



Project No: CA/FREE/12 Report No: CA/FREE/AIA/C

ARBORICULTURAL IMPACT ASSESSMENT TREE PROTECTION SPECIFICATION

Cardinal Freeman Village Ashfield

Prepared for: AEVUM LIMITED (STOCKLAND DEVELOPMENT PTY LTD)

15th October 2012
Rev C

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Author:

Anna Hopwood

Dip. Hort (Arboriculture)
Dip. Hort (Landscape Design)

p. 0404 424 264
f. 02 9012 0924
1/9 venus st gladesville
info@treeiQ.com.au
abn 62 139 088 832

treeiQ.com.au



Contents

1.0	INTRODUCTION	3
1.1	Background	3
1.2	Aims	3
2.0	RESULTS	3
2.1	The Site	3
2.2	The Proposal	4
2.3	The Trees	4
3.0	ARBORICULTURAL IMPACT ASSESSMENT	5
3.1	Australian Standard 4970- 2009 Protection of Trees on Development Sites	5
3.2	Trees to be removed	6
3.3	Trees to be retained	6
3.4	Transplanting	7
3.5	Replacement Planting	7
4.0	CONCLUSION	8
5.0	BIBLIOGRAPHY & REFERENCES	9
6.0	APPENDICES	10
	Appendix 1: Methodology	11
	Appendix 2: Site Survey	13
	Appendix 3: Tree Assessment Schedule	14
	Appendix 4: Tree Removal Plans	37
	Appendix 5: Plates	38
	Appendix 6: General Tree Protection Specification	39
	Appendix 7: Typical Tree Protection Details	41

1.0 INTRODUCTION

1.1 Background

1.1.1 This Arboricultural Impact Assessment and Tree Protection Specification was prepared for Aevum Limited (Stockland Development Pty Ltd) in relation to the proposed modifications to a Major Project Approval at Cardinal Freeman Village, 137 Victoria Street Ashfield.

1.1.2 In preparing this report, the author is aware of and has taken into account the objectives of the Ashfield Council's *Tree Preservation Order (2001)* and *Australian Standard 4970 Protection of Trees on Development Sites (2009)*.

Refer to **Appendix 1: Methodology**

1.1.3 The following documentation/plans were viewed in the preparation of this report:

- Plan of Detail and Levels (Sheets 1-12) – prepared by Lockey Land Title Solutions, dated 20.09.12
- Concept Masterplan – prepared by Allen Jack + Cottier, dated July 2012
- Precinct NW B1 (Dwg No. DA 2101/A) – prepared by Allen Jack + Cottier, dated 05.10.12
- Precinct NE B1 (Dwg No. DA 2111/A) – prepared by Allen Jack + Cottier, dated 05.10.12
- Precinct SW B1 (Dwg No. DA 2121/A) – prepared by Allen Jack + Cottier, dated 05.10.12
- Precinct SE B1 (Dwg No. DA 2101/A) – prepared by Allen Jack + Cottier, dated 05.10.12

Refer to **Appendix 2: Supplied Plans**

1.2 Aims

1.2.1 The aims of this report are to:

- Review Council's policies for applicable conditions regarding the preparation of Arboricultural Reports
- Conduct a visual assessment of the subject trees and their growing environment
- Review the supplied plan to determine the impact on the subject trees
- Where appropriate, recommend the use of sensitive construction methods to minimise the adverse impacts on the subject trees
- Prepare site specific tree protection measures for the subject trees to be retained

1.2.2 There is no warranty or guarantee, expressed or implied that problems or deficiencies regarding the subject trees or the subject site may not arise in the future. Information contained in this report covers only the subject trees that were assessed and reflects the condition of the subject trees at the time of inspection.

2.0 RESULTS

2.1 The Site

2.1.1 The subject site is made up of four (4) allotments (Lot 101 in DP 702245, Lot 4 in DP 717062, Lots 6 & 7 in DP 717644 and Lot 1 in DP 1126717) and is bound by Victoria Street, Clissold Street, Queen Street and Seaview Street, Ashfield.

2.1.2 The subject site is comprised of a number of multi-unit residential dwellings, amenity buildings and a chapel.

2.1.3 The Cardinal Freeman Village Chapel (formerly The Chapel of the Convent of the Good Shepherd) and Glentworth House are listed as items with local significance on the NSW Heritage Register,¹ and under Schedule 7 of the Ashfield Council Local Environmental Plan (1985).²

¹ NSW Government, *State Heritage Inventory*, NSW Government Environment and Heritage, accessed 20.09.2012
<http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1020677>

2.2 The Proposal

2.2.1 The proposal seeks to modify both the concept plan and project application approvals (i.e. the Major Project Concept Plan and Project Application Approvals) which allowed the redevelopment of the existing retirement village over five (5) stages including one (1) residential building of 3 to 5 storeys in height to accommodate approximately two-hundred and twenty-five (225) Independent Living Units (ILUs) and a Residential Aged Care Facility (RACF) with associated landscaping, community facilities, internal road network and parking.

2.2.2 The proposed modifications include:

- Providing an east-west link road;
- Retaining two access points from Clissold Street;
- Demolishing the serviced apartment building and constructing a new ILU building;
- Reducing the number of separate buildings from 13 to 8 with heights ranging from 3 to 5 storeys;
- Increasing ILUs from two-hundred and twenty-five (225) to approximately two-hundred and thirty-five (235);
- Modifying the external appearance and internal layout of the RACF building;
- Changing the staging of development with the RACF building to be constructed first and reducing the number of stages;
- Modifying the design of Village Green Buildings;
- Relocating the porte cochere and entry

2.3 The Trees

2.3.1 A Visual Tree Assessment (VTA) has been undertaken on trees growing at the subject site to determine their condition and significance. Two hundred and thirty-seven (237) trees have been surveyed as part of this assessment. Tree numbers correlate with the Site Survey (**Appendix 2**) and Tree Assessment Schedule (**Appendix 3**).

2.3.2 Trees 17, 173, 174, 181a, 181b, 187a, 187b, 187c (*Syagrus romanzoffianum* - Cocos Palm), 43a, 54d (*Schefflera actinophylla* - Umbrella Tree), 66, 97b, 207 (*Olea europaea* ssp. *cuspidata* - African Olive), 75 (*Erythrina crista-galli* - Cocks Comb Coral Tree), 93 (*Prunus dulcis* - Almond), 94, 96, 145a (*Prunus cerasifera* 'Nigra' - Cherry Plum) and 143 (*X Cupressocyparis leylandii* - Leyland Cypress) are not covered under the provision of Council's Tree Preservation Order.³ Trees 120 and 123 are dead. These trees have not been included in Section 3 (Arboricultural Impact Assessment) below.

2.3.3 Dominant locally-indigenous tree species formerly found in this area included *Syncarpia glomulifera* (Turpentine), *Eucalyptus fibrosa* ssp. *fibrosa* (Broad-leaved Ironbark), *Eucalyptus eugenoides* (Thin-leaved Stringybark), *Eucalyptus longifolia* (Woollybutt) and *Eucalyptus parramattensis* (Drooping Red Gum). No locally-indigenous tree species remain within the site.⁴

2.3.4 A search of the BioNet Atlas of NSW Wildlife Database was undertaken in September, 2012. No individual threatened tree species that were listed on this database for the area were identified during the current field investigations of the subject site.⁵ The ecological significance and habitat value of the subject trees has not been assessed and is beyond the scope of this report.

² Ashfield Council, *Local Environment Plan (1985), Schedule 7*.

<http://www.legislation.nsw.gov.au/xref/inforce/?xref=Type%3DDept%20AND%20Year%3D1985%20AND%20No%3D526&nohits=y> accessed 20.09.12

³ Ashfield Council *Tree Preservation Order* (2001).

http://www.ashfield.nsw.gov.au/files/environment/trees/tree_preservation_order.pdf accessed 17.09.12

⁴ Morton A (2010), *Arboricultural Assessment Report – Cardinal Freeman Village*, Earthscape Horticultural Services.

⁵ NSW Office of Environment and Heritage's Atlas of NSW Wildlife, 2011, BioNet Atlas of NSW Wildlife,

<http://www.environment.nsw.gov.au/wildlifeatlas/about.htm>, accessed 20.09.12

- 2.3.5 Trees 39, 56, and 210 (Port Jackson Figs) and Tree 42 (Small Leaf Fig) are all large mature trees. The trees are thought to be 100-120 years old and were likely planted around the time of the construction of Glentworth House, 1876-1900. The Fig trees form part of the curtilage of Glentworth House and are mentioned in the Ashfield Heritage Study prepared by Godden Mackay Pty Ltd.⁶ Fig trees have a strong association with the Victorian Era and were a key species in the structural layout of public spaces, institutional grounds and large estates. These trees have been allocated a very high Landscape Significance.
- 2.3.6 Tree 39 has been assessed as being of fair health and structural condition with a Useful Life Expectancy (ULE) 5-15 years, and is considered worthy of retention. Trees 42, 56 and 210 have been assessed as being of poor health and fair structural condition. The trees appear to be in a state of decline, characterised by a reduction in crown density, production of epicormic shoots, chlorotic appearance to foliage and branch die back. The ULE of Trees 42, 56, 210 is short (less than 5 years) and despite their very high Landscape Significance, should be considered for removal.
- 2.3.7 Trees 9 to 32 have been identified as *Cinnamomum camphora* (Camphor Laurel) and have been planted in a row along the eastern boundary in the north eastern corner of the site. The trees have been generally assessed as being of fair health and fair to poor structural condition. At some time relatively early in the trees' development, they appear to have been cut close to ground level and allowed to regenerate as multi-stemmed specimens. As a result the trees' crowns are comprised of mature epicormic shoots, with most trees exhibiting varying degrees of basal decay. A number of trees within the row have been removed. Most of the remaining trees have had large diameter first order stems removed where extensive cavities have been present at the base of these stems. These trees are not considered worthy of retention in the short to medium term.
- 2.3.8 Numerous *Melaleuca quinquinervea* (Broad Leaf Paperbark) are located throughout the site. These trees have generally been assessed as being of good health and fair structural condition. As a species *Melaleuca quinquinervea* have a tendency to develop bark inclusions. The majority of the specimens at the subject site have some inclusions, including those at first and second order branch junctions. Whilst bark inclusions can represent a structural defect, no evidence of significant branch failures was observed on any of the *Melaleucas*.
- 2.3.9 The tree population at the site also contains a high percentage of small-sized trees with low Landscape Significance. *Callistemon* species are heavily represented, with many of the trees now having reached an age where their ULE is estimated to be relatively short (i.e. between less than years and 5-15 years).

3.0 ARBORICULTURAL IMPACT ASSESSMENT

3.1 Australian Standard 4970- 2009 Protection of Trees on Development Sites

- 3.1.1 *Australian Standard 4970- 2009 Protection of Trees on Development Sites* (AS-4970) outlines that a Tree Protection Zone (TPZ) should be created to protect the tree and its growing environment throughout the development process. The TPZ is calculated as a radial measurement based on twelve (12) times the tree's DBH.⁷ This formula is based on extensive research and is generally accepted within the arboricultural industry as being suitable for calculating areas designed to maintain the long term viability of trees on development sites.
- 3.1.2 Ideally works should be avoided within the TPZ. Where works within the TPZ are unavoidable, tree sensitive design and construction techniques should be used to minimize excavation and retain roots.

⁶ Godden Mackay, 1991, *Ashfield Heritage Study*, Godden Mackay Pty Ltd, Sydney.
http://www.ashfield.nsw.gov.au/files/heritage/heritage_items/277.pdf accessed 20.09.12
⁷ Standards Australia (2009), *Protection of Trees on Development Sites AS-4970*.

3.1.3 In addition to the TPZ, the AS-4970 provides calculations to determine a tree's Structural Root Zone (SRZ). The SRZ is described in AS-4970 as 'the area around the base of a tree required for the tree's stability in the ground. This zone considers a tree's structural stability only, not the root zone required for its vigour and long-term viability, which will usually be a much larger area'. Severance of structural roots (>25mmØ) within the SRZ is not recommended as it may lead to the destabilisation and/or decline of the tree.

3.1.4 The TPZ calculations for the subject trees are contained within the Tree Assessment Schedule attached as **Appendix 2**.

3.2 Trees to be removed

3.2.1 The supplied plans show one-hundred and eleven (111) trees will need to be removed to accommodate the proposed building, basement and road footprints. These include nine (9) trees with a Retention Value of *Priority for Retention*, fifty (50) trees with a Retention Value of *Consider for Retention*, twenty-nine (29) trees with a Retention Value of *Consider for Removal* and twenty-three (23) trees with a Retention Value of *Priority for Removal*. These trees are outlined below.

Table 1: Trees to be removed

Priority for Retention	Consider for Retention	Consider for Removal	Priority for Removal
20, 21, 68, 72, 91, 117, 122, 125 & 209.	24, 33, 34, 41, 43, 65, 69, 71, 80, 81, 83, 85, 88, 89, 97, 97a, 98, 99, 100, 101, 102, 104, 109, 110, 111, 112, 113, 114, 115, 116, 118, 119, 121, 124, 126, 132, 133, 134, 136, 136b, 137, 138, 142, 150, 151, 152, 153, 154, 156 & 208.	26, 40, 51, 53, 70, 77, 82, 86, 87, 88b, 90, 97c, 103a, 105, 106, 107, 108a, 115a, 115e, 136a, 142a, 142b, 142c, 144, 145, 146a, 146b, 156a & 202.	16f, 25, 42, 50, 67, 73, 74, 76, 81a, 84, 92, 94, 96, 115b, 115c, 115d, 127, 135, 136c, 143a, 145a, 146c, 207a.

3.2.2 Irrespective of future development, the trees which have been allocated a Retention Value of *Priority for Removal* are not considered worthy of retention in the short term.

3.2.3 The trees proposal for removal are shown on the Tree Removal Plan attached as **Appendix 4**.

3.3 Trees to be retained

3.3.1 The supplied plans show that one hundred and seven (107) trees are to be retained as part of the proposed development. These include fifteen (15) trees with a Retention Value of *Priority for Retention*, forty (40) trees with a Retention Value of *Consider for Retention*, thirty-three (33) trees with a Retention Value of *Consider for Removal* and nineteen (19) trees with a Retention Value of *Priority for Removal*. These trees are outlined below.

