ALLIED TREE
CONSULTANCY
Level 5 and 8 Arboriculturist

# Arboricultural Impact Assessment Report

For the site address
Robertson Hotel,
Lot 2 (D.P. 610676)
No. 1 Fountaindale Road
ROBERTSON NSW

Prepared for
X PACE Design Group

**AUTHOR**
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**STATUS**

| | |
|---|---|
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## 1.0 Introduction

**1.1** Allied Tree Consultancy (ATC) has been commissioned by *X Pace Design Group* to prepare an Arboricultural Impact Assessment for the development proposal of the Robertson Hotel, Robertson. This proposal includes the refurbishment and additions to the existing hotel. This report includes one hundred and seventy-four trees located on, and adjacent to the lot, and discusses the viability of these trees based on the proposed works.

**1.2** This report will address for these trees, the:

- species' identification, location, dimensions, and condition;
- SULE (Safe Useful Life Expectancy) and STARS (Significance of a Tree Assessment Rating System) rating;
- discussion and impact of the proposed works on each tree;
- tree protection zones and protection specifications for trees recommended for retention.

**1.3** The subject site resides within Robertson; for this reason, Wingecarribee Shire Council is the consenting authority for any tree works recommended in this report.

## 2.0 Standards

**2.1** Allied Tree Consultancy provides an ethical and unbiased approach to all assignments, possessing no association with private utility arboriculture or organisations that may reflect a conflict of interest.

**2.2** This report must be made available to all contractors during the tendering process so that any cost associated with the required works for the protection of trees can be accommodated.

**2.3 It is the responsibility of the project manager to provide the requirements outlined in this report relative to the Protection Zones, Measures (Section 7.0) and Specifications (Section 8.0) to all contractors associated with the project before the initiation of work**.

**2.4** All tree-related work outlined in this report is to be conducted in accordance with the:

- Australian Standard – AS4373; Pruning of Amenity Trees.
- Guide to Managing Risks of Tree Trimming and Removal Work[1].

[1] Safe Work Australia; July 2016; Guide to Managing Risks of Tree Trimming and Removal Work, Australia

- All tree works must be carried out at a tertiary level (minimum Certificate-level 3) qualified and experienced (minimum five years) arboriculturist.
- For any works in the vicinity of electrical lines, the arboriculturist must possess the ISSC26 endorsement (Interim guide for operating cranes and plant in proximity to overhead powerlines).

**2.5** As a minimum requirement, all trees recommended for retention in this report must have removed all dead, diseased, and crossing limbs and branch stubs to be pruned to the branch collar. This work must comply with the local government tree policy (Wingecarribee Shire Council) and Section 2.4.

**2.6** Any tree stock subject to conditions for works carried out in this report must be supplied by a registered Nursery that adheres to the AS 2303; 2015[2].

- All tree stock must be of at least 'Advanced' size (minimum 75lt) unless otherwise requested.
- All tree stock requested must be planted with adequate protection. This may include tree guards (protect stem and crown) and if planted in a lawn area, a suitable barrier (planter ring) of an area, at least, $1m^2$ to prevent grass from growing within the area adjacent to the stem.

## 3.0 Disclosure Statement

Trees are living organisms and, for this reason, possess natural variability. This cannot be controlled. However, risks associated with trees can be managed. An arborist cannot guarantee that a tree will be safe under all circumstances, nor predict the time when a tree will fail. To live or work near a tree involves some degree of risk, and this evaluation does not preclude all the possibilities of failure.

## 4.0 Methodology

**4.1** The following tree assessment was undertaken using criteria based on the guidelines laid down by the International Society of Arboriculture.

**4.2** The format of the report is summarised below;

**4.2.1** **Plan 1;** Tree Location Relative to Site: This is an unscaled plan reproduced from the Survey Plan, as referenced in Section 4.4.1, depicting the area of assessment.

[2] Australian Standard; 2015, AS2303, Tree stock for landscape use, Australia

**4.2.2 Table 1;** This table compiles the tree species, dimensions**,** brief assessment (history, structure, pest, disease or any other variables subject to the tree), significance, allocation of the zones of protection (i.e., Tree Protection Zone[3] ; TPZ and Structural Root Zone; SRZ) for each tree illustrated in Plan 1, Section 5.0. All measurements are in metres.

**4.2.3 Discussion relating to the site assessment and proposed works regarding the trees.**

**4.2.4 Protection Specification**; Section 8.0 details the requirements for that area designated as the Tree Protection Zone (TPZ), for those trees recommended for retention.

**4.3** The opinions expressed in this report, and the material, upon which they are based, were obtained from the following process and data supplied:

**4.3.1** Site assessment on the 26 and 28th November and the 6th December 2019 using the method of the Visual Tree Assessment[4]. This has included a Level 2 risk assessment, being a *Basic Assessment*[5]. The assessment has been conducted by Geoff Beisler[6] on behalf of *Allied Tree Consultancy*.

**4.3.2** The trees included in this report have been based on those that are located in the area of proposed works and conform to the description of a prescribed tree[7]. Although limitations related to this have been discussed in Sections 4.5.1 to 4.5.3. This has been based on the area where works are proposed and including a zone of up to 10m from the footprint of works and including trees either side of the roadways, which have been proposed for works. The areas of assessment have been illustrated in Plan 8, Section 7.0.

**4.3.3** All measurements, unless specified otherwise, are taken from the tree centre.

**4.3.4** Tree numbering has been included within the plans provided to ATC and is consistent with the Preliminary Landscape Heritage Report (Section 4.4.3). This numbering has been retained in the arborist

[3] Australian Standard, 4970; 2009 – Protection of Trees on Development Sites, Australia
[4] Mattheck, C. Breloer, H.,1994, The Body Language of Trees – A handbook for failure analysis The Stationary Office, London
[5] Dunster J.A., 2013, Tree Risk Assessment Manual, International Society of Arboriculture, 2013, USA
[6] Consulting Arborist, Diploma of Arboriculture (level 5)
[7] Wingecarribee Shire Council, April 2010, Amended October 2019, Robertson Village Development Control Plan, Part A, Section 5.

report for consistency. Although because not all trees have not been included in this report based on either the scope of works or exempt species (see Section 4.3.2), therefore the tree numbering contained in Table 1, Section 6.0 is not sequential.

**4.3.5** Raw data from the preliminary assessment including the specimen's dimensions was compiled by the use of a diameter tape, height clinometer, angle finder, compass, steel probes, Teflon hammer, binoculars and recording instruments.

## 4.4 Documentation provided

The following documentation has been provided to Allied Tree Consultancy and utilised within the report.

### 4.4.1 Surveyor

Drawn by *CEH Consulting P/L*
Date: 27 July 2018
Reference: (Survey file) D218228-Final
Drawing No: A1-D218228-Contours (Sheet 1 of 1)
Note 1: See Section 4.5.1 and 4.5.2

### 4.4.2 Design

Drawn by *X.Pace*
Date: 16 May 2019
Reference: (Project No.) 18x015
Drawing No: 1.02

### 4.4.3 Document

Preliminary Landscape Heritage Report
Author: Chris and Charlotte Webb P/L
Date: 14 January 2019,
Reference: No reference
Page number: 32 pages

### 4.4.4 Document

Biodiversity Development Assessment Report
Author: *Narla Environmental*
Date: May 2019
Page number: 101 pages

**4.4.5 Document**

Bushfire Assessment Report
Author: *Peterson Bushfire*
Date: 26 April 2019
Page number: 4 pages

## 4.5 Limitations of the assessment/discussion process

**4.5.1** Trees No. 93A, 147A, 148A, 151A, 195A, 201A, 233A, 233B, 241A, 241B, and 275-280 have been omitted from the plans provided, however, are required for inclusion because they conform to the definition of a prescribed tree within the local government tree policy.

Additional trees have been numbered by one of two methods;

1. Assigned a number with a letter (eg. 148A), which denotes the additional tree is adjacent to the surveyed tree with the existing number (eg. 148), or
2. Assigned a new number, which indicates the tree is within an area void of numbered trees. (No. 275-280),

The tree location for these additional trees has been plotted onto the Plan 1 by *ATC*. The tree location was established by measuring from known points and scaling onto the drawing. *ATC* is not a registered surveyor and, however, the accuracy of the survey is attempted; the true position of the trees may marginally deviate. Any such deviation provides the potential for changing the actual impact (encroachment) provided to a tree.

**4.5.2** Several areas where works have been proposed include trees that have not been illustrated on the survey drawings. The majority of these areas have been described in Section 7.0 and illustrated in Plan 8, Section 7.0. The trees located in these areas are protected by Wingecarribee Shire Council based on the definition of a prescribed tree[7], although the tree data, assessment, location, or respective impact by the proposed works has not been addressed in this report.

**4.5.3** *Pinus radiata*; the site has numerous trees that have been identified as *P. radiata* within the Landscape Heritage Report (Section 4.4.3). These trees form part of the initial landscaping of the property, are very large, and present high amenity value. Although, based on the exempt status with the Wingecarribee Shire Council has not been included in the assessment table of the report, and allowing for the exempt status are not afforded

protection. The genus *Pinus* has 126 species recorded[8]. Due to the extensive and selective breeding of the species, *P. radiata,* amongst other *Pinus* species for forestry in Australia[9], and coupled with natural variation within the species which can change relative to the age of the tree, the species tentatively identified as *P. radiata* throughout this site are unconfirmed. The limited-time available for generating the arborist report has removed the option for contracting a botanist for confirming the species throughout the site. Based on this premise, any tree referred to as *P. radiata* should be confirmed before any works that can compromise these trees, or tree removal proceeds.

**4.5.4** No stormwater drawings have been included as part of the document set nor respective discussion or impact related to the potential design.

**4.5.5** The assessment has considered only those target zones that are apparent to the author and the visually apparent tree conditions during the time of assessment.

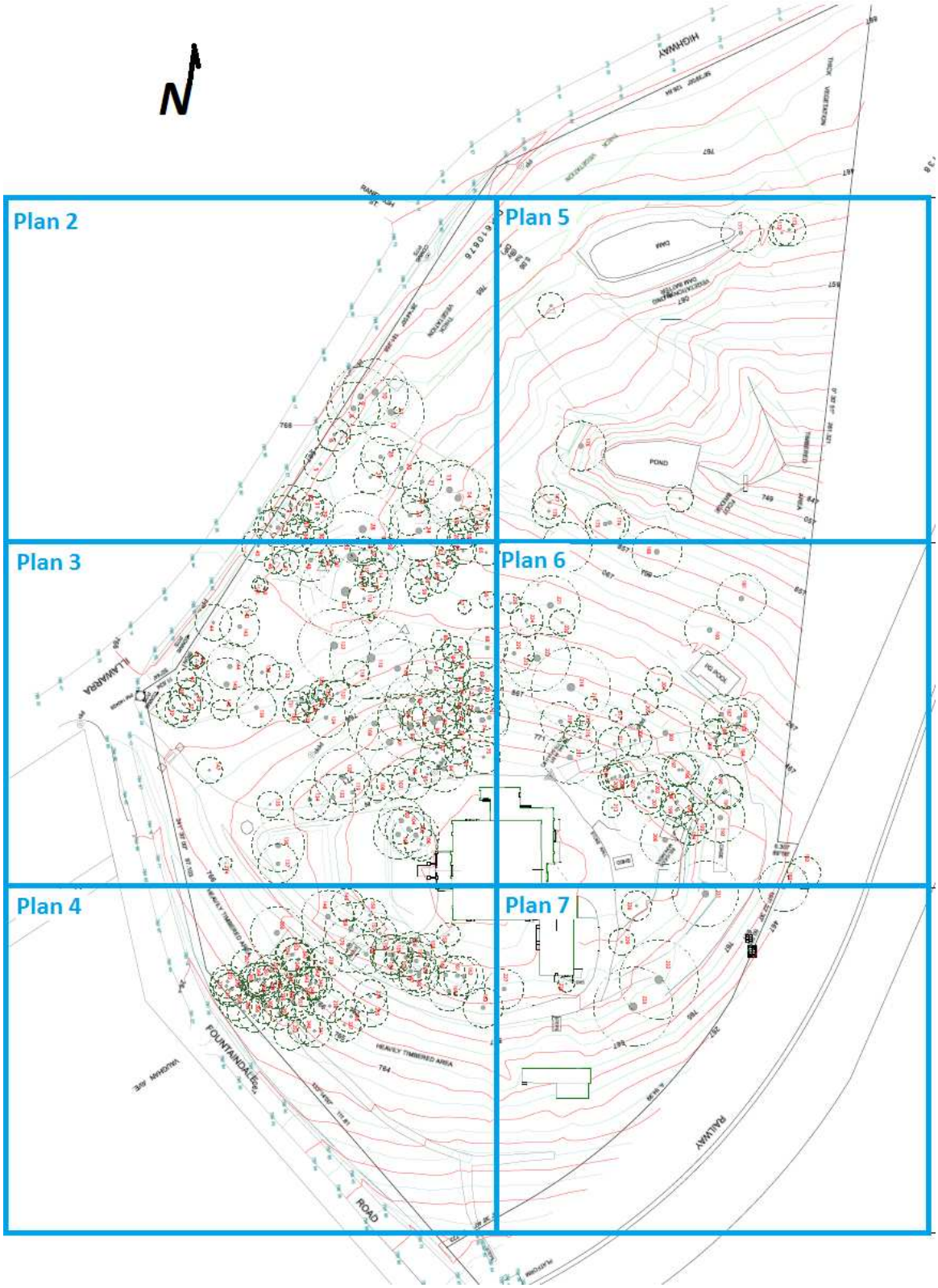
**4.5.6** Any tree, regardless of apparent defects, would fail if the forces applied to exceed the strength of the tree or its parts, for example, extreme storm conditions.

**4.5.7** The assessment has been limited to that part of the tree, which is visible, existing from the ground level to the crown. Root decay can exist and in some circumstances, provide no symptoms of the presence. This assessment responds to all the symptoms provided by a tree; however, cannot provide a conclusive recommendation regarding any tree that may have extensive root decay that leads to windthrow without the appropriate symptoms.

[8] Royal Botanic Gardens, KEW, UK

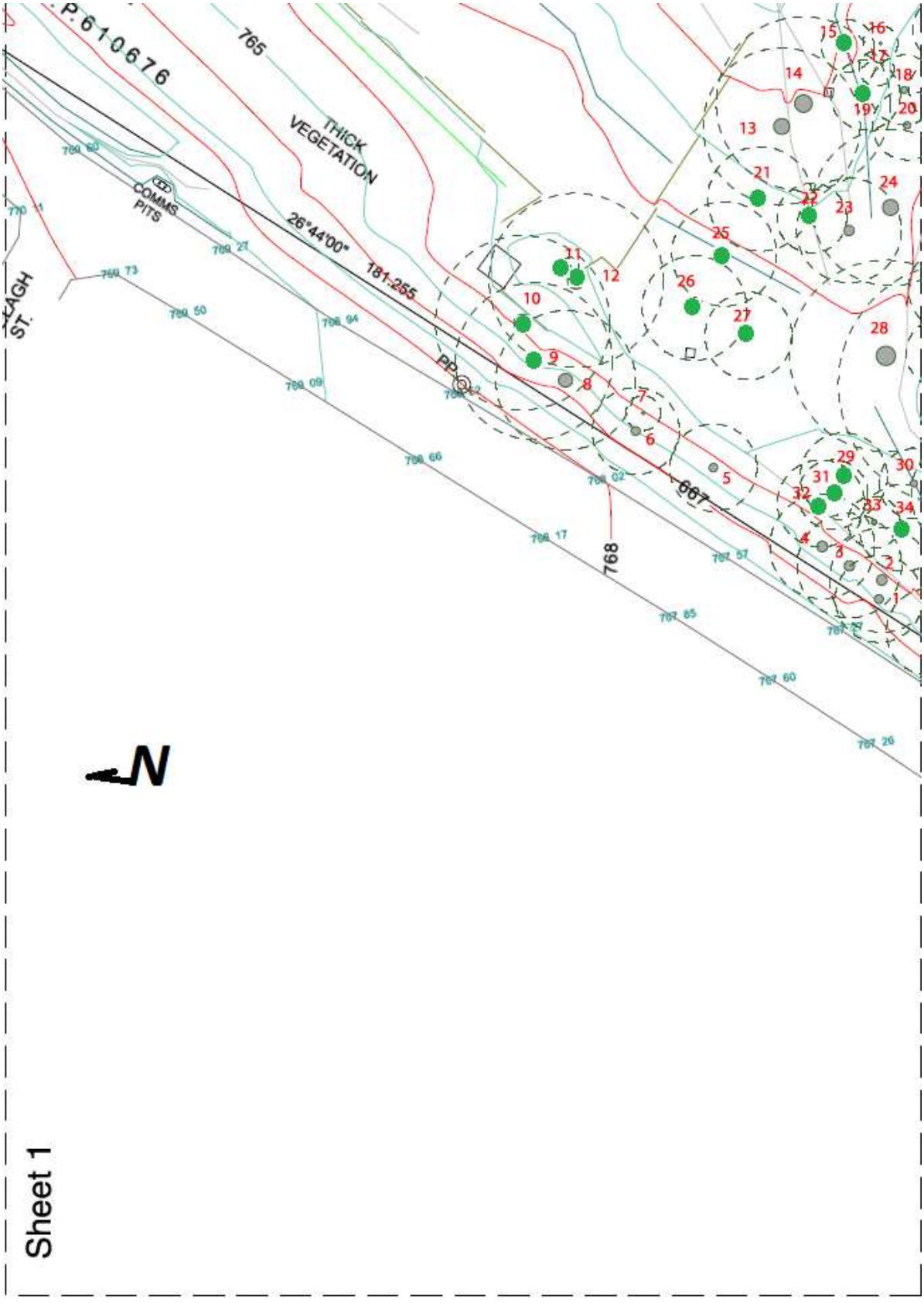
[9] Spencer R., 1995, Horticultural Flora of South-Eastern Australia, Volume 1, Ferns, Conifers and their Allies, UNSW Press, Royal Botanic Gardens, Melbourne

