0	1.6
	Notes: Behind laneway. ~1m from fence. Not surveyed.												
	Impact assessment: TBC.												
	Recommendations: Consider NRZ/SRZ at design phase.												
28	*Pittosporum tenuifolium*	Kohuhu	Exotic	30	9	5	Unknown - tree obscured	Good	Mature	Offsite	5 to 15	3.6	2.1
	Notes: Behind laneway. Not surveyed.												
	Impact assessment: TBC.												
	Recommendations: NRZ / SRZ does not enter site.												

Tree #	Species	Common name	Type	DSH (cm)	Height (m)	Spread (m)	Structure	Health	Age	Retention value	ULE (yrs)	NRZ (m)	SRZ (m)
29	*Pittosporum tenuifolium*	Kohuhu	Exotic	30	9	5	Unknown - tree obscured	Good	Mature	Offsite	5 to 15	3.6	2.1
	Notes: Behind laneway. Group of 3. Not surveyed.												
	Impact assessment: TBC.												
	Recommendations: NRZ / SRZ does not enter site.												
30	*Eucalyptus leucoxylon subsp. megalocarpa*	Large fruited Yellow Gum	Vic Native	64	12	14	Good	Good	Mature	Offsite	>40	7.7	2.8
	Notes: Not surveyed.												
	Impact assessment: TBC.												
	Recommendations: Consider NRZ/SRZ at design phase.												
31	*Ulmus parvifolia*	Chinese Elm	Exotic	12	8	5	Good	Good	Semi-mature	Offsite	15 to 40	2.0	1.6
	Notes: Uplifted over footpath. Minor Trunk lean to north.												
	Impact assessment: TBC.												
	Recommendations: Consider NRZ/SRZ at design phase.												
32	*Ulmus parvifolia*	Chinese Elm	Exotic	9	4	3	Good	Good	Semi-mature	Offsite	15 to 40	2.0	1.5
	Notes: Hydrant on edge of NRZ.												
	Impact assessment: TBC.												
	Recommendations: Consider NRZ/SRZ at design phase.												
33	*Ulmus parvifolia*	Chinese Elm	Exotic	30	11	12	Good	Good	Semi-mature / mature	Offsite	15 to 40	3.6	2.1
	Notes: Crown enters site by ~3m.												

Tree #	Species	Common name	Type	DSH (cm)	Height (m)	Spread (m)	Structure	Health	Age	Retention value	ULE (yrs)	NRZ (m)	SRZ (m)
	Impact assessment: TBC.												
	Recommendations: Consider NRZ/SRZ at design phase.												
34	*Ulmus parvifolia*	Chinese Elm	Exotic	29	11	9	Good	Good	Semi-mature / mature	Offsite	15 to 40	3.5	2.1
	Notes: Canopy bias to north. South stem pruned.												
	Impact assessment: TBC.												
	Recommendations: Consider NRZ/SRZ at design phase.												
35	*Ulmus parvifolia*	Chinese Elm	Exotic	32	11	11	Good	Good	Semi-mature / mature	Offsite	15 to 40	3.8	2.2
	Notes: Crown overhangs the site by ~2m.												
	Impact assessment: TBC.												
	Recommendations: Consider NRZ/SRZ at design phase.												
36	*Ulmus parvifolia*	Chinese Elm	Exotic	34	12	12	Good	Good	Semi-mature / mature	Offsite	15 to 40	4.1	2.2
	Notes: Fronting #19 Eric Street.												
	Impact assessment: TBC.												
	Recommendations: Consider NRZ/SRZ at design phase.												

3 Discussion

3.1 Tree controls

Local Law

Trees 4-9, 10-19 and 21-23 exceed 8 metres in height and have a combined trunk circumference greater than 100 centimetres when measured at 1.5 metres above ground level, satisfying the size criteria for protection under the relevant Local Law.

As these trees are located on public land rather than private land, the provisions of the Local Law do not apply to trees on site.

Clause 52.37 Canopy Trees

Trees 3-6, 12-15, 19, 20 and 23; have a height of more than 5 metres above ground level, a trunk circumference of more than 0.5 metres, measured at 1.4 metres above ground level, and a canopy diameter of at least 4 metres, and meet the definition of **canopy trees**.

Trees 1, 2, 21, 22, 24 are within 6m of the narrowest street frontage and Trees 7-11, 16-18 is within 4m of the rear boundary and therefore both trees are subject to the requirements of **boundary canopy trees**.

Homes Victoria is exempt from permit requirements of this clause as a Public Land Manager (52.27—8 Table of exemptions).

Clause 55.02-17 Tree canopy objectives

The retention of Trees 3-6, 12-15, 19, 20 and 23 will contribute to the 20% canopy cover requirements of this clause for a site of more than 1000 sqm, provided any proposed building is located at least 4m away from the tree.

Plate 3 – Showing trees 8-15, within the central courtyard, from left to right.

Tree retention

The concept design indicates that trees within the central courtyard, Trees 8-15, 21-23, are the most likely to be retained, without restricting development. Of these Trees 13-15 and 22 are the most suitable for retention.

3.2 Impacts from development

Modifying or manipulating the design to minimise the loss of significant trees will not only benefit the long-term amenity value of the site, but has the potential to streamline the planning permit process.

