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Arboricultural Impact Assessment

Location:

59 The Parade, Ocean Grove

Report Commissioned by:

Convex Holdings

Author:

[redacted]

Grad. Cert. Arb.

Arbkey ref: 26-01-21TheParadeOceanGrove.docx

Date submitted: May 11, 2026

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1 Introduction

Arbkey has been engaged by Convex Holdings to provide an Arboricultural Impact Assessment for trees likely to be affected by a proposed development at 59 The Parade, Ocean Grove. Arboricultural Impact Assessments are a procedure for determining the viability of trees at the design and review stage of a project. For the report arbkey has:

- Identified and assessed the trees, providing their location, species, dimensions, useful life expectancy and health and structural condition.
- Allocated each tree an arboricultural value, indicating its merit for retention throughout nearby disturbance.
- Calculated the size of the Notional Root Zone (NRZ) in accordance with Australian Standard 4970, Protection of Trees on Development Sites.
- Calculated and provided comment regarding the impact of the proposed development to the trees NRZs and assessed the suitability for retention of all trees against the current development plans.
- Provided recommendations to protect any trees through the proposed developments.

2 Site Details

The subject site is a single occupancy residential property featuring a house building, rear outbuilding and surroundings yards (Figure 1). Small trees border the site and are common within the surrounds.

Figure 1: Subject site - frontage

2.1 Development Proposal

Demolition of the existing buildings and installation of a residential complex is proposed.

2.2 Planning and Policy Context

The subject site is located within Residential Growth Zone - Schedule 3 of the Greater Geelong Planning Scheme (DTP 2026). The vegetation protection related planning or policy controls for the site and how they affect the assessed trees has been provided in Table 1.

Table 1: Vegetation controls at site

Planning/Policy Control	Overview of control	Trees affected
52.37 Canopy Trees	A permit is required to remove, destroy or lop a tree within a residential zone that has: • a height of more than 5 metres above ground level; and • a trunk circumference of more than 0.5 metres, measured at 1.4 metres above ground level; and • a canopy diameter of at least 4 metres. Where a dwelling exists on a lot, trees further than 6m from the front boundary and 4.5m from the rear boundary are considered exempt	None

Due to their ownership, any trees within adjacent third-party owned property must remain viable throughout works at the subject site unless under agreement with the tree's respective owner. Modification of trees in adjacent property may also be subject to permit approval.

2.3 Site Map

A site map detailing existing conditions and tree locations has been provided in Appendix 1: Site Map

3 Methodology

On the 8 May 2026, [redacted] undertook inspection of trees greater than 3m in height located at, or with notional root zones (AS4970 2025) likely to intersect the property at, 59 The Parade, Ocean Grove. The following information was collected for the trees:

- Tree Species
- Tree Location
- Height (m)
- Crown Spread (m)
- Diameter at Standard Height (DSH) at 1.4m above ground level (cm)
- Diameter at Base (DAB) at just above the root flare (cm)
- Health
- Structure
- Significance
- Photographs of tree

Only a ground based visual inspection was undertaken of all trees according to the principles of Visual Tree Assessment and tree hazard assessment described in Harris, Clark and Matheny (1999) and Mattheck and Breloer (1994).

Tree location has been derived using a feature survey provided by the client or if not present aligned using an RTK corrected GNSS receiver.

Height was measured on site using an impulse laser accurate to +/- 30cm. Crown spread values or drawings are indicative of crown size only, not shape or form.

A diameter tape was used to measure DSH. To prevent trespass, DSH has been estimated on adjacent sites.

Health, Structure and Significance are qualitative values derived from visual indicators and the authors experience and qualifications.

Encroachment of NRZs by the development has been calculated using GIS software.

Full data collection definitions are available in Appendix 6: Data Definitions.

3.1 Documents Reviewed

Table 2: Documents reviewed to assist in the compilation of this report

Document Name	DWG/Document #	Author	Document Description	Date compiled/drawn
2025.138 59 THE PARADE_SURVEY	2103442	LandSurveys	Site Plans	10 Feb 2021
2025.138 59 THE TERRACE_DA (B.020426)	2025.138	UXD group	Site Plans	5 Nov 2025

4 Observations

4.1 Tree Details

35 trees were assessed, 30 on the site itself and five (5) within adjacent third-party managed property (Table 3). Full details of the assessed trees have been provided in Appendix 2: Tree Details.

Table 3: Count of assessed species and their respective species origin

Genus Species	Common Name	Species Origin	Count of Trees	Tree IDs
Pittosporum tenuifolium	Kohuhu	Exotic	11	1, 4, 6, 8, 12, 13, 16, 28, 29, 31, 33
Agonis flexuosa	West Australian Willow Myrtle	Australian Native	6	10, 11, 14, 15, 18, 24
Rhamnus alaternus	Italian Buckthorn	Exotic	4	7, 21, 30, 34
Callistemon viminalis	Weeping Bottle Brush	Australian Native	2	25, 35
Metrosideros excelsa	New Zealand Christmas Tree	Exotic	2	26, 27
Syzygium australe	Brush Cherry	Australian Native	2	2, 22
Yucca sp.	Yucca	Exotic	2	20, 23
Ficus microcarpa	Hills Weeping Fig	Australian Native	1	5
Hymenosporum flavum	Native Frangi-pani	Australian Native	1	17
Koelreuteria paniculata	Golden Rain Tree	Exotic	1	19
Pittosporum crassifolium	Karo	Exotic	1	3
Pittosporum undulatum	Sweet Pittosporum	Australian Native	1	32
Syzygium smithii	Lilly Pilly	Australian Native	1	9

5 Discussion

5.1 Arboricultural Value

All the assessed trees have been attributed an arboricultural value (Table 4). Arboricultural value is a calculated rating indicating the arboricultural merit of the tree for retention through any nearby disturbance. It is a qualitative combination of the trees ULE and significance values. Trees of higher arboricultural value should be prioritised for retention through works that may impact trees. Conversely, trees of low or no arboricultural value can often be removed to facilitate a development with little or no effect on wider landscape value.