## 5.0 Plan 1; Area of assessment



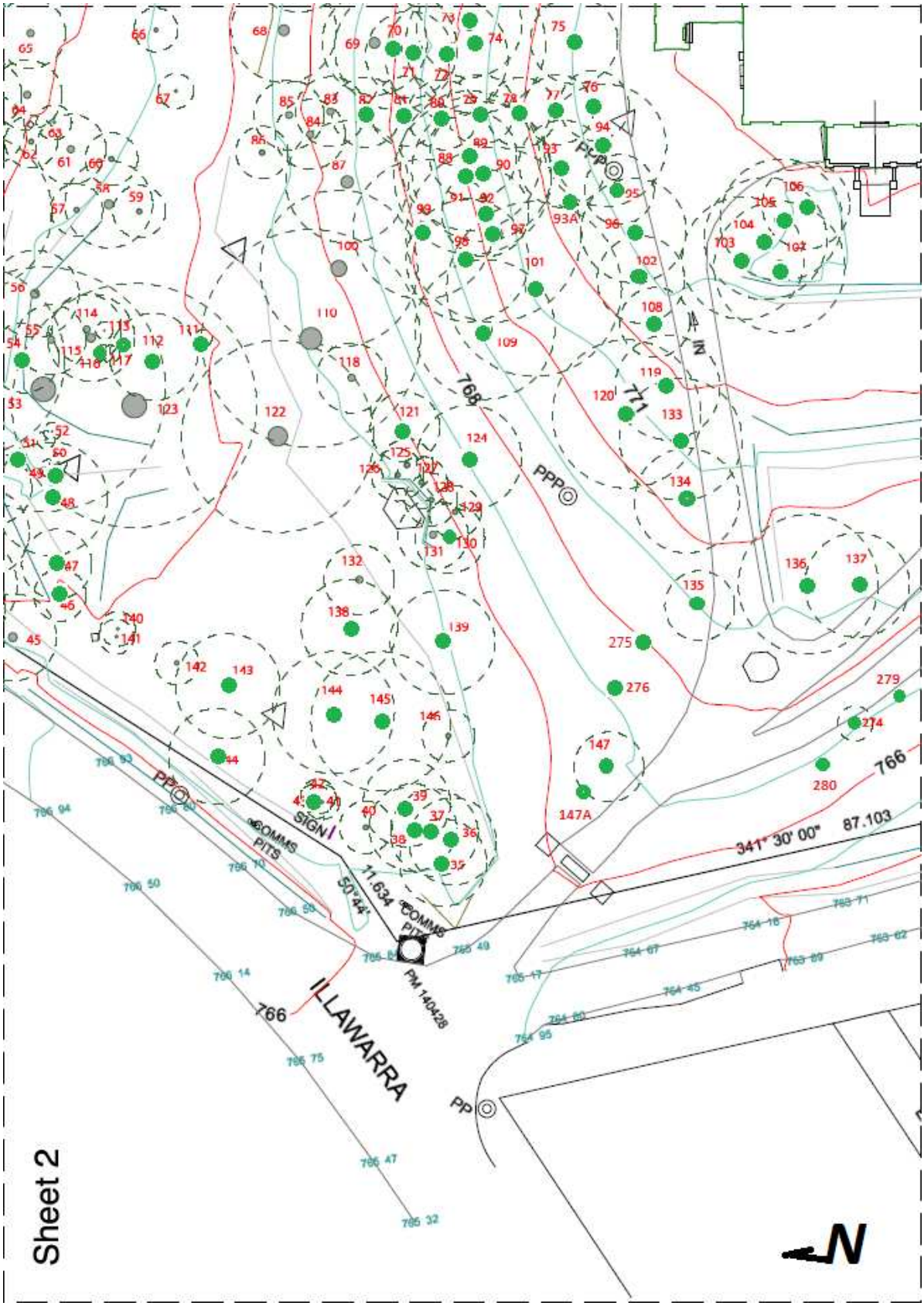

Not to scale
Source: Adapted from *CEH Consulting P/L,* see Section 4.4.1

**5.1 Plan 2; Area of assessment illustrating tree location**



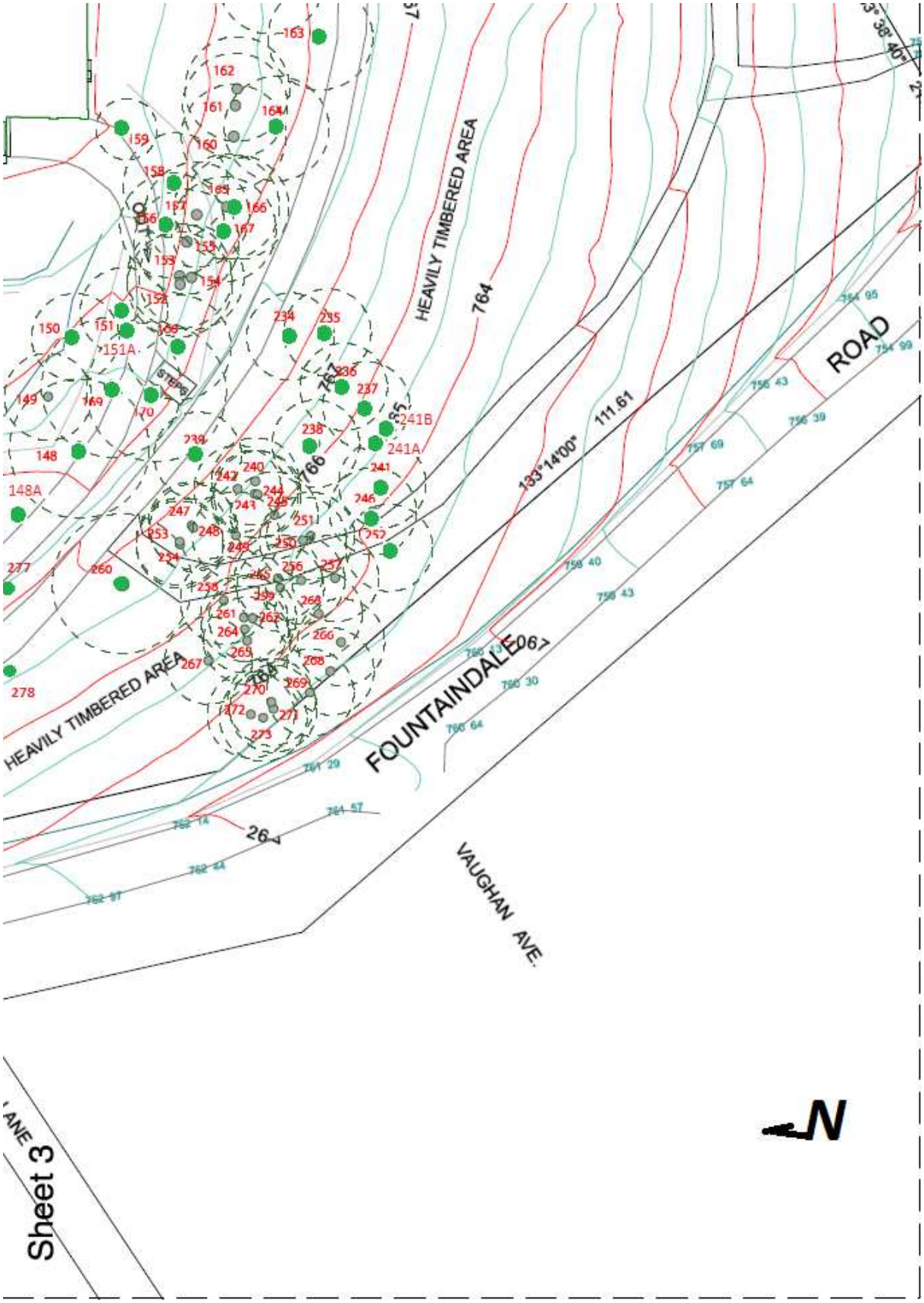

Not to scale
Trees coloured green have been included in this report
Source: Adapted from *CEH Consulting P/L,* see Section 4.4.1

**5.2 Plan 3; Area of assessment illustrating tree location**



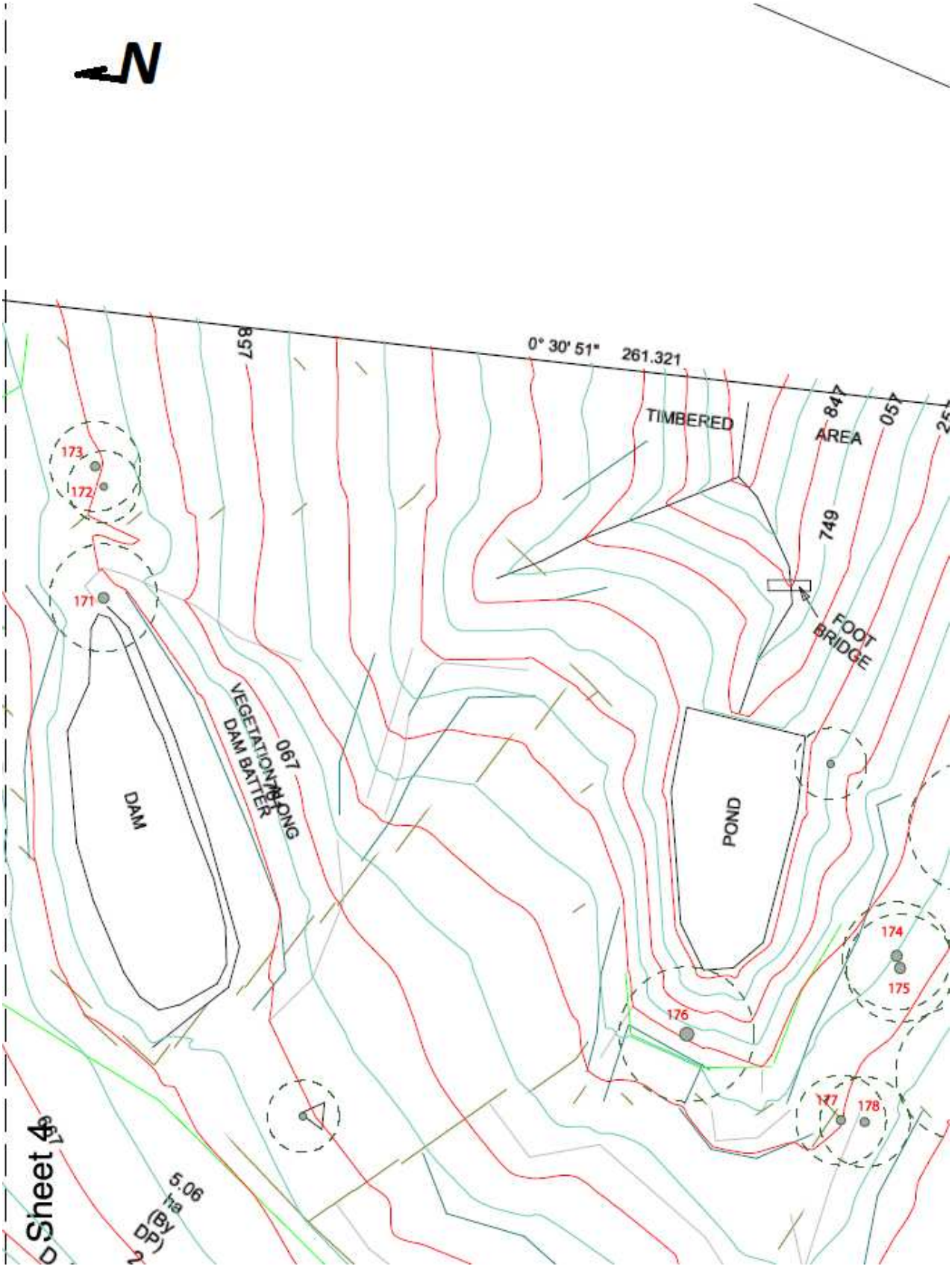

Not to scale
Trees coloured green have been included in this report
Source: Adapted from *CEH Consulting P/L,* see Section 4.4.1

**5.3 Plan 4; Area of assessment illustrating tree location**



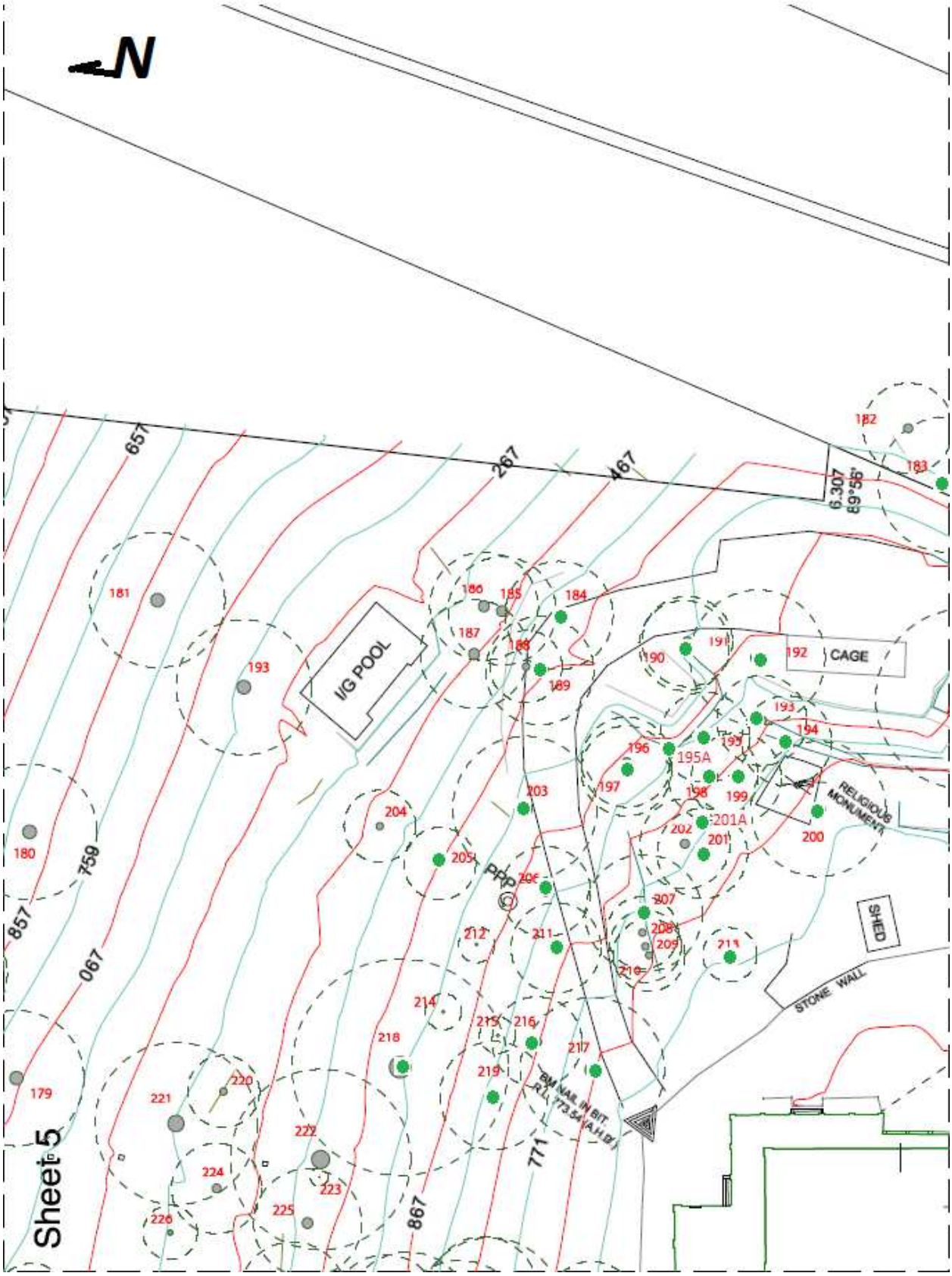

Not to scale
Trees coloured green have been included in this report
Source: Adapted from *CEH Consulting P/L,* see Section 4.4.1

**5.4 Plan 5; Area of assessment illustrating tree location**



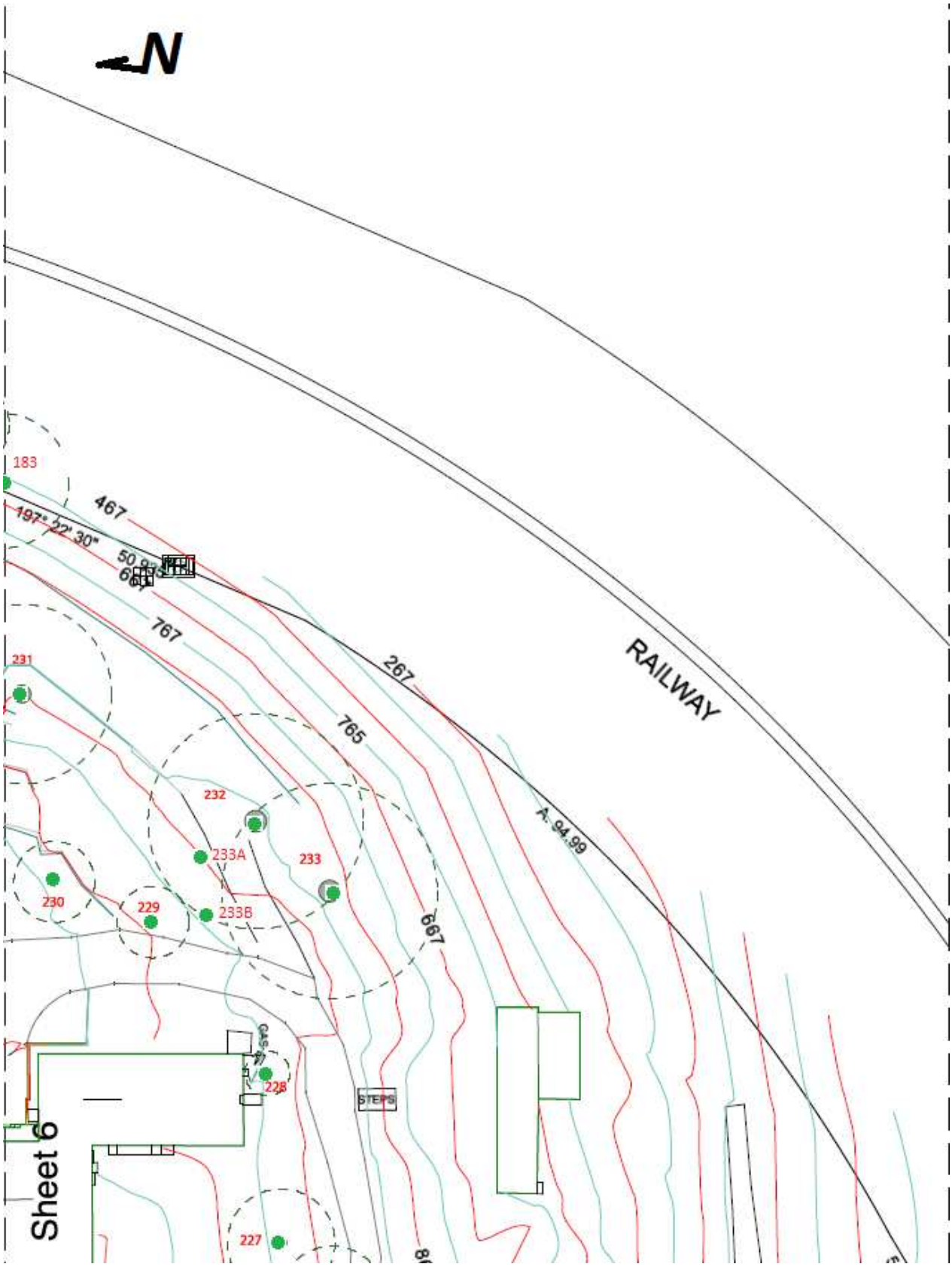

Not to scale
Trees coloured green have been included in this report
Source: Adapted from *CEH Consulting P/L,* see Section 4.4.1

**5.5 Plan 6; Area of assessment illustrating tree location**




Not to scale
Trees coloured green have been included in this report
Source: Adapted from *CEH Consulting P/L,* see Section 4.4.1

## 5.6 Plan 7; Area of assessment illustrating tree location




Not to scale
Trees coloured green have been included in this report
Source: Adapted from *CEH Consulting P/L,* see Section 4.4.1

## 6.0 Table 1 – Tree Species Data

Terminology/references provided in Appendix A.

