ARBORICULTURAL IMPACT ASSESSMENT REPORT

SITE ADDRESS | 91 Humphreys Road Kincumber South
PREPARED FOR | Leia Widdowson
PREPARED BY | Luke Keenan
AQF Level 5 Arborist

GREENLIGHT ARBOR

greenlightarbor@gmail.com 0411 873 547 ABN: 17 919 227 101

TABLE OF CONTENTS

1. SUMMARY

1.1 INTRODUCTION

A) SCOPE OF THIS REPORT

This report was prepared following a site inspection on 30th July 2026 by Luke Keenan of Greenlight Arbor for Leia Widdowson relating to a proposed development on private property at 91 Humphreys Road Kincumber South NSW 2251.

The purpose of preparing this report was to undertake an assessment of all site trees (and other trees in close proximity that may be affected by the proposal) and establish a retention value for each tree. The proposal and its potential impact on site trees were then evaluated against the established retention values of each tree and recommendations were made on the protection of trees to be retained, trees that require removal to facilitate the proposal and adequate replacement plantings.

The methodology for this assessment can be found in Section 3 of this report.

B) THE PROPOSAL

The proposed development consists of the following:

- Construction of a secondary dwelling which incorporates an existing studio in the front section of the property
- Associated Landscaping and infrastructure works

C) DOCUMENTS PROVIDED

The following documents relating to the proposed development were provided for assessment:

- *91 Humphreys Road KINCUMBER SOUTH NSW 2251 - DA 288 2026 - Site Plan*
- *91 Humphreys Road KINCUMBER SOUTH NSW 2251 - DA 288 2026 - Survey*

D) OUTSIDE SCOPE OF REPORT

The following assessments were outside of the scope of this report:

- Comprehensive Hazard and Risk Assessment of trees on site
- Assessment of Ecological or Heritage Values
- Amendments to design to facilitate outcomes
- Other assessments of the tree such as aerial assessment, internal decay testing or below ground/root assessment

E) RELEVANT POLICIES, LEGISLATION AND STANDARDS

In preparing this report, the author was aware of and considered the objectives of the following:

- *State Environmental Planning Policy - Biodiversity and Conservation (2021)*
- *Central Coast Council Development Control Plan Chapter 3.5 -Tree and Vegetation Preservation (2022)*
- *Australian Standard AS 4970 Protection of Trees on Development Sites (2025)*
- *Australian Standard 4373 Pruning of Amenity Trees (2007)*
- *Australian Standard 2303 Tree Stock for Landscape Use (2015)*
- *NSW RFS 10/50 Vegetation Clearing Code of Practice*

1.2 ASSESSMENT FINDINGS

A) THE SITE

The site subject of this report is Lot Number 1 in Deposited Plan 514179, also known as 91 Humphreys Road Kincumber South NSW 2251.

The site is mapped as C4: Environmental Living and has a land size of approximately 1,396 square metres.

No Heritage overlays were identified with regards to the site, and a desktop review did not identify any Endangered Ecological Communities on the site.

The land was found to be classed as bushfire prone land as per the *NSW Rural Fire Service 10/50 Vegetation Clearing Code of Practice.*

Pictured below is an aerial photograph of the site (Nearmaps):

B) TREES ASSESSED IN THE CONTEXT OF THE PROPOSAL

A total of 9 trees located on site or adjoining land to the site were assessed in context to the proposed works as part of this report.

The trees assessed consisted mostly of established native and exotic vegetation, consistent with past landscaping trends.

Assessments of site trees were conducted in line with methodology in **Section 3** of this report.

C) RETENTION VALUES

A retention value established using the methodology in Section 3 of the report was established for each tree.

These retention values can be viewed in the **Tree Assessment Schedule** in **Section 5** of this report. These retention values were based on individual trees in their current form and did not consider any provisions available for the removal of trees through *NSW Rural Fire Services 10/50 Vegetation Clearing Code of Practice*.

1.3 EFFECTS OF PROPOSAL

THE PROSOSAL, IN ITS CURRENT FORM, WILL HAVE THE FOLLOWING EFFECTS ON THE FOLLOWING SITE TREES:

- **Tree 1- *Glochidion ferdinandi* (Cheese Tree)**

Tree 1 is a large, mature specimen and is located on the studio side of the existing driveway at the subject property.

In accordance with the plans provided, the proposed build would result in a 30% (major) encroachment into the Notional Root Zone and an encroachment into the Structural Root Zone of Tree 1.

This is an unacceptable encroachment as per *AS 4970:2025 Protection of Trees on Development Sites* and it is unlikely that Tree 1 would remain viable in these circumstances. It is therefore noted that the retention of Tree 1 is not compatible with the proposed development design in its current form.

If the removal of Tree 1 is supported, replacement planting should be undertaken in accordance with the requirements of the relevant consent authority (Council) to minimise impacts associated with removal of established canopy. Tree stock utilised should adhere to Australian Standard *AS 2303:2015 Tree Stock for Landscape Use*.

- **Tree 2 – *Melia azedarach***

Tree 2 is located on the road side of the existing driveway at the subject property. It is noted that Tree 2 has, at some point in time, been pruned excessively and not in accordance with Australian Standards.

Tree 2 is unlikely to be affected by the proposed development, however, could be considered for removal and replacement in order to facilitate a more sustainable long-term outcome.

- **Tree 3- *Jacaranda mimosifolia* (Jacaranda)**

Tree 4 is a mature *Jacaranda* tree located on the road side of the existing driveway at the front of the property. Tree 3 is unlikely to be affected by the proposed development; however, tree protection measures should be implemented in line with *AS 4970:2025 Protection of Trees on Development Sites* and the Tree Protection Specifications of this report.

- **Tree 4- *Callistemon viminalis* (Bottle Brush)**

Tree 4 is located between the inner edge of the existing driveway and the existing studio. Tree displayed fair vitality and structural health at the time of inspection, with a medium-sized historic branch failure noted.

Tree 4 is within the development footprint of the proposed dwelling, stairs and car parking area. Therefore, the retention of Tree 4 is not compatible with the proposal in its current form.

If the removal of Tree 4 is supported, replacement planting should be undertaken in accordance with the requirements of the relevant consent authority (Council). Tree stock selected should adhere to Australian Standard *AS 2303:205 Tree Stock for Landscape Use*.

- **Trees 5 and 6 – *Syzygium sp.* (Lilly Pilly)**

Trees 5 and 6 are located in a garden bed in the front yard of the subject property which runs parallel to the edge of the existing studio on the downhill side.

Assuming that the footprint of the existing concrete slab that supports the existing studio will not be expanded, Trees 5 and 6 can be retained with the implementation of Tree Protection measures as per *AS 4970:2025 Protection of Trees on Development Sites* and the Tree Protection Specifications in this report.

Minor pruning in line with Australian Standard *AS 4373-2007 Pruning of Amenity Trees* may be required for access for activities such as erection of scaffolding or other construction activities.

- **Tree 7 – *Cinnamomum camphora* (Camphor Laurel)**

Tree 7 is located directly adjacent to the roadside along the property boundary between the subject property and the adjoining neighbouring property (89 Humphreys Road).

The proposed new parking area and erosion control fence will result in a 20% (moderate) encroachment into the Notional Root Zone of Tree 7.

Tree 7 is an exempt species as per *Central Coast Council Development Control Plan Chapter 3.5 – Tree and Vegetation Preservation* and can be removed under provisions provided through the exemptions in this document.

- **Trees 8 and 9 – *Pinus radiata* (Radiata Pine)**

Trees 8 and 9 are located along the property boundary between 89 and 91 Humphreys Road, directly adjacent to the existing studio.

The proposed new dwelling, parking area and Erosion control fence will result in encroachments into the Notional Root Zone and Structural Root Zones of both Trees 8 and 9. Therefore, the retention of these trees is not compatible with the proposal in its current form.

Pinus radiata is listed as an exempt species as per *Central Coast Council Development Control Plan Chapter 3.5 – Tree and Vegetation Preservation* and can be removed under provisions provided through exemptions in this document.

2. DISCLAIMER

Whilst care is taken to obtain information from reliable resources, the author of this report can neither guarantee nor accept liability for the accuracy of information provided. Plans, diagrams and photographs in this report are visual aids only and may not necessarily be to scale.

This report provides recommendations in relation to Tree Management only – any advice relating to design amendments, construction methods, heritage or ecological values or other advice outside of the scope of this report should be sought by suitably qualified consultants from those specific fields.

The author acknowledges that approval for the proposed works can only be granted by the relevant consent authority in accordance with applicable legislative requirements. As such, no guarantee can be made, nor responsibility accepted, for the approval or refusal of consent by that authority. Fees for the preparation of this report are determined at the time of the initial quotation and are not subject to change pending the outcome of any consent application.

This report does not constitute consent to undertake works. As a standalone item, this report assesses the proposed works and provides recommendations based on the proposal. This report is required to be assessed by the relevant consent authority as part of any application/s required to gain consent to undertake the proposed works from the consent authority.

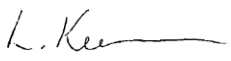
This report has been prepared exclusively for the client. Any use of this report outside of its intended use, alteration or separate use of sections without written consent from the author invalidates this report.

Information in this report is based on an assessment of the trees in their current form and condition at the time of inspection. Trees are living, dynamic organisms which are prone to changes in vitality and structural health over time. Whilst care has been taken by the author to accurately assess the health and structure of each tree, a trees internal structural condition may not always correlate to visible external indicators.

Recommendations and protective measures outlined herein are intended to reduce potential impacts to protected trees but do not guarantee tree survival. Implementation and ongoing compliance with tree protection measures are the responsibility of the contractor and/or property owner. Changes to site conditions or construction practices may affect tree health.

The author will not be held responsible for the decline and/or failure of any tree that has been compromised as a result of or in preparation for proposed development activities, particularly if these activities are in conflict with recommendations made in this report.

Please note that a comprehensive risk assessment of trees is outside the scope of this report. Assessment of trees on site was limited to the methodology as explained in Section 3 of this report.



