



Arboricultural Impact Assessment

Health Infrastructure – NSW Government
NSW Ambulance Infrastructure Program, Gateshead
75-79 Oakdale Road
Gateshead NSW

5 March 2026

Assessment and report by:

James Cross

BSc Environmental Science & Dip. Hort., Grad cert. (Arb) AQF Level 8

Neil Martin

Dip. Arb., AQF Level 5

5 March 2026

Lael Lim
Assistant Project Director
Health Infrastructure – NSW Government
1 Reserve Road
St Leonards NSW 2065

Arboricultural Impact Assessment Report – NSW Ambulance Infrastructure Program, Gateshead

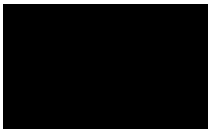
Dear Lael,

We are pleased to provide the following Arboricultural Impact Assessment Report for 23 trees within the property of 75-79 Oakdale Road, Gateshead.

Complete use of this report is authorised under the conditions limiting its use as stated in Appendix A Item 7 of "*Arboricultural Reporting Assumptions and Limiting Conditions*".

Should you have any queries relating to this report, its recommendations, or the options considered please do not hesitate to contact us on 1300 272 671.

Regards,



James Cross

Consulting Arborist
BSc Environmental Science & Dip. Hort., Grad cert. (Arb) AQF Level 8

Version	Date	Author	Rationale
1	5 March 2026	James Cross	First Issue

Table of Contents

1	Executive summary	1
	Section 1 – Arboricultural Impact Assessment.....	2
2	Introduction	2
3	Scope.....	2
4	Methodology	2
5	Observations.....	4
5.1	Proposed construction.....	4
5.2	Location.....	5
5.3	The subject trees	6
5.4	Tree retention values.....	8
5.5	Botanical and environmental status	8
6	Discussion	9
6.3	Background biology.....	9
6.4	Potential adverse effects of development on trees	10
6.5	Determining NRZ encroachment.....	11
6.6	Impact of proposed development.....	12
6.7	Tree removal	13
	Section 2 – Tree protection specifications.....	14
7	Introduction	14
7.3	Tree retention	14
7.4	Underground service installation.....	15
8	References	15
	Appendix A. Arboricultural reporting assumptions and limiting conditions.....	16
	Appendix B. Explanation of tree assessment terms.....	17
	Appendix C. Tree retention values	20
	Appendix D. Generic protection and reporting measures	22
	Appendix E. Tree assessment data.....	25
	Appendix F. Tree protection plan	26

1 Executive summary

- 1.1 The following is an Arboricultural Impact Assessment Report regarding 23 trees located within, or adjacent to the grounds of 75-79 Oakdale Road, Gateshead. The subject site was identified by Health Infrastructure – NSW Government (hereinafter referred to as the client) as possessing trees that may be impacted upon by proposed construction of a new Ambulance Station, as well as associated carparking and driveway upgrades, across the existing block which consists of a warehouse structure, gravel driveways and hardscapes intended for parking vehicles.
- 1.2 In part, the project scope was to nominate the subject trees that are suitable for retention/preservation, or require removal to facilitate the proposed development works, as well as identify and reduce potential conflicts between the subject trees and proposed site development. Accurate information on the area required for tree retention and methods/techniques suitable for tree protection during demolition and/or construction have been provided.
- 1.3 Nine trees were recommended for retention, with site exclusion using the existing perimeter fence being the main protection measure to be employed to ensure minimal long-term impacts are incurred.
- 1.4 As all nine retained trees are external to the development site it is considered further arborist involvement in the project would be redundant.
- 1.5 Tree retention status in relation to the proposed development (refer to Section 5.4 for full details of Retention Value categories):

RV	Description	Total	Remove		Retain	
			located within development footprint	irrespective of future development	with specific protection	with generic protection
A	High retention value trees	2	23			7
B	Moderate retention value trees	7	14, 17			1, 2, 6, 8, 35
C	Low retention value trees	13	9, 10, 11, 13, 15, 16, 18, 19, 20, 22			3, 4, 5
U	Trees to be removed irrespective of proposed development	1		21		

- 1.6 Appropriate planning and protection of trees can have a positive impact on long term tree health and retention on development sites. Any negative impacts of development design, planning, and supervision are cumulative and are easier to prevent than to remediate. In many cases, remediation is not possible. The best way to ensure the long-term retention of established trees is to follow the process outlined in this report.

Section 1 – Arboricultural Impact Assessment

2 Introduction

- 2.1 Civica ArborSafe was engaged by Lael Lim on behalf of the client to complete an Arboricultural Impact Assessment Report on 23 trees located within or adjacent to the proposed Gateshead Ambulance Station at 75-79 Oakdale Road, Gateshead.
- 2.2 The report has been requested as part of a Development Application (DA) that involves the proposed demolition of the existing hardscapes and driveways and the construction of a new Ambulance Station, carparking and driveways over most of the site.
- 2.3 The report was intended to provide information on the subject trees and how they may be impacted upon by the proposed development works. Report findings and recommendations are based upon guidance provided within the Australian Standard AS 4970:2025 *Protection of Trees on Development Sites*.
- 2.4 Observations and recommendations are based upon information provided by the client and an arborist site visit.

3 Scope

- 3.1 Carry out a visual assessment of the nominated trees located within the vicinity of the proposed development works, including trees located within neighbouring properties and Council administered road verges.
- 3.2 Provide an objective appraisal of the subject trees in relation to their species, estimated age, health, structural condition, useful life expectancy (ULE) and viability within the existing landscape.
- 3.3 Based on the findings of the visual assessment, provide independent recommendations on the retention value of the subject trees.
- 3.4 Identify the subject trees that are retainable or require removal to facilitate the proposed development as shown in the plans provided.
- 3.5 Identify and reduce potential conflicts between the retainable subject trees and the proposed site development by providing accurate information on the area required for successful tree retention and methods/techniques suitable for tree protection during demolition and/or construction.

4 Methodology

- 4.1 Neil Martin of Civica ArborSafe carried out a site inspection of the subject trees on 24 February 2026.
- 4.2 Trees that are the subject of this report (Figure 3) were identified during discussions with the client, reviewing relevant supplied development documentation and reviewing the description of a non-exempt 'Tree' as identified within the Lake Macquarie City Council relevant documentation.
- 4.3 The subject trees were inspected from the ground using the initial component of Visual Tree Assessment (VTA) (Mattheck, 1994). No foliage or soil samples were taken and no aerial, underground or internal investigations were undertaken.
- 4.4 Tree height and crown width were estimated and have been provided in a variety of ranges with 5 metre increments. Trunk diameter at standard height (DSH) and trunk diameter at the root crown (DRC) were measured with a diameter tape and provided to the nearest centimetre. The physical dimensions of trees located on neighbouring properties have been estimated due to restricted access.

