



Arbor Survey

ARBORICULTURAL ASSESSMENT

Site Address:
183 Prospect Hill Road
CANTERBURY

Prepared:
10 December 2025

Document Ref:
R7419 183 Prospect Hill Rd CANTERBURY FINAL

Version / Revision: 1
Issued: 16/12/2025
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1. INTRODUCTION AND SCOPE

1.1 INTRODUCTION

Arbor Survey Pty Ltd has been engaged to undertake an assessment of the condition of 24 trees located within 183 Prospect Hill Road, Canterbury. The assessment of the trees was undertaken on the 10 December 2025.

This report provides an assessment of the condition of the trees, expressed as the Arboricultural and Protection Value. The report provides an overview of the tree assessment, including species, origin, age class, condition (health and structure), dimensions (height and canopy spread), Useful Life Expectancy (ULE) and Landscape Value and determines the Protection Value of the trees and vegetation within the project site. The overview also addresses any Statutory Regulations protecting trees within the project areas and provides recommendations for any tree management works (i.e. pruning) for trees that are worthy of retention.

A summarised table of the tree data is provided in Section 4, with the full assessment of the trees (incl. photograph) found in Section 6. The Tree Location Plan in Section 5 indicates the Protection Value of the assessed trees and shows the Structural Root Zone (SRZ) and Notional Root Zone (NRZ) of tree that are of High and Moderate Protection value. The assessment of the trees in terms of their overall condition has been made in accordance with the Survey Methodology and Descriptors in Section 7 - Appendices. These must be referenced when reading this report.

1.2 SCOPE

The Arboricultural Assessment has been prepared in accordance with relevant industry standards. The report objectives are:

- To comment on the health, structure and overall condition of the trees on the site within the project area and provide recommendations of tree retention.
- To assess tree condition based on the characteristics observed of the subject trees based on the Visual Tree Assessment Methodology (VTA)
- To identify any local laws or statutory regulations that may be applicable to the site, and
- To provide tree management recommendations (where required) for trees worthy of retention.

The results of this assessment and a discussion of the relevant arboricultural characteristics are provided. The recommendations given are based on the condition of the trees or groups of trees and their suitability for retention and or protection in relation to their current growing environment only.

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2. VEGETATION CONTROLS

The project site is located within the Neighbourhood Residential Zone – Schedule 3 (NRZ3) of the Boroondara Planning Scheme. The site is subject to the following statutory regulations and/or exemptions:

| Vegetation Controls / Exemptions | Applies to tree(s): | Comments |
|-------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Heritage Overlay (HO145) | N/A | <i>Maling Road Shopping Centre and Residential Environs, Canterbury</i> Tree controls do not apply. |
| Significant Landscape Overlay (SLO) | N/A | Does not apply. |
| Environmental Significance Overlay (ESO) | N/A | Does not apply. |
| Vegetation Protection Overlay (VPO) | N/A | Does not apply. |
| Clause 52.12 'Bushfire Protection: Exemptions' | N/A | Site is not within a Bushfire Prone Area (BPA) |
| Clause 52.17 'Native Vegetation' | N/A | Site area is less than 4000m ² |
| Clause 52.37 'Canopy Trees' (Amendment VC289 – 15/09/25) | Project Site Trees 1, 17, 18, 20 & 21 | <p>A permit is required to remove, destroy or lop a canopy tree in the Mixed Use Zone, Township Zone, Residential Growth Zone, General Residential Zone, Neighbourhood Residential Zone, and Housing Choice and Transport Zone.</p> <p>This does not apply:</p> <ul style="list-style-type: none"> If the table of exemptions in Clause 52.37-8 specifically states that a permit is not required. To the removal, destruction or lopping of a canopy tree (other than a boundary canopy tree) identified for assessment in an application to which Clause 54, 55, 57 or 58 applies and the tree is not removed, destroyed or lopped until the permit is issued. To the removal, destruction or lopping of a canopy tree (other than a boundary canopy tree) if the site is developed with an existing dwelling. <p>Canopy tree means a tree that has:</p> <ul style="list-style-type: none"> a height of more than 5 metres above ground level; and a trunk circumference of more than 0.5 metres (15.9cm Ø), measured at 1.4 metres above ground level; and a canopy diameter of at least 4 metres. <p>Boundary canopy tree means a canopy tree if any part of its trunk is within:</p> <ul style="list-style-type: none"> 6 metres of the narrowest street frontage of a lot; or 4.5 metres of the rear boundary of a lot. |
| Tree Protection Local Law 2024 | Project Site Trees 2, 3, 5- 18, 23 & 24 | <p>A permit is required to remove, prune or destroy / kill a 'Significant' or 'Canopy Tree'.</p> <p>A permit is also required to perform works within the NRZ of a 'Significant Tree' or perform works within the SRZ of a 'Canopy Tree'.</p> <p>A 'Canopy Tree' is a tree:</p> <ul style="list-style-type: none"> with a single or combined trunk circumference of 110cm (35cm Ø) at 1.4m above ground level, or with a trunk circumference of 150cm (47.7cm Ø) at ground level, or a tree measured as a canopy tree under the Tree Protection Local Law 2006 or 2016. <p>A 'Significant Tree' means a tree listed in Council's Significant Tree Study.</p> <p>Note: all trees should be individually measured to confirm undersize prior to removal.</p> |

3. ARBORICULTURAL ASSESSMENT & RECOMMENDATIONS

3.1 TREE PROTECTION ASSESSMENT

The survey has identified a total of 24 trees within the project area. The following is a summary of the protection value of the trees.

HIGH PROTECTION VALUE TREES

- 2 trees, Tree 21, a *Photinia serratifolia* (Chinese Photinia) and Tree 23, a *Syzygium smithii* (Lilly Pilly) are of high protection value. These trees are located within the front setback of the project site and are in good health with fair-good structure and are of moderate landscape significance. These trees should be considered for retention / protection as part of any future development within the project site.

MODERATE PROTECTION VALUE TREES

- 1 tree, Tree 24, a *Photinia serratifolia* (Chinese Photinia) is of moderate protection value. This tree is located within the front setback and is in good health with fair structure and is of moderate landscape significance. This tree should be considered for retention / protection where possible and practical.

TREES OF NO PROTECTION VALUE

- 21 trees (Trees 1-20 & 22) located within the project site are considered to be of no protection value. Trees of no protection value may be of poor arboricultural condition in terms of their health and/or structure, weed species, low landscape significance or are located in an inappropriate location for long term growth. Whilst these trees are not worthy of retention / protection, their removal may be subject to a permit.

3.2 TREE PROTECTION DISTANCES

The following table lists the trees worthy of retention / protection (high and moderate protection value) and provides the Structural Root Zone (SRZ) and Notional Root Zone (NRZ), Notional Root Zone Area (m²) and the 10% offset distance (NRZ10%) so that encroachment is considered 'Minor' and no further investigation is needed (refer to Figure in Section 4).

HIGH AND MODERATE PROTECTION VALUE TREES

| Tree No | Botanical Name | Common Name | Location | Protection Value | SRZ (m) | NRZ (m) | NRZ Area (m ²) | NRZ10% (m) |
|---------|------------------------------|------------------|--------------|------------------|---------|---------|----------------------------|------------|
| 21 | <i>Photinia serratifolia</i> | Chinese Photinia | Project Site | High | 2.1 | 3.7 | 43 | 2.5 |
| 23 | <i>Syzygium smithii</i> | Lilly Pilly | Project Site | High | 2.9 | 7.4 | 172 | 5.1 |
| 24 | <i>Photinia serratifolia</i> | Chinese Photinia | Project Site | Moderate | 2.5 | 6.0 | 113 | 4.1 |

Note: SRZ (m) is the structural root zone in metres in a radius from the centre of the trunk, NRZ (m) is the notional root zone (previously known as tree protection zone - TPZ) in metres in a radius from the centre of the trunk. These measurements and distances are calculated from the Australian Standard AS4970 - 2025 - Protection of trees on development sites.

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3.3 RECOMMENDATIONS

Based on the Arboricultural Assessment and provided plans from Draper Noxon Architecture Pty Ltd (Job No.: 2552, Rev: N/A, Date: 11/11/2025):

HIGH PROTECTION VALUE TREES

- **Trees 21 & 23:** These trees will not be impacted by the proposed alterations and additions to the existing building. These trees should be considered for retention within the landscape and works within the Notional Root Zone (NRZ) minimised.

MODERATE PROTECTION VALUE TREES

- **Trees 24:** This tree will not be impacted by the proposed alterations and additions to the existing building. This tree should be considered for retention within the landscape and works within the Notional Root Zone (NRZ) minimised.

NO PROTECTION VALUE TREES

- **Trees 1-20 & 22:** These trees are not worthy of retention / protection as part of any potential development within the project site. Suitable landscaping planting should be undertaken as part of the development in lieu of their removal. Refer to Vegetation Controls and Tree Data Sheets for permit requirements.