Trees attributed an arboricultural value of 'Third Party Ownership' are located on adjacent land to the assessment. It is assumed that the owner of the tree attributes it a 'High' arboricultural value and requires its retention in the landscape.

Table 4: Overview of arboricultural value

Arboricultural Value	Count	Tree IDs
Low	30	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 33, 35
Third Party Ownership	5	7, 17, 29, 32, 34

5.2 Notional Root Zone (NRZ) and Structural Root Zone (SRZ)

AS4970 (2025) specifies areas drawn radially from each tree's stem which indicate the area required for its stability (SRZ) and viability (NRZ) throughout nearby disturbance such as development. Further information on NRZs and SRZs has provided in Appendix 7: Structural Root Zone and Notional Root Zone Overview

5.2.1 NRZ and SRZ details

NRZ and SRZ details for all trees has been supplied in Appendix 3: NRZ and SRZ Details.

5.3 Arboricultural Impact, NRZ Encroachment and Viability

5.3.1 Tree removal

30 trees are proposed for removal under the current development plans (Table 5). Permit approval is not required for the removal of these trees.

Table 5: Trees proposed for removal, arboricultural value, and permit requirements.

Tree ID	*Genus Species*	Common Name	Arboricultural Value	Height (m)	Total DSH (cm)	DAB (cm)
1	*Pittosporum tenuifolium*	Kohuhu	Low	4	8	9
2	*Syzygium australe*	Brush Cherry	Low	3	13	14
3	*Pittosporum crassifolium*	Karo	Low	4	8	9
4	*Pittosporum tenuifolium*	Kohuhu	Low	4	6	8
5	*Ficus microcarpa*	Hills Weeping Fig	Low	4	0	9
6	*Pittosporum tenuifolium*	Kohuhu	Low	4	14.21	15
8	*Pittosporum tenuifolium*	Kohuhu	Low	4	13.89	14
9	*Syzygium smithii*	Lilly Pilly	Low	4	9	10
10	*Agonis flexuosa*	West Australian Willow Myrtle	Low	3	10.3	10
11	*Agonis flexuosa*	West Australian Willow Myrtle	Low	3	10.3	10
12	*Pittosporum tenuifolium*	Kohuhu	Low	4	8	10
13	*Pittosporum tenuifolium*	Kohuhu	Low	4	11	13
14	*Agonis flexuosa*	West Australian Willow Myrtle	Low	3	10.3	10
15	*Agonis flexuosa*	West Australian Willow Myrtle	Low	3	10.3	10
16	*Pittosporum tenuifolium*	Kohuhu	Low	4	19.87	21
18	*Agonis flexuosa*	West Australian Willow Myrtle	Low	3	10.3	10
19	*Koelreuteria paniculata*	Golden Rain Tree	Low	4	19	20
20	*Yucca sp.*	Yucca	Low	5	34.66	35
21	*Rhamnus alaternus*	Italian Buckthorn	Low	3	6.4	8
22	*Syzygium australe*	Brush Cherry	Low	4	11.92	13
23	*Yucca sp.*	Yucca	Low	4	17	21
24	*Agonis flexuosa*	West Australian Willow Myrtle	Low	3	10.3	10
25	*Callistemon viminalis*	Weeping Bottle Brush	Low	3	8.94	9
26	*Metrosideros excelsa*	New Zealand Christmas Tree	Low	4	15	16
27	*Metrosideros excelsa*	New Zealand Christmas Tree	Low	4	20.52	21
28	*Pittosporum tenuifolium*	Kohuhu	Low	3	13.93	14
30	*Rhamnus alaternus*	Italian Buckthorn	Low	3	7	9
31	*Pittosporum tenuifolium*	Kohuhu	Low	3	14.46	16
33	*Pittosporum tenuifolium*	Kohuhu	Low	3	11.66	12
35	*Callistemon viminalis*	Weeping Bottle Brush	Low	3	14.35	16

5.3.2 Impact of design on trees to be retained

To assess the viability of the trees proposed for retention throughout the design's implementation, their NRZ and SRZ has been calculated and mapped as per AS4970 (2025). Where a development's footprint overlaps a NRZ it is termed 'encroachment' within AS4970 (2025). AS4970 (2005) categorises NRZ encroachment into:

- Minor (<= 10% NRZ encroachment)
    - Minor NRZ encroachment is unlikely to cause a significant impact to tree health or longevity and is considered generally acceptable. Trees with 'Minor' NRZ encroachment would remain viable throughout the implementation of the proposed design without the implementation of encroachment mitigation measures.
- Moderate (>10% and <= 20% NRZ encroachment)
    - Moderate NRZ encroachment is considered tolerable providing that an arborist demonstrates, usually through desktop analysis and/or recommendations of construction controls, that the tree would remain viable throughout the NRZ encroachment.
- Major (>20% NRZ encroachment)
    - Major NRZ encroachment is considered generally intolerable. To manage these trees throughout the development either:
        - an alternative design must be explored with the design team, or
        - a detailed investigation and/or justifications must be undertaken/supplied by an arborist that demonstrates that the tree would remain viable throughout the major NRZ encroachment.