Works activities are considered as (but are not limited to):

- Demolition works
- Site cut and fill
- Parking and movement of construction vehicles
- Storage of construction materials
- Installation of driveways and pathways
- Trenching for underground services.

Careful consideration of all activities within an NRZ will help minimise impacts to the trees and may save time and money throughout the development process.

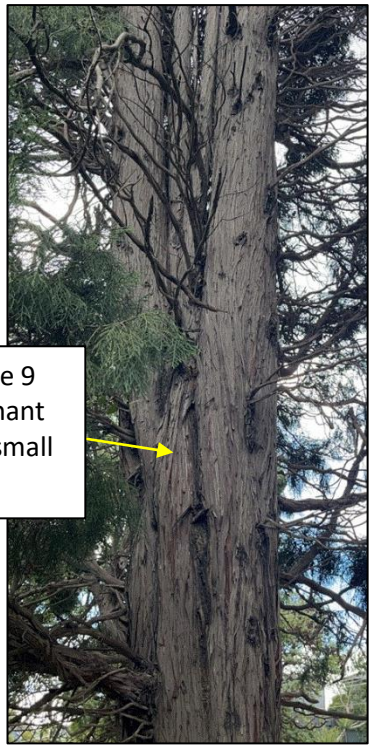

Plate 2 – Tree 9 with codominant stems with a small crack.

Tree Defects

Trees 8, 9 and 13, all Bhutan Cypress, have structural defects that make them less suitable for retention. Tree 9 has the most severe defect and should be removed. Trees 8 and 13 are more suitable to retention, which can be achieved through regular monitoring and cabling.

4 Conclusion

The arboricultural assessment undertaken at 15-17 Eric St, Preston Vic. 3072 comprised thirty-six trees.

Below is a summary of the retention values of the 36 trees assessed.

Descriptions of arboricultural values can be found in appendix 7.2 – Glossary. **Summary of assessed trees**	
Retention Value	**Tree or group number**
High	16
Medium	1, 6, 8-15, 17-19, 22 & 23
Low	2-5, 7, 12, 20, 21, 24
Offsite	25-36

The concept design means the retention of trees within the central courtyard (Trees 8–15, 21–23), may be possible. Within this group, Trees 13–15 and 22 present as the most suitable candidates for retention based on condition and location. Overall, a balanced approach is achievable, whereby higher-quality trees are retained to contribute to canopy cover and site amenity, while removal of structurally compromised or constrained trees is justified to facilitate development.

5 Recommendations

- **Ensure all works avoid impacting the NRZ** of as many trees as is practicable; particularly medium or high retention value trees, or trees offsite.
- **Include scaled Notional Root Zone (NRZ) and Structural Root Zone (SRZ)** on proposed plans for all assessed trees (see tree data)
- If encroachments within NRZs are unavoidable, **ensure less than 10% of the total area is impacted.** The area lost should be compensated for elsewhere and contiguous with the NRZ.
- **All works should be shown on plans.** Site cut and fill, location of buildings, driveways and pathways, all underground services, including stormwater and sewerage
- Design of any **underground services and landscaping should be cognisant of root protection.** Do not excavate within the nominated Tree Protection Zones of retained trees including those trees on neighbouring properties unless permitted by the responsible authority.

6 References

Department of Transport and Planning. VicPlan, Accessed - April 26, Available at: https://mapshare.vic.gov.au/vicplan/

Mattheck, C. and Breloer, H. (1994), *The Body Language of Trees: A Handbook for Failure Analysis*, London: HMSO.

Costermans, L. (1981), *Native Trees and Shrubs of South-Eastern Australia*, New Holland publishers (Australia) Pty Ltd, Sydney

Brooker, M.I.H. & Kleining, D.A., (2006), *Field Guide to Eucalypts*, 3rd ed., Vol. 1 – South-eastern Australia, Melbourne, Australia: Bloomings Books.

Brooker, M.I.H. & Kleining, D.A., (2006), *Field Guide to Eucalypts*, 3rd ed., Vol. 2 – South-western and Southern Australia, Melbourne, Australia: Bloomings Books.

ProofSafe Tree Protection Zone encroachment calculator, available online at: https://proofsafe.com.au/tpz_incursion_calculator.html

Standards Australia (2025), AS 4970:2025 *Protection of trees on development sites*

Standards Australia (2007), AS 4373-2007 *Pruning of amenity trees*

7 Appendix

7.1 Assumptions & Limitations

1. ***Treetec*** does not assume responsibility for legal matters, and assumes that legal descriptions, titles and ownerships are correct and good.
2. ***Treetec*** assumes that any property or project is not in violation of any applicable codes, ordinances, statutes or other government regulations.
3. ***Treetec*** takes all reasonable care to ensure all referenced material is accurate and quoted in correct context but does not take responsibility for information quoted or supplied.
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7. All, or any part of the contents of this report, or any copy thereof, shall not be used for any purpose by anyone but the person to whom it is addressed, without the written consent of ***Treetec***.
8. This report shall not be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the written consent of ***Treetec***.
9. This report and any values expressed herein represent the opinion of ***Treetec*** and ***Treetec's*** fee is in no way contingent upon the reporting of a specified value, the occurrence of a subsequent event, nor upon any finding to be reported.
10. Site plans, diagrams, graphs and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.
11. Information in this report covers only those items that were examined in accordance with the Terms of Reference, and reflects the condition of those items that were examined at the time of the inspection.
12. Inspections are limited to visual examination of accessible components unless otherwise stated in the "Method of Inspection".
13. There is no warranty or guarantee, expressed or implied, that the problems or deficiencies of the plants or property in question may not arise in the future.
14. Due to the dynamic nature of trees and development there can be no guarantee that the Useful Life Expectancy (ULE) of the subject tree/s won't be adversely impacted.

