

ARBORICULTURAL IMPACT ASSESSMENT

SITE 340074
CHIRNSIDE PARK NORTHEAST

8 MEADOW FAIR WAY
CHIRNSIDE PARK
VIC 3116

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1.0 INTRODUCTION

- 1.1.1 Indara Digital Infrastructure has engaged Treespace Solutions Pty Ltd to provide an Arboricultural Impact Assessment for the proposed location of a telecommunications facility and compound at 8 Meadow Fair Way, Chirnside Park, site 340074 Chirnside Park Northeast.
- 1.1.2 Scope of work:
- Provide an impact assessment for the trees in proximity to the proposed lease site, facility location and the access track upgrade.
 - Provide recommendations to minimise tree impacts associated with the facility location, access track construction and the installation of services including tree pruning requirements.
- 1.1.3 The site and trees were assessed by Matthew Nees on 30 October 2023 using a TruPulse 200 / B laser height meter, Avalon 8X32 Mini HD Binoculars and a Richter 5m Fibreglass Diameter Tape. Full and direct access to the trees was available.

2.0 DISCUSSION

- 2.1.1 The proposed site for the telecommunications facility and compound is located in proximity to the south-eastern corner of the subject site 8 Meadow Fair Way, Chirnside Park adjacent to an established windrow of Monterey Cypress to the south and east.
- 2.1.2 The proposed site access track generally follows the existing track which initiates at the south-west property corner beside a stand of maturing Monterey Cypress. The track continues east along the southern boundary to a high point beside a mature Monterey Pine before descending to the aforementioned Monterey Cypress windrow. At this point, the track continues between the trees where visible evidence of the existing track disappears beneath pasture grass. From here the track will be directed toward the northeast away from the Monterey Cypress before again heading due east between a circular stand of Monterey Pine and the Monterey Cypress windrow to the lease area that's sits in an open clearing albeit approximately 5.7m from the north-south windrow of Monterey Cypress.
- 2.1.3 The assessed trees comprise of 5 groups and 12 individual trees.
- 2.1.4 Trees 5 and 6 are both positioned within the adjacent property in proximity to the south boundary and an existing metal shed. The balance of trees are positioned within the site boundaries.
- 2.1.5 The groups of trees comprise of the same species of trees with similar attributes and are generally offset from significant encroachment by the proposal. This includes the windrow's of Monterey Cypress, Monterey Pines and the small Apple trees.
- 2.1.6 The Monterey Cypress are generally well-established specimens in good health albeit with some variability within the group due to lesser specimens being out-competed for light and water resources as is typical for windrows in these circumstances.
- 2.1.7 The Monterey Pine trees are all in good general condition albeit with some variability in height and canopy spread.
- 2.1.8 The 2 groups of Apple trees comprise of one mature and one small-sized semi-mature group. These are low value specimens that have most likely self-seeded from a pre-existing orchard.

- 2.1.9 The individual specimens comprise of Monterey Cypress and Pines, a maturing Silver-leaved Stringybark Gum, a suppressed Black Sheoak, a self-seeded Desert Ash and a self-seeded Hawthorn. The trees have been assessed individually where the potential for a significant encroachment by the proposed access track exists.
- 2.1.10 The individual trees are generally in good condition with the exception of Trees 9 and 12, both of which are Monterey Cypress which have developed a poor form/structure due to competition from the adjoining windrow specimens.
- 2.1.11 Please refer to 10.0 Tree Data Table for further details.

