ARBORICULTURE CONSULTANCY
AUSTRALIA

ARBORICULTURAL IMPACT ASSESSMENT

PREPARED FOR:

Jepton Pty Ltd
10 Keating Street
Maroubra, NSW 2035

ASSESSMENT AREA:

Lot 23 – DP 839174
4 Cypress Parade
Bowral, NSW 2576

AUTHOR:

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DATE: 22nd July 2021

DOCUMENT CONTROL

REVISION NO:	DESCRIPTION	RELEASE DATE	RECIPIENT	ADDRESS	DISTRIBUTION TYPE
1	Client Review	22nd July 2021	Sean Hayes	sean-hayes@outlook.com	Email
AUTHORSHIP	Sibone Nadin Dip Arb AQF V- Arboriculture ISA (TRAQ) Accreditation (No: 267038).				
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EXECUTIVE SUMMARY

Mr Sean Hayes, acting on behalf of Jepton Pty Ltd, has commissioned this Arboricultural Impact Assessment to accompany an application to the Wingecarribee Shire Council for the proposed residential development of 4 Cypress Parade Bowral NSW 2576.

The proposal calls for the demolition of the existing buildings to facilitate the creation of a multiple-unit seniors' village and associated infrastructure.

The purpose of this assessment is to quantify the potential impact of the proposed development on the site's tree population, ensuring conservation of the character, scenic quality, and cultural significance is the primary objective.

The site assessment was undertaken on the 20th of July 2021, by Principal Arborist Sibone Nadin.

A total of seven (7) trees are recommended for removal.

- Two (2) trees are adversely impacted and are not retainable under the current proposal.
- Irrespective of the proposed development footprint, a further five (5) trees have been identified as a local environmental weed species and are recommended for removal.

Seven (7) individual trees, including all neighbouring and street trees, are retainable under the current proposal.

The Tree Protection Conditions have been prepared in accordance with *Australian Standard AS 4970-2009 Protection of Trees on Development Sites.* Subject only to these conditions being implemented as prescribed; the author is satisfied that all retained trees will remain sustainable.

The proposed development footprint does not impact significant, sustainable trees, and a design review is not recommended under the current proposal.

Appropriate native landscaping will compensate for any potential ecological loss and improve the aesthetic quality of the site and broader landscape.

This Executive Summary intends only to provide the reader with an overview of the findings and recommendations outlined in this report and must be read in conjunction with the entire report.

Sibone Nadin *Dip. (Arboriculture) AQF Level 5*
Principal Arborist
Arboriculture Consultancy Australia
22nd July 2021.

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TABLES & FIGURES

1. INTRODUCTION

This report acknowledges the traditional owners of this land and pays respect to the Elders, past, present and emerging of the land on which the site is located.

Mr Sean Hayes, acting on behalf of Jepton Pty Ltd, has commissioned Arboriculture Consultancy Australia to undertake an Arboricultural Impact Assessment (AIA) of fourteen (14) individual trees located within and adjacent to the subject site located at 4 Cypress Parade, Bowral NSW 2576.

The proposal calls for the demolition of the existing buildings to facilitate the creation of a multiple-unit seniors' village and associated infrastructure.

2. OBJECTIVES

The purpose of this assessment is to quantify the potential impact of the proposed development on the site and surrounding tree population and provide recommendations, where appropriate, to minimise any potential adverse impact on the integrity and viability of native vegetation and fauna habitat.

3. SCOPE

This Arboricultural Impact Assessment (AIA) will identify all trees within the site boundary and adjacent properties (including public lands) that may be impacted by the proposed development and recommend tree protection measures necessary to protect retained trees throughout the project's construction phases.

The assessment only applies to vegetation defined as a tree under Section 6 – Vegetation Management and Landscaping of Wingecarribee Shire Council's *Bowral Township Development Control Plan (DCP).*

The report has been prepared in accordance with section 2.3.5 of the Australian Standard for Protection of Trees on Development Sites (4970-2009) and the *Bowral Township DCP.*

4. LIMITATIONS OF THE ASSESSMENT

Limitations are matters and occurrences, which are outside of the Authors' control. The following limitations may influence the extensity of the study and the conclusions which can be drawn:

- ACA was not commissioned to undertake a preliminary arboricultural report to guide the development layout. Therefore, this impact assessment is based on the Demolition Plan DA020 dated 25th June 2021, prepared by Elk Designs and will only comment on "*design and construction methods proposed to minimise impacts on retained trees where there is encroachment into the calculated TPZ*" (AS 4970-2009, 2009).

- Final sub-service or landscaping plans have not been provided for review. Therefore, the author cannot comment on any impact on the subject trees from these activities.

- Trees are biological entities subject to changes in their environment. Conclusions derived from the Visual Tree Assessment (VTA) are the Author's professional opinion, resulting from observations made on the day of inspection. Therefore, any subsequent observations may differ.

- Where a complete taxonomical identification process is not completed due to insufficient available plant material, the author will specify the genus of the tree in the tree assessment schedule (e.g., *Euc spp*.).

5. DESCRIPTION OF STUDY AREA

The site is situated in the locality of Bowral, within the local government area (LGA) of Wingecarribee.

The site is formally defined as Lot 23 – DP 839174 and zoned R2 Low-Density Residential by the NSW Department of Planning, Industry and Environment.

The site is approximately 2,209m^2 and is described as a highly modified, managed residential allotment containing a collective mixture of mature and semi-mature exotic trees in a garden setting.

The site does not contain any native tree species. *Populus alba* (Silver Poplar) are the predominant tree species located along the property's rear boundary.

The property boundary has been defined by cadastral datasets extracted from Nearmap aerial imagery and cross-referenced with the NSW Government Planning Portal (Property Report).

For the purposes of this assessment, the subject allotment will be referred to as "the site". The extent of the study area is denoted in blue, as shown in figure 1 and will include all adjacent properties (including public lands) that may be impacted by the proposal.

Figure 1: Area of assessment denoted in blue (NearMaps, 2021)

6. PROPOSED DEVELOPMENT

The proposal calls for the demolition of the existing buildings to facilitate the creation of a multiple-unit seniors' village and associated infrastructure.