7.2 Glossary

AGE CATEGORY	The age of the tree is represented as Juvenile, Semi-mature, Mature or Senescent.	
	Juvenile:	A young tree, given normal environmental conditions for that tree it will not yet flower or fruit.
	Semi-mature:	Able to reproduce but not yet nearly the size of a mature specimen in that location.
	Mature:	Has reached or nearly reached full size and spread for that species in the given location.
	Senescent:	Health and / or structure is being adversely impacted by the old age of the tree.
ARBORICULTURAL VALUES	Values assigned to a tree or group of trees to provide an overview of their significance with consideration to a range of factors (see below)	
AMENITY VALUE	Provides a summary of the general condition and also the overall significance contributed to the landscape (Visual appeal). Factors include; physical condition (health, structure, form), age, size, and species. Trees may possess one or more of the attributes listed.	
	High:	Large size, good health and structure, significant in relation to the local landscape, prominent location.
	Medium:	Moderate size, fair health and/or structure, somewhat significant in relation to the local landscape, prominent location.
	Low:	Small common species, poor health and structure, insignificant in relation to the local landscape, environmental weed.
RETENTION VALUE	A rating assigned to a tree or group of trees based on; Amenity Value, Useful Life Expectancy (ULE), suitability for the site, location, cultural or historical significance, legislative vegetation controls (such as Planning or Local Law). Age is a primary consideration as it is the determining factor when considering how long it would take to replace the amenity lost when trees are removed. For proposed development, the retention value may help shape decisions to ensure site amenity value is maximised. Tree removal may require a planning permit. Check with your local council prior to removing any vegetation.	
	Offsite:	Located outside of the subject site. Must be retained and protected regardless of other factors.
	High:	Worthy of retention and incorporation into any development proposal. Medium or High Amenity Value, 15>40 years or greater Useful Life Expectancy (ULE), rare or endangered/ ecologically valuable.
	Medium:	Should be considered for retention, if practicable. Low or Medium Amenity Value, 15-40 years or less ULE. May be minimal canopy cover in the local area (loss would be detrimental to the landscape).
	Low:	Low Amenity Value, 5-15 years or less ULE, may be problematic to retain. Retain if desired, otherwise consider removal.
CABLING	In some circumstances where a defect has been identified it may be possible to use cabling to help retain the tree. Cabling methodology depends on the situation: Loose fitting to only assist a tree in windy conditions Tight fitting - holding stems or branches with permanent support. And/or To 'catch' a section of tree if it fails	

	Cabling can greatly reduce risk and help retain a tree for a long time however the cabling and tree needs to be inspected and maintained regularly. If the tree is of low amenity or the cabling will not add significantly to the ULE then we would recommend a higher risk tree be replaced rather than cabled.
CANKER	Localised dead areas in the bark or wood, primarily caused by fungal pathogens which kill the living tissue causing dysfunction.
CANOPY SPREAD	Overall size of the canopy as looking from a plan view. Recorded at the widest point.
CODOMINANT STEMS	Two stems of approximately the same thickness and height originating from the same position in the tree.
COMMON NAME	A non-scientific name commonly used for that tree.
COMPETENT PERSON	Person who has acquired, through education, training, qualification, experience or a combination of these, the knowledge and skill enabling that person to perform the task required.
COPPICE	The practice of cutting a tree down to a stump and allowing basal regrowth.
CROWN WIDTH	See 'Canopy spread'
DEAD (AS DEAD)	Cessation of all metabolic processes (or very soon to be)
DEADWOOD	Deceased above ground tree parts such as stems or branches. *Minor* deadwood – less than 40mm diameter *Major* deadwood – greater than 40mm diameter
DEVELOPMENT	The use of land including; the subdivision of land, erection or demolition of a building or works, the carrying out of a work, road works, the installation of utilities and services, and any other act, matter or thing as defined by the relevant legislation.
DIAMETER ABOVE ROOT BUTTRESS (**DARB**)	The diameter of the trunk measured above the root buttress. This measurement is used to calculate the structural root zone (see SRZ).
DIAMETER AT STANDARD HEIGHT (**DSH**)	The diameter of the trunk measured at or near 1.4m above ground level. Where there is more than 1 stem originating below 1.4m the measurement recorded is calculated as described in AS 4970:2025.
ENCROACHMENT	Works or change of use (temporary or permanent) proposed to occur within an identified NRZ either above or below ground, regardless of work method or construction type.
	Minor: — Less than or equal to 10% of the calculated NRZ area, has had no recent encroachments and is outside of the SRZ.
	Moderate: — Greater then 10% and less than or equal to 20% of the calculated NRZ area and is outside of the SRZ.
	Major: — Greater than 20% of the NRZ area or inside the SRZ.
EPICORMIC GROWTH	New shoots forming from dormant buds within the bark on the trunk and/or branches.
FORM	Reference to the symmetry of the crown as observed from all angles and in accordance with the morphology of that species, and documented as Poor, Fair or Good.
GIRDLING ROOTS	Surface roots growing tightly around the base of the trunk causing the restriction of nutrient and water movement.
GROUND PROTECTION	Structure, ground cover or treatment placed of the ground to protect the soil beneath and minimise soil compaction and physical damage to roots.
HEALTH	A trees vigour as exhibited by the crown density, leaf colour, seasonal extension growth, presence of stress indicators, ability to withstand diseases and pests, and the