3.0 AERIAL PHOTOGRAPH, LEASE PLAN & ACCESS TRACK

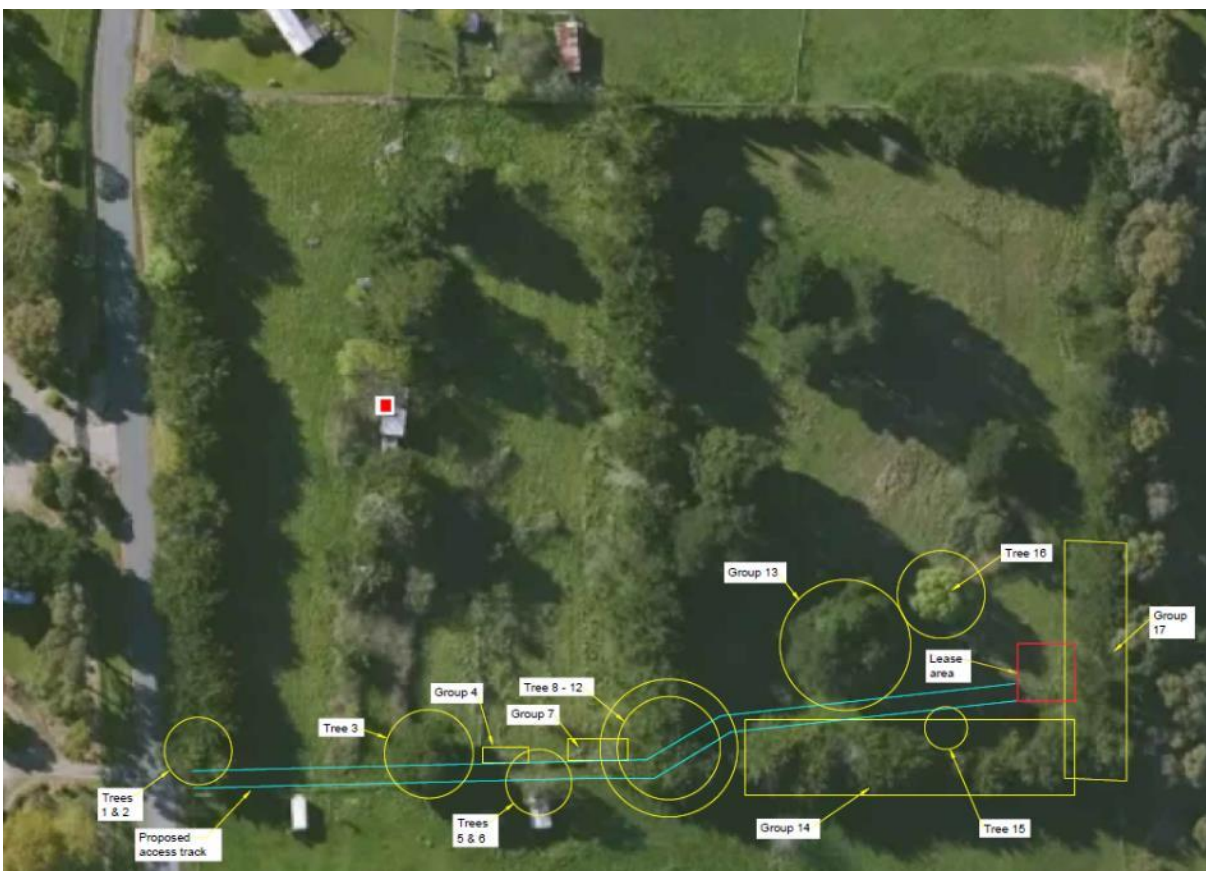


Figure 1: Aerial photograph Metromap 24 December 2022

4.0 PROPOSED ACCESS TRACK & FIBRE ROUTE

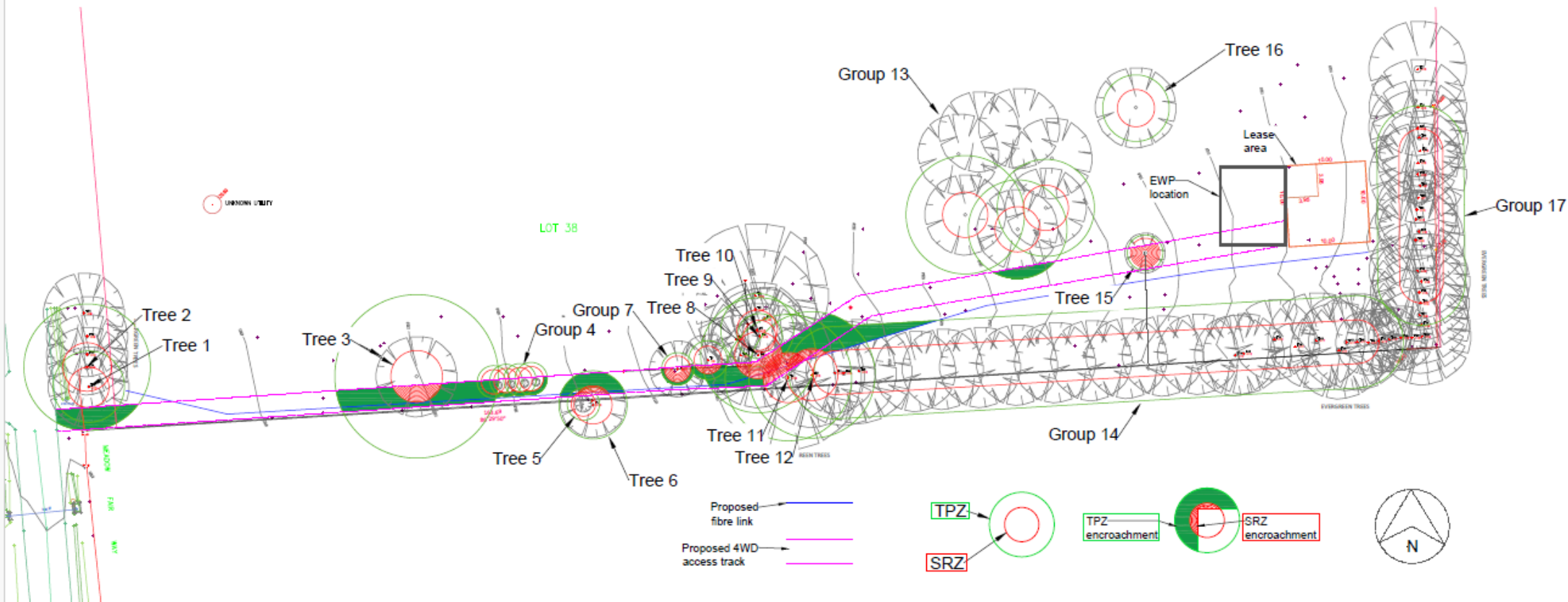


Figure 2: 340074-G1 Revision C Site & Locality Plans

5.0 TREE IMPACT ASSESSMENT

5.1.1 The assessment has been prepared with the following drawings:

- 340074-G1 Revision C *Site & Locality Plans* prepared by Indara Digital Infrastructure 24/06/2023

5.1.2 In accordance with AS4373-2009 Protection of trees on development sites, an encroachment up to 10% upon a TPZ is considered minor. An encroachment greater than 10% is considered major and has the potential to undermine the health and viability of the affected tree(s).