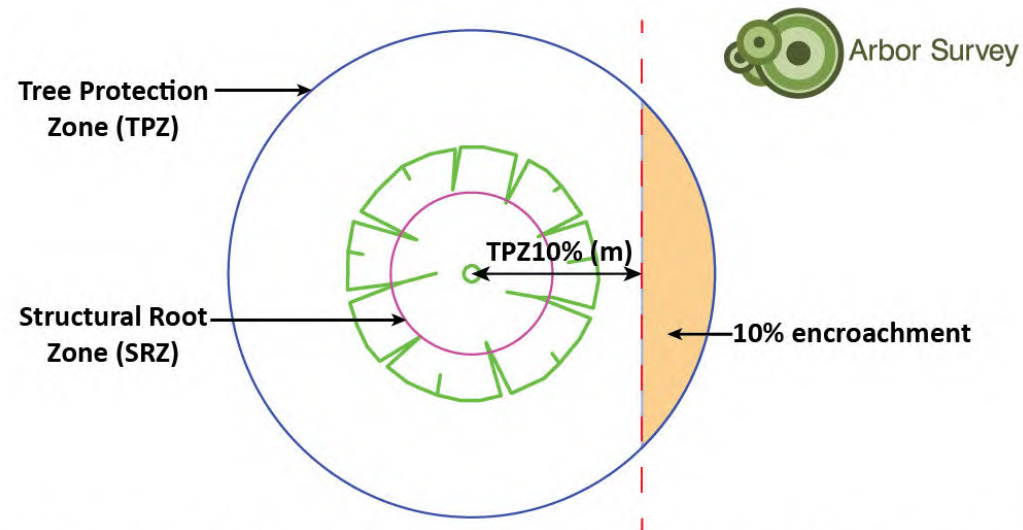
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4. TREE DATA

| Tree No | Botanical Name | Common Name | Origin | DSH (cm) | Basal Dia (cm) | Height (m) | Spread (m) | Health | Structure | Age Class | Arbor Value | Location | Protect Value | SRZ (m) | NRZ (m) | NRZ Area (m ²) | Notes |
|---------|----------------------------------|-------------------|------------|---------------------|----------------|------------|------------|-----------|-----------|-------------|-------------|--------------|---------------|---------|---------|----------------------------|--------------------------------------------------------------------------|
| 1 | <i>Pittosporum undulatum</i> | Sweet Pittosporum | Vic Native | 31 | 44 | 9 | 6.5 | Good | Fair | Mature | Medium | Project Site | None | 2.3 | 3.7 | 43 | Weed species, likely self-sown, 4.6m from trunk center to fence |
| 2 | <i>Photinia serratifolia</i> | Chinese Photinia | Exotic | 19.5/27/17.5 (37.5) | 50 | 6.5 | 7 | Good | Fair-Poor | Mature | Medium | Project Site | None | 2.5 | 4.5 | 64 | Twisted stems, inappropriate location next to carport |
| 3 | <i>Photinia serratifolia</i> | Chinese Photinia | Exotic | 20/23/17/22 (41.5) | 52 | 6.5 | 7 | Good | Fair-Poor | Mature | Medium | Project Site | None | 2.5 | 5.0 | 79 | Twisted stems, inappropriate location next to carport |
| 4 | <i>Camellia sasanqua</i> | Sasanqua Camellia | Exotic | 17/17 (24) | 28 | 6.5 | 4.5 | Good | Fair | Mature | Medium | Project Site | None | 1.9 | 2.9 | 26 | Suppressed growth |
| 5 | <i>Hesperocyparis macrocarpa</i> | Monterey Cypress | Exotic | 83 | 93 | 15 | 8.5 | Fair-Good | Poor | Mature | Low | Project Site | None | 3.2 | 10.0 | 314 | Suppressed growth, twisted stems, tight angles of attachment |
| 6 | <i>Hesperocyparis macrocarpa</i> | Monterey Cypress | Exotic | 49/35 (60) | 67 | 15 | 6.5 | Fair-Good | Poor | Mature | Low | Project Site | None | 2.8 | 7.2 | 163 | Heavily suppressed growth, past failures, decay in stem |
| 7 | <i>Hesperocyparis macrocarpa</i> | Monterey Cypress | Exotic | 12/26 (28.5) | 39 | 14 | 4 | Poor | Poor | Semi-Mature | Low | Project Site | None | 2.2 | 3.4 | 36 | Heavily suppressed growth, past failures, dieback, stem removed in past |
| 8 | <i>Hesperocyparis macrocarpa</i> | Monterey Cypress | Exotic | 60 | 60 | 16 | 6 | Fair-Poor | Poor | Mature | Low | Project Site | None | 2.7 | 7.2 | 163 | Heavily suppressed growth, past failures, dieback, lopped branches |
| 9 | <i>Hesperocyparis macrocarpa</i> | Monterey Cypress | Exotic | 72 | 70 | 16 | 7 | Fair-Poor | Poor | Mature | Low | Project Site | None | 2.8 | 8.6 | 232 | Heavily suppressed growth, past failures, dieback, lopped branches |
| 10 | <i>Hesperocyparis macrocarpa</i> | Monterey Cypress | Exotic | 44/46/25 (68.5) | 69 | 15 | 7 | Fair | Poor | Mature | Low | Project Site | None | 2.8 | 8.2 | 211 | Heavily suppressed growth, past failures, lopped branches |
| 11 | <i>Hesperocyparis macrocarpa</i> | Monterey Cypress | Exotic | 35/24 (42.5) | 50 | 15 | 3 | Poor | Poor | Mature | Low | Project Site | None | 2.5 | 5.1 | 82 | Heavily suppressed growth, past failures, lopped branches |
| 12 | <i>Hesperocyparis macrocarpa</i> | Monterey Cypress | Exotic | 67 | 55 | 15 | 7 | Fair-Poor | Poor | Mature | Low | Project Site | None | 2.6 | 8.0 | 201 | Heavily suppressed growth, past failures, lopped branches |
| 13 | <i>Hesperocyparis macrocarpa</i> | Monterey Cypress | Exotic | 29/28/22/24 (52) | 48 | 14 | 5 | Fair-Poor | Poor | Mature | Low | Project Site | None | 2.4 | 6.2 | 121 | Heavily suppressed growth, past failures, lopped branches, decay in stem |
| 14 | <i>Hesperocyparis macrocarpa</i> | Monterey Cypress | Exotic | 51 | 46 | 14 | 4 | Fair-Poor | Poor | Mature | Low | Project Site | None | 2.4 | 6.1 | 117 | Heavily suppressed growth, past failures, lopped branches, decay in stem |
| 15 | <i>Hesperocyparis macrocarpa</i> | Monterey Cypress | Exotic | 60/46 (75.5) | 68 | 15 | 7 | Fair-Poor | Poor | Mature | Low | Project Site | None | 2.8 | 9.1 | 260 | Heavily suppressed growth, past failures, lopped branches, decay in stem |
| 16 | <i>Hesperocyparis macrocarpa</i> | Monterey Cypress | Exotic | 29/23/21 (42.5) | 37 | 3 | 1.5 | Dead | Poor | Dead | Low | Project Site | None | 2.2 | 5.1 | 82 | Dead tree |
| 17 | <i>Hesperocyparis macrocarpa</i> | Monterey Cypress | Exotic | 87 | 71 | 15 | 10 | Fair | Poor | Mature | Low | Project Site | None | 2.9 | 10.4 | 340 | Heavily suppressed growth, past failures, lopped branches, decay in stem |
| 18 | <i>Pittosporum undulatum</i> | Sweet Pittosporum | Vic Native | Multi-Stem (~35) | Approx. 40 | 6.5 | 4.5 | Fair | Poor | Mature | Low | Project Site | None | 2.3 | 4.2 | 55 | Weed species, likely self-sown, |
| 19 | <i>Photinia serratifolia</i> | Chinese Photinia | Exotic | 12/7 (14) | 16 | 3.5 | 4 | Fair-Poor | Poor | Juvenile | Low | Project Site | None | 1.5 | 2.0 | 13 | Heavily suppressed growth |
| 20 | <i>Corymbia calophylla</i> | Marri | Aus Native | 20 | 25 | 7 | 4 | Poor | Fair-Poor | Juvenile | Low | Project Site | None | 1.8 | 2.4 | 18 | In decline, suppressed growth, |