Five (5) of the trees proposed for retention have NRZ encroached by the proposed development's footprint.

Table 6: Overview of trees with NRZ encroached by the design footprint.

Encroachment Classification (AS4970 2025)	Count	Tree ID
Minor (<=10% Encroachment) Generally Acceptable	2	7, 17
Major (>20% Encroachment) Generally Intolerable	3	29, 32, 34

Table 7: Trees with NRZ encroached by the design footprint.

Tree ID	*Genus Species*	Common Name	NRZ Encroachment (%)	SRZ Encroachment?	Encroachment Classification
7	*Rhamnus alaternus*	Italian Buckthorn	5.57	No	Minor
17	*Hymenosporum flavum*	Native Frangi-pani	1.49	No	Minor
29	*Pittosporum tenuifolium*	Kohuhu	22.13	Yes	Major
32	*Pittosporum undulatum*	Sweet Pittosporum	28.17	Yes	Major
34	*Rhamnus alaternus*	Italian Buckthorn	25.59	Yes	Major

The remaining trees proposed for retention do not have NRZ encroached by the design footprint and would remain viable throughout the design's implementation.

5.3.3 NRZ, SRZ and Encroachment Map

Maps detailing the NRZ, SRZ and Encroachment have been provided in Appendix 4: NRZ, SRZ and Encroachment Map.

5.3.4 Mitigation measures

Trees 29, 32, and 34 are small, third-party managed trees with NRZ majorly encroached by the proposed basement footprint. The NRZ encroachment of these trees is congruent to existing root inhibiting concrete footings. Considering the existing conditions, Trees 29, 32, and 34 would not be adversely affected by the works proposed within their NRZ and would remain viable throughout their installation.

6 Conclusions and Recommendations

Demolition of the existing buildings and installation of a residential complex is currently proposed at 59 The Parade, Ocean Grove. Arbkey has been engaged to assess the impact of the development on the trees at or adjacent to the site. 35 trees were assessed, 30 on the site and five (5) within adjacent property. 30 of these trees are proposed for removal under the development plans. Permit approval is not required for the removal of these trees.

To assess the viability of the trees proposed for retention throughout the design's implementation, their notional root zone (NRZ) and structural root zone (SRZ) has been calculated and mapped as per AS4970 (2025). Where a development's footprint overlaps a NRZ it is termed 'encroachment' within AS4970 (2025). Five (5) of the trees proposed for retention have NRZ encroached by the proposed design footprint.

Table 8: Overview of trees with NRZ encroached by the design footprint.

Encroachment Classification (AS4970 2025)	Count	Tree ID
Minor (<=10% Encroachment) Generally Acceptable	2	7, 17
Major (>20% Encroachment) Generally Intolerable	3	29, 32, 34

Trees 29, 32, and 34 are small, third-party managed trees with NRZ majorly encroached by the proposed basement footprint. The NRZ encroachment of these trees is congruent to existing root inhibiting concrete footings. Considering the existing conditions, Trees 29, 32, and 34 would not be adversely affected by the works proposed within their NRZ and would remain viable throughout their installation.

The remaining trees proposed for retention do not have NRZ encroached by the design footprint and would remain viable throughout the design's implementation.

7 References

AS 4970, 2025, Australian Standard, Protection of Trees on Development Sites, Standards Australia

DTP 2026, Vicplan, Department of Transport and Planning, https://mapshare.vic.gov.au/vicplan/

Harris, R.W., Clark, J.R. & Matheny, N.P., 1999, Arboriculture; Integrated management of landscape trees, shrubs, and vines, Prentice Hall, Upper Saddle River, New Jersey

IACA 2010, IACA Significance of a Tree, Assessment Rating System (STARS), Institute of Australian Consulting Arboriculturists, Australia

Mattheck, C. and Breloer, H. 1994, The body language of trees: a handbook for failure analysis, London: HMSO