Table 2: Trees to be retained

Priority for Retention	Consider for Retention	Consider for Removal	Priority for Removal
1, 54, 61, 139, 140, 161, 164, 165, 191, 192, 198, 200, 201, 213 & 214.	2, 3, 5, 6, 8, 47, 54b, 55, 59, 60, 62, 64, 79, 147, 149, 155, 157, 157a, 158, 159, 160, 162, 163, 166, 167, 170, 171, 172, 176, 180, 181, 182, 183, 184, 185, 197, 206, 211, 215 & 216.	11, 12, 30, 31, 32, 38, 44, 45, 48, 49, 54c, 54e, 57, 141a, 142d, 155a, 155b, 168, 169, 177, 178, 179, 186, 189, 190, 193, 194, 195, 196, 204, 205, 210 & 218.	7, 9, 15, 16a, 16c, 16d, 27, 54a, 56, 78, 137a, 137b, 141, 148, 171a, 171b, 171c, 212 & 217.

- 3.3.2 Tree sensitive demolition and/or construction methods should be utilized to minimise the impact of the proposed works on Trees 44, 200, 201, 210, 211, 214, 215, 216, 217 and 218. Alternatively, root mapping could be undertaken to determine the potential impact the works may have on the trees.
- 3.3.3 Trees 56 & 210 are to be retained as part of the proposed development. These trees have been assessed as being of poor condition with a limited ULE. In an effort to improve tree health, thereby increasing the trees resilience to construction impacts, an ongoing maintenance regime of soil amelioration, irrigation, mulching and periodic tree assessment is recommended, both during and post development of the site. Even with the implementation of a maintenance regime, the ULE of 56 & 210 is likely to be short. Therefore, provision should be made for the procurement of two super-advanced size replacement trees to be installed at such a point that the retention of Trees 56 and 210 becomes unviable.
- 3.3.4 A further stage of assessment should also be undertaken as more detailed plans become available to examine the potential impact of individual stages of the project upon the subject trees and to provide recommendations to minimize the impacts on those trees identified for retention.

3.4 Transplanting

- 3.4.1 Tree 39 has been identified as *Ficus rubiginosa* (Port Jackson Fig) and is located on the Victoria Road frontage. The supplied plans show that this tree is to be relocated to the south-eastern corner of the site as part of the proposed development.
- 3.4.2 Tree 39 is extremely large and of considerable age and will require an extensive program of staged root pruning and crown and root ball preparation prior to transplanting. This transplanting preparation period will ideally need to be spread over a number of years for the tree to stand the best chance of successful relocation, although due to the fair health and structural condition of the tree, successful relocation cannot be guaranteed.
- 3.4.3 Tree 39 will also require an ongoing monitoring program to assess its response to transplant preparation, as the tree's condition may deteriorate during the transplant preparation period. Provision should also be made for the procurement of a super-advanced size tree of the same species to act as a replacement, should transplanting works be deemed unviable at any point during the transplant preparation period, due to a decline in trees condition.

3.5 Replacement Planting

- 3.5.1 The proposed Concept Plan includes the installation of approximately of one-hundred and twenty (120) trees across the site. This tree planting would help to diversify the species and age structure of trees on site and contribute towards maintaining the continuity of tree cover for the future.
- 3.5.2 The staged nature of the proposed development will include the planting of replacement trees as part of the landscape treatment during the implementation of each stage. This will spread the removal and replacement of trees over a number of years, allowing trees time to establish and thereby minimizing the impacts of development upon the amenity of the site between stages.
- 3.5.3 Replacement planting for Trees 42, 56, 210 should consider the heritage significance of Glentworth House and be sympathetic in terms of species selection and layout.
- 3.5.4 The new tree plantings should be supplied in accordance with Natspec Guide- Specifying Trees.

4.0 CONCLUSION

- 4.1 Two hundred and thirty-seven (237) trees have been surveyed as part of this assessment.
- 4.2 The proposal seeks to modify both the concept plan and project application approvals (i.e. the Major Project Concept Plan and Project Application Approvals).
- 4.3 The supplied plans show that one-hundred and eleven (111) trees will need to be removed to accommodate the proposed building, basement and road footprints.
- 4.4 The supplied plans show that one-hundred and seven (107) trees are to be retained as part of the proposed development.
- 4.5 The supplied plans show that one (1) tree is to be transplanted as part of the as part of the proposed development.
- 4.6 The proposed Landscape Plan includes the installation of approximately one-hundred and twenty (120) of trees across the site.
- 4.7 The trees to be retained should be protected as outlined within the General Tree Protection Specification, attached as **Appendix 6**.

NOTE 1: Reference should be made to any relevant legislation including Tree Preservation Orders (TPO). Requirements of the TPO should be verified by Council prior to the removal of any trees on-site.

NOTE 2: This report provides recommendations relating to tree management only. Advice should be sought from appropriately qualified consultants regarding design/construction issues.

NOTE 3: It should be acknowledged that a comprehensive hazard assessment and management plan for the trees is beyond the scope of this report.

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5.0 BIBLIOGRAPHY & REFERENCES

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Standards Australia (2009), *Protection of Trees on Development Sites AS-4970*.

Standards Australia (2007), *Pruning of Amenity Trees AS-4373*.

Appendix 1: Methodology

- 1.1 Site Inspection:** This report was determined as a result of a comprehensive site inspection during September 2012. The comments and recommendations in this report are based on findings from this site inspection.
- 1.2 Visual Tree Assessment (VTA):** The subject tree(s) was visually assessed from the ground using the industry standard, VTA criteria and notes. The inspection was limited to a visual examination of the subject tree(s) from ground level only. No internal diagnostic testing was undertaken as part of this assessment. Trees outside the subject site were assessed from the property boundaries only.
- 1.3 Tree Dimensions:** The dimensions of the subject tree(s) are approximate only.
- 1.4 Tree Locations:** The location of the subject tree(s) was determined from the supplied Site Survey. Trees not shown on the supplied Site Survey and have been plotted in their approximate location only.
- 1.5 Trees & Development:** Tree Protection Zones & Structural Root Zones for the subject tree(s) were based on methods outlined in *Australian Standard 4970-2009 Protection of Trees on Development Sites*.
- 1.6 Tree Health:** The health of the subject tree(s) was determined by assessing:
- I. Foliage size and colour
 - II. Pest and disease infestation
 - III. Extension growth
 - IV. Crown density
 - V. Deadwood size and volume
 - VI. Presence of epicormic growth
- 1.7 Tree Structural Condition:** The structural condition of the subject tree(s) was assessed by:
- I. Visible evidence of structural defects or instability
 - II. Evidence of previous pruning or physical damage
- 1.8 Useful Life Expectancy (ULE):** The ULE is an estimate of the longevity of the subject tree(s) in its growing environment. The ULE is modified where necessary to take in consideration tree(s) health, structural condition and site suitability. The tree(s) has been allocated one of the following ULE categories (Modified from Barrell, 2001):
- I. 40 years +
 - II. 15-40 years
 - III. 5-15 years
 - IV. Less than 5 years
- 1.9 Landscape Significance:** Landscape Significance was determined by assessing the combination of the cultural, environmental and aesthetic values of the subject tree(s). Whilst these values are subjective, a rating of high, moderate, low or insignificant has been allocated to the tree(s). This provides a relative value of the tree's Landscape Significance which may aid in determining its Retention Value. If the tree(s) can be categorized into more than one value, the higher value has been allocated.

Landscape Significance	Description
Very High	The subject tree is listed as a Heritage Item under the <i>Local Environmental Plan</i> with a local or state level of significance.
	The subject tree is listed on Council's Significance Tree Register.
	The subject tree forms part of the curtilage of a heritage item with a known or documented association with that item;
	The subject tree is a remnant tree.
High	The subject tree creates a 'sense of place' or is considered 'landmark' tree.
	The subject tree is of local, cultural or historical importance or is widely known.
	The subject tree is scheduled as a Threatened or Vulnerable Species or forms part of an Endangered Ecological Community under the provisions of the <i>Threatened Species Conservation Act 1995 (NSW)</i> or the <i>Environmental Protection and Biodiversity Conservation Act 1999</i> .
	The subject tree is known to provide habitat to a threatened species.
	The subject tree is an excellent representative of the species in terms of aesthetic value.
	The subject tree is of significant size, scale or makes a significant contribution to the canopy cover of the locality.
Moderate	The subject tree makes a positive contribution to the visual character or amenity of the area.
	The subject tree provides a specific function such as screening or minimising the scale of a building.
	The subject tree has a known habitat value.
	The subject tree is a good representative of the species in terms of aesthetic value.
Low	The subject tree is an environmental pest species or is exempt under the provisions of the local Council's Tree Preservation Order.
	The subject tree makes little or no contribution to the amenity of the locality.
	The subject tree is a poor representative of the species in terms of aesthetic value.
Insignificant	The subject tree is declared a Noxious Weed under the Noxious Weeds Act

The above table has been modified from the Earthscape Criteria for Assessment of Landscape Significance

1.10 Retention Value: Retention Value was based on the subject tree's Useful Life Expectancy and Landscape Significance. The Retention Value was modified where necessary to take in consideration the subject tree's health, structural condition and site suitability. The subject tree(s) has been allocated one of the following Retention Values:

- I. Priority for Retention
- II. Consider for Retention
- III. Consider for Removal
- IV. Priority for Removal

ULE		Landscape Significance			
	Very High	High	Moderate	Low	Insignificant
40 years +	Priority for Retention	Priority for Retention		Consider for Removal	Priority for Removal
15-40 years		Priority for Retention	Consider for Retention		
5-15 years		Consider for Retention			
Less than 5 years	Consider for Removal	Priority for Removal			

The above table has been modified from the Footprint Green Tree Significance and Retention Value Matrix.



- 1) INSPECTION OFFICE WAS FINDING WATER WHEN WORKING. THE UNDERGROUND DETECTION WAS UNABLE TO FIND WHERE THE WATER ENTERS THE BUILDING.
- 2) SOME REMOVED CABLES BLANKING BETWEEN LIGHT POLES
- 3) HAVE ELECTRIC CABLES BLANKING BETWEEN LIGHT POLES
- 4) THE FIRE MAIN COULD NOT BE DETECTED. THE APPROXIMATE POSITION WAS THEN ADDED TO THE PLAN USING A PLAN DRAWN AT THE MAIN ENTRANCE.
- 5) ELECTROMAGNETIC DETECTION OF UNDERGROUND SERVICES AND CCTV DIGITAL VIDEOGRAPHY CARRIED OUT IN SPECIFIED PARTS OF SITE BY VEOLIA WATER NETWORK SERVICES PVT LTD
- 6) SOME STORMWATER PITS HAVE AN ORIGINAL SURVEY NUMBER WHICH DIFFERS FROM VEOLIA'S CTV NUMBER. CAUTION TO BE EXERCISED WHEN VIEWING CTV VIDEOGRAPHY.

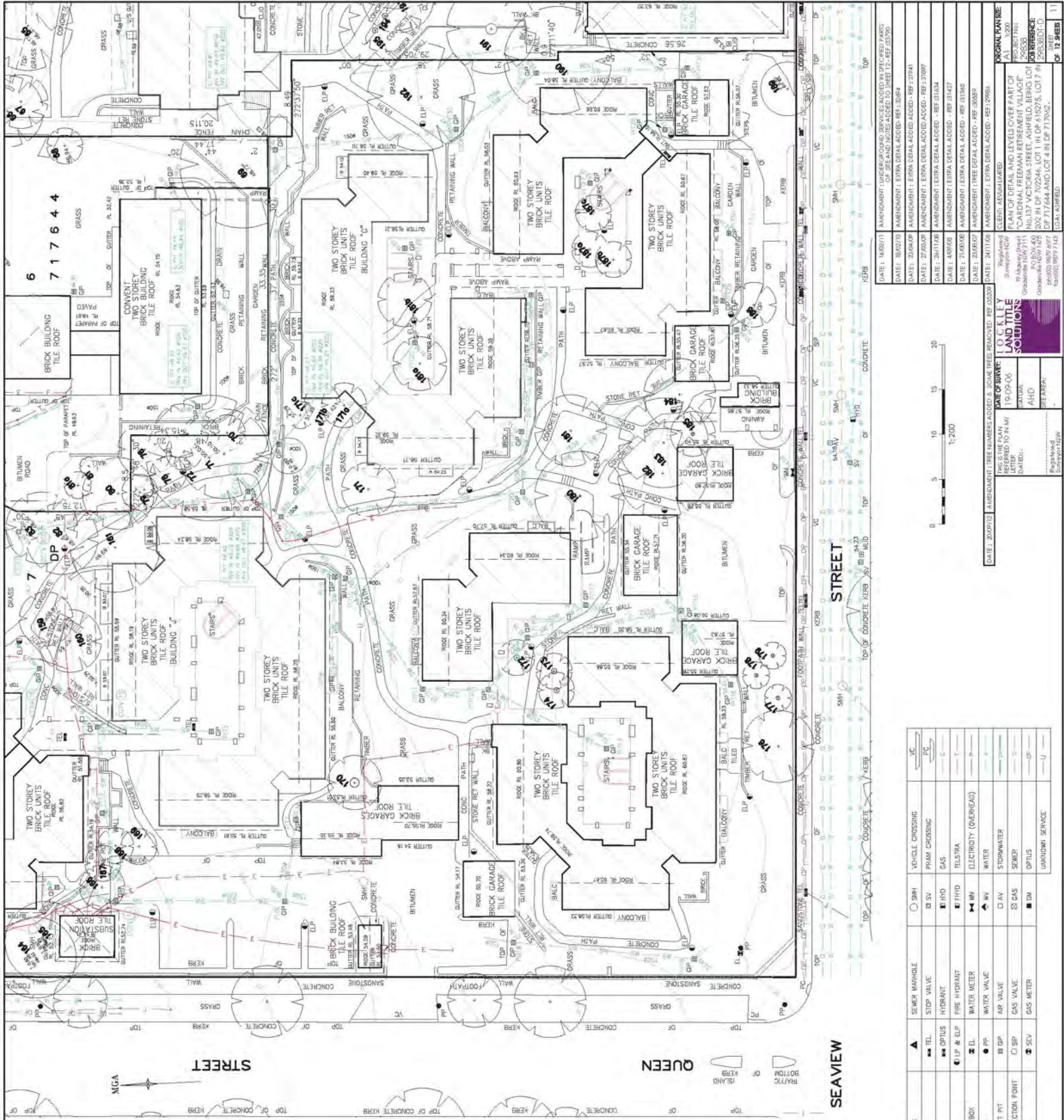
(SEE NOTE 10)

