

Arboriculture Impact Assessment & Tree Protection Management Plan.

**11 Traum Street,
Portarlington.**

April, 2026

Assessment & Report Prepared By:

AQF Level 5 Diploma



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Introduction

This **Tree Protection Management Plan (TPMP) and Arboriculture Impact Assessment (AIA)** has been commissioned by the property owner (Lina Salvatore) in relation to Planning Permit Applications for dwelling construction at 11 Traum Street, Portarlington.

The following report has been requested for information relating to the construction of a dwelling and the impact that this has on trees within the property and neighbouring trees within 4m of the boundary.

Key Objectives

Provide data on tree including:

- Species Identification;
- Estimate age (e.g. juvenile, semi-mature, mature, over mature);
- Useful life expectancy;
- Health;
- Structure;
- Arboricultural Significance;
- Structural Root Zone;
- Notional Root Zone;
- Recommended Design Response for surrounding areas proposed for landscaping;
- Images / photos;
- Proposed protection fencing locations.



- Assess the development impact of the tree on site as identified within the provided site plan in Appendix 1, as per **AS 4970-2025 The protection of trees on development sites**.
- Provide recommendations regarding potential problems resulting from major impact on Trees Protection Zones if applicable.

Clause 52.37 Canopy Trees (if applicable)

The clause requires a planning permit to remove, destroy or lop a canopy tree in specific circumstances. The requirement applies to all residential zones (except for Low Density Residential Zone).

Clause 52.37 requires a permit to remove, destroy or lop a canopy tree. A canopy tree means a tree that has:

- a height of more than 5 metres above ground level; **and**
- a trunk circumference of more than 0.5 metres (NRZ of .16 (m)), measured at 1.4 metres above ground level; **and**
- a canopy diameter of at least 4 metres.

Stages of Development and the Tree Management Process

The below table represents a guide for all parties involved in construction works within a particular site to ensure the long term health and vigor of trees involved.

Some stages within this process may not be deemed applicable by the governing bodies or other site representatives.

Stage of Development	Tree Management Process		Site Status	Sign Off & Date
Planning	Matters for consideration	Actions and Certification		
Detail surveys	Council plans and policies Planning instruments and controls Heritage Threatened species	Existing trees accurately plotted on survey plan	Complete	
Preliminary tree assessment	Hazard/risks Tree retention value	Evaluate trees suitable for retention and mark on plan Provide preliminary arboricultural report and indicative TPZs to guide development layout	NA	
Preliminary development design	Condition of trees proximity to buildings Location of services Roads Level changes Building operations space Long-term management	Planning selection of trees for retention. Design review by proponent. Design modifications to minimize impact to trees.	Complete	
Development submission	Identify trees for retention through comprehensive arboricultural impact assessment of proposed construction. Determine tree protection measures Landscape design	Provide arboricultural impact assessment including tree protection plan (drawing) and specification	In Progress	
Development approval	Development controls Conditions of consent	Review consent conditions relating to trees	To be determined	



Stage of Development	Tree Management Process		Site Status	Sign Off & Date
Pre-Construction				
Initial site preparation	State based OHS requirements for tree work Approved tree retention/removal Refer to AS 4373 for the requirements on the pruning of amenity trees Specifications for tree protection measures	Compliance with conditions of consent. Tree removal/tree retention/transplanting. Tree pruning. Certification of tree removal and pruning. Establish/delineate TPZ. Install protective measures. Certification of tree protection measures.	Certified 3 Arborist Cert 5 Arborist Building Contractor	
Construction				
Site establishment	Temporary infrastructure Demolition, bulk earthworks, hydrology	Locate temporary infrastructure to minimize impact on retained trees. Maintain protective measures. Certification of tree protection measures.	Building contractor and Project Arborist	
Construction work	Liaison with site manager, compliance Deviation from approved plan	Maintain or amend protective measures. Supervision and monitoring	Project Arborist	
Implement hard and soft landscape works	Installation of irrigation services Control of compaction work Installation of pavement and retaining walls	Remove selected protective measures as necessary. Remedial tree works Supervision and monitoring.	Project Arborist and Building Contractor	
Practical completion	Tree vigour and structure	Remove all remaining tree protection measures Certification of tree protection	Project Arborist	

Methodology

For the preparation of this Tree Protection Management Plan, Architectural drawings (Proposed Ground Floor Site Plan. TP01. 28/04/2026) have been provided of the proposed development site which portrays the following;

- Proposed Dwelling
- Trees to be retained on development property are neighbouring properties.

Existing Site conditions have been provided to advise on trees to be removed and retained as well as existing infrastructure that may warrant consideration within the Impact Assessment (demolition plan. 025-015 A.01.3 28/4/2026).

Notional Root Zones (NRZ) and Structural Root Zones (SRZ) have been overlaid onto provided drawings (Appendix 1) to scale to identify impact percentages and encroachments for this report.

- **Notional Root Zone (NRZ)**, which is calculated by measuring the diameter of trunk at 1.4m above ground level (unless stated otherwise) and multiplying by 12, then measuring as a radius from the tree centre.
- **Structural Root Zone (SRZ)** which is measured at base of tree and implemented into the formula. $SRZ \text{ radius} = (D * 50) .42 * 0.64$. This SRZ data will only come into consideration if a dramatic encroachment was to develop.
- NRZ and SRZ information resulting in proposed impacts will be overlaid onto the drawings shown in Appendix 1. These overlays are to scale when determining the data discussed in Table 2 below.
This scale may have been altered whilst importing into this document.
- Descriptors relating to health and structure of the tree which are detailed in *Table 1* are situated within Appendix 4.

Tree Encroachment Categories:

The following categories will help to define the extent of recommendations to avoid damaging the tree's root system when implementing the proposed works.