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | *Acacia melanoxylon*<br>Blackwood | 16 | 0.85 [C] | 7 x 11 [C] | M | C | N | A | **B1** [C] | **HIGH** | **10.2** [C] | **3.1** [C] |
| **Assessment** This tree presents the habit typical of species. Vine is encroaching and this, combined with surrounding vegetation has limited the assessment.<br>**Proposed works**; See Section 7.1.4 | | | | | | | | | | | | |
| 10 | *Acacia melanoxylon*<br>Blackwood | 14 | 0.60 [C] | 7 x 12 [C] | M | I | E | A | **B1** [C] | **HIGH** | **7.2** [C] | **2.7** [C] |
| **Assessment** This tree presents the habit typical of species. Wire and fencing material wrapped around the stem. Surrounding vegetation has limited the assessment.<br>**Proposed works**; See Section 7.1.4 | | | | | | | | | | | | |
| 11 | *Alnus jorullensis*<br>Evergreen Alder | 8 | 0.32 | 9 x 9 | M | S | E | A | **A2** | **MEDIUM** | **3.8** | **2.1** |
| **Assessment** This tree presents the habit typical of species, however exhibits a significant bias due to suppression.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 12 | *Alnus jorullensis*<br>Evergreen Alder | 12 | 0.40 | 10 x 10 | M | C | E | A | **A2** | **MEDIUM** | **4.8** | **2.3** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 15 | *Acer palmatum*<br>Japanese Maple | 6 | 0.28[B] | 6 x 6 | M | I | Sym. | A | **A2** | **LOW** | **3.4** | **1.9** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19 | *Acer palmatum*<br>Japanese Maple | 6 | 0.30[B] | 6 x 6 | M | S | W | A | **A2** | **LOW** | **3.6** | **2.0** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 21 | *Catalpa speciosa*<br>Northern Catalpa | 7 | 0.30 | 6 x 7 | M | S | N | A | **A2** | **MEDIUM** | **3.6** | **2.0** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 22 | *Catalpa speciosa*<br>Northern Catalpa | 9 | 0.20 | 9 x 10 | M | S | Sym. | B | **A2/3** | **LOW** | **2.4** | **1.7** |
| **Assessment** This tree presents the habit typical of species, however the lower crown exhibits partial density.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 25 | *Catalpa speciosa*<br>Northern Catalpa | 7 | 0.36[B] | 9 x 10 | M | C | Sym. | A | **A2** | **MEDIUM** | **4.3** | **2.2** |
| **Assessment** Several stubs are located in the lower crown/ and on the stem at 1.4m- no occlusion apparent. Co-dominant at 1.4m, swelling presents in this area. Some epicormic growth is evident in the lower crown.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 26 | *Catalpa speciosa*<br>Northern Catalpa | 8 | 0.41 | 10 x 11 | M | C | Sym. | A | **A2** | **MEDIUM** | **4.9** | **2.3** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 27 | *Catalpa speciosa*<br>Northern Catalpa | 10 | 0.31 | 11 x 11 | M | C | Sym. | A | **A2** | **MEDIUM** | **3.7** | **2.1** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | *Alnus jorullensis*<br>Evergreen Alder | 11 | 0.36 | 8 x 10 | M | S | E | A | **A2** | **MEDIUM** | **4.3** | **2.2** |
| **Assessment** A large failure has occurred (mid-crown, northern side) this appears to be a failed inclusion. The associated jagged wound remains open. Has received crown lift pruning.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 31 | *Alnus jorullensis*<br>Evergreen Alder | 8 | 0.22 | 6 x 7 | M | S | Sym. | A | **A2** | **MEDIUM** | **2.6** | **1.7** |
| **Assessment** This tree presents the habit typical of species, however some epicormic growth is located on the stem. A fractured branch stub is located mid-crown, north side.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 32 | *Alnus jorullensis*<br>Evergreen Alder | 11 | 0.36 | 8 x 10 | M | S | N | A | **A2** | **MEDIUM** | **4.3** | **2.2** |
| **Assessment** This tree presents the habit typical of species, however some epicormic growth is located on the stem.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 34 | *Alnus jorullensis*<br>Evergreen Alder | 12 | 0.21 | 8 x 8 | M | S | Sym. | A | **A2** | **MEDIUM** | **2.5** | **1.7** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 35 | *Rhododendron spp.*<br>Rhododendron | 7 | 0.85[BC] | 7 x 11 | M | C | W | A | **A2** | **MEDIUM** | **10.2**[C] | **3.1**[C] |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 36 | *Rhododendron spp.*<br>Rhododendron | 8 | 0.32<br>0.30 | 7 x 10 | M | C | E | A | **A2** | **MEDIUM** | **5.3** | **2.4** |
| **Assessment** This tree presents the habit typical of species. English Ivy (*Hedera helix*) is encroaching.<br>**Proposed works**; See Section 7.1.4 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 37 | *Rhododendron spp.*<br>Rhododendron | 6 | 0.40[B] | 4 x 8 | M | S | S | A-B | **A2/3** | **LOW** | **4.8** | **2.3** |
| **Assessment** This suppressed tree present partial crown density.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 38 | *Rhododendron spp.*<br>Rhododendron | 7 | 0.33 | 9 x 9 | M | C | W | A | **A2** | **MEDIUM** | **3.9** | **2.1** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 39 | *Acer spp.* [A]<br>Maple | 7 | 0.50[B] | 6 x 8 | M | C | N | A | **A2** | **MEDIUM** | **6.0** | **2.5** |
| **Assessment** This tree presents the habit typical of species. Vine is encroaching.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 41 | *Pyrus ussuriensis*<br>Manchurian Pear | 6 | 0.10 x 4 | 5 x 6 | M | D | Sym. | A | **A2** | **LOW** | **2.4** | **1.7** |
| **Assessment** This multi-stemmed tree appears to be matured stump sprouts (coppiced re-growth) The trees listed as No. 42 and No. 43 are part of this tree.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 44 | *Pyrus ussuriensis*<br>Manchurian Pear | 11 | 0.38 | 9 x 10 | M | C | Sym. | A | **A2** | **MEDIUM** | **4.6** | **2.2** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 46 | *Cryptomeria japonica*<br>Japanese Cedar | 11 | 0.60[C] | 5 x 8 | M | D | W | A | **A2** | **MEDIUM** | **7.2** [C] | **2.7** [C] |
| **Assessment** This tree presents the habit typical of species. Vine is encroaching, limiting assessment. Several stubs in the lower crown, no occlusion apparent.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 47 | *Cryptomeria japonica*<br>Japanese Cedar | 11 | 0.50[B] | | M | I | N | A | **A2** | **MEDIUM** | **6.0** | **2.5** |
| **Assessment** This tree presents the habit typical of species. Stubs on the stem at 1m, northern side- no occlusion apparent.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 48 | *Cryptomeria japonica*<br>Japanese Cedar | 12 | 0.40 | 5 x 7 | M | C | W | A | **A2** | **MEDIUM** | **4.8** | **2.3** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 49 | *Cryptomeria japonica*<br>Japanese Cedar | 11 | 0.32 | 5 x 7 | M | S | W | A | **A2** | **MEDIUM** | **3.8** | **2.1** |
| **Assessment** Previously co-dominant at 2.2m, the northern stem has been lopped at 2.3m, the wound remains open.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 51 | *Cryptomeria japonica*<br>Japanese Cedar | 8 | 0.31 | 7 x 7 | M | S | W | A | **A2** | **MEDIUM** | **3.7** | **2.1** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.4 | | | | | | | | | | | | |
| 54 | *Pittosporum undulatum*<br>Sweet Pittosporum | 9 | 0.19 | 5 x 6 | M | S | E | A | **A2** | **MEDIUM** | **2.3** | **1.6** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 58 | *Acer shirasawanum* [A]<br>Full Moon Maple | 8 | 0.20<br>0.20<br>0.20 | 8 x 8 | M | C | Sym. | A | **A2** | **MEDIUM** | **4.2** | **2.1** |
| **Assessment** This tree presents as typical for the species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 59 | *Acer palmatum*<br>Japanese Maple | 8 | 0.30 [B] | 8 x 8 | M | C | Sym. | A | **A2** | **MEDIUM** | **3.6** | **2.0** |
| **Assessment** This tree presents as typical for the species.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 65 | *Prunus spp.* [A]<br>Ornamental Cherry | 6 | 0.17 | 6 x 6 | M | C | Sym. | A | **A2** | **MEDIUM** | **2.0** | **1.5** |
| **Assessment** This tree presents as typical for the species.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 68 | *Liriodendron tulipifera*<br>Tulip Tree | 13 | 0.71 | 13 x 13 | M | D | Sym. | A | **B1** | **HIGH** | **8.5** | **2.9** |
| **Assessment** This tree presents as typical for the species. The upper crown exhibits several minor branch rubs.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 70 | *Syzygium smithii*<br>Lilly Pilly | 12 | 1.00[B] | 9 x 9 | M | C | N | A-B | **A2** | **HIGH** | **12.0** | **3.3** |
| **Assessment** This tree presents the habit typical of species, however exhibit partial density in the upper crown. A 2nd order branch at 3m, (northern side) has failed, a dead wood stub remains.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 71 | *Syzygium smithii*<br>Lilly Pilly | 9 | 0.50[B] | 7 x 7 | M | S | Sym. | A | **C4** | **MEDIUM** | **6.0** | **2.5** |
| **Assessment** Co-dominant at the base, both stems exhibit internal decay attributed to the large, open basal wound, western side.<br>**Proposed works**; See Section 7.1.2 and 7.1.3 | | | | | | | | | | | | |
| 72 | *Doryphora sassafras*<br>Sassafras | 14 | 0.90[B] | 10 x 10 | M | C | Sym. | A | **B1** | **HIGH** | **10.8** | **3.2** |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |

| Tree No. | Botanical Name Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 73 | *Doryphora sassafras* Sassafras | 13 | 0.45[B] | 6 x 7 | M | C | Sym. | A | **B1** | **HIGH** | **5.4** | **2.4** |
| **Assessment** This tree presents the habit typical of species. Co-dominant at the base.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 74 | *Doryphora sassafras* Sassafras | 12 | 0.36<br>0.40 | 9 x 12 | M | C | S | A | **B1** | **HIGH** | **6.5** | **2.5** |
| **Assessment** This tree presents the habit typical of species. Co-dominant at the base.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 75 | *Cupressus macrocarpa* [A] Monterey Cypress | 13 | 0.90[CB] | 10 x 11 | M | C | Sym. | A | **A2** | **MEDIUM** | **10.8** [C] | **3.2** [C] |
| **Assessment** This tree presents the habit typical of species, however assessment has been limited by debris surrounding the stem.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 76 | *Cupressus sempervirens* [A] Mediterranean Cypress | 17 | 0.50 | 8 x 8 | M | C | Sym. | A | **A2** | **HIGH** | **6.0** | **2.5** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 77 | *Cupressus sempervirens* [A] Mediterranean Cypress | 17 | 0.45 | 6 x 8 | M | C | Sym. | A | **A2** | **HIGH** | **5.4** | **2.4** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 78 | *Cupressus sempervirens* [A] Mediterranean Cypress | 17 | 0.40 | 7 x 8 | M | C | Sym. | A | **A2** | **HIGH** | **4.8** | **2.3** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 79 | *Cupressus sempervirens* [A] Mediterranean Cypress | 18 | 0.38 | 5 x 6 | M | C | Sym. | A | **A2** | **HIGH** | **4.6** | **2.2** |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 80 | *Cupressus sempervirens* [A]<br>Mediterranean Cypress | 17 | 0.38 | 5 x 6 | M | C | Sym. | A | **A2** | **HIGH** | **4.6** | **2.2** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.4 | | | | | | | | | | | | |
| 81 | *Cupressus sempervirens* [A]<br>Mediterranean Cypress | 17 | 0.40 | 5 x 6 | M | C | N | A | **A2** | **HIGH** | **4.8** | **2.3** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 82 | *Cupressus sempervirens* [A]<br>Mediterranean Cypress | 17 | 0.40 | 5 x 6 | M | C | N | A | **A2** | **HIGH** | **4.8** | **2.3** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 83 | *Cupressus sempervirens* [A]<br>Mediterranean Cypress | 17 | 0.40 | 6 x 6 | M | C | Sym. | A | **A2** | **HIGH** | **4.8** | **2.3** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 84 | *Rhododendron spp.* [A]<br>Rhododendron | 7 | 0.20 | 4 x 5 | M | S | W | A | **A2** | **MEDIUM** | **2.4** | **1.7** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 85 | *Cupressus sempervirens* [A]<br>Mediterranean Cypress | 18 | 0.41 | 7 x 7 | M | C | N | A | **A2** | **HIGH** | **4.9** | **2.3** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 87 | *Syzygium australe*<br>Brush Cherry | 10 | 0.50<br>0.50 | 6 x 9 | M | C | Sym. | A | **D2/C4**[E] | **MEDIUM** | **8.5** | **2.9** |
| **Assessment** This tree presents the habit typical of species. Co-dominant at the base, both stem exhibit internal decay.<br>**Proposed works**; See Section 7.1.2 and 7.1.5 | | | | | | | | | | | | |
| 88 | *Doryphora sassafras*<br>Sassafras | 13 | 0.35<br>0.35 | 6 x 8 | M | C | E | A | **B1** | **HIGH** | **5.8** | **2.5** |
| **Assessment** This tree presents the habit typical of species. Co-dominant at the base, the tree Listed as No. 89 is part of this tree.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 90 | *Syzygium australe*<br>Brush Cherry | 8 | 0.30<br>0.18 | 6 x 8 | M | S | S | A | **A2** | **MEDIUM** | **4.2** | **2.2** |
| **Assessment** This tree presents the habit typical of species, however has a basal inclusion- the bark is included.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 91 | *Syzygium australe*<br>Brush Cherry | 11 | 0.70[B] | 10 x 10 | M | C | N | A | **B1** | **HIGH** | **8.4** | **2.8** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 92 | *Syzygium australe*<br>Brush Cherry | 10 | 0.20<br>0.20 | 5 x 7 | M | S | S | A | **A2** | **MEDIUM** | **3.4** | **1.9** |
| **Assessment** This tree presents the habit typical of species. Co-dominant at the base.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 93 | *Cedrus deodara*<br>Himalayan Cedar | 15 | 0.55[B] | 8 x 8 | M | C | Sym. | A | **B1** | **HIGH** | **6.6** | **2.6** |
| **Assessment** This tree presents the habit typical of species, however has a basal inclusion- the bark is included.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 93A | *Cryptomeria japonica*<br>Japanese Cedar | 16 | 0.52 | 5 x 7 | M | C | Sym. | A | **B1** | **HIGH** | **6.2** | **2.5** |
| **Assessment** This tree presents the habit typical of species. Not located on the survey provided.<br>**Proposed works**; See Section 7.1.4 | | | | | | | | | | | | |
| 94 | *Prunus serrulata*<br>Japanese Cherry | 7 | 0.35[B] | 6 x 7 | M | C | E | A | **A2** | **MEDIUM** | **4.2** | **2.2** |
| **Assessment** This tree presents the habit typical of species. Co-dominant at 1.1m. The lowest 1st order branch, southeastern side has failed, a stub is present. The western side has been lopped for power line clearance<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 95 | *Prunus serrulata*<br>Japanese Cherry | 3 | 0.30 | 4 x 6 | M | I | E | B | **A3** | **LOW** | **3.6** | **2.0** |
| **Assessment** This tree presents the habit typical of species, however significant decline is evident in the crown, southern side.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 96 | *Prunus serrulata*<br>Japanese Cherry | 6 | 0.40[B] | 7 x 7 | M | C | Sym. | A | **A2** | **MEDIUM** | **4.8** | **2.3** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 97 | *Syzygium australe*<br>Brush Cherry | 15 | 1.10[B] | 10 x 12 | M | I | Sym. | A | **B1** | **HIGH** | **13.2** | **3.4** |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base, the eastern stem has a decaying dead wood stub at 2m, descending into the living stem- internal spread of the decay is unknown and would require level 3 assessment (internal diagnostics) to ascertain this.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 98 | *Syzygium australe*<br>Brush Cherry | 15 | 1.10[B] | 9 x 9 | M | I | Sym. | A-B | **A2** | **HIGH** | **13.2** | **3.4** |
| **Assessment** This tree presents the habit typical of species, however exhibits some minor twiggy decline. | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 99 | *Cedrus deodara*<br>Himalayan Cedar | 19 | 0.65 | 11 x 11 | M | D | E | A | **B1** | **HIGH** | **7.8** | **2.6** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.4 | | | | | | | | | | | | |
| 100 | *Cedrus deodara*<br>Himalayan Cedar | 12 | 0.54<br>0.53 | 9 x 9 | M | I | Sym. | A | **B1** | **HIGH** | **9.1** | **3.0** |
| **Assessment** This tree presents the habit typical of species. May experience minor conflict with surrounding trees.<br>**Proposed works**; See Section 7.1.4 | | | | | | | | | | | | |
| 101 | *Cedrus deodara*<br>Himalayan Cedar | 18 | 0.65 | 12 x 12 | M | C | Sym. | A | **B1** | **HIGH** | **7.8** | **2.6** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 102 | *Prunus serrulata*<br>Japanese Cherry | 5 | 0.40 | 8 x 8 | M | C | Sym. | A | **A2** | **MEDIUM** | **4.8** | **2.3** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 103 | *Cupressus macrocarpa*<br>Brunniana Aurea [A]<br>Brunnings Golden Cypress | 13 | 0.50 | 7 x 8 | M | C | N | A | **B1** | **HIGH** | **6.0** | **2.5** |
| **Assessment** This tree presents the habit typical of species. Crown lift pruning has been undertaken to 5m, wounds remain open. A very large basal pruning wound remains open (no occlusion) eastern side.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 104 | *Cupressus macrocarpa*<br>Brunniana Aurea [A]<br>Brunnings Golden Cypress | 14 | 0.50 | 6 x 7 | M | C | E | A | **B1** | **HIGH** | **6.0** | **2.5** |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Assessment** This tree presents the habit typical of species. Crown lift pruning has been undertaken to 6m, wounds remain open/ exhibit no occlusion. Several fractured branch stubs are located in the mid-crown, eastern side.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 105 | *Cupressus macrocarpa*<br>Brunniana Aurea [A]<br>Brunnings Golden Cypress | 15 | 0.55 | 6 x 8 | M | C | E | A | **B1** | **HIGH** | **6.6** | **2.5** |
| **Assessment** This tree presents the habit typical of species. Crown lift pruning has been undertaken to 6m, wounds remain open/ exhibit no occlusion. Several fractured branch stubs are located in the mid-crown, eastern side.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 106 | *Cupressus macrocarpa*<br>Brunniana Aurea [A]<br>Brunnings Golden Cypress | 15 | 0.58 | 9 x 10 | M | C | S | A | **B1** | **HIGH** | **6.9** | **2.6** |
| **Assessment** This tree presents the habit typical of species. Crown lift pruning has been undertaken to 6m, wounds remain open/ exhibit no occlusion. A large branch failure has occurred in the mid-crown, eastern side.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 107 | *Cedrus deodara*<br>Himalayan Cedar | 16 | 0.75 | 12 x 12 | M | C | W | A | **B1** | **HIGH** | **9.0** | **2.9** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 108 | *Prunus serrulata*<br>Japanese Cherry | 6 | 0.31[B] | 7 x 8 | M | C | Sym. | A | **A2** | **MEDIUM** | **3.7** | **2.1** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.4 | | | | | | | | | | | | |
| 109 | *Cedrus deodara*<br>Himalayan Cedar | 19 | 0.70 | 12 x 12 | M | C | N | A | **B1** | **HIGH** | **8.4** | **2.8** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.4 | | | | | | | | | | | | |

