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ARBORICULTURAL IMPACT ASSESSMENT REPORT

At

20 Heradale Parade, Batemans Bay

Prepared for

Place Studio

4th September 2024

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DISCLAIMER

The Client acknowledges that this Report, and any opinions, advice or recommendations expressed or given in it, are the information supplied by the Client and on the data inspections, measurements and analysis carried out or obtained by Jacksons Nature Works (JNW) and referred to in the Report. The Client should rely on The Report, and on its contents, only to that extent.

Care has been taken to obtain all information from reliable sources. All data has been verified as far as possible. However, Ross Jackson – Consulting Arborist can neither guarantee nor be responsible for the accuracy of information provided by others. Unless stated otherwise:

- Information contained in this report covers only the trees examined and reflects the health and structure of the trees at the time of inspection. The documented, observations, results, recommendations, and conclusions given may vary after the site visit due to environmental conditions.
- The inspection was limited to visual examination from the base of the subject tree without dissection, probing or coring.
- There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future; &
- Unauthorised use of this report in any form is prohibited and remains the intellectual property of Jacksons Nature Works until all costs are settled.

Ross Jackson

Consulting Arborist

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1. BACKGROUND and METHODOLOGY

1.1 The purpose of this Tree Report is to inform and accompany the development application works at 20 Heradale Parade, Batemans Bay – The Site.

1.2 The report was commissioned by Place Studio to respond to Council's requirements to consider the development impacts on trees located on and around the Site.

1.3 This report outlines the health and condition of the subject trees, the remaining life expectancy of the trees, identifies any visible defects or other problems, describes which trees require pruning, removal, retention or represent a potential hazard and comments on the impact on these trees in relation to the works proposed. The report also provides recommended tree protection measures (Tree Management Plan) to ensure the long-term preservation of the trees to be retained where appropriate.

1.4 The Site is a residential site with gardens at Batemans Bay.

1.5 The trees were identified by ground level Visual Tree Assessment (VTA) [1] only in the data collection, taken on 28.11.2022. No aerial (climbing) was undertaken.

1.6 All site photographs were taken by the author at the site. All photographs were taken using a digital camera (Canon 7D) with no image enhancement either within the camera or on computer.

1.7 The subject trees were located on plans supplied. The trees have been plotted and can be found on Annexure B – Tree Location Plan.

1.8 The trees were identified, and their genus species and common name used. The trees were identified by the use of data collected and compared to G Burnie, S Forrester et al (1997) **Botanica** Random House, Milsons Point, NSW, Australia.

1.9 DBH. The Trunk Diameter at Breast Height (1.4 metres above ground level) in centimetres was measured over bark using a metal tape which automatically converts to diameter and assumes a circular trunk cross section.

1.10 DRB. The trunk Diameter above Root Buttress in centimetres was measured over bark using a metal tape which automatically converts to diameter and assumes a circular trunk cross section.

1.11 Height. Estimated overall height in metres.

1.12 Spread. Measured with a metal tape measure and shown in metres.

1.13 Useful Life Expectancy (ULE)[2].
A systematic pre-development tree assessment procedure developed by Jeremy Barrell, Hampshire, England. It gives a length of time that the Arborist feels a

[1] Mattheck, Dr. Clause & Breloer, Helge (1994) – Sixth Edition (2001) **The Body Language of Trees – A Handbook for Failure Analysis** The Stationery Office, London, England
[2] Barrell, Jeremy (1996, 2001) **Pre-development Tree Assessment** Proceedings of the International Conference on Trees and Building Sites (Chicago) International Society of Arboriculture, Illinois, USA

particular tree can be retained with an acceptable level of risk based on the information available at the time of the inspection. SULE ratings are Long (retainable for 40 years or more with an acceptable level of risk), Medium, (retainable for 16 – 39 years), Short (retainable for 5 – 15 years) and Removal (tree requiring immediate removal due to imminent hazard or absolute unsuitability).

1.14 The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) have been calculated in terms of AS 4970 – 2009 Protection of trees on development site Section 3.

1.15 Retention value & landscape significance as described by ICAC – STARS © have been used for the trees in this report.

1.16 To prepare this report we have reviewed the following documents:

- Detail survey by CEH Consulting Pty Ltd dated 14.5.2021
- Architectural plans by Place Studio dated 3.9.2024, Rev C.
- Landscape plan by Place Studio.
- Stormwater Concept Plan by Telford Civil dated 3.9.2024, Rev F.
- Eurobodalla Shire Council Tree Preservation Code of Practice dated 30.7.2019 (TPC); &
- Australian Standard AS 4970 – 2009 Protection of trees on development sites.

2. OBSERVATIONS as seen on the day of inspection (28.11.2022)

2.1 Our tree observations can be found in Annexure A. N.B. The following trees are noted on the survey plan but were not found during the site inspection: Tree 18, 25, 26, 34, 47 & 48.

3. DISCUSSIONS

3.1 We have been commissioned by Place Studio, to examine the health and condition of the trees on and around this development site.

It is proposed to demolish the existing and the construction of a new apartment complex on Site (development works).

3.2 We have examined the trees on site and can suggest the following considerations for the development works:

1. Tree 1 *Cupressus sempervirens* is showing good condition and is located in Council's nature strip – refer plate 1.

It is proposed to construct a pedestrian footpath around the development site – refer Annexure C.

This tree will be impacted by the proposed footpath construction.

This tree is considered to be of low retention value (exotic species and not on significant tree register) and its removal is recommended to allow the footpath to be constructed.

There is ample space along both street frontages to replant a number of new street trees that will more than compensate for the removal of this low retention value tree.

Note this tree for removal in the development approval.

Plate 1: Tree 1 & tree 2 behind.

2. The following trees are classified as Exempt species in Council's TPC and can be removed without consent: Tree 2 & 4 *Acer negundo*, tree 11 *Pittosporum undulatum*, tree 16 & 17 *Olea europaea subsp. Africana* (refer plate 2), tree 19, 20, 23 & 27 *Schinus terebinthifolius*.

Note all these Exempt species for removal in the development works.

Plate 2: Trees 16 & 17.

Plate 3: Tree 19.

3. Tree 3 *Eucalyptus ficifolia* is in poor condition, being over 75% dead with minimal live foliage on the remaining twigs – refer plate 4.

This tree is impacted by the proposed pedestrian footpath along both Bavarde Avenue & Heradale Parade – refer Annexure C.

To construct the new concrete footpath this low retention value tree is proposed for removal.

There is ample space along both street frontages to replant a number of new street trees that will more than compensate for the removal of this low retention value tree.

Note this tree for removal in the development approval.

Plate 4: Tree 3

4. Tree 5 *Callistemon sp.* is a street tree in Council's nature strip in Heradale Parade – refer plate 5.

It is proposed to construct a pedestrian footpath around the development site – refer Annexure C.

This tree can be retained with careful construction of the new footpath with a miner curve around this tree to reduce the potential damage to the root system.

However, should Council consider this tree has limited ULE, it could be removed, and a replacement replanted in the nature strip.

The proposed crossing to the basement driveway is outside the TPZ of this tree.

By employing the design modification, retention of this street tree will be achieved or if Council decide it has limited ULE it can be removed with a replacement planted along Heradale Parade.

Plate 5: Tree 5.

5. The following trees are within the proposed building footprint or have significant encroachments within their TPZ: Tree 6 *Callistemon sp.*, tree 7 & 9 *Callistemon viminalis*, tree 8, 21 *Melaleuca quinquenervia*, tree 10, 14, 22 & 24 *Syzygium luehmannii* and tree 12, 13 & 15 *Callistemon salignus*.

The removal of these tree is supported to allow the development to proceed.

However, there is ample space on site to replant replacement canopy trees that will more than compensate for the removal of these 12 trees – refer to the landscape plan by Zenith Landscape Designs – Annexure C.

Note these trees for removal in the development approval.

6. The following trees are located along the embankment on the eastern side of the site: Tree 28, 30, 31 & 32 *Casuarina glauca* (refer plate 6), tree 33, 36 & 42 *Eucalyptus sp.*, tree 35, 37, 38, 39, 41, 43, 44, 45 & 46 *Corymbia maculata.*

The development works does not affect the stability and longevity of these endemic trees except tree 29.