- 4.5 Tree data was imported into QGIS in combination with aerial imagery and provided plans to provide accurate spatial calculations for TPZ/SRZ encroachments.
- 4.6 Environmental and heritage information was sourced from the NSW Central resource for Sharing and Enabling Environmental Data (SEED) mapping tool. The source of all information in this regard has been referenced accordingly.
- 4.7 Data collected on site was analysed alongside the supplied development documentation and plans by James Cross, following which relevant findings and recommendations were formulated and collated into report format.
- 4.8 Notional root zones (NRZ) and Structural root zones (SRZ) were calculated in accordance with the Australian Standard AS 4970:2025 *Protection of Trees on Development Sites* (refer to Appendix B). It is important to note the NRZ is a theoretical calculation used as a trigger to gauge the level of arborist involvement for individual trees.
- 4.9 The Tree Protection Zone (TPZ) is the area above and below ground set aside for the protection of the roots and crown during development (refer to Appendix B). The TPZ is assigned by the assessing arborist and may differ from the NRZ. The TPZ can be influenced by various existing site/physical constraints, proposed development (such as buildings, drainage channels, retaining walls, etc.) and species considerations (Standards Australia, 2025).
- 4.10 Retention values have been determined based upon a modified version of the British Standard BS 5837:2012 *Trees in Relation to Design, Demolition and Construction*.
- 4.11 All photographs were taken at the time of the site inspection by the author and may have been altered for brightness, contrast, or have been cropped.
- 4.12 Plans of the existing site and of the proposed development were provided to Civica ArborSafe in March 2026.
- 4.13 No proposed underground service locations have been reviewed in the preparation of this report.

5

5.1

5.1.1

- Demolition of existing hardstand,
- Site preparation works,
- Construction of a new single storey ambulance station for fourteen (14) ambulances bays,
- Provision of staff amenities and storage spaces,
- Thirteen (13) external car parking spaces plus one (1) accessible space, for operational and staff use,
- Ambulance wash bay,
- Stormwater and utilities works to support operational needs,
- Landscaping works,
- Double driveway access to Oakdale Road.

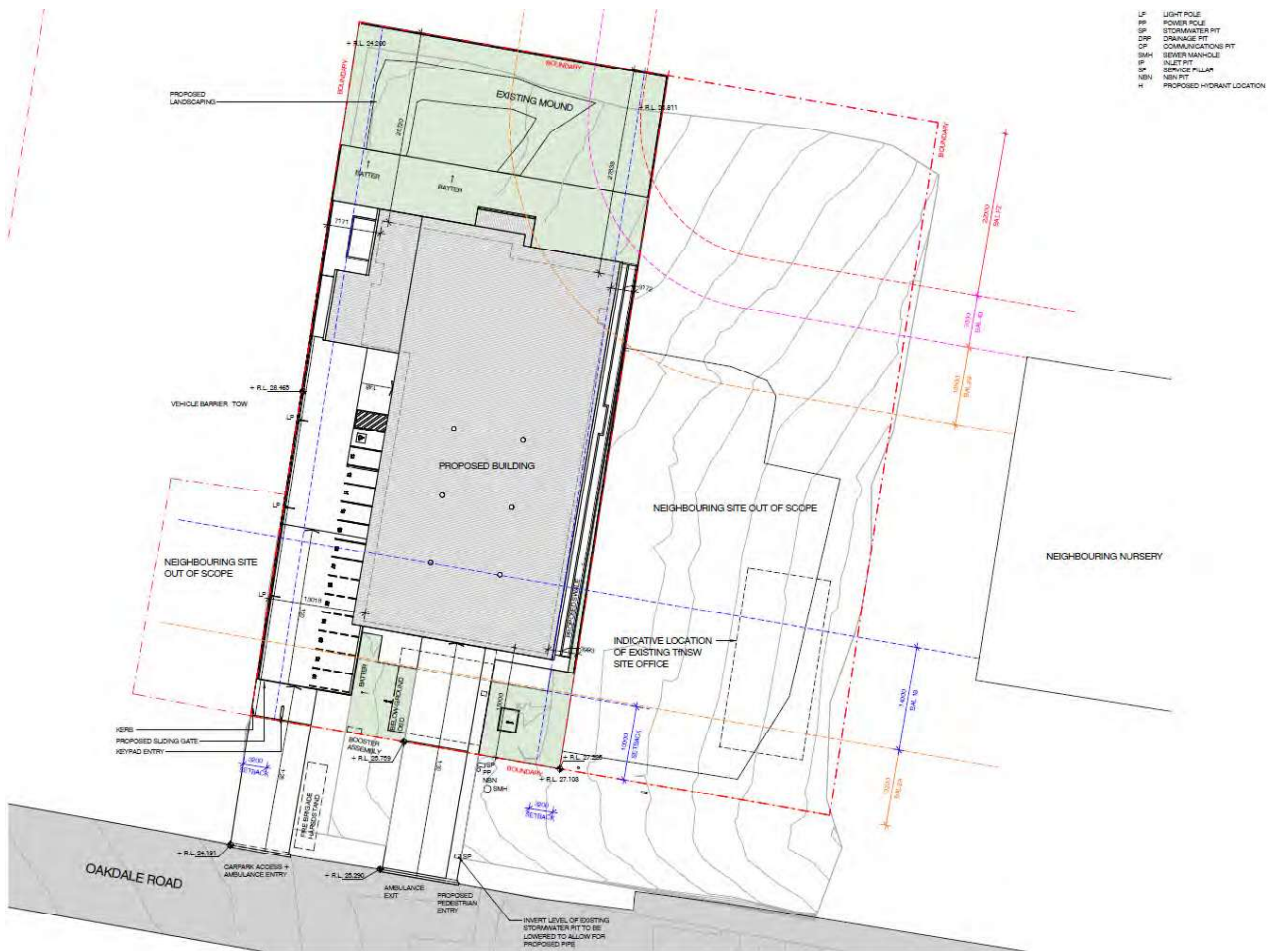


Figure 1. Excerpt from Site Plan (Dwg. No. AR-0101, Rev. E). djrd, 20 August 2025.

5.1.2

- AIP – Ambulance Infrastructure Program, Gateshead, Drawing package, Project No. 24_424, Rev. G. djrd, 28 November 2025.

5.2 Location

- 5.2.1 The Gateshead site is located on Oakdale Road, Gateshead, within the Lake Macquarie local government area. The land is legally described as Lot 101 in DP 1318933. The property is zoned E4 General Industrial and has direct frontage to Oakdale Road, which provides vehicular access via a driveway situated along the site's southern boundary. The land is relatively level and contains limited existing vegetation, offering a suitable site for development of the proposed ambulance facility.
- 5.2.2 The site was previously owned by Transport for NSW and formed part of the Gateshead Depot. The site was previously used as a storage area for various pieces of road related equipment (e.g. signage, asphalt stockpiles etc) and for parking of traffic control vehicles.
- 5.2.3 Surrounding land uses within the industrial zone to the east and west consist predominantly of warehousing, storage facilities, and vehicle repair workshops. The adjoining site to the east remains in use by Transport for NSW for the Gateshead Depot. Further east is a landscape supplies business with an associated cafe. To the north and further south, the site adjoins land zoned C2 Environmental Conservation, characterised by dense bushland and established walking trails, with scattered parcels of RU6 Transition land interspersed within the broader C2 zoned area.
- 5.2.4 The subject trees were located along the Council road verge to the south of site, within or adjacent to the site boundaries.