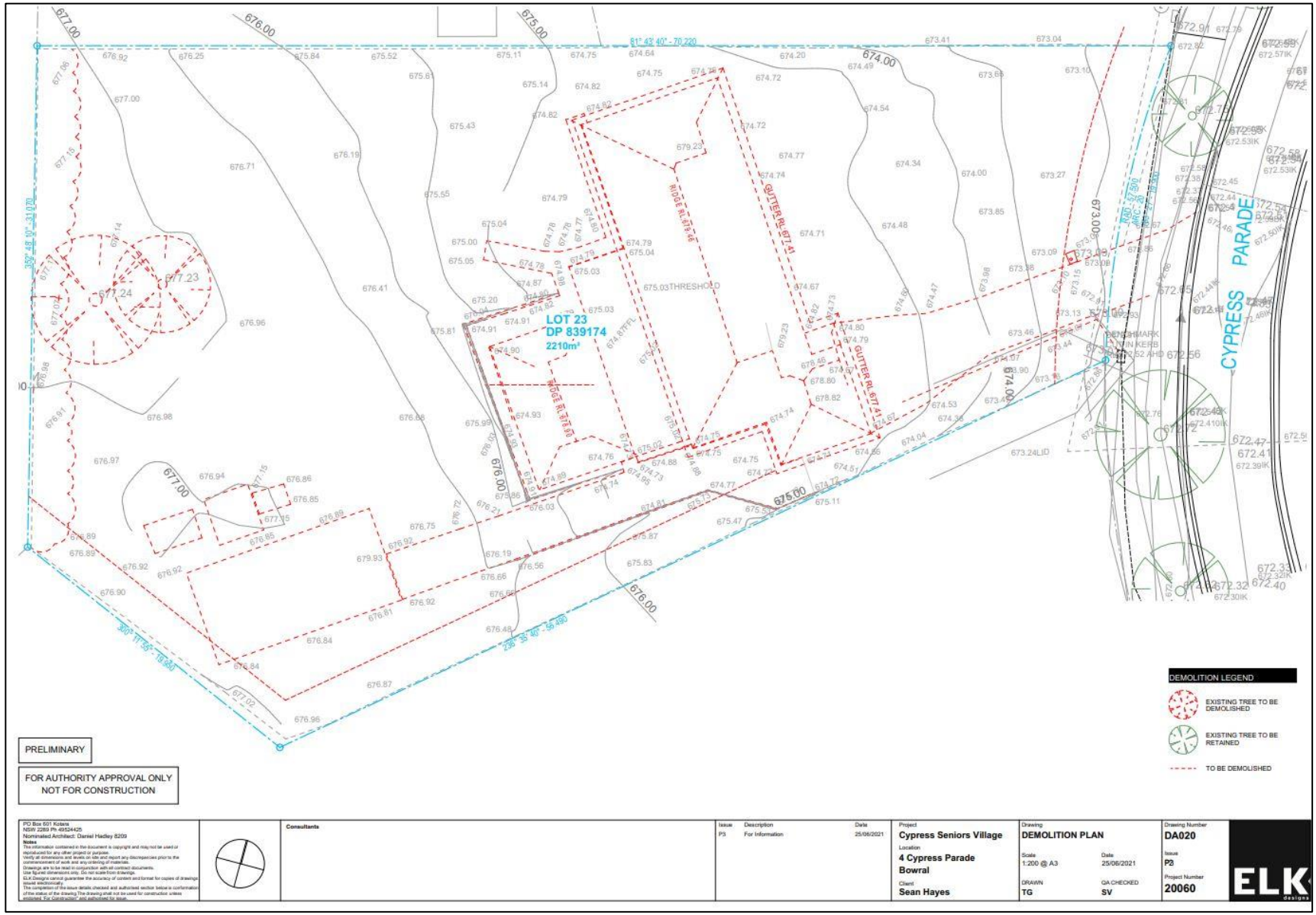

Figure 2: Demolition Plan DA020 (Elk Designs, 2021)

Figure 3: Site Coverage Plan DA035 (Elk Designs, 2021)

7. LEGISLATIVE REVIEW

A Legislation Review was undertaken to ensure that the recommendations outlined in this report:

- meet the provisions of applicable Federal, State and Local Government environmental legislation;
- comply with all relevant Australian Standards; and
- identify potential non-conformance.

7.1 FEDERAL AND STATE PLANNING REVIEW

At the time of the assessment, the following environmental planning instruments were applied and form the foundation of the recommendations outlined in this report:

- *Biodiversity Conservation Act 2016;*
- *Environment Protection & Biodiversity Conservation Act, 1999;*
- *Environment Planning and Assessment Act, 1979;*
- *Local Land Service Act, 2013;*
- *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017;*
- *State Environmental Planning Policy (Koala Habitat Protection) 2021;*
- *Biosecurity Act, 2015;*
- *Wingecarribee Local Environmental Plan;*
- *National Parks and Wildlife Act 1974* (NPW Act); and
- *Planning For Bushfire Protection 2019.*

7.2 LOCAL PLANNING AND STANDARDS REVIEW

At the time of the assessment, the following environmental planning instruments and standards were applied and form the foundation of the recommendations outlined in this report:

- *Bowral Township Development Control Plan;*
- *NSW Planning Portal – Property Report;*
- *Department of Agriculture, Water and the Environment - A Protected Matters Report;*
- *NSW Office Environment and Heritage – AHIMS;*
- *AS 4970:2009 Protection of Trees on Development Sites;*
- *AS 4373-2007 Pruning of Amenity Trees;*
- *AS 4454-2003 Composts, soil conditioner and mulches;*
- *Safe Work Australia Guide to Managing Risks of Tree Trimming and Removal Work; and*
- *NATSPEC – Specifying Trees.*

8. LEGISLATIVE REVIEW RESULTS

8.1 CONSENT AUTHORITY

The site has been assessed under the provisions of the *State Environmental Planning Policy (Vegetation in non-rural areas 2017).* This policy applies to land zoned R2 within the Local Government Area of Wingecarribee.

Removal of or any actions regarding the subject trees is not permitted without consent from Wingecarribee Shire Council.

It is incumbent on the property owner to seek all appropriate approvals prior to any tree works within the subject site. The recommendations outlined in this report are ***not*** an assurance of removal or retention.

8.2 ENVIRONMENTAL SIGNIFICANCE

To aid in the environmental assessment of ecological communities, all ecological communities have key diagnostic characters and condition thresholds to identify them as ecological communities.

These characters and conditions determine whether the referral, assessment, approval and compliance provisions are likely to apply.

A Protected Matters search was undertaken using the Australian Government - Department of Agriculture, Water and the Environment, Protected Matters Search Tool.

The search has identified that the following three (3) endangered or critically endangered ecological communities *may* occur in the study area:

- *Southern Highlands Shale Forest and Woodland in the Sydney Basin Bioregion;*
- *Upland Basalt Eucalypt Forests of the Sydney Basin Bioregion; and*
- *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*.

The author reviewed the ecological community profiles issued by the Office of Environment and is satisfied that the *Southern Highlands Shale Forest and Woodland in the Sydney Basin Bioregion* is the community most likely to occur within the study area.

The Approved Conservation Advice for the *Southern Highlands Shale Forest and Woodland in the Sydney Basin Bioregion* was reviewed. The assessment area does not contain any key diagnostic characteristics and does not meet the community's Condition Thresholds.

8.3 HERITAGE AND COMMEMORATIVE SIGNIFICANCE

The site has been assessed under the provisions of Schedule 5 of the *Wingecarribee LEP.* The site is not located in a conservation precinct and does not contain a heritage item under this plan.

A search of the National Trusts of Australia, Register of Significant Trees, was conducted on the 14th of July, 2021. The site trees were not listed on the register.

The author could find no historical reference or evidence to indicate that the subject tree population forms part of a commemorative planting.

8.4 BUSHFIRE PRONE LAND

The NSW Rural Fire Service document *Planning for Bush Fire Protection 2019* (PBP) provides the development standards for designing and building on bush fire prone land in New South Wales.

In accordance with section 4.14 of the *Environmental Planning and Assessment Act 1979*, all Development Applications on bushfire prone land must meet the requirements of PBP 2019.

The subject site is not identified as bush fire prone land by the NSW Rural Fire Service. Therefore, the author will not consider the provisions of *The Act* for the establishment or management of an Asset Protection Zone.

8.5 CULTURAL SIGNIFICANCE

A search conducted using the Office of the Environment and Heritage Aboriginal Heritage Information Management System (AHIMS) was performed. The search parameters were extended to include a 200 m buffer surrounding the site.

There were no Aboriginal sites declared as culturally significant on or within 200 meters of LOT 23 – DP 839174 and no evidence to propose that the subject trees are culturally significant.

It is an offence to harm or desecrate an Aboriginal object or declared Aboriginal Place. Therefore, it is incumbent on the proponent to ensure any works on this subject site do not modify, harm or desecrate a declared Aboriginal Place without an Aboriginal Heritage Impact Permit issued under the National Parks and Wildlife Act 1974 (NPW Act).

8.6 BIODIVERSITY OFFSET THRESHOLD

There is no land within the Study Area mapped on the State Biodiversity Values Map (BVM).

The proposal does not exceed the 0.25ha native vegetation clearing threshold; therefore, it is understood that a Biodiversity Development Assessment Report (BDAR) is not required.

8.7 KOALA HABITAT PROTECTION

State Environmental Planning Policy – Koala Habitat Protection 2021 (the SEPP) is a dedicated state environmental planning policy designed to protect koala habitat.

This policy aims to encourage the conservation and management of natural vegetation areas that provide habitat for Koalas to support a permanent free-living population over their present range and reverse the current trend of Koala population decline.

The SEPP applies to the Local Government Area (LGA) of Wingecarribee.

As the subject site is less than one (1) hectare, no further application of this policy is required.

8.8 WILDLIFE & HABITAT

On the day of the assessment, no native fauna was sighted, and the subject trees contained no visible hollows suitable for arboreal animals.