Luke Keenan

Lead Arborist -AQF Level V Arborist

Registered QTRA User (Quantified Tree Risk Assessment) – User # 7706

Greenlight Arbor - ABN: 17 919 227 101

greenlightarbor@gmail.com

3. METHODOLOGY

THE FOLLOWING METHODOLOGY WAS UTILISED IN THE CREATION OF THIS REPORT:

A) SITE INSPECTION:

A site inspection was undertaken on the date noted in Section 1 to gather data relevant to the trees affected by the proposal

B) VISUAL TREE ASSESSMENT (VTA) (GROUND BASED)

A ground-based Visual Tree Assessment (Mattheck)*)* was undertaken of the trees on site and any trees adjacent to site in the immediate vicinity of the proposed works.

Information recorded on each tree during this assessment process included the following:

- Estimated Height
- Diameter at Breast Height (1.4m) and Diameter Above Root Buttress (DRB) as measured with a diameter tape
- Age Class (Young, Semi-Mature, Mature, Over-Mature)
- Crown vitality (rated as Good, Fair or Poor based on factors such as crown density, foliage condition, percentage of deadwood or dieback).
- Structural Health (Good, Fair or Poor based on the following factors):
  - Branch structure (taper, co-dominant stems, bark inclusions, evidence of previous failures)
  - Evidence of structural defects (wounds, decay, fungal pathogens, mechanical damage and compartmentalisation)
  - Evidence of root plate movement
  - Previous pruning (flush cuts, lions tailing, lopping, root pruning or general over-pruning)

C) ASSESSMENT AND RATINGS

Utilising the data collected in Section 3B, the trees were assessed and rated in accordance with the following criteria:

- **Useful Life Expectancy (ULE)** ((Barrell, 1996)– an estimate of the longevity of each tree within its environment. Each tree was allocated one of the following ULE ratings:
  - 40+ years
  - 15-40 years
  - 5- 15 years
  - Less than 5 years
- **Landscape Significance** (IACA, IACA Significance of a Tree Assessment Rating System (STARS), 2010)– a subjective assessment with consideration to the cultural, aesthetic and environmental values of the tree. Each tree was allocated one of the following Landscape Significance ratings:
  - Very High
  - High
  - Moderate
  - Low

- **Retention Value** (IACA, IACA Significance of a Tree Assessment Rating Systems (STARS) (IACA 2010), 2010)*)* – each tree's retention value was calculated based on its Useful Life Expectancy (ULE) and Landscape Significance Rating. One of the following four categories were applied to each tree:
  - Priority for Retention
  - Consider for Retention
  - Consider for Removal
  - Priority for Removal

D) ASSESSMENT OF PROPOSAL RELATING TO SITE TREES

Following the receipt of the relevant plans provided by the client, the proposed development was assessed with relation to impacts on the site trees utilising the information recorded on the initial site inspection.

This assessment was undertaken to determine whether site trees will be impacted by the development, the extent of the impact on site trees, and what measures should be implemented to minimise potential impacts on site trees in line with Australian Standard *AS 4970-2025 Protection of Trees on Development Sites.*

Where it was deemed necessary to remove trees to facilitate designs in their current form, a recommendation was made with consideration to the retention values of these trees as established using the methodology stated in **Section 3C** of this report.

E) AUTHOR CREDENTIALS

The author of this report, Luke Keenan, has completed **AHC50516- Diploma of Arboriculture** at **TAFE NSW- Northern Sydney Institute- Ryde Campus** and is a qualified **AQF Level 5 Consulting Arborist.**

The author is also an accredited **Quantified Tree Risk Assessment (QTRA)** user, having completed the course provided by **Quantified Tree Risk Assessment (QTRA).**

F) FIGURE 1: CRITERIA FOR USEFUL LIFE EXPECTANCY (ULE):

SULE CATEGORIES AND SUB-CATEGORIES

	1	2	3	4	5
	Long SULE:	**Medium SULE:**	**Short SULE:**	**Remove:**	**Small, Young or regularly clipped:**
	Trees that appeared to be retainable at the time of assessment for more than 40 years with and acceptable level of risk	Trees that appeared to be retainable at the time of assessment for 15 to 40 years with and acceptable level of risk	Trees that appeared to be retainable at the time of assessment for 5 to 15 years with and acceptable level of risk	Trees that should be removed within the next 5 years	Trees that can be reliably transplanted or replaced
A	Structurally sound trees located in positions that can accommodate future growth	Trees that may only live for between 15 and 40 more years	Trees that may only live for between 5 and 15 more years	Dead, dying, supressed or declining trees through disease or inhospitable conditions	Small trees less than 5 metres in height
B	Trees that could be made suitable for retention in the long term by remedial Care	Trees that may live for more than 40 years, but would need to be removed for safety or nuisance reasons	Trees that may live for more than 15 years, but would need to be removed for safety or nuisance reasons	Dangerous trees through instability or recent losss of adjacent trees	Young trees less than 15 years old but over 5 metres in height
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 should 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	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form	Trees that have been regularly pruned to arteficially control growth
D		Trees that could be made suitable for retention in the medium term by remedial Care	Trees that require substantial remedial 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 planting	
F				Trees that may cause damage to existing structures within 5 years	
G				Trees that will become dangerous after removal of other trees for reasons given in 1A-1F	

Ref: Barrell, Jeremy (1996)
Pre-development Tree Assessment
Proceedings of the International Conference on Trees and Building Sites (Chicago)
International Society of arboriculture, Illinois, USA

G) FIGURE 2: CRITERIA FOR LANDSCAPE SIGNIFICANCE – IACA STARS 2010:

Tree Significance - Assessment Criteria

INSTITUTE OF AUSTRALIAN CONSULTING ARBORICULTURISTS

1. High Significance in landscape

- The tree is in good condition and good vigour;
- 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 vigour;
- 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 vigour;
- 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, 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.

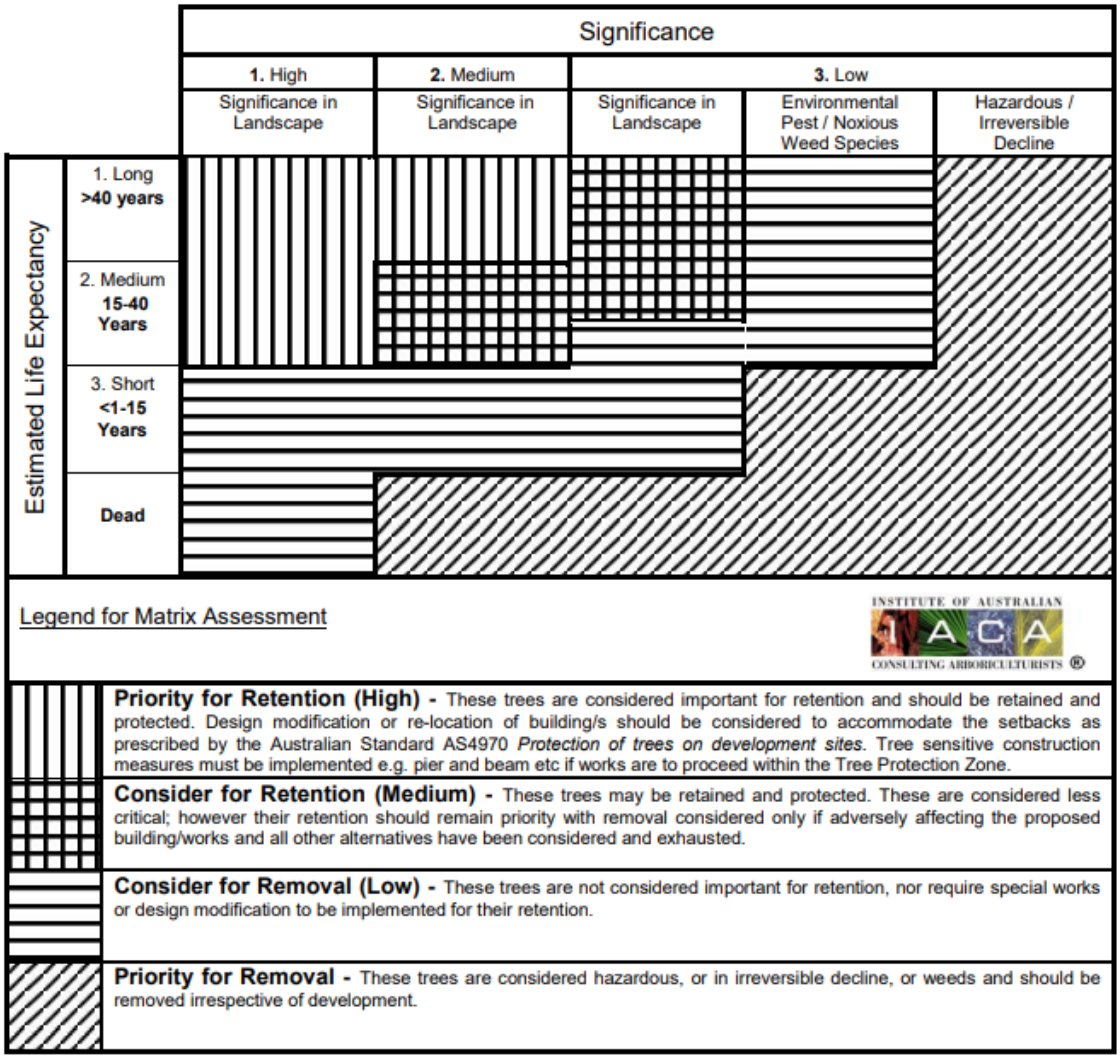
The tree is to have a minimum of three (3) criteria in a category to be classified in that group.

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

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

H) FIGURE 3; MATRIX FOR CALCULATING RETENTION VALUE (IACA):

Table 1.0 Tree Retention Value - Priority Matrix.



4. DISCUSSION

A) BUSHFIRE PRONE LAND – 10/50 VEGETATION CLEARING

The subject site is mapped as bushfire prone land as per the *NSW Rural Fire Service 10/50 Vegetation Clearing Code of Practice*.

Provisions may apply for tree removal within 10m of the enclosing walls of the existing detached studio, provided it is confirmed that the studio is a DA approved habitable structure.

Results from the RFS 10/50 website can be seen below:

'our 10/50 search result

ou have conducted a search of the 10/50 online tool for the land identified in the map above. This search result is valid for the ate the search was conducted.

lease retain a copy of this search result for your records as evidence the 10/50 rules were applicable to your clearing on the day ou undertook the clearing.

The parcel of land you have selected is located in a designated 10/50 vegetation entitlement clearing area. You must read the 10/50 Code of Practice carefully to ensure that you are only clearing in accordance with the 10/50 Code. For more information see our frequently asked questions.