Figure 2. Whole site image (location). Red lines delineate the site and area containing the subject trees that may be impacted by the proposed development works. Nearmap, 2025.

5.3 The subject trees

- 5.3.1 The subject trees (Figure 3) can be identified on site using white tree tags which are typically located approximately 2.0m from ground level on the south side of the trunk. Trees located on neighbouring properties or council administered road verges may not have been tagged.
- 5.3.2 The majority of trees are considered to be planted stock, or possibly self-sown from local provenance seed, with no significant remnant trees identified.
- 5.3.3 Nine species were identified across the site with the most prevalent being *Angophora costata* (Smooth-barked Apple Myrtle), *Liquidambar styraciflua* (Sweet Gum) and *Callistemon viminalis* (Weeping Bottlebrush).
- 5.3.4 Twelve species on site were native to Australia and the remaining 11 being exotic species.
- 5.3.5 The treescape is relatively young with twelve (52.2%) of the existing surveyed trees rated as semi-mature and seven trees (30.4%) being in the young/juvenile category. Four trees (17.4%) were rated as mature specimens.
- 5.3.6 The most significant tree observed on site was Tree 23, a mature example of *Jacaranda mimosifolia* (Jacaranda) (Figure 4). The exotic deciduous tree is thriving within the growing environment, displayed good health, with full crown density, leaf colour and size typical of this species. The dominant landscape feature is significant due to its size, best showcased by a trunk diameter of 80 centimetres and a crown spread of 15-20 metres. Although Tree 23 has great prospects for longevity, with a useful life expectancy of 25-50 years, and was allocated a Category A retention value, it is situated in the middle of the proposed building footprint and therefore requires removal for the project to proceed.
- 5.3.7 A row of seven *Angophora costata* (Smooth-barked Apple Myrtle) located to the south of site within the Council road verge are of varying heights, health and forecasted longevity due to existing defects. Trees 2, 7 and 8 are performing the best, outcompeting the other specimens within the row and are projected to have a useful life of 25-50 years.
- 5.3.8 Situated in the south-west corner of site are five *Liquidambar styraciflua* (Sweet Gum), four of which are likely to have self-seeded from the larger Tree 17. All of these trees were exhibiting similar defect attributes of crossing/rubbing branches and epicormic growth. All five trees are situated within the proposed building footprint and require removal for the project to proceed.



Figure 3. Site map showing the subject trees. Note that icon colour indicates a tree's current risk rating (not Retention Value). Tree attributes can be obtained from Appendix E – Tree Assessment Data. ArborSafe, February 2026.



Figure 4. An image showing the growing environment around Tree 23. Neil Martin, February 2026.

5.4 Tree retention values

- 5.4.1 Tree retention values have been determined based upon a modified version of the British Standard BS 5837:2012 *Trees in Relation to Design, Demolition and Construction*. This standard categorises tree retention value, based upon an assessment of a tree's quality (health and structure) and useful life expectancy, into one of four categories – A, B, C and U. Refer to Appendix C for further details.
- 5.4.2 Other criteria such as a tree's physical dimensions, age class, location and its amenity, heritage and/or environmental significance and potential replacement time were also considered. A breakdown of the attributes required for classification in each category can be obtained from Appendix C.

Category	Tree numbers
A – High	7, 23
B – Moderate	1, 2, 6, 8, 14, 17, 35
C – Low	3, 4, 5, 9, 10, 11, 13, 15, 16, 18, 19, 20, 22
U – Nil	21

5.5 Botanical and environmental status

- 5.5.1 The subject trees were considered to be common species within the local area and as such held limited botanical significance.
- 5.5.2 A review of SEED for the subject site returned no mapped overlay areas regarding tree protection and/or significant plant communities (NSW Government, 2026).

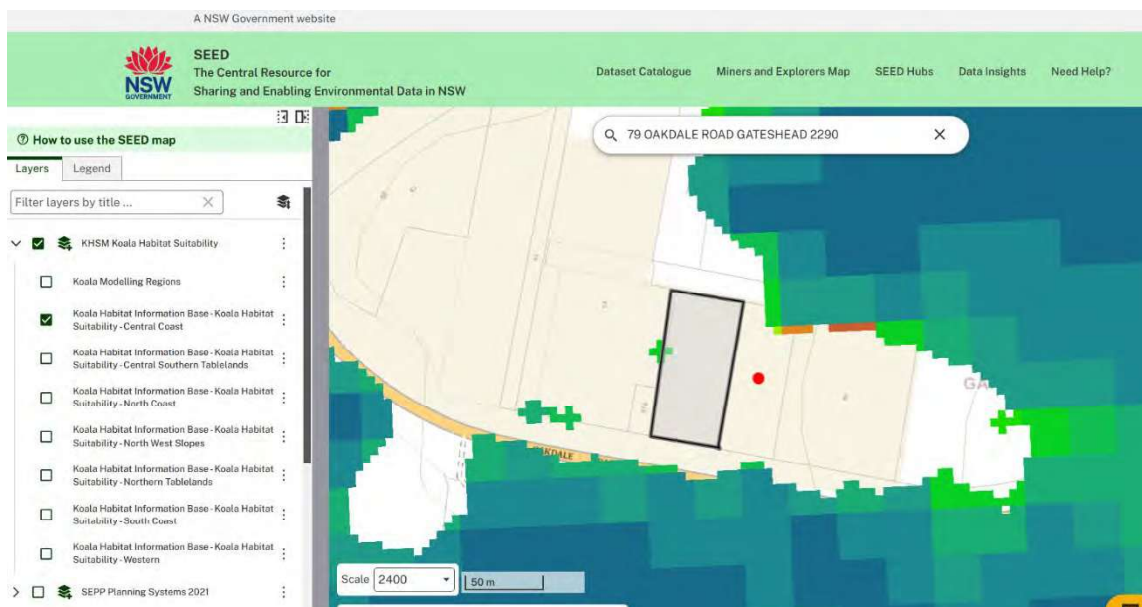


Figure 5. Excerpt of SEED map, Koala Habitat Suitability displayed in green/blue. SEED, 2026.

6 Discussion

- 6.1 Established trees of good health and structure represent an asset to any development. Trees may be retained for their health benefits to people, their ecological benefits, their aesthetic features, the shade they provide, the scale that they will give to new building, or their historical value.
- 6.2 Trees are living organisms that require appropriate environmental conditions to maintain their value as an asset. If the value of trees is to be retained, all reasonable steps should be taken to ensure that damage to trees on a development site is avoided. This means that trees should be considered and protected at every development step, from planning to completion.