5.1.3 Under the current proposal the following impacts have been noted:

Table 1: Arboricultural Impact assessment

Tree	Taxon	Height (m)	Width (m)	Encroachment Major/Minor	Notes	Recommendations
1	<i>Hesperocyparis macrocarpa</i>	12	5	Major – Access Track	Structural roots visible at ground surface to be protected	- Above grade track construction - Uplift branches to accommodate plant to 4m
2	<i>Hesperocyparis macrocarpa</i>	12	8	Major – Access Track	Structural roots visible at ground surface	- Above grade track construction within TPZ - Outreaching limbs to be reduced to accommodate plant traffic
3	<i>Pinus radiata</i>	14	11	Major – Access track and fibre route	Tree positioned at high point on access track Exposed surface structural root in access track to be protected	- Directional boring within TPZ - Above grade track construction within TPZ - Uplift branches to accommodate plant to 4m - approximately 8/9 branches.
G4	<i>Malus x domestica</i>	2.5	2.5	Major – Access track	Removal may be required to accommodate track.	If outside of track footprint, above grade track construction within TPZ
5	<i>Allocasuarina littoralis</i>	4	2.5	Major – Access track and fibre route	Positioned beside T6 & 0.6m from boundary fence	- Above grade track construction within TPZ
6	<i>Eucalyptus cephalocarpa</i>	10	8	Major – Access track and fibre route	Responsible property owner accepts that canopy reduction of canopy will be required	- Directional boring within TPZ - Above grade track construction within TPZ - Outreaching limbs to be reduced to accommodate plant traffic - Uplift lower branches to 4m - 1 lower scaffold & 3 smaller branches within the access track space
G7	<i>Malus x domestica</i>	5	5	Major – Access track and fibre route	Removal may be required to accommodate track	If outside of track footprint - reduce canopies to boundary - Directional boring within TPZ - Above grade track construction
8	<i>Hesperocyparis macrocarpa</i>	10	8	Major – Access track and fibre route	First in line of hedge row. 0.5m from adjacent internal fence and 5m from side boundary	Remove to accommodate vehicle access adjacent to Tree 11
9	<i>Hesperocyparis macrocarpa</i>	10	3	Minor – Access track	Dominated by adjacent larger specimens	- Remove lowest scaffold branch
10	<i>Hesperocyparis macrocarpa</i>	18	7	Major – Access track	No pruning required.	- Above grade track construction within TPZ
11	<i>Hesperocyparis macrocarpa</i>	11	7	Major – Access track and fibre route	Scaffold extending into adjoining property may need to be removed depending upon direction of access.	- Directional boring within TPZ - Above grade track construction within TPZ - Removal of lower secondary stem to accommodate plant. - Minor lower canopy to be reduced
12	<i>Hesperocyparis macrocarpa</i>	9	9	Major – Access track and fibre route	Suppressed form from T11 with severe leaning stem toward track location	- Directional boring within TPZ - Above grade track construction within TPZ - Remove low leaning stem
G13	<i>Pinus radiata</i>	20	9	Minor – access track	Circular cluster with 3 specimens closest to access track.	- Above grade track construction within TPZ - Uplift lower canopies to accommodate plant movement
G14	<i>Hesperocyparis macrocarpa</i>	11	10	Major – fibre route	Lower branches to be pruned back to accommodate access track - very minor impact	- Directional boring within TPZ - Above grade track construction within TPZ - Uplift lower canopies to accommodate plant movement
15	<i>Crataegus monogyna</i>	4	5	Major – removal required	Positioned 14m from side boundary	- Low value weed species – removal required to accommodate access track

Tree	Taxon	Height (m)	Width (m)	Encroachment Major/Minor	Notes	Recommendations
16	<i>Fraxinus angustifolia</i> 'Raywood'	12	10	None	Positioned 15.5m from nearest compound corner	No action required
G17	<i>Hesperocyparis macrocarpa</i>	15	12	Minor		Canopy to be uplifted 3m for a 1m clearance from compound fence

6.0 CONCLUSIONS

6.1.1 Under the current proposal:

- The lease area and EWP locations do not encroach the TPZ of the adjacent Group 17 however, minor pruning of the lower canopy is required to accommodate the compound fencing.
- The removal of Groups 4, 7, 8 and Trees 15 will be required to accommodate the construction of the 4WD access track. Although Tree 8 is a medium value tree, its removal will be visually obscured in part, by Tree 11.
- Groups 4, 7 and Trees 15 are low value specimens which make an insignificant contribution to the site's landscape amenity.
- The 4WD access track makes a major/significant encroachment upon the TPZ of Trees 1, 2, 3, 5, 6, 10, 11, 12 and Group 14.
- The fibre route makes a major/significant encroachment upon the TPZ of Trees 3, 5, 6, 11, 12 and Group 14.
- The canopies of Trees 1, 2, 3, 6, 9, 11, 12 and Groups 13, 14 and 17.