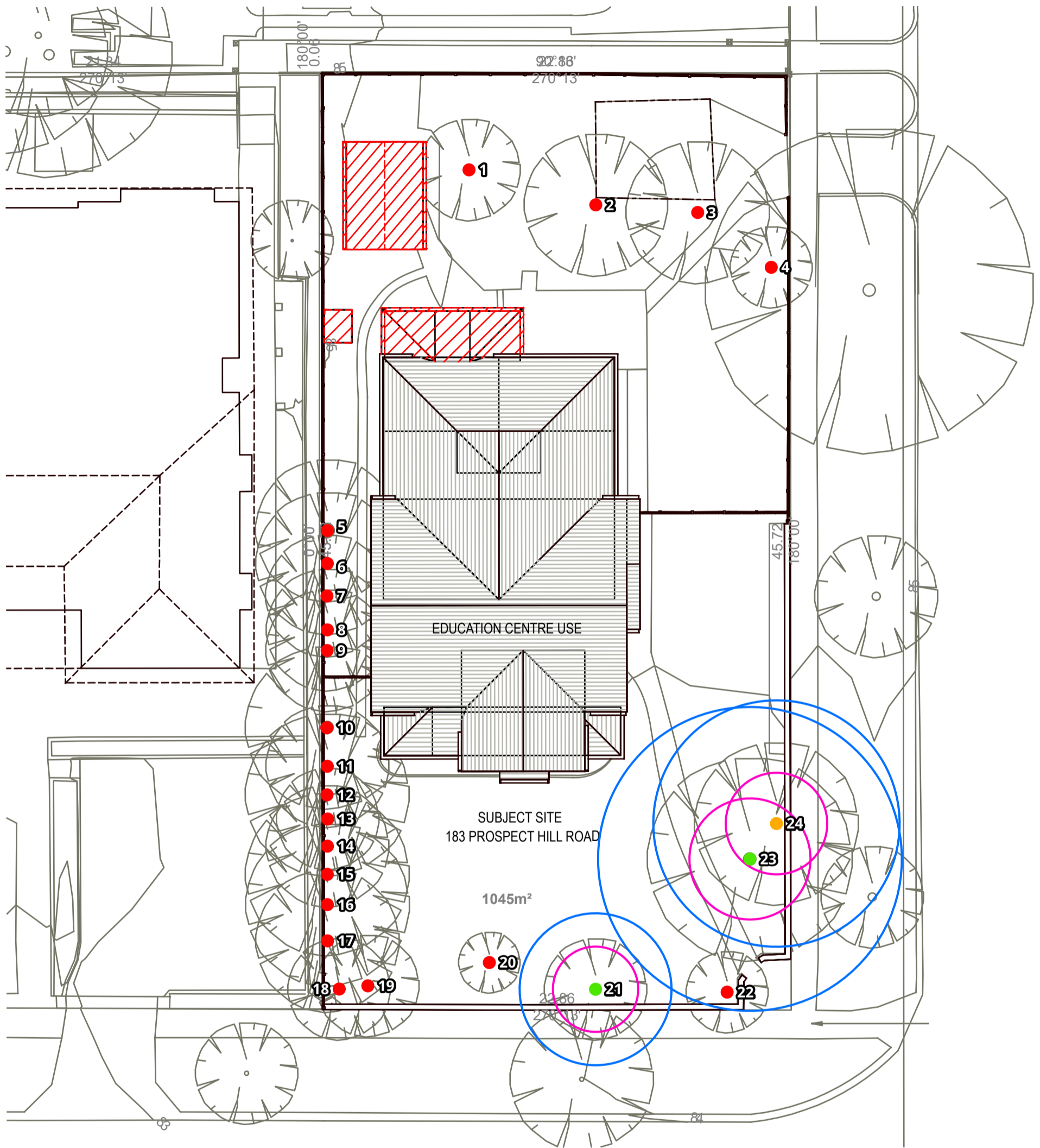
| Tree No | Botanical Name | Common Name | Origin | DSH (cm) | Basal Dia (cm) | Height (m) | Spread (m) | Health | Structure | Age Class | Arbor Value | Location | Protect Value | SRZ (m) | NRZ (m) | NRZ Area (m ²) | Notes |
|---------|--------------------------------|------------------|------------|------------------|----------------|------------|------------|--------|-----------|-------------|-------------|--------------|---------------|---------|---------|----------------------------|------------------------------------------------|
| 21 | <i>Photinia serratifolia</i> | Chinese Photinia | Exotic | 31 | 33 | 7 | 8 | Good | Fair-Good | Mature | High | Project Site | High | 2.1 | 3.7 | 43 | Worthy of retention |
| 22 | <i>Pittosporum eugenioides</i> | Tarata | Exotic | 14 | 18 | 4 | 3.5 | Good | Poor | Semi-Mature | Low | Project Site | None | 1.6 | 2.0 | 13 | Decay in stem and at base |
| 23 | <i>Syzygium smithii</i> | Lilly Pilly | Aus Native | 34/45/26 (62) | 76 | 11 | 12 | Good | Fair-Good | Mature | High | Project Site | High | 2.9 | 7.4 | 172 | Canopy part suppressed by growth of Photinia |
| 24 | <i>Photinia serratifolia</i> | Chinese Photinia | Exotic | Multi-Stem (~50) | 50 | 8.5 | 11 | Good | Fair | Mature | Medium | Project Site | Moderate | 2.5 | 6.0 | 113 | Canopy asymmetric due to growth of Lilly Pilly |

Note: DSH (cm) is the diameter at standard height (1.4m from natural ground level) (previously known as DBH - diameter at breast height), Basal Dia (cm) is the diameter of the trunk above the root flare, Arbor Value is the Arboriculture Vale, SRZ (m) is the structural root zone in metres in a radius from the centre of the trunk, NRZ (m) is the notional root zone (previously known as tree protection zone- TPZ) in metres in a radius from the centre of the trunk. These measurements and distances are calculated from the Australian Standard AS4970 - 2025 - Protection of trees on development sites.



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TPZ10% (m) is the offset distance (from one side of the tree only) so that the level of encroachment is not greater than the minor encroachment level of 10% as specified in the Australian Standard AS4970 - 2009 - Protection of Trees on Development Sites. Encroachments greater than 10% may require further investigation such as non-destructive root investigation.



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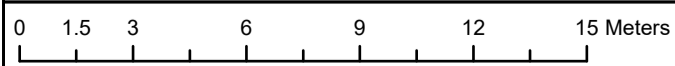
Arbor Survey

37 Arbor Way
CARRUM DOWNS VIC 3201
Phone: 03 8521 4966

5. TREE LOCATION PLAN (EXISTING)

Site:
183 Prospect Hill Rd CANTERBURY

Client:
[REDACTED]



Coordinate System: GDA 2020 MGA Zone 55
Scale: 1:200 at Sheet Size A3



Arbor Survey Ref:
R7419_ProspectHill

Revision:
-

Date:
10/12/2025

Source Plan:
Site Plan
Draper Noxon Architecture Pty Ltd
Ref: 2552 Dwg: EX00
Rev: N/A Date: 11/11/2025

Legend

Tree Protection Value

- High (2)
- Moderate (1)
- None (21)

Tree Protection Areas

- Notional Root Zone (NRZ)
- Structural Root Zone (SRZ)

Tree ID: 1
Botanical Name: *Pittosporum undulatum*
Common Name: Sweet Pittosporum
Origin: Vic Native
DSH (cm): 31
Basal Dia (cm): 44
Height (m): 9
Spread (m): 6.5
Health: Good
Structure: Fair
Age Category: Mature
ULE: 15 - 25
Significance: Moderate
Arboricultural Value: Medium

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Boundary Canopy Tree
Local Law: Exempt (Size)

Comments:
 Weed species, likely self sown, 4.6m from trunk centre to fence

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Tree Protection Areas

NRZ (m): 3.7
SRZ (m): 2.3
NRZ Area (m2): 43.0
NRZ 10% (m): 2.5



Tree ID: 2
Botanical Name: *Photinia serratifolia*
Common Name: Chinese Photinia
Origin: Exotic
DSH (cm): 19.5/27/17.5 (37.5)
Basal Dia (cm): 50
Height (m): 6.5
Spread (m): 7
Health: Good
Structure: Fair-Poor
Age Category: Mature
ULE: 5 - 15
Significance: Low
Arboricultural Value: Medium

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Dwelling)
Local Law: Yes

Comments:
 Twisted stems, inappropriate location next to carport

Tree Protection Areas

NRZ (m): 4.5
SRZ (m): 2.5
NRZ Area (m2): 63.6
NRZ 10% (m): 3.1



Tree ID: 3
Botanical Name: *Photinia serratifolia*
Common Name: Chinese Photinia
Origin: Exotic
DSH (cm): 20/23/17/22 (41.5)
Basal Dia (cm): 52
Height (m): 6.5
Spread (m): 7
Health: Good
Structure: Fair-Poor
Age Category: Mature
ULE: 5 - 15
Significance: Low
Arboricultural Value: Medium

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Dwelling)
Local Law: Yes
Comments:
 Twisted stems, inappropriate location next to carport

Tree Protection Areas

NRZ (m): 5.0
SRZ (m): 2.5
NRZ Area (m2): 78.5
NRZ 10% (m): 3.4



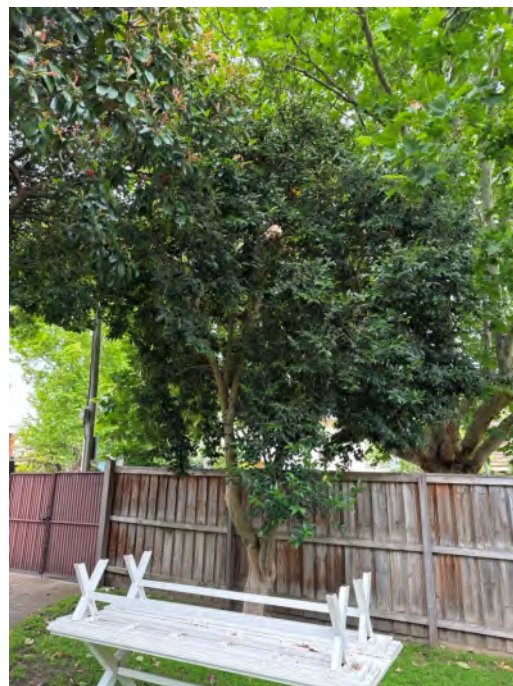
Tree ID: 4
Botanical Name: *Camellia sasanqua*
Common Name: Sasanqua Camellia
Origin: Exotic
DSH (cm): 17/17 (24)
Basal Dia (cm): 28
Height (m): 6.5
Spread (m): 4.5
Health: Good
Structure: Fair
Age Category: Mature
ULE: 15 - 25
Significance: Low
Arboricultural Value: Medium