6.3 Background biology

6.3.1 General

- 6.3.2 Trees consist of three main parts: the root system, the trunk and woody stems, and the crown of leaves supported by smaller branches. Each part carries out specific functions necessary for the tree's survival. A tree is in a state of physiological equilibrium between the above-ground and below-ground sections. If one of these sections is damaged, the entire tree will suffer, and symptoms can appear in any part of the tree.

6.3.3 Roots

- 6.3.4 The main functions of roots include the uptake of water and solutes, anchorage, storage of carbohydrate reserves and the production of some plant hormones. Roots require oxygen to function. The root system of trees consists of several types of roots. Roots often extend beyond the crown projection (Figure 6). Because roots are not readily seen, their importance is easily misunderstood or ignored. Damage to the root system is the most common injury during development. The impact of root damage can lead to the decline or death of a tree.
- 6.3.5 Root growth is responsive to favourable soil conditions. The most limiting factor for root growth is often water. Soil compaction impacts the availability of water and oxygen. Roots extend downwards and outward from the trunk and occupy irregularly shaped volumes. Roots can extend from the trunk to two or more times the height of the tree. Depths of the roots can also be variable based on a range of factors.
- 6.3.6 Root systems consist of three main parts:
- the structural roots (anchorage, storage and transport)
 - woody roots (storage, transport, support of absorbing roots, and hormone production)
 - absorbing (non-woody) roots (absorption of water and solutes, hormone production).
- 6.3.7 Root density declines with soil depth in most species of trees on slower-draining soils. On faster-draining soils, the roots of many species will be deeper. The vast majority of these roots are small, woody and absorbing (non-woody) roots. Absorbing roots are typically at their highest density towards the outside the crown projection of the tree and, in some soils, closest to the surface. These smaller roots are delicate and very vulnerable to injury.

6.3.8 Trunks and branches

- 6.3.9 Trunks and branches are composed of specialised tissues, including the following:
- bark (protection)
 - phloem (transport of carbohydrates up and down the tree)
 - vascular cambium (secondary thickening of the woody parts of the tree (trunk, stems, branches and roots); formation of new phloem)
 - sapwood (physical support; transport of water and solutes from the roots; containing living cells as axial and radial parenchyma)
 - heartwood (waste storage; additional structural support).

6.3.10 Damage to branches or trunks could allow infection by plant pathogens (disease-causing organisms such as decay fungi), disrupt the movement of vital materials and structurally weaken the tree.

6.3.11 Foliage

6.3.12 The main function of a tree's foliage is the production of carbohydrates (photosynthesis) and the transpiration stream (driving water movement and the tree's cooling process). These carbohydrates are the 'food' used by trees and provide all the energy required for the tree to function. Anything that directly or indirectly damages the foliage will interfere with photosynthesis.

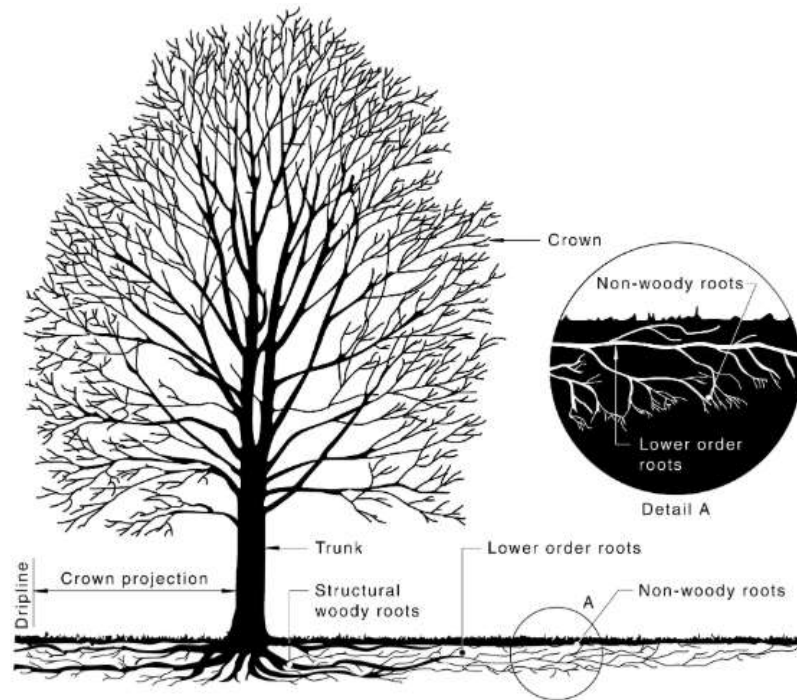


Figure 6. Structure of a tree in a normal growing environment. AS4970:2025, May 2025.

6.4 Potential adverse effects of development on trees

6.4.1 Injury to any part of the tree can detrimentally affect its health or structural stability. The following clauses consider the potential impact of stress on the functioning of each main section of the tree and highlight the specific protective measures that should be undertaken to avoid this.

6.4.2 Crown damage

6.4.3 Foliage and branches are often lost or damaged on development sites by pruning or mechanical injury caused by construction equipment. Removing foliage reduces the level of photosynthesis and inhibits the production of carbohydrates. This may reduce the tree's capacity to function normally and to withstand stresses imposed by a change in its environment.

6.4.4 Incorrect pruning techniques, such as lopping or flush cutting, cause greater damage than properly made cuts, as detailed in AS 4373:2007 *Pruning of Amenity Trees*. Similarly, mechanical damage to branches by machinery, etc., will also create wounds. Any wound places an additional risk of complication on trees that could be stressed during construction.

6.4.5 Trunk damage

6.4.6 Trunks of trees can be wounded by machinery and mechanical equipment during demolition and construction work. This not only predisposes a tree to potential decay, but it also interferes with the transport of water, solutes and storage of carbohydrates. Over time, large wounds can decay and structurally weaken the tree.

6.4.7 Root damage

6.4.8 Root damage is the most common cause of damage to trees on development sites. Roots can be damaged in the following ways:

- removal during grading, excavation and trenching
- mechanically wounded, crushed or torn
- soil compaction limiting water and gas exchange
- soil build-up, causing a soil interface (perched water table)
- using impermeable materials over the surface
- chemical contamination of the soil by solvents and other waste products, such as fuel, oil, diesel, herbicides, paint, cement wash out etc.
- changes in soil moisture levels through alteration of drainage patterns and surface water flow.

6.4.9 Apart from the actual removal of roots during excavation or trenching, soil compaction is one of the major causes of root damage on development sites. Compaction is defined as the loss of large pore spaces (macropores) within the soil with a net loss of total pore space. Macropores are essential for the exchange of gases between the soil air and the atmosphere (aeration), the movement of water into the soil (percolation) and the removal of excess water from the soil (drainage).

6.4.10 Compaction results from loads applied to the soil. Foot traffic and vehicle movements can compact soils. Vehicles can cause significant compaction to depths of 15 to 20 centimetres (the soil in which many absorbing roots are located). The degree of compaction will depend on the pressure exerted, the number of movements, soil moisture levels and clay content.

6.4.11 Soil compaction can also reduce aeration (oxygen levels decrease) and cause a reduction in beneficial soil organisms (including mycorrhizal fungi).