| Tree No. | Botanical Name Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 111 | *Pittosporum tenuifolium* 'Silver Sheen' Pittosporum | 8 | 0.30<br>0.20<br>0.20 | 6 x 7 | M | I | E | A | **A2** | **MEDIUM** | **4.9** | **2.3** |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 112 | *Pittosporum tenuifolium* 'Silver Sheen' Pittosporum | 6 | 0.08 | 2 x 2 | M | S | Sym. | A | **A2** | **LOW** | **2.0** | **1.5** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 116 | *Pittosporum tenuifolium* 'Silver Sheen' Pittosporum | 7 | 0.30 [B] | 4 x 5 | M | I | E | A | **A2** | **LOW** | **3.6** | **2.0** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 117 | *Pittosporum tenuifolium* 'Silver Sheen' Pittosporum | 7 | 0.30<br>0.19<br>0.12 | 5 x 6 | M | I | E | A | **A2** | **LOW** | **4.4** | **2.2** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 119 | *Prunus serrulata* Japanese Cherry | 7 | 0.40[B] | 9 x 10 | M | C | S | A | **A2** | **MEDIUM** | **4.8** | **2.3** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 120 | *Fraxinus spp.* [A] Ash | 12 | 0.70 | 13 x 14 | M | D | Sym. | A | **A2** | **MEDIUM** | **8.4** | **2.8** |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 121 | *Rhododendron spp.* [A]<br>Rhododendron | 7 | 0.40[BC] | 7 x 8 | M | I | Sym. | A | **A2** | **MEDIUM** | **4.8** [C] | **2.3** [C] |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 124 | *Cedrus deodara*<br>Himalayan Cedar | 12 | 0.60 | 11 x 11 | M | D | Sym. | A | **B1** | **HIGH** | **7.2** | **2.6** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 130 | *Acer palmatum*<br>Japanese Maple | 5 | 0.37[B] | 7 x 8 | M | C | Sym. | A | **A2** | **MEDIUM** | **4.4** | **2.2** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 133 | *Prunus serrulata*<br>Japanese Cherry | 8 | 0.47[B] | 8 x 9 | M | C | S | A | **A2** | **MEDIUM** | **5.6** | **2.4** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 134 | *Prunus serrulata*<br>Japanese Cherry | 4 | 0.43 | 6 x 8 | M | S | Sym. | A | **A2** | **MEDIUM** | **5.2** | **2.3** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 135 | *Prunus serrulata*<br>Japanese Cherry | 5 | 0.55 | 9 x 9 | M | S | Sym. | A | **A2** | **MEDIUM** | **6.6** | **2.6** |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 136 | *Cedrus deodara*<br>Himalayan Cedar | 15 | 1.10 [B] | 13 x 15 | M | C | E | A | **B1** | **HIGH** | **13.2** | **3.4** |
| **Assessment** This tree presents the habit typical of species. 'Fairy lights' have been installed in the tree, as has associated electrical apparatus. Multiple lower branches have been stub cut.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 137 | *Chamaecyparis obtuse*<br>Hinoki Cypress | 12 | 1.10 [B] | 7 x 9 | M | C | Sym. | A | **A2** | **MEDIUM** | **13.2** | **3.4** |
| **Assessment** Multi-stemmed at the base, this tree is possibly coppiced re-growth.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 138 | *Rhododendron spp.* [A]<br>Rhododendron | 8 | 0.85[BC] | 8 x 9 | M | D | Sym. | A | **A2** | **MEDIUM** | **10.2** [C] | **3.1** [C] |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 139 | *Thuja plicata* 'Zebrina'<br>Western Red Cedar 'Zebrina' | 11 | 1.40 [BC] | 14 x 14 | M | D | Sym. | A | **A2** | **MEDIUM** | **15.0** [C] | **3.8** [C] |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 143 | *Liriodendron tulipifera*<br>Tulip Tree | 13 | 0.62[B] | 12 x 12 | M | D | Sym. | A | **B1** | **MEDIUM** | **7.4** | **2.7** |
| **Assessment** This tree presents the habit typical of species. Has received crown lift pruning, some wounds remain open.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 144 | *Cedrus deodara*<br>Himalayan Cedar | 12 | 0.57 | 9 x 10 | M | C | Sym. | A | **B1** | **MEDIUM** | **6.8** | **2.6** |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 145 | *Ulmus glabra*<br>Golden Elm | 11 | 0.47 | 11 x 12 | M | C | S | A | **B1** | **MEDIUM** | **5.6** | **2.4** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 146 | *Prunus spp. A*<br>Ornamental Cherry | 4 | 0.29 | 6 x 7 | M | I | S | A | **A2/3** | **MEDIUM** | **3.5** | **2.0** |
| **Assessment** A large basal wound (north side) appears to be a failed inclusion. A fungal fruiting body is located on the wound face.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 147 | *Prunus serrulata*<br>Japanese Cherry | 5 | 0.50 | 8 x 9 | M | D | E | A | **A2** | **MEDIUM** | **6.0** | **2.5** |
| **Assessment** This tree presents the habit typical of species. A large open pruning wound is located at 1m, southern side exhibits oxidisation and degradation.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 147A | *Prunus serrulata*<br>Japanese Cherry | 4 | 0.50 | 5 x 7 | M | D | N | A | **A2** | **MEDIUM** | **6.0** | **2.5** |
| **Assessment** This tree presents the habit typical of species. A fungal fruiting body is located on the basal flare (western side) A large pruning wound on the lowest 1st order branch, exhibits an associated bark tear (western side)<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 148 | *Acacia melanoxylon*<br>Blackwood | 12 | 0.68[B] | 7 x 12 | O | C | S | A-B | **A4** | **MEDIUM** | **8.2** | **2.8** |
| **Assessment** This tree is senescing. Frass, borers and decay are evident in the western stem.<br>**Proposed works**; See Section 7.1.2 | | | | | | | | | | | | |
| 148A | *Chamaecyparis obtuse*<br>Hinoki Cypress | 11 | 1.20[B] | 8 x 8 | M | D | Sym. | A | **A2** | **MEDIUM** | **14.4** | **3.6** |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Assessment** Not located on the survey, this tree presents the habit typical of species. Multi-stemmed at the base.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 150 | *Syzygium australe*<br>Brush Cherry | 10 | 1.40[BC] | 11 x 12 | M | C | E | A | **C4** | **HIGH** | **15.0** [C] | **3.8** [C] |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base. Fungal fruiting bodies, believed to be *Ganoderma*, are located on the stem at 2.8m (northeastern side) and a 1st order branch (western side) at 2.1m. The western stem presents a cavity at 1.5m, southern side. A 1st order branch at 2m (western side) has a longitudinal crack. The northern stem has a large open wound a failed inclusion, and decay is evident.<br>**Proposed works**; See Section 7.1.2 | | | | | | | | | | | | |
| 151 | *Doryphora sassafras*<br>Sassafras | 15 | 0.30<br>0.30<br>0.20<br>0.20<br>0.10 | 6 x 8 | M | C | E | A | **B1** | **HIGH** | **14.4** | **3.6** |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 151A | *Doryphora sassafras*<br>Sassafras | 14 | 0.28 | 4 x 4 | M | C | Sym. | A | **B1** | **MEDIUM** | **3.4** | **1.9** |
| **Assessment** Not located on the survey, this tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 152 | *Syzygium australe*<br>Brush Cherry | 17 | 0.40<br>0.40<br>0.30<br>0.20 | 11 x 13 [C] | M | C | Sym. | A | **B1** [C] | **HIGH** | **8.0** | **2.3** |
| **Assessment** This tree presents the habit typical of species. Co-dominant at the base. The tree listed as No. 153 is part of this tree. Assessment has been limited by surrounding vegetation.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 154 | *Doryphora sassafras*<br>Sassafras | 17 | 0.46<br>0.22 | 10 x 10 [C] | M | C | S | A | **B1** [C] | **HIGH** | **6.1** | **2.5** |
| **Assessment** This tree presents the habit typical of species. Assessment has been limited by surrounding vegetation.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 155 | *Syzygium australe*<br>Brush Cherry | 18 | 0.45 | 7 x 8 [C] | M | C | Sym. | A | **B1** | **HIGH** | **5.4** | **2.4** |
| **Assessment** This tree presents the habit typical of species when grown forest class. Assessment has been limited by surrounding vegetation.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 156 | *Syzygium australe*<br>Brush Cherry | 12 | 0.29 | 5 x 7 | M | C | N | A | **B1** | **MEDIUM** | **3.5** | **1.9** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 157 | *Syzygium australe*<br>Brush Cherry | 16 | 0.70 [B] | 9 x 9 | M | C | Sym. | A | **B1** | **HIGH** | **8.4** | **2.9** |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at 1m, the northern stem exhibits a wound at 4.5m, southern side- assessment is hindered by the presence of Rock Felt Fern (*Pyrrosia rupestris*)<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 158 | *Doryphora sassafras*<br>Sassafras | 14 | 0.33 | 8 x 8 | M | C | E | A | **B1** | **MEDIUM** | **3.9** | **2.1** |
| **Assessment** This tree presents the habit typical of species. A mature Brush Cherry (*Syzygium australe*) not located on the survey, has emerged within the SRZ of this tree.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 159 | *Chamaecyparis lawsoniana*<br>Lawson Cypress | 15 | 0.60 | 7 x 7 | M | D | Sym. | A | **B1** | **MEDIUM** | **7.2** | **2.7** |
| **Assessment** This tree presents the habit typical of species. Co-dominant at 6m, the bark is included.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 160 | *Doryphora sassafras*<br>Sassafras | 16 | 0.33<br>0.30 [B] | 7 x 9 | M | C | S | A | **A2** | **HIGH** | **5.4** | **2.4** |
| **Assessment** This tree presents the habit typical of species, however exhibits partial crown density in the mid-crown, southern side.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 161 | *Syzygium australe*<br>Brush Cherry | 17 | 1.14 | 10 x 11 | M | C | S | A | **A2** [E] | **HIGH** | **13.7** | **3.5** |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base, the southwestern stem exhibits a wound at 3m (northern side) The heartwood has decayed, creating a 'pipe cavity'. Surrounding trees offer some protection factors to this stem. Assessment has been limited by surrounding vegetation.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 162 | *Syzygium australe*<br>Brush Cherry | 14 [C] | 0.28 | 8 x 8 [C] | M | S | E | A | **A2** | **HIGH** | **3.4** | **1.9** |
| **Assessment** This tree presents the habit typical of species. 2 basal wounds (western side) are occluding. Some epicormic growth is located in the lower and mid crown. Assessment has been limited by surrounding vegetation.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 163 | *Syzygium australe*<br>Brush Cherry | 12 | 0.70 | 6 x 8 | M | C | S | A | **C4** | **MEDIUM** | **8.4** | **2.8** |
| **Assessment** This tree is surrounded by mature, native trees not located on the survey. An open cavity on a 1st order branch a 3m, northern side exhibits decay. Fungal fruiting bodies, believed to be *Ganoderma* are located at the base, (southern side) and on the stem at 2m, northern side.<br>**Proposed works**; See Section 7.1.2 | | | | | | | | | | | | |
| 164 | *Syzygium australe*<br>Brush Cherry | 11 | 0.29<br>0.30<br>0.25 | 7 x 8 | M | I | W | A | **B1** | **MEDIUM** | **5.8** | **2.5** |
| **Assessment** Some confusion exists over the exact location of this tree, as other mature trees adjacent are not located on the survey (See section 7.0 Site assessment) Furthermore, no white flagging tape, apparently used to indicate trees located on the survey, was installed on any tree in the immediate area. Co-dominant the northern stem has a fungal fruiting body at the base, (southern side) and another at 2m, (northern side) on the stem.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 165 | *Doryphora sassafras*<br>Sassafras | 16 | 1.30[BC] | 8 x 11 | M | C | S | A | **B1** | **HIGH** | **15.0** C | **3.7** C |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base. Limited assessment due to surrounding vegetation. The tree listed as No. 166, is part of this tree.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 167 | *Syzygium australe*<br>Brush Cherry | 14 | 0.80[B] | 10 x 12 | M | C | S | A | **A2** | **HIGH** | **9.6** | **3.1** |
| **Assessment** This tree presents the habit typical of species. An open wound on the stem between 0.5m and 2.5m exhibits internal decay, however significant apparent reaction wood is present.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 168 | *Doryphora sassafras*<br>Sassafras | 11 | 0.30<br>0.27<br>0.12 | 5 x 7 | M | S | E | A | **B1** | **MEDIUM** | **5.1** | **2.3** |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 169 | *Syzygium australe*<br>Brush Cherry | 14 | 1.20[BC] | | M | C | E | A | **A2/C4** | **MEDIUM** | **14.4** C | **3.6** C |
| **Assessment** Co-dominant at the base, the eastern stem has been lopped at 0.6m- stems remain. The southern has an occluding basal wound. The northern stem is co-dominant at 1.1m a fungal fruiting body is present in the union, and another just above the union on the western stem. A small detached (hanging) branch is located in the southern crown at 4m.<br>**Proposed works**; See Section 7.1.2 and 7.1.3 | | | | | | | | | | | | |
| 170 | *Acacia melanoxylon*<br>Blackwood | 16 | 0.78 | 10 x 14 | O | C | Sym. | B | **A4** | **MEDIUM** | **9.4** | **2.9** |
| **Assessment** This tree is senescing. Co-dominant at 3m, the southern stem presents excessive decline via delaminating bark, borers and frass. The northern stem exhibits an open wound at 4.5m with apparent internal decay.<br>**Proposed works**; See Section 7.1.2 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 179 | *Eucalyptus elata* [A]<br>River Peppermint | 17 | 0.69 | 14 x 15 | M | D | Sym. | A | **A2** | **HIGH** | **8.3** | **2.8** |
| **Assessment** This tree apparently presents the habit typical of species. Limited assessment due to decorticating bark. Some minor twiggy decline in the mid-crown, southern side.<br>**Proposed works**; See Section 7.1.4 | | | | | | | | | | | | |
| 183 | *Acacia melanoxylon*<br>Blackwood | 13 | 0.70[BC] | 10 x 13 | M | C | Sym. | B | **A2/3** | **MEDIUM** | **8.4** [C] | **2.8** [C] |
| **Assessment** This tree received limited assessment due to thick surrounding vegetation and weed stock. Located downslope of an embankment suggesting limited root mass into the lot of assessment. Ownership of this tree is unknown.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 184 | *Picea spp.* [A]<br>Spruce | 10 | 0.38 | 7 x 7 | M | I | N | A | **B1** | **HIGH** | **4.6** | **2.2** |
| **Assessment** This tree apparently presents the habit typical of species. Limited assessment due to surrounding vegetation.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 189 | *Alnus jorullensis*<br>Evergreen Alder | 11 | 0.37 | 6 x 8 | M | S | N | A | **A2** | **MEDIUM** | **4.4** | **2.2** |
| **Assessment** This tree apparently presents the habit typical of species. A 1st order branch at 5m, eastern side, terminates in a fractured stub. A small detached branch (hanger) is located at 7m, eastern side.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 190 | *Acacia melanoxylon*<br>Blackwood | 16 | 0.70 | 14 x 14 | M | D | Sym. | A | **A2/3** | **HIGH** | **8.4** | **2.8** |
| **Assessment** This co-dominant tree presents the habit typical of species. The tree inventory and survey supplied identify trees No. 190 and No. 191 as separate trees, however they are this single, co-dominant tree.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 192 | *Doryphora sassafras*<br>Sassafras | 14 | 2.50 [BC] | 11 x 11 | M | C | W | A | **B1** | **HIGH** | **15.0** [C] | **4.8** [C] |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Assessment** This tree presents many stems emerging from the basal region and is possibly two trees of the same species sharing a common root mass. Regardless, root grafting is inevitable and this can be considered a single tree.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 193 | *Syzygium australe*<br>Brush Cherry | 14 | 1.05 | 12 x 14 | M | C | Sym. | A | **B1** [C] | **HIGH** | **12.6** | **3.4** |
| **Assessment** This tree presents the habit typical of species. Assessment has been limited by surrounding vegetation.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 194 | *Syzygium australe*<br>Brush Cherry | 14 | 1.20[BC] | 10 x 10 | M | C | N | A | **A2/3** | **MEDIUM** | **14.4** [C] | **3.6** [C] |
| **Assessment** Vine is encroaching upon this tree, limiting assessment. The northern stem is almost completely covered, the southern stem exhibits excessive decline.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 195 | *Doryphora sassafras*<br>Sassafras | 14 | 0.40 | 8 x 8 | M | C | W | A | **B1** | **MEDIUM** | **4.8** | **2.3** |
| **Assessment** This tree presents the habit typical of species. Located on the edge of an excavation, this suggests limited root mass to the northwest. Assessment has been limited by surrounding vegetation.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 195A | *Syzygium australe*<br>Brush Cherry | 12 | 0.30 | 6 x 8 | M | I | W | A | **B1** | **MEDIUM** | **3.6** | **2.0** |
| **Assessment** This tree presents the habit typical of species. Not located on the survey, it is co-dominant at 2m- the bark is included. Located on the edge of an excavation, this suggests limited root mass to the west.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 196 | *Syzygium australe*<br>Brush Cherry | 12 | 0.50[B]<br>0.45 | 9 x 10 | M | Sym. | C | A | **B1** | **MEDIUM** | **8.1** | **2.8** |
| **Assessment** This co-dominant tree presents the habit typical of species. The tree inventory and survey supplied identify trees No. 196 and No. 197 as separate trees, however, they are this single, co-dominant tree.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 198 | *Syzygium australe*<br>Brush Cherry | 12 | 0.50[B] | 7 x 9 | M | S | C | A | **B1** | **MEDIUM** | **6.0** | **2.5** |
| **Assessment** This tree presents a cavity on the stem at 1m, southern side.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 199 | *Syzygium australe*<br>Brush Cherry | 14 | 0.52 | 8 x 8 | M | C | Sym. | A | **B1** | **MEDIUM** | **6.3** | **2.5** |
| **Assessment** This tree presents the habit typical of species. Co-dominant at 1.2m, vine is encroaching.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 200 | *Acacia melanoxylon*<br>Blackwood | 16 | 1.10[C] | 15 x 17 | M/O | D | N | B | **A3/4** | **MEDIUM** | **13.2** [C] | **3.4** [C] |
| **Assessment** This tree suffers excessive encroachment from English Ivy (*Hedera helix*), this has greatly limited the assessment. The lowest 1st order branch southern side presents significant decline.<br>**Proposed works**; See Section 7.1.2 | | | | | | | | | | | | |
| 201 | *Cupressus × leylandii*<br>Leyland Cypress | 11 | 0.30 | 4 x 5 | M | S | E | B | **A2** | **MEDIUM** | **3.6** | **2.0** |
| **Assessment** This tree presents the habit typical of species, however exhibits partial crown density.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 201A | *Cupressus × leylandii*<br>Leyland Cypress | 14 | 0.36 | 5 x 6 | M | S | N | A | **B1** | **MEDIUM** | **4.3** | **2.2** |
| **Assessment** This tree presents the habit typical of species. Not located on the survey, it is co-dominant at 3m. Vine is encroaching.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 203 | *Picea spp.* [A]<br>Spruce | 17 | 0.80 | 12 x 12 | M | D | Sym. | A | **B1** | **HIGH** | **9.6** | **3.2** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 205 | *Liquidambar styraciflua*<br>Liquidambar | 7 | 0.27 | 8 x 8 | M | D | Sym. | A | **B1** | **MEDIUM** | **3.3** | **1.9** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 206 | *Picea spp.* [A]<br>Spruce | 12 | 0.30 | 6 x 6 | M | I | Sym. | A | **B1** | **MEDIUM** | **3.6** | **2.0** |
| **Assessment** This tree presents the habit typical of species. Has received crown lift pruning to 3m.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 207 | *Acacia melanoxylon*<br>Blackwood | 14 | 0.35 | 8 x 10 | M | S | W | A | **A2/3** | **MEDIUM** | **4.2** | **2.2** |
| **Assessment** This tree presents significant bias due to suppression. The lowest 1st order branch has been lopped, no occlusion is present, however much mycelium is located on the wound face and on the stub.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 211 | *Picea spp.* [A]<br>Spruce | 8 | 0.30 | 5 x 6 | M | S | E | A | **A2** | **MEDIUM** | **3.6** | **2.0** |
| **Assessment** This tree presents the habit typical of species. Has received crown lift pruning to 3m.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 213 | *Acer palmatum*<br>Japanese Maple | 70 | 0.35 | 7 x 8 | M | I | E | A | **A2** | **MEDIUM** | **4.2** | **2.2** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 216 | *Fraxinus spp.* [A]<br>Ash | 9 | 0.38 | 9 x 9 | M | I | S | A | **A2** | **MEDIUM** | **4.6** | **2.2** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 217 | *Picea spp.* [A]<br>Spruce | 18 | 0.94 | 10 x 10 | M | D | Sym. | A | **B1** | **HIGH** | **11.3** | **3.2** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 218 | *Syzygium smithii*<br>Lilly Pilly | 11 | 2.06 | 13 x 13 | O | D | Sym. | A | **A2/C4** | **HIGH** | **15.0** | **4.5** |
| **Assessment** This remnant tree presents the habit typical of species. The tree is large and significant for the species, however exhibits multiple open wounds, and fungal fruiting bodies located at;<br>• 2m, western side.<br>• 2m and 5m, southern side.<br>• 4m, northern side.<br>• 2.5m (x2) and 3.5m, eastern side<br>No targets are located beneath this tree.<br>**Proposed works**; See Section 7.1.2 | | | | | | | | | | | | |
| 219 | *Magnolia × soulangeana*<br>Chinese Magnolia | 8 | 0.47[B] | 8 x 8 | M | I | W | A | **A2** | **MEDIUM** | **5.6** | **2.4** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 220 | *Rhododendron spp.*<br>Rhododendron | 6 | 0.30<br>0.30<br>0.30[B] | 7 x 7 | M | I | E | A | **A2** | **MEDIUM** | **5.2** | **2.5** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 221 | *Eucalyptus scoparia* [A]<br>Wallangarra White Gum | 20 | 0.68 | 13 x 15 | M | D | N | A-B | **A2** | **HIGH** | **8.2** | **2.8** |
| **Assessment** This tree presents the habit typical of species. The lowest 1st order branch (northern side) exhibits excessive decline. Minor twiggy decline is evident in the lower crown.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 222 | *Doryphora sassafras*<br>Sassafras | 12 | 1.76 [B] | 12 x 13 | M | C | N | A | **B1** | **HIGH** | **15.0** | **4.2** |
| **Assessment** Multi-stemmed at the base, this tree presents the habit typical of species. The tree listed as No. 223 is part of this tree.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 224 | *Acer palmatum*<br>Japanese Maple | 7 | 0.50 [B] | 7 x 7 | M | C | Sym. | A | **A2** | **MEDIUM** | **6.0** | **2.5** |
| **Assessment** This tree presents the habit typical of species. Co-dominant at the base, the bark is included.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 225 | *Doryphora sassafras*<br>Sassafras | 13 | 0.70 [BC] | 8 x 9 | M | I | N | A | **B1** | **HIGH** | **8.4** [C] | **2.9** [C] |
| **Assessment** Multi-stemmed at the base, this tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 227 | *Doryphora sassafras*<br>Sassafras | 15 | 0.90 [B] | 10 x 11 | M | C | W | A | **B1** | **HIGH** | **10.8** | **3.2** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 228 | *Alnus jorullensis*<br>Evergreen Alder | 16 | 0.48 | 10 x 12 | M | D | N | A | **B1** | **HIGH** | **5.7** | **2.4** |
| **Assessment** This tree presents the habit typical of species. Located to the north of an excavation/ stone retaining wall suggesting reduced root mass to the south. Several lower branches have been stub cut, epicormic growths are present.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 229 | *Pittosporum undulatum*<br>Sweet Pittosporum | 16 | 0.64 | 12 x 12 | M | D | Sym. | A | **A2** | **HIGH** | **7.7** | **2.7** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 230 | *Cedrus deodara*<br>Himalayan Cedar | 16 | 0.48 | 11 x 11 | M | D | Sym. | A | **B1** | **HIGH** | **5.7** | **2.4** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 231 | *Acacia melanoxylon*<br>Blackwood | 13 | 0.65[C] | 7 x 8 | O | C | S | B | **C4** | **LOW** | **7.8** [C] | **2.7** [C] |
| **Assessment** This tree presents the habit typical of species, when senescing. The southern stem exhibits apparent decay in open wounds, and this tree is contacting other trees- these are possibly arresting complete failure. Multiple other trees, potentially impacted by the proposed works, however not located on the survey, are contained within the vicinity of this tree. Assessment has been limited by surrounding vegetation.<br>**Proposed works**; See Section 7.1.2 and 7.1.3 | | | | | | | | | | | | |
| 232 | *Eucalyptus elata* [A]<br>River Peppermint | 28 | 1.58 | 16 x 21 | M | C | E | A | **A2/D2** [E] | **HIGH** | **15.0** | **4.1** |
| **Assessment** This large and significant tree presents the habit typical of species. No fruiting capsules could be obtained to complete the identification. Assessment has been limited by Rock Felt Fern (*Pyrrosia rupestris*), decorticating bark and the size of the tree in relation to the nature of the assessment (level 2, ground-based assessment) A detached (hanging) branch is located above the gravel road at 8m. A vertical wound on the tension side (southern side) between 0.5m and 2.4m, exhibits a vertical crack in the exposed sapwood beneath, however is occluding. The lowest 1st order branch (south side) has been lopped in the past and decay is evident. This stub descends into the living basal region, however the extent (if any) of internal basal decay is unknown- this would require level 3 assessment (internal diagnostics) to further ascertain structural integrity or risk. Co-dominant at 4m, the southern side of the union is much obscured by Rock Felt fern and the juvenile Sweet Pittosporum (*Pittosporum undulatum*) emerging within the union.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | |
| 233 | *Eucalyptus fastigata*<br>Brown Barrel | 26[C] | 2.40 [C] | 27 x 30 [C] | M | C | W | A | **B1** [C] | **HIGH** | **15.0** | **4.8** |
| **Assessment** This large and significant, multi-stemmed tree has a stem that is completely covered in English Ivy (*Hedera helix*), as are many lower branch unions- this has greatly limited the assessment. Assessment has been further limited by the size of the tree in relation to the nature of the assessment (level 2, ground based assessment)<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 233A | *Syzygium australe*<br>Brush Cherry | 10 | 0.22 | 6 x 6 | M | S | Sym. | A | **B1** | **MEDIUM** | **2.6** | **1.7** |
| **Assessment** This tree presents the habit typical of species. Not located on the survey provided.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 233B | *Pittosporum undulatum*<br>Sweet Pittosporum | 8 | 0.26 | 8 x 8 | M | S | Sym. | A | **B1** | **MEDIUM** | **3.2** | **1.8** |
| **Assessment** This tree presents the habit typical of species. Not located on the survey provided.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 234 | *Syzygium australe*<br>Brush Cherry | 14 | 0.60 | 6 x 8 | M | C | Sym. | B | **C4** | **MEDIUM** | **7.2** | **2.7** |
| **Assessment** This tree, co-dominant at 3.5m, presents open wounds on both stems. Fungal fruiting bodies are located at the base, (northern and western sides) and on the western side of the stem at 3m.<br>**Proposed works**; See Section 7.1.2 | | | | | | | | | | | | |
| 235 | *Doryphora sassafras*<br>Sassafras | 16 | 0.38<br>0.38<br>0.42 | 8 x 11 | M | C | S | A | **B1** | **HIGH** | **8.2** | **2.8** |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base, vine is encroaching. Limited assessment due to surrounding vegetation and vine.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 236 | *Syzygium australe*<br>Brush Cherry | 14 | 1.09[B] | 13 x 16 | M | C | Sym. | A | **B1** | **HIGH** | **13.1** | **3.4** |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at 1.4m.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 237 | *Acacia melanoxylon*<br>Blackwood | 18[C] | 0.50 | 9 x 15 | M | D | NW | A | **A2** | **HIGH** | **6.0** | **2.5** |
| **Assessment** This tree presents the habit typical of species. Wounds at 5m and 8m (south side) cannot be adequately assessed from the ground. Assessment has been limited by surrounding vegetation. | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 238 | *Doryphora sassafras*<br>Sassafras | 17 | 0.74[B] | 10 x 11 | M | C | W | A | **B1** | **HIGH** | **8.8** | **2.9** |
| **Assessment** This tree presents the habit typical of species. Multi-stemmed at the base.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 239 | *Syzygium australe*<br>Brush Cherry | 16 | 0.41<br>0.37 | 9 x 11 | M | C | Sym. | A | **C4** | **MEDIUM** | **6.6** | **2.6** |
| **Assessment** Co-dominant at the base, the eastern stem has a large fungal fruiting body a 2.6m (southern side), no reaction wood is evident in this area. The western stem has basal decay. Surrounding trees, potentially impacted by the proposed works, are not located on the survey.<br>**Proposed works**; See Section 7.1.2 | | | | | | | | | | | | |
| 241 | *Acacia melanoxylon*<br>Blackwood | 17 | 0.40 | 7 x 10[C] | M | C | Sym. | A | **A2/3** | **MEDIUM** | **4.8** | **2.3** |
| **Assessment** This tree suffers excessive encroachment from vine- this has greatly limited the assessment.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 241A | *Doryphora sassafras*<br>Sassafras | 12 | 0.33[B]<br>0.39 | 6 x 8 | M | S | N | A | **A2** | **MEDIUM** | **6.2** | **2.5** |
| **Assessment** This tree presents the habit typical of species. Not located on the survey, it is co-dominant at the base. Assessment has been limited by surrounding vegetation.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 241B | *Doryphora sassafras*<br>Sassafras | 16 | 0.30<br>0.30 | 9 x 10[C] | M | C | S | A | **B1** | **HIGH** | **5.1** | **2.3** |
| **Assessment** This tree presents the habit typical of species. Not located on the survey, vine is encroaching. Assessment has been limited by surrounding vegetation.<br>**Proposed works**; See Section 7.1.3 | | | | | | | | | | | | |
| 246 | *Acacia melanoxylon*<br>Blackwood | 16 | 0.37[C] | 6 x 9 | M | C | N | A | **A2** | **MEDIUM** | **4.4**[C] | **2.2**[C] |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Assessment** This tree suffers excessive encroachment from vine- this has greatly limited the assessment.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 252 | *Acacia melanoxylon*<br>Blackwood | 16 | 0.30 | 8 x 10 | M | C | W | A | **A2** | **MEDIUM** | **3.6** | **2.0** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.1 | | | | | | | | | | | | |
| 260 | *Cryptomeria japonica*<br>Japanese Cedar | 16 | 1.5 [BC] | 8 x 11 | M | D | S | A | **B1** | **HIGH** | **15.0** | **3.9** |
| **Assessment** This tree presents the habit typical of species.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 274 | *Thuja plicata*<br>Western Red Cedar | 8 | 0.19<br>0.14<br>0.14<br>0.10 | 4 x 4 | M | D | N | A | **A2** | **MEDIUM** | **3.5** | **2.0** |
| **Assessment** This tree is multi-stemmed at the base, and is possibly coppiced re-growth. 2 stems (western side) has been lopped at the base.<br>**Proposed works**; See Section 7.1.4 | | | | | | | | | | | | |
| 275 | *Chamaecyparis obtusa 'Aurea'* [A]<br>Golden Hinoki Cypress | 14 | 1.20[BC] | 8 x 11 | M | I | E | A | **A2** | **MEDIUM** | **14.4** [C] | **3.6** [C] |
| **Assessment** This tree presents the habit typical of species. Not located on the survey.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 276 | *Quercus velutina* [A]<br>Black Oak | 16 | 0.72 | 15 x 15 | M | D | Sym. | A | **B1** | **HIGH** | **8.6** | **2.8** |
| **Assessment** This tree presents the habit typical of species. Not located on the survey.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |

| Tree No. | Botanical Name<br>Common Name | Height (m) | DBH (m) | Crown Spread (m) | Age | Crown Class | Crown Aspect | Vitality | SULE Rating | STARS Rating | TPZ | SRZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 277 | *Alsophila australis*<br>Rough Tree Fern | 6 | 0.21 | 5 x 5 | M | D | Sym. | A | **A1** | **MEDIUM** | **2.0** | **1.5** |
| **Assessment** This tree presents the habit typical of species. Not located on the survey. Installed in a garden bed/ retaining wall, root mass to the west and southwest appears to be limited.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 278 | *Acacia melanoxylon*<br>Blackwood | 18 | 0.30<br>0.37 | 10 x 13 | M | C | S | A | **A2** | **HIGH** | **5.8** | **2.4** |
| **Assessment** This tree presents the habit typical of species. Not located on the survey.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 279 | *Acacia melanoxylon*<br>Blackwood | 18 | 0.66 [C] | 10 x 14 | M | C | N | A | **A2** [C] | **HIGH** | **7.9** [C] | **2.8** [C] |
| **Assessment** This tree presents the habit typical of species. Not located on the survey. The stem is obscured by thick, surrounding vegetation.<br>**Proposed works**; See Section 7.1.5 | | | | | | | | | | | | |
| 280 | *Cryptomeria japonica*<br>Japanese Cedar | 13 | 0.45 [C] | 5 x 7 | M | D | S | A | **B1** [C] | **HIGH** | **5.4** [C] | **2.4** [C] |
| **Assessment** This tree presents the habit typical of species. Not located on the survey. Limited assessment due to thick, surrounding vegetation.<br>**Proposed works**; See Section 7.1.4 | | | | | | | | | | | | |

A. Incomplete identification of species due to insufficiently available plant material
B. Diameter taken below 1.4m due to low stem bifurcation
C. Estimate due to the overgrown area and/or limited access
D. Deciduous species, void of foliage at the time of assessment
E. Level 3 assessment required to determine the accurate rating

## 7.0 Site Assessment

The area of assessment comprises an irregular shaped lot. The lot presents varying gradient and aspects. A four-story heritage-listed building is located centrally and at the highest grade of the lot, therefore the gradient decreases (at varying levels) on all sides. Several outbuildings and a swimming pool exist and a collection of gravel/asphalt roads meander around the lot. The gardens are extensively landscaped with stone retaining walls, water features and contain a combination of introduced (exotic and native) as well as remnant plantings and bush. A detailed description for the site is included in the Preliminary Landscape Heritage Report (Section 4.4.3).

The lot has been listed as Environmental Heritage[10] and described as "Fountaindale Manor", Grounds and Railway Siding, therefore, suggesting that the protection afforded by local government is related to the grounds and items, including plantings within the grounds.

Areas of remnant rainforest (Robertson Basalt Rainforest[11]) is located in the southern, eastern, and northern portion of the lot- and based on the Biodiversity Development Assessment Report (Section 4.4.4) form part of an Endangered Ecological Community (EEC). That is, they are protected and protected under Part 3 of Schedule 1 of the Threatened Species Conservation Act (TSC Act) and under the Commonwealth Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act). The northern portion of the lot contains a riparian zone.