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Dwelling)
Local Law: Exempt (Size)
Comments:
 Suppressed growth

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Tree Protection Areas

NRZ (m): 2.9
SRZ (m): 1.9
NRZ Area (m2): 26.4
NRZ 10% (m): 2.0



Tree ID: 5
 Botanical Name: *Hesperocyparis macrocarpa*
 Common Name: Monterey Cypress
 Origin: Exotic
 DSH (cm): 83
 Basal Dia (cm): 93
 Height (m): 15
 Spread (m): 8.5
 Health: Fair-Good
 Structure: Poor
 Age Category: Mature
 ULE: 5 - 15
 Significance: High
 Arboreal Value: Low

Protection Value: **None**
 Ownership: Project Site
 Planning Control: N/A
 Clause 52.37: Exempt (Dwelling)
 Local Law: Yes

Comments:
 Suppressed growth, twisted stems, tight angles of attachment

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Tree Protection Areas

NRZ (m): 10.0
 SRZ (m): 3.2
 NRZ Area (m2): 314.2
 NRZ 10% (m): 6.9



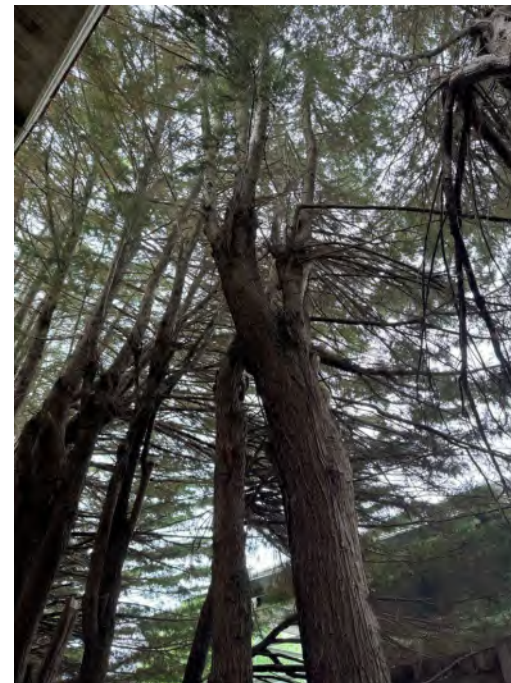
Tree ID: 6
 Botanical Name: *Hesperocyparis macrocarpa*
 Common Name: Monterey Cypress
 Origin: Exotic
 DSH (cm): 49/35 (60)
 Basal Dia (cm): 67
 Height (m): 15
 Spread (m): 6.5
 Health: Fair-Good
 Structure: Poor
 Age Category: Mature
 ULE: 5 - 15
 Significance: High
 Arboreal Value: Low

Protection Value: **None**
 Ownership: Project Site
 Planning Control: N/A
 Clause 52.37: Exempt (Dwelling)
 Local Law: Yes

Comments:
 Heavily suppressed growth, past failures, decay in stem

Tree Protection Areas

NRZ (m): 7.2
 SRZ (m): 2.8
 NRZ Area (m2): 162.9
 NRZ 10% (m): 5.0

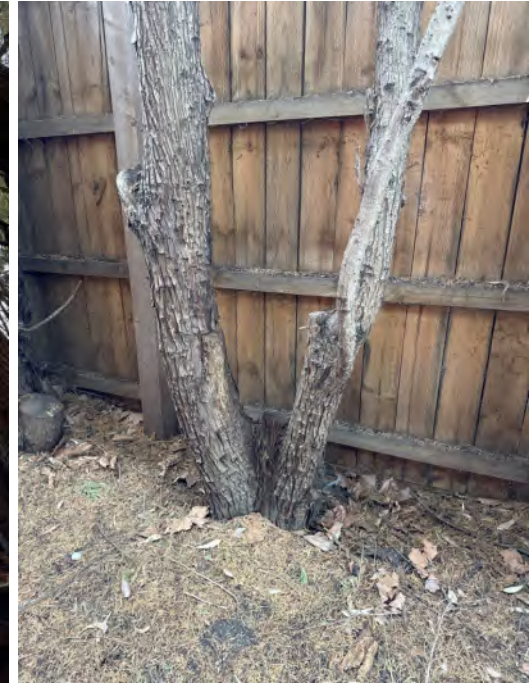


Tree ID: 7
Botanical Name: *Hesperocyparis macrocarpa*
Common Name: Monterey Cypress
Origin: Exotic
DSH (cm): 12/26 (28.5)
Basal Dia (cm): 39
Height (m): 14
Spread (m): 4
Health: Poor
Structure: Poor
Age Category: Semi-Mature
ULE: <5
Significance: High
Arboricultural Value: Low

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Dwelling)
Local Law: Yes
Comments:
 Heavily suppressed growth, past failures, dieback, stem removed in past

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Tree Protection Areas
NRZ (m): 3.4
SRZ (m): 2.2
NRZ Area (m2): 36.3
NRZ 10% (m): 2.3



Tree ID: 8
Botanical Name: *Hesperocyparis macrocarpa*
Common Name: Monterey Cypress
Origin: Exotic
DSH (cm): 60
Basal Dia (cm): 60
Height (m): 16
Spread (m): 6
Health: Fair-Poor
Structure: Poor
Age Category: Mature
ULE: 5 - 15
Significance: High
Arboricultural Value: Low

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Dwelling)
Local Law: Yes
Comments:
 Heavily suppressed growth, past failures, dieback, lopped branches

Tree Protection Areas
NRZ (m): 7.2
SRZ (m): 2.7
NRZ Area (m2): 162.9
NRZ 10% (m): 5.0



Tree ID: 9
Botanical Name: *Hesperocyparis macrocarpa*
Common Name: Monterey Cypress
Origin: Exotic
DSH (cm): 72
Basal Dia (cm): 70
Height (m): 16
Spread (m): 7
Health: Fair-Poor
Structure: Poor
Age Category: Mature
ULE: 5 - 15
Significance: High
Arboricultural Value: Low

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Dwelling)
Local Law: Yes
Comments:
 Heavily suppressed growth, past failures, dieback, lopped branches

Tree Protection Areas

NRZ (m): 8.6
SRZ (m): 2.8
NRZ Area (m2): 232.4
NRZ 10% (m): 5.9



Tree ID: 10
Botanical Name: *Hesperocyparis macrocarpa*
Common Name: Monterey Cypress
Origin: Exotic
DSH (cm): 44/46/25 (68.5)
Basal Dia (cm): 69
Height (m): 15
Spread (m): 7
Health: Fair
Structure: Poor
Age Category: Mature
ULE: 5 - 15
Significance: High
Arboricultural Value: Low

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Dwelling)
Local Law: Yes
Comments:
 Heavily suppressed growth, past failures, lopped branches

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Tree Protection Areas

NRZ (m): 8.2
SRZ (m): 2.8
NRZ Area (m2): 211.2
NRZ 10% (m): 5.6



Tree ID: 11
Botanical Name: *Hesperocyparis macrocarpa*
Common Name: Monterey Cypress
Origin: Exotic
DSH (cm): 35/24 (42.5)
Basal Dia (cm): 50
Height (m): 15
Spread (m): 3
Health: Poor
Structure: Poor
Age Category: Mature
ULE: <5
Significance: High
Arboricultural Value: Low

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Size)
Local Law: Yes

Comments:
 Heavily suppressed growth, past failures, lopped branches

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Tree Protection Areas

NRZ (m): 5.1
SRZ (m): 2.5
NRZ Area (m2): 81.7
NRZ 10% (m): 3.5



Tree ID: 12
Botanical Name: *Hesperocyparis macrocarpa*
Common Name: Monterey Cypress
Origin: Exotic
DSH (cm): 67
Basal Dia (cm): 55
Height (m): 15
Spread (m): 7
Health: Fair-Poor
Structure: Poor
Age Category: Mature
ULE: <5
Significance: High
Arboricultural Value: Low

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Dwelling)
Local Law: Yes

Comments:
 Heavily suppressed growth, past failures, lopped branches

Tree Protection Areas

NRZ (m): 8.0
SRZ (m): 2.6
NRZ Area (m2): 201.1
NRZ 10% (m): 5.5



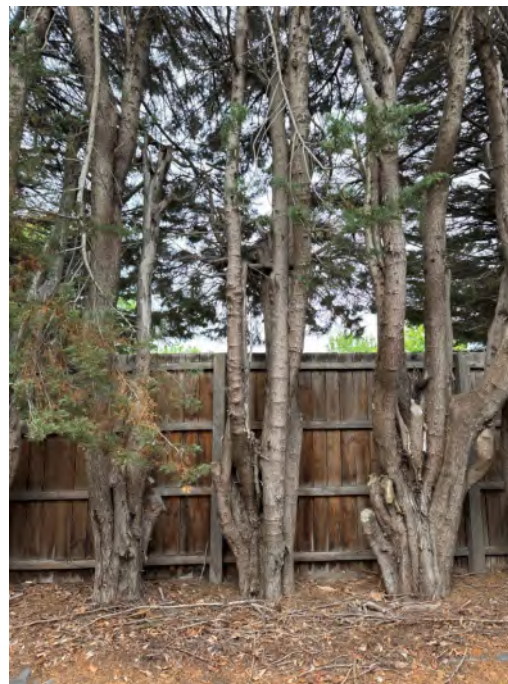
Tree ID: 13
Botanical Name: *Hesperocyparis macrocarpa*
Common Name: Monterey Cypress
Origin: Exotic
DSH (cm): 29/28/22/24 (52)
Basal Dia (cm): 48
Height (m): 14
Spread (m): 5
Health: Fair-Poor
Structure: Poor
Age Category: Mature
ULE: <5
Significance: High
Arboricultural Value: Low