NOTES

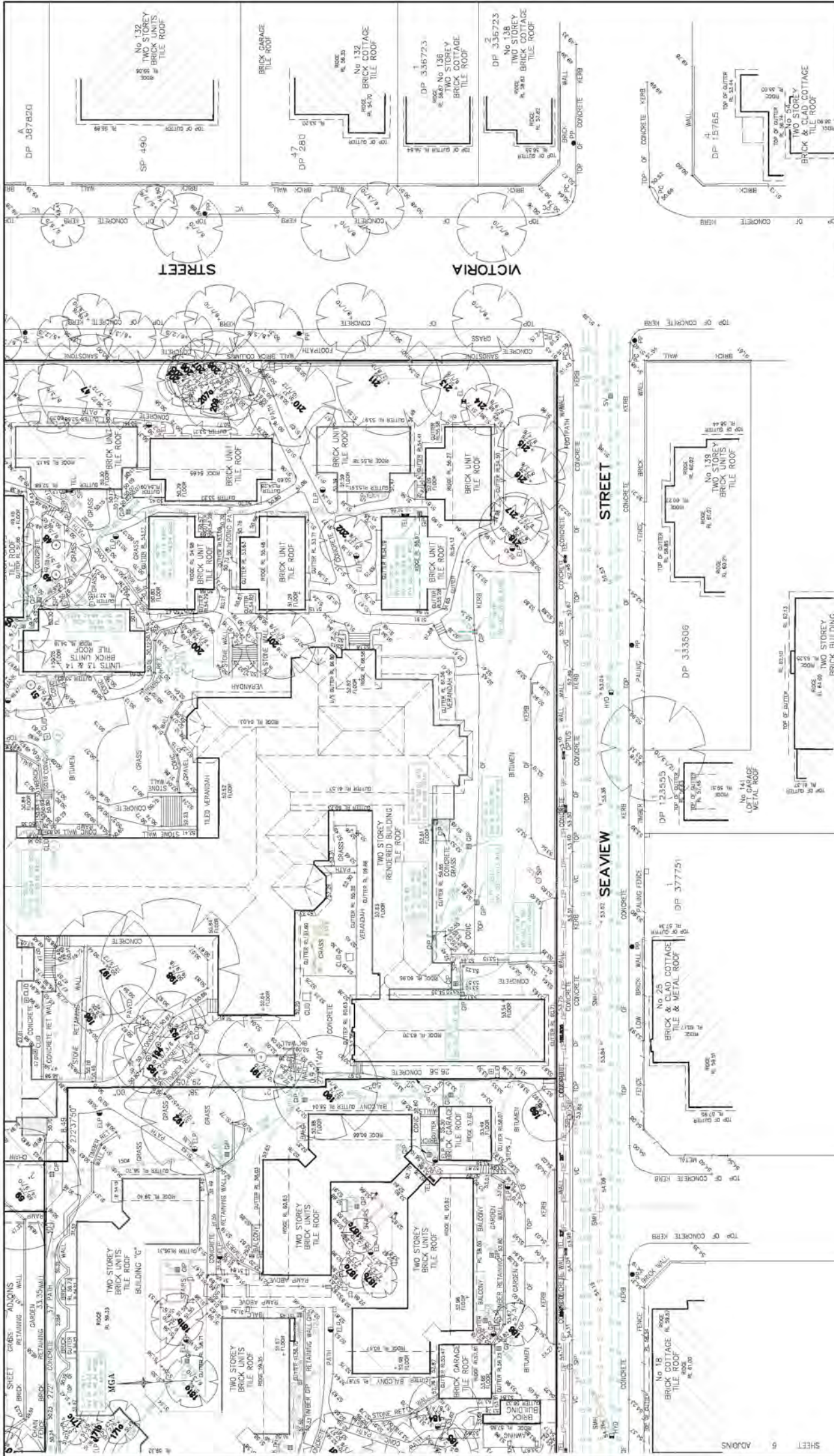
- 1) THE BOUNDARIES HAVE NOT BEEN MARKED
- 2) THE BOUNDARIES HAVE BEEN MARKED
- 3) THE BOUNDARIES HAVE BEEN MARKED AND THE BOUNDARY LINES HAVE BEEN SURVEYED
- 4) THE BOUNDARIES HAVE BEEN MARKED AND THE BOUNDARY LINES HAVE BEEN SURVEYED AND THE BOUNDARY LINES HAVE BEEN SURVEYED
- 5) THE BOUNDARIES HAVE BEEN MARKED AND THE BOUNDARY LINES HAVE BEEN SURVEYED AND THE BOUNDARY LINES HAVE BEEN SURVEYED
- 6) THE BOUNDARIES HAVE BEEN MARKED AND THE BOUNDARY LINES HAVE BEEN SURVEYED AND THE BOUNDARY LINES HAVE BEEN SURVEYED
- 7) THE BOUNDARIES HAVE BEEN MARKED AND THE BOUNDARY LINES HAVE BEEN SURVEYED AND THE BOUNDARY LINES HAVE BEEN SURVEYED
- 8) THE BOUNDARIES HAVE BEEN MARKED AND THE BOUNDARY LINES HAVE BEEN SURVEYED AND THE BOUNDARY LINES HAVE BEEN SURVEYED
- 9) THE BOUNDARIES HAVE BEEN MARKED AND THE BOUNDARY LINES HAVE BEEN SURVEYED AND THE BOUNDARY LINES HAVE BEEN SURVEYED
- 10) THE BOUNDARIES HAVE BEEN MARKED AND THE BOUNDARY LINES HAVE BEEN SURVEYED AND THE BOUNDARY LINES HAVE BEEN SURVEYED

LEGEND

BRIDGE MARK	▲	SEWER MANHOLE	○ 9MM	VEHICLE CROSSING	VC
TELSTRA PIT	TEL	STOP VALVE	□ SV	PRAM CROSSING	PC
OPTUS PIT	OPTUS	HYDRANT	□ HD	GAS	
LIGHT & LIP	□ LIP & LIP	FIRE HYDRANT	□ FHD	TELSTRA	
ELECTRICITY BOX	TEL	WATER METER	□ WM	ELECTRICITY (OVERHEAD)	
POWER POLE	□ PP	WATER VALVE	□ WV	WATER	
GRADED INLET PIT	□ GP	AIR VALVE	□ AV	STORMWATER	
SEWER INSPECTION POINT	○ SPI	GAS VALVE	□ GAS	SEWER	
SEWER VENT	□ SVU	GAS METER	□ DM	MANHOLE STRAIGHT	
				MANHOLE 90°	

[illegible]

DATE OF SURVEY: 19-09-06	LOCKLEY LAND TITLE SOLUTIONS	THIS IS THE PLAN REFERRED TO IN MY DATED:	REGISTERED SURVEYOR NSW
		DISTRICT: COUNTY: AHD SITE AREA:	-

[illegible]



NOTES

- 1) THE BOUNDARIES HAVE NOT BEEN MARKED
- 2) ALL AREAS AND UNDERSHIMS HAVE BEEN COMPILED OFFICE AT LAND & PLANT INFORMATION (VSDM)
- 3) DESIGN OF LAND IS AHEAD IS TAKEN FROM THE CHD OF VICTORIA STREET AND CLEGG STREET
- 4) CONTOUR INTERVAL 0.3m
- 5) CONTOURS ARE INDICATIVE ONLY. SPOT LEVEL CALCULATIONS OF GRADIENTS WITH CAUTION
- 6) NEAR LEVELS ARE TO THE TOP OF FERN UNDERSHIMS
- 7) FLOOR LEVELS SHOWN ARE THRESHOLD LEVELS (LEVELS HAS BEEN UNDERPAVED)
- 8) NO VANDERBILT OF UNDERGROUND SERVICES DRAUGHT FROM RELEVANT AUTHORITIES INFORMATION SHOULD BE NOTIFIED TO THE AUTHORITIES ON OR NEAR THE SITE
- 9) 8/4/77 DENOTES PRELIMINARY OF 8m, TRAILING



Appendix 3: Tree Assessment Schedule

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
1	<i>Corymbia maculata</i> (Spotted Gum)	550	18	10	Pruned for building clearance.	Good	Good	15-40	High	Priority for Retention	6.6	Retain. No works within TPZ.
2	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	250 300	7	7	Crown density range 75-100%.	Fair	Good	5-15	Moderate	Consider for Retention	4.8	Retain. No works within TPZ.
3	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	450	9	8	Pruned for powerline clearance.	Good	Good	15-40	Moderate	Consider for Retention	5.4	Retain. No works within TPZ.
4												NUMBER NOT USED
5	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	500	9	9	Pruned for powerline clearance.	Good	Good	15-40	Moderate	Consider for Retention	6	Retain. No works within TPZ.
6	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	350	8	5	Pruned for powerline clearance. Partially suppressed.	Good	Good	15-40	Moderate	Consider for Retention	4.2	Retain. No works within TPZ.
7	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	300	5	5	Heavily suppressed. Moderate phototropic trunk lean. Pruned for powerline clearance.	Fair	Fair	<5	Low	Priority for Removal	3.6	Retain. No works within TPZ.
8	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	350	8	5	Pruned for powerline clearance.	Good	Good	15-40	Moderate	Consider for Retention	4.2	Retain. No works within TPZ.
9	<i>Cinnamomum camphora</i> (Camphor Laurel)	350	15	9	Pruned for powerline clearance. 2 x 1st order stems removed from ground level. Low volumes of small (<25mm) diameter deadwood mainly at tips. Mechanical damage to exposed surface roots.	Fair	Poor	<5	Low	Priority for Removal	4.2	Retain. No works within TPZ.
10												NUMBER NOT USED