As a precautionary approach, the author will assume that fauna utilises the subject trees.

Any clearing of trees, shrubs or groundcovers (including weeds) within the site lands should be conducted to ensure no fauna is harmed or displaced. Any injured native fauna shall be rescued and transferred to the care of the Wildlife Information, Rescue and Education Service (WIRES) - Ph: 1300 094 737.

8.9 BIOSECURITY DUTY

All plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. *Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable* (NSW Legislation, 2015).

The subject trees are not considered a weed under the *Biosecurity Act, 2015*. However, *Populus alba* (Silver Poplar) is listed as a local environmental weed species by Wingecarribee Shire Council.

9. METHODOLOGY

9.1 FIELD ASSESSMENT

The assessment was undertaken on the 20th of July 2021, by Principal Arborist Sibone' Nadin.

The following resources and documents relating to the study area were used to conduct the review:

- Demolition Plan DA020 dated 25th June 2021, prepared by Elk Designs.

9.1.1 FIELD DATA

In accordance with section 2.3.2 of AS 4970:2009, the following data was collected:

- Botanical name and common name;
- Dimensions;
- Canopy (m), crown density and class;
- Age class, health and structure;
- Safe Useful Life Expectancy (SULE) and sub-rating;
- Landscape significance and Retention Values;
- Habitat values;
- Tree Protection Zone (TPZ) and Structural Root Zone (SRZ);
- Encroachment values and impact; and
- Comments and results.

All tree data and dimensions were collected using a diameter tape, digital angle app and compass. The author estimated the height.

Trimble GPS survey equipment and software, Teflon hammer, binoculars, steel probes and a telescopic torch may also be utilised during the field assessment.

All data were digitally recorded in the field, and all photographs were taken at the time of assessment unless otherwise indicated.

The data is presented in a tabulated form in Appendix 1 - Tree Assessment Schedule.

9.2 ARBORICULTURAL MERIT

The following methodology describes the author's process to establish the arboricultural merit (value) of trees and provide an understanding of the tree's relative significance in the landscape to determine priorities for retention, removal, and protection (Morton, Determining the Retention Value of Trees, 2003).

9.2.1 VISUAL TREE ASSESSMENT

The physical structure and vigour were evaluated using the Visual Tree Assessment (VTA) procedure by Mattheck and Breloer.

The assessment was taken from the ground level. No digital diagnostic equipment or electronic equipment of any kind was used unless specified.

9.2.2 LANDSCAPE SIGNIFICANCE

Landscape Significance has been determined using Morton's Criteria for Determining Landscape Significance.

The Landscape Significance is a combination of the amenity, environmental, and heritage values of the subject tree and other factors that increase or diminish amenity, heritage and environmental values (Morton, Determining the Retention Value of Trees, 2003).

To ensure a consistent approach, the assessment criteria shown in Appendix 2 have been used in this assessment.

9.2.3 SAFE USEFUL LIFE EXPECTANCY (SULE)

SULE and SULE Sub Ratings are determined using an adapted version of Barrell's SULE methodology.

This approach estimates the tree's sustainability in the landscape based on the species' average age, less its estimated current age in an urban environment. The tree's life expectancy can be further modified to consider the current health, structural integrity, vigour, and suitability to the site (Barrell, 2009).

The criteria for the assessment of SULE are attached in Appendix 3.

9.2.4 RETENTION VALUE

Retention Value is a combination of the Landscape Significance values (heritage, ecological and amenity value) together with the estimated SULE. This method provides a consistent approach when determining trees Retention Values (figure 4).

The Retention Value rating is further applied to each tree to assist in determining priorities for retention, removal, and protection (Morton, Determining the Retention Value of Trees, 2003).

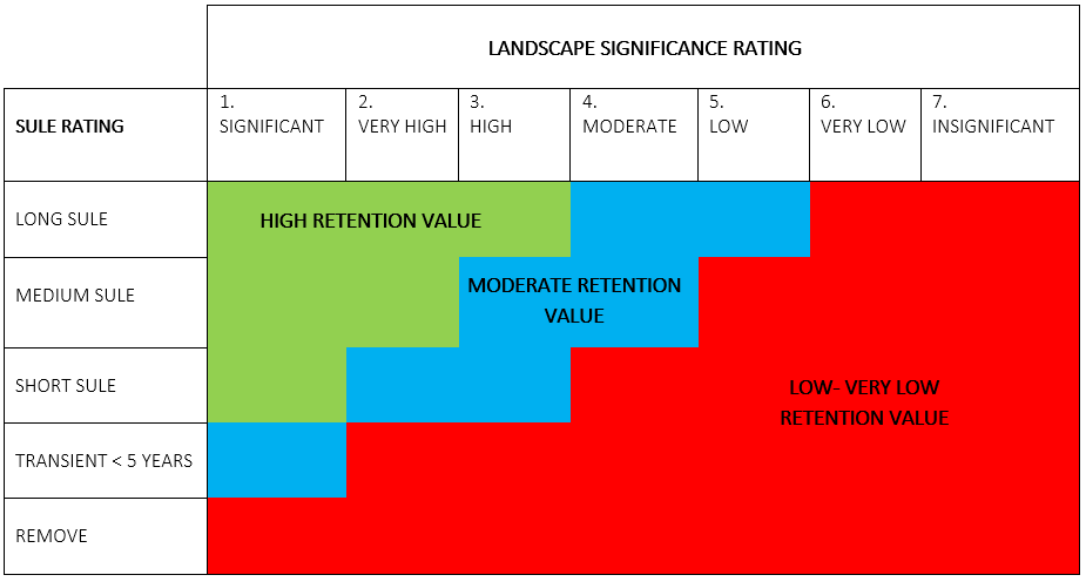

Figure 4: Retention Value Matrix (Morton, Determining the Retention Value of Trees, 2003).

9.3 TREE PROTECTION ZONES

The Tree Protection Zone (TPZ) is a radial distance measured from the centre of the tree's trunk.

The Tree Protection Zone (TPZ) is a combination of the crown and root area that requires protection and restricted access during the construction phase.

9.3.1 STRUCTURAL ROOT ZONES

The Structural Root Zone (SRZ) is the critical support area of a tree's root system. This area is to be protected and restricted during the construction phase. Any works that alter the SRZ or damage the roots will lead to the tree's destabilisation and failure.

9.3.2 TPZ & SRZ IMPACT CATEGORIES

The following categories define the levels of encroachment into a Tree Protection Zone (TPZ):

- NO IMPACT
  There is no encroachment within the TPZ of the subject tree. No further investigation is required.

- MINOR IMPACT
  The proposed encroachment is less than 10% (total area) of the TPZ and outside the SRZ. No further investigation is typically required. The area lost to encroachment should be compensated elsewhere.

- MAJOR IMPACT
  The proposed encroachment is greater than 10% (total area), and the SRZ may be impacted.

  Passive construction techniques may be used for minor works within this area, provided that the area within the structural root zone is not impacted.

  Exploratory excavation using non-destructive methods may be required to evaluate the extent of the root system to determine if the tree can remain viable.