Note these trees for retention and protection in the development approval and tree 29 for removal.

Plate 6: *Casuarina glauca* trees.

Plate 7: Eucalypt trees along embankment & tree 40

Plate 8: Extra Eucalypts along eastern embankment.

Plate 9: Trees 45 & 46 at southern end of eastern embankment.

7. Tree 40 *Eucalyptus sp* is showing good condition – refer plate 7.

This tree has an encroachment of 31% of its TPZ which will have a detrimental impact on its stability and longevity, resulting in the need to remove this tree – refer Annexure C.

It is noted there are 17 endemic trees being retained along the eastern embankment. The removal of one tree will have little impact on the benefit of trees in this location.

A replacement tree will be replanted on site.

Note this tree for removal in the development approval.

3.3 The drainage plan is supported.

3.4 The landscape plan shows the replacement trees.

4. RECOMMENDATIONS

The following recommendations are advised:

a) Remove the following council street trees: Tree 1 & 3.
b) Retain the following council street tree unless Council considered a replacement tree is more appropriate: Tree 5.
c) Remove the following Exempt trees on site: Tree 2, 4, 11, 16, 17, 19, 20, 23 & 27.
d) Remove the following trees on site: Tree 6, 7, 8, 9, 10, 12, 13, 14, 15, 21, 22, 24, 29 & 40.
e) Retain the following trees on site: Tree 28, 30, 31, 32, 33, 35, 36, 37, 38, 39, 41, 42, 43, 44, 45 & 46.
f) Tree removal work shall be carried out by an experienced tree surgeon in accordance with *Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal (2016)*.
g) Install the following Tree Protection Measures around the retained street tree: Tree 5, tree protection measures shall be a temporary fence of chain wire panels 1.8 metres in height (or equivalent), supported by steel stakes or concrete blocks as required and fastened together and supported to prevent sideways movement. Existing boundary fences or walls are to be retained shall constitute part of the tree protection fence where appropriate. A sign is to be erected on the tree protection fences of the trees to be retained that the trees are covered by Council's tree preservation orders and that "No Access" is permitted into the tree protection zone – Refer Annexure D.
h) Install the following Tree Protection Measures around the retained trees on site: Tree 5, 28, 30, 31, 32, 33, 35, 36, 37, 38, 39, 41, 42, 43, 44, 45 & 46, tree protection measures shall be a temporary fence of chain wire panels 1.8 metres in height (or equivalent), supported by steel stakes or concrete blocks as required and fastened together and supported to prevent sideways movement. A sign is to be erected on the tree protection fences of the trees to be retained that the trees are covered by Council's tree preservation orders and that "No Access" is permitted into the tree protection zone – refer Annexure D.
i) That a Tree Management Plan be prepared as part of the Construction Certificate by a consulting arborist who holds the Diploma in Horticulture (Arboriculture), Level 5 or above under the Australian Qualification Framework.
j) An AQF Level 5 Project Arborist shall be engaged to supervise the building works and certify compliance with all Tree Protection Measures.
k) The tree location plan can be found on Annexure B; &

l) The tree impact plans can be found on Annexure C.

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Annexure A: Observations as seen on the day of inspection of trees 28.11.2022

Tree No	Botanical Name	Age Class	Height (m)	Spread (m)	D.B.H. (cm)	D.R.B. (cm)	TPZ (radius m)	SRZ (radius m)	Condition comments as seen on site	ULE	Landscape significance	Retention value
1	*Cupressus sempervirens*	M	6	2	6 x 15	55	4.2	2.6	G vitality, ST, OHPL, topped @ 5m	3	Medium	Low
2	*Acer negundo*	M	10	10	2 x 45	70	7.6	2.8	Exempt species	4c	Low	Low
3	*Eucalyptus ficifolia*	M	8	7	35	40	4.2	2.3	A vitality, 5% live foliage, 3/4 dead.	4a	Low	Low
4	*Acer negundo*	M	10	10	2 x 30, 50	75	7.9	2.9	Exempt species	4c	Low	Low
5	*Callistemon salignus*	M	7	3	25	30	3.0	2.0	G vitality, all canopy to ST	2	Medium	Medium
6	*Callistemon sp.*	M	3	3	3 x 10	25	2.1	1.8	F vitality, ST, OHPL, pruned	3c	Low	Low
7	*Callistemon viminalis*	M	4	4	4 x 10	35	2.4	2.1	F vitality, suppressed	3c	Low	Low
8	*Melaleuca quinquenervia*	M	9	3	30	35	3.6	2.1	G vitality, bifurcated @ 2m	2	Medium	Medium
9	*Callistemon viminalis*	M	8	7	20, 30	50	4.3	2.5	F vitality, minor DW, minor lower prune for drive	3c	Low	Low
10	*Syzygium luehmannii*	M	8	3	25	30	3.0	2.0	G vitality, suppressed, lower branch DW	2	Medium	Medium
11	*Pittosporum undulatum*	M	6	5	2 x 15	20	2.5	1.7	Exempt species	5	Low	Low
12	*Callistemon salignus*	M	8	3	25	30	3.0	2.0	F vitality, suppressed	3c	Low	Low
13	*Callistemon salignus*	M	8	3	20	25	2.4	1.8	G vitality suppressed	2	Medium	Medium
14	*Syzygium luehmannii*	M	8	4	35	40	4.2	2.3	G vitality suppressed	2	Medium	Medium
15	*Callistemon salignus*	M	6	3	2 x 15	30	2.5	2.0	G vitality suppressed, recent branch failure	3c	Low	Low
16	*Olea europaea subsp. Africana*	M	7	4	30	35	3.6	2.1	Exempt species	5	Low	Low
17	*Olea europaea subsp. Africana*	M	7	7	45	50	5.4	2.5	Exempt species	5	Low	Low
18	*Not found*	-	-	-	-	-	-	-	-	-	-	-

19	*Schinus terebinthifolius*	M	8	8	35	40	4.2	2.3	Exempt species	4d	Low	Low
20	*Schinus terebinthifolius*	M	8	8	30, 25	40	4.7	2.3	Exempt species	4d	Low	Low
21	*Melaleuca quinquenervia*	M	8	8	2 x 25, 20	60	4.9	2.7	G vitality, topped @ 3m > ED	3c	Low	Low
22	*Syzygium luehmannii*	M	5	3	15, 20	30	3.0	2.0	G vitality, topped, suppressed	2	Medium	Medium
23	*Schinus terebinthifolius*	M	8	8	2 x 25	50	4.2	2.5	Exempt species	4d	Low	Low
24	*Syzygium paniculatum*	M	8	7	35	40	4.2	2.3	G vitality	5	Medium	Low
25	*Not found*	-	-	-	-	-	-	-	-	-	-	-
26	*Not found*	-	-	-	-	-	-	-	-	-	-	-
27	*Schinus terebinthifolius*	M	6	8	30	35	3.6	2.1	Exempt species	4d	Low	Low
28	*Casuarina glauca*	M	10	5	40	50	4.8	2.5	G vitality, ND	1	High	High
29	*Casuarina glauca*	M	10	10	2 x 35, 30	80	5.9	3.0	G vitality	1	High	High
30	*Casuarina glauca*	M	8	2	25	30	3.0	2.0	F vitality, covered in ivy, suppressed	2	Medium	Medium
31	*Casuarina glauca*	M	8	2	25	30	3.0	2.0	F vitality, covered in ivy, suppressed	2	Medium	Medium
32	*Casuarina glauca*	M	8	2	25	30	3.0	2.0	F vitality, covered in ivy, suppressed	2	Medium	Medium
33	*Eucalyptus sp.*	M	24	20	130	180	15.0	4.2	G vitality, bracket @ 7m, minor DW, large structural surface compression roots	1 (4c)	Medium	Medium
34	*Not found*	-	-	-	-	-	-	-	-	-	-	-
35	*Corymbia maculata*	M	20	10	60	80	7.2	3	G vitality	1	High	High
36	*Eucalyptus sp.*	M	9	3	20	25	2.4	1.8	G vitality, pole-like	2	Medium	Medium
37	*Corymbia maculata*	M	9	2	15	20	1.8	1.7	G vitality, pole-like, trunk injury	2	Medium	Medium
38	*Corymbia maculata*	M	10	4	25	30	3.0	2.0	G vitality, pole-like, trunk injury	2	Medium	Medium