6.4.12 The effects of root loss or damage by any means could include the following:

- loss of stability if structural woody roots are cut
- reduction in water and solute uptake
- reduced leaf size or loss of leaves, resulting in reduced photosynthesis
- decay caused by wounding
- predisposition to soil-borne pathogens.

6.4.13 Root damage can cause instability, decline and death of a tree.

6.5 Determining NRZ encroachment

6.5.1 **Major encroachment.** As per the Australian Standard AS 4970:2025 *Protection of Trees on Development Sites*, a major encroachment into the NRZ of any tree is considered to occur when it is beyond 20 percent of the NRZ or inside the SRZ.

6.5.2 Trees subject to major encroachment may require removal or, in certain instances, may be retained with specific protection requirements throughout the construction stage.

6.5.3 **Moderate encroachment.** Under the aforementioned standard, a moderate encroachment is considered to be greater than 10 percent and less than or equal to 20 percent of the area of the NRZ and is outside of the SRZ.

6.5.4 Trees subject to moderate encroachment may require removal or may be retained, provided that specific or general protection measures are implemented throughout the construction phase. In such cases, a clear and justified demonstration must be provided to confirm the tree's viability during and after development.

- 6.5.5 **Minor encroachment.** Under the aforementioned standard, a proposed encroachment is considered minor if it is less than or equal to 10 percent of the area of the NRZ, has not had recent NRZ encroachments and is outside of the SRZ.
- 6.5.6 Trees subject to minor encroachment may be retained with specific, generic or no protection requirements throughout the construction stage.
- 6.5.7 **No encroachment.** Trees with no encroachment may be retained with generic or no protection requirements throughout the construction stage.
- 6.5.8 For the purposes of this report, trees to be removed or retained have been identified as those:
- Requiring removal due to a level of encroachment into their NRZ that would likely result in a detrimental impact upon their future health and/or stability.
 - Retainable and requiring specific crown and/or root protection requirements throughout the development cycle (i.e. generic requirements plus a combination of arborist supervision and careful construction methods within their NRZ).
 - Retainable and requiring generic tree protection measures only (i.e. protective fencing and restriction of activities within the NRZ).

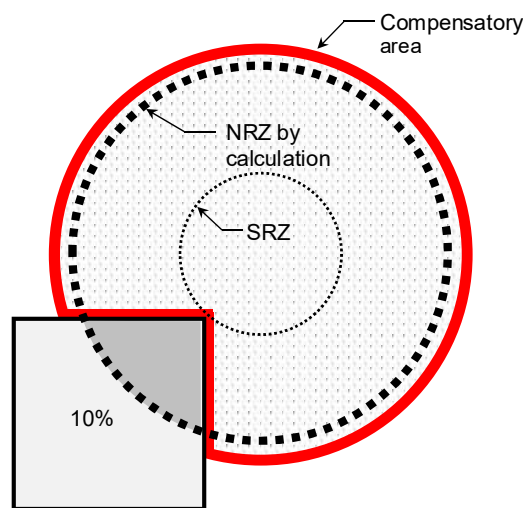


Figure 7. Sample (not to scale) of minor/moderate encroachment. AS4970:205, May 2025.

6.6 Impact of proposed development

- 6.6.1 A review of the proposed design has been undertaken in the context of tree retention and removal across the site.
- 6.6.2 All thirteen trees situated within the property will be impacted by direct conflict with the proposed construction footprint and would require removal under the current design. To retain any of these trees a redesign or relocation of the development would be required.
- 6.6.3 Nine trees, all situated external to the development property on the Council verge or within an adjacent property can be retained with generic protection centred around exclusion from the development site. This means the trees have zero impact from the proposed development and as long as all works are contained inside the existing site perimeter fencing no further protection measures should be required.



Figure 8. An image of the NRZ calculation for Trees 9-22 with the red hash showing encroachment of proposed build. Civica ArborSafe, March 2026.

6.7 Tree removal

- 6.7.1 Thirteen trees would require removal, based on the supplied design proposal, to facilitate the development.
- 6.7.2 One tree is recommended to be removed irrespective of development (Category U) due to poor health and/or structure.

Recommendation	Category A High retention value		Category B Moderate retention value		Category C Low Retention value		Category U No retention value	
	Qty	Tree numbers	Qty	Tree numbers	Qty	Tree numbers	Qty	Tree numbers
Remove for development	1	23	2	14, 17	10	9, 10, 11, 13, 15, 16, 18, 19, 20, 22	0	
Remove irrespective of development	0		0		0		1	21



Figure 9. Site map showing trees requiring removal. ArborSafe, February 2026.

Section 2 – Tree protection specifications

7 Introduction

7.1 This section of the report provides the Tree Protection Specifications (TPS) on all trees deemed retainable post development. The protection specifications will be broken up into recommendations to be undertaken (if required), before, during and after the proposed construction works. These include:

- pre-construction activities
- demolition/construction activities
- post construction activities.

7.2 All the recommendations made within the TPS are congruent with the Australian Standard AS 4970:2025 *Protection of Trees on Development Sites* and as such it would be beneficial if all parties involved with the management of this project obtain a copy of, and are familiar with, this document.

7.3 Tree retention

7.3.1 Nine trees, all situated external to the development property on the Council verge or within an adjacent property, can be retained with generic protection centred around exclusion from the development site i.e. as all construction works are contained inside the existing site perimeter fencing no further protection measures or arborist involvement should be required.

Recommendation	Qty	Tree numbers
Retain with generic protection requirements	9	1, 2, 3, 4, 5, 6, 7, 8, 35

7.3.2 Refer to Appendix F – Tree protection plan for location and details of retained trees.



Figure 10. Site map showing all retained trees requiring generic protection measures. ArborSafe, February 2026.

7.4 Underground service installation

- 7.4.1 The installation of underground services (including drainage) must not encroach within the TPZ of any of the retained trees. If the final design specifies encroachment further advice must be sought from a suitably qualified arborist to gauge the impact to the trees and provide advice on mitigation measures.

8 References

- Mattheck, C. a. B. H., 1994. *The Body Language of Trees: A Handbook for Failure Analysis*. H. M. Stationery Office: University of Michigan.
- NSW Government, 2026. *SEED - Sharing and Enabling Environmental Data*. [Online] Available at: https://geo.seed.nsw.gov.au/Public_Viewer/index.html?viewer=Public_Viewer&locale=en-AU [Accessed February 2026].
- Standards Australia, 2007. *AS 4373:2007 Pruning of Amenity Trees*, GPO Box 476 Sydney NSW 2001: Standards Australia.
- Standards Australia, 2025. *AS 4970:2025 Protection of Trees on Development Sites*, GPO Box 476 Sydney NSW 2001: Standards Australia.
- The British Standards Institution, 2012. *BS 5837:2012 Trees in Relation to Design, Demolition and Construction*, London: BSI Standards Limited.
- Urban, J., 2008. *Up By Roots - Healthy Soils and Trees in the Built Environment*. Champaign (Illinois): International Society of Arboriculture.