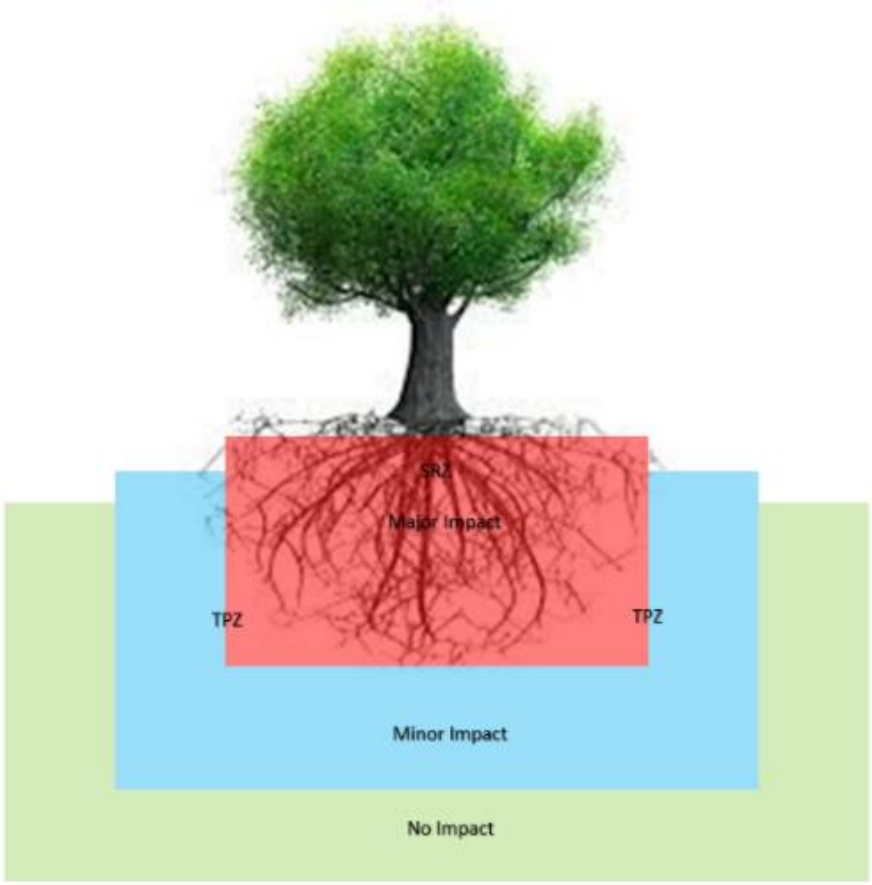

Figure 5: Impact Zones (Nadin, 2020).

10. FIELD RESULTS

10.1 TREE LOCATION AND TPZ INCURSION PLAN

Figure 6: TPZ Incursion Plan- Overlaid by the author (NearMaps, 2021)

10.2 IMPACT SUMMARY

The following summary identifies impacted trees to be removed, or retained, and protected.

If the author can demonstrate, as per section 3.3.4 of *AS 4970:2009,* that the percentage of encroachment is acceptable, the tree will be retained.

If the author cannot demonstrate that the tree will remain viable, the tree will require removal.

Table 1: Impact Schedule

TREE NO.	TYPE	RETENTION VALUE	LIKELY IMPACT	INCURSION %	RESULT
3	WSC WEED SPECIES	VERY LOW	MAJOR > 10%	86.3%	REMOVE
4	WSC WEED SPECIES	VERY LOW	MAJOR > 10%	46.8%	REMOVE
6	EXOTIC	LOW	MINOR < 10%	6.4%	RETAIN & PROTECT
7	EXOTIC	LOW	MINOR < 10%	0.6%	RETAIN & PROTECT

10.3 ADDITIONAL TREES TO BE REMOVED

Irrespective of the proposed development, the following trees are recommended for removal. The author can demonstrate that the trees are rated as a Low, Very Low or Insignificant Landscape Significance, and the trees are either:

- 1. Dead, dying, suppressed or dangerous;
- 2. Inappropriate to the context of the site;
- 3. Exempt under the provisions of the DCP;
- 3. Transient (small live crown ratio and can be replaced in the short term); or
- 4. An environmental weed (State or Local).

Table 2: Removal Schedule

TREE NO.	TYPE	RETENTION VALUE	STATUS
5A	WINGECARRIBEE SHIRE COUNCIL WEED SPECIES	VERY LOW	LOCAL WEED SPECIES
5B	WINGECARRIBEE SHIRE COUNCIL WEED SPECIES	VERY LOW	LOCAL WEED SPECIES
5C	WINGECARRIBEE SHIRE COUNCIL WEED SPECIES	VERY LOW	LOCAL WEED SPECIES
5D	WINGECARRIBEE SHIRE COUNCIL WEED SPECIES	VERY LOW	LOCAL WEED SPECIES
5E	WINGECARRIBEE SHIRE COUNCIL WEED SPECIES	VERY LOW	LOCAL WEED SPECIES

11. DISCUSSION

11.1 T3 and T4 are identified as *Populus alba* (Silver Poplar) species, a locally listed weed. The subject trees are impacted by the proposal and not retainable; however, they contain significant structural defects that reduce sustainability and pose a potential threat to persons and property (figure 7).

11.2 T5a to 5e are suckered weed species derived from T3 and T4 and are recommended for removal to control the invasive species.

11.6 A full assessment of the neighbouring trees was not possible due to restricted access; therefore, the DBH has been estimated by the author. The subject tree species are highly tolerant to construction disturbance, and any discrepancies in the estimation will not result in an impact outside the 10% allowance.

11.3 All street and neighbouring trees are retainable under the current proposal.

Figure 7: T4 (Nadin, 2020).

Figure 8: Neighbouring vegetation (Nadin, 2020)

12. RECOMMENDATIONS

12.1 CONSENT AUTHORITY

Consent from Wingecarribee Shire Council must be obtained prior to the pruning or removal of any trees on the site. Upon the issue of development consent for the proposed development, the Conditions of Consent regarding tree management must be carefully reviewed. The recommendations outlined in this report are ***not*** an assurance of removal or retention.

12.2 TREES RECOMMENDED FOR REMOVAL

The following seven (7) trees are recommended for removal:

- T3, T4 T5A, T5B, T5C, T5D and T5E.

12.3 TREES RECOMMENDED FOR RETENTION AND PROTECTION

The following seven (7) trees are to be retained and protected in accordance with the Tree Protection Conditions in Appendix 4:

- T1, T2, T6, T7, T8, T9 and T10.

12.4 TREES RECOMMENDED FOR REPLACEMENT

Due to the intensive development of the site, replacement planting is not supported. However, it is recommended that an appropriate landscaping plan is prepared to support the biodiversity of the broader landscape and improve the aesthetic quality of the site.

13. CONCLUSION

This Arboricultural Impact Assessment has been prepared for the proposed residential development of 4 Cypress Parade, Bowral NSW 2576.

Two (2) trees are adversely impacted and not retainable under the current proposal. Irrespective of the proposed development footprint, a further five (5) trees are identified as a local weed species and are recommended for removal.

Seven (7) individual trees, including all neighbouring and street trees, are retainable under the current proposal.

The Tree Protection Conditions have been prepared in accordance with *Australian Standard AS 4970-2009 Protection of Trees on Development Sites.* Subject only to the Tree Protection Conditions being implemented as prescribed, the author is satisfied that all retained trees will remain sustainable.

The author is satisfied that the proposed development footprint does not impact significant, sustainable trees, and a design review is not recommended under the current proposal.

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22nd July 2021.

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APPENDIX 1: TREE ASSESSMENT SCHEDULE

Table 3: Tree Assessment Data – 20th July 2021.

TREE NUMBER	LOCATION	BOTANICAL NAME	COMMON NAME	HEIGHT (m)	CANOPY (m)				CROWN DENSITY	CROWN CLASS	DBH (m)	BASE (m)	TYPE	AGE CLASS	STRUCTURE	PEST OR DISEASE	SULE RATING	SULE SUB-RATING	L/ SIGNIFICANCE	RETENTION VALUE	HABITAT	TPZ (m)	SRZ (m)	ENCROACHMENT	ENCROACHMENT %	PRIMARY IMPACT	COMMENT	RESULT
					NORTH	SOUTH	EAST	WEST																				
1	ROADSIDE VERGE	*Platanus × acerifolia*	London Plane	12	4.0	4.0	4.0	4.0	DORMANT	DOMINANT	0.280	0.350	EXOTIC	SEMI-MATURE	FAIR	NO EVIDENCE	1. LONG - OVER 40 YEARS	(a) - Structurally sound trees located in positions that can accommodate future growth.	4. MODERATE	MODERATE	NO HABITAT SIGHTED	3.36	2.13	NO IMPACT	0.00%	NO IMPACT	Typical of the species with no notable defects.	The subject tree is retainable subject to tree protection conditions.
2	ROADSIDE VERGE	*Platanus × acerifolia*	London Plane	7	2.5	2.5	2.5	2.5	DORMANT	DOMINANT	0.190	0.260	EXOTIC	SEMI-MATURE	FAIR	NO EVIDENCE	1. LONG - OVER 40 YEARS	(a) - Structurally sound trees located in positions that can accommodate future growth.	4. MODERATE	MODERATE	NO HABITAT SIGHTED	2.28	1.88	NO IMPACT	0.00%	NO IMPACT	Typical of the species with no notable defects.	The subject tree is retainable subject to tree protection conditions.
3	ON-SITE	*Populus alba*	Silver Poplar	14	5.0	1.0	5.0	5.0	DORMANT	CO-DOMINANT	0.700	0.770	WSC WEED SPECIES	MATURE	POOR	NO EVIDENCE	5. REMOVE	(a) - Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.	6. VERY LOW	VERY LOW	NO HABITAT SIGHTED	8.40	2.97	MAJOR > 10%	86.30%	BUILDING FOOTPRINT	The subject tree deviates from the typical form due to pollarding. In addition, significant dieback in the central leader was observed.	Irrespective of the proposed development footprint, the subject tree is no longer sustainable, and removal is recommended.