	degree of dieback. Where a deciduous tree is inspected without foliage and health is undetermined a '?' will be noted.	
	Dead:	Cessation or near cessation of all metabolic processes.
	Poor:	Indicating symptoms of extreme stress such as minimal foliage, or extensively damaged leaves from pests and diseases. Death probable if condition of tree deteriorates.
	Fair:	Some minor deadwood or terminal dieback indicating a stressed condition. Minor leaf damage from pests.
	Good:	Usual for that species given normal environmental conditions – full canopy with only minor deadwood, normal leaf size and extension growth, minimal pest, or disease damage.
HEIGHT	The distance in metres from the ground to the highest point in the crown, calculated in the vertical plane. This measurement unless otherwise specified is an estimation only.	
IMPACT ASSESSMENT	An assessment of adverse impact the proposed works are likely to have on a tree or tree group. May be short or long term; usually judged on the likely reduction in ULE directly attributable to the works. Impact usually relates to the level of TPZ encroachment, but also factors the type of impact. One or more factors may apply.	
	Low:	Proposed works are outside of the TPZ and impacts are likely to be nil. Or, minor damage may occur such as; smaller roots may be damaged or a small area of canopy pruned. Unlikely to significantly impact tree health, form, or ULE.
	Moderate:	Direct (physical wounding), or indirect (environmental impacts) are possible, root damage may occur, canopy pruning likely, and an occurrence will reduce the ULE.
	High:	Tree/s likely to be lost in the medium or short term, or adversely impacted so that tree health, and therefore, ULE are significantly reduced, or the tree will become unstable and/or present an unacceptable level of risk.
	Proposed to be removed:	Trees that are within the footprint of works and proposed to be removed by the client, or are not viable to retain due to the factors listed in the conclusions of this report. Trees proposed for removal are not always required to be removed.
INCLUDED BARK UNION	A union within a tree that has included bark (bark pressing on bark), these unions are usually poorly attached and more likely to fail as the included bark is equivalent to a split. Often characterized by an acute angle and sometimes forming ribs or flaring immediately below the union where the tree reacts to the weakness by placing secondary growth. Though these unions are weaker than a 'good' union, the risk of failure cannot be calculated and a poor union does not automatically justify the removal of the tree.	
LOPPING / TOPPING (includes coppicing)	The removal of parts of a tree giving no consideration to the trees natural defence systems.	
NOTIONAL ROOT ZONE (**NRZ**)	Zone created by a radius of 12 times the DSH that is a primary trigger for arboricultural input on a development site.	
PRUNING	Systematic removal of branches of a plant whilst giving consideration to the trees natural defence systems.	
RELEVANT AUTHORITIES	Legal controls and liabilities under common law are usually considered at the earliest stages of planning for a potential site development. Relevant authorities have an important role in regulating and enforcing the development process.	

	When development has been approved, it is possible that planning conditions will be imposed for the management of trees.	
ROOTS	Below ground component of a tree's structure and consist of three main parts.	
	Absorbing	Small, non-woody roots with hairs or mycorrhizal association and no bark, responsible for the uptake of most of the water and solutes used by the tree. These roots are generally less than 2 mm in diameter and frequently replaced.
	Structural	Large diameter woody roots close to the stem that provides stability and support to the tree, mostly found within the SRZ.
	Woody	Roots that have undergone lignification and secondary thickening.
STRUCTURAL ROOT ZONE (**SRZ**)	Theoretical area around the base of a tree required for the trees stability in the ground.	
STRUCTURE	Reference to the structural integrity of the tree with consideration of the crown, trunk and roots. Determined using the Visual Tree Assessment (VTA) method (Mattheck and Breloer 1994). The failure of small (<60mm calliper) live or dead limbs is normal and not considered here.	
	Very poor:	Clear indications that a significant failure is likely soon
	Poor:	Obvious signs of structural weakness and a failure is likely, one might expect a significant failure event within the next 5 years, possibly tomorrow
	Fair:	Signs of weakness present though not obviously significant, likely to become worse over time
	Good:	No obvious signs of structural weakness
TREE	Long-lived, woody perennial plant with one or relatively few main, self-supporting, stems or trunks. Greater than (or usually greater than) 3m in height (or as defined by the responsible authority).	
TREE PROTECTION PLAN (**TPP**)	Scaled drawing that shows trees to be retained, the location of the TPZ(s), and tree protection devices specified.	
TREE PROTECTION ZONE (**TPZ**)	Specified zone above and below ground and at given offsets from the trunk set aside to protect a tree's roots and crown where these might be damaged by development.	
TYPE	Status of the species as it relates to the location.	
	Indigenous:	Naturally occurring to the local area
	Victorian Native:	Naturally occurring within Victoria (classified as native vegetation within the Victorian Planning Provisions)
	Australian Native:	Naturally occurring within Australia
	Exotic:	Introduced species to Australia
UNION	The point where a branch or stem is attached to another branch or stem.	
USEFUL LIFE EXPECTANCY (**ULE**)	Useful Life Expectancy is an estimation of how many years a tree can reasonably be retained in the landscape provided growing conditions do not significantly worsen and any recommended works are completed. It takes into consideration factors such as risk, species, age, health and site conditions. Usually represented as either **0, <5, 5 - 15, 15 - 40, or >40.**	
WORKS	Any physical activity in relation to the land that is specified by the relevant authority.	
WOUNDWOOD	Tissue that forms following wounding (sometimes referred to as callus tissue). Wounds include pruning cuts and the site of branch failures, etc.	