B) POTENTIAL VARIATIONS TO NOTIONAL AND STRUCTURAL ROOT ZONES

The Notional Root Zone (NRZ) and Structural Root Zone (SRZ) of each tree have been calculated using the formulas outlined in Australian Standard *AS 4970:2025 Protection of Trees on Development Sites*, which can also be viewed in the Appendix of this report. Calculations for

Whilst these formulas are aids in calculating areas of the uninhibited root plate of a tree, it should be noted that variations to the actual root zones of trees in urban or suburban scenarios due to site constraints are commonplace.

It is noted that the only viable method of truly determining the size, location and extent of root growth is through root mapping using non-destructive excavation techniques such as Airspade, hand digging or Hydro excavation. As this was outside of the scope of this report, these works were not undertaken.

Applicable to the subject site, whilst there are NRZ encroachments noted for Trees 3, 5 and 6, existing site constraints such as a driveway and concrete slab are likely to have inhibited root growth into these areas.

Therefore, provided that the existing footprints of the driveway and concrete slab are unaltered, these trees should be able to be retained and protected with the implementation of Tree Protection measures as per *AS 4970:2025 Protection of Trees on Development Sites* and the Tree Protection specifications in this report.

D) TREE REPLACEMENTS

In the case that tree removals are supported in conjunction with the recommendations of this report, suitable replacement trees should be planted as per the requirements of the relevant consent authority (Council). It is recommended that replacement trees are to be planted in locations that will not affect the proposed APZ when implemented.

Tree Stock for replanting should adhere to Australian Standard *AS 2303:2015 Tree Stock for Landscape Use*.

.

5. TREE ASSESSMENT SCHEDULE

Tree No.	Species	Height (m)	Spread (m)	DSH (mm)	Age Class	DGL (mm)	Vitality	Structural Health	Useful Life Expectancy (ULE)	Landscape Significance	Retention Value	NRZ (M)	SRZ (M)
1	*Glochidion ferdinandi* (Cheese Tree)	12m	8 x 10m	660mm	Mature	680mm	Good	Good	Medium (15-40 years)	Medium	Consider for retention	7.9	2.8
Description and Impacts: Mature specimen displaying good vitality and structural health upon inspection. Medium retention value. Works in their current proposed form would result in a 40% (major) encroachment into the NRZ of Tree 1. Therefore, the retention of Tree 1 is not compatible with the design in its current form.													
2	*Melia azedarach* (White Cedar)	2.5m	NA	250mm	Mature	400mm	Poor	Poor	Short (5-15 years)	Low	Consider for removal	3.0	2.3
Description and Impacts: Tree has been cut down to a 2.5m high stump. Tree is unlikely to be affected by the proposed works but could be considered for removal to facilitate a more sustainable long-term outcome.													
3	*Jacaranda mimosifolia* (Jacaranda)	13m	8 x 9m	510mm	Mature	560mm	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention	6.1	2.6
Description and Impacts: Mature tree displaying fair vitality and structure upon health. Medium retention value. Can be retained with the implementation of tree protection measures as per *AS 4970:2025* and the Tree Protection Specifications of this report.													
4	*Callistemon viminalis* (Weeping Bottle Brush)	8m	6 x 5m	260mm	Mature	330mm	Fair	Fair	Short (5-15 years)	Low	Consider for removal	3.1	2.1
Description and Impacts: Tree 4 is a mature/senescent specimen displaying fair vitality and structural health at the time of inspection. Low retention value. Tree is located within the footprint of the proposed works. Therefore, the retention of Tree 4 is not compatible with the proposed design in its current form.													
5	*Syzygium sp* (Lilly Pilly)	14m	9 x 6m	280mm	Mature	4000mm	Fair	Good	Medium (15-40 years)	Medium	Consider for retention	3.4	2.3
Description and Impacts: Mature specimen displaying fair vitality and good structural health. Medium retention value. Can be retained and protection provided the footprint of the existing concrete slab is not expanded with the implementation of Tree Protection measures as per *AS 4970:2025* and the tree protection specifications of this report. Minor pruning in line with Australian Standards may be required for access.													
6	*Syzygium sp* (Lilly Pilly)	14m	10 x 4m	300mm	Mature	480mm	Good	Good	Medium (15-40 years)	Medium	Consider for retention	3.6	2.2
Description and Impacts: Mature specimen displaying fair vitality and good structural health. Medium retention value. Can be retained and protection provided the footprint of the existing concrete slab is not expanded with the implementation of Tree Protection measures as per *AS 4970:2025* and the tree protection specifications of this report. Minor pruning in line with Australian Standards may be required for access.													
7	*Cinnamomum camphora* (Camphor Laurel)	9m	7 x 5m	300mm	Semi Mature	330mm	Good	Good	Medium (15-40 years)	Low	Consider for removal	3.6	2.1
Description and Impacts: Semi mature specimen showing good vitality and structural health. Exempt species as per Council DCP – Trees. Proposal will result in an approximate 20% encroachment into the NRZ of Tree 7.													

Tree No.	Species	Height (m)	Spread (m)	DSH (mm)	Age Class	DGL (mm)	Vitality	Structural Health	Useful Life Expectancy (ULE)	Landscape Significance	Retention Value	NRZ (M)	SRZ (M)
8	*Pinus radiata* (Radiata Pine)	25m	18 x 12m	705mm	Mature	800mm	Good	Good	Medium (15-40 years)	Low	Consider for removal	8.5	3.0
Description and Impacts: Mature specimen displaying good vitality and structural health upon inspection. Exempt species as per Councils DCP- Trees. Proposal will result in NRZ and SRZ encroachments. Retention of Tree 8 not ccmpatible with current proposal.													
9	*Pinus radiata* (Radiata Pine)	18m	9 x 5m	390mm	Mature	420mm	Good	Good	Medium (15-40 years)	Low	Consider for removal	4.7	2.3
Description and Impacts: Mature specimen displaying good vitality and structural health upon inspection. Exempt species as per Councils DCP- Trees. Proposal will result in NRZ and SRZ encroachments. Retention of Tree 9 not ccmpatible with current proposal.													

6. TREE PROTECTION PLANS

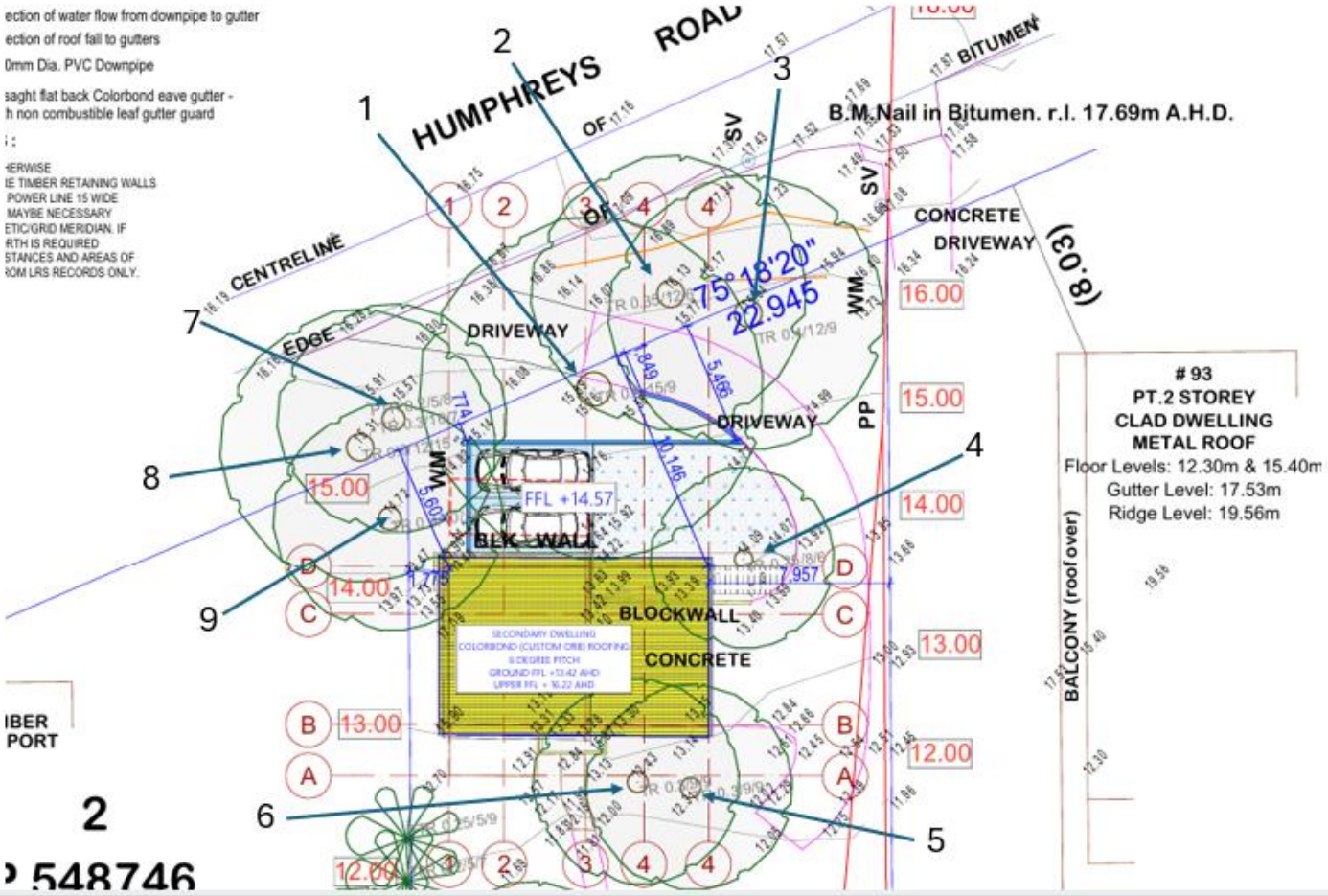
THE FOLLOWING DOCUMENTS ARE AS LISTED IN THE ORDER BELOW:

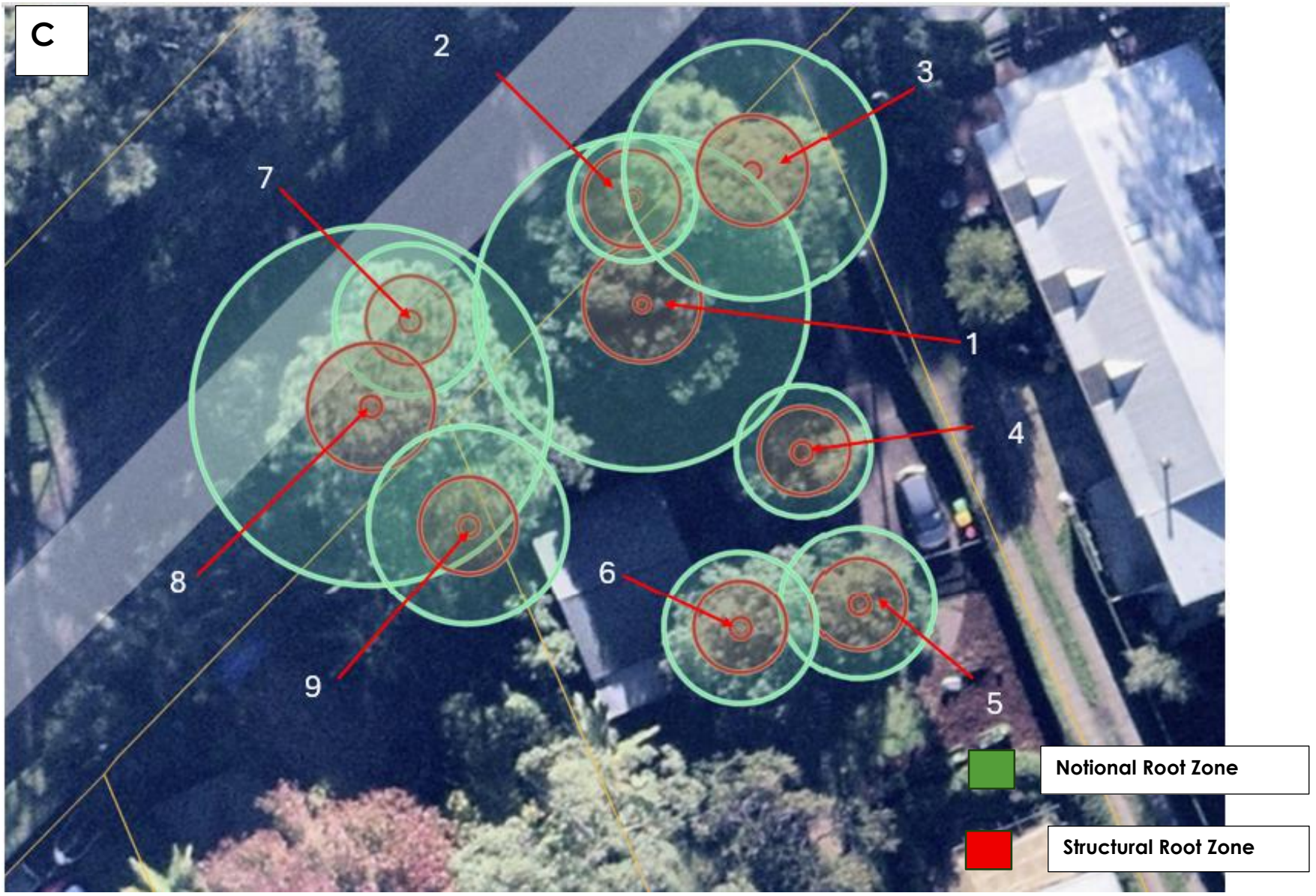
A) Tree locations as aerial photography (Nearmaps)
B) Tree Locations as per supplied plans
C) Notional Root Zones and Structural Root Zones as per aerial photography (Nearmaps)
D) Notional Root Zones and Structural Root Zones as per supplied plans
E) Tree Retention and Removal plan as per supplied plans

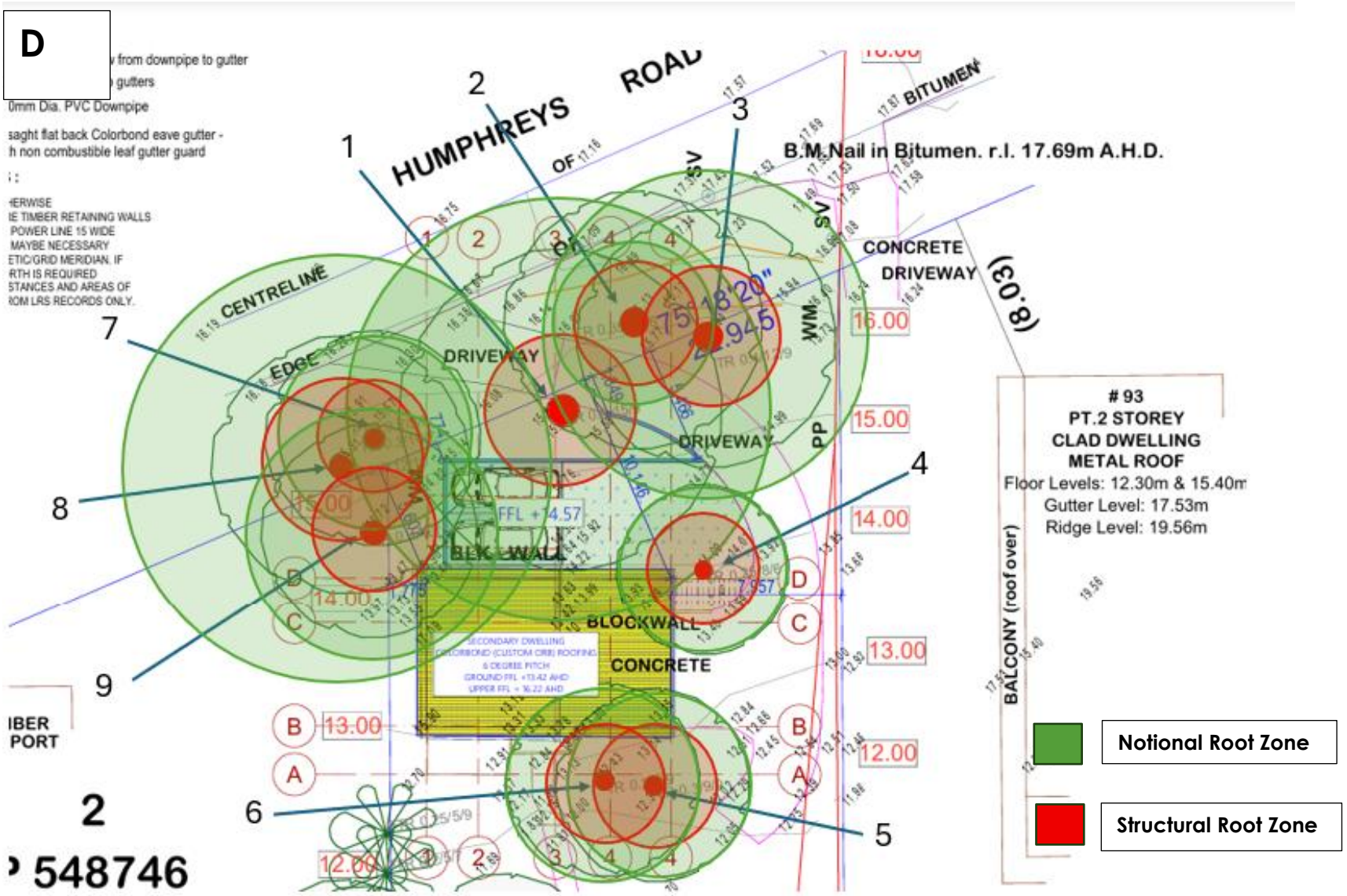
Scale of supplied plans is noted as 1:200.