8 Appendix 1: Site Map

Figure 2: Site Map – Existing Condition

9 Appendix 2: Tree Details

Table 9: Details of assessed trees

Tree ID	*Genus Species*	Common Name	Species Origin	Height (m)	Crown Spread (m)	DSH [Stems] (cm)	DAB (cm)	Health	Structure	Maturity	ULE (years)	Arboricultural Value
1	*Pittosporum tenuifolium*	Kohuhu	Exotic	4	2	8	9	Good	Fair	Semi-mature	5 to 15	Low
2	*Syzygium australe*	Brush Cherry	Australian Native	3	2	13	14	Fair	Fair	Semi-mature	5 to 15	Low
3	*Pittosporum crassifolium*	Karo	Exotic	4	1	8	9	Fair	Fair	Mature	5 to 15	Low
4	*Pittosporum tenuifolium*	Kohuhu	Exotic	4	1	6	8	Fair	Fair	Semi-mature	5 to 15	Low
5	*Ficus microcarpa*	Hills Weeping Fig	Australian Native	4	1	0	9	Good	Fair	Mature	5 to 15	Low
6	*Pittosporum tenuifolium*	Kohuhu	Exotic	4	3	14.21 [9, 6, 6, 7]	15	Good	Fair	Mature	5 to 15	Low
7	*Rhamnus alaternus*	Italian Buckthorn	Exotic	4	2	9	11	Good	Fair	Mature	5 to 15	Third Party Ownership
8	*Pittosporum tenuifolium*	Kohuhu	Exotic	4	2	13.89 [11, 6, 6]	14	Good	Fair	Mature	5 to 15	Low
9	*Syzygium smithii*	Lilly Pilly	Australian Native	4	2	9	10	Good	Fair	Semi-mature	15 to 40	Low
10	*Agonis flexuosa*	West Australian Willow Myrtle	Australian Native	3	1	10.3 [7, 5, 4, 4]	10	Good	Fair	Semi-mature	15 to 40	Low
11	*Agonis flexuosa*	West Australian Willow Myrtle	Australian Native	3	1	10.3 [7, 5, 4, 4]	10	Good	Fair	Semi-mature	15 to 40	Low
12	*Pittosporum tenuifolium*	Kohuhu	Exotic	4	2	8	10	Fair	Fair	Semi-mature	5 to 15	Low
13	*Pittosporum tenuifolium*	Kohuhu	Exotic	4	2	11	13	Fair	Fair	Semi-mature	5 to 15	Low
14	*Agonis flexuosa*	West Australian Willow Myrtle	Australian Native	3	1	10.3 [7, 5, 4, 4]	10	Good	Fair	Semi-mature	15 to 40	Low
15	*Agonis flexuosa*	West Australian Willow Myrtle	Australian Native	3	1	10.3 [7, 5, 4, 4]	10	Good	Fair	Semi-mature	15 to 40	Low
16	*Pittosporum tenuifolium*	Kohuhu	Exotic	4	3	19.87 [12, 9, 11, 7]	21	Good	Fair	Mature	5 to 15	Low
17	*Hymenosporum flavum*	Native Frangi-pani	Australian Native	4	2	8	10	Fair	Good	Semi-mature	15 to 40	Third Party Ownership
18	*Agonis flexuosa*	West Australian Willow Myrtle	Australian Native	3	1	10.3 [7, 5, 4, 4]	10	Good	Fair	Semi-mature	15 to 40	Low
19	*Koelreuteria paniculata*	Golden Rain Tree	Exotic	4	3	19	20	Fair	Fair	Mature	15 to 40	Low

Tree ID	*Genus Species*	Common Name	Species Origin	Height (m)	Crown Spread (m)	DSH [Stems] (cm)	DAB (cm)	Health	Structure	Maturity	ULE (years)	Arboricultural Value
20	*Yucca sp.*	Yucca	Exotic	5	2	34.66 [24, 20, 15]	35	Good	Fair	Mature	5 to 15	Low
21	*Rhamnus alaternus*	Italian Buckthorn	Exotic	3	2	6.4 [4, 4, 3]	8	Good	Fair	Mature	5 to 15	Low
22	*Syzygium australe*	Brush Cherry	Australian Native	4	2	11.92 [9, 6, 5]	13	Good	Fair	Semi-mature	15 to 40	Low
23	*Yucca sp.*	Yucca	Exotic	4	2	17	21	Good	Fair	Mature	5 to 15	Low
24	*Agonis flexuosa*	West Australian Willow Myrtle	Australian Native	3	1	10.3 [7, 5, 4, 4]	10	Good	Fair	Semi-mature	15 to 40	Low
25	*Callistemon viminalis*	Weeping Bottle Brush	Australian Native	3	1	8.94 [8, 4]	9	Fair	Fair	Semi-mature	5 to 15	Low
26	*Metrosideros excelsa*	New Zealand Christmas Tree	Exotic	4	2	15 [9, 12]	16	Fair	Fair	Mature	5 to 15	Low
27	*Metrosideros excelsa*	New Zealand Christmas Tree	Exotic	4	3	20.52 [14, 12, 9]	21	Good	Fair	Mature	15 to 40	Low
28	*Pittosporum tenuifolium*	Kohuhu	Exotic	3	3	13.93 [9, 8, 7]	14	Fair	Fair	Mature	5 to 15	Low
29	*Pittosporum tenuifolium*	Kohuhu	Exotic	3	2	8	9	Good	Fair	Mature	5 to 15	Third Party Ownership
30	*Rhamnus alaternus*	Italian Buckthorn	Exotic	3	3	7	9	Fair	Fair	Mature	5 to 15	Low
31	*Pittosporum tenuifolium*	Kohuhu	Exotic	3	3	14.46 [9, 8, 8]	16	Good	Fair	Mature	5 to 15	Low
32	*Pittosporum undulatum*	Sweet Pittosporum	Australian Native	8	3	16	20	Good	Fair	Mature	5 to 15	Third Party Ownership
33	*Pittosporum tenuifolium*	Kohuhu	Exotic	3	2	11.66 [10, 6]	12	Good	Fair	Mature	5 to 15	Low
34	*Rhamnus alaternus*	Italian Buckthorn	Exotic	4	3	12	15	Good	Fair	Mature	5 to 15	Third Party Ownership
35	*Callistemon viminalis*	Weeping Bottle Brush	Australian Native	3	2	14.35 [8, 9, 6, 5]	16	Fair	Fair	Mature	5 to 15	Low