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
11	<i>Cinnamomum camphora</i> (Camphor Laurel)	500 250 200	15	7	Crown density range 75-100%.	Fair	Fair	5-15	Low	Consider for Removal	7.2	Retain. No works within TPZ.
12	<i>Cinnamomum camphora</i> (Camphor Laurel)	300 250 200 200	15	7	Co-dominant inclusion. Crown density range 75-100%.	Fair	Fair	5-15	Low	Consider for Removal	6.1	Retain. No works within TPZ.
13												NUMBER NOT USED
14												NUMBER NOT USED
15	<i>Cinnamomum camphora</i> (Camphor Laurel)	200 200 200 200 250	15	7	Crown density range 75-100%. Large basal cavity. 2 x 1st order stems removed from base.	Fair	Poor	<5	Low	Priority for Removal	5.2	Retain. No works within TPZ.
16												NUMBER NOT USED
16a	<i>Cinnamomum camphora</i> (Camphor Laurel)	200 250	13	6	Crown density range 75-100%. Basal cavity.	Fair	Poor	<5	Low	Priority for Removal	4	Retain. No works within TPZ.
16b												NUMBER NOT USED
16c	<i>Cinnamomum camphora</i> (Camphor Laurel)	200 200 150	12	5	Crown density range 75-100%. Large basal cavity. 1st order stems removed from base.	Fair	Poor	<5	Low	Priority for Removal	4	Retain. No works within TPZ.
16d	<i>Cinnamomum camphora</i> (Camphor Laurel)	200 150 100	9	5	1st order stems removed from base. Basal cavity. Crown density range 75-100%.	Fair	Poor	<5	Low	Priority for Removal	3.2	Retain. No works within TPZ.
16e												NUMBER NOT USED
16f	<i>Cinnamomum camphora</i> (Camphor Laurel)	200 100	8	4	1st order stems removed from base. Crown density range 75-100%. Low volumes of small (<25mm) diameter deadwood. Basal cavity.	Fair	Poor	<5	Low	Priority for Removal	2.8	Remove. Building footprint.
16g												NUMBER NOT USED
17	<i>Syagrus romanzoffianum</i> (Cocos Palm)	250	9	4		Good	Good	15-40	Low	Consider for Removal	5	NOT COVERED BY TPO.
18												NUMBER NOT USED
19												NUMBER NOT USED
20	<i>Corymbia citriodora</i> (Lemon Scented Gum)	500	15	10	Partially suppressed.	Good	Good	15-40	High	Priority for Retention	6	Remove. Building footprint.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
21	<i>Corymbia citriodora</i> (Lemon Scented Gum)	700	20	16	Storm damage. Small hanger in crown.	Good	Good	15-40	High	Priority for Retention	8.4	Remove. Building footprint.
22												NUMBER NOT USED
23												NUMBER NOT USED
24	<i>Archontophoenix alexandrae</i> (Alexandra Palm)	150	7	4	Limited building clearances.	Good	Good	5-15	Moderate	Consider for Retention	5	Remove. Building footprint.
25	<i>Melaleuca</i> spp.	200	6	4	Limited building clearances. Crown density range 25-50%. Partially suppressed.	Fair	Good	<5	Low	Priority for Removal	2.4	Remove. Building footprint.
26	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	200	5	4	Partially suppressed.	Good	Good	5-15	Low	Consider for Removal	2.4	Remove. Building footprint.
27	<i>Cinnamomum camphora</i> (Camphor Laurel)	350 200 200 150	8	6	Crown comprised mainly of epicomic growth. Low volumes of small (<25mm) diameter deadwood. Basal cavity.	Poor	Poor	<5	Low	Priority for Removal	5.8	Retain. Minor encroachment, building.
28												NUMBER NOT USED
29												NUMBER NOT USED
30	<i>Cinnamomum camphora</i> (Camphor Laurel)	150 150 150 150	7	6	Low volumes of small (<25mm) and medium (25-75mm) diameter deadwood. Mechanical damage to exposed surface roots.	Fair	Fair	5-15	Low	Consider for Removal	3.6	Retain. No works within TPZ.
31	<i>Cinnamomum camphora</i> (Camphor Laurel)	200	7	6	Low volumes of small (<25mm) diameter deadwood. Partially suppressed. Crown density range 75-100%.	Fair	Fair	5-15	Low	Consider for Removal	2.4	Retain. No works within TPZ.
32	<i>Cinnamomum camphora</i> (Camphor Laurel)	150 150	7	6	Low volumes of small (<25mm) diameter deadwood, mainly at tips. Co-dominant inclusion. Crown density range 75-100%.	Fair	Fair	5-15	Low	Consider for Removal	2.5	Retain. No works within TPZ.
33	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	800	12	8	Minor 1st order branch inclusions.	Good	Fair	15-40	Moderate	Consider for Retention	9.6	Remove. Building footprint.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
34	<i>Lophostemon confertus</i> (Brush Box)	400	250	200	Crossing branches.	Good	Good	15-40	Moderate	Consider for Retention	4.8	Remove. Major encroachment, building.
35												NUMBER NOT USED
36												NUMBER NOT USED
37												NUMBER NOT USED
38	<i>Casuarina cunninghamiana</i> (River She-Oak)	250	8	3	Dodder. Partially suppressed.	Fair	Good	5-15	Low	Consider for Removal	3	Retain. No works within TPZ.
39	<i>Ficus rubiginosa</i> (Port Jackson Fig)	1100 550 650 500 1000	18	25	Crown density range 75-100%. Recent epicormic growth on N side of crown, presumably in response to removal of adjacent Camphor Laurel. Cavities. Multiply inclusions, typical of species. Previous branch failures. Wounds, with decay. Crown-lifted and reduced for access. Lopped branches.	Fair	Fair	5-15	Very High	Priority for Retention	15	Transplant.
40	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	150 250 150	6	6	Partially suppressed. Climber in crown.	Good	Good	5-15	Low	Consider for Removal	4	Remove. Building footprint.
41	<i>Citharexylum spinosum</i> (Fiddlewood)	300 300 300 200	11	9	Partially suppressed. Basal cavity.	Good	Good	15-40	Moderate	Consider for Retention	7.2	Remove. Building footprint.
42	<i>Ficus obliqua</i> (Small Leaf Fig)	500 500	12	13	Crown density range 0-25%. Crown comprised mainly of epicormic growth. Cavities. Multiply inclusions, typical of species. Lopped branches. Exposed roots with mechanical damage and decay.	Poor	Fair	<5	Very High	Priority for Removal	8.5	Remove. Building footprint.
43	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	350	8	6		Good	Good	15-40	Moderate	Consider for Retention	4.2	Remove. Major encroachment, building.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
43a	<i>Schefflera actinophylla</i> (Umbrella Tree)	150 100	7	3	Partially suppressed. 1st order branch inclusion.	Good	Fair	5-15	Low	Consider for Removal	2.3	NOT COVERED BY TPO.
44	<i>Phoenix canariensis</i> (Canary Island Date Palm)	800	6	6		Good	Good	40+	Low	Consider for Removal	7	Retain. Sensitive demolition/construction methods required.
45	<i>Cinnamomum camphora</i> (Camphor Laurel)	300	7	5	Low volumes of small (<25mm) diameter deadwood. Co-dominant inclusion.	Good	Fair	5-15	Low	Consider for Removal	3.6	Retain. No works within TPZ.
46												NUMBER NOT USED
47	<i>Harpephyllum caffrum</i> (Kaffir Plum)	300 550 300 300 150 400	12	12	1st order branch removed from base. Crown density range 75-100%. Termite mounding at base.	Fair	Fair	5-15	Moderate	Consider for Retention	9.5	Retain. No works within TPZ.
48	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	150 150 150 150 150 150	6	6		Good	Good	5-15	Low	Consider for Removal	3.6	Retain. No works within TPZ.
49	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	151 150 150 150 150 150	6	6	Crossing branches. Ivy on trunk.	Good	Good	5-15	Low	Consider for Removal	3.6	Retain. No works within TPZ.
50	<i>Morus nigra</i> (Mulberry)	200 100	6	6	Branch contact with building. Limited building clearances.	Good	Good	<5	Low	Priority for Removal	2.8	Remove. Building footprint.
51	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	151 150 150 150 150 150	6	6		Good	Good	5-15	Low	Consider for Removal	3.6	Remove. Building footprint.
52												NUMBER NOT USED
53	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	200 200 150	6	6	Crown density range 50-75%. Climber on trunk.	Fair	Good	5-15	Low	Consider for Removal	4	Remove. Building footprint.
54	<i>Taxodium distichum</i> (Swamp Cypress)	850	18	9	Pruned for building clearance. Low volumes of small (<25mm) diameter deadwood.	Good	Good	15-40	High	Priority for Retention	10.2	Retain. Minor encroachment, building.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
54a	<i>Thuju</i> spp.	200 150 100	6	3	Limited building clearances. Heavily crown lifted. Site manager indicates tree to be removed prior to development works.	Good	Good	<5	Low	Priority for Removal	3.2	Retain. No works within TPZ.
54b	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	200	8	5	Site manager indicates tree to be removed prior to development works.	Good	Good	15-40	Moderate	Consider for Retention	2.4	Retain. No works within TPZ.
54c	<i>Jacaranda mimosifolia</i> (Jacaranda)	200	8	6	Partially suppressed. Medium (25-75mm) diameter epicormics from base. Site manager indicates tree to be removed prior to development works.	Fair	Good	5-15	Low	Consider for Removal	2.4	Retain. No works within TPZ.
54d	<i>Schefflera actinophylla</i> (Umbrella Tree)	100	8	1	Limited building clearances.	Good	Fair	5-15	Low	Consider for Removal	2	NOT COVERED BY TPO.
54e	<i>Branchyciton acerifolia</i> (Illawarra Flame Tree)	150	8	2	Partially suppressed.	Good	Fair	15-40	Low	Consider for Removal	2	Retain. No works within TPZ.
55	<i>Callitris rhomboidea</i> (Port Jackson Pine)	200 200	8	3	Limited building clearances. 1st order branch inclusion.	Good	Fair	5-15	Moderate	Consider for Retention	3.5	Retain. No works within TPZ.
56	<i>Ficus rubiginosa</i> (Port Jackson Fig)	3000	18	25	Crown density range 0-25%. Moderate volumes of small (<25mm) diameter deadwood. Dead 1st order branch stub. 1st order branch removed with cavity extending into root collar. Wounds with decay. Crossing branches.	Poor	Fair	<5	Very High	Priority for Removal	15	Retain. No works within TPZ.
57	<i>Phoenix canariensis</i> (Canary Island Date Palm)	600	6	6	Heavily suppressed.	Good	Good	5-15	Low	Consider for Removal	7	Retain. No works within TPZ.
58												NUMBER NOT USED
59	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	400	10	7	Partially suppressed.	Good	Good	15-40	Moderate	Consider for Retention	4.8	Retain. No works within TPZ.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
60	<i>Cinnamomum camphora</i> (Camphor Laurel)	600 400 500	15	11	Minor 1st order branch inclusions. Partially suppressed.	Good	Good	15-40	Moderate	Consider for Retention	10.5	Retain. No works within TPZ.
61	<i>Washingtonia filifera</i> (Cotton Palm)	350	15	3	Partially suppressed.	Good	Good	15-40	High	Priority for Retention	4	Retain. No works within TPZ.
62	<i>Acer negundo</i> (Box Elder)	450	10	12	Partially suppressed.	Good	Good	15-40	Moderate	Consider for Retention	5.4	Retain. No works within TPZ.
63												NUMBER NOT USED
64	<i>Jacaranda mimosifolia</i> (Jacaranda)	400	10	9	Extends over roof. Moderate phototropic lean. Mechanical damage to exposed surface roots.	Good	Fair	5-15	Moderate	Consider for Retention	4.8	Retain. No works within TPZ.
65	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	650	12	7	Mechanical damage to exposed roots. Multiple minor bark inclusions.	Good	Fair	15-40	Moderate	Consider for Retention	7.8	Remove. Major encroachment, building.
66	<i>Olea europaea</i> ssp. <i>cuspidata</i> (African Olive)	350	6	5	Ivy on trunk. Root lifting drain.	Good	Good	15-40	Low	Consider for Removal	4.2	NOT COVERED BY TPO.
67	<i>Jacaranda mimosifolia</i> (Jacaranda)	200	5	5	Heavily suppressed. Severe phototropic lean.	Fair	Fair	<5	Low	Priority for Removal	2.4	Remove. Building footprint.
68	<i>Araucaria columnaris</i> (Cook Pine)	450	14	5		Good	Good	40+	High	Priority for Retention	5.4	Remove. Building footprint.
69	<i>Acer negundo</i> (Box Elder)	400 400	10	10	In contact with roof. Roots emerging through weep holes in adjacent retaining wall.	Good	Good	15-40	Moderate	Consider for Retention	6.8	Remove. Major encroachment, building.
70	<i>Callistemon salignus</i> (Willow Bottle Brush)	150 100	6	4	Heavily suppressed. Crown density range 50-75%.	Fair	Good	5-15	Low	Consider for Removal	2.3	Remove. Building footprint.
71	<i>Eucalyptus microcorys</i> (Tallowwood)	450	13	6	Major co-dominant inclusion. Partially suppressed. Exposed surface roots.	Good	Fair	5-15	High	Consider for Retention	5.4	Remove. Major encroachment, building.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
72	<i>Eucalyptus microcorys</i> (Tallowwood)	450	15	10	Partially suppressed.	Good	Good	40+	High	Priority for Retention	5.4	Remove. Major encroachment, building.
73	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	200	6	4	Heavily suppressed.	Fair	Good	<5	Low	Priority for Removal	2.4	Remove. Major encroachment, building.
74	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	150 100 100	5	5	Heavily suppressed. 1st order branch inclusion.	Fair	Fair	<5	Low	Priority for Removal	3	Remove. Major encroachment, building.
75	<i>Erythrina crista-galli</i> (Cocks Comb Coral Tree)	150 150	4	3	Heavily suppressed. Basal wound, decay. Crown density range 0-25%.	Poor	Fair	<5	Low	Priority for Removal		NOT COVERED BY TPO.
76	<i>Acer negundo</i> (Box Elder)	200	6	6	Ivy on trunk. Wounds, early stages of decay at crown break. Partially suppressed.	Fair	Fair	<5	Low	Priority for Removal	2.4	Remove. Major encroachment, building.
77	<i>Jacaranda mimosifolia</i> (Jacaranda)	200	5	3	Heavily suppressed. Medium (25-75mm) diameter epicormics at base.	Fair	Good	5-15	Low	Consider for Removal	2.4	Remove. Major encroachment, building.
78	<i>Melaleuca bracteata</i> (Black Tea Tree)	150	7	3	Minor 1st order branch inclusion. Crown density range 0-25%.	Fair	Fair	<5	Low	Priority for Removal	2	Retain. No works within TPZ.
79	<i>Jacaranda mimosifolia</i> (Jacaranda)	150	6	4	Partially suppressed.	Good	Good	15-40	Moderate	Consider for Retention	2	Retain. No works within TPZ.
80	<i>Harpephyllum caffrum</i> (Kaffir Plum)	200 200 200	7	7	Minor co-dominant inclusion. Ivy on trunk. Crossing branches. Partially suppressed.	Good	Fair	5-15	Moderate	Consider for Retention	4.2	Remove. Major encroachment, building.
81	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	250	5	4	Moderate phototropic trunk lean. Partially suppressed. Ivy on trunk.	Good	Good	15-40	Moderate	Consider for Retention	3	Remove. Building footprint.
81a	<i>Callistemon salignus</i> (Willow Bottle Brush)	100 100 100	5	3	Crown density range 25-50%. Heavily suppressed. 1st order branch inclusion at base. Ivy on trunk.	Fair	Fair	<5	Low	Priority for Removal	3	Remove. Building footprint.
82	<i>Gleditsia triacanthos</i> (Honey Locust)	50 150	5	5	Partially suppressed. Low volumes of medium (25-75mm) diameter deadwood.	Fair	Good	5-15	Low	Consider for Removal	2	Remove. Building footprint.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
83	<i>Ulmus parvifolia</i> (Chinese Elm)	200 150	6	5	Minor co-dominant inclusion.	Good	Fair	15-40	Moderate	Consider for Retention	3	Remove. Building footprint.
84	<i>Prunus dulcis</i> (Almond)	150 150 100	5	5	Moderate volumes of small (<25mm) diameter deadwood. 1st order branch inclusion.	Fair	Fair	<5	Low	Priority for Removal		Remove. Building footprint.
85	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	250 400	10	6	Co-dominant inclusion. Ivy on trunk.	Good	Fair	15-40	Moderate	Consider for Retention	5.8	Remove. Building footprint.
86	<i>Grevillea robusta</i> (Silky Oak)	250	6	4	Limited building clearances.	Good	Good	5-15	Low	Consider for Removal	3	Remove. Building footprint.
87	<i>Fraxinus angustifolia</i> 'Raywoodii' (Claret Ash)	300	7	6	Low volumes of medium (25-75mm) diameter deadwood.	Fair	Good	5-15	Low	Consider for Removal	3.6	Remove. Building footprint.
88	<i>Jacaranda mimosifolia</i> (Jacaranda)	300	7	7		Good	Good	15-40	Moderate	Consider for Retention	3.6	Remove. Building footprint.
88b	<i>Gleditsia triacanthos</i> (Honey Locust)	150	6	5	Small (<25mm) diameter epicormics from trunk. Wound, early stages of decay.	Fair	Good	5-15	Low	Consider for Removal	2	Remove. Building footprint.
89	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	400	9	5	Mechanical damage to exposed surface roots.	Good	Good	15-40	Moderate	Consider for Retention	4.8	Remove. Building footprint.
90	<i>Acer negundo</i> (Box Elder)	350	7	7	Trunk wound, early stages of decay.	Good	Fair	15-40	Low	Consider for Removal	4.2	Remove. Building footprint.
91	<i>Quercus palustris</i> (Pin Oak)	750	15	15	Multiple occluding wounds. Climber in crown.	Good	Good	40+	High	Priority for Retention	9	Remove. Building footprint.
92	<i>Phoenix canariensis</i> (Canary Island Date Palm)	450	6	3	Heavily suppressed.	Fair	Good	<5	Low	Priority for Removal	5.4	Remove. Building footprint.
93	<i>Prunus dulcis</i> (Almond)	200 150	4	4	Partially suppressed.	Good	Good	5-15	Low	Consider for Removal	3	NOT COVERED BY TPO.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
94	<i>Prunus cerasifera</i> 'Nigra' (Cherry Plum)	150	5	4	Star picket causing damage to 1st order branch. Borer damage.	Fair	Fair	<5	Low	Priority for Removal	2	Remove. Building footprint.
95												NUMBER NOT USED
96	<i>Prunus cerasifera</i> 'Nigra' (Cherry Plum)	150	5	5	Extensive 1st order branch wound, decay. Borer damage.	Fair	Poor	<5	Low	Priority for Removal	2	Remove. Building footprint.
97	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	600	10	9	1st order branch removed. Minor bark inclusion.	Good	Good	15-40	Moderate	Consider for Retention	7.2	Remove. Building footprint.
97a	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	150 200	7	6	1st order branch wound, advanced stages of decay. Mechanical damage to exposed roots.	Good	Fair	5-15	Moderate	Consider for Retention	2.3	Remove. Building footprint.
97b	<i>Olea europaea</i> ssp. <i>cuspidata</i> (African Olive)	150 100	7	5	Partially suppressed.	Good	Good	5-15	Low	Consider for Removal	2.3	NOT COVERED BY TPO.
97c	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	250	6	4	Partially suppressed.	Good	Good	5-15	Low	Consider for Removal	3	Remove. Building footprint.
98	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	900	12	10	Large diameter 1st order branch removed, early stages of decay at wound face.	Good	Good	15-40	Moderate	Consider for Retention	10.8	Remove. Building footprint.
99	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	900	12	10	Minor 1st order branch inclusion. Large diameter 1st order branch removed.	Good	Good	15-40	Moderate	Consider for Retention	10.8	Remove. Building footprint.
100	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	900	11	11	Large diameter 1st order branch removed. Fungal bracket at 1.3m w side of trunk.	Good	Fair	5-15	Moderate	Consider for Retention	10.8	Remove. Building footprint.
101	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	300	7	6	Partially suppressed.	Good	Good	15-40	Moderate	Consider for Retention	3.6	Remove. Building footprint.
102	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	350	9	5	Pruning wound, early stages of decay. Partially suppressed.	Good	Good	15-40	Moderate	Consider for Retention	4.2	Remove. Building footprint.
103												NUMBER NOT USED