39	*Corymbia maculata*	M	12	6	40	45	4.8	2.4	G vitality	1	High	High
40	*Eucalyptus sp.*	M	12	8	45	50	5.4	2.5	G vitality	1	High	High
41	*Corymbia maculata*	M	14	8	60	70	7.2	2.8	G vitality, on slope	1	High	High
42	*Eucalyptus sp.*	M	18	14	70	80	8.4	3.0	G vitality, up hill	1	High	High
43	*Corymbia maculata*	M	20	10	50	60	6.0	2.7	G vitality, bottom of slope	1	High	High
44	*Corymbia maculata*	M	18	8	45	50	5.4	2.5	G vitality	1	High	High
45	*Corymbia maculata*	M	16	8	80	100	9.6	3.3	G vitality, 1/2 way up slope	1	High	High
46	*Corymbia maculata*	M	16	8	60	70	7.2	2.8	G vitality, up slope	1	High	High
47	*Not found*	-	-	-	-	-	-	-	-	-	-	-
48	*Not found*	-	-	-	-	-	-	-	-	-	-	-

Terms used in Tree Survey & Report:

Age Class

(Y) – Young refers to a well-established but juvenile tree. Less than 1/3 life expectancy

(SM) – Semi-mature refers to a tree at growth stages between immaturity and full size. A tree has reached First Adult Form i.e., displays adult characteristics. 1/3 to 2/3 life expectancy

(M)- Mature refers to a full-size tree with some capacity for future growth. Older than 2/3 life expectancy

(OM) – Over-mature refers to a tree approaching decline or already declining. Older than 2/3 life expectancy and showing signs of irreversible decline.

Health refers to a tree's vigour, growth rate, disease and/or insects.

Vitality summarises observations about the health and structure of the tree on a scale of: **(G) Good, (F) Fair, (P) Poor & (D) Dead.**

Good: Tree is generally healthy and free from obvious signs of structural weaknesses or significant effects of pests and diseases or infection.

Fair: Tree is generally vigorous although has some indication of being adversely affected by the early effects of disease or infection or environmental or mechanical damage. Appropriate tree maintenance can usually improve overall health and halt decline.

Poor: Tree in decline and is not likely to improve with reasonable maintenance practices or has a structural fault such as bark inclusion.

Dead: Tree no longer capable of sustained growth.

Deadwood (DW) – deadwood found in canopy as a percentage.

Over Head Power Lines (OHPL) – upper canopy pruned to accommodate power lines at a given height.

Height expressed in metres refers to estimated overall height of tree.

Next Door tree (ND) – tree located in the neighbour's property.

Street Tree (ST) – tree located in Councils footpath reserve.

Spread expressed in metres refers to estimated spread of crown at the drip line.

(DBH) Diameter at Breast Height expressed in millimetres refers to the trunk diameter at 1.4 metres above ground level. Where there is multiple trunks the combined diameter has been calculated in terms of Appendix A – AS 4970 – 2009, shown in brackets.

(DRB) Diameter above Root Buttress expressed in millimetres refers to the trunk diameter above root buttress.

(TPZ) Tree Protection Zone & Structural Root Zone (SRZ) as defined by AS 4970 – 2009 Section 3

(ULE) The various ULE categories indicate the useful life anticipated for an individual tree or trees assessed as a group. Factors such as the location, age, condition and vitality of the tree are significant to the determination of this rating. Other influences such as the tree's effect on better specimens and the economics of managing the tree successfully in its location are also relevant to ULE (Barrell 1993, 1995, 2001).

ULE RATING (UPDATED 1/4/01) BARRELL

1.Long ULE: Trees that appear to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.	**2.Medium ULE:** Trees that appear to be retainable at the time of assessment for more than 15-40 years with an acceptable level of risk.	**3.Short ULE:** Trees that appear to be retainable at the time of assessment for more than 5-15 years with an acceptable level of risk.	**4.Remove:** Trees that should be removed within the next 5 years.	**5.Small, young or regularly pruned:** Trees that can be reliably moved or replaced.
(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)** Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.	**(A)** Small trees less than 5 Metres in height.
(B) Trees that could be made suitable for retention in the long term by remedial tree care.	**(B)** Trees that could live for more than 40 years but may be removed for safety or nuisance reasons.	**(B)** Trees that could live for more than 15 years but may be removed for safety or nuisance reasons.	**(B)** Dangerous trees because of instability or recent loss of adjacent trees.	**(B)** Young trees less than 15 years old but over 5 metres in height.
(C) Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention.	**(C)** Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	**(C)** Trees that could 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)** Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.	**(C)** Formal hedges and trees intended for regular pruning to artificially control growth.
	(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 short term.	**(D)** Damaged trees that are clearly not safe to retain.	
			(E) Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	
			(F) Trees that are damaging or may cause damage to existing structures within 5 years.	
			(G) Trees that will become dangerous after removal of other trees for the reasons given in (A) to (F).	
			(H) Trees in categories (A) to (G) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.	

IACA Significance of a Tree, Assessment Rating System (STARS)© (IACA 2010)©

In the development of this document IACA acknowledges the contribution and original concept of the Footprint Green Tree Significance & Retention Value Matrix, developed by Footprint Green Pty Ltd in June 2001.

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process all definitions for terms used in the *Tree Significance - Assessment Criteria* and *Tree Retention Value - Priority Matrix*, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

This rating system will assist in the planning processes for proposed works, above and below ground where trees are to be retained on or adjacent a development site. The system uses a scale of *High*, *Medium* and *Low* significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined. An example of its use in an Arboricultural report is shown as Appendix A.

Tree Significance - Assessment Criteria

1. High Significance in landscape

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

2. Medium Significance in landscape

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

3. Low Significance in landscape

- The tree is in fair-poor condition and good or low vigour;
- The tree has form atypical of the species;
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings,
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area,
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen,
- The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa *in situ* - tree is inappropriate to the site conditions,
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,
- The tree has a wound or defect that has potential to become structurally unsound.

Environmental Pest / Noxious Weed Species

- The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties,
- The tree is a declared noxious weed by legislation.