TREE NUMBER	LOCATION	BOTANICAL NAME	COMMON NAME	HEIGHT (m)	CANOPY (m)				CROWN DENSITY	CROWN CLASS	DBH (m)	BASE (m)	TYPE	AGE CLASS	STRUCTURE	PEST OR DISEASE	SULE RATING	SULE SUB-RATING	L/ SIGNIFICANCE	RETENTION VALUE	HABITAT	TPZ (m)	SRZ (m)	ENCROACHMENT	ENCROACHMENT %	PRIMARY IMPACT	COMMENT	RESULT
					NORTH	SOUTH	EAST	WEST																				
4	ON-SITE	*Populus alba*	Silver Poplar	14	2.0	3.0	6.0	5.0	DORMANT	CO-DOMINANT	0.800	0.960	WSC WEED SPECIES	MATURE	POOR	BORER	5. REMOVE	(c) - Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.	6. VERY LOW	VERY LOW	NO HABITAT SIGHTED	9.60	3.25	MAJOR > 10%	46.80%	BUILDING FOOTPRINT	The subject tree deviates from the typical form due to pollarding. A significant cavity extending from the base to approximately 2m was observed. The central leader is dead.	Irrespective of the proposed development footprint, the subject tree is no longer sustainable, and removal is recommended.
5x5	ON-SITE	*Populus alba*	Silver Poplar	8	1.5	1.5	1.5	1.5	DORMANT	CO-DOMINANT	0.150	0.200	WSC WEED SPECIES	MATURE	POOR	HEDERA HELIX (IVY)	5. REMOVE	(e) - Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or provide space for a new planting.	6. VERY LOW	VERY LOW	NO HABITAT SIGHTED	2.00	1.68	NO IMPACT	0.00%	NO IMPACT	Small suckered growth extending along the Western boundary line. A comprehensive assessment was not possible due to dense Ivy.	Irrespective of the proposed development footprint, the subject tree is not considered appropriate to the context of the site and removal is recommended.
6	NEIGHBOURING PROPERTY	*Cupressus macrocarpa*	Monterey Cypress	10	1.0	2.0	2.0	2.0	PARTIAL 40 - 85%	CO-DOMINANT	0.600	0.650	EXOTIC	MATURE	UNDETERMINED	NO EVIDENCE	2. MEDIUM - 15 TO 40 YEARS	(b) - Trees that may live for more than 40 years but may be removed for safety or nuisance reasons.	5. LOW	LOW	NO HABITAT SIGHTED	7.20	2.76	MINOR < 10%	6.40%	BUILDING FOOTPRINT	The DBH was estimated due to a lack of access from neighbouring construction activities. No notable defects were observed.	The subject tree is retainable subject to tree protection conditions.

TREE NUMBER	LOCATION	BOTANICAL NAME	COMMON NAME	HEIGHT (m)	CANOPY (m)				CROWN DENSITY	CROWN CLASS	DBH (m)	BASE (m)	TYPE	AGE CLASS	STRUCTURE	PEST OR DISEASE	SULE RATING	SULE SUB-RATING	L/ SIGNIFICANCE	RETENTION VALUE	HABITAT	TPZ (m)	SRZ (m)	ENCROACHMENT	ENCROACHMENT %	PRIMARY IMPACT	COMMENT	RESULT
					NORTH	SOUTH	EAST	WEST																				
7	NEIGHBOURING PROPERTY	*Cupressocyparis leylandii*	Leighton Green	10	4.0	2.0	4.0	4.0	PARTIAL 40 - 85%	CO-DOMINANT	0.600	0.650	EXOTIC	MATURE	UNDETERMINED	NO EVIDENCE	2. MEDIUM - 15 TO 40 YEARS	(b) - Trees that may live for more than 40 years but may be removed for safety or nuisance reasons.	6. VERY LOW	LOW	NO HABITAT SIGHTED	7.20	2.76	MINOR < 10%	0.60%	BUILDING FOOTPRINT	The DBH was estimated due to a lack of access from neighbouring construction activities. No notable defects were observed.	The subject tree is retainable subject to tree protection conditions.
8	NEIGHBOURING PROPERTY	*Cupressocyparis leylandii*	Leighton Green	6	2.0	1.0	2.0	2.0	PARTIAL 40 - 85%	CO-DOMINANT	0.160	0.180	EXOTIC	SEMI-MATURE	FAIR	NO EVIDENCE	2. MEDIUM - 15 TO 40 YEARS	(b) - Trees that may live for more than 40 years but may be removed for safety or nuisance reasons.	6. VERY LOW	LOW	NO HABITAT SIGHTED	2.00	1.61	NO IMPACT	0.00%	NO IMPACT	The DBH was estimated due to a lack of access from neighbouring construction activities. No notable defects were observed.	The subject tree is retainable subject to tree protection conditions.
9	NEIGHBOURING PROPERTY	*Cupressocyparis leylandii*	Leighton Green	6	2.0	1.0	2.0	2.0	PARTIAL 40 - 85%	CO-DOMINANT	0.160	0.180	EXOTIC	SEMI-MATURE	FAIR	NO EVIDENCE	2. MEDIUM - 15 TO 40 YEARS	(b) - Trees that may live for more than 40 years but may be removed for safety or nuisance reasons.	6. VERY LOW	LOW	NO HABITAT SIGHTED	2.00	1.61	NO IMPACT	0.00%	NO IMPACT	The DBH was estimated due to a lack of access from neighbouring construction activities. No notable defects were observed.	The subject tree is retainable subject to tree protection conditions.
10	NEIGHBOURING PROPERTY	*Cupressocyparis leylandii*	Leighton Green	6	2.0	1.0	2.0	2.0	PARTIAL 40 - 85%	CO-DOMINANT	0.160	0.180	EXOTIC	SEMI-MATURE	FAIR	NO EVIDENCE	2. MEDIUM - 15 TO 40 YEARS	(b) - Trees that may live for more than 40 years but may be removed for safety or nuisance reasons.	6. VERY LOW	LOW	NO HABITAT SIGHTED	2.00	1.61	NO IMPACT	0.00%	NO IMPACT	The DBH was estimated due to a lack of access from neighbouring construction activities. No notable defects were observed.	The subject tree is retainable subject to tree protection conditions.

APPENDIX 2: CRITERIA FOR ASSESSMENT OF LANDSCAPE SIGNIFICANCE

Table 4: Criteria for Landscape Assessment Matrix (Morton, Determining the Retention Value of Trees, 2006).