Based on Section 6.1.4; Definitions of the Development Control Plan[7], the vegetation subscribed to protection will include all trees that conform to the definition of a prescribed tree, and also likely include the following Sections, being titled;

*Other vegetation – associated with an Item of Heritage or within a Heritage Conservation Area*

Based on the heritage listing including grounds

*Other vegetation – not associated with an Item of Heritage or not within a Heritage Conservation Area*

Based on the areas including trees defined as an EEC and also riparian corridors.

These later two areas will require confirmation by a town planner to establish the extent of protection and requirement for trees to be included. This report

[10] Wingecarribee Shire Council, 2010, Local Environment Plan, Schedule 5, Environmental Heritage Item number I601 and I603.

[11] Referenced from the Biodiversity Development Assessment Report, Section 4.4.4

has included areas where trees have been included in the survey and have described further areas where trees occur although not included in the survey.

Multiple trees have not been located on the survey for some areas where development works are proposed, see Sections 4.5.1 and 4.5.2, and these areas and description follows. These have been allocated specific letters to aid in identification and allow for the site description. These areas are illustrated below in Plan 8, and the description for each follows.

Area V- located in the southern portion of the lot, and a significant portion of the EEC. This area contains multiple mature indigenous trees, predominantly Blackwood (*Acacia melanoxylon*), Brush Cherry (*Syzygium australa*), and Sassafras (*Doryphora sassafras*). They are not located on the survey provided and are estimated to form part of the assembly of the EEC/ remnant rainforest. It is estimated approximately twelve (12) trees within this area may be impacted. These trees range in size; however the average height is approximately 15m. The DBH range varies, as the trees are a combination of forest class specimens and multi-stemmed trees, where a basal measurement is more indicative of the root mass. The drawings provided (Section 4.4.2) support impacts upon these trees.

Area W- located immediately south of the building. This area appears to be the northern edge of an EEC. That is, where the rainforest type vegetation, consisting primarily of Brush Cherry (*Syzygium australe*) and Sassafras (*Doryphora sassafras*), merges with deliberate, exotic plantings. Multiple mature trees are located in this area, however not located on the survey. These trees range in size; however the average height is approximately 16m. The DBH range varies, as the trees are a combination of forest class specimens and multi-stemmed trees, where a basal measurement is more indicative of the root mass. It is estimated approximately ten (10) trees occur in this area and the drawings provided (Section 4.4.2) support impacts upon these trees.

Area X- located to the east of the building and adjacent to the gravel road. This area contains multiple mature trees consisting of Sweet Pittosporum (*Pittosporum undulatum*), Brush Cherry (*Syzygium australe*), and Sassafras (*Doryphora sassafras*). These are not located on the survey provided. These trees are located adjacent to an excavation (eastern side) that have occurred to facilitate the adjacent gravel road. This suggests a possible reduction in root mass to the east. These trees range in size; however the average height is approximately 10m. The DBH range varies, as the trees are a combination of forest class specimens and multi-stemmed trees, where a basal measurement is more indicative of the root mass. It is estimated that approximately ten (10)

trees occur in this area, and the drawings provided (Section 4.4.2) support the impacts upon these trees.

Area Y- located immediately southeast of the swimming pool. This area contains multiple mature (*Syzygium australe*) and Sassafras (*Doryphora sassafras*), not located on the survey provided. The species associated with the EEC are located in this area; however some exempt species are also present; Cotoneaster (*Cotoneaster spp*.) These trees range in size; however the average height is approximately 15m. The DBH range varies, as the trees are a combination of forest class specimens and multi-stemmed trees, where a basal measurement is more indicative of the root mass. It is estimated approximately ten (10) trees occur in this area, and the drawings provided (Section 4.4.2) support impacts upon these trees. Trees located in this area may be outside of the lot, and therefore ownership of these trees is unknown.

Area Z- the northern quarter of the lot. This a large area and, therefore, has been segregated into individual portions for discussion (Z1-Z6, Z; dam and Z; pond). Area Z is partially pasture, that is, paddock and a significant portion (southwestern corner) present as a previously cleared grazing area, now supporting various re-growth specimens and some deliberate plantings. Numerous trees are located within this area, and too many to estimate an approximate number. Furthermore, the topography and dense vegetation has made some areas inaccessible and removes the opportunity for assessment. Multiple species, including *Eucalypts, Corymbia, Pittosporum, Fraxinus, Casuarina, Pinus, and Alnus,* have been identified in this area, as are multiple rainforest species where the terrain inhibited the collection of vegetative matter for identification purposes. The riparian zone, and particularly the northern and eastern portion of area Z, contain dense, rainforest species and is assumed to relate to the EEC. Exempt species (*Salix and Pinus radiata*) are also located in this area.

Area Z1; this is a paddock area, with apparent re-growth and some deliberate exotic plantings. Stock animals are utilising this area. Tree species include *Casuarina, Eucalyptus, Corymbia, Alnus,* and *Acacia*. The exempt species *Salix* is occurring within this area. The combined total of trees over 6m in this area is approximately thirty. The average height is 15m. The average DBH is 0.30m.

Area Z2; this area is densely vegetated. Some exotic species are located on the southern periphery; however the majority of this area is dense bush, consisting of *Pittosporum, Syszgium, Doryphora* and *Acacia* as well as multiple rainforest species where the terrain and environment were not conclusive to the collection of vegetative matter for identification purposes. Too many trees are located within this area to enable an approximate number, nor can an average

height and/ or DBH be calculated. The majority of this area presents as the remnant rainforest and contains very large and significant trees.

Area Z3; this is an open, grassed paddock area being utilised by stock animals. Many trees of various species are located on the northern and western periphery; however access has hindered the assessment due to excessive weed stock, vine growth, and dense vegetation. Species observed in the upper canopy include *Pittosporum, Syszgium, Doryphora* and *Acacia,* as well as some exempt species *(Pinus).* An estimation of the tree number or DBH has been unable to be calculated due to the limited access, however, the average tree height is approximately 17m.

Area Z4; this area is covered in remnant rainforest, that is, dense bush. Species include *Pittosporum, Syzygium, Doryphora,* and *Acacia* as well as multiple rainforest species where the terrain prevented the collection of vegetative material for identification purposes. Too many trees are located within this area to enable an approximate number, nor can an average height and/ or DBH be calculated. The majority of this area presents as the remnant rainforest and contains very large and significant trees.

Area Z5; this is an open, grassed paddock dedicated to stock animals. No trees occur in this area

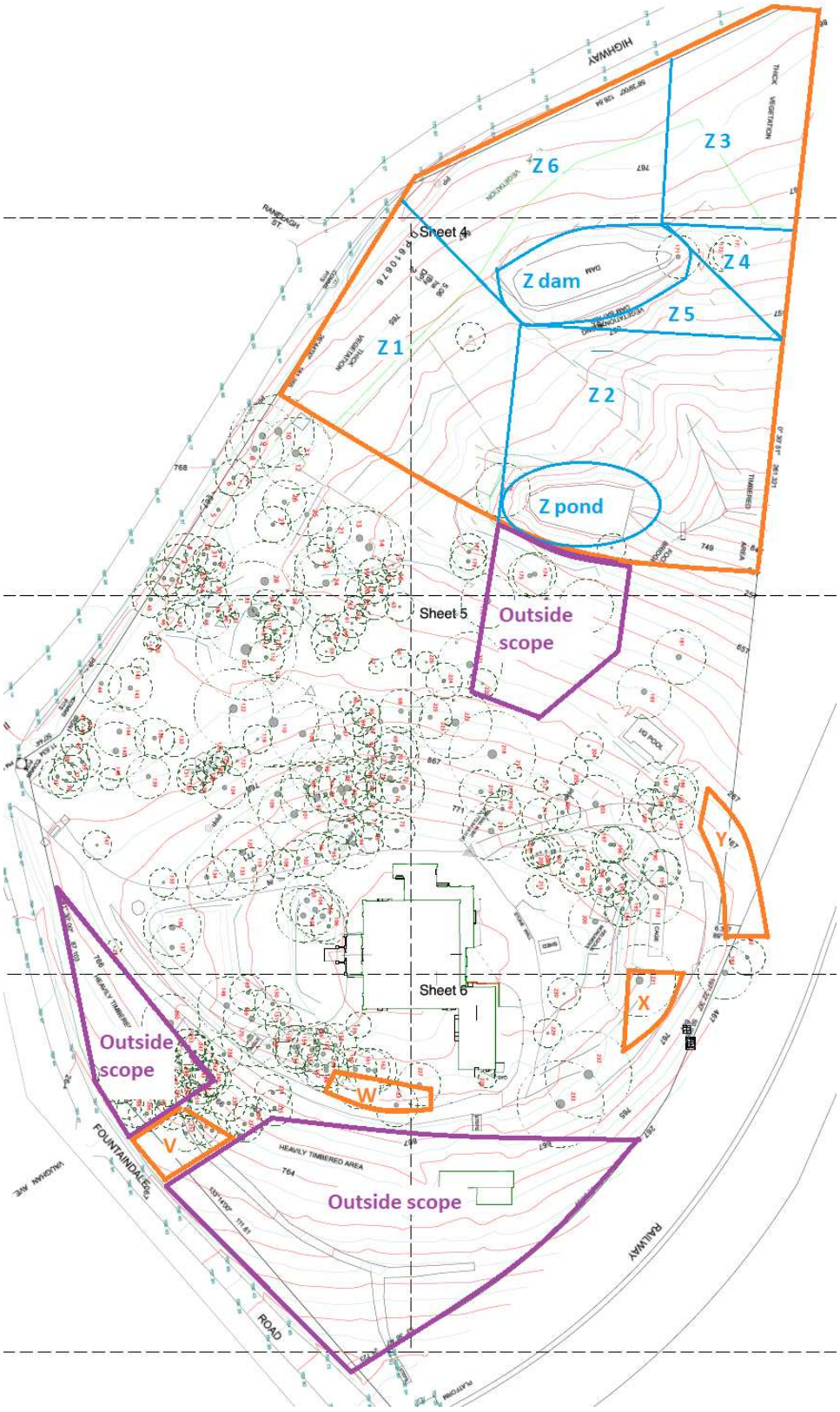
Area Z6; this is an open, grassed paddock dedicated to stock animals, with mature trees located on the northern and western periphery. The assessment has been limited by the dense weed stock, vine growth, and other vegetation. Species observed in the upper canopy include *Pittosporum, Syzygium, Doryphora,* and *Acacia,* as well as *Pinus pinea* (x 4). However, the limited access prevented the collection of vegetative material for identification. An estimation of the tree number or DBH has been unable to be calculated due to the limited access; however the average tree height is approximately 17m.

Area Z, dam; this area contains approximately twenty-five (25) trees surrounding the dam area, including *Pittosporum, Acacia,* and various apparent rainforest species. The exempt species *Salix* and *Pinus radiata* are also located in this area. The average DBH is 0.25m, and the average height 10m- this does not include the exempt species.

Area Z, pond; this area contains a combination of native and exotic species, including *Eucalyptus, Quercus, Acacia, Rhododendron, Doryphora,* and *Syzygium*. The exotic plantings are predominantly on the southern side, where the cleared paddock area (and associated deliberate plantings) merge with the

apparent remnant rainforest area. The northern portion of this area is too dense to enable the estimated number of trees, height or DBH.

**Plan 8; Area of assessment, indicating areas not assessed**




Not for scale

Source: Adapted from the Tree Inventory Plan; Preliminary Landscape Heritage Report, Section 4.4.3

The following trees have been assigned numbers based on the tree schedule issued to ATC (Preliminary Landscape Heritage Report; Section 4.4.3) and fall within the scope of works. That is are within the areas proposed for works. However, have not been included as part of Table 1 (Section 6.0) for assessment or discussion (Section 7.1) because they do not conform to the description of a prescribed tree based on the Wingecarribee Shire Councils Development Control Plan. The following Section describes these tree groups and reason for exclusion.

### 7.0.1 Trees excluded from the assessment

- Exempt trees based on species[12]

  *Pinus radiata* (Monterey Pine): Tree No. 1-8, 13, 14, 23, 24, 28, 53, 110, 122, 123, 171, 180, 182, 185-187, 202, 208-210. The confirmed species identification for these listed trees is incomplete and requires further confirmation, See Section 4.5.3.

  *Prunus laurocerasus* (Cherry Laurel): Tree No. 45

  *Cotoneaster lacteus* (Cotoneaster): Trees No. 55, 56, 113-115, and 149.

  *Acer negundo* (Box Elder): Tree No. 149.

- Exempt trees based on size defined as a prescribed tree[7].

  Tree No. 16-18, 20, 40, 57, 60, 61, 62, 63, 64, 66, 67, 118, 125-129, 131, 132, 140-142, 177, 178, 204, 212, 214, 215 and 226.

- Trees that have failed since the survey

  Trees No. 69 and 176

  Two trees located on the survey, and included within the Preliminary Landscape Heritage Report (Section 4.4.3), have completely failed, and are laying on the ground. No data has been recorded for these trees.

- Trees included in the survey although do not exist.

  Tree No. 30, 33, 50, 52, 181 and 181

  Multiple trees located on the survey, are listed in the Preliminary Landscape Heritage Report (Section 4.4.3), as 'not a tree'. That is, these trees do not occur on site.

## 7.1 Proposed development

The proposed development consists of the refurbishment of the existing hotel building, and is referenced to include;

- Extension to the east of the building
- Additional hotel accommodation (new buildings) to the northeast
- Ecotourism cabins

[12] Wingecarribee Shire Council; Environmental Weeds in the Southern Highlands, cited at https://www.wsc.nsw.gov.au/uploads/786/enviro-weeds-web-small.pdf

- Private residences,
- New and modification of existing drive access,
- Assumed drainage infrastructure.
- Formation of an Asset Protection Zone and management of the assigned area to the Planning for Bushfire Protection[13].

The calculations included in the following discussion have not considered;

- subsurface utilities that have not been included in the design,
- Work methods related to subsurface utilities, for example, concrete encasing or replacement of existing lines
- or work methods related to construction (stockpiling, site sheds, scaffolding) unless otherwise specified.

These may also increase the encroachment and tree impact and, therefore the opportunity for tree retention.

This report discusses the impact of the proposed design on the trees. One hundred and seventy-four (174) trees have been listed within this report based upon the vicinity of the proposed works. This has included street and neighbouring trees where any part of the zones of protection, Tree Protection Zone (TPZ), and Structural Root Zone (SRZ) to encroach into the lot. Recommendations based on the tree significance and condition, together with the impact on these trees regarding the development for this lot follow;

**7.1.1 Trees and zones of protection (TPZ/SRZ) outside of the proposed design**

Trees No. 15, 19, 54, 59, 65, 84, 111, 112, 121, 124, 130, 162, 183, 220, 246 and 252

None of the proposed works conflict with the location of these trees or respective zones of protection. These trees can be retained without impact by the proposed design.

**7.1.2 Trees providing a limited useful life expectancy**

Trees No. 71, 87, 95, 148, 150, 163, 169, 170, 200, 218, 231, 234 and 239

These trees provide low significance based on the species, habit, and rating and could be removed due to the low amenity value and limited useful life expectancy.

**7.1.3 Trees directly conflicting with the design**

Trees No. 11, 12, 27, 29, 31, 34, 39, 41, 44, 46-48, 58, 70-78, 94, 95, 133, 143, 144, 169, 184, 189, 190, 192, 193, 195A, 196, 198, 199, 201, 201A,

[13] NSW Rural Fire Service, Standards for asset protection zones, https://www.rfs.nsw.gov.au/__data/assets/pdf_file/0010/13321/Standards-for-Asset-Protection-Zones.pdf

203, 205-207, 211, 213, 216, 217, 219, 225, 229, 230, 231, 233, 233B, 237, 241A and 241B

These trees are located in the footprint of the proposed design and would require removal based on this premise alone. The conflict is summarised as follows;

Trees No. 11, 12, 29, 31, 34, 39, 46, 47, 143, 144; within the footprint of the proposed new road servicing the northern portion of the lot.

Tree No. 27; within the footprint of the proposed car parking spaces west of the petting zoo.

Trees No. 41, 44, 48; within the footprint of the proposed car parking spaces, western boundary.

Tree No. 58; within the footprint of the proposed footpath, southeast of the petting zoo.

Trees No. 70-74; within the footprint of the proposed museum and surrounds.

Trees No. 75-78, 217; within the footprint of the proposed visitor parking.

Trees No. 94 and 95; within the footprint of the proposed new (widened) main entrance driveway.

Tree No. 133; within the footprint of the proposed footpath north of the driveway.

Tree No. 169; within the footprint of the upgraded access/ driveway servicing the port cochere.

Trees No. 184, 189, 190, 192, 231; within the footprint of one of the proposed 'eco-cabins' (no individual No. allocated)

Tree No. 193; within the footprint of the proposed community and health centre.

Trees No. 195A, 196, 198, 199; within the footprint of the proposed road servicing the 'eco-cabins'.

Trees No. 201, 201A, 203, 205-207, 230; within the footprint of the proposed function rooms.

Tree No. 211; within the footprint of the proposed relocated grotto area.

Tree No. 213; within the footprint of the proposed stairway in the new development.

Trees No. 216, 229, 233B; within the footprint of the proposed road servicing the function rooms.

Tree No. 219; within the footprint of the proposed bar/ restaurant area.

Tree No. 225; within the footprint of the proposed terraces for the stage/amphitheatre area.

Tree No. 233; within the footprint of the proposed footpath and road servicing the 'eco-cabins'.

Trees No. 237, 241A and 241B; within the footprint of the proposed new road accessing Fountaindale Road.

### 7.1.4 Trees subject to a minor encroachment

Trees No. 9, 10, 36, 51, 80, 93A, 99, 100, 108, 109, 179, 274 and 280

These trees are not directly located in the footprint of the proposed design, however, are subject to a *minor encroachment*. That is, the proportion (<10%) of encroachment provided by design will not adversely impact on the tree. These trees could be retained relative to the design.

### 7.1.5 Trees subject to a major encroachment

Trees No. 21, 22, 25, 26, 32, 35, 37, 38, 49, 68, 79, 81-83, 85, 87, 88, 90-93, 96-98, 101-103, 104-107, 116, 117, 119, 120, 134-139, 145, 146, 147, 147A, 148A, 151, 151A, 152, 154-157, 158-161, 164, 165, 167, 168, 194, 195, 221, 222, 224A, 227, 228, 232, 233A, 235, 236, 238, 241, 260, 275, 276 and 277-279

These trees are not directly located in the footprint of the proposed design, however, are located close and adjacent to the dwelling footprint and subject to a *major encroachment*, that is, in excess of 10% of the TPZ. The extent and type of encroachment for each tree are discussed and the relative implications. These have been summarised in Table 2; Summary of trees subject to a major encroachment.