Percentages of encroachment that relate to either Minor, Moderate or Major encroachment categories are determined through the total TPZ area of the tree and the area calculated from encroachment of development.

- **Minor NRZ encroachments** If the proposed encroachment is less than or equal to 10% of the area of the NRZ and is outside the SRZ, detailed root investigations should not be required. The area lost to this encroachment should be compensated for elsewhere and contiguous with the NRZ.
- **Moderate NRZ 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 listed in Clause 3.3.2 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 encroachments** The proposed encroachment is considered major if it is greater than 20 % of the area of the NRZ or inside the SRZ. The project arborist shall be engaged to explore alternative designs with the design team and/or demonstrate that the tree will remain viable. Relevant factors listed in Clause 3.3.2 should also be considered. 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.

When determining the potential impacts of encroachment into TPZ, the Project Arborist will consider the requirements as per **AS 4970-2025 3.3.2 TPZ encroachment considerations**. Appendix 3



Observations

The Consulting Arborist received a site drawing of the proposed residential dwelling construction at 11 Traum Street, Portarlington.

Existing site drawing indicates existing dwelling to be demolished with trees/shrub removal on development property.

A row of Monterey Cypress trees, which the Arborist believes were initially planted for use as a hedge and are now semi-mature, is located on the neighbouring property at 9 Traum Street. Further investigations into the suitability of retaining these five trees in their current location, discussed with the owner of 9 Traum Street, revealed that building permits for new dwellings and consequent removal of the Monterey Cypress trees have been granted. Attempts to negotiate an expedited tree removal process with the neighbouring owner, in order to minimise disruption to existing infrastructure, were unsuccessful. A written letter stating that development will be taking place within a timeframe was also unsuccessful. As a result, the Consulting Arborist and developers' engineers must now adapt future plans and designs to accommodate trees 19-23, aiming to minimise impacts as much as possible.

Discussions regarding the construction methodology were conducted with the property owner and Architect relating to the suitability of level changes and dwelling footprints in relation to Trees 19-23.

Significant improvements towards removing all level changes along the South boundary and a dwelling shift towards the North gives Trees 19-23 additional space to continue to grow. Portions of the garage footprint has been itemized to have engineering investigate suspended slab construction and this will be advised below in *Impact Assessment* discussions.

It shall be noted that many trees with proposed retention on the development site are small in stature and have been awarded minimum NRZ and SRZ calculation for protection purposes. Discussions relating to the impacts on



some of these specimens within these NRZ's and the trees/shrubs viability will be discussed below.



Table 1. Tree Data:

Tree No.	Genus	Species	Common Name	Origin	Age	Height	Structure	Health	ULE	Arboriculture Significance	Buttress Diameter (m)	DBH stem 1 (m)	DBH stem 2 (m)	DBH Stem 3 (m)	Canopy Spread	Canopy M ²	Canopy % of Site	DBH @ 1.4m (Single)	DBH @ 1.4m (Multi)	TPZ (m radius)	SRZ Radius (m)	Comments
1	Cypressus	leylandii	Leyland cypress	Exotic	Semi Mature	3.5	Fair	Fair		Low	0.28	0.18			3	7.1	0.87%	0.18	0.00	2.16	1.94	Canopy site percentage calculated as a single tree within the hedge.
2	Metrosideros	excelsa	Nz Xmas tree	Exotic	Semi Mature	3	Fair	Poor		Low	0.48	0.15	0.06	0.08	2.5	4.9	0.61%	0.00	0.18	2.16	2.43	
3	Viburnum	sp	Viburnum	Exotic	Semi Mature	2.5	Fair	Fair		Low	0.22	0.04	0.04	0.04	2	3.1	0.39%	0.00	0.07	2.00	1.75	Proposed to be removed
4	Pittosporum	tenuifolium	Lames Stirling	Exotic	Semi Mature	4	Fair	Fair		low	0.18	0.13	0.04		3	7.1	0.87%	0.00	0.14	2.00	1.61	Proposed to be removed
5	Pittosporum	tenuifolium	Lames Stirling	Exotic	Semi Mature	4	Fair	Poor		Low	0.26	0.12	0.1	0.08	4	12.6	1.55%	0.00	0.18	2.11	1.88	Proposed to be removed
6	Viburnum	sp	Viburnum	Exotic	Semi Mature	2.5	Fair	Fair		Low	0.28	0.12			3	7.1	0.87%	0.12	0.00	2.00	1.94	Proposed to be removed
7	Lagerstroemia	indica	Crepe Myrtle	Exotic	Semi Mature	3	Poor	Dead	Med (b)	Low	0.08	0.06			2	3.1	0.39%	0.06	0.00	2.00	1.50	Proposed to be removed
8	Prunus	lusitanica	Portuguese Laural	Exotic	Mature	3.5	Fair	Fair	Med (b)	Low	0.31	0.22	.18		5	19.6	2.43%	0.22	0.00	2.64	2.02	Proposed to be removed
9	Prunus	persica	Peach tree	Exotic	Mature	3	Fair	Fair	Short (b)	Low	0.20	0.12	0.08		4	12.6	1.55%	0.00	0.14	2.00	1.68	Retain
10	Prunus	persica	Peach tree	Exotic	Mature	3	Fair	Fair	Short (b)	Low	0.16	0.05	0.06	0.05	3	7.1	0.87%	0.00	0.09	2.00	1.53	Retain
11	Citrus	limon	Lemon Tree	Exotic	Semi Mature	2	Fair	Fair	Med (b)	Low	0.16	0.10	0.06		3	7.1	0.87%	0.00	0.12	2.00	1.53	Retain
12	Camellia	sp	camellia	Exotic	Semi Mature	2	Fair	Fair	Med (b)	Low	0.08	0.05			2	3.1	0.39%	0.05	0.00	2.00	1.50	Retain
13	Camellia	sp	camellia	Exotic	Semi Mature	2	Fair	Fair	Med (b)	Low	0.08	0.05			2	3.1	0.39%	0.05	0.00	2.00	1.50	Retain
14	Camellia	sp	camellia	Exotic	Semi Mature	2	Fair	Fair	Med (b)	Low	0.08	0.05			2	3.1	0.39%	0.05	0.00	2.00	1.50	Proposed to be removed