Hazardous/Irreversible Decline

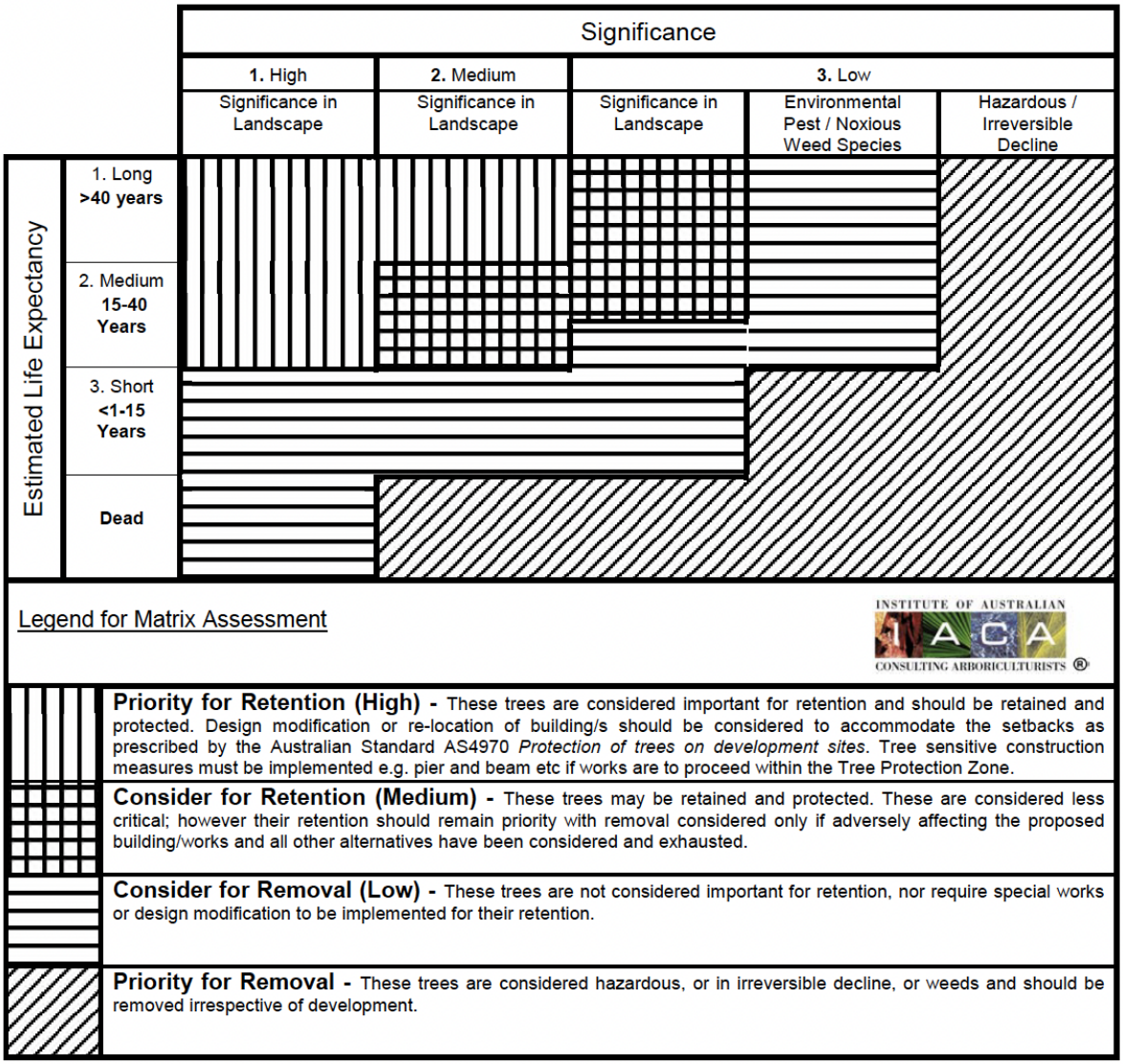
- The tree is structurally unsound and/or unstable and is considered potentially dangerous,
- The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

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

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

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

Table 1.0 Tree Retention Value - Priority Matrix.



USE OF THIS DOCUMENT AND REFERENCING

The IACA Significance of a Tree, Assessment Rating System (STARS) is free to use, but only in its entirety and must be cited as follows:

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

REFERENCES

Australia ICOMOS Inc. 1999, *The Burra Charter – The Australian ICOMOS Charter for Places of Cultural Significance*, International Council of Monuments and Sites, www.icomos.org/australia

Draper BD and Richards PA 2009, *Dictionary for Managing Trees in Urban Environments*, Institute of Australian Consulting Arboriculturists (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.

Footprint Green Pty Ltd 2001, *Footprint Green Tree Significance & Retention Value Matrix*, Avalon, NSW Australia, www.footprintgreen.com.au

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

Appendix A

The following example shows the IACA **Significance** of a **Tree, Assessment Rating System** (STARS) used in an Arboricultural report.

Tree Significance

Determined by using the Tree Significance - Assessment Criteria of the *IACA Significance of a Tree, Assessment Rating System* (STARS)© (IACA, 2010), Appendix B.

Trees 14, 16, 17/3, 19 and 20/4 are of high significance with the remaining majority of medium significance and a few of low significance. Tree 14 is significant as a prominent specimen and a food source for indigenous avian fauna. Tree 16 as a non-locally indigenous planting is of good from and prominent *in situ*; Tree 17/3 as a stand of 6 street trees along the Davey Street frontage screening views to and from the site and contiguous with trees in Victoria Park extending the aesthetic influence of the urban canopy to the site. Similarly for Trees 20/4 as street trees in Long Road and Tree 19 as an extant exotic planting as a senescent component of the original landscaping. The trees of low significance are recent plantings as fruit trees – Avocados, and 1 Cootamundra Wattle as a non-locally indigenous tree in irreversible decline and potentially structurally unsound.

Significance Scale

1 – High
2 – Medium
3 – Low

Significance Scale	1	2	3
Tree No. / Stand No.	14, 16, 17/3, 19, 20/4	1/1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12/2, 15, 18, 21/5	3, 13, 22

Tree Retention Value

Determined by using the Retention Value - Priority Matrix of the *IACA Significance of a Tree, Assessment Rating System* (STARS)© (IACA, 2010), Appendix B.

Retention Value

High – Priority for Retention
Medium – Consider for Retention
Low – Consider for Removal
Remove - Priority for Removal

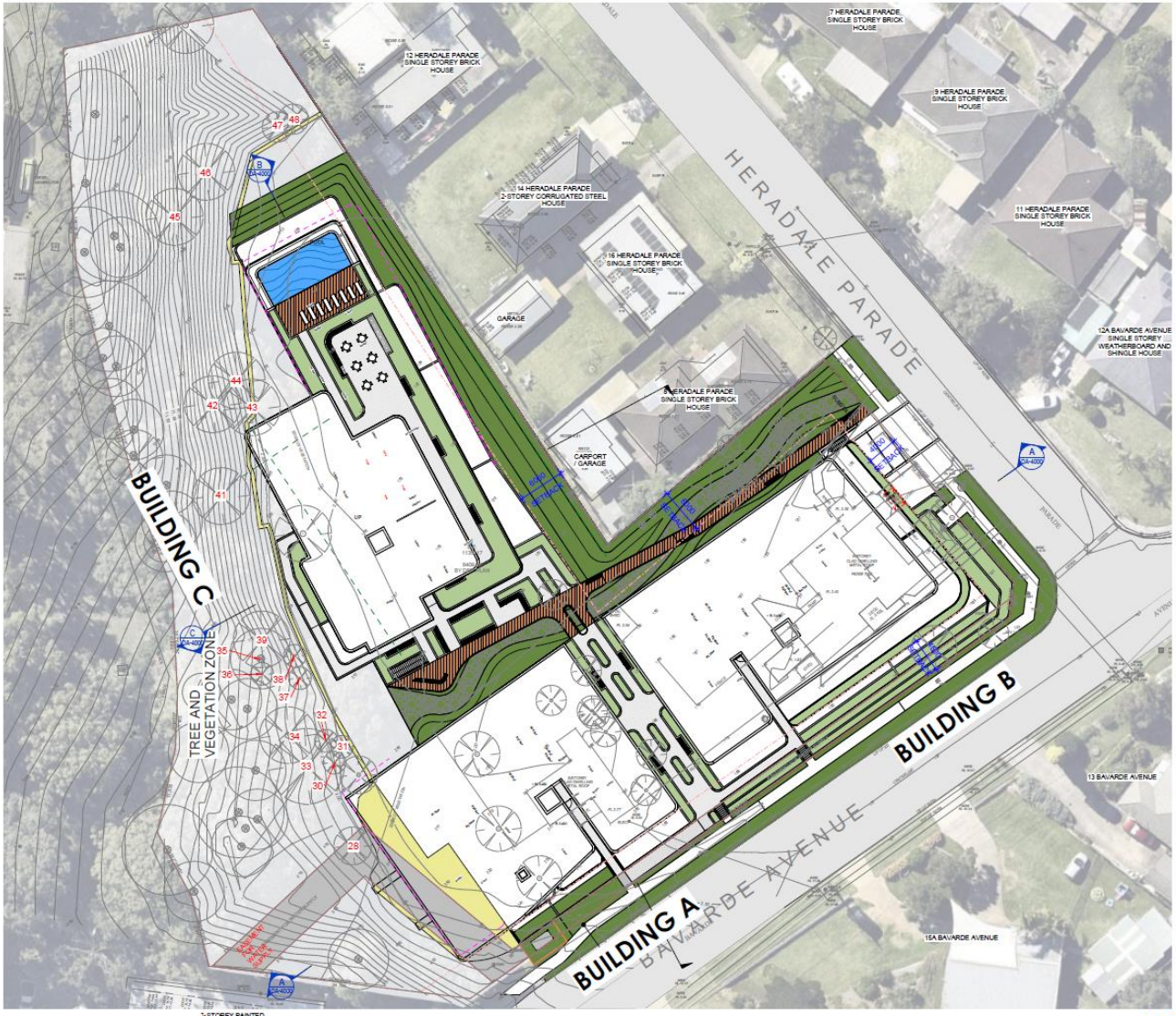
Retention Value	High Priority for Retention	Medium Consider for Retention	Low Consider for Removal	Remove Priority for Removal
Tree No. / Stand No.	1/1, 5, 17/3*, 19	2, 4, 6, 7, 8, 9, 10, 11, 14, 15, 16, 18, 20/4*, 21/5	3, 12/2, 13,	22

* Trees located within the neighbouring property and should be retained and protected.