Appendix A. Arboricultural reporting assumptions and limiting conditions

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

Appendix B. Explanation of tree assessment terms

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

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

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

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

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

Diameter at Standard Height (DSH): Refers to the tree's estimated trunk diameter measured 1.4m from ground level for a single trunked tree. These estimates increase in 50 millimetre increments. Where required DSH will be measured to give an accurate measurement for single trunked trees, trees with multiple trunks, significant root buttressing, bifurcating close to ground level or trunk defects and will be measured as per the Australian Standard AS 4970:2025 *Protection of Trees on Development Sites*.

Notional Root Zone (NRZ): Encroachment into the NRZ is the primary trigger for arboricultural input on a development site. NRZ is a theoretical calculation which is a specified area above and below ground at a given distance measured radially away from the centre of the tree's trunk. The radius of the NRZ is calculated by multiplying the tree DSH by 12. NRZ radius = DSH × 12. (Note "Standard Height" is nominally measured as 1.4m from ground level). (Standards Australia, 2025).

Tree Protection Zone (TPZ): The TPZ is a specified area, above and below ground, set aside to provide protection of the roots and crown to enable the ongoing viability and stability of a retained tree where it is potentially subject to damage during development.

The TPZ may differ from the NRZ as it considers relevant factors such as:

- Location and distribution of the roots.
- Potential loss of root mass resulting from the encroachment (number of roots and diameter of roots).
- Tree species and tolerance to root disturbance.
- If the works will result in a temporary (e.g. service trench) or permanent (e.g. basement car park) loss of available soil volume.
- Age, health, current size and projected size of the tree.
- Presence of other trees with overlapping NRZ or grafted roots.
- Proposed staging and timing of excavation or root cutting.
- Proposed tree maintenance and tree care activities.

Structural Root Zone (SRZ): The area close to the base of a tree required for the tree's anchorage and stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright. The SRZ is nominally circular with the trunk at its centre and is expressed by its radius in metres. A larger area is required to maintain a viable tree. The SRZ shall be calculated when major encroachment (greater than 20%) into an NRZ is proposed.

Many factors affect the size of the SRZ (e.g. tree height, crown area, soil type, soil moisture). Natural or built structures, such as rocks and footings, can also influence the SRZ. An indicative SRZ radius can be determined from the trunk diameter measure immediately above the root buttress using the following formula. Root investigation can provide more information on the extent of these roots.

SRZ Radius = $(D \times 50)^{0.42} \times 0.64$, where D equals the trunk diameter measured above the root buttress flare.

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

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

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

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

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

Age: Refers to the life cycle of the tree.

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

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

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

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

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

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

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

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

Appendix C. Tree retention values

Based upon a modified version of the British Standard BS 5837:2012 *Trees in Relation to Design, Demolition and Construction* – Recommendations.

Category and definition	Criteria (including sub-categories where appropriate)		
	1. Arboricultural qualities	2. Landscape qualities	3. Cultural and environmental values
Category A			
Trees of High Quality with an estimated remaining life expectancy of at least 25 years and of dimensions and prominence that it cannot be readily replaced in <20 years.	Trees that are particularly good examples of their species, especially if rare or unusual (in the wild or under cultivation); or those that are important components of groups or avenues.	Trees or groups of significant visual importance as arboricultural and/or landscape features. (e.g. feature and landmark trees).	Trees, groups or plant communities of significant conservation, historical, commemorative or other value (e.g. remnant trees, aboriginal scar trees, critically endangered plant communities, trees listed specifically within a Heritage statement of significance).
Category B			
Trees of Moderate Quality with an estimated remaining life expectancy of 15–25 years and of dimensions and prominence that cannot be readily replaced within 10 years.	Trees that might be included within Category A but are downgraded because of diminished condition such that they are unlikely to be suitable for retention beyond 25 years.	Trees that are visible from surrounding properties and/or the street but make little visual contribution to the wider locality.	Trees with conservation or other cultural value (trees within conservation areas or landscapes described within a statement of significance, locally indigenous species).
Category C			
Trees of Low Quality with an estimated remaining life expectancy of 5–15 years, or young trees that are easily replaceable.	Trees of very limited value or such impaired condition that they do not qualify in higher categories.	Trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural value. Trees that are exempted by the relevant consent authority.
Category U			
Trees in such a condition that they cannot realistically be retained as viable trees in the context of the current land use for longer than 5 years.	Trees that have a severe structural defect that are not remediable such that their failure is expected within 12 months. Trees that will become unviable after removal of other Category U trees (e.g. where for whatever reason the loss of companion shelter cannot be mitigated by pruning). Trees that are dead or are showing signs of significant, immediate and irreversible overall decline. Trees infected with pathogens of significance to the health and or safety of other trees nearby Low quality trees suppressing adjacent trees of better quality. Environmental/noxious/declared/controlled weeds or species categorised as weeds within the local area. Note: Category U trees can have existing or potential conservation value* which might make it desirable to preserve.		

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

Tree quality:

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

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

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

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

Appendix D. Generic protection and reporting measures

All subject trees designated for retention require generic protection during the demolition and/or construction stage. Tree protection measures include a range of:

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

Activities prohibited within the TPZ

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

Protective fencing specification

Tree protective protection fencing is to be installed at the designated TPZ or maximum practicable extent. As a guide fencing is to be erected as per Figure 11 before any machinery or materials are brought to site and before commencement of works (including demolition).

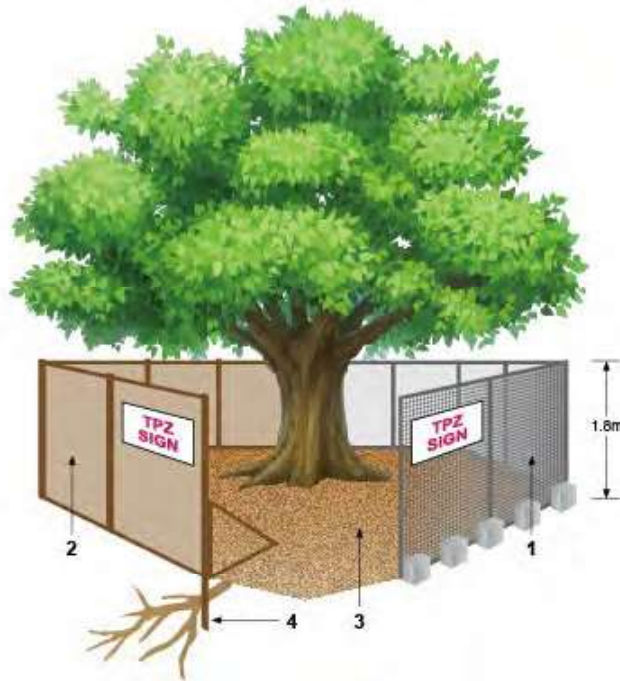
In some areas of the site (i.e. protection of trees on neighbouring properties) existing boundary fencing and/or external site fencing may be used as an alternative to protective fencing.