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Tree No.	Genus	Species	Common Name	Origin	Age	Height	Structure	Health	ULE	Arboriculture Significance	Buttress Diameter (m)	DBH stem 1 (m)	DBH stem 2 (m)	DBH Stem 3 (m)	Canopy Spread	Canopy M ²	Canopy % of Site	DBH @ 1.4m (Single)	DBH @ 1.4m (Multi)	TPZ (m radius)	SRZ Radius (m)	Comments
15	Camellia	sp	camellia	Exotic	Mature	3.5	Fair	Fair	Med (b)	Low	0.12	0.10			3	7.1	0.87%	0.10	0.00	2.00	1.50	Proposed to be removed
16	Camellia	sp	camellia	Exotic	Semi Mature	2	Fair	Fair	Med (b)	Low	0.08	0.05			2	3.1	0.39%	0.05	0.00	2.00	1.50	Proposed to be removed
17	Camellia	sp	camellia	Exotic	Semi Mature	2	Fair	Fair	Med (b)	Low	0.08	0.05			2	3.1	0.39%	0.05	0.00	2.00	1.50	Proposed to be removed
18	Ficus	sp	Fig tree	Exotic	Young	3.5	Fair	Fair	Long (b)	Moderate	0.20	0.12	0.08		4	12.6	1.55%	0.00	0.14	2.00	1.68	9 Traum Street
19	Hesperocyparis	macrocarpa	Monterey Cypress	Exotic	Semi Mature	7	Fair	Good	Med (b)	Moderate	0.26	0.22			3		NA	0.22	0.00	2.64	1.88	9 Traum Street
20	Hesperocyparis	macrocarpa	Monterey Cypress	Exotic	Semi Mature	7	Fair	Good	Med (b)	Moderate	0.26	0.22			3		NA	0.22	0.00	2.64	1.88	9 Traum Street
21	Hesperocyparis	macrocarpa	Monterey Cypress	Exotic	Semi Mature	7	Fair	Good	Med (b)	Moderate	0.26	0.22			3		NA	0.22	0.00	2.64	1.88	9 Traum Street
22	Hesperocyparis	macrocarpa	Monterey Cypress	Exotic	Semi Mature	7	Fair	Good	Med (b)	Moderate	0.26	0.22			3		NA	0.22	0.00	2.64	1.88	9 Traum Street
23	Hesperocyparis	macrocarpa	Monterey Cypress	Exotic	Semi Mature	7	Fair	Good	Med (b)	Moderate	0.26	0.22			3		NA	0.22	0.00	2.64	1.88	9 Traum Street

*neighbouring tree

Tree 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 19-23



Impact Assessment

Architectural drawings of the proposed site have been provided to the Consulting Arborist to analyze trees to be retained on neighbouring properties and within the development.

Measurements of all tree to be retained on neighbouring properties and trees/shrubs on the development property were taken to determine the Notional Root Zone (NRZ) and Structural Root Zones (SRZ), and overlaid onto the provided plans.

The distinction between the deep construction required for dwelling footings and the shallow construction methods employed for pathways and landscaped paving areas will be established in Table 2 below.

Deep construction for dwelling footings typically involves significant excavation and the use of reinforced concrete to provide strong, stable support for the main structure of the building. This approach is necessary to ensure the safety and longevity of the dwelling, as it must bear the full load of the building. In contrast, shallow construction methods used for pathways and landscaped paving require only minimal excavation and lighter materials, such as compacted gravel or thin concrete slabs.

These methods are less intrusive to the surrounding soil and root zones, thereby reducing potential impacts on nearby trees and vegetation. By clearly differentiating these construction approaches, the project can better understand the health and stability of existing trees on and adjacent property and development site.



Encroachments of both Major and Moderate occurrences as per Australian Standards **AS: 4970-2025** The protection of trees on development sites apply to this site.

Table 2. Encroachment Evaluation

	Total TPZ Area m ²	Deep Encroachment Area m ²	Encroachment Percentage	Shallow Encroachment Area m ²	Encroachment Percentage	Total Encroachment %
Tree 9	12.5	1.3	10.4%	0.8	6.4%	16.8% SRZ incursion
Tree 10	12.5	0	Nil	2.5	20%	20% SRZ incursion
Tree 12	12.5	0	Nil	2	16%	16%
Tree 13	12.5	0	Nil	2	16%	16%
Tree 18	12.5	0	Nil	0.9	7.2%	7.2% SRZ incursion
Tree 19	21.2	0.7	3.3%	6.2%	29.2%	32.5% SRZ incursion
Tree 20	21.2	0.8	3.7%	6.3	29.7%	33.4% SRZ incursion
Tree 21	21.2	0	Nil	5.2	24.5%	24.5% SRZ incursion
Tree 22	21.2	1.2	5.6%	5.4	25.5%	31.1% SRZ incursion
Tree 23	21.2	6.5	30.6%	1.2	5.6%	36.2% SRZ incursion

Table 2 indicates that Major and Minor encroachment into the Tree Protection Zone of 4 neighbouring trees through the proposed construction process.

Discussions of Impact Assessments

Significant encroachments over 30% of the neighboring and development site trees are expected from the proposed construction. However, these are mainly limited to shallow encroachment areas due to the use of a shallow permeable concrete paths, which allows existing roots to remain undisturbed and permits moisture to reach the soil below.