10 Appendix 3: NRZ and SRZ Details

Table 10: NRZ and SRZ details of assessed trees (AS4970 2025)

Tree ID	*Genus Species*	Common Name	SRZ radius (m) AS4970	NRZ radius (m) AS4970	NRZ Area AS 4970 (m2)
1	*Pittosporum tenuifolium*	Kohuhu	1.5	2	12.566
2	*Syzygium australe*	Brush Cherry	1.5	2	12.566
3	*Pittosporum crassifolium*	Karo	1.5	2	12.566
4	*Pittosporum tenuifolium*	Kohuhu	1.5	2	12.566
5	*Ficus microcarpa*	Hills Weeping Fig	1.5	2	12.566
6	*Pittosporum tenuifolium*	Kohuhu	1.5	2	12.566
7	*Rhamnus alaternus*	Italian Buckthorn	1.5	2	12.566
8	*Pittosporum tenuifolium*	Kohuhu	1.5	2	12.566
9	*Syzygium smithii*	Lilly Pilly	1.5	2	12.566
10	*Agonis flexuosa*	West Australian Willow Myrtle	1.5	2	12.566
11	*Agonis flexuosa*	West Australian Willow Myrtle	1.5	2	12.566
12	*Pittosporum tenuifolium*	Kohuhu	1.5	2	12.566
13	*Pittosporum tenuifolium*	Kohuhu	1.5	2	12.566
14	*Agonis flexuosa*	West Australian Willow Myrtle	1.5	2	12.566
15	*Agonis flexuosa*	West Australian Willow Myrtle	1.5	2	12.566
16	*Pittosporum tenuifolium*	Kohuhu	1.72	2.38	17.795
17	*Hymenosporum flavum*	Native Frangi-pani	1.5	2	12.566
18	*Agonis flexuosa*	West Australian Willow Myrtle	1.5	2	12.566
19	*Koelreuteria paniculata*	Golden Rain Tree	1.68	2.28	16.331
20	*Yucca sp.*	Yucca	0	2	12.566
21	*Rhamnus alaternus*	Italian Buckthorn	1.5	2	12.566
22	*Syzygium australe*	Brush Cherry	1.5	2	12.566
23	*Yucca sp.*	Yucca	0	2	12.566
24	*Agonis flexuosa*	West Australian Willow Myrtle	1.5	2	12.566
25	*Callistemon viminalis*	Weeping Bottle Brush	1.5	2	12.566
26	*Metrosideros excelsa*	New Zealand Christmas Tree	1.53	2	12.566
27	*Metrosideros excelsa*	New Zealand Christmas Tree	1.72	2.46	19.012
28	*Pittosporum tenuifolium*	Kohuhu	1.5	2	12.566
29	*Pittosporum tenuifolium*	Kohuhu	1.5	2	12.566
30	*Rhamnus alaternus*	Italian Buckthorn	1.5	2	12.566
31	*Pittosporum tenuifolium*	Kohuhu	1.53	2	12.566
32	*Pittosporum undulatum*	Sweet Pittosporum	1.68	2	12.566
33	*Pittosporum tenuifolium*	Kohuhu	1.5	2	12.566
34	*Rhamnus alaternus*	Italian Buckthorn	1.5	2	12.566
35	*Callistemon viminalis*	Weeping Bottle Brush	1.53	2	12.566