1. SIGNIFICANT	• The subject tree is listed as a Heritage Item under the Local Environment Plan (LEP) with a local, state or national level of significance; **or** • The subject tree forms part of the curtilage of a Heritage Item (building /structure /artifact as defined under the LEP) and has a known or documented association with that item; **or** • The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event; **or** • The subject tree is scheduled as a Threatened Species or is a key indicator species of an Endangered Ecological Community as defined under the Threatened Species Conservation Act 1995 (NSW) or the Environmental Protection and Biodiversity Conservation Act 1999; **or** • The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter or nesting tree for endangered or threatened fauna species; **or** • The subject tree is a Remnant Tree, being a tree in existence prior to development of the area; **or** • The subject tree has a very large live crown size exceeding 300m² with normal to dense foliage cover, is located in a visually prominent in the landscape, exhibits very good form and habit typical of the species and makes a significant contribution to the amenity and visual character of the area by creating a sense of place or creating a sense of identity; **or** • The tree is visually prominent in view from surrounding areas, being a landmark or visible from a considerable distance.
2. VERY HIGH	• The tree has a strong historical association with a heritage item (building/structure/artifact/garden etc) within or adjacent the property and/or exemplifies a particular era or style of landscape design associated with the original development of the site; or • The subject tree is listed on Council's Significant Tree Register; or • The tree is a locally indigenous species and representative of the original vegetation of the area and the tree is located within a defined Vegetation Link / Wildlife Corridor or has known wildlife habitat value; **or** • The subject tree has a very large live crown size exceeding 200m²; a crown density exceeding 70% Crown Cover (normal-dense), is a very good representative of the species in terms of its form and branching habit or is aesthetically distinctive and makes a positive contribution to the visual character and the amenity of the area.
3. HIGH	• The tree has a suspected historical association with a heritage item or landscape supported by anecdotal or visual evidence; **or** • The tree is a locally indigenous species and representative of the original vegetation of the area; **or** • The subject tree has a large live crown size exceeding 100m²; **and** • The tree is a good representative of the species in terms of its form and branching habit with minor deviations from normal (eg crown distortion/suppression) with a crown density of at least 70% Crown Cover (normal); **and** • The subject tree is visible from the street and surrounding properties and makes a positive contribution to the visual character and the amenity of the area.
4. MODERATE	• The subject tree has a medium live crown size exceeding 40m²; **and** • The tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc) with a crown density of more than 50% Crown Cover (thinning to normal); **and** • The tree makes a fair contribution to the visual character and amenity of the area; **and** • The tree is visible from surrounding properties but is not visually prominent – view may be partially obscured by other vegetation or built forms. • The tree has no known or suspected historical association.
5. LOW	• The subject tree has a small live crown size of less than 40m² and can be replaced within the short term with new tree planting; **or** • The tree is a poor representative of the species, showing significant deviations from the typical form and branching habit with a crown density of less than 50% Crown Cover (sparse); **and** • The subject tree is not visible from surrounding properties (visibility obscured) and makes a negligible contribution or has a negative impact on the amenity and visual character of the area.
6. VERY LOW	• The subject tree is listed as an Environment Weed Species in the relevant Local Government Area, being invasive, or a nuisance species. • The subject tree is scheduled as exempt (not protected) under the provisions of the local Council's Tree Preservation Order due to its species, nuisance or position relative to buildings or other structures.
7. INSIGNIFICANT	• The tree is a declared Noxious Weed under the Noxious Weeds Act (NSW) 1993

APPENDIX 3: CRITERIA FOR THE ASSESSMENT OF SULE

Table 5: Criteria for SULE and Sub-categories

SAFE USEFUL LIFE CATEGORIES AND SUB CATEGORIES				
LONG SULE Trees that appear to be retainable with an acceptable level of risk for more than 40 years.	**MEDIUM SULE** Trees that appear to be retainable with an acceptable level of risk for 15 to 40 years.	**SHORT SULE** Trees that appear to be retainable with an acceptable level of risk for 5–15 years.	**TRANSIENT < 5 YEARS** Small trees or less than 5 years of age. Trees that can be moved or replaced	**REMOVE** Trees with a high level of risk that would need removing within the next 5 years.
(a) Structurally sound trees located in positions that can accommodate future growth.	(a) Trees that may only live between 15 and 40 more years.	(a) Trees that may only live between 5 and 15 more years.	(a) Small trees less than 5 meters in height.	(a) Dead, dying suppressed or declining trees because of disease or hospitable conditions.
(b) Trees that could be made suitable for retention in the long-term by remedial tree care.	(b) Trees that may live for more than 40 years but may be removed for safety or nuisance reasons.	(b) Trees that may live for more than 15 years but may be removed for safety or nuisance reasons.	(b) Young trees less than 15 years old but over 5 meters.	(b) Dangerous trees through instability or the recent loss of adjacent trees.
(c) Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.	(c) 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 plantings.	(c) Trees that may live for more than 15 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	(c) Formal hedges and trees intended for regular pruning to artificially control growth.	(c) Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.
	(d) Trees that could be made suitable for retention in the medium term by remedial tree care.	(d) Trees that require substantial remedial tree care and are only suitable for retention in the term.		(d) Damaged trees that are clearly not safe to retain.
				(f) Trees that are damaging or may cause to existing structures within 5 years.
				(g) Trees that will become dangerous after removal of other trees for the reasons given in (a) to (e).
				(h) Trees in category (a) to (g) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.

APPENDIX 4: TREE PROTECTION CONDITIONS

A copy of these conditions must be available prior to the commencement of works and throughout the project.

1. CONDITIONS OF CONSENT

Consent from the Wingecarribee Shire Council ***must*** be obtained prior to the pruning or removal of any trees on the site.

Upon the issue of development consent for the proposed development, the Conditions of Consent regarding tree management must be carefully reviewed. The recommendations outlined in this report are ***not*** an assurance of removal or retention.

2. SCHEDULE OF WORKS

The proposed work schedule has been prepared to ensure the recommendations presented in this report are strictly observed.

It is the intention of this report that actions are to be undertaken in accordance with the following:

- *Work Health and Safety Act, 2011,*
- *Work Health and Safety Regulations; 2011,*
- *Safe Work Australia Guide to Managing Risks of Tree Trimming and Removal Work, 2016*
- *AS: 4970-2009 Protection of Trees on Development Sites, 2009*
- *AS: 4373 -2007 Pruning of Amenity Trees, and*
- *AS: 4454 -2012 Composts, Soil Conditioners and Mulch* (Standards Australia, 2015).

3. PROJECT MANAGEMENT

Prior to the commencement of any civil works, an AQF V Consulting Arborist shall be appointed to oversee the tree protection works and any works within the Tree Protection Zones or Root Protection Zones of the subject trees.

Supervision of all works within the TPZ is required to ensure that protection measures specified in these conditions are adhered to and mitigate any potential decline in tree health and recommend any remediation measures required.

Certification of the works, including any remediation measures, are to be provided to Council.

3.1 ON-SITE PERSONNEL

It is the principal contractor responsibility is to ensure the Tree Protection Measures are strictly adhered to and all construction personnel (supervisors, contractors, labourers, machinery operators, truck drivers) are made aware of these Tree Protection Conditions.

Figure 9: Indicative TPZ fencing layout denoted in orange (Nadin, 2020)

5. GENERAL TREE PROTECTION WORKS

All trees to be retained must be protected in accordance with *Australian Standards- Protection of Trees on Development Sites (AS 4970-2009).*

Prior to any tree removal, the project arborist and site manager should confirm that all marked trees correspond with trees denoted in section 10.1, Tree Location and TPZ Incursion Plan.

Trees approved for removal or transplanting should be marked on-site and documented in the Tree Location Plan.

An exclusion zone must be established along the TPZ perimeters of the subject trees prior to works commencing.

The TPZ allowance surrounding the radius of all trees to be retained has been identified in the TPZ Plan (Figure 9).

The TPZ fencing is to be installed around the perimeter of these zones and in accordance with *AS: 4373:2007.*

Variations to the design and type of the fencing or any movement of the TPZ fencing is strictly prohibited unless authorised by the project arborist.