Neighbouring tree impacts

The Consulting Arborist advises that, due to significant impacts anticipated on Tree 23 from the proposed garage footprint, engineering solutions should be employed to minimise below-ground excavation within key sections of the tree's Structural Root Zone (SRZ) and Notional Root Zone (NRZ). It is recommended to adopt cantilevered slab designs for part of the structure, aligning with minor encroachments consistent with AS4970-2025. The delineated area would extend from the south-east corner of the garage to beyond the calculated SRZ, thereby excluding approximately 5 square metres from the impact assessment and reducing the extent of deep excavation to 7%. In combination with shallow path construction further decreasing root disturbance, a total encroachment of 12.6% is considered achievable, supporting the retention of Tree 23.

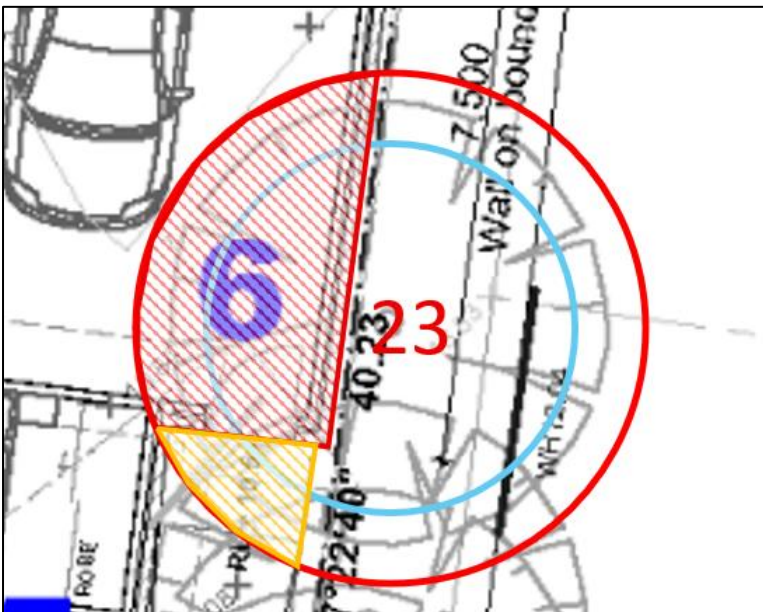


Figure 1. Major impacts as per AS4970 of 36.2% within the NRZ and SRZ of Tree 23 that shall implement engineering practices to reduce garage impacts down to 12.6% encroachment.

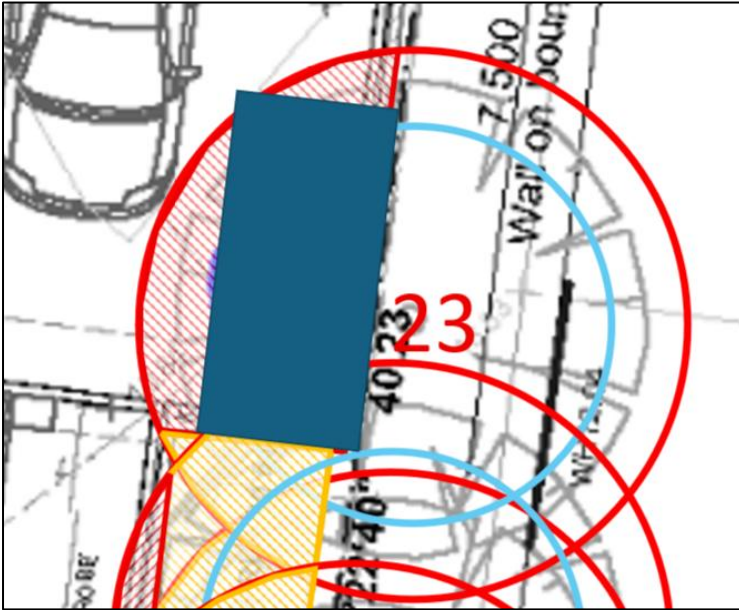


Figure 2. Example of position of cantilevered slab designs position to achieve appropriate impact percentages.

Additional trees that are positioned in the same alignment as Tree 23 have less of a deep impact associated with the construction due to the presence of the shallow path that is proposed along the eastern boundary. All 4 trees (Tree 19, 20, 21, 22) have encroachments of major extent due to the proposed footpath. The Consulting Arborist, however, believes that the shallow construction method and permeable concrete material will allow the trees to remain viable going forward. This approach ensures that root zones are minimally disturbed.

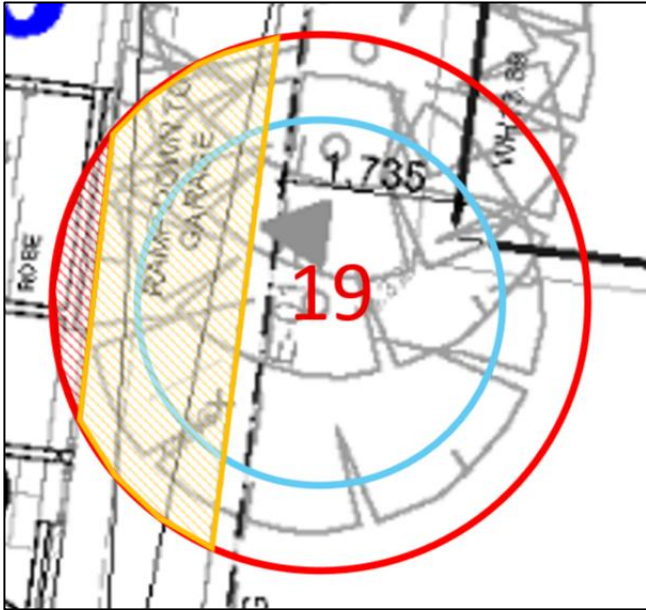


Figure 32. Tree 19 with major encroachments consisting of a large portion of shallow path construction.