7.0 RECOMMENDATIONS

- 7.1.1 Undertake the removal of Groups 4, 7, 8 and Tree 15 to accommodate construction of the 4WD access track.
- 7.1.2 Prior to construction of the 4WD, a site meeting between the site manager, Project Arborist and arboricultural contractor must take place to discuss the extent of pruning works (as specified in Table 1) to accommodate construction of the access track and plant access.
- 7.1.3 All pruning works are to be undertaken by a suitably qualified and experienced contractor in accordance with AS4373-2007 Pruning of amenity trees under the supervision of the Project Arborist.
- 7.1.4 Where within the TPZ of Trees 1, 2, 3, 5, 6, 10, 11, 12 and Group 14, exclude excavation and construct the 4WD access track above the natural grade.
- 7.1.5 Where within the TPZ of Trees 3, 5, 6, 11, 12 and Group 14, employ non-destructive excavation or boring to a minimum depth of 800mm (top of bore) for the installation of underground services/utilities.

8.0 PHOTOGRAPHS

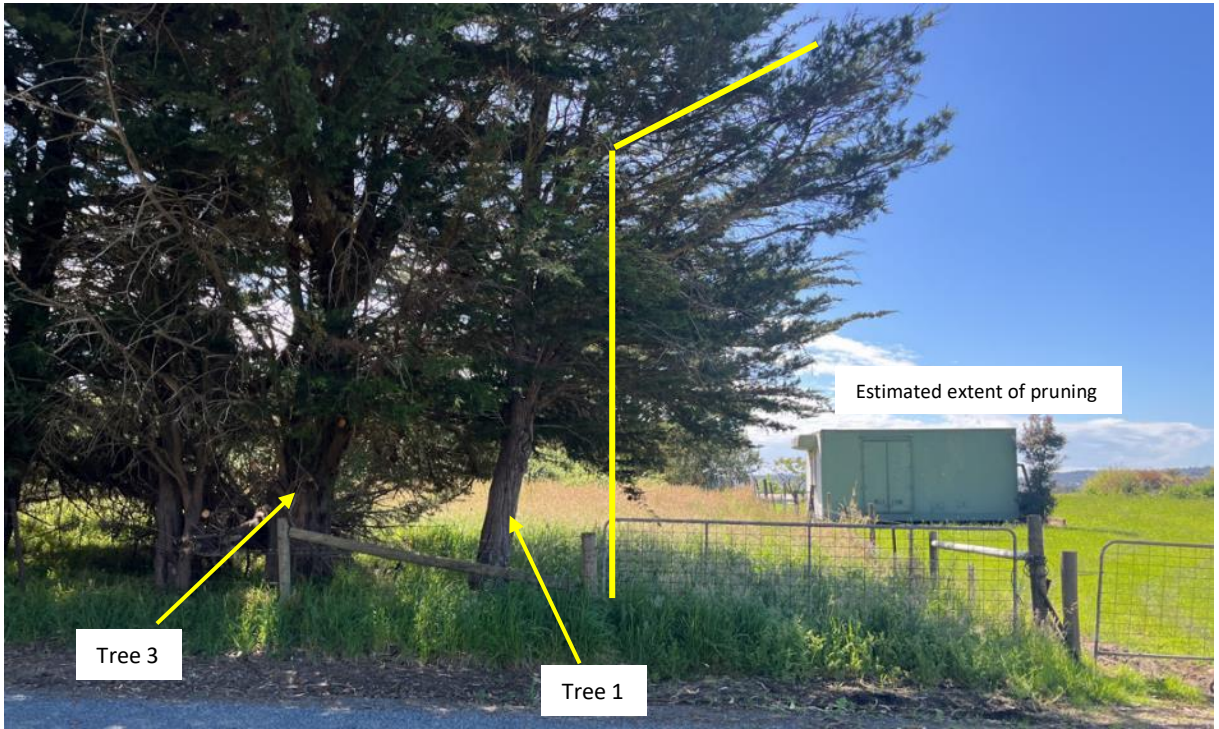


Figure 3: Viewing east toward Trees 1, 2 & access track entry gate



Figure 4: Viewing west toward Tree 3



Figure 5: Viewing east toward Group 4



Figure 6: Viewing north-east toward Tree 1 & proposed lease area



Figure 7: Viewing east toward Group 7



Figure 8: Viewing south-west toward the access route adjacent to Trees 8 & 11



Figure 9: Viewing north toward Trees 9 & 10



Figure 10: Viewing east toward Tree 11



Figure 11: Viewing east toward Tree 12



Figure 12: Viewing east toward Groups 13, 14 & Tree 15



Figure 13: Viewing east toward Groups 13



Figure 14: Viewing south toward Tree 15 - to be removed



Figure 15: Viewing north toward Tree 16

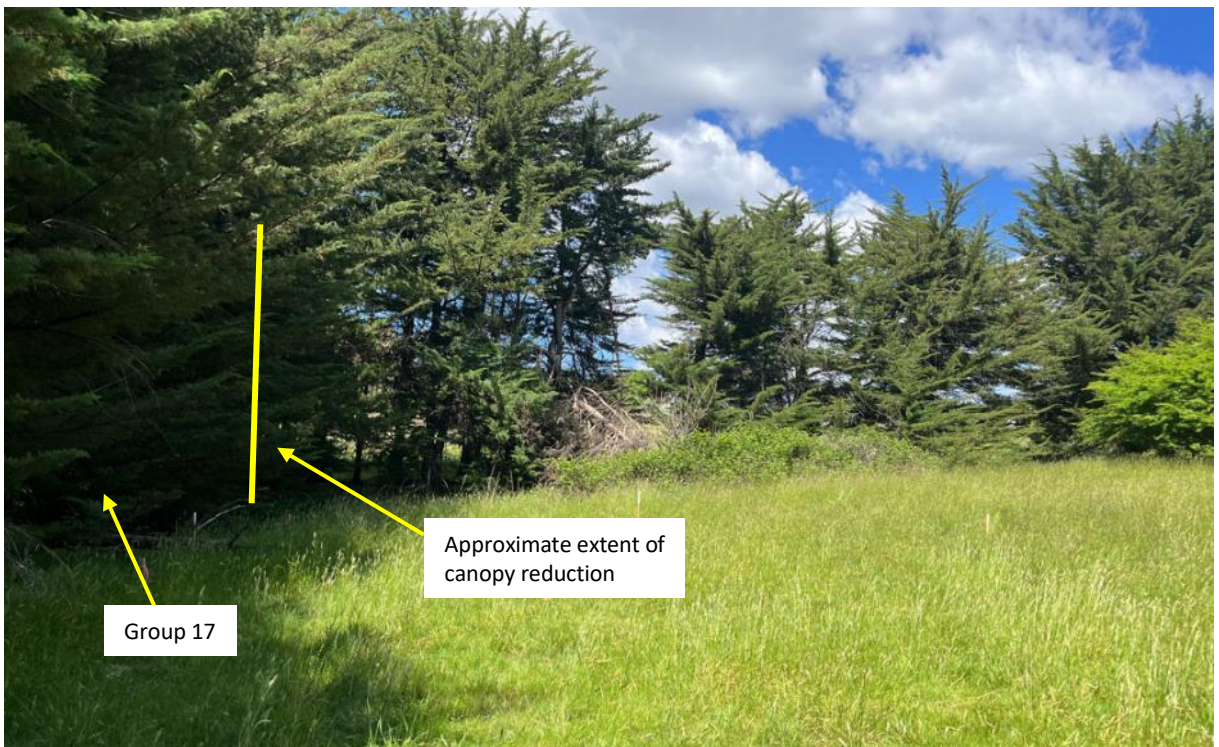


Figure 16: Viewing south toward lease area and Group 17

9.0 DESCRIPTORS

Tree Protection Zone (TPZ) 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 that the tree remains viable.