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

Annexure B: Tree location plan

Annexure C: Tree impact plan



UNIT MIX

TYPE	NO.	AREA (m²)
3 BED	A-101	115.9 m²
3 BED	A-102	137.4 m²
3 BED - ADA	A-103	145.0 m²
2 BED - ADA	A-104	116.8 m²
4 BED	A-105	174.0 m²
3 BED	A-201	115.9 m²
3 BED	A-202	137.4 m²
3 BED - ADA	A-203	144.9 m²
2 BED - ADA	A-204	116.7 m²
4 BED	A-205	174.0 m²
3 BED	A-301	115.9 m²
3 BED	A-302	137.4 m²
3 BED - ADA	A-303	145.0 m²
2 BED - ADA	A-304	116.8 m²
4 BED	A-305	174.0 m²
1 BED	A-001	50.8 m²
1 BED	A-002	73.5 m²
3 BED - ADA	A-003	145.0 m²
3 BED	A-004	147.2 m²
3 BED	A-005	121.5 m²
3 BED	B-101	134.6 m²
2 BED - ADA	B-102	116.8 m²
3 BED - ADA	B-103	145.0 m²
3 BED	B-104	109.3 m²
3 BED	B-105	115.1 m²
3 BED	B-106	115.9 m²
3 BED	B-201	134.4 m²
2 BED - ADA	B-202	116.8 m²
3 BED - ADA	B-203	145.0 m²
3 BED	B-204	109.3 m²
3 BED	B-205	115.1 m²
3 BED	B-206	115.9 m²
3 BED	B-301	134.6 m²
2 BED - ADA	B-302	116.8 m²
2 BED - ADA	B-303	117.1 m²
2 BED	B-304	131.3 m²
4 BED	B-305	184.8 m²
3 BED	B-001	95.2 m²
3 BED	B-002	147.2 m²
3 BED	B-003	120.4 m²
3 BED	B-004	121.9 m²
3 BED	C-101	137.0 m²
3 BED	C-102	141.1 m²
3 BED	C-103	109.9 m²
3 BED - ADA	C-104	126.3 m²
3 BED - ADA	C-105	126.1 m²
3 BED	C-106	130.7 m²
3 BED	C-001	137.5 m²
3 BED	C-002	134.0 m²
3 BED - ADA	C-003	126.3 m²
3 BED - ADA	C-004	126.1 m²
3 BED	C-005	130.7 m²
3 BED	C-301	137.5 m²
3 BED	C-302	130.7 m²
2 BED	C-001	114.2 m²
3 BED	C-002	168.0 m²
2 BED	C-003	130.3 m²
2 BED	C-004	164.2 m²
2 BED	C-005	122.6 m²
3 BED	C-006	130.7 m²
80		