Figure 4. Tree 20 with major encroachments consisting of a large portion of shallow path construction.

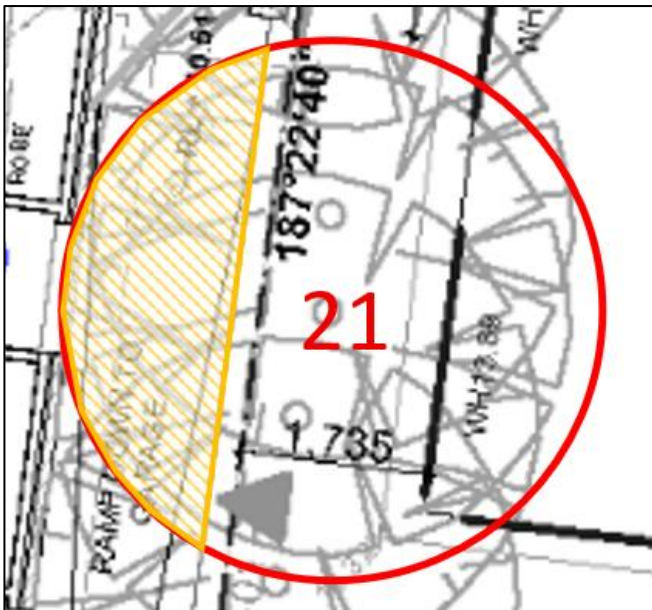


Figure 5. Tree 21 with major encroachments consisting of a large portion of shallow path construction.



Figure 6. Tree 22 with major encroachments consisting of a large portion of shallow path construction.

Development property tree impacts

Encroachment categories related to small trees being retained on the development site are primarily due to landscaping infrastructure or paving impacts. The minimum NRZ (2m) and SRZ (1.5m) allocations for these trees were required based on the modest size of the specimens. This suggests that there may be capacity for additional encroachments before root structures are likely to be affected.

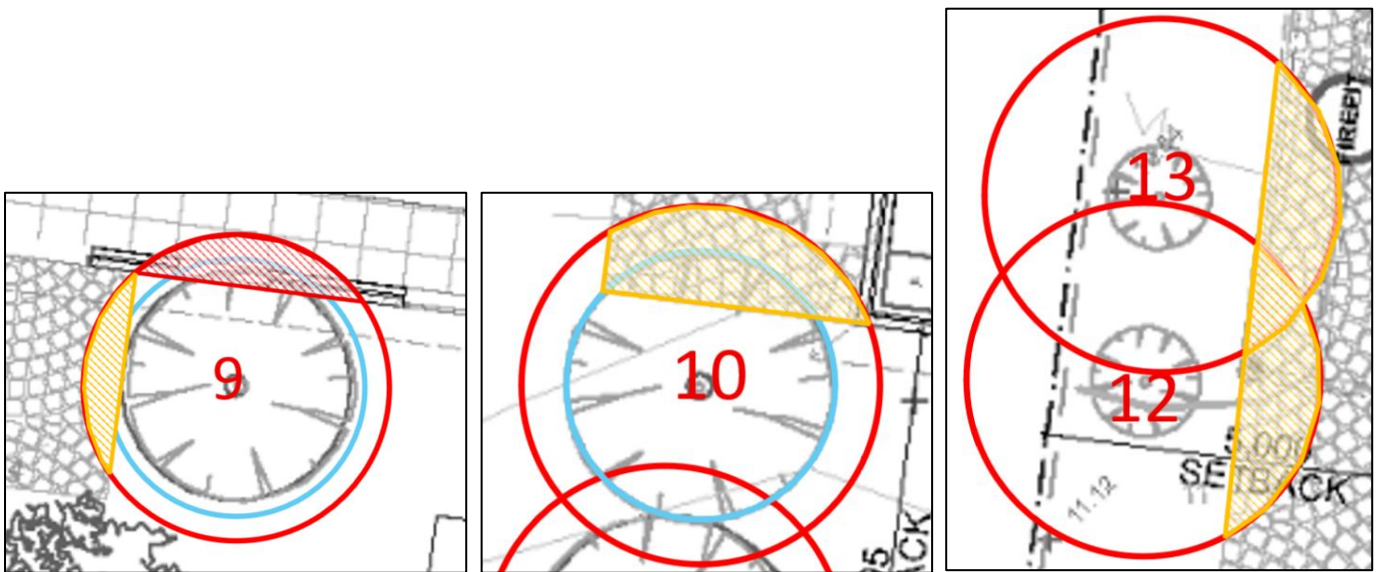


Figure 7. 4 trees/shrubs that are proposed to be retained but have shallow or deep excavations proposed through mainly landscaping purposes.

Typical landscaping works for paving areas are shallow in nature and do not typically interfere with the long-term viability of trees that are of fair to good health prior to works. As these activities usually involve minimal soil disturbance, as well as allowing a NRZ of trees/shrubs that may not require the amount of room provided, the Consulting Arborist deems the development property trees worthy of retention long term with the current designs.

Tree Management Plan

Tree Protection Measures

Tree protection measures are a way of protecting trees either on a development site or on neighbouring properties. The TPZ is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the trees remain viable.

Fencing or ground protection measures or a combination of both shall be erected within the construction site to isolate non-impacted trees remaining root zones.

Due to the limited area remaining away from the building footprint on site, it may be necessary to provide tree protection measures via ground protection as shown in Figure 8 below. In situations where space restrictions prevent the establishment of traditional fencing around the tree protection zone (TPZ), ground protection such as heavy-duty mats or soil compaction mitigations shown in Figure 9 is necessary. Additionally, because the majority of the theoretical root profiles from neighboring trees are encased by the construction footprint, the boundary fence line shall be utilized as the sole protection measure for neighboring vegetation.