Structural Root Zone (SRZ) The area required for tree stability. The SRZ is typically calculated when a major encroachment into a TPZ is proposed.

Taxon: Botanical name of tree.

Common Name: Accepted common name of taxon

Sources for Taxon and Common Names:

Flora of Victoria online (<https://vicflora.rbg.vic.gov.au/>)

Horticultural Flora of South-Eastern Australia (Vols. 1-5)

Origin:

Indigenous Naturally occurring taxon within locale. Considered Native under planning scheme provisions

Victoria Naturally occurring taxon within Victoria. Considered Native under planning scheme provisions

Australia Australian native. Occurs naturally within Australia, but outside Victoria.

Exotic. Introduced taxon to Australia.

DBH: Diameter at breast height (1.4m), in centimetres.

DAB: Diameter of trunk immediately above root buttress, in centimetres.

Height: Height of tree, in metres.

Width: Estimated width of tree, in metres.

TPZ: Tree Protection Zone calculated in accordance with AS4970-2009 Protection of Trees on Development Sites.

SRZ: Structural Root Zone calculated in accordance with AS4970-2009 Protection of Trees on Development Sites.

Form Shape of tree crown

Age

Juvenile: Young, recently planted tree.

Semi-mature: Tree is developing and established.

Mature: Specimen has reached expected size in current situation, limited extension growth.

Over-mature: Specimen entering stage of decline, declining health.

Senescent Tree is in advancing decline.

Health

Good: Optimal vigour for this taxon. Crown full with good density, foliage entire, with good colour, minimal or no pathogen damage. Good growth indicators, e.g. extension growth. No or minimal canopy dieback. Good wound-wood and callus formation.

Fair: Tree is exhibiting one or more of the following:
Tree has <30% deadwood. Or can have minor canopy dieback. Foliage generally with good colour, some

discolouration **may** be present, minor pathogen damage present. Typical growth indicators, e.g. extension growth, leaf size, canopy density for species in location may be slightly abnormal.

Poor: Tree has >30% deadwood. Canopy dieback present. Discoloured or distorted leaves and/or excessive epicormic re-growth. Pathogen is present and/or stress symptoms that could lead to or are contributing to the decline of tree.

Dead: Tree is dead.

Structure

Good: Optimal structure for this taxon. Sound branch attachment and/or no minor structural defects. Trunk and scaffold branches sound or only minor damage. Good trunk and scaffold branch taper. No branch over extension. No damage to structural roots, good buttressing present. No obvious root pests or diseases.

Fair: Some minor structural defects and/or minimal damage to trunk. Bark missing. Cavities could be present. Minimal or no damage to structural roots. Typical structure for species.

Poor: Major structural defects and/or trunk damaged and/or missing bark. Large cavities and/or girdling or damaged roots that are problematic.

Useful Life Expectancy (ULE)

The length of time a tree can be maintained as a useful amenity specimen. Contingent on a number of factors including expected life-span of the taxon, health and structure, pest, and diseases, weed status.

Arboricultural Value

None Tree with severe health and/or structural defects that cannot be rectified through reasonably practicable Arboricultural works; Tree may be inter dependent with surrounding trees and will be unable to be retained once adjacent shelter trees are removed; The tree is classed as a noxious or environmental weed species and is detrimental to the environment.

Low A tree that offers little in terms of contributing to the of the future landscape for reasons of poor health, structural condition, and/or species suitability, including propensity to weediness; A tree that is not significant due to its size and/or age and can be easily replaced; Tree with a ULE of under 10 years; Trees classed as having a low retention value may be able to be retained in the mid to short term if they do not require a disproportionate expenditure of resources (i.e. design modification).