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Dwelling)
Local Law: Yes

Comments:
 Heavily suppressed growth, past failures, lopped branches, decay in stem

Tree Protection Areas

NRZ (m): 6.2
SRZ (m): 2.4
NRZ Area (m2): 120.8
NRZ 10% (m): 4.3



Tree ID: 14
Botanical Name: *Hesperocyparis macrocarpa*
Common Name: Monterey Cypress
Origin: Exotic
DSH (cm): 51
Basal Dia (cm): 46
Height (m): 14
Spread (m): 4
Health: Fair-Poor
Structure: Poor
Age Category: Mature
ULE: <5
Significance: High
Arboricultural Value: Low

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Dwelling)
Local Law: Yes

Comments:
 Heavily suppressed growth, past failures, lopped branches, decay in stem

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Tree Protection Areas

NRZ (m): 6.1
SRZ (m): 2.4
NRZ Area (m2): 116.9
NRZ 10% (m): 4.2



Tree ID: 15
 Botanical Name: *Hesperocyparis macrocarpa*
 Common Name: Monterey Cypress
 Origin: Exotic
 DSH (cm): 60/46 (75.5)
 Basal Dia (cm): 68
 Height (m): 15
 Spread (m): 7
 Health: Fair-Poor
 Structure: Poor
 Age Category: Mature
 ULE: <5
 Significance: High
 Arbicultural Value: Low

Protection Value: **None**
 Ownership: Project Site
 Planning Control: N/A
 Clause 52.37: Exempt (Dwelling)
 Local Law: Yes
Comments:
 Heavily suppressed growth, past failures, lopped branches, decay in stem

Tree Protection Areas

NRZ (m): 9.1
 SRZ (m): 2.8
 NRZ Area (m2): 260.2
 NRZ 10% (m): 6.3



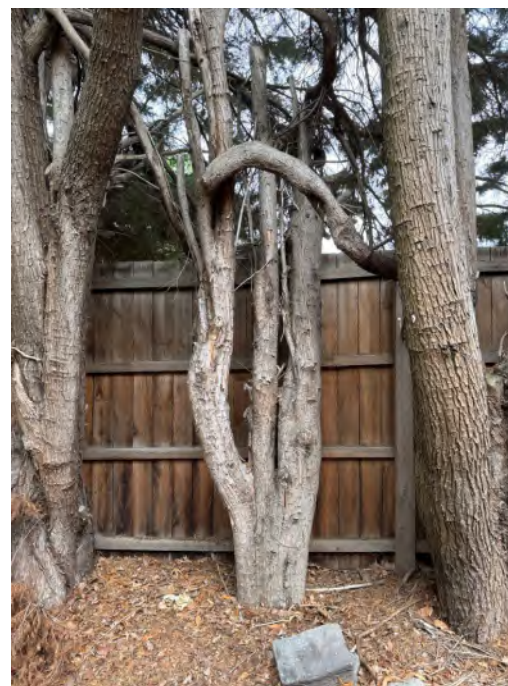
Tree ID: 16
 Botanical Name: *Hesperocyparis macrocarpa*
 Common Name: Monterey Cypress
 Origin: Exotic
 DSH (cm): 29/23/21 (42.5)
 Basal Dia (cm): 37
 Height (m): 3
 Spread (m): 1.5
 Health: Dead
 Structure: Poor
 Age Category: Dead
 ULE: 0
 Significance: Low
 Arbicultural Value: Low

Protection Value: **None**
 Ownership: Project Site
 Planning Control: N/A
 Clause 52.37: Exempt (Size)
 Local Law: Yes
Comments:
 Dead tree

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Tree Protection Areas

NRZ (m): 5.1
 SRZ (m): 2.2
 NRZ Area (m2): 81.7
 NRZ 10% (m): 3.5



Tree ID: 17
Botanical Name: *Hesperocyparis macrocarpa*
Common Name: Monterey Cypress
Origin: Exotic
DSH (cm): 87
Basal Dia (cm): 71
Height (m): 15
Spread (m): 10
Health: Fair
Structure: Poor
Age Category: Mature
ULE: 5 - 15
Significance: High
Arboricultural Value: Low

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Boundary Canopy Tree
Local Law: Yes
Comments:
 Heavily suppressed growth, past failures, lopped branches, decay in stem

Tree Protection Areas

NRZ (m): 10.4
SRZ (m): 2.9
NRZ Area (m2): 339.8
NRZ 10% (m): 7.2



Tree ID: 18
Botanical Name: *Pittosporum undulatum*
Common Name: Sweet Pittosporum
Origin: Vic Native
DSH (cm): Multi-Stem (~35)
Basal Dia (cm): Approx. 40
Height (m): 6.5
Spread (m): 4.5
Health: Fair
Structure: Poor
Age Category: Mature
ULE: 5 - 15
Significance: Low
Arboricultural Value: Low

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Boundary Canopy Tree
Local Law: Yes
Comments:
 Weed species, likely self sown,

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Tree Protection Areas

NRZ (m): 4.2
SRZ (m): 2.3
NRZ Area (m2): 55.4
NRZ 10% (m): 2.9



Tree ID: 19
Botanical Name: *Photinia serratifolia*
Common Name: Chinese Photinia
Origin: Exotic
DSH (cm): 12/7 (14)
Basal Dia (cm): 16
Height (m): 3.5
Spread (m): 4
Health: Fair-Poor
Structure: Poor
Age Category: Juvenile
ULE: <5
Significance: Low
Arboricultural Value: Low

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Size)
Local Law: Exempt (Size)
Comments:
 Heavily suppressed growth

Tree Protection Areas

NRZ (m): 2.0
SRZ (m): 1.5
NRZ Area (m2): 12.6
NRZ 10% (m): 1.4



Tree ID: 20
Botanical Name: *Corymbia calophylla*
Common Name: Marri
Origin: Aus Native
DSH (cm): 20
Basal Dia (cm): 25
Height (m): 7
Spread (m): 4
Health: Poor
Structure: Fair-Poor
Age Category: Juvenile
ULE: 5 - 15
Significance: Low
Arboricultural Value: Low

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Boundary Canopy Tree
Local Law: Exempt (Size)
Comments:
 In decline, suppressed growth,

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Tree Protection Areas

NRZ (m): 2.4
SRZ (m): 1.8
NRZ Area (m2): 18.1
NRZ 10% (m): 1.7



Tree ID: 21
Botanical Name: *Photinia serratifolia*
Common Name: Chinese Photinia
Origin: Exotic
DSH (cm): 31
Basal Dia (cm): 33
Height (m): 7
Spread (m): 8
Health: Good
Structure: Fair-Good
Age Category: Mature
ULE: 25+
Significance: Moderate
Arboricultural Value: High

Protection Value: **High**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Boundary Canopy Tree
Local Law: Exempt (Size)
Comments:
 Worthy of retention

Tree Protection Areas

NRZ (m): 3.7
SRZ (m): 2.1
NRZ Area (m2): 43.0
NRZ 10% (m): 2.5



Tree ID: 22
Botanical Name: *Pittosporum eugenioides*
Common Name: Tarata
Origin: Exotic
DSH (cm): 14
Basal Dia (cm): 18
Height (m): 4
Spread (m): 3.5
Health: Good
Structure: Poor
Age Category: Semi-Mature
ULE: 5 - 15
Significance: Low
Arboricultural Value: Low

Protection Value: **None**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Size)
Local Law: Exempt (Size)
Comments:
 Decay in stem and at base

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Tree Protection Areas

NRZ (m): 2.0
SRZ (m): 1.6
NRZ Area (m2): 12.6
NRZ 10% (m): 1.4



Tree ID: 23
Botanical Name: *Syzygium smithii*
Common Name: Lilly Pilly
Origin: Aus Native
DSH (cm): 34/45/26 (62)
Basal Dia (cm): 76
Height (m): 11
Spread (m): 12
Health: Good
Structure: Fair-Good
Age Category: Mature
ULE: 25+
Significance: Moderate
Arboricultural Value: High

Protection Value: **High**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Dwelling)
Local Law: Yes

Comments:
 Canopy part suppressed by growth of Photinia

Tree Protection Areas

NRZ (m): 7.4
SRZ (m): 2.9
NRZ Area (m2): 172.0
NRZ 10% (m): 5.1



Tree ID: 24
Botanical Name: *Photinia serratifolia*
Common Name: Chinese Photinia
Origin: Exotic
DSH (cm): Multi-Stem (~50)
Basal Dia (cm): 50
Height (m): 8.5
Spread (m): 11
Health: Good
Structure: Fair
Age Category: Mature
ULE: 15 - 25
Significance: Moderate
Arboricultural Value: Medium

Protection Value: **Moderate**
Ownership: Project Site
Planning Control: N/A
Clause 52.37: Exempt (Dwelling)
Local Law: Yes

Comments:
 Canopy asymmetric due to growth of Lilly Pilly

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Tree Protection Areas

NRZ (m): 6.0
SRZ (m): 2.5
NRZ Area (m2): 113.1
NRZ 10% (m): 4.1



7. APPENDICES

7.1 SURVEY METHODOLOGY AND DESCRIPTORS

This report is based upon the condition of the trees and the site conditions noted on the inspection date(s) only. The characteristics of each tree or group of trees of similar characteristics have been undertaken in accordance with the Visual Tree Assessment (VTA) methodology (Mattheck & Breloer, 1998). The data is included in this report in a summary table located in Section 4 with the complete assessment and photograph location in Section 6. The Tree Location Plan in Section 5 indicates the Protection value of the Trees assessed and the Structural Root Zone (SRZ) and Notional Root Zone (NRZ) of tree of high and moderate protection value.