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

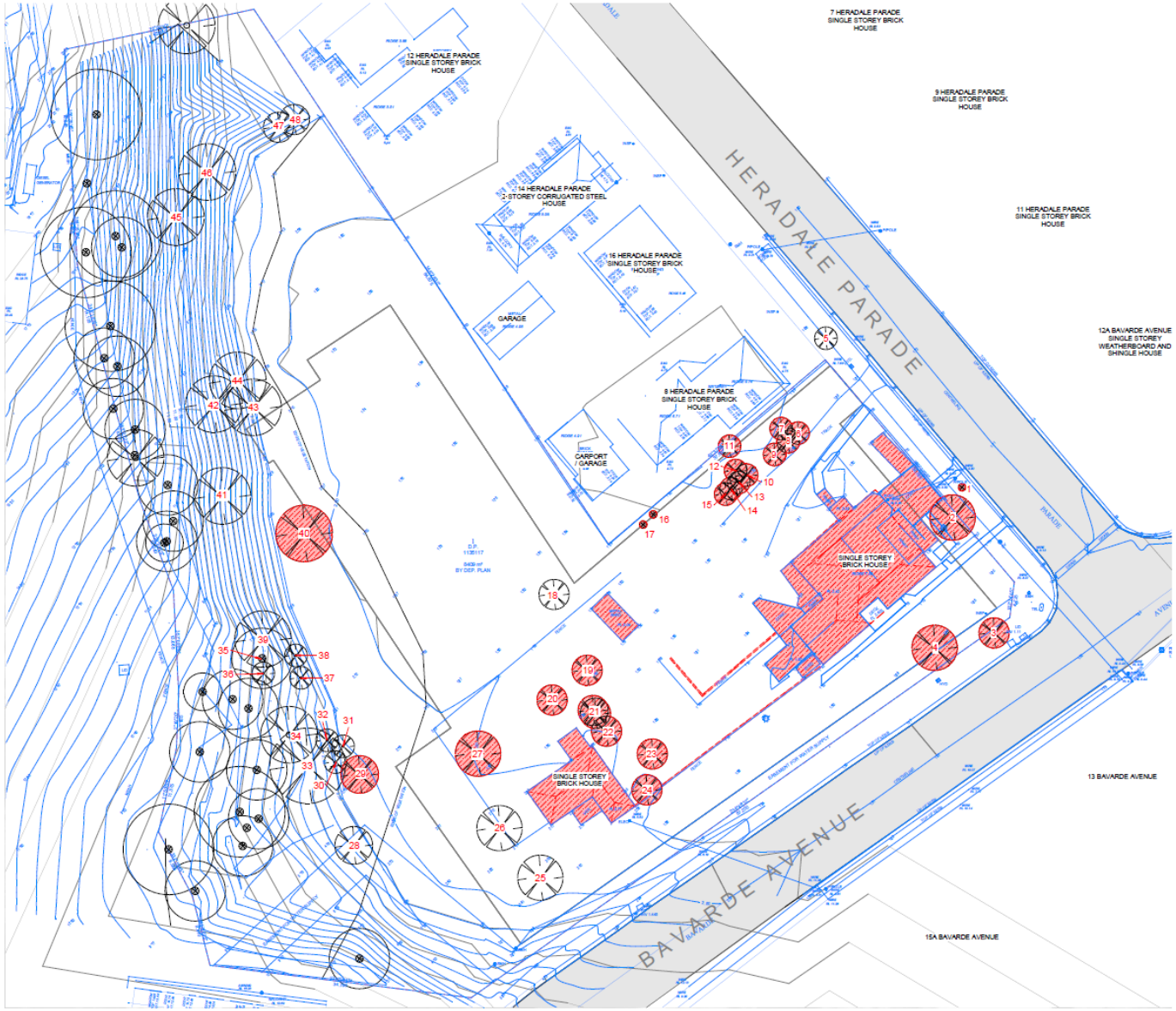
ARCHITECT:
PLACE STUDIO

SCALE: 1 : 250 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
SITE PLAN

SHEET NUMBER: DA-2000
REV: D
DATE: 03/09/2024



PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

ARCHITECT:
PLACE STUDIO

SCALE: As Indicated @ A1

PROJECT:
#2021029
HERADALE
BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
DEMOLITION PLAN - SURVEY OVERLAY

SHEET NUMBER: **DA-0100**
REV: **C**
DATE: 03/09/2024

1 EXISTING TREE PLAN
Scale: 1:300 @ A1

Existing Tree Schedule					
ID	Botanical Name	Origin	Average Spread	Height	Action
E01	Cupressus sempervirens	Exotic	2000	6000	Remove
E02	Acer negundo	Exotic	10000	10000	Remove
E03	Eucalyptus ficifolia	Native	7000	8000	Remove
E04	Acer negundo	Exotic	10000	10000	Remove
E05	Callistemon salignus	Native	3000	7000	Retain
E06	Callistemon sp.	Native	3000	3000	Remove
E07	Callistemon viminalis	Native	4000	4000	Remove
E08	Melaleuca quinquenervia	Native	3000	9000	Remove
E09	Callistemon viminalis	Native	7000	8000	Remove
E10	Syzygium luehmannii	Native	3000	8000	Remove
E11	Pittosperum undulatum	Native	5000	6000	Remove
E12	Callistemon salignus	Native	3000	8000	Remove
E13	Callistemon salignus	Not Set	3000	8000	Remove
E14	Syzygium luehmannii	Native	4000	8000	Remove
E15	Callistemon salignus	Native	3000	6000	Remove
E16	Olea europaea subsp. Africana	Exotic	4000	7000	Remove
E17	Olea europaea subsp. Africana	Exotic	7000	7000	Remove
E18	Not Found	Not Set	5000	5000	Remove
E19	Schinus terebinthifolius	Exotic	8000	8000	Remove
E20	Schinus terebinthifolius	Exotic	8000	8000	Remove
E21	Melaleuca quinquenervia	Native	8000	8000	Remove
E22	Syzygium luehmannii	Native	3000	5000	Remove
E23	Schinus terebinthifolius	Exotic	8000	8000	Remove
E24	Syzygium paniculatum	Native	7000	8000	Remove
E25	Not Found	Not Set	5000	5000	Remove
E26	Not Found	Not Set	5000	5000	Remove
E27	Schinus terebinthifolius	Exotic	8000	8000	Remove
E28	Casuarina glauca	Native	5000	10000	Retain
E29	Casuarina glauca	Native	10000	10000	Remove
E30	Casuarina glauca	Native	2000	8000	Retain
E31	Casuarina glauca	Native	2000	8000	Retain
E32	Casuarina glauca	Native	2000	8000	Retain
E33	Eucalyptus sp.	Native	20000	24000	Retain
E34	Not Found	Not Set	5000	5000	Remove
E35	Corymbia maculata	Native	10000	20000	Retain
E36	Eucalyptus sp.	Native	3000	9000	Retain
E37	Corymbia maculata	Native	2000	9000	Retain
E38	Corymbia maculata	Native	4000	10000	Retain
E39	Corymbia maculata	Not Set	6000	12000	Retain
E40	Eucalyptus sp.	Native	8000	12000	Remove
E41	Corymbia maculata	Native	8000	14000	Retain
E42	Eucalyptus sp.	Native	14000	18000	Retain
E43	Corymbia maculata	Native	10000	20000	Retain
E44	Corymbia maculata	Native	8000	18000	Retain
E45	Corymbia maculata	Native	8000	16000	Retain
E46	Corymbia maculata	Native	8000	18000	Retain
E47	Not Found	Not Set	5000	5000	Remove
E48	Not Found	Not Set	5000	5000	Remove
E49	Corymbia maculata	Not Set	6000	12000	Retain
E50	Not Found	Not Set	5000	5000	Retain

REFER TO ARBORICULTURAL IMPACT ASSESSMENT REPORT BY JASCKSONS NATURE WORKS

NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

REVISION:

LEGEND:
EXISTING TREES TO BE RETAINED AND PROTECTED
EXISTING TREES TO BE REMOVED

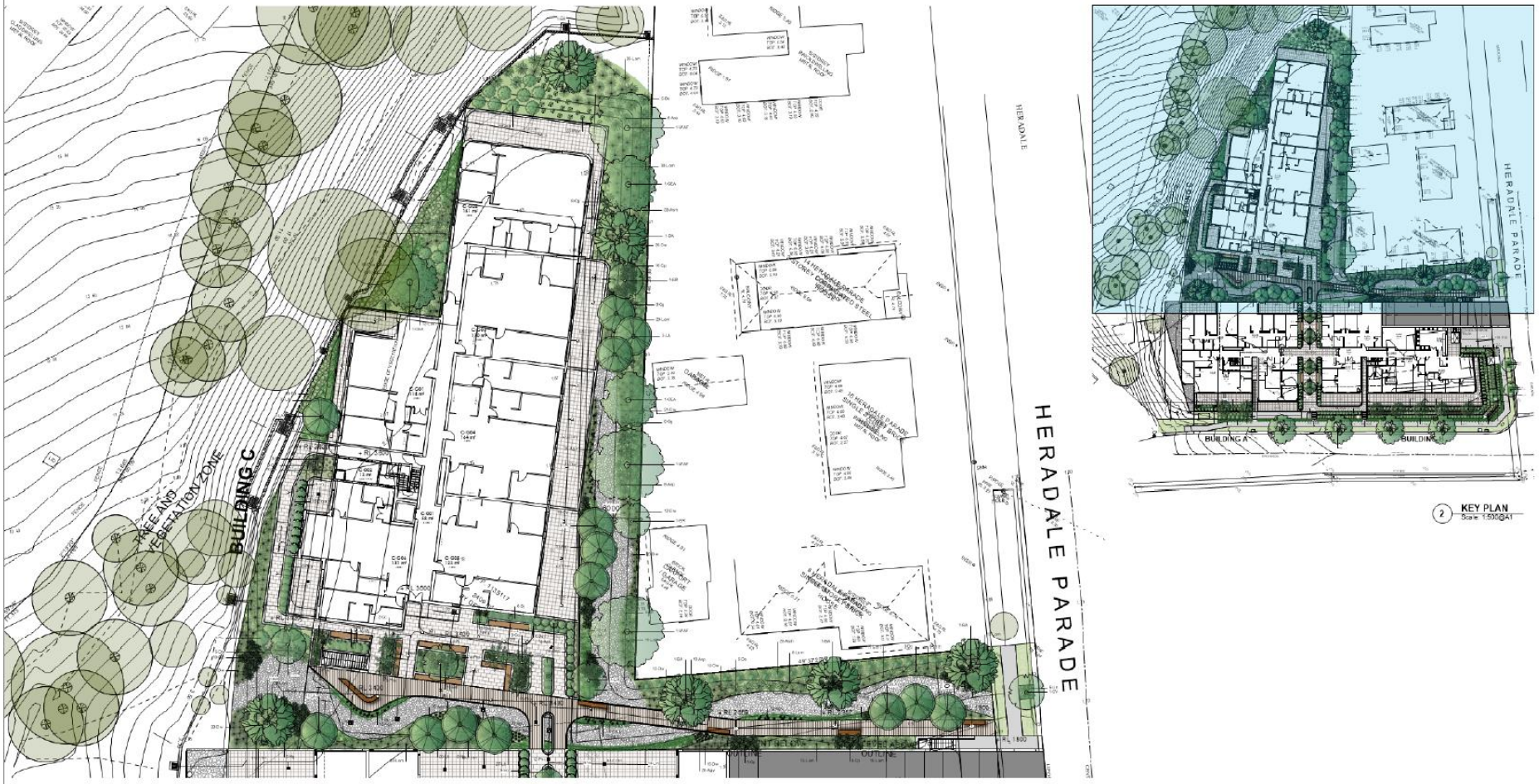
SCALE: 1:300 @ A1

PROJECT:
P2021029
Existing Tree Plan
30 HERADALE PARADE BATEMANS BAY
CLIENT: HERADALE BATEMANS BAY

DRAWING TITLE:
HERADALE BATEMANS BAY
SHEET NUMBER: L001
REV: A

PLACE LANDSCAPE


PRECINCT IMAGES LEVEL 3
HERADALE PARADE
BUILDING C
TREE AND VEGETATION ZONE
BUILDING A
BUILDING B
EASEMENT FOR WATER SUPPLY
1 GROUND FLOOR
2 LEVEL 3
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION
REVISION:
PRECINCT IMAGES GROUND FLOOR
PROJECT:
Landscape Masterplan
29 HERADALE PARADE BATEMANS BAY
CLIENT: HERADALE BATEMANS BAY
DRAWING TITLE:
HERADALE BATEMANS BAY
SHEET NUMBER
L002
REV:
A
PLACE
LANDSCAPE



1 GROUND FLOOR - PLANTING PLAN
Scale: 1:200@A1

2 KEY PLAN
Scale: 1:500@A1

NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

REVISION:

LEGEND:

SCALE: 1:200 @ A1

PROJECT:
R2021029
Planting Plan Ground Floor
20 HERADALE PARADE BATEMANS BAY
CLIENT: HERADALE BATEMANS BAY

DRAWING TITLE:
HERADALE BATEMANS BAY
SHEET NUMBER: L004
REV: A

PLACE LANDSCAPE

LEGEND

Symbol	Description
	PROPOSED STORMWATER DRAINAGE PIPE
	PROPOSED STORMWATER DRAINING TO OSD
	PROPOSED STORMWATER BYPASSING OSD
	Ø100 HDPE OR PVC WRAPPED IN 20mm ABLEFLEX STORMWATER DRAINAGE PIPE CAST IN SLAB
65	Ø65 HDPE OR PVC WRAPPED IN 20mm ABLEFLEX STORMWATER DRAINAGE PIPE CAST IN SLAB
RWT	PROPOSED STORMWATER PIPE TO RAINWATER TANK
SS	Ø100mm SUBSOIL DRAINAGE TO BE WRAPPED IN GEOTEXTILE BIDIMA34
	RISER PIPE
CE	Ø300 CLEANING EYE
RWT	RAINWATER TANK
DP	DOWNPIPE Ø100
VD	VERTICAL DROP Ø100
PG	PLANTER GRATE Ø150
FG	FLOOR GRATE Ø150
FG	FLOOR GRATE 200x200 (ALLOW MINIMUM 1.0% FALL TO FG)
FW	FLOOR GRATE 300x300 (ALLOW MINIMUM 1.0% FALL TO FW)
RWO	RAINWATER OUTLET Ø260 SPS (ALLOW MINIMUM 1.0% FALL TO RWO)
SPB	SUSPENDED PLANTER BOX RAINWATER OUTLET
X RL 47.00	DESIGN SURFACE LEVEL
NS 26.45	EXISTING SURFACE LEVEL
IL 47.00	INVERT LEVEL
TD	AC CONDENSER TUNDISH TO MANUFACTURER'S DETAILS
	Ø50mm HDPE OR PVC WRAPPED IN 20mm ABLEFLEX CAST IN SLAB
OF	Ø50mm EMERGENCY OVERFLOW SPITTERS/PIPES
	EXISTING STORMWATER
ExW	EXISTING WATER MAIN
ExS	EXISTING SEWER MAIN
ExT	EXISTING TELSTRA
ExE	EXISTING ELECTRICAL
ExG	EXISTING GAS
ExOP	EXISTING OPTIC FIBER

NOTE:
ALL GRATES WITHIN FOOTWAY AREAS TO BE HEEL GUARD & BIKE SAFE.

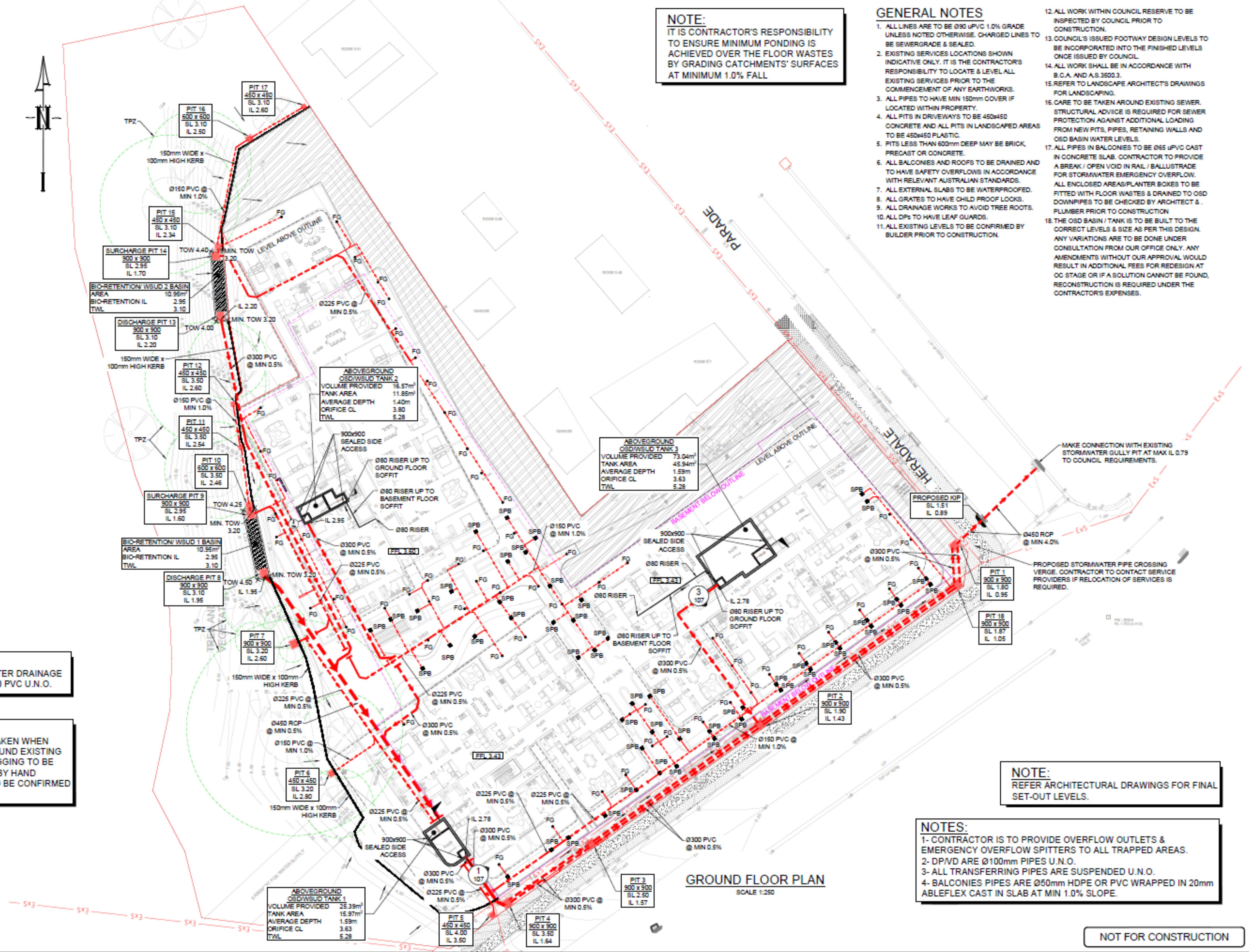
NOTE:
ALL STORMWATER DRAINAGE PIPES ARE Ø100 PVC U.N.O.

NOTE:
PITS DEEPER THAN 1.0m TO BE FITTED WITH STEP IRONS

NOTE:
CARE TO BE TAKEN WHEN WORKING AROUND EXISTING TREES. ALL DIGGING TO BE UNDERTAKEN BY HAND METHODS & TO BE CONFIRMED BY ARBORIST.

PIPES NOTE:
Ø65 PVC @ MIN 1.0%
Ø90 PVC @ MIN 1.0%
Ø100 PVC @ MIN 1.0%
Ø150 PVC @ MIN 1.0%
Ø225 PVC @ MIN 0.5%
Ø300 PVC @ MIN 0.4%
UNLESS NOTED OTHERWISE

NOTE:
ALL LINEAR GRATED DRAINS TO BE MIN. 100mm DEEP.