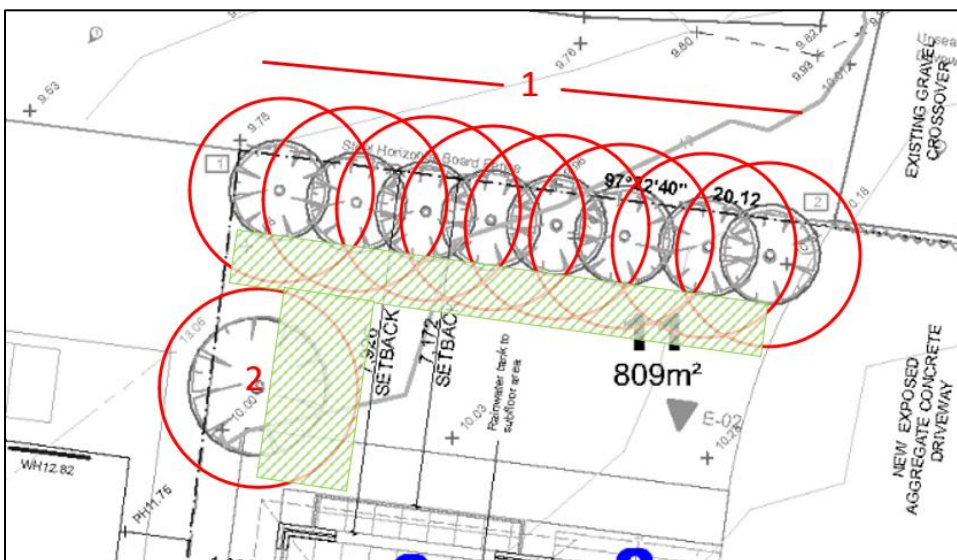


Figure 8. Ground protection measures (shown in green shading) as shown in Appendix 1 for tree protection throughout the site.



Activities restricted within the TPZ

Activities generally excluded from the TPZ include but are not limited to—

machine excavation including trenching;

excavation for silt fencing;

cultivation;

storage;

preparation of chemicals, including preparation of cement products;

refuelling;

dumping of waste;

wash down and cleaning of equipment;

placement of fill;

lighting of fires;

temporary or permanent installation of utilities and signs, and

physical damage to the tree.

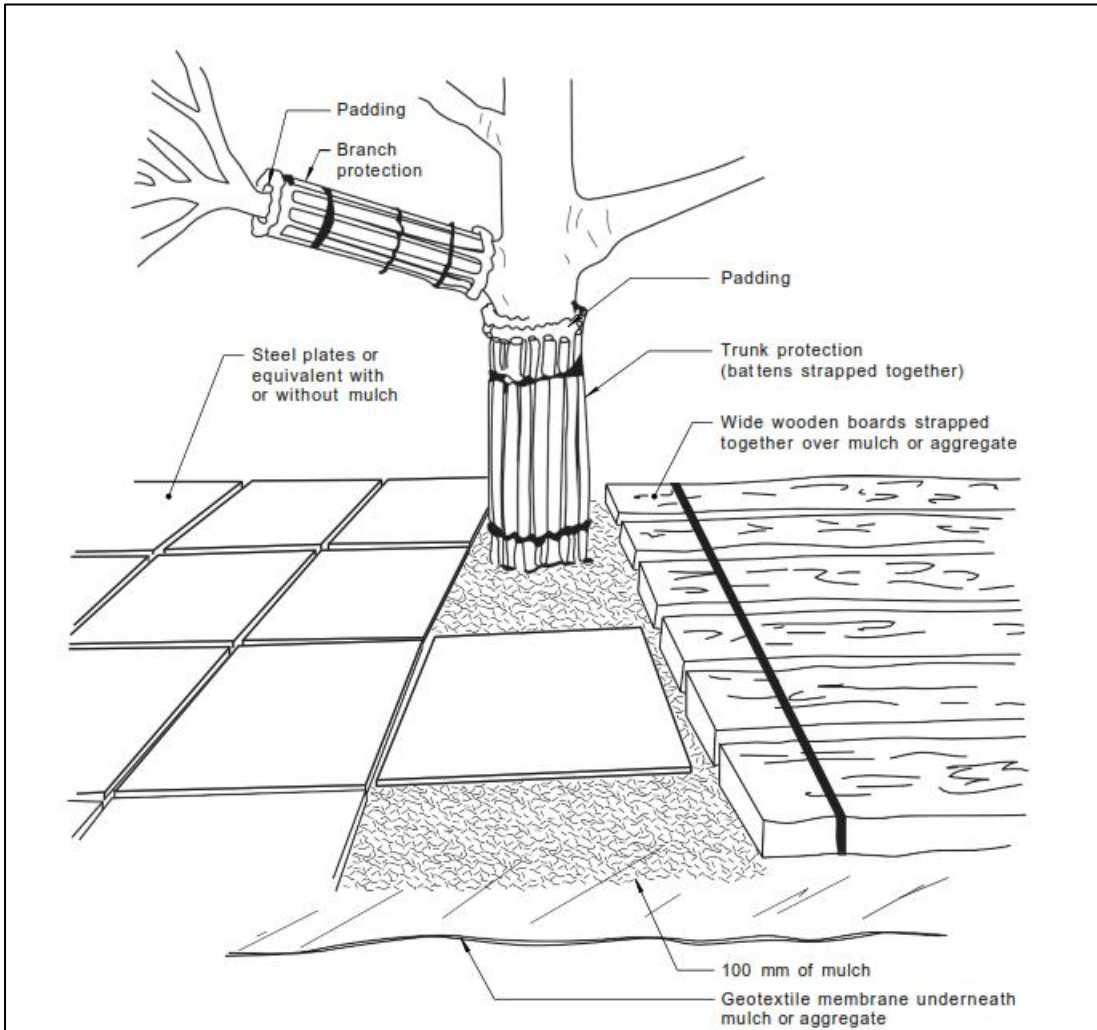


Figure 9. Ground Protection Measures to be installed on site where access for trades is required.