5.1 RESTRICTED ACTIVITY WITHIN THE TREE PROTECTION ZONE

The following activities are strictly prohibited within the specified Tree Protection Zone:

- mechanical removal of vegetation, including the extraction of stumps;
- mechanical excavation including trenching;
- erection of site sheds and waste receptacles;
- storage or dumping of building materials such as gravel, road base and the like;
- preparation or disposal of any toxic chemicals, including cement, fuel, oil and solvents;
- movement and parking of vehicles and plant without ground protection;
- refuelling of mechanical equipment;
- wash down and cleaning of equipment;
- stockpiling demolition waste, spoil or fill;
- the lighting of fires;
- soil level changes;
- temporary or permanent installation of utilities and signs; and
- any other activity likely to cause physical damage to the tree or roots.

  (Standards Australia, 2009).

5.2 FENCING AND SCAFFOLDING TYPE

All TPZ fencing or scaffolding is to be installed prior to any works commencing and designed and installed in accordance with 4.3 of *AS 4970-2009*, prior to any works commencing, and:

- Any variations to the fencing or scaffolding type and any movement is strictly prohibited unless authorised by the project arborist;
- Where scaffolding is required, it should be erected outside the TPZ;
- Where it is essential for scaffolding to be erected within the TPZ, branch removal should be minimised; This can be achieved by designing scaffolding to avoid branches or tying back branches;
- Where pruning is unavoidable, it must be specified by the project arborist in accordance with AS 4373;
- The ground below the scaffolding should be protected by boarding (e.g. scaffold board or plywood sheeting); and
- Any boarding should be placed over a layer of mulch and waterproof sheeting to prevent soil contamination and compaction and remain in situ during the construction phase.

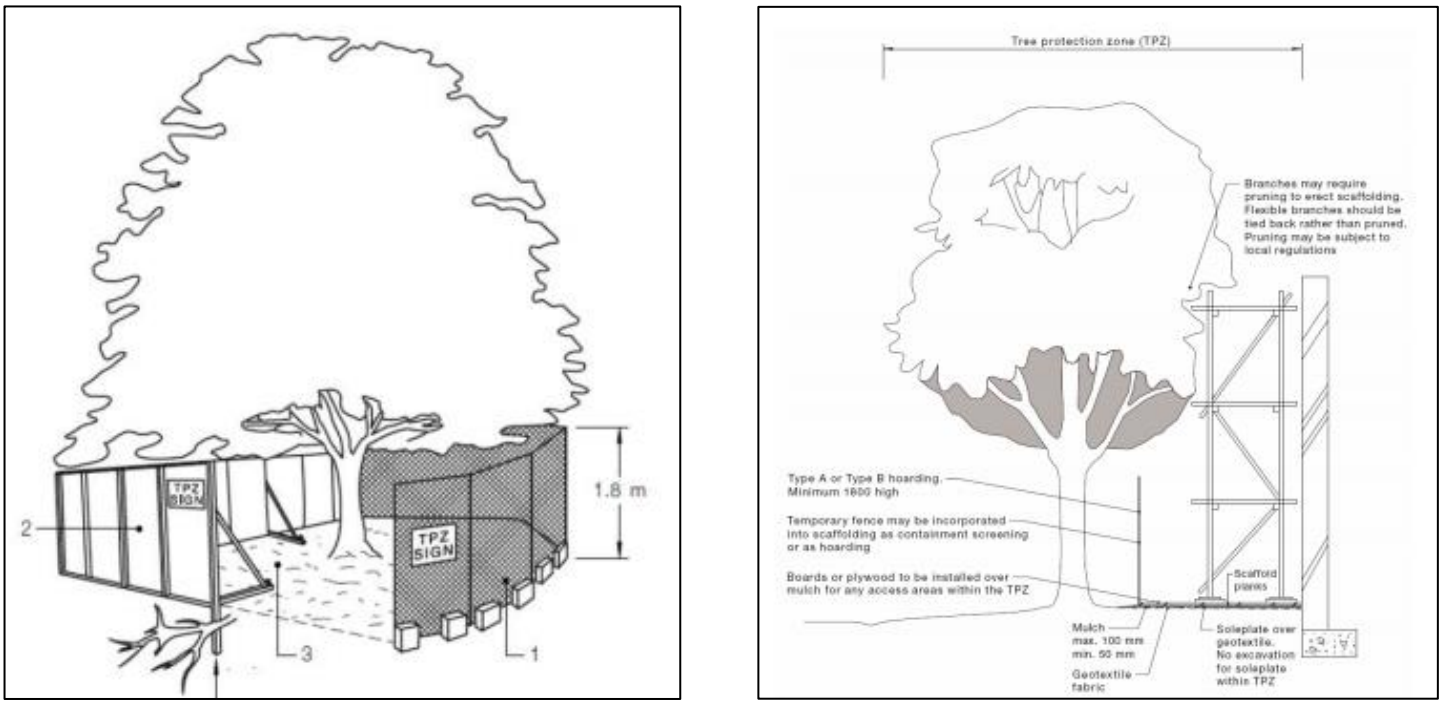

Figure 10: TPZ Fencing and scaffolding Specifications (Standards Australia, 2009).

5.3 SIGNS

Signs identifying the Tree Protection Zone are to be placed around the Tree Protection Fencing perimeter to prevent unauthorised access.

The signs are to have the project arborist's contact details clearly identifiable and shall be highly visible throughout the duration of the project and securely attached using cable ties or an equivalent product.

5.4 BRANCH AND TRUNK PROTECTION

No pruning of branches is to occur without prior consent from the Council.

Where deemed necessary, trunk and branch protection must be installed prior to any works commencing, and the project arborist will specify the materials and methodology.

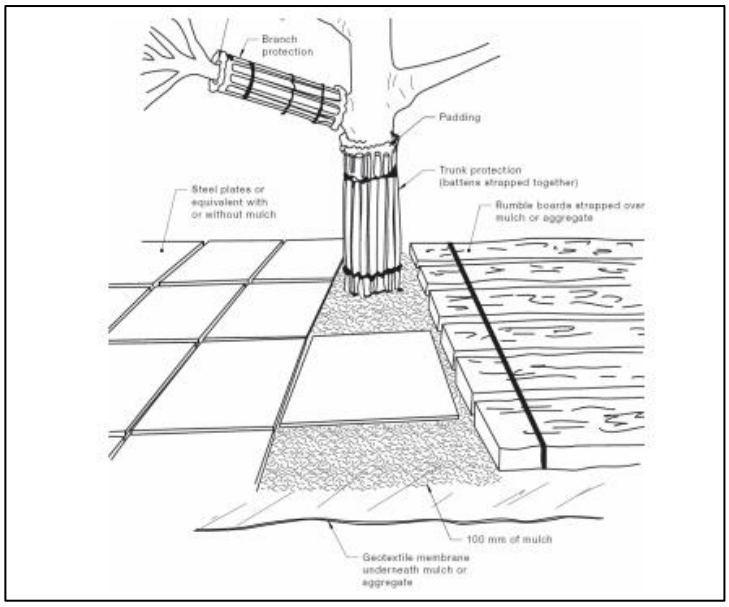

Figure 11: Branch and trunk Protection example (Standards Australia, 2009).

5.5 SITE ACCESS AND EGRESS

Access and egress shall be reduced to one area to minimise compaction and encroachment of the site's TPZ areas. The erection of fencing is not permitted around any TPZ zones for means of access or egress without the prior consent of the project arborist.

5.6 INSTALLING UNDERGROUND SERVICES WITHIN THE TPZ

If applicable, all excavation within the TPZ must be undertaken under the project arborist's direct supervision.

All excavation within the TPZ must be either undertaken by hand or using non - destructive dry hydro excavation methodology and under the project arborist's direct supervision. There shall be no use of strip excavation construction adjacent to or within the TPZ of any retained tree.

If machinery is required, the trenching must be undertaken with a gummy bucket and rubber skid steer tracks with a maximum weight of three (3) tonnes. The machinery is to be operated in a backward direction toward the extremity of the defined TPZ area.

Natural soil levels are to be retained with no change to the gradient. Topsoil removed from the site is preferable for backfilling the trench. If adequate topsoil cannot be retrieved from the site, general-purpose garden soil is to be used.

Upon completion of backfilling, the area of the TPZ is to be watered, and the area of excavation is to be mulched to a depth no greater than 100 mm.