Once erected, tree protection fencing must not be removed or altered without approval from the project arborist and/or the responsible authority and is to be secured to restrict unauthorised access.

Tree protection fencing is to be a minimum of 1.8 metres high and mesh or wire between posts must be highly visible. Fence posts and supports should have a diameter greater than 20 millimetres and should ideally be freestanding, otherwise be located clear of tree roots.

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

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



Legend:

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

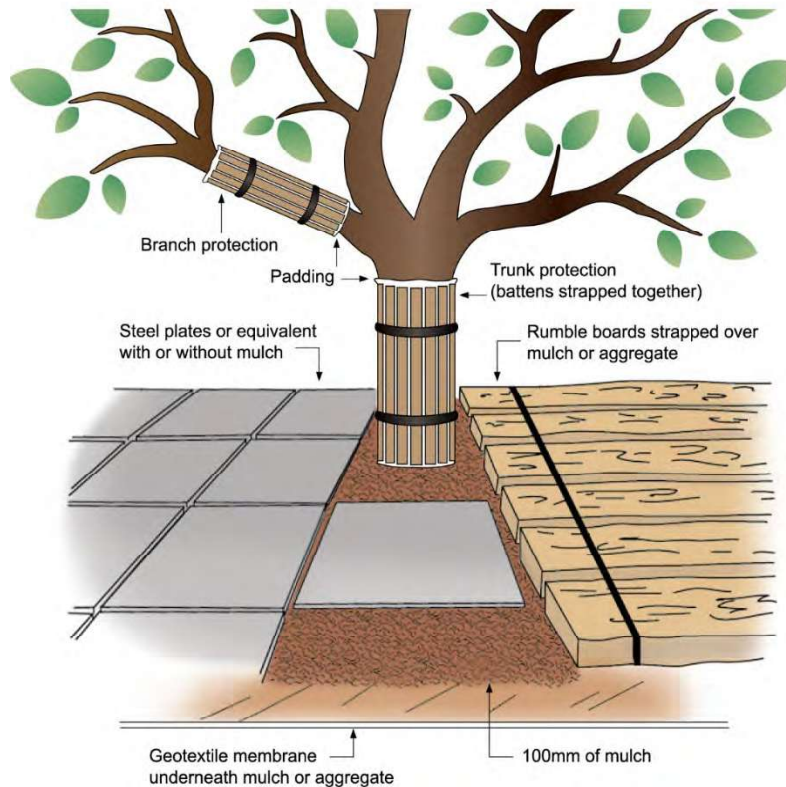
Figure 11. Depicts standard fencing techniques. AS 4970:2025, May 2025.

Trunk and ground protection

Where proposed works are within the TPZ of retained subject trees, standard protective fencing may not always be a viable method of protection. In these instances trunk protection and/or ground protection should be installed prior to the commencement of site establishment and remain in place until after all proposed works have been completed.

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

Trunk and ground protection is to be undertaken in accordance with the Australian Standard AS 4790:2025 *Protection of Trees on Development Sites* as per Figure 12.



Notes:

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

Figure 12. Depicts trunk and ground protection techniques. AS 4970:2025, May 2025.

Tree protection signs

Signs identifying the TPZ, as per Figure 13, are to be placed at approximate 10 metre intervals around the edge of the TPZ fencing and must be visible from within the development site.