7.3 Impacts to trees

Physical/Mechanical damage to trees

Physical damage, particularly to the trunk, creates entry points for pests and diseases such as fungal infections. This can cause long-term decay and may result in partial or complete tree failure.

Alteration of soil levels

Changing soil levels around trees affects roots, stability, and tree metabolism. This can reduce health, increase deadwood, cause thinning foliage, and decrease vigour. Impacts may take years to appear and are often irreversible.

Works within an NRZ

Activities such as site cut and fill, re-grading, underground service installation, building footings, or landscaping can damage tree roots.

- Work within an NRZ may be possible without significant impact, but the number and size of roots, tree species, and resilience must be assessed beforehand. Design and construction methods may require modification to minimise impacts.
- **Site cut and fill:** Locate works to minimise root disturbance to retained trees. For shallow cuts, consider adding fill to eliminate the cut. Raised grades should use coarser, more porous material than the underlying soil. Avoid batter cuts; vertical retaining walls are preferred to reduce disturbance.
- **Underground services:** Route outside NRZs where possible. If unavoidable, use non-destructive methods such as air or hydro-excavation, or bore under the NRZ at a depth of ≥700 mm. The project arborist should assess impacts, including bore pit locations.
- **Driveways and pathways:** Avoid encroachment into NRZs. If unavoidable:
    1. Do not scrape or excavate, as most small absorbing roots are in the upper 100 mm of soil.
    2. Use permeable materials laid on base/sub-base designed to allow water movement into the soil below.
- **Buildings within NRZs:** Foundations should be suspended on piers, leaving ground largely undisturbed. Supporting beams should be above ground or run radially from the trunk. No excavation is permitted within the Structural Root Zone (SRZ).

All works within NRZs must be approved by the responsible authority prior to commencement.

7.4 Degrees of encroachment

In accordance with AS 4970:2025 *(Protection of trees on development sites)* encroachment within a NRZ is defined as per below.

Minor encroachment

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 NRZ encroachments and is outside of the SRZ.

Generally, it is unlikely that there will be a significant impact to tree health, longevity or structure. Tree protection should be implemented during site works. To avoid a net loss of soil area and volume, an area equivalent to the encroachment shall be incorporated into the TPZ, unless the project arborist otherwise demonstrates that the tree will remain viable.

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.

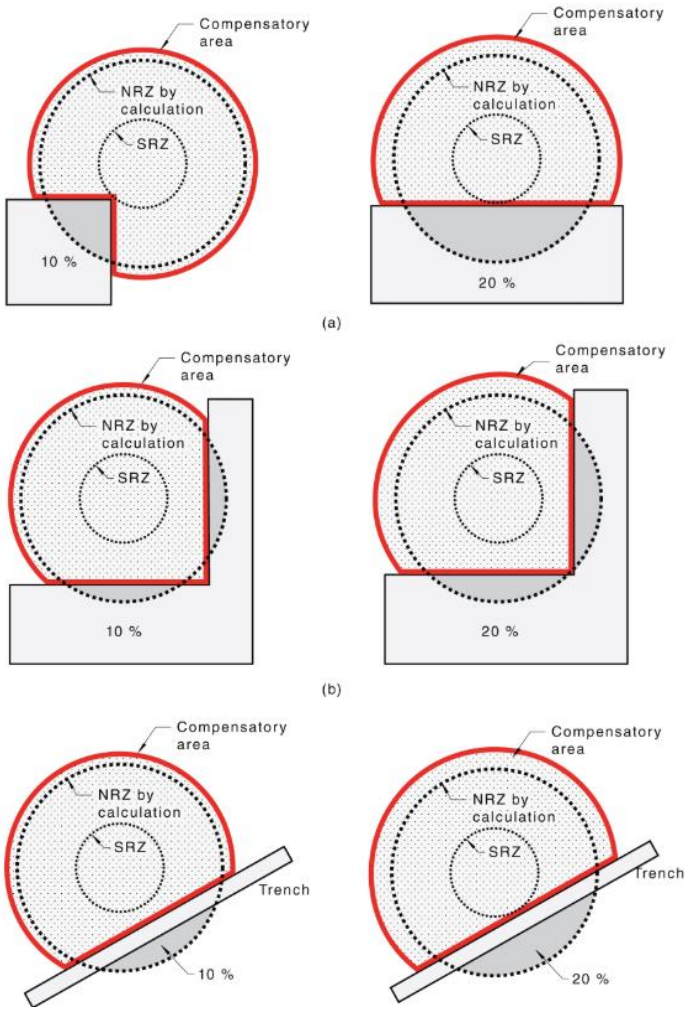
A project arborist shall be engaged to review the proposed impact and undertake any other necessary investigation to address the factors to demonstrate how the tree will remain viable. This may be through the implementation of suitable design measures and construction controls to mitigate impacts during 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 TPZ, 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.