NOTE:
IT IS CONTRACTOR'S RESPONSIBILITY TO ENSURE MINIMUM PONDING IS ACHIEVED OVER THE FLOOR WASTES BY GRADING CATCHMENTS' SURFACES AT MINIMUM 1.0% FALL

GENERAL NOTES

1. ALL LINES ARE TO BE Ø90 uPVC 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWERGRADE & SEALED.
2. EXISTING SERVICES LOCATIONS SHOWN INDICATIVE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS.
3. ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY.
4. ALL PITS IN DRIVEWAYS TO BE 450x450 CONCRETE AND ALL PITS IN LANDSCAPED AREAS TO BE 450x450 PLASTIC.
5. PITS LESS THAN 600mm DEEP MAY BE BRICK, PRECAST OR CONCRETE.
6. ALL BALCONIES AND ROOFS TO BE DRAINED AND TO HAVE SAFETY OVERFLOWS IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
7. ALL EXTERNAL SLABS TO BE WATERPROOFED.
8. ALL GRATES TO HAVE CHILD PROOF LOCKS.
9. ALL DRAINAGE WORKS TO AVOID TREE ROOTS.
10. ALL DPs TO HAVE LEAF GUARDS.
11. ALL EXISTING LEVELS TO BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
12. ALL WORK WITHIN COUNCIL RESERVE TO BE INSPECTED BY COUNCIL PRIOR TO CONSTRUCTION.
13. COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED INTO THE FINISHED LEVELS ONCE ISSUED BY COUNCIL.
14. ALL WORK SHALL BE IN ACCORDANCE WITH B.C.A. AND A.S.3500.3.
15. REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR LANDSCAPING.
16. CARE TO BE TAKEN AROUND EXISTING SEWER. STRUCTURAL ADVICE IS REQUIRED FOR SEWER PROTECTION AGAINST ADDITIONAL LOADING FROM NEW PITS, PIPES, RETAINING WALLS AND OSD BASIN WATER LEVELS.
17. ALL PIPES IN BALCONIES TO BE Ø65 uPVC CAST IN CONCRETE SLAB. CONTRACTOR TO PROVIDE A BREAK / OPEN VOID IN RAIL / BALLUSTRADE FOR STORMWATER EMERGENCY OVERFLOW. ALL ENCLOSED AREAS/PLANTER BOXES TO BE FITTED WITH FLOOR WASTES & DRAINED TO OSD DOWNPIPES TO BE CHECKED BY ARCHITECT & . PLUMBER PRIOR TO CONSTRUCTION
18. THE OSD BASIN / TANK IS TO BE BUILT TO THE CORRECT LEVELS & SIZE AS PER THIS DESIGN. ANY VARIATIONS ARE TO BE DONE UNDER CONSULTATION FROM OUR OFFICE ONLY. ANY AMENDMENTS WITHOUT OUR APPROVAL WOULD RESULT IN ADDITIONAL FEES FOR REDESIGN AT OC STAGE OR IF A SOLUTION CANNOT BE FOUND, RECONSTRUCTION IS REQUIRED UNDER THE CONTRACTOR'S EXPENSES.

NOTE:
REFER ARCHITECTURAL DRAWINGS FOR FINAL SET-OUT LEVELS.

NOTES:
1- CONTRACTOR IS TO PROVIDE OVERFLOW OUTLETS & EMERGENCY OVERFLOW SPITTERS TO ALL TRAPPED AREAS.
2- DP/VD ARE Ø100mm PIPES U.N.O.
3- ALL TRANSFERRING PIPES ARE SUSPENDED U.N.O.
4- BALCONIES PIPES ARE Ø50mm HDPE OR PVC WRAPPED IN 20mm ABLEFLEX CAST IN SLAB AT MIN 1.0% SLOPE.

NOT FOR CONSTRUCTION

Issue	Description	Date	Design	Checked
F	ISSUE FOR COUNCIL COMMENTS	03/09/2024	YKK	SBF
E	ISSUE FOR COUNCIL COMMENTS	30/08/2024	YKK	SBF
D	ISSUE FOR COUNCIL COMMENTS	24/11/2023	YKK	JSF
C	ISSUE FOR DEVELOPMENT APPLICATION	23/03/2023	YKK	JSF
B	ISSUE FOR DEVELOPMENT APPLICATION	24/01/2023	YKK	JSF

Certification By Dr. Michel Chaaya B.E., M.E. (Res), Ph.D., F.I.E. Aust., CPEng., Civil & Structural Engineer

Architect: PLACE STUDIO, 74 KING ST, NEWTOWN NSW 2042, T 61 431 088 534, W: www.PlaceStudio.com.au, Studio@PlaceStudio.com.au

Council: EUROBODALLA SHIRE COUNCIL

Scale: 0 2 4 6 8 10 12 m — SCALE 1:250 @ A1

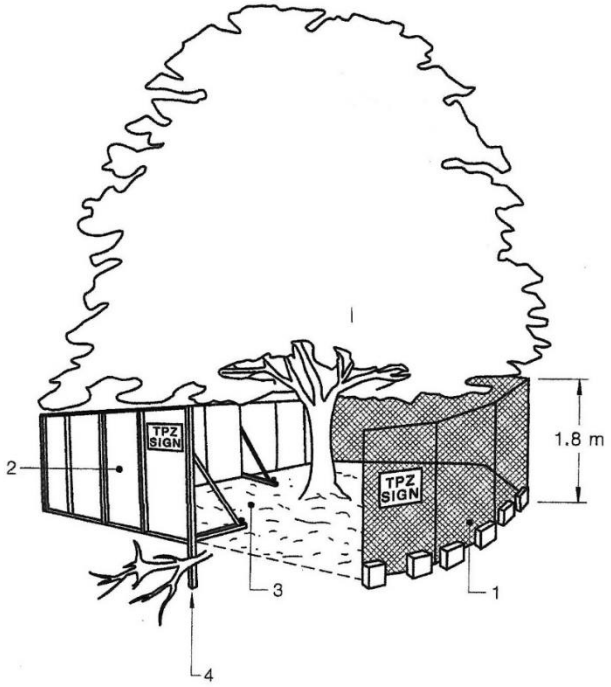
TELFORD CIVIL — DESIGN & CONSTRUCTION EXCELLENCE
Level 14, 32 Smith Street, Parramatta NSW 2150, PO BOX 3579 Parramatta 2124
Email: info@telfordcivil.com.au, Phone: 02 7809 4931, Company: Telford Consulting Pty Ltd

Project: 20 HERADALE PARADE, BATEMANS BAY — PROPOSED RESIDENTIAL DEVELOPMENT — STORMWATER CONCEPT PLANS — DEVELOPMENT APPLICATION

Drawing Title: STORMWATER CONCEPT PLAN GROUND FLOOR

Scale	A1	Project No.	Dwg. No.	Issue
1:250		22500	104	F

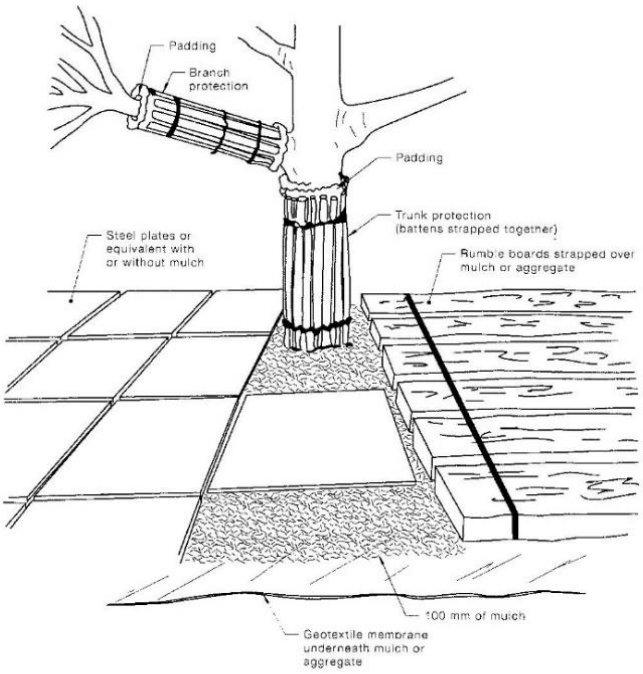
Annexure D: Tree protection details



LEGEND:

1 Chain wire mesh panels with shade cloth (if required) attached, held in place with concrete feet.
2 Alternative plywood or wooden paling fence panels. This fencing material also prevents building materials or soil entering the TPZ.
3 Mulch installation across surface of TPZ (at the discretion of the project arborist). No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.
4 Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

FIGURE 3 PROTECTIVE FENCING



NOTES:

1 For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed.
2 Rumble boards should be of a suitable thickness to prevent soil compaction and root damage.

FIGURE 4 EXAMPLES OF TRUNK, BRANCH AND GROUND PROTECTION


ROBBOS