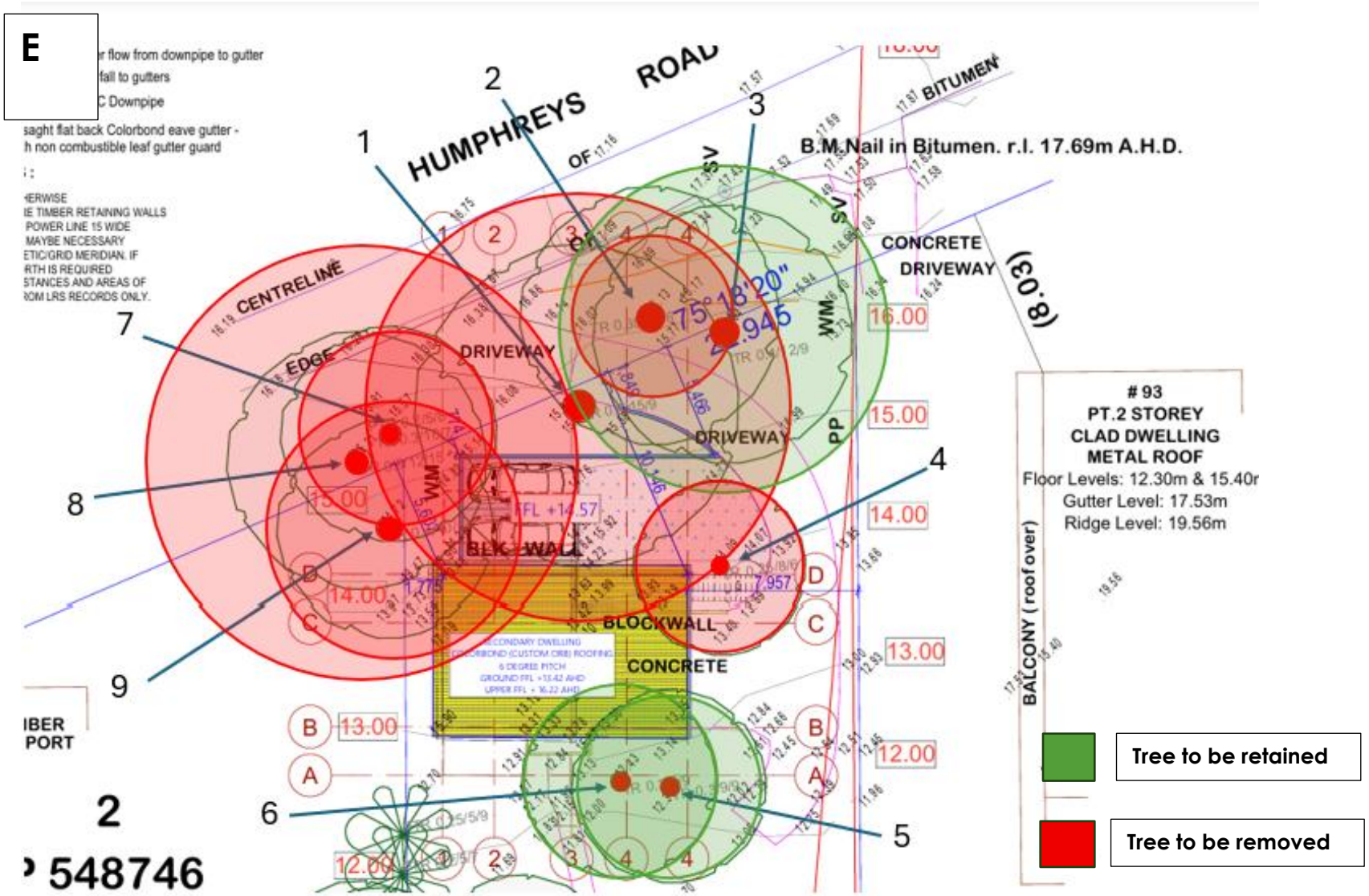

A
2
3
7
8
1
4
9
6
5
93
91

B


ection of water flow from downpipe to gutter
ection of roof fall to gutters
0mm Dia. PVC Downpipe
saght flat back Colorbond eave gutter -
h non combustible leaf gutter guard
HERWISE
IE TIMBER RETAINING WALLS
POWER LINE 15 WIDE
MAYBE NECESSARY
ETIC/GRID MERIDIAN. IF
RTH IS REQUIRED
STANCES AND AREAS OF
ROM LRS RECORDS ONLY.
HUMPHREYS ROAD
B.M.Nail in Bitumen. r.l. 17.69m A.H.D.
BITUMEN
CENTRELINE
EDGE
DRIVEWAY
CONCRETE
DRIVEWAY
75°18'20"
22.945
(8.03)
93
PT.2 STOREY
CLAD DWELLING
METAL ROOF
Floor Levels: 12.30m & 15.40m
Gutter Level: 17.53m
Ridge Level: 19.56m
FFL +14.57
BLK WALL
BLOCKWALL
CONCRETE
BALCONY (roof over)
IBER
PORT
2
548746
1
2
3
4
5
6
7
8
9


C
2
3
7
1
4
8
6
9
5
Notional Root Zone
Structural Root Zone


D
HUMPHREYS ROAD
B.M.Nail in Bitumen. r.l. 17.69m A.H.D.
CENTRELINE
EDGE
DRIVEWAY
CONCRETE DRIVEWAY
BLOCKWALL
CONCRETE
FFL +14.57
93
PT.2 STORY
CLAD DWELLING
METAL ROOF
Floor Levels: 12.30m & 15.40m
Gutter Level: 17.53m
Ridge Level: 19.56m
BALCONY (roof over)
Notional Root Zone
Structural Root Zone


E
r flow from downpipe to gutter
fall to gutters
C Downpipe
saght flat back Colorbond eave gutter -
h non combustible leaf gutter guard
ERWISE
IE TIMBER RETAINING WALLS
POWER LINE 15 WIDE
MAYBE NECESSARY
ETIC/GRID MERIDIAN. IF
RTH IS REQUIRED
STANCES AND AREAS OF
OM LRS RECORDS ONLY.
IBER
PORT
2
548746
HUMPHREYS ROAD
B.M.Nail in Bitumen. r.l. 17.69m A.H.D.
BITUMEN
CENTRELINE
EDGE
DRIVEWAY
CONCRETE
DRIVEWAY
75°18'20"
22.945
WM
SV
PP
BLK. WALL
BLOCKWALL
CONCRETE
FFL +14.57
16.00
15.00
14.00
13.00
12.00
93
PT.2 STOREY
CLAD DWELLING
METAL ROOF
Floor Levels: 12.30m & 15.40r
Gutter Level: 17.53m
Ridge Level: 19.56m
BALCONY (roof over)
Tree to be retained
Tree to be removed

7. TREE PROTECTION SPECIFICATIONS

THE FOLLOWING MEASURES IN LINE WITH AUSTRALIAN STANDARD *AS 4970-2009 PROTECTION OF TREES ON DEVELOPMENT SITES* ARE TO BE IMPLEMENTED:

A) TREE PROTECTION PLAN

Mapping of Tree Protection Zones and Structural Root Zones of site trees in context to the development proposal can be found in the Tree Protection Plan in **Section 6** of this report.

B) PROJECT ARBORIST

A Project Arborist is to be engaged as part of the development project to ensure that Tree Protection measures are compliant with the Australian Standard *AS 4970-2025 Protection of Trees on Development Sites*.

The project Arborist should be available to inspect, supervise and make recommendations on development works before, during and after they have been undertaken to ensure that the necessary tree protection measures have been implemented in line with the Australian Standard and the recommendations of this report.

The Project Arborist will hold a minimum AQF Level 5 in Arboriculture. The Project Arborist will also possess the ability to provide proof of compliance to the relevant consent authority at different stages of the project as outlined in the Implementation Hold Points in Section **7 (N).**

C) PROHIBITED ACTIVITIES

The following activities are to be avoided within the specified Tree Protection Zones (TPZs) on site:

- Excavations and trenching (with exception of the approved remediation works, underground services, building foundations or pavement sub-grade).
- Soil disturbance, surface grading, compaction, ripping or cultivation of soil.
- Mechanical removal of vegetation, including extraction of tree stumps.
- Soil level changes, mechanical ripping or cultivation of soil
- Movement and storage of plant, equipment, and vehicles.
- Erection of site sheds
- Fixing of signs, barricades and boarding to trees.
- Storing of building materials, waste, and waste receptacles.
- Stockpiling of spoil or fill.
- Stockpiling of bulk materials such as soil, sand, gravel, road base etc.
- Stockpiling of demolition waste.
- Disposal of waste materials and chemicals including paint, solvents, cement slurry, fuel, oil, and other toxic liquids.
- Parking of vehicles
- Any other activity likely to cause damage to the protected trees.

D) TREE DAMAGE

Care shall be taken when operating excavators, cranes, installing scaffolding, hoarding or other similar activities in close proximity to protected trees to avoid causing damage. Under no circumstances is it acceptable for branches to be broken or torn off protected trees.

Prior to the undertaking of activities that increase the risk of damage to protected trees, the Project Arborist must be consulted to assess and provide a strategy to minimise the impacts of such activities on protected trees.

In the event that a tree is damaged during development activities, the Project Arborist must be sought to assess and provide advice on remedial action to minimise any adverse impacts on the tree. Such action should be implemented as soon as practical and completed by suitably Qualified individuals (Minimum AQF Level 3 Arborist). The Project Arborist must also be available to provide advice on impact minimisation moving forward in the event that damage has been caused.

If remedial pruning works are necessary due to damage caused, these works are to be conducted in line with Australian Standard *AS 4373-2007 Pruning of Amenity Trees and* only conducted within the controls of the relevant consent authority.

E) TREE REMOVAL

Any tree removals required to facilitate the proposal must be undertaken by minimum AQF Level 3 Arborist/s.

Tree removal works are only to occur in accordance with consent granted by the relevant consent authority. These works should be allocated and undertaken prior to the demolition and site establishment phase of the project as specified in the Implementation Hold Points in Section **7 (N).**

Trees approved for removal are to be removed without damaging or removing protected trees.

If pruning of protected trees is required to remove trees allocated for removal, the required consent from the relevant authority is to be sought prior to commencement. The nature of these works is to be stipulated and supervised by the Project Arborist in accordance with consent granted.

Stumps located within Tree Protection zones are to be ground out with a stump grinder without damage to the root systems of other trees conditioned for retention. If this is not feasible, tree stumps are to remain.

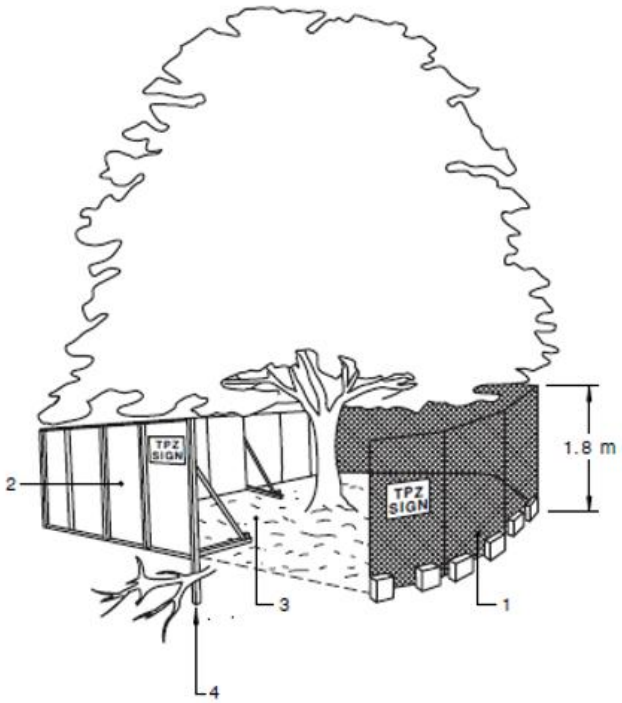
No herbicides are to be utilised on trees removed in proximity to the root zones of protected trees.

F) TREE PROTECTION FENCING

Temporary fencing shall be erected around trees to be retained as specified in the **Tree Protection Plan in Section 6**. Fencing will, as a minimum, consist of temporary wire panels of 1.8m in height supported by steel stakes, fastened together and supported by corner braces where required. Where Tree Protection Zones merge, a single fence encompassing the combined area is considered adequate. Existing site boundary fences may also form part of the enclosure.

Tree protection fencing must be installed prior to demolition and site establishment as specified in the Implementation Hold Points for Tree Protection Measures in Section **7 (N).**

FIGURE 1: ESTABLISHED TREE PROTECTION ZONE (TPZ) (AS PER AS 4970:2025):



KEY:

[1] Chain wire mesh panels that are held in place with concrete feet.