The project arborist shall be engaged to explore alternative designs with the design team and/or demonstrate that the tree will remain viable.

For 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 TPZ, unless the project arborist otherwise demonstrates that the tree will remain viable.



Example of NRZ encroachments.
Source – AS 4970:2025 *Protection of trees on development sites*

7.5 Tree Protection Zones (TPZ)

The TPZ is a restricted area, typically delineated by protective fencing or existing structures such as walls or fences, and documented within the AIA, TPS, and TPP.

Establishment of a TPZ

The TPZ is the primary method for protecting trees on development sites and is usually delineated with tree protection fencing in accordance with AS 4970:2025 (*Protection of Trees on Development Sites*).

- Fencing is installed after permitted vegetation removal and pruning, but prior to site establishment.
- Unless otherwise approved by the relevant authority, fencing should remain in place until all construction activity is complete.

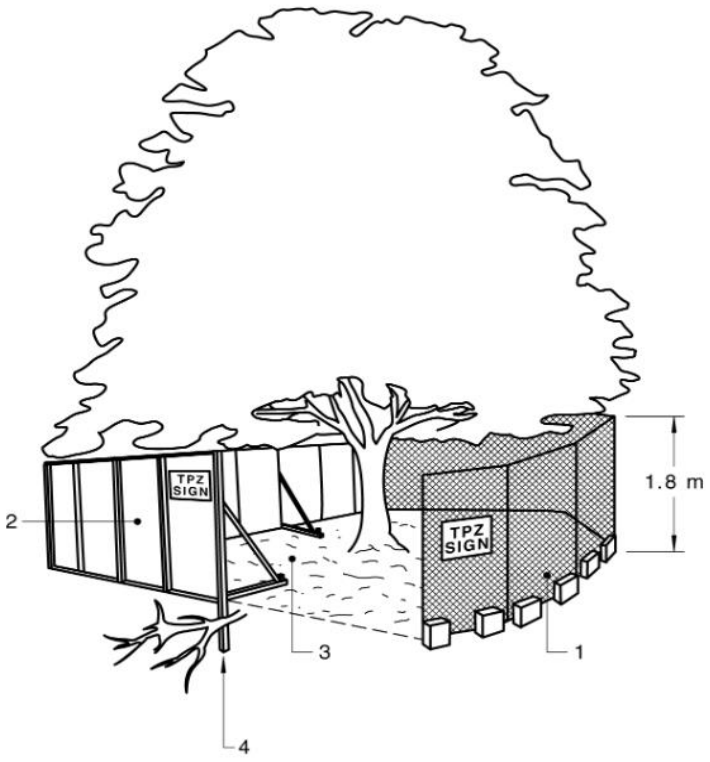
TPZ fencing

- Fencing must be highly visible and act as a physical barrier to construction activities.
- Fences should be clearly signed: "Tree Protection Zone – No Access".
- Fencing must be sturdy and prevent access by vehicles, heavy equipment, workers, and the public.
- Where feasible, fencing should consist of chain wire mesh panels with concrete feet. Alternative protection measures may be used where chain mesh is impractical.

Restricted activities within a TPZ

A TPZ may surround a single tree, a group of trees, or a patch of vegetation. The following activities must **not** occur within a TPZ unless permitted by the Responsible Authority:
(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.

Activities specified in items (a) to (e) may be permitted with appropriate protection measures, as detailed in the TPS and TPP.

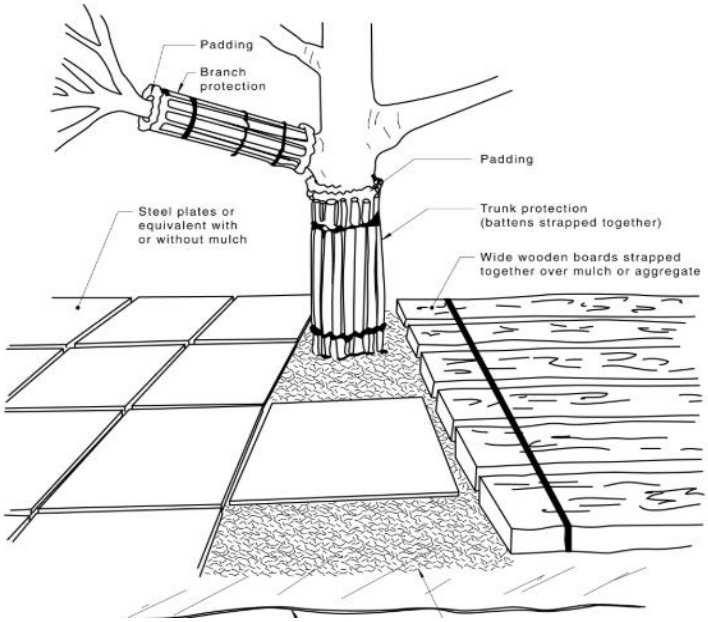


Example of TPZ fencing and signage
Source – AS 4970:2025 *Protection of trees on development sites*

Additional tree protection measures

If temporary access to the TPZ is required, protection of the trunk, branches, or ground may be necessary. Materials and placement should be specified by the project arborist.