The survey identifies all trees or groups of trees within the project site or as per the provided scope that are over 2 metres in height and on adjoining lands (neighbouring properties and or Council or other regulatory body or Crown land) where their projected Notional Root Zones (NRZs) extend to within the project site and may be affected by the proposed buildings and or works. The assessment is undertaken from a visual inspection from ground level only. No individual tree or trees were climbed and no samples of soil, plant material or pest and disease infestation (if present) were taken for analysis. Defects not apparent from this ground-based visual inspection are excluded from the discussion within this report. This report is not a risk assessment and no other assessment methodologies have been used.

This assessment is based on an improved and modified version of current industry best practice. 'Retention Value' is not used as the primary driver for any recommendations. The primary driver for the recommendations within the report is the characteristic of 'Protection Value'. Protection value is derived from a combination of the physical arboricultural characteristics and life expectancy recorded as the 'Arboricultural Value' in conjunction with the landscape significance or amenity value, ownership, and relevant regulatory controls.

The following data is recorded on site:

- **Tree Identification Number (Tree No.)** – This is a sequential numeric numbering system used to identify each tree on the attached site map. These numbers may also relate to tags placed on each tree in the field if required. Any deviation of the numbering system will be specifically noted within the report.
- **Genus/ Species (Botanical Name)** – Species identification is considered as common and made using species characteristics observed on site or sampled and researched off site. Specific cultivar or subspecies details are omitted unless where known. No samples have been taken to the National Herbarium of Victoria for accurate analysis and identification unless specifically noted within the report.
- **Common Name** – This is the typical common name assigned to the tree species. For many trees, there is likely to be numerous common names that could be used. The common name provided should only be seen as a secondary identification tool.
- **Origin** – Relates to the species natural origin (i.e. if the tree would have been found in the local environment, pre-European settlement). Origin is recorded based on the following categories:

| Category | Description |
|------------|-------------------------------------------------------------------------------------------------------------------------------|
| Exotic | May be planted or self-sown, Originates from outside of Australia. |
| Aus Native | May be planted or self-sown, Originates from Australia, but does not originate from Victoria. |
| Vic Native | May be planted or self-sown, Naturally found within Victoria but <u>not</u> originating from within the Local Government area |
| Indigenous | May be planted or self-sown, Originates from within the Local Government area of the site |

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- **DSH (cm)** – this is the Diameter at Standard Height (DSH) (previously known as Diameter at Breast Height – DBH) measured using a diameter tape at approximately 1.4 metres from natural ground level. Where the trunk diameter at this point may be affected by natural growth such as a major union point, the DSH will be measured just below this union point. For multiple stemmed trees, the measurements are provided for up to 4 stems (at 1.4 metres from natural ground level). These will be recorded, and the combined or total diameter will be calculated in accordance with the Australian Standard AS 4970-2025-Protection of Trees on Development Sites using the formula below:

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$$\text{Total DSH} = \sqrt{(\text{DSH}_1)^2 + (\text{DSH}_2)^2 + (\text{DSH}_3)^2 + (\text{DSH}_4)^2}$$

This is represented in the tree data as “Stem1/Stem2/Stem3/Stem4 (Calculated DSH)” – i.e. 15/28/34/19 (50.3). The calculated DSH of the stems is used to determine the Tree Protection Zone. For trees with more than 4 stems, the DSH (cm) measurement is recorded as ‘Multi-stemmed’ or similar. In instances where ‘Multi-stemmed’ is recorded, the Tree Protection Zone will be based on a basal measurement. For neighbouring property trees and where access is limited, an approximate DSH (cm) will be provided.

- **Basal Dia (cm)** – this is the diameter of the tree at the trunk base (including multiple stemmed trees) at a level above the trunk basal flare. This is used to determine the Structural Root Zone (SRZ). In some cases, this will be noted as being ‘Multi -stemmed’ and the SRZ will be estimated using an approximate basal diameter. For neighbouring property trees and where access is limited, an approximate Basal Diameter (cm) will be provided.
- **Height (m)** – this is the approximate height of the canopy of the tree or the largest canopy height of a group of trees. This is an approximated height based on known landscape reference points. In cases of large significant trees where accurate height measurements are required (as height will directly affect the outcome or recommendations of the report), a Nikon Forestry Pro Laser Range finder will be used. Where measured heights have been used, this will be noted within the report data and detailed within the report.
- **Spread (m)** – this is the approximate canopy spread of the tree on the widest axis. This is given as a single measure and is provided as a guide to show overall canopy spread within the landscape. Where multiple canopy dimensions are required (i.e. proximity to buildings and or severely asymmetric canopy growth) as it may affect the outcome of tree protection, these will be noted within the report data and detailed in the Development Impact Assessment.
- **Health** - relates to the tree vigour and canopy density. The characteristic assigned to the tree may be represented as a combination of any of these categories (e.g. Fair to Poor or Fair-Poor). In these instances, there may be a combination of the characteristics listed below or the foliage density is at the upper or lower scale of each category. In some cases, ‘Health’ may be noted as being ‘Very Good’ which indicates an optimal condition or ‘Very Poor’ which indicates that the tree is of such poor health and is unlikely to recover. In some cases, the ‘Health’ condition will be provided as ‘Dead’. In this case, there is no observable indication that the tree is alive at the time of inspection. Health is rated according to the following categories:

| Category | Description |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Good | Foliage density / bud formation (Deciduous) is greater than 75% at optimal growth. There is less than 10% canopy dieback present and foliage has no or very minor tip dieback. Tree may also have visible extension growth if it is in active growth and is showing no signs of nutrient deficiency (i.e. chlorosis) or active pest or disease presence. The tree may also have good wound wood development. |
| Fair | Foliage density / bud formation (Deciduous) is between 50-75% at optimal growth for the species. There may be 10-30% canopy dieback present and foliage may have minor tip dieback. Tree maybe showing signs of normal growth, but it is not consistent throughout the crown. Some foliage discolouration may be present from possible nutrient deficiency or other cause (i.e. pest or disease). |
| Poor | Canopy may be asymmetrical (not typical for the species and affecting vigour) and or canopy may be suppressed. There may be greater than 30% canopy dieback present and foliage density is below 50%. Stunted growth through leaf size or petiole extension and discolouration of the leaf may be present. Tree may be producing epicormic shoots as a stress response. Nutrient deficiency, lack of resources (water, light etc) or pathogens may be the causal agent in the tree’s decline. |

- **Structure** - relates to the physical form of the tree, including the trunk(s), main scaffold branches and roots. Structure includes the attributes that may influence the probability of trunk, limb, or root plate failure. The characteristic assigned to the tree may be represented as a combination of any of these categories (e.g. Fair to Poor or Fair to Good). In these instances, there may be a combination of the characteristics listed below. In some cases, 'Structure' may be noted as being 'Very Good' which indicates an optimal condition or 'Very Poor' which indicates that the tree has major structural defects and may be of a relatively high risk of failure of the identified tree part.