5.7 TREE WORKS

All tree removal, pruning, crown uplifting, crown reduction, thinning, dead wooding and stump grinding must be conducted by an AQF level III Arborist.

If applicable, trees that have been approved for removal or transplanting should be marked on-site and documented in the Tree Location Map.

Before removal, the Project Arborist and Site Manager should confirm that all marked trees correspond with trees denoted in the Tree Location Map.

5.8 GROUND PROTECTION

To prevent possible soil compaction and root damage within the TPZ, all machinery is to operate, where possible, outside the defined TPZ zone and operated in a backward direction toward the extremity of any defined TPZ area.

For temporary access within the TPZ, a layer of mulch no greater than 150 mm, timber boards or interlocked steel plates on 100 - 150 mm of mulch or gravel on a geotextile base is to be applied at the indiscretion of the Project Arborist.

All machinery must use rubber tracked skid steer tracks to distribute the machinery weight and reduce the likelihood of compaction.

5.9 BOARDING OF TEMPORARY ROADWAYS

Where the protection zone requires a reduction to accommodate a temporary road, the road surface should be boarded to a distance agreed to by the arborist and the project manager.

An alternative to boards would be 150mm of mulch or 100mm of gravel on a geotextile base (17,18). If scaffolding is necessary close to or within a protection zone, erect additional fencing to provide sufficient space for the scaffolding. Leave the ground between the fence and the building works undisturbed and protected by boarding. Cover the ground first with geotextile fabric and then a layer of sand (50mm plus) to allow levelling of the boards. Leave the boards in place until the building works are completed (4)

5.9 ROOT PROTECTION

Where the project arborist identifies roots to be pruned within or on the outer edge of the TPZ, they shall be pruned with a final cut to undamaged wood. Pruning cuts shall be made with a sharp tool. Pruning wounds shall NOT be treated with dressings or paints (Standards Australia, 2009).

No roots are to be cut without prior consent from the project arborist, regardless of size.

The cutting of roots is to be avoided with the preference for the installation of the service pipe to go under all roots where possible.

Where roots are exposed within the TPZ by excavation, multiple layers of damp hessian sheeting shall be used to cover all exposed roots to prevent drying. The moisture levels are to be maintained throughout this process.

5.10 BOARDING OF TEMPORARY ROADWAYS

Where the protection zone has had to be reduced to accommodate a temporary road, the road surface should be boarded to a distance agreed to by the arborist and the project manager.

An alternative to boards would be 150mm of mulch or 100mm of gravel on a geotextile base. If scaffolding is necessary close to or within a protection zone, erect additional fencing to provide sufficient space for the scaffolding. Leave the ground between the fence and the building works undisturbed and protected by boarding. Cover the ground first with geotextile fabric and then a layer of sand (50mm plus) to allow levelling of the boards. Leave the boards in place until the building works are completed.

5.11 TREE PRUNING

The minimum pruning required to accommodate any proposal is preferable. For example, removing a small portion of the crown (foliage and branches) is acceptable, provided that the extent of pruning is less than 10% of the total foliage volume and does not alter the natural form and habit of the tree.

All tree removal, pruning, crown uplifting, crown reduction, thinning, dead wooding and stump grinding must be conducted by an AQF level III Arborist.

5.12 STUMP REMOVAL

Stumps located within the TPZs of trees to be retained shall be grubbed-out where required by hand or using a mechanical stump grinder and in a manner that does not damage trees retained tree roots.

Where trees or stumps are to be removed within the SRZ of any trees to be retained, consideration should be given to cutting the stump close to ground level and retaining the root crown intact.

Trees and stumps within the Tree Protection Zone of other trees to be retained shall not be pulled out using excavation equipment.

All directional drilling, if required, shall be undertaken at a minimum depth of 1200 mm and in accordance with *AS 4970-2009* section 4.5.5.

5.13 FAUNA PROTECTION

Any clearing of trees, shrubs or groundcovers (including weeds) within the site lands should be conducted to ensure no fauna is harmed or displaced.

Any injured native fauna shall be rescued and transferred to the care of the NSW Wildlife Information, Rescue and Education Service WIRES (Ph: 1300 094 737).

5.14 HYGIENE PROTOCOL

As a precautionary measure, hygiene procedures are essential across the site. Such hygiene protocols have the additional benefit of limiting the potential to facilitate the introduction or spread of weed propagules throughout the area of the site.

Basic principles include avoiding transport of sediment onto and off-site by cleaning all work clothing, gloves, tools and machinery. In some cases, a solution of 70% ethanol or methylated spirits in 30% water may be sufficient to disinfect equipment prior to use.

The report, 'Arrive Clean, Leave Clean' (Commonwealth of Australia , 2015) provides further information and best practice methods to reduce the spread of these pathogens from the adjoining lands.

5.15 GREEN WASTE

All green waste derived from the project shall either be retained and used on-site; or chipped and removed from the site and treated at a licenced green waste facility.

5.16 MULCH

The area within the Tree Protection Zone shall be mulched as instructed by the Project Arborist. The mulch must be maintained to a maximum depth of 100 mm using a material that complies with *AS: 4454 -2012 Composts, Soil Conditioners and Mulch* (Standards Australia, 2015).

5.17 WATERING

The Project Arborist shall regularly monitor soil moisture levels. Temporary irrigation or watering may be required within the Tree Protection Zone. Any form of irrigation should be installed and maintained by a competent individual (Standards Australia, 2009).

5.18 WEED REMOVAL

Weed management aims to remove and control all environmental and priority weeds that occur within the subject site and prevent further encroachment of weeds from adjoining areas.

Specific "duties" under the *Biodiversity Act (2015)* regarding mandatory measures, regional measures, prohibited matter or biosecurity zones may apply.

Where a weed species is identified, the control and management protocols outlined by the NSW Department of Primary Industries will be followed.

Ground weeds should be removed by hand and without soil disturbance or controlled by a suitable herbicide.

5.19 REPLACEMENT PLANTING

Replacement planting as per Council requirements must be undertaken prior to final Arboricultural Certification, and evidence of the replacement planting is to be provided with the certification.

6. REPORTING AND KEY PERFORMANCE INDICATORS

The project arborist determines the required Key Performance Indicators (KPIs). The Project Arborist will produce a certification report based on the monitoring undertaken within the site.

6.1 Following each hold point, the project arborist, shall prepare a report detailing the Tree Protection Zones and retained trees' condition.

6.2 These reports should certify whether the works have been completed according to the Tree Protection Conditions prepared according to *AS: 4970-2009 Protection of Trees on Development Sites.*

6.3 These reports should contain photographic evidence to demonstrate that the work has been carried out as specified.

6.4 Matters to be monitored and included in these reports should consist of tree condition, tree protection measures and impact of site works which may arise from changes to the approved plans.

6.5 Any areas of non-compliance shall be notified to Council if tree protection conditions have been breached.

6.6 Reports should contain precise remedial action specification to mitigate any adverse impact on the subject tree.

6.7 Certification will be granted upon the final inspection and completion of any remedial works.

Table 6: Certification Phases and Hold Points

STAGE	WORKS TO BE CERTIFIED
PRE-CONSTRUCTION	• Pre-construction inspection with all representatives prior to works commencing. • Documentation review of the conditions of consent issued by the consent authority. • Any variations to the consent conditions are addressed. • TPZ is established, fenced and mulched. • HOLD POINT • PRE-CONSTRUCTION CERTIFICATION IS ISSUED.
CONSTRUCTION PHASE	• Briefing with all relevant representatives by the project arborist prior to the commencement of works. • Inspection of all equipment is, as specified in the Tree Protection Conditions. • All works within the TPZ are to be supervised by the project arborist. • Periodic inspections as per Conditions of Consent. • The area of trenching has been restored and mulched. • Remediation works undertaken if required. • HOLD POINT • STAGE 2 PROGRESS CERTIFICATION COMPLETED.
POST-CONSTRUCTION	• Final inspection of trees by Project Arborist after all construction works have been completed and all landscaping- remedial works have been undertaken. • Removal of TPZ fencing. • FINAL CERTIFICATION IS ISSUED.