Appendix E. Tree assessment data

Tree no.	Eastings (GDA04)	Northing (GDA04)	Botanic Name	Common Name	Origin	Tree ID group	DHC (cm)	Rapid NRZ (m)	Rapid TPZ area (m2)	Rapid SI2 (m)	Tree Height (m)	Crown (m)	Health	Structure	Age	TLE (Yrs)	Defects	Significance	Arboret comments	Encroachment	% NRZ Encroachment	Tree Quality Score	Tree Retention value summary	Recommendation
1	378794.2	6346817.3	<i>Angophora costata</i>	Smooth-Barked Apple Myrtle	Australian Native	1	70	72	8.4	221.67	2.9	10-15	5-10	Good	Fair	Sem-Mature	10-15	Born in shelter, Desiccated/dieback, Suckers, Vascular wilt.	Amenity value/shade	Nil	0	B	2	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
2	378795.06	6346817.87	<i>Angophora costata</i>	Smooth-Barked Apple Myrtle	Australian Native	1	55	58	6.6	136.85	2.6	10-15	5-10	Good	Good	Sem-Mature	25-50	2-dominant stems, Crosscutting/rubbing branches, Desiccated/dieback > 30mm, Poor pruning. Suppressed.	Amenity value/shade	Nil	0	B	2	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
3	378748.72	6346816.83	<i>Casuarina cunninghamiana</i>	River She-oak	Australian Native	1	25	33	3.0	28.27	2.1	5-10	<5	Fair	Fair	Sem-Mature	<5	2-dominant stems, Crosscutting/rubbing branches, Desiccated/dieback > 30mm, Poor pruning. Suppressed.	Amenity value/shade	Nil	0	C		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
4	378748.87	6346816.37	<i>Angophora costata</i>	Smooth-Barked Apple Myrtle	Australian Native	1	25	33	3.0	28.27	2.1	10-15	5-10	Good	Fair	Sem-Mature	25-50	Desiccated/dieback > 30mm, Poor pruning. Suppressed.	Amenity value/shade	Nil	0	C		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
5	378745.9	6346816.45	<i>Angophora costata</i>	Smooth-Barked Apple Myrtle	Australian Native	1	30	40	3.6	40.72	2.3	5-10	<5	Fair	Fair	Sem-Mature	5-10	2-dominant stems, Desiccated/dieback > 30mm, Poor pruning. Suppressed.	Amenity value/shade	Nil	0	C		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
6	378742.3	6346816.82	<i>Angophora costata</i>	Smooth-Barked Apple Myrtle	Australian Native	1	50	63	6.0	113.10	2.7	10-15	5-10	Good	Fair	Sem-Mature	5-10	2-dominant stems, Desiccated/dieback > 30mm, Epicormic growth. Poor pruning. Suppressed.	Amenity value/shade	Nil	0	B	2	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
7	378737.4	6346820.32	<i>Angophora costata</i>	Smooth-Barked Apple Myrtle	Australian Native	1	110	120	13.2	547.39	3.6	15-20	10-15	Good	Fair	Mature	25-50	Several stems, 2-dominant stems, Desiccated/dieback > 60mm, Epicormic growth. Poor pruning. Reen evaluation/encroachment. Suckers.	Amenity value/shade	Nil	0	A	2	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
8	378725.67	6346822.49	<i>Angophora costata</i>	Smooth-Barked Apple Myrtle	Australian Native	1	55	67	6.6	136.85	2.8	10-15	5-10	Good	Fair	Mature	25-50	Several stems, 2-dominant stems, Desiccated/dieback > 30mm, Epicormic growth. Parasitic platanistoides. Poor pruning. Reen evaluation/encroachment.	Amenity value/shade	Nil	0	B	2	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
9	378719.22	6346836.86	<i>Jacaranda mimosifolia</i>	Jacaranda	Exotic Deciduous	1	18	21	2.2	14.68	1.7	5-10	<5	Good	Fair	Juvenile	15-25	Crosscutting/rubbing branches, Epicormic growth. Poor pruning.	Amenity value/shade	Major	100	C		Remove - tree located within proposed development footprint or has major encroachment into as TPZ.
10	378716.07	6346837.38	<i>Callistemon viminalis</i>	Weeping Bottlebrush	Australian Native	1	30	38	3.6	40.72	2.2	5-10	<5	Good	Poor	Juvenile	15-25	Crosscutting/rubbing branches, Epicormic growth. Poor pruning.	Amenity value/shade	Major	95	C		Remove - tree located within proposed development footprint or has major encroachment into as TPZ.
11	378716.63	6346840.04	<i>Ficinia stans</i>	Yellow Bells	Exotic Deciduous	1	21	24	2.5	19.95	1.8	5-10	<5	Good	Good	Juvenile	15-25	Crosscutting/rubbing branches, Epicormic growth. Poor pruning. Undesirable species.	Amenity value/shade	Major	100	C		Remove - tree located within proposed development footprint or has major encroachment into as TPZ.
13	378711.6	6346846.48	<i>Callistemon viminalis</i>	Weeping Bottlebrush	Australian Native	1	30	35	3.6	40.72	2.1	5-10	5-10	Good	Poor	Sem-Mature	5-10	2-dominant stems, Crosscutting/rubbing branches, Epicormic growth. Poor pruning. Previous bareness. Weak canopy. Vascular wilt.	Amenity value/shade	Major	100	C		Remove - tree located within proposed development footprint or has major encroachment into as TPZ.
14	378710.24	6346844.34	<i>Callistemon viminalis</i>	Weeping Bottlebrush	Australian Native	1	30	40	3.6	40.72	2.3	5-10	5-10	Good	Fair	Sem-Mature	15-25	2-dominant stems, Crosscutting/rubbing branches, Epicormic growth. Poor pruning.	Amenity value/shade	Major	100	B	2	Remove - tree located within proposed development footprint or has major encroachment into as TPZ.
15	378698.87	6346838.76	<i>Liquidambar styraciflua</i>	Sweet Gum	Exotic Deciduous	1	30	37	3.6	40.72	2.2	5-10	5-10	Good	Poor	Sem-Mature	15-25	2-dominant stems, Crosscutting/rubbing branches, Damaging infrastructure, Poor pruning. Poor pruning.	Amenity value/shade. Screen value.	Major	100	C		Remove - tree located within proposed development footprint or has major encroachment into as TPZ.
16	378692.05	6346840.7	<i>Liquidambar styraciflua</i>	Sweet Gum	Exotic Deciduous	1	18	21	2.2	14.68	1.7	5-10	5-10	Good	Poor	Juvenile	15-25	Crosscutting/rubbing branches, Epicormic growth. Poor pruning.	Amenity value/shade. Screen value.	Major	100	C		Remove - tree located within proposed development footprint or has major encroachment into as TPZ.
17	378694.83	6346842.47	<i>Liquidambar styraciflua</i>	Sweet Gum	Exotic Deciduous	1	72	83	8.6	234.52	3.1	10-15	10-15	Good	Fair	Mature	15-25	Crosscutting/rubbing branches, Damaging infrastructure, Epicormic growth. Poor pruning. Previous bareness. Suckers.	Amenity value/shade. Screen value. Attractive landscape feature.	Major	61	B	2	Remove - tree located within proposed development footprint or has major encroachment into as TPZ.
18	378695.51	6346848.15	<i>Liquidambar styraciflua</i>	Sweet Gum	Exotic Deciduous	1	20	23	2.4	18.10	1.8	5-10	10-15	Good	Good	Juvenile	25-50	Crosscutting/rubbing branches, Epicormic growth. Hanger's Suckers. Suppressed.	Amenity value/shade. Screen value.	Major	61	C		Remove - tree located within proposed development footprint or has major encroachment into as TPZ.
19	378696.93	6346852.46	<i>Liquidambar styraciflua</i>	Sweet Gum	Exotic Deciduous	1	15	17	2.0	12.57	1.6	5-10	<5	Good	Good	Juvenile	25-50	Crosscutting/rubbing branches, Damaging infrastructure, Epicormic growth. Poor pruning. Hanger's Suckers.	Amenity value/shade. Screen value.	Major	62	C		Remove - tree located within proposed development footprint or has major encroachment into as TPZ.
20	378697.9	6346853.78	<i>Liquidambar styraciflua</i>	Sweet Gum	Exotic Deciduous	1	15	17	2.0	12.57	1.6	5-10	<5	Good	Good	Juvenile	25-50	Crosscutting/rubbing branches, Damaging infrastructure, Epicormic growth. Poor pruning. Hanger's Suckers.	Amenity value/shade. Screen value.	Major	69	C		Remove - tree located within proposed development footprint or has major encroachment into as TPZ.
21	378693.75	6346849.75	<i>Thoucasia leucotis</i> <i>Abutilon</i>	Thoucasia	Exotic Evergreen	1	15	17	2.0	12.57	1.6	<5	<5	Fair	Poor	Sem-Mature	<5	2-dominant stems, Crosscutting/rubbing branches, Damaging infrastructure, Epicormic growth. Poor pruning. Hanger's Suckers. Vascular wilt.	Amenity value/shade	Major	100	U		Remove tree irrespective of future development.
22	378698.48	6346862.83	<i>Protea serratifolia</i>	Chinese Hawthorn	Exotic Evergreen	1	30	35	3.6	40.72	2.1	<5	5-10	Fair	Good	Sem-Mature	5-10	2-dominant stems, Crosscutting/rubbing branches, Damaging infrastructure, Epicormic growth. Parasitic platanistoides.	Amenity value/shade. Screen value.	Major	65	C	1	Remove - tree located within proposed development footprint or has major encroachment into as TPZ.
23	378702.52	6346876.28	<i>Jacaranda mimosifolia</i>	Jacaranda	Exotic Deciduous	1	80	80	9.6	288.53	3.0	10-15	15-20	Good	Good	Mature	25-50	Crosscutting/rubbing branches, Damaging infrastructure, Epicormic growth. Poor pruning. Hanger's Suckers. Vascular wilt.	Amenity value/shade. Attractive landscape feature. Dominant landscape feature. Significant due to age/size. Prospects for long term retention.	Major	100	A	2	Remove - tree located within proposed development footprint or has major encroachment into as TPZ.
35	378697.48	6346817.13	<i>Lophosium confertus</i>	Queensland Box	Australian Native	1	25	29	3.0	28.27	2.0	5-10	<5	Good	Good	Sem-Mature	25-50	Desiccated/dieback > 30mm. Vascular wilt.	Amenity value/shade	Nil	0	B	2	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).

Appendix F. Tree protection plan

for further information
call 1300 272 671
www.arborsafe.com.au

CIVICA