Moderate A tree with some attributes that may benefit the site in relation to botanical, horticultural, historical, or local significance but may be limited to some degree by their current health condition or future growth in relation to existing or future site conditions and/or immediate/future maintenance requirements. The tree is likely to tolerate changes in its environment and will respond to arboricultural treatments. Trees classed as having a moderate retention **value should** be considered for retention if reasonably practicable. Arboricultural works may be required but should remain within reasonable limits. Tree may have a ULE of over 10 years if managed appropriately.

High A tree in good overall condition that has the potential to positively contribute to the landscape in the long-term if appropriately managed. Species is suited to its existing site conditions and can tolerate certain changes in its environment. Ideally, trees with a high retention value should be retained and incorporated into any development plans. The tree is worthy of retention wherever possible.

10.0 TREE DATA TABLE

Tree	Taxon	Common Name	Origin	DBH (cm)	TPZ (m)	DAB (cm)	SRZ (m)	Height (m)	Width (m)	Age	ULE	Health	Structure	Arboricultural Value	Notes
1	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	Exotic	36	4.4	47	2.5	12	5	Mature	20+years	Fair-good	Fair-good	Medium	
2	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	Exotic	65	7.8	78	3	12	8	Mature	20+years	Fair-good	Fair-good	Medium	
3	<i>Pinus radiata</i>	Monterey Pine	Exotic	84	10.1	86	3.2	14	11	Mature	20+years	Good	Fair-good	Medium	
G4	<i>Malus x domestica</i>	Apple x 4	Exotic	10	2	10	1.5	2.5	2.5	Mature	11-20 years	Fair-good	Fair-good	Low	
5	<i>Allocasuarina littoralis</i>	Black She-oak	Indigenous	9, 11	2	16	1.6	4	2.5	Semi-mature	20+years	Fair	Fair	Low	Third-party ownership
6	<i>Eucalyptus cephalocarpa</i>	Silver Leafed Stringybark	Indigenous	35	4.2	40	2.36	10	8	Semi-mature	20+years	Good	Fair-good	Low	Third-party ownership
G7	<i>Malus x domestica</i>	Apple	Exotic	5, 22 & 13	2.0 – 2.4	28	2	5	5	Over-mature	6-10 years	Fair-poor	Fair-good	Low	
8	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	Exotic	59	7.1	71	2.9	10	8	Mature	20+years	Good	Fair-good	Medium	
9	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	Exotic	23	2.8	29	2	10	3	Mature	6-10 years	Fair-poor	Fair-poor	Low	
10	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	Exotic	37	4.5	48	2.5	18	7	Mature	20+years	Fair	Fair	Low	
11	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	Exotic	39,51	7.8	81	3.1	11	7	Mature	20+years	Good	Fair	Medium	
12	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	Exotic	31,34,45	7.8	91	3.2	9	9	Mature	11-20 years	Fair	Fair-poor	Low	
G13	<i>Pinus radiata</i>	Monterey Pine x 3	Exotic	61, 51 & 50	7.3, 6.1, 6.0	65	2.8	20	9	Mature	20+years	Good	Good	High	
G14	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	Exotic	47	5.7	57	2.7	11	10	Mature	11-20 years	Fair-good	Fair-good	Medium	
15	<i>Crataegus monogyna</i>	English Hawthorn	Exotic	18	2.2	22	1.8	4	5	Mature	20+years	Good	Good	Low	
16	<i>Fraxinus angustifolia</i> 'Raywood'	Claret Ash	Exotic	34	4.1	41	2.3	12	10	Mature	20+years	Good	Fair-good	Medium	
G17	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	Exotic	45	5.4	57	2.7	15	12	Mature	20+years	Good	Fair-good	Medium	