**Table 2; Summary of trees subject to a major encroachment**.

| Tree No. | SRZ Encroachment | Total Encroachment | Type/Proportion of encroachment | Notes |
|---|---|---|---|---|
| 21 | Yes | 24% | New road | See Note 1 |
| 22 | Yes | 64% | New road[27] /petting zoo[37] | See Note 1 and 2 |
| 25 | Yes | 29% | New footpath[24]/villa[5] | See Note 3 and 4 |
| 26 | Yes | 23% | New footpath | See Note 3 |
| 32 | Yes | 43% | New road | See Note 1 |
| 35 | No | 35% (Estimate) | New brick wall[25]/ New road[10] | See Note 1 and 5 |
| 37 | No | 18% | New road | See Note 1 |
| 38 | No | 15% | New road | See Note 1 |
| 49 | Yes | 49% | New car park spaces | See Note 6 |
| 68 | Yes | 48% | Stage/ amphitheatre | See Note 7 |
| 79 | Yes | 29% | New visitor parking area[17] /museum[12] | See Note 6 and 4 |
| 81 | Yes | 43% | New footpath[41] /museum[2] | See Note 3 and 4 |
| 82 | Yes | 26% | New footpath[25] stage/ amphitheatre[1] | See Note 3 and 7 |
| 83 | No | 13% | Stage/ amphitheatre | See Note 7 |
| 85 | Yes | 27% | Stage/ amphitheatre | See Note 7 |
| 87 | Yes | 48% | New footpath | See Note 3 |

| | | | | |
|---|---|---|---|---|
| 88 | No | 17% | New footpath | See Note 3 |
| 90 | Yes | 19% | New footpath | See Note 3 |
| 91 | Yes | 26% | New footpath | See Note 3 |
| 92 | No | 12% | New footpath | See Note 3 |
| 93 | Yes | 31% | New road[19] /new visitor parking[6] /new footpath[6] | See Note 1, 3 and 6 |
| 96 | Yes | 48% | New road | See Note 1 |
| 97 | Yes | 36% (Estimate) | New footpath | See Note 3 |
| 98 | No | 19% (Estimate) | New footpath | See Note 3 |
| 101 | Yes | 34% | New footpath | See Note 3 |
| 102 | Yes | 17% | New road | See Note 1 |
| 103 | Yes | 34% | Road Upgrade | See Note 8 |
| 104 | No | 16% | Road Upgrade | See Note 8 |
| 105 | No | 18% | Road Upgrade | See Note 8 |
| 106 | No | 15% | Road Upgrade | See Note 8 |
| 107 | No | 15% | Road Upgrade | See Note 8 |
| 116 | Yes | 33% | New footpath | See Note 3 |
| 117 | No | 17% | New footpath | See Note 3 |
| 119 | No | 18% | Road Upgrade | See Note 8 |
| 120 | Yes | 50% | Road Upgrade[3] / New footpath[47] | See Note 3 and 8 |
| 134 | Yes | 23% | Road Upgrade | See Note 8 |
| 135 | Yes | 24% | Road Upgrade | See Note 8 |
| 136 | Yes | 40% (Estimate) | Road Upgrade | See Note 8 |
| 137 | No | 26% | Road Upgrade | See Note 8 |
| 138 | Yes | 41% | New footpath | See Note 3 |
| 139 | Yes | 42% | New footpath | See Note 3 |
| 145 | Yes | 39% | New footpath | See Note 3 |
| 146 | No | 20% (Estimate) | New road | See Note 1 |
| 147 | Yes | 73% | Road Upgrade[25] / New footpath[48] | See Note 3 and 8 |
| 147A | Yes | 73% (Estimate) | Road Upgrade[25] / New footpath[48] | See Note 3 and 8 |
| 148A | No | 20% | Road Upgrade | See Note 8 |
| 151 | Yes | 39% | Road Upgrade | See Note 8 |
| 151A | No | 18% | Road Upgrade | See Note 8 |
| 152 | Yes | 38% | Road Upgrade | See Note 8 |
| 154 | No | 20% | Road Upgrade | See Note 8 |

| | | | | |
|---|---|---|---|---|
| 155 | Yes | 33% | Road Upgrade | See Note 8 |
| 156 | Yes | 32% | Road Upgrade | See Note 8 |
| 157 | No | 21% | Road Upgrade | See Note 8 |
| 158 | No | 13% | Road Upgrade | See Note 8 |
| 159 | Yes | 44% (Estimate) | Road Upgrade[30] / New footpath[14] | See Note 3 and 8 |
| 160 | Yes | 38% | New footpath | See Note 3 |
| 161 | No | 37% | New footpath[27] / Road Upgrade[10] | See Note 3 and 8 |
| 164 | Yes | 29% | Road Upgrade[7] / New footpath[22] | See Note 3 and 8 |
| 165 | No | 62% | Road Upgrade[40] / New footpath[22] | See Note 3 and 8 |
| 167 | No | 27% | New footpath[6] / Road Upgrade[21] | See Note 3 and 8 |
| 168 | No | 22% | Road Upgrade | See Note 8 |
| 194 | Yes | 67% (Estimate) | New function rooms[20] /Eco cabins[37] /new road[10] | See Note 4 and 8 |
| 195 | Yes | 39% (Estimate) | New function rooms[14] /New road[25] | See Note 1 and 4 |
| 221 | No | 20% | New footpath | See Note 3 |
| 222 | Yes | 43% | Stage/ amphitheatre | See Note 7 |
| 224 | Yes | 49% | New footpath | See Note 3 |
| 227 | No | 13% | New road | See Note 1 |
| 228 | Yes | 24% | Road Upgrade | See Note 8 |
| 232 | Yes | 72% | New road[37] /eco cabins[35] | See Note 1 and 4 |
| 233A | Yes | 71% | New road | See Note 1 |
| 235 | Yes | 42% | New road | See Note 1 |
| 236 | Yes | 45% | New road | See Note 1 |
| 238 | Yes | 49% | New road | See Note 1 |
| 241 | No | 18% | New road | See Note 1 |
| 260 | Yes | 35% | Road Upgrade | See Note 8 |
| 276 | No | 38% | Road Upgrade[28] /New footpath[10] | See Note 3 and 8 |
| 275 | Yes | 66% (Estimate) | Road Upgrade[36] /new footpath[30] | See Note 3 and 8 |
| 277 | Yes | 48% | Road Upgrade | See Note 8 |
| 278 | No | 14% | Road Upgrade | See Note 8 |
| 279 | No | 23% | Road Upgrade | See Note 8 |

**Re;** 'Type/Proportion of encroachment'; numbers contained in 'Type/Proportion of encroachment', refer to the proportion of encroachment (%) for each structure.

**Notes**

The following notes provide a description of the encroachment and potential impact provided by the works based on information extracted from the drawing set. Minimal specifications occur for many proposed structures and related construction methodology. This has resulted in various assumptions and mitigation strategies relating to typical construction methodologies.

1. **New Road**: No grades nor surface types have been supplied regarding the construction of the proposed new roads, limiting the opportunity to offer mitigation strategies. However, mitigation for any/all trees subject to encroachment due to the construction of new roads (including widening of existing roads) may include maintaining roads on existing grade, or as close to existing grade as possible, re-design to remove/ reduce encroachment for significant trees, that is trees, that justify retention and mitigation strategies. Additionally, flexible, aerated surfaces, for example, Filtapave[9], will offer reduced impacts within areas of encroachment.
2. **Petting Zoo**: No specifications have been supplied regarding the design for the petting zoo. Assumed as an area to house animals, a natural earthen surface could be maintained. This would provide minimal impact on any TPZ subject to encroachment from this area. Additional structures will offer an impact pending on the structure type and related engineering.
3. **Footpaths**: No grades nor surface types have been supplied regarding the proposed new footpaths, limiting the opportunity to offer mitigation strategies. However, the size of the lot suggests an opportunity for re-routing to reduce impacts or remove the proposed footpaths from the SRZ and reducing encroachments on the TPZ's. Furthermore, the installation of the footpaths on existing grade, with no excavation barring that required to remove the organic matter/ turf from the footprint of the path, shall minimise root loss and therefore impacts. Additionally, flexible, aerated surfaces, for example, Filtapave[9], will offer reduced impacts within areas of encroachment.
4. **Buildings**: No specifications have been supplied regarding the construction methodologies of the proposed function rooms, the villas, the museum, and the Eco cabins; therefore mitigation strategies are limited to general principals regarding the installation of structures within any TPZ.
    - Excavation should be minimised. This can be achieved by constructing or above the existing grade.
    - Footings should be individual pier type footings as opposed to strip footings.
    - Root mapping can be undertaken, to identify the location of woody roots potentially impacted, and allow for the individual installation of pier type footings without damage or severance to any root >50mm diameter.
    - Where possible, structures can be cantilevered over that part of the TPZ prone to encroachment.

- Design (proposed footprint) can be re-visited to investigate the possibility of removing the encroachment or reducing to a minor encroachment.

5. **Front brick wall** It is assumed the brick wall is intended to be installed on a strip type footing- this will likely generate complete root severance and establish an area nullifying potential future root development. Impacts can be reduced by utilising pier type footings within those portions of the brick wall traversing any TPZ or modifying the wall type to a type that allows for underlying roots to be retained. Furthermore, root mapping can be undertaken, to identify the location of woody roots potentially impacted, and allow for the individual installation of pier type footings without damage or severance to any root >50mm diameter.
6. **Car parking bays**; No specification has been supplied regarding the construction of the proposed car parking bays; therefore mitigation strategies are limited. However, impacts can be minimised by installing the car parking spaces on grade, or as close to existing grade as possible, thereby minimising excavation. Additionally, a flexible, aerated surfaces, for example, Filtapave[9], will offer reduced impacts within areas of encroachment. Re-design is also possible to locate the parking bays outside of individual TPZ's or reduce to impacts to a minor encroachment.
7. **Stage/amphitheatre:** No specifications have been supplied regarding the proposed works within the area identified as 'stage/amphitheater'. The plans provided and the existing gradient suggest the creation of terraces (excavation) and this will result in complete root severance. It is unknown if any impervious material e.g. concrete is to be introduced thereby creating a barrier nullifying the potential for future root development. Mitigation within this area included re-design to locate the proposed works in an area that will visit less impacts and/ or impact less significant trees. Also, if seating is intended on the (assumed) terraces, as is typical for an amphitheater, benches could be installed on pier type footings to facilitate the same result, however, remove the need for excavation.
8. **Road upgrades**: No details regard the apparent upgrade to the existing roads have been supplied, limiting the options to provide mitigation strategies. However, impacts can be reduced by maintaining the existing grade and thereby reducing/ removing the need for excavation. Flexible, aerated surfaces, for example, Filtapave[9], will offer reduced impacts within areas of encroachment.

### 7.2 Planning for Bushfire Protection

Based on the document from the Bushfire consultant, no Asset Protection Zone has been allocated at this stage of the design; however the area will require to conform to the mandatory management for a protection from Bushfire[13]. Additional APZ modeling and consultation with the Rural Fire Service have been described to require the extent of protection. The management typically requires to conform to the three following primary criteria;

- A canopy cover of no more than 15% can exist over the area of the APZ.
- A discontinuous canopy is required for those trees within the area of the Inner Protection Zone.
- A canopy should not overhang between 2 – 5m of a dwelling.

Therefore, additional tree works related to removal and pruning will likely be required.

### 7.3 Sub-surface utilities

No drawings have been provided for the proposed route of sub-surface utilities. Any trenching, other than what has been allowed for should be avoided within the area of the TPZ. Any proposed route shall be re-routed outside of the TPZ. Under boring may be required if a limitation for the route of a service is restricted to an area that falls within the TPZ. Any excavation in the area of a TPZ must be authorised and conditioned by the project arborist.

### 7.4 Protection measures

Tree protection measures will be required during the demolition and construction stage. However, the design of these will be pending the work methodology and final design. The project arborist shall be contracted after the completion/confirmation of design work for the instruction of the protection measures implementation, that is the Arboricultural Method Statement. Examples of the protection measures are contained in Appendix B.

#### 7.4.1 Conditions for compliance

The following conditions are required before any works proceed on site.

Site induction; All workers related to the construction process and before entering the site must be briefed about the requirements/conditions outlined in this report relative to the zone of protection, measures, and specifications before the initiation of work. This is required as part of the site induction process.

Project Arborist; A project arborist who conforms to the requirements of the AS 4970 is required to be nominated immediately after a *Notice of Determination* is issued, and they are to be provided with all related site documents.

### 7.5 Compliance Documentation

The following stages will require assessment and documentation (report, letter, certification) by the project arborist or person responsible for the specific work type, and the related documentation is to be issued to the principal certifying agent.

### 7.5.1 Table 2; Assessment/Certification stages

| Hold Points | Work type | Document required |
|---|---|---|
| Pre-demolition | Installation of the protection measures, Section 7.4 | Certificate* |
| During construction | Any further works required within the area of the TPZ, or decline related to the trees that have not been covered by this report. | Report Brief |
| During construction | Any crown modification including pruning or root disturbance. | Report Brief |

**Construction** refers to the time between the initiation of demolition and until an occupation certificate is issued.

***Mandatory**

## 8.0 Protection Specification

The retention and protection of trees provide for the requirement of the Tree Protection Zone (TPZ) to conform to the conditions outlined below. These conditions provide the limitations of work permitted within the area of the Tree Protection Zone (TPZ) and must be adhered to unless otherwise stated.

1. Foundation/footing types should not be strip type, but utilise footing types that are sympathetic towards retaining root system that is, screw, pier, etc. Slab on the ground can be accommodated in some circumstances and will be nominated by the project arborist. The extent of encroachment will be dependent upon the tree species, soil type (texture and profile) and gradients.

2. Subsurface utilities can extend through the TPZ and Structural Root Zone (SRZ), however, are limited to the method of installation. That is under boring is permitted, however trenching is limited and depends on the proposed route within the TPZ. No trenching is permitted within the area of the TPZ unless stipulated by the project arborist.

3. Crown pruning can be accommodated, however, must conform to the AS 4373; *Pruning of Amenity Trees*, and not misshape the crown nor remove in excess of 10-15% of the existing crown, pending on the species, and vitality. The opportunity for, type and proportion of pruning will be required to be nominated by the project arborist.

4. Soil levels within the TPZ must remain the same. Any excavation within the TPZ must have been previously specified and allowed for by the project arborist:

a) So it does not alter the drainage to the tree.

b) Under specified circumstances,

- Added fill soil does not exceed 100mm in depth over the natural grade. Construction methodologies exist that can allow grade increases in excess of 100mm, via the use of an impervious cover, an approved permeable material or permanent aeration system or other approved methods.

- Excavation cannot exceed a depth of more than 50mm within the area of the TPZ, not including the SRZ. The grade within the SRZ cannot be reduced without the consent from a project arborist.

5. No form of material or structure, solid or liquid, is to be stored or disposed of within the TPZ.

6. No lighting of fires is permitted within the TPZ.

7. All drainage runoff, sediment, concrete, mortar slurry, paints, washings, toilet effluent, petroleum products, and any other toxic wastes must be prevented from entering the TPZ.

8. No activity that will cause excessive soil compaction is permitted within the TPZ. That is, machinery, excavators, etc. must refrain from entering the area of the TPZ unless measures have been taken, and with consultation with the project, arborist to protect the root zone.

9. No site sheds, amenities or similar site structures are permitted to be located or extend into the area of the TPZ unless the project arborist provides prior consent.

10. No form of construction work or related activity such as the mixing of concrete, cutting, grinding, generator storage or cleaning of tools is permitted within the TPZ.

11. No part of any tree may be used as an anchorage point, nor should any noticeboard, telephone cable, rope, guy, framework, etc. be attached to any part of a tree.

12. (a) All excavation work within the TPZ will utilise methods to preserve root systems intact and undamaged. Examples of methods permitted are by hand tools, hydraulic, or pneumatic air excavation technology.

(b) Any root unearthed which is less than 50mm in diameter must be cleanly cut and dusted with a fungicide, and not allowed to dry out, with minimum exposure to the air as possible.

(c) Any root unearthed which is greater than 50mm in diameter must be located regarding their directional spread and potential impact. A project arborist will be required to assess the situation and determine future action regarding retaining the tree in a healthy state.

Project Arborist: person nominated as responsible for the provision of the tree assessment, arborist report, consultation with stakeholders, and certification for the development project. This person will be adequately experienced and qualified with a minimum of a level 5 (AQF); Diploma in Horticulture (Arboriculture)[14].

[14] Based upon the definition of a 'consulting arborist' from the AS 4970; Protection of trees on development sites; 2009, section 1.4.4, p 6.

## 9.0 Summary of tree impact by design

The trees included in this report do not provide the complete inventory of trees that will be subject to impact. That is, numerous trees described in Section 7.0 have not been included in the survey and therefore are incapable to be assessed for impacts by design. The site caters to both a registered historical and environmental significance and therefore will require confirmation by a town planner to establish the extent of protection and requirement for trees to be included. This report has included areas where trees have been included in the survey and has described further areas where trees occur although not included in the survey. An updated survey including significant trees that conform to the requirements for inclusion by the Wingecarribee Shire Council is required for the arborist report to be capable to be amended for inclusion of all trees.

Based on the design supplied, the following summary provides the impacts imposed on the trees included in the survey, although with the addition of some that were capable of locating by ATC.

### 9.1 Trees No. 15, 19, 54, 59, 65, 84, 93A, 111, 112, 121, 124, 130, 162, 183, 220, 246 and 252

These trees are not adversely impacted by the design, that is, they conform to a minor encroachment or less and the nominated zones of protection (TPZ, SRZ) based on the requirements of the Protection Specification, Section 8.0. The proposed design does not adversely affect these trees.

### 9.2 Trees No. 11, 12, 27, 29, 31, 34, 39, 41, 44, 46-48, 58, 70-78, 94, 95, 133, 143, 144, 169, 184, 189, 190, 192, 193, 195A, 196, 198, 199, 201, 201A, 203, 205-207, 211, 213, 216, 217, 219, 225, 229, 230, 231, 233, 233B, 237, 241A and 241B

The proposed design will impact adversely on these trees and are unable to be retained based on the design.

### 9.3 Trees No. 71, 87, 95, 148, 150, 163, 169, 170, 200, 218, 231, 234 and 239

These trees provide poor form and a limited useful life expectancy and would require removal irrespective of the proposed works.