- **Foot traffic:** Temporary access may be facilitated using heavy plywood sheets or similar; this is not a long-term solution.
- **Machinery access:** Ground protection should be installed to prevent root damage and soil compaction. Measures may include a permeable membrane (e.g., geotextile fabric) beneath mulch or crushed rock below rumble boards or HDPE track mats. These measures can also be applied to root zones beyond the TPZ.
- **Exposed roots:** Where roots are exposed during approved works, temporary protection should be installed to prevent drying. This may include multiple layers of jute mesh or hessian over the exposed roots and excavated soil profile, extending to the full root depth. Protection sheeting should be pegged in place and kept moist at all times.



Example of trunk and ground protection.
Source – AS 4970:2025 *Protection of trees on development sites*

7.6 Pruning standards

- Pruning should be carried out in accordance with AS 4373:2007 (Pruning of Amenity Trees) by a competent contractor.
- Lopping, as defined by the Standard, is detrimental and can lead to decay and poorly attached epicormic shoots.
- Wherever possible, natural target pruning methods should be used when removing sections of trees.

7.7 Options for reducing impacts to trees

Designing all works outside the NRZ is the preferred method to ensure tree viability post-construction. The following options may mitigate tree damage and facilitate works within NRZs if approved by the Responsible Authority:

Non-destructive investigation

- Air or hydro-excavation can be used to explore the proposed encroached within an NRZ without damaging larger roots.
- These methods should be applied during design to locate roots and during construction to minimise impacts.

Non-destructive digging

Underground boring

- Horizontal boring can used to install underground services without open trenching.
- Entry and exit pits should be outside the NRZ, and boring beneath the NRZ should be at a depth of approximately ≥700 mm to minimise impact.

Horizontal boring

Low impact footing design

- Screwpiles or pier footings with beams above ground or cantilevered can support structures while minimising root disturbance.
- Footings must avoid larger roots (>30 mm diameter) and consider soil type and lost catchment area beneath raised structures.

Low impact footings: i.e. - screwpiles

Bridging over the NRZ

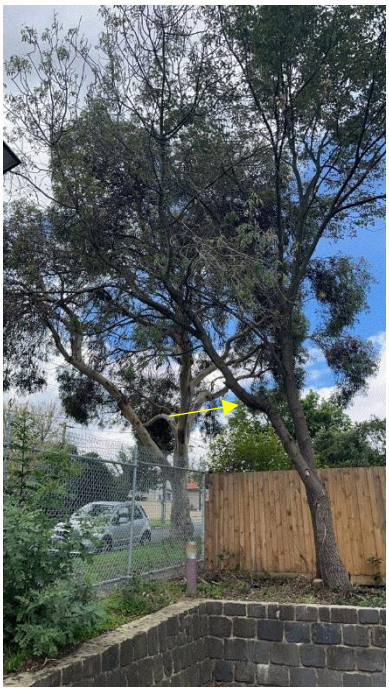
- Raised structures, such as driveways or pathways on posts or screwpiles with cross members, can span the NRZ.
- Footings should avoid larger roots (>30 mm), be engineered for expected loads, and transition to natural grade outside the NRZ where possible.

Bridging over an NRZ

Permeable, porous, and pervious surfaces

- These surfaces allow water infiltration while providing a hard surface.
- Excavation for a subbase layer can impact roots, reducing the benefit of permeable construction.
- Permeable paving is most effective when natural grade is undisturbed and no compacted gravel subbase is installed.
- Soil pH changes from bonding materials should be considered, as they can affect tree health and nutrient availability.