Structure is rated according to the following categories:

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| Category | Description |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Good | The form of the tree is excurrent or decurrent and typical of the species characteristics and exhibits good symmetrical form. Major limbs are well formed with acceptable branch taper and unions appear to be strong with no signs of major defects. The tree has minimal defects or decay throughout the trunk and limbs. There is no signs of root plate heave or damage to the root system (mechanical or other). The tree is unlikely to suffer major branch or trunk failure under normal environmental (weather) conditions. |
| Fair | The form of the tree is excurrent or decurrent and typical of the species characteristics and has a fairly symmetrical form. Tree may exhibit minor structural defects that may be managed through formative/remedial/restorative or structural pruning. Only minor wounds and or areas of decay are present that do not affect the overall stability or structural integrity of any major parts of the tree. Minor root damage may have occurred in the past. Defects present are likely to cause only minor branch failure under normal environmental (weather) conditions. |
| Poor | Tree has a poorly formed crown that is not symmetrical. Branch and or trunk taper may be unacceptable and scaffold limbs may be overextended. Branch unions may exhibit significant defects that cannot be managed through formative pruning. There is likely to be decay in parts of the tree that may result in branch or trunk failure. Major root damage may have occurred and there may be evidence of root plate heave. Defects that are present may result in major failure of branches or trunk under normal environmental (weather) conditions. |

- **Age Class** - is given as a guide to the current life stage of the tree. Ultimately, the level of maturity that a tree may reach is dependent on the growing environment. The 'Mature' age class may extend for many years and is given only as an indication of the maturity of the tree based on the conditions of the local environment. Age Class is rated according to the following categories:

| Category | Description |
|--------------|-------------------------------------------------------------------------------------------------------------|
| New Planting | Planted within approximately 2 years |
| Juvenile | Estimated as between 2 - 10 years old |
| Semi-mature | Estimated at between 10 - 20 years old, however, this may be species dependant |
| Mature | Estimated at over 25 years old or in a life stage that is considered at the peak of growth for the species. |
| Senescent | In the declining phase of the tree's lifespan |

- **Landscape Significance** - Landscape Significance only relates to the size of the tree relative to the immediate local area and its visual presence. Landscape significance should not be considered as the only factor in determining if a tree is worthy of retention. Landscape significance is rated according to the following categories:

| Category | Description |
|----------|------------------------------------------------------------------------------------------------------------------------------------|
| None | Tree is dead and provides no value in the landscape from a visual amenity perspective |
| Low | Tree is less than 8 metres in height and spread and is not easily seen from outside of the site from within the public realm |
| Moderate | Tree is generally between 8 - 12 metres in height and can be easily viewed from within 50 metres of the site from the public realm |
| High | Tree is generally over 12 metres in height and can be viewed from over 50 metres away from the site and from adjoining streets |

- **Arboricultural Value** - is rated according to the overall health, structure, and estimated life expectancy of the tree (often referred to as 'Useful Life Expectancy -ULE'). Often the life expectancy or ULE of a tree may be difficult to quantify as there are too many variables and therefore it is not directly recorded as a characteristic in the report. ULE has traditionally been used to guide future replanting and tree population heuristics.

The 'Arboricultural Value' takes into account the overall condition and life expectancy of the tree however it does not take into account the landscape or environmental status or suitability of the tree in the landscape. This rating is not a 'Retention Value' or 'Protection Value', it is only a rating of the overall condition of the physical characteristics of the tree and its expected longevity (based on growing conditions). For example, a tree of a semi mature or younger age class may be given a medium or high arboricultural value based on its condition, however it may be given no protection value based on its current size and low landscape significance and or amenity value. The arboricultural value is rated based on the following categories:

| Category | Description |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Low | A tree of low arboricultural value may be considered to be in poor condition overall with a low life expectancy (less than 10 years). The tree may be showing signs of poor health and or structure. The tree may either have a poor health rating and it is unlikely to recover or a poor structure that cannot be remedied through normal arboricultural pruning practices. |
| Medium | A tree of medium arboricultural value may be considered to be in fair condition overall. This tree may be considered as an average tree that provides average benefits to the site and local area with an estimated longevity of between 10 – 20 years. The tree may have evidence of fair to poor health that may be improved through cultural practices. The tree may have some structural defects that can be remedied through normal arboricultural pruning practices. |
| High | A tree of high arboricultural value may be considered to be of good overall health and structure. The tree is considered to have a life expectancy of greater than 20 years. Under normal maintenance practices this tree is expected to perform well in the landscape in the long term. |

- **Ownership** – the ownership is noted as this may affect the 'Protection Value' of a tree or group of trees. Generally, trees and or vegetation that are located on adjoining lands that are not of the ownership of the project site may be subject to permission for removal and or works within the tree protection zone. Traditionally, this may be referred to as 'Third Party Ownership'. Adjoining lands may be owned by private property owners and this is noted as being in the category 'Neighbours'. Trees located on road reserves, nature strips or adjoining parklands/ open spaces are often owned or managed by the local Responsible Authority and are given the ownership category of 'Council'. Where known, ownership may be noted as being 'Crown' or another regulatory body (e.g. Melbourne Water). In some cases, the ownership will be noted as 'Other' and this will be explained in the 'Site Analysis' section of the report.
- **Protection Value** - is determined based on a combination of the Arboricultural Value, the ownership/ location of the tree, the landscape/ ecological and or cultural / heritage significance of the tree. The Protection Value also takes into account the suitability of the tree in the current and future landscape and the species status (i.e. identified weed species). The tree may also be protected under any relevant Planning or Local Law regulations which is also taken into account under Protection Value. Protection Value is rated according to the following categories:

| Category | Description |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| None | A tree or group of trees of 'No' protection value may be considered to be in poor condition overall and is assigned a low arboricultural value and is within the project site. The tree may be of medium or high arboricultural value, however, if it is a known weed species, is doing considerable infrastructure damage or is not suitable to the site (based on its physical characteristics) it is considered to be of no protection value. The tree may be a juvenile to young specimen that can easily be replaced with new tree planting that will provide a greater amenity in the next 5 – 10 years. This tree may have a low landscape significance (Refer to the Landscape Significance category) Trees that are located on adjoining land may only be given a rating of 'None' if they are found to be dead or extremely hazardous and do not have any regulatory protection and or habitat value. In such instances this will be defined within the report. |

| Category | Description |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Moderate | <p>A tree or group of trees of 'Moderate' protection value may be considered to be in fair to good condition overall and is located within the project site. The tree may be of medium or high arboricultural value, however, it may or may not be suitable to the site in the long term (based on its physical characteristics) for greater than 20 years. The tree may provide a moderate level of landscape significance. The tree may be in a semi mature to early mature life stage.</p> <p>Ideally any future development should consider a moderate protection value to be retained and incorporated into the design. However, if the retention and or adequate protection of this tree cannot be achieved with a reasonable design footprint then consideration should be given to the removal of the tree and replacement with a new tree suitable to the landscape and available space.</p> <p>Only trees within the project site may be given a rating of 'Moderate'.</p> |
| High | <p>A tree or group of trees of 'High' protection value may be considered to be in good condition overall and is suitably located within the project site (i.e. within the front setback). The tree (if within the project site) will be of high arboricultural value and should have a life expectancy of greater than 20 years if protected and managed. The tree may provide a moderate to high level of landscape significance or amenity and be of moderate to high individual significance. The tree will be in a mature life stage but not beginning senescence. Ideally any future development should consider a high protection value to be retained and incorporated into the design when the tree is located on the site. The design should have regard to the adequate protection of this tree throughout any development on the project site. This tree may have a high landscape significance in terms of its height and mass within the landscape (i.e. generally greater than 12 metres in height and spread)</p> <p>Trees located on adjoining lands, not of the ownership of the project site, are given a high protection value, regardless of their overall condition (Arboricultural Value), the environmental / landscape significance and or cultural / heritage significance (i.e. historic or remnant old veteran trees) unless they are Dead and do not have any regulatory protection and or habitat value. High protection value may also be assigned to known weed species, however this will be noted within the report.</p> <p>The tree(s) may or may not be subject to any local Planning or other regulatory control (i.e. Local Law).</p> |

- **SRZ (m)** - The Structural Root Zone (SRZ) (referenced from *Australian Standard AS4970-2025 - Protection of Trees on Development Sites*) is the calculated distance based on Basal Dia (cm). The SRZ identifies the minimum radius at which the root plate should not be disturbed. This measure only relates to the trees' stability and does not take into account the implications of a decline in health. The measurement is given in metres in a radius from the centre of the tree trunk.
- **NRZ (m)** - The Notional Root Zone (NRZ) (previously known as the Tree Protection Zone – TPZ) referenced from *Australian Standard AS4970-2025 - Protection of trees on development sites* is the calculated distance based on the DSH of the tree. The NRZ addresses the physiological implications by retaining an ideal area around the tree to survive in the landscape on a long-term basis. The measurement is given in metres in a radius from the centre of the trunk.
- **NRZ Area (m²)** - is the Notional Root Zone in square metres (m²) around the trunk.
- **NRZ10% (m)** - identifies the 10% encroachment distance into the Notional Root Zone on one side of the tree only (Minor Encroachment).
- **Encroach (%)** - is the level of encroachment into the NRZ of the tree from the excavation/ buildings and works.
- **Notes/ Comments** – The general notes/ comments provide additional support where required for the tree data collected in the field.

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7.2 GLOSSARY OF COMMONLY USED TERMS

Amenity

Although difficult to quantify, the term as used in this report relates to the contribution given to the landscape or streetscape in terms of visual aesthetics. It may also relate to the contribution in terms of shade or protection from the elements.

Bifurcation

A stem or branch forked or divided into two or more parts or branches. Used to describe a union point. A bifurcation may have different characteristics dependant on the load distribution on the union and the size of the branches or stems that arise from the union point.

Branch Bark Ridge

Swelling of bark tissue on the upper side of the branch junction or union. Considered the normal pattern of development in contrast to included bark (from Matheny & Clark, 1994).

Branch collar

Trunk tissue that forms around the base of a branch between the main stem and the branch. As the branch decreases in vigour or begins to die, the branch collar becomes more pronounced (AS4373).