The temporary fencing requirements if use of fencing is preferred.



The construction of all TPZ fences or ground protection measures on site shall be erected 2 weeks before any works commence on site and maintained until works are completed to the satisfaction of the responsible authority.

Erecting of TPZ fencing or ground protection shall be carried out to the satisfaction of the Responsible Authority and overseen by suitably trained and qualified Arboriculture staff.

Any construction works that are required within the nominated Tree Protection Zones must be overseen by a suitably qualified, Level-5 Arborist.



Summary

The calculations of the TPZ were used to determine if root disturbance would affect the proposed construction. Major encroachments, as per *AS 4970-2025 Protection of trees on development sites*, were identified on numerous neighbouring trees.

The substantial encroachments identified above can be effectively mitigated by employing shallow and permeable construction methods for path requirements, and engineering alternatives for deep excavations of buildings, The Consulting Arborist believes that this methodology shall ensure long term viability of trees concerned.

The construction of the TPZ fences or ground protection measures throughout the property shall be erected **2 weeks** before any works commence on site and to the satisfaction of the responsible authority and must remain maintained until the completion of the construction works.

The construction of the TPZ fences around the property shall be erected to the scope shown in Appendix 1. If an alternative ratio of fence and ground protection measures are required, the Project Arborist must be advised.

Project Arborist supervision is required for installation of TPZ fencing to ensure correct placement.

Appendix 5 shows a Tree Protection Zone sign that is required to be placed on all tree protection fences.

Tree Management Plan and TPZ restrictions are to be advised to all trades on site with no storage of materials or access into TPZ's without the authority of the overseeing Arborist. Adherence to *Australian Standard 4970-2025 Protection of trees on development sites* is required by all construction workers on site.

At the conclusion of the works and before seeking Statement of Compliance, the Project Arborist must submit a written statement to the responsible authority that certifies that the above points have been addressed.



References

Council of Australian Standards (2025), *Australian Standard; Protection of trees on development sites; AS 4970-2025*, Standards Australia, Sydney Australia.



Report Assumptions:

- Any legal description provided to Tree Insight is assumed to be correct. Any titles and ownerships to any property are assumed to be correct. No responsibility is assumed for matters outside the consultant's control.
- Tree Insight assumes that any property or project is not in violation of any applicable codes, ordinances, statutes or other local, state or federal government regulations.
- Tree Insight shall take care to obtain all information from reliable sources. All data shall be verified insofar as possible; however Tree Insight can neither guarantee nor be responsible for the accuracy of the information provided by others not directly under Tree Insight control.
- No Tree Insight employee shall be required to give testimony or to attend court by reason of the report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.
- Loss of the report or alteration of any part of the report not undertaken by Tree Insight invalidates the entire report.
- Possession of the report or a copy thereof does not imply right of publication or use for any purpose by anyone but the client or their directed representatives, without the prior consent of Tree Insight.
- The report and any values expressed therein represent the opinion of Tree Insight consultant and Tree Insight fee is in no way conditional upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
- Sketches, diagrams, graphs and photographs used in the report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural drawings, reports or surveys.
- Unless expressed otherwise: i) Information contained in the report will cover those items that were outlined in the project objectives or that were examined during the assessment and reflect the condition of those items at the time of inspection; and ii) The inspection is limited to visual examination of accessible components without dissection, excavation or probing unless otherwise stipulated.
- There is no warranty or guarantee, expressed or implied by Tree Insight, that the problems or deficiencies of the plants on site in question may not arise in the future.
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This disclaimer will be governed by and interpreted according to the laws of Victoria, Australia.

Appendix 1. Proposed Site Plan Proposed Ground Floor Site Plan & Design Response



DESIGN RESPONSE

- 1 - NEW DOUBLE LOCK UP GARAGE AT NATURAL GROUND LEVEL.
- 2 - RAISED ENTRY PLAZA LEVEL TO TRANSITION TO EXISTING NATURAL GROUND LEVELS AT REAR OF SITE
- 3 - FRONT TERRACE AT GROUND AND FIRST FLOOR LEVELS FOR VIEWS TOWARDS YOU YANGS AND CORIO BAY.
- 4 - PROTECTED CENTRAL COURTYARD FOR PLENTIFUL NATURAL DAYLIGHT AND OUTDOOR ENTERTAINING.
- 5 - FIRST FLOOR WALLS STEP AWAY FROM SIDE BOUNDARIES IN ACCORDANCE WITH SETBACK GUIDELINES
- 6 - REAR ACCESS FROM GARAGE

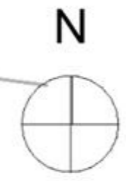
AREA ANALYSIS

SITE AREA:	809.4sqm
GARAGE:	62.5sqm
GROUND FLOOR:	262.3sqm
TERRACE:	22.4sqm
COURTYARD:	74.2sqm
ENTRY:	20.3sqm
FIRST FLOOR:	162.9sqm
TERRACE:	18sqm
TOTAL DWELLING: (internal space)	425.2sqm
SITE COVERAGE:	45%
PERMEABILITY:	32%
PRIVATE OPEN SPACE:	195sqm

Tree Protection Requirements

- Notional Root Zone ○
- Structural Root Zone ○
- Deep Excavation
- Shallow Excavation
- Ground Protection Measures