11 Appendix 4: NRZ, SRZ and Encroachment Map

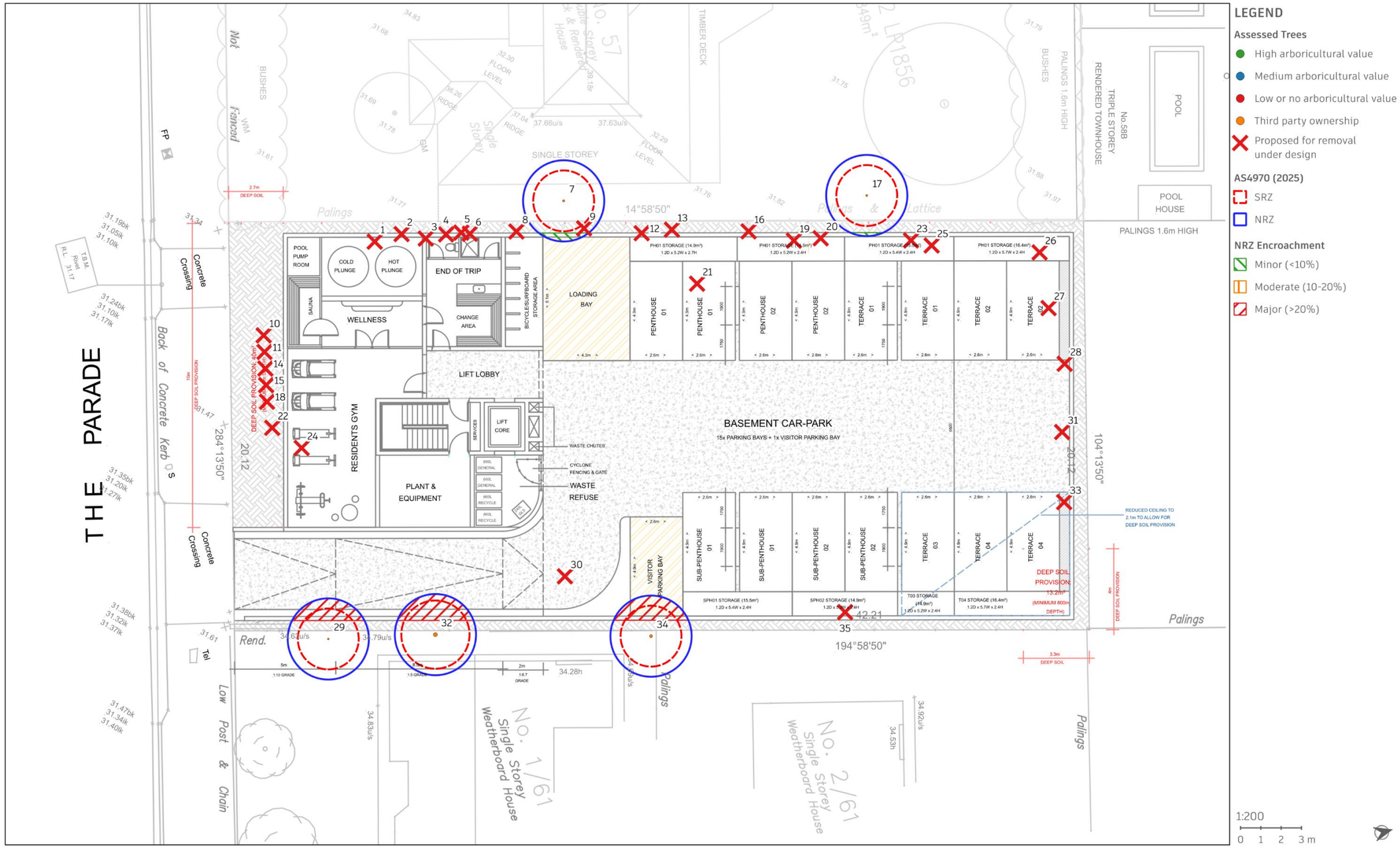


Figure 3: NRZ, SRZ and Encroachment Map

12 Appendix 5: Tree Photos

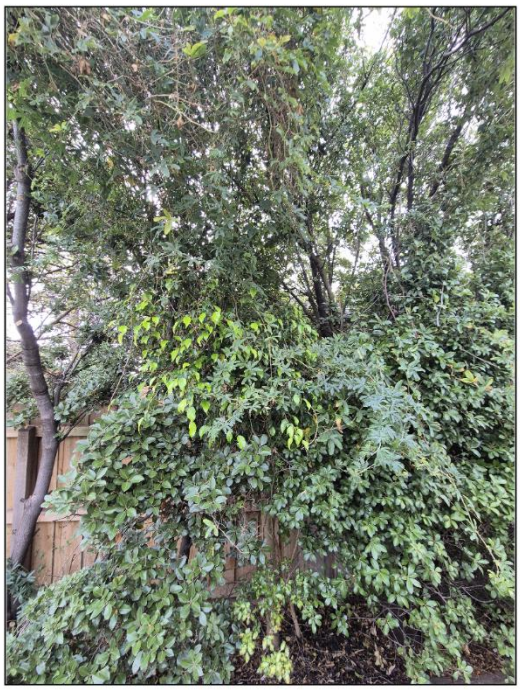
Tree ID: 1

Tree ID: 2

Tree ID: 3

Tree ID: 4

Tree ID: 5



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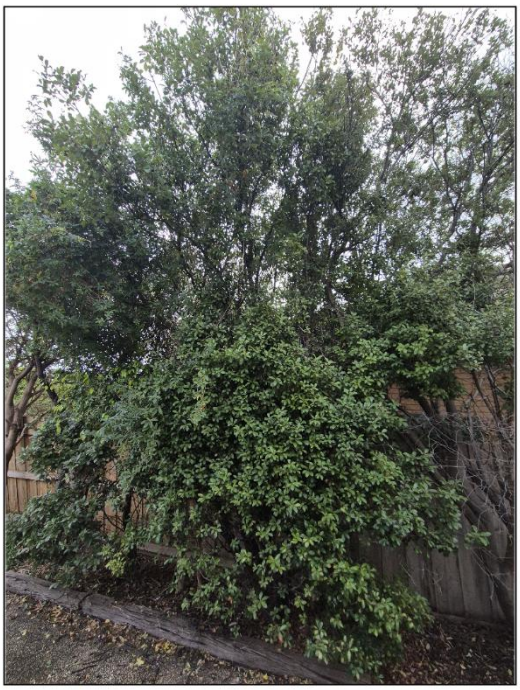