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
103a	<i>Murraya paniculata</i> (Orange Jessamine)	250	6	5	Partially suppressed.	Good	Good	15-40	Low	Consider for Removal	3	Remove. Building footprint.
104	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	350 350 300	10	6	Previous branch failures. Multiple minor bark inclusions.	Good	Fair	15-40	Moderate	Consider for Retention	6.7	Remove. Building footprint.
105	<i>Ulmus glabra</i> 'Lutescens' (Golden Elm)	250	6	7	Minor 1st order branch inclusions. Crossing branches.	Good	Good	15-40	Low	Consider for Removal	3	Remove. Building footprint.
106	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	150 250	5	4	Partially suppressed. Group of 2.	Good	Good	5-15	Low	Consider for Removal	3.6	Remove. Building footprint.
107	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	200 150	6	5	Group of 2. Wounds, early stages of decay. Partially suppressed.	Good	Fair	5-15	Low	Consider for Removal	3.6	Remove. Building footprint.
108												NUMBER NOT USED
108a	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	100 150	7	4	Moderate phototropic trunk lean. Partially suppressed.	Good	Good	5-15	Low	Consider for Removal	2.3	Remove. Building footprint.
109	<i>Ulmus glabra</i> 'Lutescens' (Golden Elm)	350	6	7	1st order branch inclusion. Crossing branches. Previous branch failures.	Good	Fair	5-15	Moderate	Consider for Retention	4.2	Remove. Building footprint.
110	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	200	5	5		Good	Good	15-40	Moderate	Consider for Retention	2.4	Remove. Building footprint.
111	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	450	8	7	Mechanical damage to exposed roots.	Good	Good	15-40	Moderate	Consider for Retention	5.4	Remove. Building footprint.
112	<i>Jacaranda mimosifolia</i> (Jacaranda)	250 300	10	7	Wound to second order branch, early stages of decay.	Good	Fair	5-15	Moderate	Consider for Retention	4.8	Remove. Building footprint.
113	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	250 250 300	8	5	Multiple minor 1st order bark inclusions.	Good	Fair	5-15	Moderate	Consider for Retention	5.7	Remove. Building footprint.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
114	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	500	7	7	1st order bark inclusion. Previous branch failures. Wounds, no visible signs of decay.	Good	Fair	5-15	Moderate	Consider for Retention	6	Remove. Building footprint.
115	<i>Schinus molle</i> var. <i>areira</i> (Pepper Tree)	350 250	9	8	Mechanical damage to exposed roots. Low volumes of small (<25 mm) diameter deadwood.	Good	Good	15-40	Moderate	Consider for Retention	5.3	Remove. Building footprint.
115a	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	100 100 100	6	6	Previous branch failures. Wounds early stages of decay. Crown density 50-75%.	Good	Fair	5-15	Low	Consider for Removal	2.1	Remove. Building footprint.
115b	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	150 150	6	6	Crossing branches. 1st Co dominant inclusion. Crown density 25-50%.	Poor	Fair	<5	Low	Priority for Removal	3	Remove. Building footprint.
115c	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	200	6	6	Partially suppressed. Crown density 25-50%.	Poor	Good	<5	Low	Priority for Removal	2.4	Remove. Building footprint.
115d	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	150 150 150	6	7	Basal cavity. Crown density 25-50%.	Poor	Fair	<5	Low	Priority for Removal	3.1	Remove. Building footprint.
115e	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	150 100	5	5	Minor basal inclusion.	Good	Fair	5-15	Low	Consider for Removal	2.3	Remove. Building footprint.
116	<i>Liquidambar styraciflua</i> (Liquidambar)	400	12	9	Storm damage. Mechanical damage to exposed roots.	Good	Good	15-40	Moderate	Consider for Retention	4.8	Remove. Building footprint.
116a												NUMBER NOT USED
117	<i>Eucalyptus microcorys</i> (Tallowwood)	700	16	14	Mechanical damage to exposed roots.	Good	Good	15-40	High	Priority for Retention	8.4	Remove. Building footprint.
118	<i>Araucaria columnaris</i> (Cook Pine)	250	8	3	Partially suppressed. Slight phototropic trunk lean.	Good	Good	15-40	Moderate	Consider for Retention	3	Remove. Building footprint.
119	<i>Liquidambar styraciflua</i> (Liquidambar)	200	7	5	Partially suppressed. Low volumes small diameter epicormic shoots at base.	Fair	Good	5-15	Moderate	Consider for Retention	2.4	Remove. Building footprint.
120												DEAD

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
121	<i>Acer negundo</i> (Box Elder)	250	5	4	Trunk wound, no visible signs of decay. Lopped at 1.5m.	Good	Fair	5-15	Moderate	Consider for Retention	3	Remove. Building footprint.
122	<i>Jacaranda mimosifolia</i> (Jacaranda)	250 250 400	12	11	Minor co-dominant inclusion.	Good	Good	15-40	High	Priority for Retention	6.5	Remove. Building footprint.
123												DEAD
124	<i>Syzygium paniculatum</i> (Brush Cherry)	100 100 150	5	6	Partially suppressed. Low volumes of medium (25-75 mm) diameter deadwood.	Fair	Good	5-15	Moderate	Consider for Retention	2.5	Remove. Building footprint.
125	<i>Liquidambar styraciflua</i> (Liquidambar)	450	10	9		Good	Good	40+	Moderate	Priority for Retention	5.4	Remove. Building footprint.
126	<i>Photinia x fraseri</i> 'Robusta'	300	5	6	Partially suppressed. Ivy in crown.	Good	Good	5-15	Moderate	Consider for Retention	3.6	Remove. Building footprint.
127	<i>Morus nigra</i> (Mulberry)	250 300	6	10	Trunk wound, advanced stages of decay. Borer activity.	Fair	Poor	<5	Low	Priority for Removal	4.8	Remove. Building footprint.
128												NUMBER NOT USED
129												NUMBER NOT USED
130												NUMBER NOT USED
131												NUMBER NOT USED
131a												NUMBER NOT USED
132	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	350	8	5	Slight phototropic trunk lean. Wound, no visible signs of decay.	Good	Good	15-40	Moderate	Consider for Retention	4.2	Remove. Building footprint.
133	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	300 350	9	6	Major co-dominant inclusion.	Good	Fair	15-40	Moderate	Consider for Retention	5.6	Remove. Major encroachment, building.
134	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	250 350	9	6	Minor 1st order branch inclusion.	Good	Good	15-40	Moderate	Consider for Retention	5.2	Remove. Major encroachment, building.
135	<i>Phoenix canariensis</i> (Canary Island Date Palm)	650	6	6	Restricted growing environment. Limited building clearance.	Good	Good	<5	Moderate	Priority for Removal	7.8	Remove. Building footprint.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
136	<i>Corymbia maculata</i> (Spotted Gum)	400	18	10	Trunk wound, early stages of decay. Fruiting body at base.	Good	Fair	5-15	High	Consider for Retention	4.8	Remove. Building footprint.
136a	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	200	6	4	Limited building clearance. Slight phototropic trunk lean. Pruned for building clearance.	Good	Good	5-15	Low	Consider for Removal	2.4	Remove. Building footprint.
136b	<i>Banksia serrata</i> (Old Man Banksia)	150+100	5	3	Group of 2. Slight phototropic trunk lean.	Good	Good	15-40	Moderate	Consider for Retention	2.3	Remove. Building footprint.
136c	<i>Leptospermum petersonii</i> (Lemon Scented Tea Tree)	150 150	4	3	1st and 2nd order branch inclusions. Slight phototropic trunk lean. Low volumes small diameter (<25mm) dead wood.	Fair	Fair	<5	Low	Priority for Removal	3	Remove. Building footprint.
137	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	750	9	12	Pruned for powerline clearance.	Good	Good	15-40	Moderate	Consider for Retention	9	Remove. Major encroachment, building.
137a	<i>Melaleuca bracteata</i> (Black Tea Tree)	200	4	3	Partially suppressed. Pruned for building clearance.	Fair	Good	<5	Low	Priority for Removal	2.4	Retain. No works within TPZ.
137b	<i>Melaleuca bracteata</i> (Black Tea Tree)	150	4	3	Partially suppressed. Pruned for building clearance.	Fair	Good	<5	Low	Priority for Removal	2	Retain. No works within TPZ.
138	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	450 300 400	10	8	1st order branch inclusion. Pruned for powerline clearance.	Good	Good	15-40	Moderate	Consider for Retention	8.2	Remove. Major encroachment, building.
139	<i>Corymbia maculata</i> (Spotted Gum)	250	10	4	Partially suppressed. Pruned for powerline clearance.	Good	Good	15-40	High	Priority for Retention	3	Retain. No works within TPZ.
140	<i>Corymbia maculata</i> (Spotted Gum)	400	16	5	Pruned for powerline clearance.	Good	Good	15-40	High	Priority for Retention	4.8	Retain. Minor encroachment, building.
141	<i>Corymbia maculata</i> (Spotted Gum)	400	18	6	Large trunk wounds, advanced stages of decay. Borer activity. Pruned for powerline clearance.	Good	Poor	<5	High	Priority for Removal	4.8	Retain. Minor encroachment, building.
141a	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	100 50	5	4	Partially suppressed. 1st order branch inclusion.	Fair	Fair	5-15	Low	Consider for Removal	2	Retain. No works within TPZ.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
142	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	350	10	7		Good	Good	15-40	Moderate	Consider for Retention	4.2	Remove. Building footprint.
142a	<i>Callistemon citrinus</i> (Crimson Bottlebrush)	150 200	6	4	Moderate phototropic trunk lean. Pruned for building clearance. Major co-dominant inclusion.	Good	Fair	5-15	Low	Consider for Removal	2	Remove. Building footprint.
142b	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	200 100	6	4	Minor branch inclusion. Partially suppressed. Climber in crown.	Good	Fair	5-15	Low	Consider for Removal	2.8	Remove. Building footprint.
142c	<i>Melaleuca bracteata</i> (Black Tea Tree)	100 100 50	6	4	Pruned for building clearance. Limited building clearance.	Fair	Fair	5-15	Low	Consider for Removal	2	Remove. Building footprint.
142d	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	100 150	6	4	Partially suppressed.	Fair	Good	5-15	Low	Consider for Removal	2.3	Retain. No works within TPZ.
143	<i>XCupressocyparís leylandii</i> (Leyland Cypress)	250	6	4	Row of 11 trees. Minor bark inclusions, typical of species. Internal deadwood, typical of species.	Good	Good	15-40	Low	Consider for Removal	3	NOT COVERED BY TPO.
143a	<i>Ulmus glabra</i> 'Lutescens' (Golden Elm)	100 100 100	7	6	Crossing branches. Cavity, early stages of decay.	Good	Fair	<5	Low	Priority for Removal	3	Remove. Building footprint.
144	<i>Jacaranda mimosifolia</i> (Jacaranda)	150 150 100	6	5	Minor 1st order branch inclusion. Mechanical damage to exposed roots. Partially suppressed.	Fair	Fair	5-15	Low	Consider for Removal	2.9	Remove. Building footprint.
145	<i>Tibouchina granulosa</i> (Purple Glory bush)	150 150	6	6	Crown density range 50-75%. Partially suppressed.	Fair	Good	5-15	Low	Consider for Removal	2.6	Remove. Building footprint.
145a	<i>Prunus cerasifera</i> 'Nigra' (Cherry Plum)	150	7	6	Trunk wound, early stages of decay. Borer activity.	Fair	Poor	<5	Low	Priority for Removal	2	Remove. Building footprint.
146												NUMBER NOT USED
146a	<i>Callistemon citrinus</i> (Crimson Bottlebrush)	200 200	5	5		Good	Good	5-15	Low	Consider for Removal	4.2	Remove. Building footprint.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
146b	<i>Callistemon viminalis</i> (Weeping Bottle Brush) & <i>Pittosporum undulatum</i> (Sweet Pittosporum)	250 250	5	4	Intertwined from base. Crossing branches.	Good	Fair	5-15	Low	Consider for Removal	2.3	Remove. Building footprint.
146c	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	200 200	5	4	Group of 2. Minor 1st order branch inclusions. Partially suppressed. Pruned for building clearance.	Fair	Fair	<5	Low	Priority for Removal	3.5	Remove. Building footprint.
147	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	200 300	8	4	Minor 1st order branch inclusions. Partially suppressed.	Fair	Good	5-15	Moderate	Consider for Retention	5.6	Retain. No works within TPZ.
148	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	100 150	6	3	Minor 1st order branch inclusions. Heavily suppressed. Crown density range 25-50%.	Poor	Fair	<5	Low	Priority for Removal	3	Retain. No works within TPZ.
149	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	200 200	6	4	Minor co-dominant inclusion.	Good	Fair	15-40	Moderate	Consider for Retention	3.5	Retain. No works within TPZ.
150	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	150 150	8	5	Major co-dominant inclusion.	Good	Fair	5-15	Moderate	Consider for Retention	3.1	Remove. Building footprint.
151	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	200	7	3	Partially suppressed.	Good	Good	5-15	Moderate	Consider for Retention	2.4	Remove. Building footprint.
152	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	350 350	8	7	Mechanical damage to exposed roots. Minor bark inclusion.	Good	Fair	15-40	Moderate	Consider for Retention	6	Remove. Building footprint.
153	<i>Jacaranda mimosifolia</i> (Jacaranda)	200	7	6	Partially suppressed.	Good	Good	5-15	Moderate	Consider for Retention	2.4	Remove. Building footprint.
154	<i>Jacaranda mimosifolia</i> (Jacaranda)	300	7	6		Good	Good	15-40	Moderate	Consider for Retention	3.6	Remove. Building footprint.
155	<i>Archontophoenix alexandrae</i> (Alexandra Palm)	200	8	4		Good	Good	15-40	Moderate	Consider for Retention	5	Retain. No works within TPZ.
155a	<i>Archontophoenix alexandrae</i> (Alexandra Palm)	150	5	3		Good	Good	15-40	Low	Consider for Removal	4	Retain. No works within TPZ.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
155b	<i>Archontophoenix alexandrae</i> (Alexandra Palm)	150	6	3		Good	Good	15-40	Low	Consider for Removal	4	Retain. No works within TPZ.
156	<i>Gleditsia triacanthos</i> (Honey Locust)	150 150 150 100	7	8	Borer activity.	Fair	Fair	5-15	Moderate	Consider for Retention	3.1	Remove. Building footprint.
156a	<i>Gleditsia triacanthos</i> (Honey Locust)	150	4	6		Good	Good	15-40	Low	Consider for Removal	2	Remove. Building footprint.
157	<i>Photinia x fraseri</i> 'Robusta'	350	5	5	Partially suppressed. Minor bark inclusion.	Good	Good	5-15	Moderate	Consider for Retention	4.2	Retain. No works within TPZ.
157a	<i>Archontophoenix alexandrae</i> (Alexandra Palm)	250 150	7	4		Good	Good	15-40	Moderate	Consider for Retention	5	Retain. No works within TPZ.
158	<i>Archontophoenix alexandrae</i> (Alexandra Palm)	200	7	3	Group of 4.	Good	Good	15-40	Moderate	Consider for Retention	4	Retain. No works within TPZ.
159	<i>Gleditsia triacanthos</i> (Honey Locust)	150 150	5	5	Partially suppressed.	Good	Good	5-15	Moderate	Consider for Retention	2.6	Retain. No works within TPZ.
160	<i>Gleditsia triacanthos</i> (Honey Locust)	200 250	8	9	Exposed surface roots.	Good	Good	15-40	Moderate	Consider for Retention	4	Retain. No works within TPZ.
161	<i>Jacaranda mimosifolia</i> (Jacaranda)	300	10	8		Good	Good	40+	High	Priority for Retention	3.6	Retain. No works within TPZ.
162	<i>Sapium sebiferum</i> (Chinese Tallow Tree)	200	7	6		Good	Good	15-40	Moderate	Consider for Retention	2.4	Retain. No works within TPZ.
163	<i>Sapium sebiferum</i> (Chinese Tallow Tree)	200	7	6		Good	Good	15-40	Moderate	Consider for Retention	2.4	Retain. No works within TPZ.
164	<i>Eucalyptus microcorys</i> (Tallowwood)	600	17	10	Partially suppressed. Major 1st order branch inclusion.	Good	Fair	15-40	High	Priority for Retention	7.2	Retain. No works within TPZ.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
165	<i>Eucalyptus microcorys</i> (Tallowwood)	550	18	9	Partially suppressed.	Good	Good	15-40	High	Priority for Retention	6.6	Retain. No works within TPZ.
166	<i>Ulmus glabra</i> 'Lutescens' (Golden Elm)	300 100 100	6	6	Wound, early stages of decay. Minor bark inclusion.	Good	Fair	5-15	Moderate	Consider for Retention	4.2	Retain. No works within TPZ.
167	<i>Ulmus glabra</i> 'Lutescens' (Golden Elm)	200	5	5	Crossing branches. Wound, early stages of decay. Borer activity.	Good	Fair	5-15	Moderate	Consider for Retention	2.4	Retain. No works within TPZ.
167a												NUMBER NOT USED
168	<i>Ulmus glabra</i> 'Lutescens' (Golden Elm)	200	4	4	Crossing branches.	Good	Good	15-40	Low	Consider for Removal	2.4	Retain. No works within TPZ.
169	<i>Ulmus glabra</i> 'Lutescens' (Golden Elm)	200	4	4	Minor co-dominant inclusion.	Good	Fair	5-15	Low	Consider for Removal	2.4	Retain. No works within TPZ.
170	<i>Radermachera sinica</i> (Asian Bell-flower)	300 300	9	6	Minor co-dominant inclusion. Exposed roots. Crown density range 75-100%.	Fair	Good	5-15	Moderate	Consider for Retention	5.2	Retain. No works within TPZ.
171	<i>Ulmus glabra</i> 'Lutescens' (Golden Elm)	350	7	9	Low volumes of small (25mm) diameter deadwood. Branch stub with epicormic growth. Crown extends over adjacent building.	Good	Good	15-40	Moderate	Consider for Retention	4.2	Retain. No works within TPZ.
171a	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	100 150	7	5	Lopped 1st order branch with recent epicormic growth. Partially suppressed. Minor Co-dominant inclusion.	Fair	Fair	<5	Low	Priority for Removal	3	Retain. No works within TPZ.
171b	<i>Callistemon salignus</i> (Willow Bottle Brush)	150	6	3	Low volumes of large diameter (>75mm) deadwood. Partially suppressed. Crown density range 25-50%.	Poor	Poor	<5	Low	Priority for Removal	2	Retain. No works within TPZ.
171c	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	150 100	5	4	Partially suppressed. Minor co-dominant inclusion.	Fair	Fair	<5	Low	Priority for Removal	3	Retain. No works within TPZ.
172	<i>Archontophoenix alexandrae</i> (Alexandra Palm)	200	9	4		Good	Good	5-15	Moderate	Consider for Retention	5	Retain. No works within TPZ.