### 9.4 Trees No. 21, 22, 25, 26, 32, 35, 37, 38, 49, 68, 79, 81-83, 85, 87, 88, 90-93, 96-98, 101-103, 104-107, 116, 117, 119, 120, 134-139, 145, 146, 147, 147A, 148A, 151, 151A, 152, 154-157, 158-161, 164, 165, 167, 168, 194, 195, 221, 222, 224A, 227, 228, 232, 233A, 235, 236, 238, 241, 260, 275, 276 and 277-279

These trees are subject to a major encroachment, and the extent of impact for many is still to be established pending the works related to the design for

each encroachment. Design methods and modification are available to reduce the impact and allow for tree retention.

### 9.5 Sub-surface utilities

No drawings have been provided for the proposed route of sub-surface utilities. Any trenching, other than what has been allowed for should be avoided within the area of the TPZ's for any tree nominated for retention. Any proposed route shall be re-routed outside of the TPZ. Under boring may be required if a limitation for the route of a service is restricted to an area that falls within the TPZ from any tree. Any excavation in the area of a TPZ must be authorised and conditioned by the project arborist.

### 9.6 Protection from bushfire

Based on the document from the Bushfire consultant, no Asset Protection Zone has been allocated at this stage of the design, however, the area will require to conform to the mandatory management for a protection from Bushfire. Therefore, additional tree works related to removal and pruning will likely be required.

### 9.7 Protection measures

Protection measures (outlined in Section 7.3 and 7.4) are required to be implemented for the trees nominated for retention (referenced in Section 9.1) and installed before initiation of site works (including demolition/excavation) and retained until the landscaping works are required unless otherwise specified.

All workers related to the construction process and before entering the site must be briefed about the requirements/conditions outlined in this report relative to the zone of protection, measures, and specifications before the initiation of work.

A project arborist is required to be nominated, and the stages and related certification or similar documentation is to be issued to the principal certifying agent.

**The opinions expressed in this report by the author have been provided within the capacity of a Consulting Arborist. Any further explanation or details can be provided by contacting the author.**

Assessed and Prepared by Geoff Beisler
Consulting Arborist
Level 5 Arborist
ISA Tree Risk Assessment Qualification

Prepared and checked by Warwick Varley
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Level 5 and 8; Arborist
ISA Tree Risk Assessment Qualification
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## 10.0 Appendix A- Terminology Defined

**Height**
Is a measure of the vertical distance from the average ground level around the root crown to the top surface of the crown, and on palms - to the apical growth point.

**DBH**
Diameter at Breast Height – being the stem diameter in meters, measured at 1.4m from ground level, including the thickness of the bark.; Mult. refers to multiple stems, that is in excess of 4 stems.

**Crown Spread**
A two-dimension linear measurement (in metres) of the crown plan. The first figure is the north-south span, the second being the east-west measurement.

**Age**
Is the estimate of the specimen's age based upon the expected lifespan of the species. This is divided into three stages.

| | |
|---|---|
| Young (Y) | Trees less than 20% of life expectancy. |
| Mature (M) | Trees aged between 20% to 80% life expectancy. |
| Over-mature (O) | Trees aged over 80% of life expectancy with probable symptoms of senescence. |

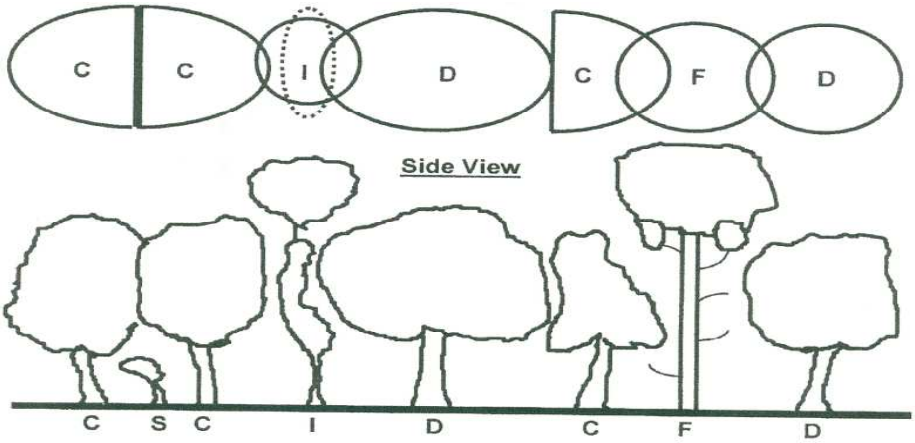
**Crown Aspect**
In relation to the root crown, this refers to the aspect the majority of the crown resides in. This will be either termed Symmetrical (Sym.) where the centre of the crown resides over the root crown or the cardinal direction the centre of the crown is biased towards, being either North (N), South (S), East (E) or West (W).

**Vitality Rating**
Is a rating of the health of the tree, irrespective and independent of the structural integrity, and defined by the 'ability for a tree to sustain its life processes' ((Draper, Richards, 2009). This is divided between three variables, and based on the assessment of symptoms including, but not limited to; leaf size, colour, crown density, woundwood development, adaptive growth formation, and epicormic growth.
**A**: Normal vitality, typical for the species
**B**: Below average vitality, possibly temporary loss of health, partial symptoms.
**C**: Poor vitality; obvious decline, potentially irreversible

**Crown Class**
Is the differing crown habits as influenced by the external variables within the surrounding environment. They are:

| | | |
|---|---|---|
| **D** | – *Dominant* | Crown is receiving uninterrupted light from above and sides, also known as emergent. |
| **C** | – *Codominant* | Crown is receiving light from above and one side of the crown. |
| **I** | – *Intermediate* | Crown is receiving light from above but not the sides of the crown. |
| **S** | – *Suppressed* | Crown has been shadowed by the surrounding elements and receives no light from above or sides. |
| **F** | – *Forest* | Characterised by an erect, straight stem (usually excurrent) with little stem taper and virtually no branching over the majority of the stem except for the top of the tree which has a small concentrated branch structure making up the crown. |

**Top View**




D C, I & S, and side view, after (Matheny, N. & Clark, J. R. 1998, Trees Development, Published by International Society of Arboriculture, P.O. Box 3129, Champaign IL 61826-3129 USA, p.20, adapted from the Hazard Tree Assessment Program, Recreation and Park Department, City of San Francisco, California).

**Levels of assessment**

Level 1: Limited visual: a visual tree assessment to manage large populations of trees within a limited period and in order to identify obvious faults which would be considered imminent.

Level 2: Basic assessment: a standard performed assessment providing for a detailed visual assessment including all parts of the tree and surrounding environment and via the use of simple tools.

Level 3: Advanced assessment: specific type assessments conducted by either arborist who specialise with specific areas of assessment or via the use of specialised equipment. For example, aerial assessment by use of an EWP or rope/harness, or decay detection equipment.

**TPZ; Tree Protection Zone**

Is an area of protection required for maintaining the trees vitality and long-term viability. Measured in meters as a radius from the trees centre. The requirements of this zone are outlined within the Protection Specification, Section 8.0, and are to be adhered to unless otherwise stated.

The size of the Tree Protection Zone (TPZ) has been calculated from the *Australian Standard, 4970; 2009* – Protection of Trees on Development Sites

The TPZ does not provide the limit of root extension, however, offers an area of the root zone that requires predominate protection from development works. The allocated TPZ can be modified by some circumstances; however will require compensation equivalent to the area loss, elsewhere and adjacent to the TPZ.

**SRZ; Structural Root Zone**

Is the area around the tree containing the woody roots necessary for stability. Measured in meters as a radius from the trees centre. The requirements of this zone are outlined within the Protection Specification, Section 8.0, and are to be adhered to unless otherwise stated.

**Protection Measures**

These are required for the protection of trees during demolition/construction activities.
Protective barriers are required to be installed before the initiation of demolition and/or construction and are to be maintained up to the time of landscaping. Samples of the recommended protection measures are illustrated in Appendix B.

**All other definitions are referenced from**;

Draper D.B., Richards P.A., 2009, Dictionary for Managing Trees in Urban Environments
CSIRO Pub., Australia

**Significance Rating,** Significance of a Tree Assessment Rating System (S.T.A.R.S), IACA, 2010[15]

Tree Significance – Assessment Criteria

**1.** High Significance in landscape

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

**2.** Medium Significance in landscape

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

**3.** Low Significance in landscape

- The tree is in fair-poor condition and good or low vitality;
- The tree has form atypical of the species;
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings,
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area,
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen,
- The tree's growth is severely restricted by above or below ground influences,

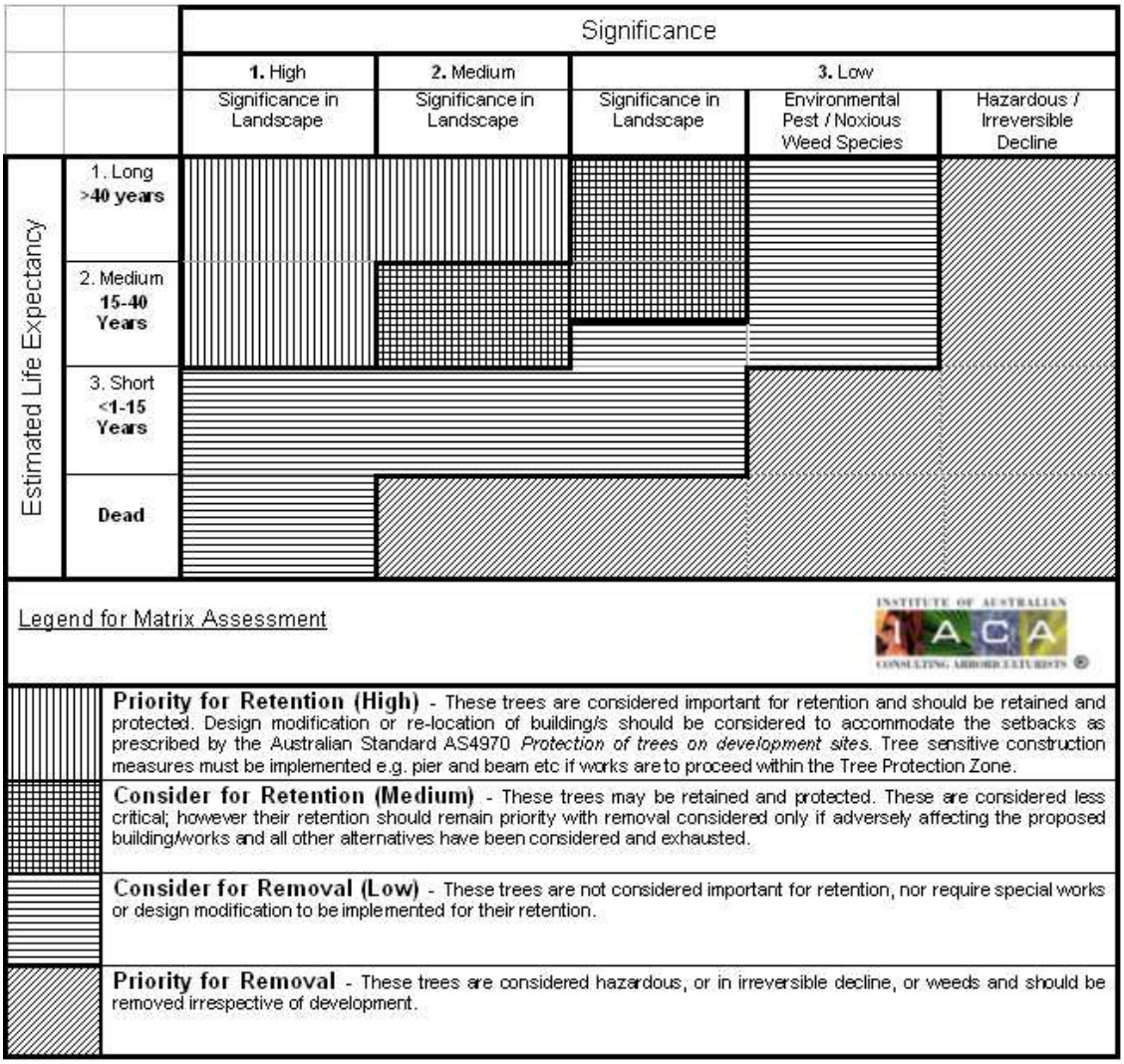
[15] IACA, 2010, IACA Significance of a Tree, Assessment Rating System (STARS), Institute of Australian Consulting Arboriculturists, Australia, www.iaca.org.au

unlikely to reach dimensions typical for the taxa in situ – tree is inappropriate to the site conditions,
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,
- The tree has a wound or defect that has potential to become structurally unsound.
Environmental Pest / Noxious Weed Species
- The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties,
- The tree is a declared noxious weed by legislation.
Hazardous/Irreversible Decline
- The tree is structurally unsound and/or unstable and is considered potentially dangerous, - The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short-term.

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

Note: The assessment criteria are for individual trees only, however, can be applied to a monocultural stand in its entirety e.g.

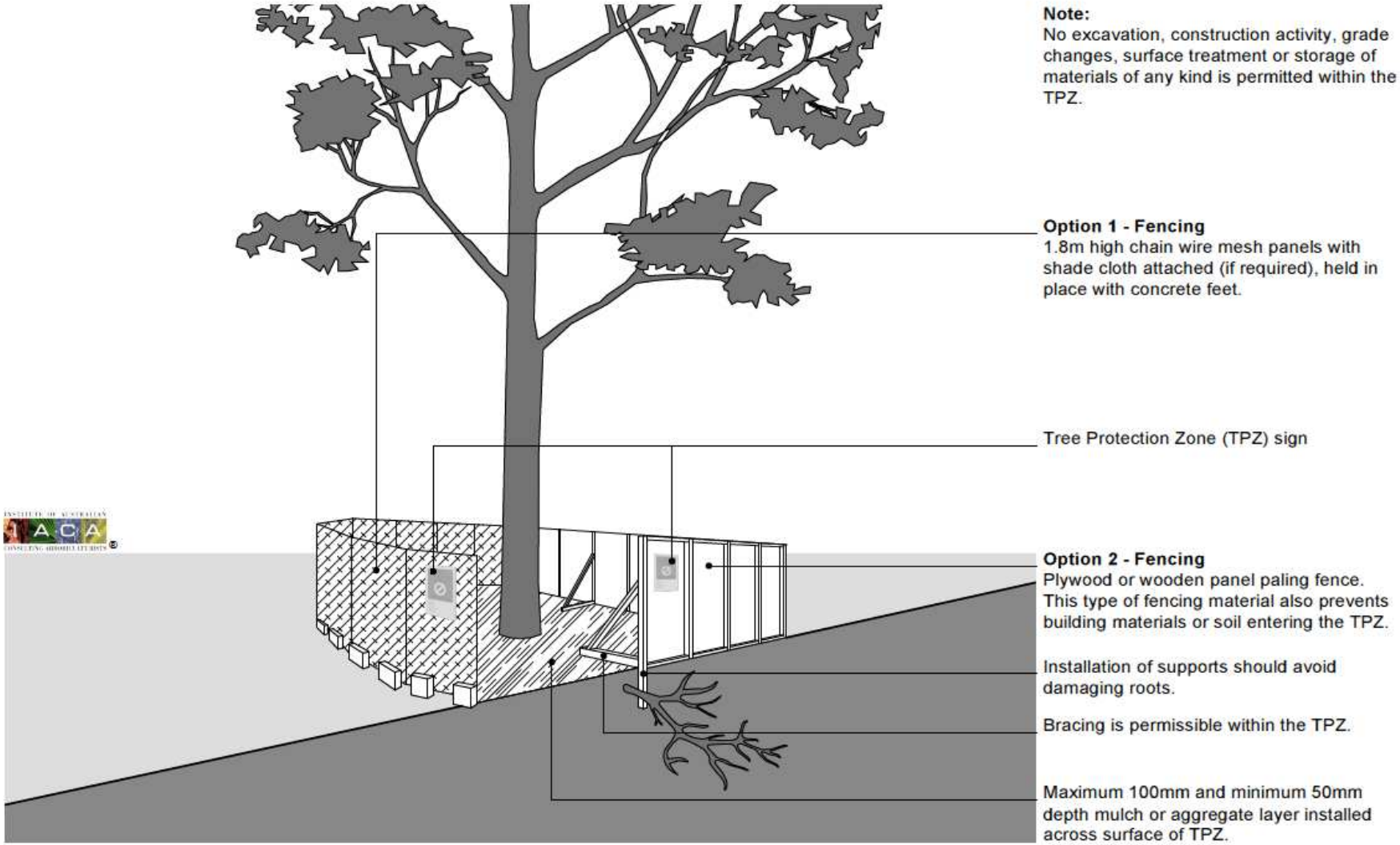
**Table 3; Tree Retention Value – Priority Matrix.**



## Safe Useful Life Expectancy – S.U.L.E (Barell 1995)

| | 1. Long | 2. Medium | 3. Short | 4. Removal | 5. Moved or Replaced |
|---|---|---|---|---|---|
| | Trees that appeared to be retainable at the time of assessment for more than 40 years with an acceptable level of risk. | Trees that appeared to be retainable at the time of assessment for 15 – 40 years with an acceptable level of risk. | Trees that appeared to be retainable at the time of assessment for 5 – 15 years with an acceptable level of risk. | Trees that should be removed within the next 5 years. | Trees which can be reliably moved or replaced. |
| **A** | Structurally sound trees located in positions that can accommodate future growth. | Trees that may only live between 15 and 40 years. | Trees that may only live between 5 and 15 more years. | Dead, dying, suppressed or declining trees through disease or inhospitable conditions. | Small trees less than 5m in height. |
| **B** | Trees that could be made suitable for retention in the long term by remedial tree care. | Trees that may live for more than 40 years but would be removed for safety or nuisance reasons. | Trees that may live for more than 15 years but would be removed for safety or nuisance reasons. | Dangerous trees through instability on recent loss of adjacent trees. | Young trees less than 15 years old but over 5m in heights |
| **C** | Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention. | Trees that may live for more than 40 years but would be removed to prevent interference with more suitable individuals or to provide space for new planting. | Trees that may live for more than 15 years but should be removed to prevent interference with more suitable individuals or to provide space for new planting. | Damaged trees through structural defects including cavities, decay, included bark, wounds or poor form. | Trees that have been pruned to artificially control growth. |
| **D** | | Trees that could be made suitable for retention in the medium term by remedial tree care. | Trees that require substantial remedial tree care and are only suitable for retention in the short term. | Damaged trees that are clearly not safe to retain. | |
| **E** | | | | Trees that may live for more than 5 years but should be removed to prevent interference with more suitable individuals or to provide space for new plantings. | |
| **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 reasons given in (A) to (F). | |

**Appendix B- Protection measures;**
**Protective fence**



**Stem and Ground protection**