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Tree ID: 8

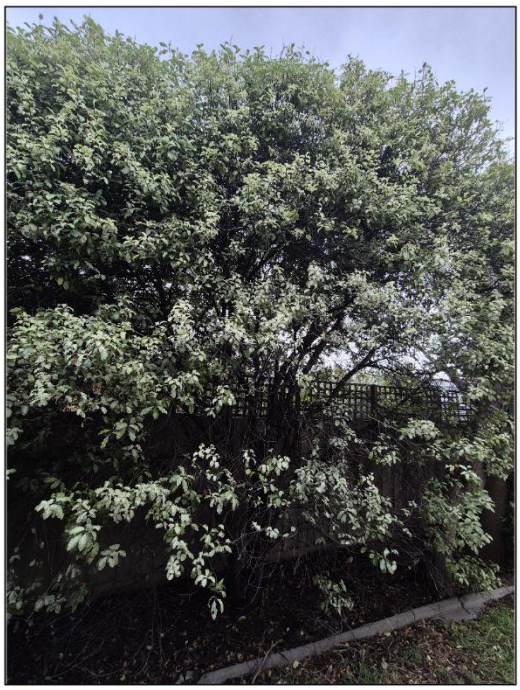
Tree ID: 9

Tree ID: 10, 11, 14, 15, 18, 24

Tree ID: 12

Tree ID: 13

Tree ID: 16



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Tree ID: 19

Tree ID: 20

Tree ID: 21

Tree ID: 22

Tree ID: 23

Tree ID: 25

Tree ID: 26

Tree ID: 27

Tree ID: 28

Tree ID: 29

Tree ID: 30

Tree ID: 31

Tree ID: 32

Tree ID: 33

Tree ID: 34

Tree ID: 35

13 Appendix 6: Data Definitions

DSH (Diameter at Standard Height) is measured at 1.4 m above ground level or calculated from the total stem area if the tree was multi-stemmed at 1.4m above ground level in accordance with AS 4970 (2025).

DAB (Diameter at Base) is measured just above the root collar of a tree in accordance with AS 4970 (2025)

Health summarises qualitative observations of canopy density, overall vigour and vitality made in the field:

- Good - Canopy is visually dense with less than 10% dieback and shows no, or only very minor nutrient deficiencies, pest and disease presence or stress–induced epicormic growth.
- Fair - Canopy is of average density, consists of between 10-30% dieback and shows a minor, or occasionally moderate, level of nutrient deficiency, pest and disease presence or stress-induced epicormic growth.
- Poor - Canopy is visually sparse, consists of more than 30% dieback and typically has significant nutrient deficiency, pest and disease presence or stress induced epicormic growth.
- Dead – No indication the tree is alive

Structure summarises qualitative observations of tree structure and stability made in the field:

- Good - The tree's form is optimal for the species. Typically trees of 'Good' structure have no or only very minor trunk leans or canopy asymmetry. These trees have parts that are not structurally compromised by decay, cracks, or other structural faults. Structural failure of these trees is only likely only under strong and unusual weather events
- Fair - The tree's structure includes minor structural defects that do not typically fail in light or moderate weather events. Typically trees of 'Fair' structure have minor trunk leans or slightly asymmetric canopies. These trees are likely to have parts that are partly compromised by decay or structural defects such as included bark.
- Poor - The tree's structure includes major structural defects. Failure of these trees is considered possible under light or moderate weather events. Typically trees of 'Poor' structure have major trunk leans or heavily asymmetric canopies. These trees are likely to have parts that are heavily compromised by decay or structural defects such as included bark.

Maturity summarises the life stage of the tree.

- Juvenile – The tree is in approximately the first 10% of its expected lifespan in its current environment
- Semi-mature – Tree is 10%-20% through its expected lifespan in its current environment and has not yet reached its mature dimensions.
- Mature – The tree is through 20%-90% of its expected lifespan in its current environment.
- Over-mature – The tree is through approximately 90% of its expected lifespan in its current environment

ULE (Useful Life Expectancy) indicates the anticipated remaining years of lifespan of the tree in its existing surroundings. The tree's lifespan is the time that it will continue to provide amenity value without undue risk or hazard and with a reasonable amount of maintenance.

Significance indicates the importance a tree may have on a respective site. The following descriptors are used to derive this value (adapted from IACA 2010):

High -

- Tree is good condition and good vigour
- The tree has a form typical for the species
- The tree is a remnant specimen or is rare or uncommon in the local area or of botanical interest or substantial age
- The tree is listed as a heritage item or threatened species or listed on a municipal significant tree register
- The tree is visually prominent and visible from a considerable distance when viewed from most directions due to its size and scale. The tree makes a positive contribution to the local amenity.
- The tree supports social or cultural sentiments or spiritual associations or has commemorative values
- The tree is appropriate to the site conditions

Medium -

- The tree is in fair condition and good or low vigour
- The tree has form typical or atypical of the species
- The tree is a planted locally indigenous taxa or a common species within the area.
- The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from a public space. The tree provides a moderate contribution to the amenity and character of the local area
- The tree is often partially restricted by above or below ground influences and/or resources.

Low –

- The is in fair 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 due to obstructions.
- The tree provides a minor contribution or has a negative impact on landscape amenity or character of the local area.
- The tree is a juvenile specimen that can easily be replaced.
- The trees growth is severely restricted by above or below ground influences and/or resources.
- The tree has a feature that has potential to become structurally unsound.
- The tree is a listed as a noxious or environmental weed under state, federal or municipal policy

Dead/Irreversible Decline -

- The tree is structurally unsound or unstable
- The tree is dead or in irreversible decline

Third Party Ownership

- The tree is located on adjoining land to the assessment.