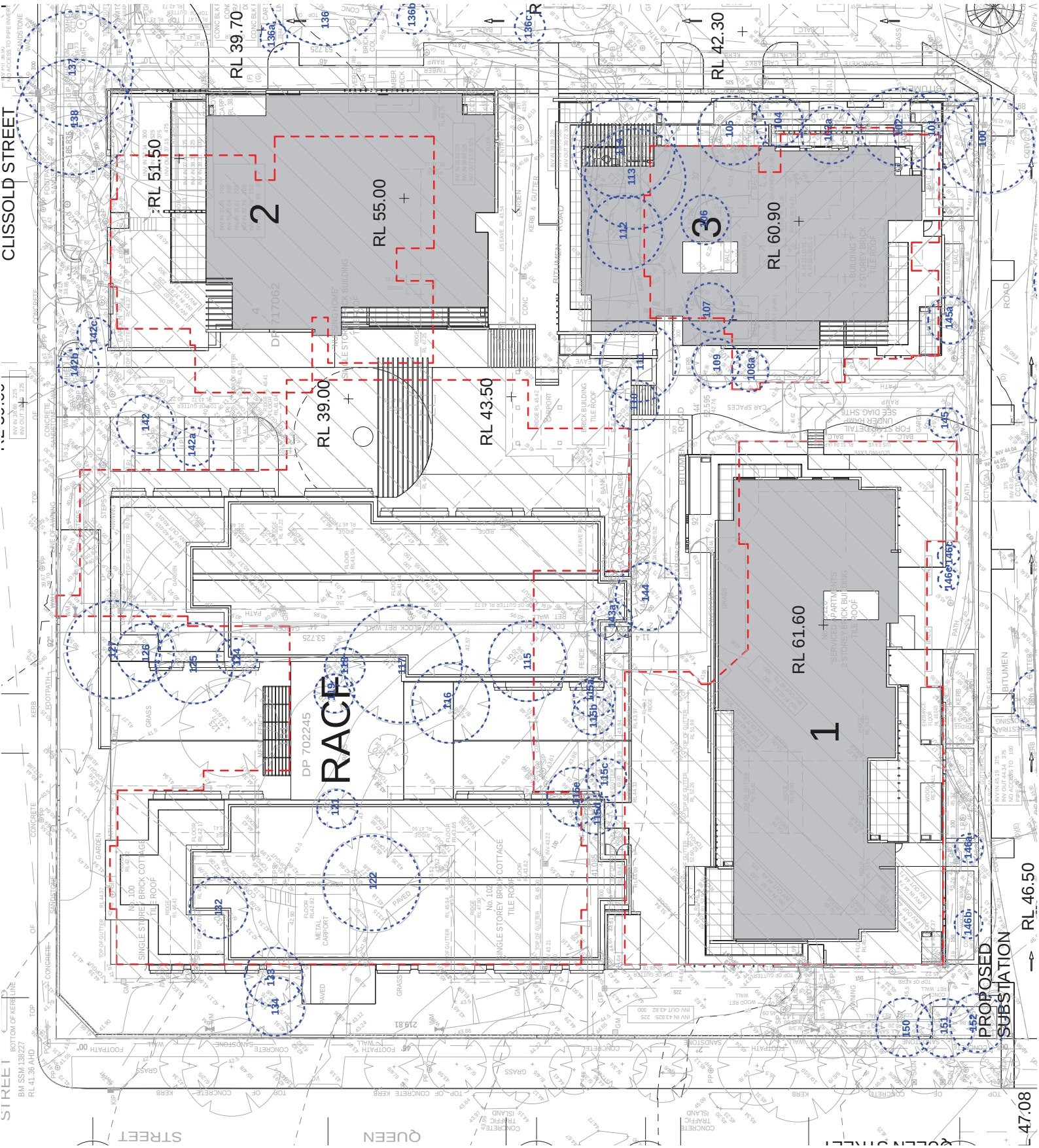
Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
173	<i>Syagrus romanzoffianum</i> (Cocos Palm)	150	5	4		Good	Good	5-15	Low	Consider for Removal	5	NOT COVERED BY TPO.
174	<i>Syagrus romanzoffianum</i> (Cocos Palm)	200	7	4		Good	Good	5-15	Low	Consider for Removal	5	NOT COVERED BY TPO.
175												NUMBER NOT USED
176	<i>Syzygium paniculatum</i> (Bush Cherry)	200 250 250	7	8	Wounds early stages of decay. Minor co-dominant inclusion. Recent works within SRZ.	Good	Good	15-40	Moderate	Consider for Retention	5.8	Retain. No works within TPZ.
177	<i>Ulmus glabra</i> 'Lutescens' (Golden Elm)	200	5	5	Crossing branches. Wounds, early stages of decay.	Good	Good	15-40	Low	Consider for Removal	2.4	Retain. No works within TPZ.
178	<i>Ulmus glabra</i> 'Lutescens' (Golden Elm)	200	5	5	Crossing branches. Wounds, early stages of decay.	Good	Good	15-40	Low	Consider for Removal	2.4	Retain. No works within TPZ.
179	<i>Ulmus glabra</i> 'Lutescens' (Golden Elm)	200	5	5	Crossing branches. Wounds, early stages of decay.	Good	Good	15-40	Low	Consider for Removal	2.4	Retain. No works within TPZ.
180	<i>Ulmus glabra</i> 'Lutescens' (Golden Elm)	150 200	6	10		Good	Good	15-40	Moderate	Consider for Retention	3	Retain. No works within TPZ.
181	<i>Sapium sebiferum</i> (Chinese Tallow Tree)	300	5	7	Mechanical damage to exposed roots.	Good	Fair	5-15	Moderate	Consider for Retention	3.6	Retain. No works within TPZ.
181a	<i>Syagrus romanzoffianum</i> (Cocos Palm)	250	9	5		Good	Good	15-40	Low	Consider for Removal	6	NOT COVERED BY TPO.
181b	<i>Syagrus romanzoffianum</i> (Cocos Palm)	250	11	5		Good	Good	15-40	Low	Consider for Removal	6	NOT COVERED BY TPO.
182	<i>Gleditsia triacanthos</i> (Honey Locust)	200 150 150	7	7	Minor 1st order branch inclusions.	Good	Good	5-15	Moderate	Consider for Retention	3.6	Retain. No works within TPZ.
183	<i>Gleditsia triacanthos</i> (Honey Locust)	300	7	7		Good	Good	5-15	Moderate	Consider for Retention	3.6	Retain. No works within TPZ.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
184	<i>Melaleuca quinquenervia</i> (Broad Leaf Paperbark)	300	7	5	Moderate phototropic trunk lean.	Good	Good	5-15	Moderate	Consider for Retention	3.6	Retain. No works within TPZ.
185	<i>Gleditsia triacanthos</i> (Honey Locust)	150, 100	5	6		Good	Good	5-15	Moderate	Consider for Retention	2.3	Retain. No works within TPZ.
186	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	100 100 150 150	5	5	Minor 1st order branch inclusions. Climber on trunk.	Good	Good	5-15	Low	Consider for Removal	3.1	Retain. No works within TPZ.
187												NUMBER NOT USED
187a	<i>Syagrus romanzoffianum</i> (Cocos Palm)	250	9	5	Climber on trunk.	Good	Good	15-40	Low	Consider for Removal	6	NOT COVERED BY TPO.
187b	<i>Syagrus romanzoffianum</i> (Cocos Palm)	250	13	4	Climber on trunk.	Good	Good	15-40	Low	Consider for Removal	5	NOT COVERED BY TPO.
187c	<i>Syagrus romanzoffianum</i> (Cocos Palm)	250	8	5		Good	Good	15-40	Low	Consider for Removal	6	NOT COVERED BY TPO.
188												NUMBER NOT USED
189	<i>Plumeria acutifolia</i> (Frangipani)	200 200	3	4	Group of 2. Restricted growing environment.	Good	Good	15-40	Low	Consider for Removal	2.5	Retain. No works within TPZ.
190	<i>Eucalyptus nicholii</i> (Small-leaved Peppermint)	650	15	12	Root severance in SRZ. Moderate volumes of small (<25mm) and medium (25-75mm) diameter dead wood. Crown density range 75-100%.	Fair	Fair	5-15	High	Consider for Removal	7.8	Retain. No works within TPZ.
191	<i>Phoenix canariensis</i> (Canary Island Date Palm)	600	8	5		Good	Good	40+	Moderate	Priority for Retention	6	Retain. No works within TPZ.
192	<i>Corymbia maculata</i> (Spotted Gum)	350	11	7		Good	Good	40+	High	Priority for Retention	4.2	Retain. No works within TPZ.
193	<i>Tibouchina granulosa</i> (Purple Glory bush)	200	6	8	Moderate volumes of small (<25mm) diameter dead wood. Partially suppressed.	Fair	Good	5-15	Low	Consider for Removal	2.4	Retain. No works within TPZ.