7.8 Photos



Tree 1

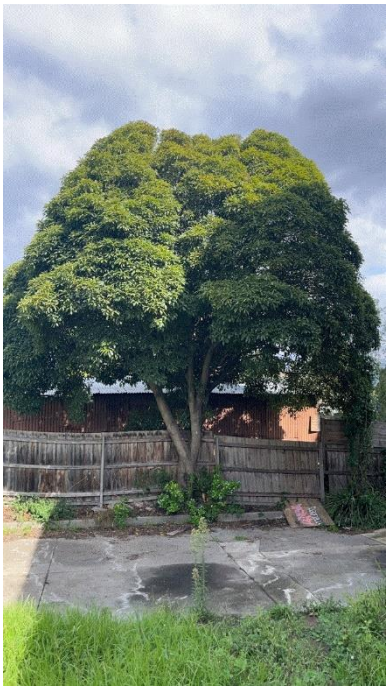
Tree 2

Tree 3

Tree 4

Tree 5

Tree 6

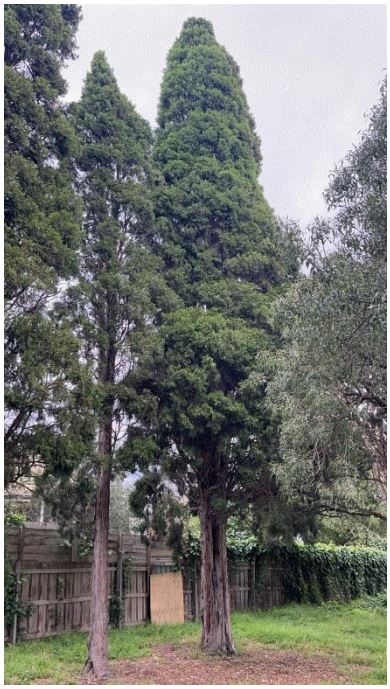


Tree 7

Tree 8

Tree 9

Tree 10



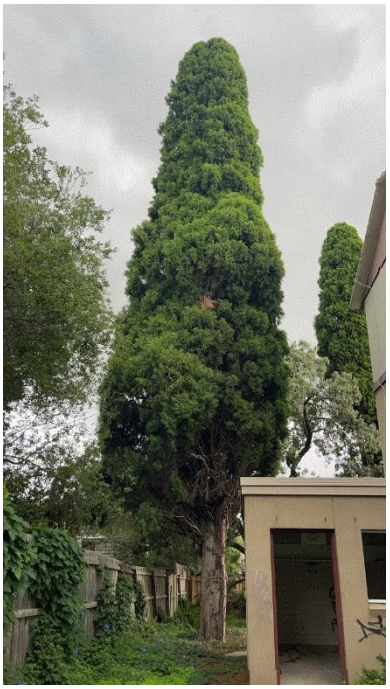
Tree 11

Tree 12

Tree 13

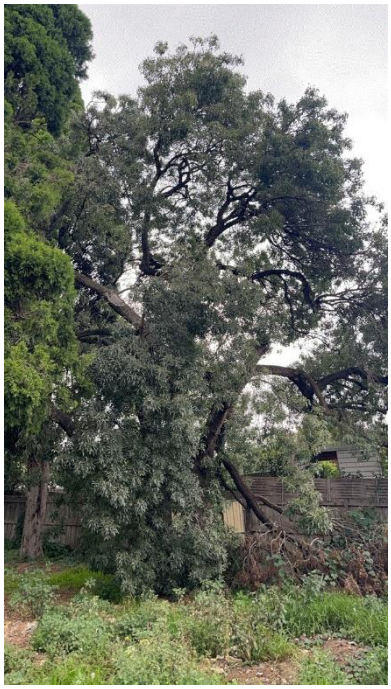
Tree 14

Tree 15

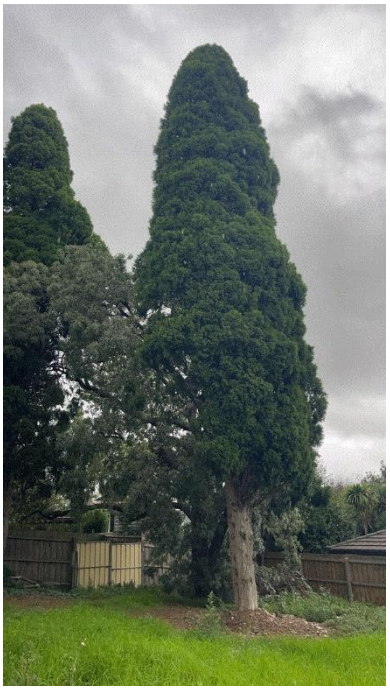


Tree 16

Tree 17



Tree 18



Tree 19

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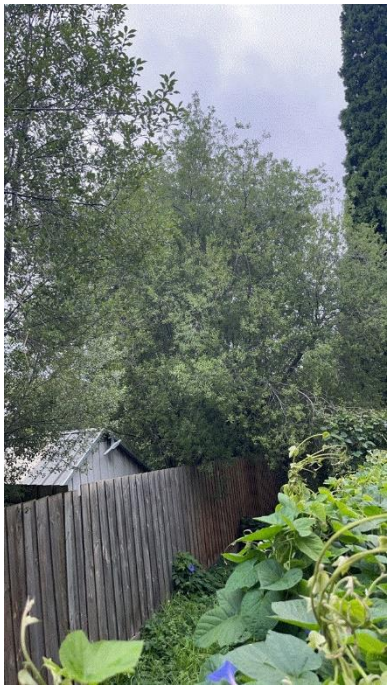
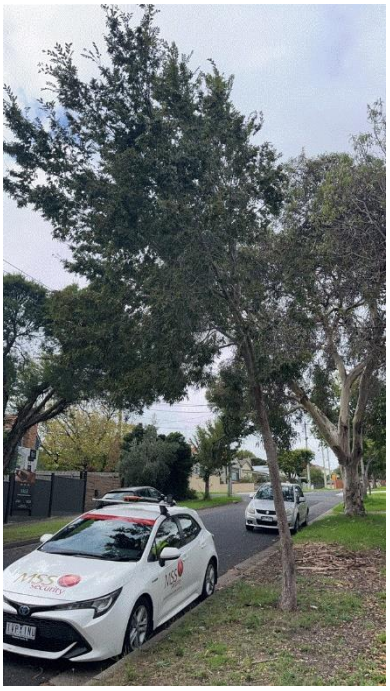


Tree 29

Tree 30



Tree 31

Tree 32

Tree 33

Tree 34

Tree 35

Tree 36