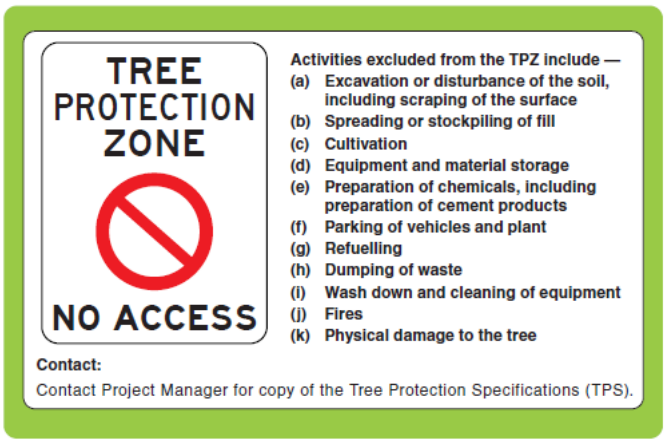
[2] Alternatively, plywood or wooden paling fence panels may be used. This fencing material also prevents building materials or soil from entering the TPZ.

[3] Mulch installation across the surface of the TPZ (as detailed in the TPS). No excavation, construction activity grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ other than those indicated in the TPS.

[4] Bracing may be used within the TPZ. Installation of posts or supports should avoid damaging roots.

Signs shall be placed on the Tree Protection Zone fencing to inform site workers and others of the purpose of the fencing. Examples of signs and fencing to be utilised can be seen below:

FIGURE 2: EXAMPLES OF TPZ SIGNAGE (AS PER AS 4970:2025):



G) TRUNK PROTECTION

Trunk Protection consisting of a layer of carpet underfelt, or similar material, wrapped around the trunk, followed by lengths of softwood timber aligned vertically around the trunk and secured by galvanised wire should be used as a measure to protect the trunks of trees from potential mechanical damage during development activities. This protective measure should be installed prior to demolition and site establishment as per the Implementation Hold Points in Section **7 (N).**

TRUNK PROTECTION EXAMPLE AS PER PART (G) BELOW:

H) GROUND PROTECTION

A layer of Organic Matter in the form of woodchip mulch is to be placed within the fenced-off Tree Protection Zones of each tree. Mulch should be a minimum 80mm thick, aiming to reduce water stress during construction and enhance TPZ visibility.

Where possible, machinery and vehicles shall only travel on paved surfaces. However, if this is deemed not feasible, and machinery must traverse over soft landscapes within allocated Tree Protection Zones, machinery must travel on either 20mm thick sheets of Marine Plywood or Truck Mats to minimise soil compaction and the potential for root damage.

AN EXAMPLE OF GROUND PROTECTION AS PER PART (G) BELOW- TRUCK MATS

I) CROWN PROTECTION

The crown of each protected tree must be protected from injury by machinery such as excavators, drilling rigs, cranes, trucks, and activities such as hoarding and scaffolding installation. To address this, the Tree Protection Zone (TPZ) will need to include additional protection of the above ground parts of the tree.

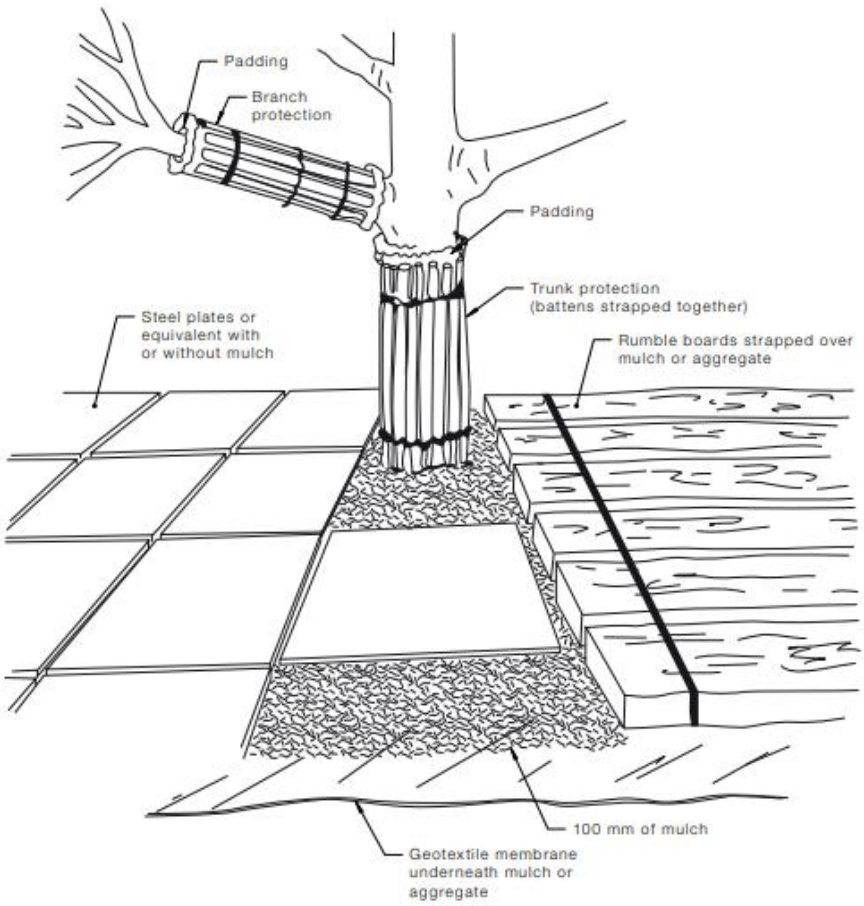
Where crown protection is required, it will usually be located at least one metre outside the perimeter of the crown. The erection of scaffolding may require an additional setback from the edge of the crown.

Crown protection can include tying back of branches or the installation of branch protection similar to trunk protection.

Protection of the wider tree crown whilst undertaking development activities may necessitate minor pruning works. Any pruning of protected trees must adhere to Australian Standard *AS 4373-2007 Pruning of Amenity Trees* (Global, AS 4373-2007 Pruning of Amenity Trees, 2007) and should be undertaken before the establishment of the Tree Protection Zone.

No pruning is to be undertaken without the relevant consent or outside of the relevant legislative controls of the consent authority.

EXAMPLES OF GROUND PROTECTION, TRUNK PROTECTION AND BRANCH PROTECTION (AS PER AS 4970:2025):



J) EXCAVATION WITHIN TREE PROTECTION ZONES (TPZ)

Mechanical excavation within specified TPZs of trees is to be largely avoided. Where excavation inside of the Tree Protection Zone is deemed necessary, non-destructive techniques (use of hand-held implements, pressurised air excavation using Airspade techniques or hydro-excavation in combination with a vacuum extraction unit) (Airspade, n.d.) (Excavation, n.d.) are to be used to locate and expose tree roots within the proposed area of excavation without causing damage.

Alterations to design and building methodologies are to be considered prior to any excavation within Tree Protection Zones. If these solutions are deemed unworkable, the relevant parties are required to demonstrate reasons for this prior to undertaking excavation within the TPZ.

Roots encountered of less than 40mm diameter may be cleanly severed with clean sharp implements at the face of excavation. Where roots larger than 40mm in diameter are encountered, the Project Arborist will be sought to evaluate the impacts of root pruning and demonstrate the long-term viability of the subject tree post root pruning.

No root pruning is to be undertaken within the Structural Root Zone (SRZ) of the tree without the undertaking of extensive root mapping, consultation with the Project Arborist and consent being granted from the relevant consent authority.

Any root pruning works are to be conducted by a minimum AQF Level 3 Arborist in accordance with the Australian Standard *AS 4373-2007 Pruning of Amenity Trees* (Global, AS 4373-2007 Pruning of Amenity Trees, 2007) under the supervision of the Project Arborist (Minimum AQF Level 5 Arborist).

K) UNDERGROUND SERVICES

All proposed underground services, wherever possible, are to be installed outside of Tree Protection Zones.

Where services must be installed within the TPZ of protected trees, the following applies:

- Trenching or excavation for the installation of conduit and pipelines etc shall be undertaken using non-destructive methods discussed in section 7H.
- Methods such as under boring shall be utilised where possible. Feasibility should be established prior through root mapping with consideration to factors such as required depth and dimensions
- Large roots as discussed in section 7H shall be retained wherever possible.
- Where root pruning is necessary, the site Arborist will be sought to evaluate the impacts of root pruning on the subject tree. These works must be conducted by a minimum AQF Level III Arborist in accordance with the Australian Standard AS 4373-2007 *Pruning of Amenity Trees* (Global, AS 4373-2007 Pruning of Amenity Trees, 2007).
- Where root pruning is considered unavoidable, roots under 40mm in diameter and outside of the Structural Root Zone of the tree are to be severed with a clean, sharp implement.
- Roots greater than 40mm in diameter are not to be severed before having been assessed by an AQF Level 5 Arborist.
- Where tree roots over 40mm in diameter are required to be pruned, the Project Arborist must demonstrate that the tree will remain viable long term after root pruning has occurred.
- Root pruning works are only to be undertaken with consent from the relevant consent authority under the relevant controls.

L) DEMOLITION OF STRUCTURES AND PAVEMENT WITHIN TPZ

Demolition equipment is to not to be used within the Tree Protection Zone unless operating from existing concrete slabs, pavements or areas where ground protection measures as per Section **7H** have been installed.

Small structures within the TPZ are to be demolished using handheld tools and waste removed manually/by hand. Large structures within the TPZ are to be demolished within the existing structure away from trees.

Existing concrete slabs or pavements within the TPZ are to be demolished without disturbing the underlying soil profile. Machinery is to work backwards out of the TPZ and remain on unbroken concrete slabs or pavements at all times.

Where tree roots are encountered under sections of lifted concrete, these sections are to be broken up and extracted by hand to avoid damage to the tree roots.

Tree roots are to be left in situ until assessed by the Project Arborist. Pruning of any roots may only be undertaken after consultation with the project Arborist and the necessary consent granted by the relevant authority.

M) INSTALLATION OF PAVEMENT

Installation of pavement and sub-base within the Tree Protection Zone shall be place above grade to minimize excavation. These works shall be supervised by the Project Arborist.

If roots larger than 40mm are encountered during this process, they are to be retained in an undamaged condition until advice is sought from the Project Arborist.

N) IMPLEMENTATION HOLD POINTS FOR TREE PROTECTION MEASURES

To ensure that Tree Protection measures are implemented in accordance with Section 7 of this report and Australian Standard *AS 4970-2025 Protection of Trees on Development Sites,* the following hold points are specified. Hold points are to be inspected and certified by the Project Arborist at each stage before the next stage commences.