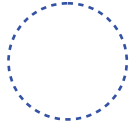
Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
194	<i>Tibouchina granulosa</i> (Purple Glory bush)	200	6	8	Moderate volumes of small (<25mm) diameter dead wood. Partially suppressed.	Fair	Good	5-15	Low	Consider for Removal	2.4	Retain. No works within TPZ.
195	<i>Tibouchina granulosa</i> (Purple Glory bush)	200	6	8	Moderate volumes of small (<25mm) diameter dead wood. Partially suppressed.	Fair	Good	5-15	Low	Consider for Removal	2.4	Retain. No works within TPZ.
196	<i>Butia capitata</i> (Jelly Palm)	350	5	4	Partially suppressed.	Good	Good	5-15	Low	Consider for Removal	5	Retain. No works within TPZ.
197	<i>Branchyciton acerifolia</i> (Illawarra Flame Tree)	400	11	8	Partially suppressed. Limited building clearance.	Good	Good	15-40	Moderate	Consider for Retention	4.8	Retain. No works within TPZ.
198	<i>Jacaranda mimosifolia</i> (Jacaranda)	600, 250	15	16	1st order bark inclusion. Partially suppressed. Low volumes of large (>75mm) diameter epicormic growth.	Good	Good	15-40	High	Priority for Retention	7.8	Retain. No works within TPZ.
199												NUMBER NOT USED
200	<i>Phoenix canariensis</i> (Canary Island Date Palm)	850	7	5		Good	Good	40+	Moderate	Priority for Retention	6	Retain. Sensitive demolition/construction methods required.
201	<i>Phoenix canariensis</i> (Canary Island Date Palm)	850	6	5		Good	Good	40+	Moderate	Priority for Retention	6	Retain. Sensitive demolition/construction methods required.
202	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	300	6	6	1st order bark inclusion.	Good	Fair	5-15	Low	Consider for Removal	3.6	Remove. Building footprint.
203												NUMBER NOT USED
204	<i>Cinnamomum camphora</i> (Camphor Laurel)	200	8	5	Heavily suppressed.	Fair	Fair	5-15	Low	Consider for Removal	2.4	Retain. No works within TPZ.
205	<i>Cinnamomum camphora</i> (Camphor Laurel)	200	8	6	Partially suppressed.	Fair	Good	5-15	Low	Consider for Removal	2.4	Retain. No works within TPZ.
206	<i>Cinnamomum camphora</i> (Camphor Laurel)	300	9	6	Storm damage. Low volumes of small (<25mm) and medium (25-75mm) diameter deadwood.	Good	Good	15-40	Moderate	Consider for Retention	3.6	Retain. Minor encroachment, building.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
207	<i>Olea europaea</i> ssp. cuspidata (African Olive)	250	8	8	Slight phototropic trunk lean. Partially suppressed.	Good	Good	5-15	Low	Consider for Removal	3	NOT COVERED BY TPO.
207a	<i>Cinnamomum camphora</i> (Camphor Laurel)	200	11	3	Partially suppressed. Trunk contact with 207.	Good	Fair	<5	Low	Priority for Removal	2.4	Remove. Major encroachment, building.
208	<i>Washingtonia robusta</i> (Mexican Fan Palm)	250	8	2	Partially suppressed.	Good	Good	15-40	Moderate	Consider for Retention	3	Remove. Major encroachment, building.
209	<i>Phoenix canariensis</i> (Canary Island Date Palm)	700	7	5		Good	Good	40+	Moderate	Priority for Retention	6	Remove. Building footprint.
210	<i>Ficus rubiginosa</i> (Port Jackson Fig)	700 800 600 600	13	14	Crown density range 25-50%. Major 1st order branch inclusions. Crown consists mainly of small (<25mm) diameter epicormic growth. Wounds, early stages of decay.	Poor	Fair	5-15	Very High	Consider for Removal	15	Retain. Sensitive demolition/construction methods required.
211	<i>Harpephyllum caffrum</i> (Kaffir Plum)	750	11	12	Crossing 1st order branches. Crown density range 75-100%.	Good	Good	15-40	Moderate	Consider for Retention	9	Retain. Sensitive demolition/construction methods required.
212	<i>Phoenix canariensis</i> (Canary Island Date Palm)	600	4	5	Heavily suppressed.	Good	Good	<5	Low	Priority for Removal	7.2	Retain. No works within TPZ.
213	<i>Phoenix canariensis</i> (Canary Island Date Palm)	650	5	5		Good	Good	40+	Moderate	Priority for Retention	6	Retain. No works within TPZ.
214	<i>Phoenix canariensis</i> (Canary Island Date Palm)	700	8	5		Good	Good	40+	Moderate	Priority for Retention	6	Retain. Sensitive demolition/construction methods required.
215	<i>Jacaranda mimosifolia</i> (Jacaranda)	200 200 150	6	8	Minor bark inclusion.	Good	Fair	5-15	Moderate	Consider for Retention	4	Retain. Sensitive demolition/construction methods required.
216	<i>Jacaranda mimosifolia</i> (Jacaranda)	200	6	7	Partially suppressed.	Fair	Good	5-15	Moderate	Consider for Retention	2.4	Retain. Sensitive demolition/construction methods required.

Tree No.	Species	DBH (mm)	Height (m)	Radial Crown Spread (m)	Comments	Health Rating	Structural Rating	ULE (years)	L/Significance	Retention Value	Radial TPZ (m)	Implication
217	<i>Jacaranda mimosifolia</i> (Jacaranda)	200	7	4	Moderate phototropic trunk lean. Wound, early stages of decay.	Fair	Fair	<5	Low	Priority for Removal	2.4	Retain. Sensitive demolition/construction methods required.
218	<i>Callistemon viminalis</i> (Weeping Bottle Brush)	200 250	7	6		Fair	Good	5-15	Low	Consider for Removal	4	Retain. Sensitive demolition/construction methods required.



tree to be removed

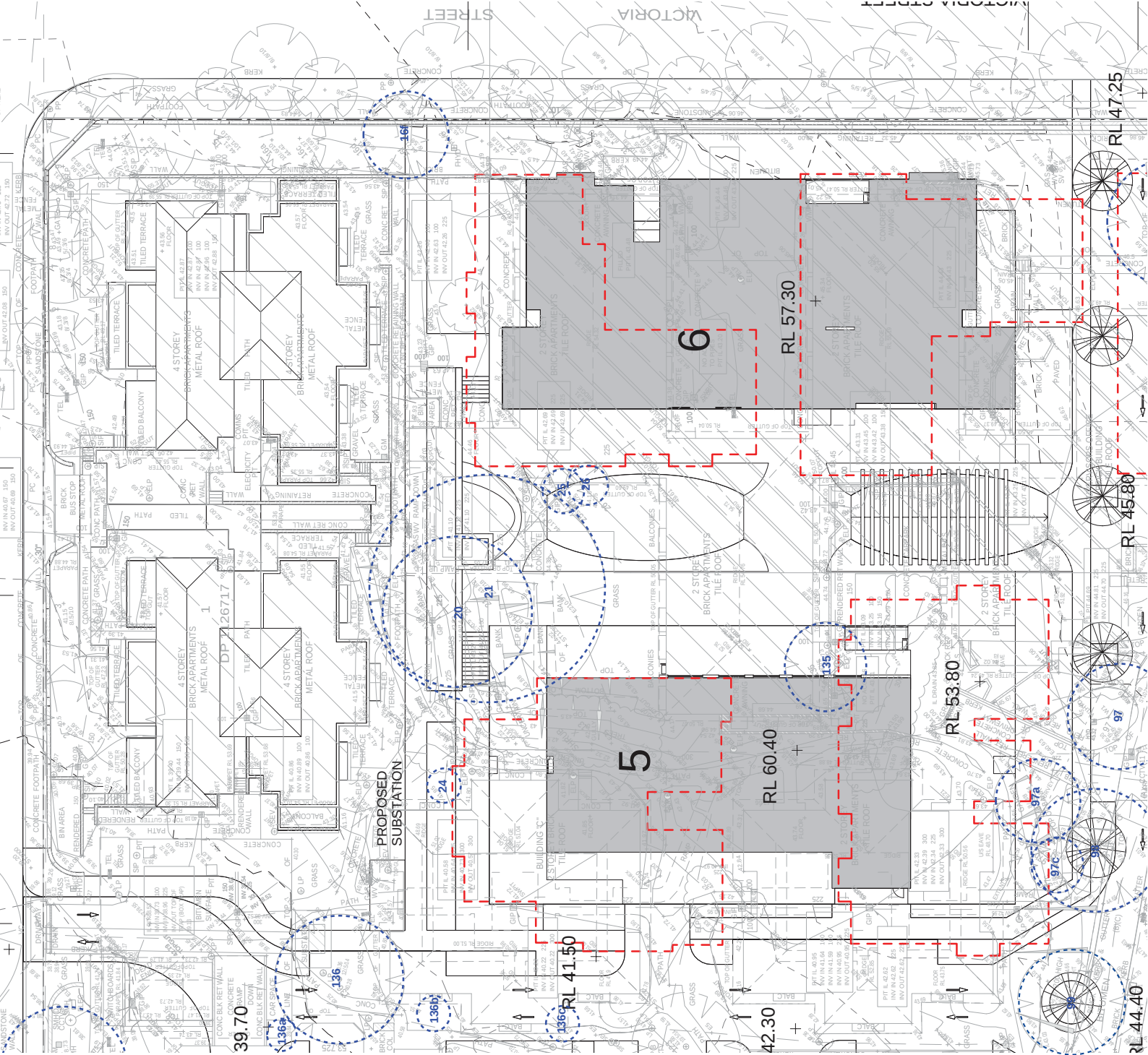


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10.10.12

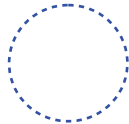
**PROPOSED
SUBSTATION**

47.08

RL 46.50



tree to be
removed



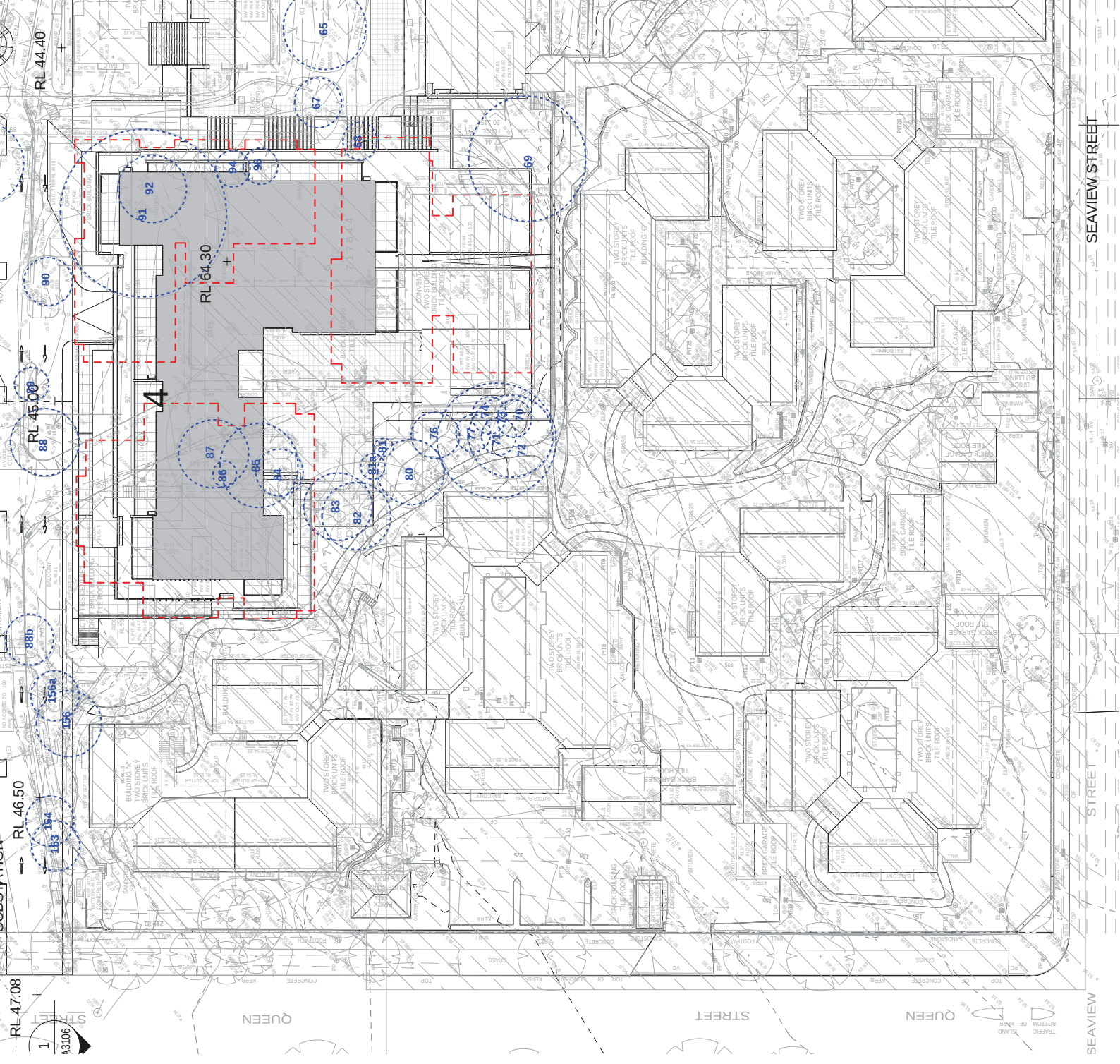
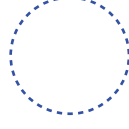
TREE REMOVAL PLAN