Chlorotic

Discolouration of the leaves, yellow in colour resulting from a lack of chlorophyll

Codominant

Generally, relates to trunks/ stems (although it may relate to scaffold branches within the crown) of two or more and of equal or similar size and relative importance (Matheny & Clark, 1994).

Compartmentalisation

Physiological process which creates the chemical and mechanical boundaries that act to limit the spread of disease and decay organisms (Matheny & Clark, 1994).

Decay

Degeneration and de-lignification of plant tissue, including wood, by pathogens or micro-organisms (AS4373).

Epicormic Shoots

Shoots which arise from adventitious or latent buds (usually dormant). They are generally produced in response to environmental stress.

Included Bark

The pattern of development at a branch union where bark is turned inward rather than outward or pushed out. Relates to the branch bark ridge and bifurcations. (Matheny & Clark, 1994)

Live Crown Ratio (LCR)

Relative proportion of healthy crown in proportion to overall tree height. Often not used in isolation due to the different natural forms of many species and growing conditions. Generally, an LCR of less than 30% may result in a poor structural rating, however, when this is used and noted within this report, it is based on potential changes to the environment where this condition may have an effect on long term protection value.

Lateral

A branch arising from another branch or stem (AS4373)

Lopping

Cutting back a limb or stem at any point with no regard to natural target pruning. Random cutting of branches or stems between branch unions or at internodes on young trees. Not considered an acceptable practice as part of the *Australian Standard AS4373-2007 - Pruning of Amenity Trees*.

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Senescence or Senescent

The organic process of age and the deterioration of tissue within the tree.

Wound wood/ Reaction Wood

Lignified, partially differentiated tissue which develops from the callus associated with wound or pruning cuts.

7.3 BIBLIOGRAPHY AND CITED REFERENCES

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Mattheck, C. & Breloer, H., 1998, *The Body Language of Trees – A Handbook for Failure Analysis*, The Stationary Office, Norwich, London.

Standards Australia 2007, *Australian Standard AS4373-2007, Pruning of Amenity Trees*, 14 March 2007.

Standards Australia 2025, *Australian Standard AS4970-2025, Protection of Trees on Development Sites*, 30 May 2025.

7.4 TREE PROTECTION GUIDELINES

7.4.1 BACKGROUND

Arbor Survey Pty Ltd assesses individual tree protection requirements based upon the *Australian Standard AS4970-2025 - Protection of Trees on Development Sites*. Tree protection requirements are calculated based upon trunk diameter of the tree at breast height. These calculations produce what is referred to in this report as the Notional Protection Zone (NRZ) and is provided as a measurement in metres in a radius from the centre of the trunk.

The NRZ is the zone in which protective measures should be applied in order to protect the tree(s) whilst maintaining the current levels of health and vigour.

Determination of the structural root zone or the zone of rapid taper is provided as the Structural Root Zone (SRZ). The structural root zone calculations (may also be referred to as the Root Plate Radius (RPR)) of the tree, based upon the *Australian Standard AS4970-2025*. The SRZ determines the minimum distance around the tree in which the structural stability of the tree should be able to be maintained.

It is important to note that the SRZ only determines the root plate area or the zone of rapid taper. Excavation within this area will not only cause a decline in tree vigour but may also cause catastrophic tree failure (Coder, 1996).

Often it is difficult to protect the entire NRZ due to site constraints. In such events it is imperative that condition and species tolerance to disturbance are evaluated in conjunction with the site characteristics. Helliwell (1985) and Harris (1999) identified that a healthy tree may tolerate removal of up to one-third of its roots and possibly up to 50% in some cases, although stability may be compromised at this level.

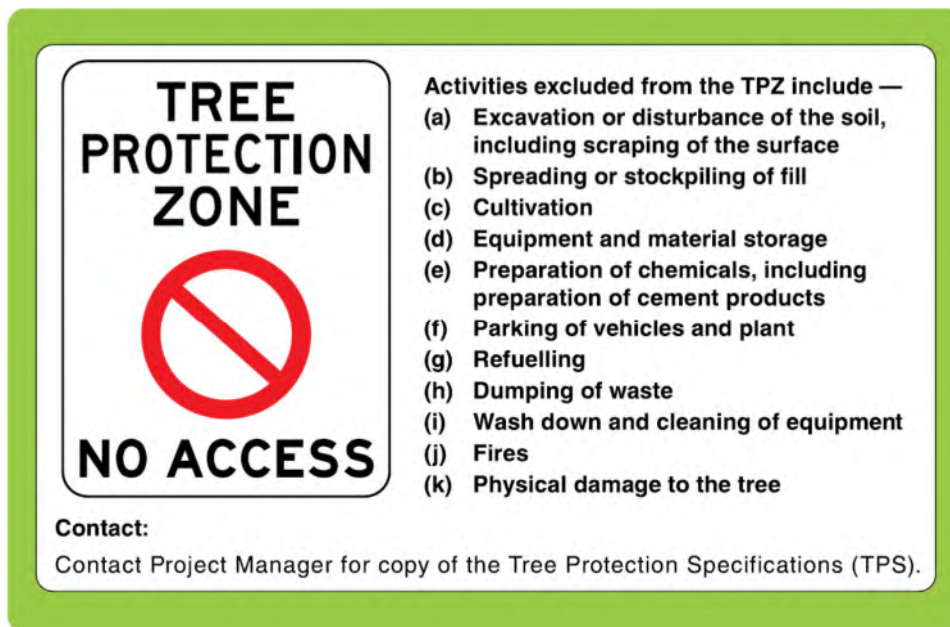
In situations where the NRZ of a tree to be retained will be in close proximity to a proposed development or where there will be encroachment into the NRZ of a tree, a specific tree management plan should be developed. This plan provides prescriptive measures to protect trees on development sites.

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7.4.2 GENERAL TREE PROTECTION REQUIREMENTS

The following requirements are only provided only for basic guidance, these guidelines do not constitute a specific tree management and protection plan.

- A tree protective fence should be installed at the recommended distance allocated for each tree to be retained to create a Tree Protection Zone (TPZ). The fence should be located at the NRZ distance provided where possible.
- The protection fence should be rigid (chain link or similar) and should not be less than 1.8 metres in height. Fencing should be firmly attached to a removable concrete or similar base. Alternatively, star pickets (1.5 metre spacing) and para-webbing may be used to define the tree protection area. Fencing should be in accordance with the *Australian Standard for Temporary Fencing AS4687*.
- In cases where the NRZ cannot be entirely fenced, it is recommended that ground protection is used. Specific ground protection requirements will form part of a tree protection plan that should be developed for all trees to be retained.
- No soil levels must be altered within the fenced TPZ area, no heavy machinery should be allowed to pass within this area and no spoil, chemicals, building materials or refuse should be stored within this area. Nothing whatsoever should be attached to the tree (excluding tape to identify a tree to be protected).
- The area within the tree protection fence should be covered with a layer of organic mulch (mixed particle sized woodchip) to a depth of 100mm prior to the commencement of the project. Mulch material should comply with *Australian Standard AS4454*.
- The tree protective fencing should be installed prior to any works (including demolition) commencing on site and should remain in place until all site development work is completed. The protective fencing should be located at the prescribed TPZ distance where possible and clearly signed **TREE PROTECTION ZONE**. The sign should be similar to the attached image (as recommended by the *Australian Standard AS4970-2025*) and should be no smaller than standard A3 paper size:



- An area should be designated on site, outside of any tree protection zone, where all building materials, chemicals etc. can be stored throughout the proposed development.
- Open trenching for underground services located within the tree protection zone (TPZ) must be avoided. Should there be no alternative for service location; the services must be bored underneath the TPZ or a non-destructive root investigation (NDRI) should be undertaken. No trenching with machinery should be used to install services within the protected area.

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- Soil moisture during construction should be maintained at not less than 50% of field capacity (usually 10 litres of water per 10mm of each tree DSH per week). Irrigation may be applied by hand, automatic or manual irrigation system, or by fine spray from water tanker located outside the fenced area. Water is to be applied at a volume and frequency required so as to maintain turgor and leaf retention and encourage healthy root development. The Project Arborist should discuss variations to the amount of water to be supplied with the site or Project Manager.
- Remedial pruning works recommended to be undertaken on the project trees must be carried out to *Australian Standard AS4373-2007 – Pruning of Amenity Trees*, by a qualified Arborist (Minimum AQF Level 3). If pruning works are to be undertaken, then these works should be carried out prior to any construction works beginning on site.
- Documentation should be provided to the site manager by the Project Arborist for each inspection during the development process which details the consultant Arborist name, date and time of inspection, the stage of development, and provides comments of what actions are required.

7.5 TERMS AND CONDITIONS

1. Arbor Survey Pty Ltd contracts with you on the basis that you promise that all legal information which you provide, including land title and ownership of other property, are correct. The author is not responsible for verifying or ascertaining any of these issues.
2. Arbor Survey Pty Ltd contracts with you on the basis that your promise that all affected property complies with all applicable statutes and legislation.
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 - a. The information in this report covers only those items which were examined and reflects the condition of those items at the time of the inspection only.
 - b. The inspection is limited to visual examination of accessible components without dissection, excavation, or probing. There is no warranty or guarantee, expressed or implied, that even if they were not present during our inspection, problems or defects in plants or property examined may not arise in the future.
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