A tree is to meet several or all the criteria in a category to be classified in that group

Arboricultural Value is a calculated value indicating the merit of the tree for retention through any nearby developments. It is a qualitative combination of the trees ULE and Significance Values (Table 11).

Table 11: Matrix for the calculation of Arboricultural Value

		Significance Value				
		High	**Medium**	**Low**	**Dead/Irreversible Decline**	**Third Party Ownership**
ULE	**>40 years**	High	Medium	Low	Low	Third Party Ownership
	15-40 years	High	Medium	Low	Low	Third Party Ownership
	5-15 years	High	Medium	Low	None	Third Party Ownership
	<5 years	Medium	Low	None	None	Third Party Ownership
	0 years	Low	None	None	None	Third Party Ownership

- High –Trees attributed a 'High' arboricultural value are generally of strong visual amenity and significant in the landscape. The utmost level of consideration should be given for the retention of these trees throughout development activities and/or nearby disturbance
- Medium – Trees attributed a 'Medium' arboricultural value are of moderate amenity value and have been attributed some value in the landscape. Trees attributed a 'Medium' arboricultural value should be retained and designed around during developments or nearby disturbance. If retention is not possible for these trees, removal and replacement can be often considered as an acceptable compromise.
- Low – Trees attributed a Low arboricultural value are of poor arboricultural merit. Removal and replacement is an acceptable compromise if designing around these trees is not possible.
- None – Trees attributed an arboricultural value of none have no arboricultural merit. Removal is usually acceptable or required for these trees.
- Third Party Ownership – The tree is located on adjacent land to the assessment. It is assumed that the owner of the tree attributes it a High arboricultural value and requires its retention in the landscape.

14 Appendix 7: Structural Root Zone and Notional Root Zone Overview

14.1 Structural Root Zone (SRZ)

The SRZ is an indication of the area surrounding the base of a tree that is required for its stability. AS 4970 (2025) provides a method to calculate the SRZ of trees: The SRZ is calculated as

$$(DAB \times 50)^{0.42} \times 0.64$$

For grass like trees such as palms or tree ferns; SRZs are not calculated.

14.2 Notional Root Zone (NRZ)

The NRZ is an indication of the area surrounding the base of a tree that is required for its viability. AS 4970 (2025) provides a method for calculating the standard area of NRZ's. For all broadleaf trees, the radius of the NRZ is calculated as:

$$12 * DSH$$

For grass like trees such as palms or tree ferns; NRZs are calculated as 2m in radius.

Dead trees are attributed a NRZ of the same size as their SRZ as only their stability can be protected and not their vigour

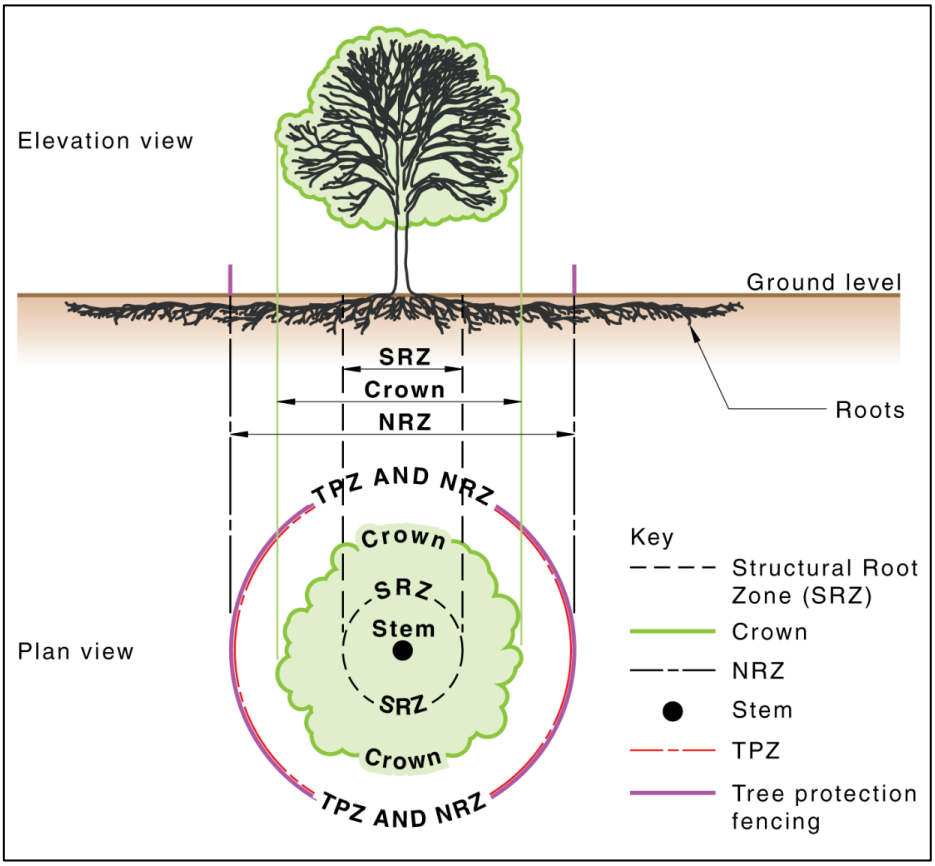

Figure 4: Diagram of NRZ and SRZ (AS 4970 2025)