Hold Point	Task	Responsibility	Certified By	Timing of Inspection
1	Indicate clearly trees to be removed only (spray paint)	Principal Contractor	Project Arborist	Prior to demolition and site establishment
2	Installation of TPZ fencing branch and/or trunk protection where identified as required	Principal Contractor	Project Arborist	Prior to demolition and site establishment
3	Supervise all demolition works within TPZs where identified	Principal Contractor	Project Arborist	As required prior to works proceeding
4	Inspection of site trees by Project Arborist	Principal Contractor	Project Arborist	Quarterly during construction period
5	Inspection of trees by Project Arborist	Principal Contractor	Project Arborist	Following the removal of Tree Protection measures
6	Final inspection of trees by Project Arborist	Principal Contractor	Project Arborist	Prior to issuing of Final Occupation Certificate

Variations to this schedule may be implemented where necessary through consultation with the Project Arborist only.

9) APPENDIX A – TREE PROTECTION ZONES AND STRUCTURAL ROOT ZONES

8.1) DEFINITIONS (AS PER AS 4970-2025 PROTECTION OF TREES ON DEVELOPMENT SITES):

A) **The Notional Root Zone (NRZ)** is a radius calculated for the presence of roots which is the primary trigger for Arboricultural input on a development site

B) **The Tree Protection Zone (TPZ)** is the principal means of protecting trees on development sites. The TPZ is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so the tree remains viable.

The area of a Tree Protection Zone also encompasses the Structural Root Zone.

C) **The Structural Root Zone (SRZ)** is the area of root mass required for a tree's stability. A larger area is required to maintain a viable tree. The SRZ of a tree only needs to be calculated when a major incursion into the TPZ is proposed.
Many factors can affect the size of the Structural Root Zone (SRZ) such as tree height, crown area, soil type, soil moisture, rocks, footings and built structures. Root investigation is required to establish the actual extent and location of these roots.

8.2) CALCULATING THE NRZ, TPZ AND SRZ OF A TREE

A) The **Notional Root Zone (NRZ)** radius for each tree is calculated by multiplying its **Diameter at Standard Height (DSH) by 12**. Radius is measured from the centre of the stem at ground level.

B) An indicative **Structural Root Zone (SRZ)** radius can be determined from the trunk diameter measured immediately above the root buttress using the following formula:

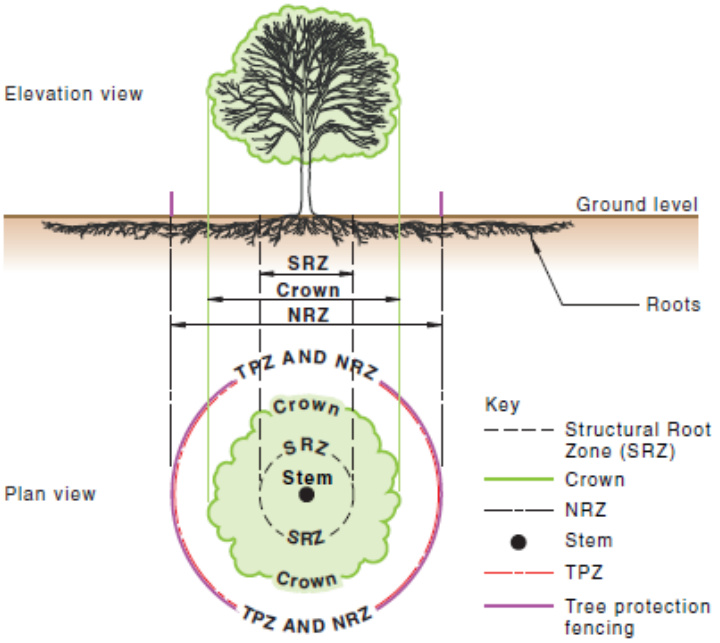
SRZ Radius= $(D \times 50)^{0.42} \times 0.64$ where D= Trunk diameter above root buttress in metres.

C) The **Tree Protection Zone** can be calculated by using the Notional Root Zone (NRZ) as a starting point, unless otherwise specified by the consent authority.

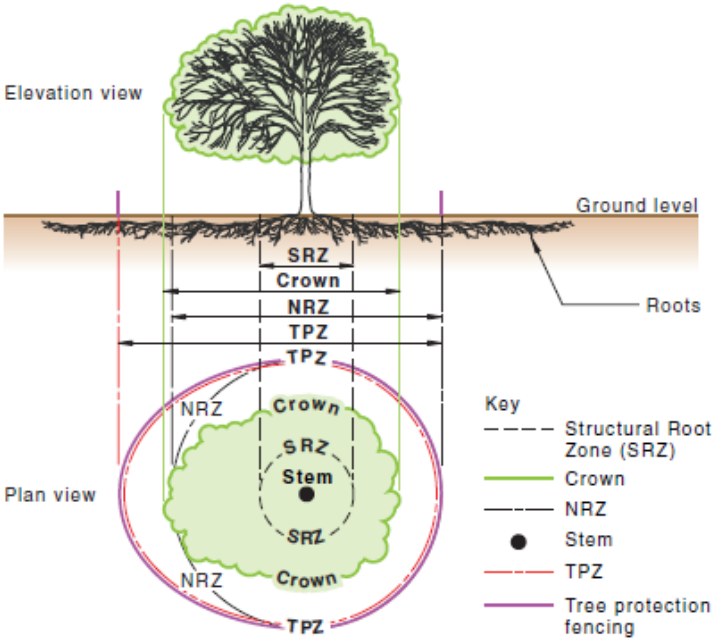
The following factors should also be considered when establishing a TPZ:

- Location and distribution of roots.
- Potential loss of root mass resulting from any encroachments (number/diameter of roots).
- Tree species and tolerance to root disturbance.
- Potential temporary (e.g. service Trench) or permanent (e.g. basement carpark) loss of soil volume.
- Age, health, current and projected size of tree.
- Presence of other trees with potential overlapping Notional Root Zones or grafted roots.
- Proposed staging and timing of excavation or root cutting.
- Proposed tree maintenance and tree care activities.
- Lean and stability of trees.
- Soil characteristics and volume, topography and drainage.
- Presence of existing or past structures, obstacles affecting root growth or recent encroachments.
- Proposed construction measures that reduce impacts on trees.
- Whether root investigation is required through minimally destructive investigation methods.

EXAMPLES OF NRZ, SRZ AND TPZ IN IDEAL CIRCUMSTANCES (AS PER AS 4970-2025):



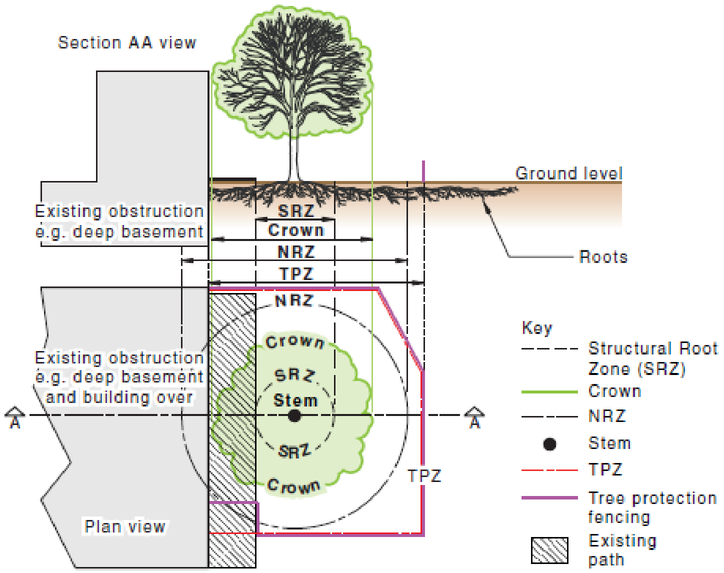
(a) No development within NRZ



(b) No development within NRZ but with crown protection required

Figure 3 — Protection areas *(continues)*

EXAMPLES OF NRZ, SRZ AND TPZ WITH SITE CONSTRAINTS (AS PER AS 4970-2025):

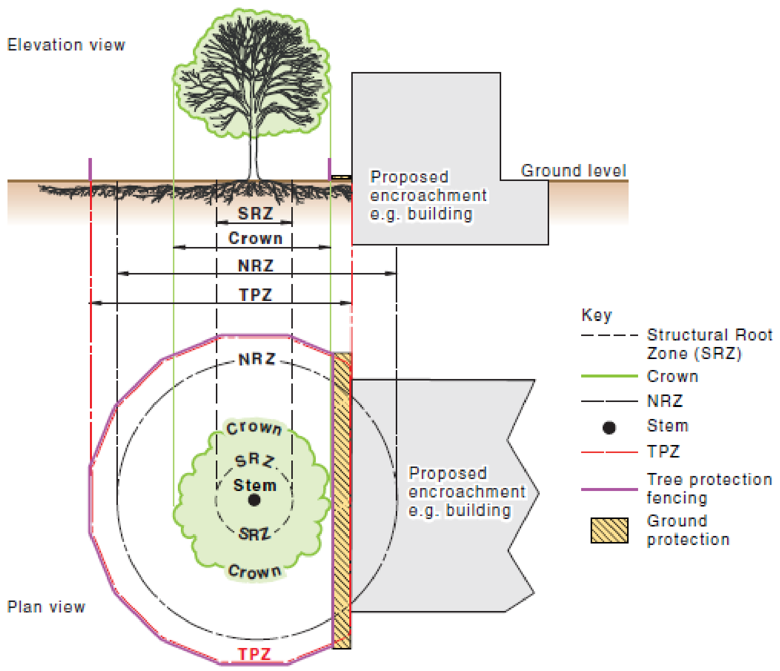


NOTE The project arborist has determined a suitable location for the tree protection fence. They have included a portion of the path as ground protection.

(c) TPZ compensatory area shown for existing structures

Figure 3 — Protection areas *(continues)*

18



(d) TPZ compensatory area shown for proposed development

Figure 3 — Protection areas

8.3) ENCROACHMENTS (AS PER AS 4970:2025)

As per the Australian Standard, Notional Root Zone (NRZ) encroachments are broken into three (3) different classes:

- **Minor Encroachment-** less than or equal to 10% of the Notional Root Zone where no recent NRZ encroachments have occurred, and outside of the Structural Root Zone (SRZ).