01. Ground Floor Plan 1:200



Appendix 3

3.3.2 Considerations in determining the TPZ

When determining a TPZ the following factors should be considered where relevant:

- (a) Location and distribution of the roots.
- (b) Potential loss of root mass resulting from the encroachment (number of roots and diameter of roots).
- (c) Tree species and tolerance to root disturbance.
- (d) If the works will result in a temporary (e.g. service trench) or permanent (e.g. basement carpark) loss of available soil volume.
- (e) Age, health, current size and projected size of the tree.
- (f) Presence of other trees with overlapping NRZ or grafted roots.
- (g) Proposed staging and timing of excavation or root-cutting.
- (h) Proposed tree maintenance and tree care activities.
- (i) Lean and stability of the tree.
- (j) Soil characteristics and volume, topography and drainage.
- (k) Presence of existing or past structures, obstacles affecting root growth or recent encroachments.
- (l) Proposed construction measures that reduce the impact on trees.
- (m) Whether a root investigation is required. The location and distribution of the roots should be determined through minimally destructive investigation methods (pneumatic, hydraulic, hand digging or ground penetrating radar). Photographs should be taken and, where needed to address geospatial issues, a root map should be prepared.

NOTE 1 Construction measures such as pier and beam, suspended slabs, cantilevered building sections and screw piles can reduce the impact of encroachment.

NOTE 2 Root damage should be minimized during this process. The roots should only be exposed for as long as required to meet the purposes of the investigation.

Appendix 4.

TREE DESCRIPTOR

AGE

Young	Juvenile or recently planted approximately 1-7 years.
Semi Mature	Tree actively growing.
Mature	Tree has reached expected size in situation.
Senescent	Tree is over mature and has started to decline.

HEALTH

Good	Foliage of tree is entire, with good colour, very little sign of pathogens and of good density. Growth indicators are good ie. Extension growth of twigs and wound wood development. Minimal or no canopy die back (deadwood).
Fair	Tree is showing one or more of the following symptoms; < 25% dead wood, minor canopy die back, foliage generally with good colour though some imperfections may be present. Minor pathogen damage present, with growth indicators such as leaf size, canopy density and twig extension growth typical for the species in this location.
Poor	Tree is showing one or more of the following symptoms of tree decline; > 25% deadwood, canopy die back is observable, discoloured or distorted leaves. Pathogens present, stress symptoms are observable as reduced leaf size, extension growth and canopy density.
Dead or dying	Tree is in severe decline; > 55% deadwood, very little foliage, possibly epicormic shoots, minimal extension growth.

STRUCTURE

Good	Trunk and scaffold branches show good taper and attachment with minor or no structural defects. Tree is a good example of the species with a well-developed form showing no obvious root problems or pests and diseases.
Fair	Tree shows some minor structural defects or minor damage to trunk eg. bark missing, there could be cavities present. Minimal damage to structural roots. Tree could be seen as typical for this species.
Poor	There are major structural defects, damage to trunk or bark missing. Co-dominant stems could be present or poor structure with likely points of failure. Girdling or damaged roots obvious. Tree is structurally problematic.
Hazardous	Tree is an immediate hazard with potential to fail, this should be rectified as soon as possible.

ARBORICULTURE SIGNIFICANCE

Low; Trees that offer little in terms of contributing to the future landscape for the reasons of poor health or structural condition, species suitability in relation to unacceptable growth habit, noxious, poisonous or weed species or ULE, or a combination of these characteristics. Should be considered for removal.

Moderate; Trees with some beneficial attributes that may benefit the site in relation to botanical, horticultural, historical or local significance but may be limited to some degree by their future growth potential at the site by maintenance requirements now or in the future. These trees should be considered for retention if possible within the development design, they may be modified to allow for construction. (eg. pruning, etc;)

High; Trees with the potential to positively contribute to the site due to their botanical, horticultural, historical or local significance in combination with good characteristics of structure, health and future development. Should be considered for inclusion within development plans.

SAFE USEFUL LIFE EXPECTANCY

1: Long SULE:

Trees that appeared to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.

- (a) Structurally sound trees located in positions that can accommodate future growth.
- (b) Trees that could be made suitable for retention in the long term by remedial tree care.
- (c) Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention.

2: Medium SULE:

Trees that appeared to be retainable at the time of assessment for 15–40 years with an acceptable level of risk.

- (a) Trees that may only live between 15 and 40 more years.
- (b) Trees that could live for more than 40 years but may be removed for safety or nuisance reasons.
- (c) Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.
- (d) Trees that could be made suitable for retention in the medium term by remedial tree care.

3: Short SULE:

Trees that appeared to be retainable at the time of assessment for 5–15 years with an acceptable level of risk.

- (a) Trees that may only live between 5 and 15 more years.
- (b) Trees that could live for more than 15 years but may be removed for safety or nuisance reasons.
- (c) Trees that could live for more than 15 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.
- (d) Trees that require substantial remedial tree care and are only suitable for retention in the short term.

4: Remove:

Trees that should be removed within the next 5 years.

- (a) Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.
- (b) Dangerous trees because of instability or recent loss of adjacent trees.
- (c) Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.
- (d) Damaged trees that are clearly not safe to retain.
- (e) Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.
- (f) Trees that are damaging or may cause damage to existing structures within 5 years.
- (g) Trees that will become dangerous after removal of other trees for the reasons given in (a) to (f).
- (h) Trees in categories (a) to (g) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.

5: Small, young or regularly pruned:

Trees that can be reliably moved or replaced.

- (a) Small trees less than 5m in height.
- (b) Young trees less than 15 years old but over 5m in height.
- (c) Formal hedges and trees intended for regular pruning to artificially control growth

Appendix 5. TPZ Sign