  Generally, it is unlikely that this encroachment will significantly impact tree health, longevity or structure. To avoid a net loss of soil area and volume, an area equivalent to the encroachment shall be incorporated into the TPZ unless the Project Arborist otherwise demonstrates the tree will remain viable.

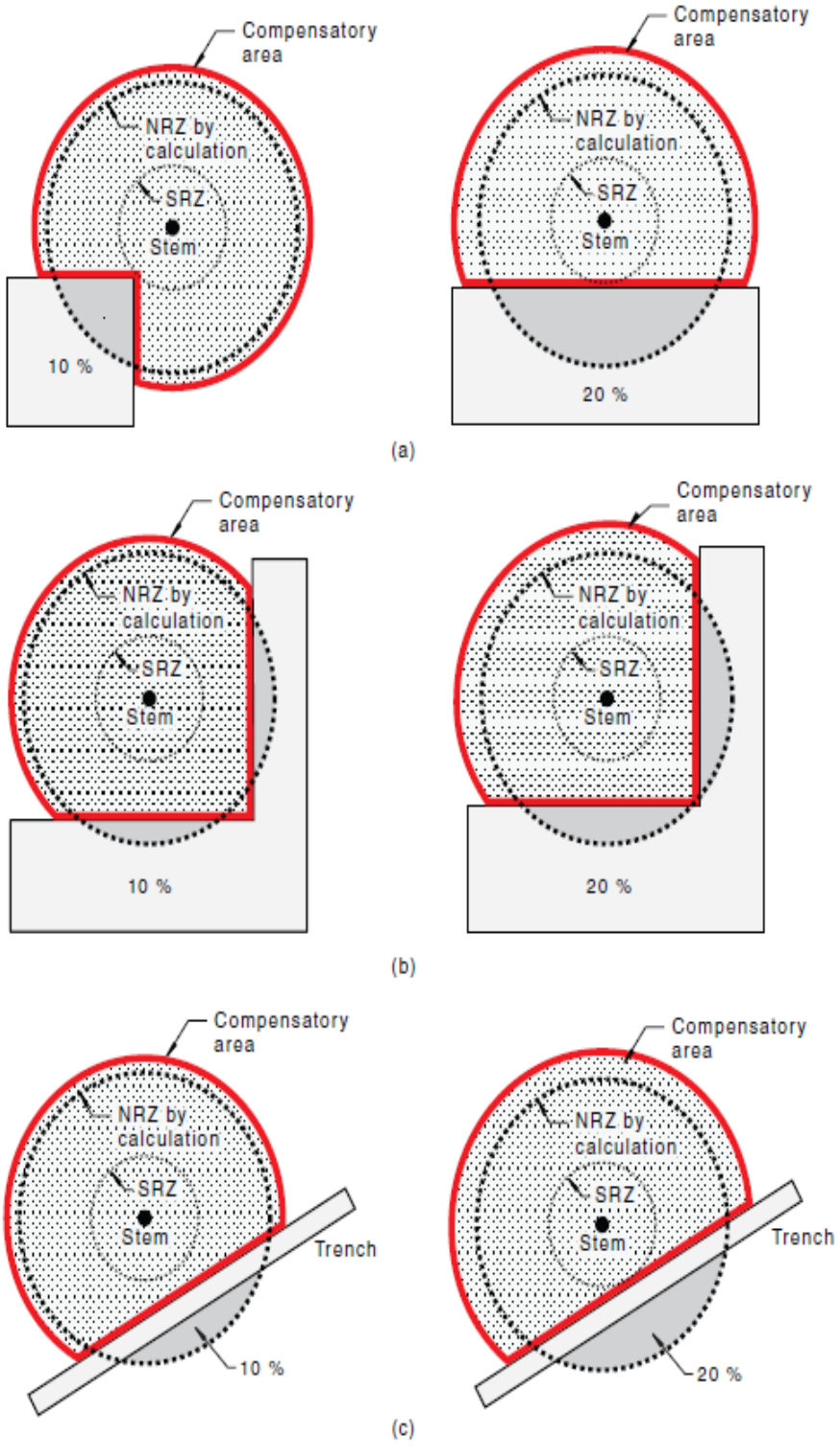
- **Moderate Encroachment –** greater than 10% and equal to or less than 20% of the area of the NRZ and outside of the SRZ of the tree. The project arborist shall be engaged to review the proposed impact and undertake any necessary investigation to demonstrate how the tree will remain viable. This may be through the implementation of suitable design measures and construction controls to mitigate impacts as part of the Tree Protection Specification (TPS) and Tree Protection Plan (TPP).

  To avoid a net loss of soil area and volume, an area equivalent to the encroachment shall be incorporated into the TPZ unless the Project Arborist otherwise demonstrates the tree will remain viable.

- **Major Encroachment** - The proposed encroachment is considered major if it is greater than 20 % of the area of the NRZ or inside the SRZ of the tree. The project arborist shall be engaged to explore alternative designs with the design team and/or demonstrate that the tree will remain viable.

  For assessment of major encroachment, a more detailed investigation is necessary. This can include research such as root investigation, soil analysis, historical records of the tree or site, relevant literature and examples of similar encroachments. A TPS and TPP should be prepared to support the retention of the tree. To avoid a net loss of soil area and volume, an area equivalent to the encroachment shall be incorporated into the TPZ, unless the project arborist otherwise demonstrates that the tree will remain viable.

EXAMPLES OF ENCROACHMENTS (AS PER AS 4970:2025)



NOTE These examples are not to scale and are for illustrative purposes. The proposed encroachment is considered minor if it is less than or equal to 10 % of the area of the NRZ, has not had recent TPZ encroachments and is outside of the SRZ (see Clause 3.4). The proposed encroachment is considered moderate if it is greater than 10 % and less than or equal to 20 % of the area of the NRZ and is outside of the SRZ (see Clause 3.4).

Figure 1 — Sample minor and moderate encroachments A1

10, APPENDIX B – TREE PHOTOS

Tree 1:

Tree 2:

Tree 3:

Tree 4:

Trees 5 and 6:

Tree 7:

Trees 8 and 9:

11. APPENDIX C - REFERENCES

Airspade. (n.d.). *History*. Retrieved from Airspade- Pneumatic Soil Excavation: https://www.airspade.com/pages/history#/

Aus., S. (2015). AS 2303:2015 Tree Stock For Landscape Use.

Barrell, J. (1996). Procedure for Assessing Safe Useful Life Expectancy.

Excavation, H. (n.d.). *Information- What is Hydro Excavation?* Retrieved from https://hydroexcavation.com/information/

Global, S. (2007). *AS 4373-2007 Pruning of Amenity Trees.* Retrieved from SAI Global: https://www.saiglobal.com/PDFTemp/Previews/OSH/AS/AS4000/4300/4373-2007.pdf

Global, S. (2007). AS 4373-2007 Pruning of Amenity Trees. Australia.

Government, N. (n.d.). *Lower Hunter Spotted Gum Ironbark Forest in the Sydney Basin and NSW North Coast Bioregions - NSW North Coast: Distribution and vegetation associations*. Retrieved from NSW Office of Environment and Heritage : https://threatenedspecies.bionet.nsw.gov.au/profileData?id=10942&cmaName=NSW+North+Coast

IACA. (2010). *IACA Significance of a Tree Assessment Rating System (STARS)*. Retrieved from Institute of Australian Consulting Arborists: https://www.iaca.org.au/wp-content/uploads/2019/03/IACA-Significance-of-a-Tree-Assessment-Rating-System-STARS-IACA-2010.pdf

IACA. (2010). *IACA Significance of a Tree Assessment Rating Systems (STARS) (IACA 2010)*. Retrieved from IACA: https://www.iaca.org.au/wp-content/uploads/2019/03/IACA-Significance-of-a-Tree-Assessment-Rating-System-STARS-IACA-2010.pdf

ISA. (2025). AS 4970:2025 - Protection of Trees on Development Sites.

Mattheck, C. (n.d.). *Field Guide to Visual Tree Assessment.*

NSW, R. F. (n.d.). *10/50 Vegetation Clearing* . Retrieved from NSW Rural Fire Services: https://www.rfs.nsw.gov.au/plan-and-prepare/1050-vegetation-clearing

Treenet. (2018). *Tree Protection Australian Standards and the Law: Getting it Right.* Retrieved from Treenet: https://treenet.org/resource/tree-protection-australian-standards-and-the-law-getting-it-right/

TreezAZ. (2001, March). *SULE: Its use and status into the New Millenium.* Retrieved from TreezAZ: http://www.treeaz.com/downloads/resources/TreeAZ-03-2001.pdf

11. APPENDIX D- GLOSSARY OF TERMS

Adversely- harmfully or unfavourably, in a way that prevents success or development

Arborist- a professional in the practice of arboriculture, which is the cultivation, management and study of individual trees, shrubs, vines, and other perennial woody plants.

Development- the process of developing or being developed

Diameter- a straight line passing from side to side through the centre of a body or figure, especially a circle or sphere

Diameter at Standard Height (DSH) – the diameter of a tree measured at 1.4m from ground level, with considerations as per AS 4970:2025 – Protection of Trees on Development Sites

Encroachment – As per the standard, referring to works within the Established Tree Protection Zone of the tree, based on Notional Root Zone (NRZ) and Structural Root Zone (SRZ)

Landscape- make a garden or other area of ground more attractive by altering the existing design, adding ornamental feature, and planting trees and shrubs

Necessitate- make something necessary as a result or consequence – e.g. *The Proposal, in its current form, necessitates the removal of the following tree/s*.

Plans- a detailed proposal for doing or achieving something

Pruning- cut away a branch or stem from a tree, shrub etc

Removal- the action of taking away or abolishing something

Replanting- plant a tree or plant which has been removed, again, especially in a new size

Retention- the continued possession, use, or control of something

Roots- the part of a plant which attaches it to the ground or to a support, typically underground, conveying water and nourishment to the rest of the plant

Scaffolding- a temporary structure on the outside of a building, made of wooden planks and metal poles, used by workers while building, repairing or cleaning a buidling

Significance- a subjective assessment of item/s (trees) based on set criteria i.e. Landscape Singificance as per *IACA*.

Site- an area of ground on which a town, building or monument is constructed

Structural- relating to the arrangement of and relations between the parts or elements of a complex whole

Tree- a woody perennial plant, typically having a single stem or trunk growing to considerable height and bearing lateral branches at some distance from the ground