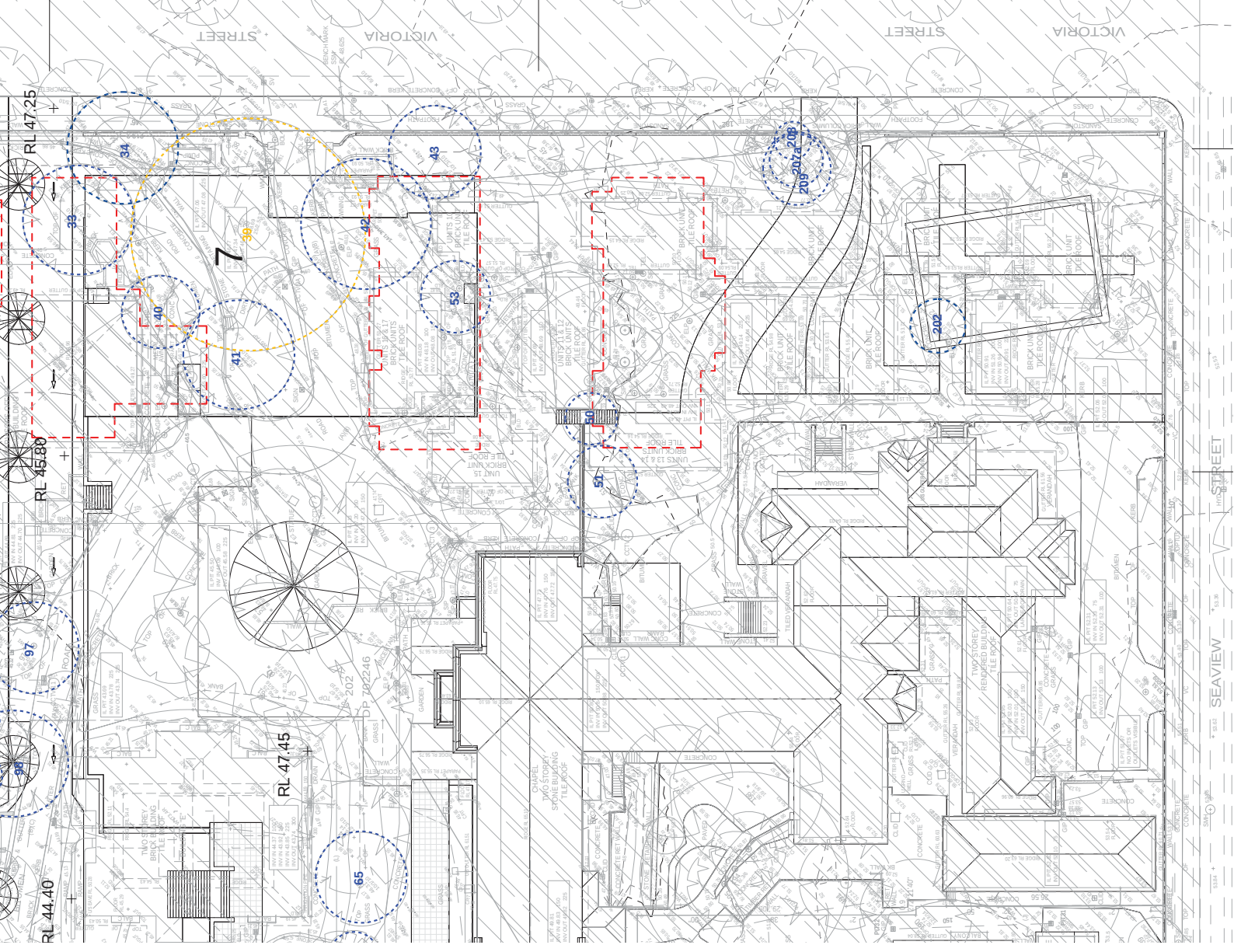
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dwg no. trpC
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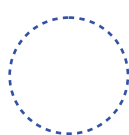
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tree to be removed

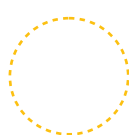




tree to be removed



tree to be transplanted



**TREE
REMOVAL
PLAN**
dwg no. trpD
10.10.12

Appendix 5: Plates



Plates (left to right):
 Plate 1: Trees 11-16f
 Plate 2: Trees 41 & 39
 Plate 3: Tree 47
 Plate 4: Tree 54
 Plate 5: Tree 56
 Plate 6: Trees 71-72
 Plate 7: Trees 98-99
 Plate 8: Tree 210

Appendix 6: General Tree Protection Specification

1.0 Appointment of Project Arborist

A Project Arborist shall be engaged prior to the commencement of work on-site and monitor compliance with the protection measures. The Project Arborist shall inspect the tree protection measures and Compliance Certification shall be prepared by the Project Arborist for review by the Principal Certifying Authority prior to the release of the Compliance Certificate.

The Project Arborist shall have a minimum qualification equivalent (using the Australian Qualifications Framework) of NSW TAFE Certificate Level 5 or above in Arboriculture.

The site specific requirement for mulching, irrigation, the location of tree protection fencing and temporary access, and other specific tree protection measures shall be confirmed through consultation between the Head Contractor/Project Manager and the Project Arborist prior to the commencement of works.

1.1 Compliance

Contractors and site workers shall receive a copy of these specifications a minimum of 3 working days prior to commencing work on-site. Contractors and site workers undertaking works within the Tree Protection Zone shall sign the site log confirming they have read and understand these specifications, prior to undertaking works on-site.

1.2 Tree Protection Zone

The trees to be retained shall be protected prior and during construction from activities that may result in an adverse effect on their health or structural condition. The area within the Tree Protection Zone (TPZ) shall exclude the following activities, unless otherwise stated:-

- Modification of existing soil levels
- Excavations and trenching
- Cultivation of the soil
- Mechanical removal of vegetation
- Soil disturbance
- Movement of natural rock
- Storage of materials, plant or equipment
- Erection of site sheds
- Affixing of signage or hoarding to the trees
- Preparation of building materials
- Disposal of waste materials and chemicals
- Lighting fires
- Refuelling
- Movement of pedestrian or vehicular traffic
- Temporary or permanent location of services, or the works required for their installation
- Any other activities that may cause damage to the tree

NOTE: If access, encroachment or incursion into the TPZ is deemed essential, prior authorisation is required by the Project Arborist.

1.3 Tree Protection Fencing

Tree Protection Fencing shall be installed at the perimeter of the TPZ as shown on the Tree Location Plan. As a minimum, the Tree Protection Fence shall consist of 1.8m high chain wire panels supported by concrete feet. They shall be fastened together and supported to prevent sideways movement. The fence must have a lockable opening for access. The tree shall not be damaged during the installation of the Tree Protection Fencing. Refer to **Appendix 6: Typical Tree Protection Details (3)**.

1.4 Signage

Signs identifying the TPZ should be placed around the edge of the TPZ and be visible from within the development site. The lettering on the sign should comply with *Australian Standard - 1319 (1994) Safety signs for the occupational environment*. The signage shall be installed prior to the commencement of works on-site and shall be maintained in good condition for the duration of the development period.

1.5 Mulching

Where deemed necessary by the Project Arborist, the TPZ shall be mulched with Horticultural Grade Pine Bark as certified to *AS4454: Composts, Soil Conditioners and Mulches* (1997) and shall be maintained at a depth of 50-100mm for the duration of the project. The mulch shall be spread by hand to avoid soil disturbance and compaction within the root zone. The mulch shall be installed prior to the commencement of works on-site. Mulch shall not be stock piled within the TPZ.

1.6 Trunk & Branch Protection

Where deemed necessary by the Project Arborist, trunk protection shall be installed by wrapping padding around the trunk to a minimum height of 2m or as the lower branches permit. 2m lengths of timber battens (75 x 50 x 200mm) spaced at 100mm centres shall be strapped together and placed over the padding. Branch protection shall be installed to those branches 1m or closer to scaffolding. Branch protection shall be installed by wrapping padding around the branch. Refer to **Appendix 7: Typical Tree Protection Details (4)**.

1.7 Site Management

Materials and waste storage, site sheds and temporary services shall not be located within the TPZ.

1.8 Ground Protection & Temporary Access

Where required, Ground Protection & Temporary Access within the TPZ shall be confirmed through consultation between the Head Contractor/Project Manager and the Project Arborist.

Where light traffic access <3.5tons is required the ground surface shall be protected by a 100mm deep mulch cover overlaid with rumble boards/road plates. The mulch shall be Horticultural Grade Pine Bark as certified to *AS4454: Composts, Soil Conditioners and Mulches* (1997). The mulch shall be spread by hand to avoid soil disturbance and compaction.

Where heavy traffic access >3.5 tons is required the ground surface shall be protected by a layer of geo-textile fabric over a 100mm layer of compacted road base. The geo-textile shall extend a minimum of 300mm beyond the edge of the mulch and road base. When removing temporary access road the material shall be removed with care to prevent disturbance of natural ground levels below. Refer to **Appendix 7: Typical Tree Protection Details (4)**.

1.9 Scaffolding

Where possible, scaffolding shall not be located within the TPZ. Scaffolding shall not be in contact with the tree. As necessary, this shall be achieved by erecting scaffolding around branches. Branches shall be tied back and protected as deemed necessary by the Project Arborist. Refer to **Appendix 7: Typical Tree Protection Details (5)**

1.10 Works within the Tree Protection Zones

In some cases works within the TPZ may be authorized by the determining authority. **These works shall be supervised by the Project Arborist.** When undertaking works within the TPZ, care should be taken to avoid damage to the tree's root system, trunks and lower branches.

If structural roots (>25mm $\varnothing$) are encountered during the demolition and construction works, these roots must be retained in an undamaged condition and advice sought from the Project Arborist. Adjustment of final levels and design shall remain flexible to enable the retention of structural roots (>25mm $\varnothing$) where deemed necessary by the Project Arborist.

1.14 Excavations & Root Pruning

Excavations and root pruning within the TPZ shall be supervised by the Project Arborist. Excavations within the TPZ shall be avoided wherever possible.

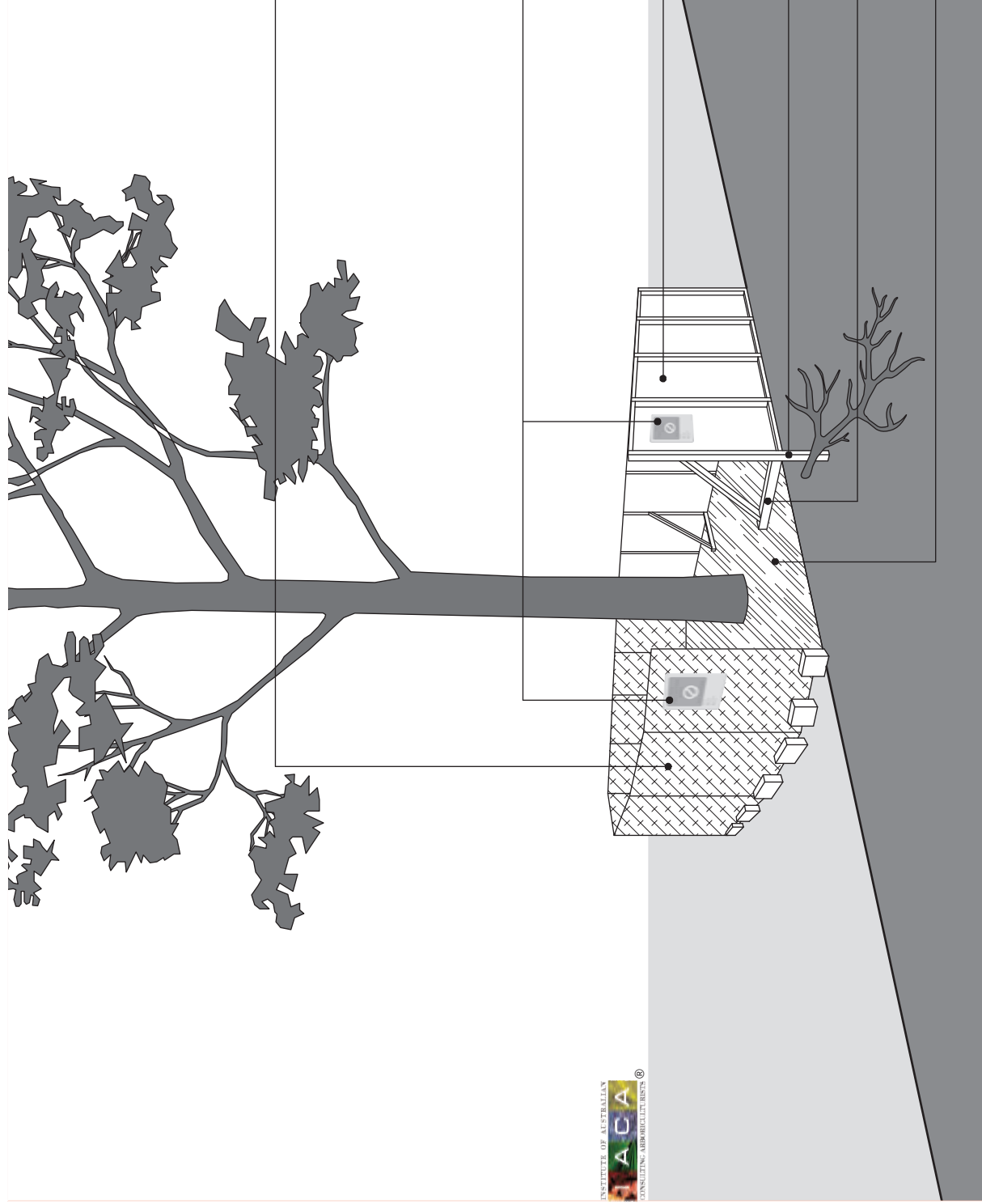
Excavations within the TPZ shall be undertaken by hand or using an Air-spade® (or similar approved device) to protect tree roots.

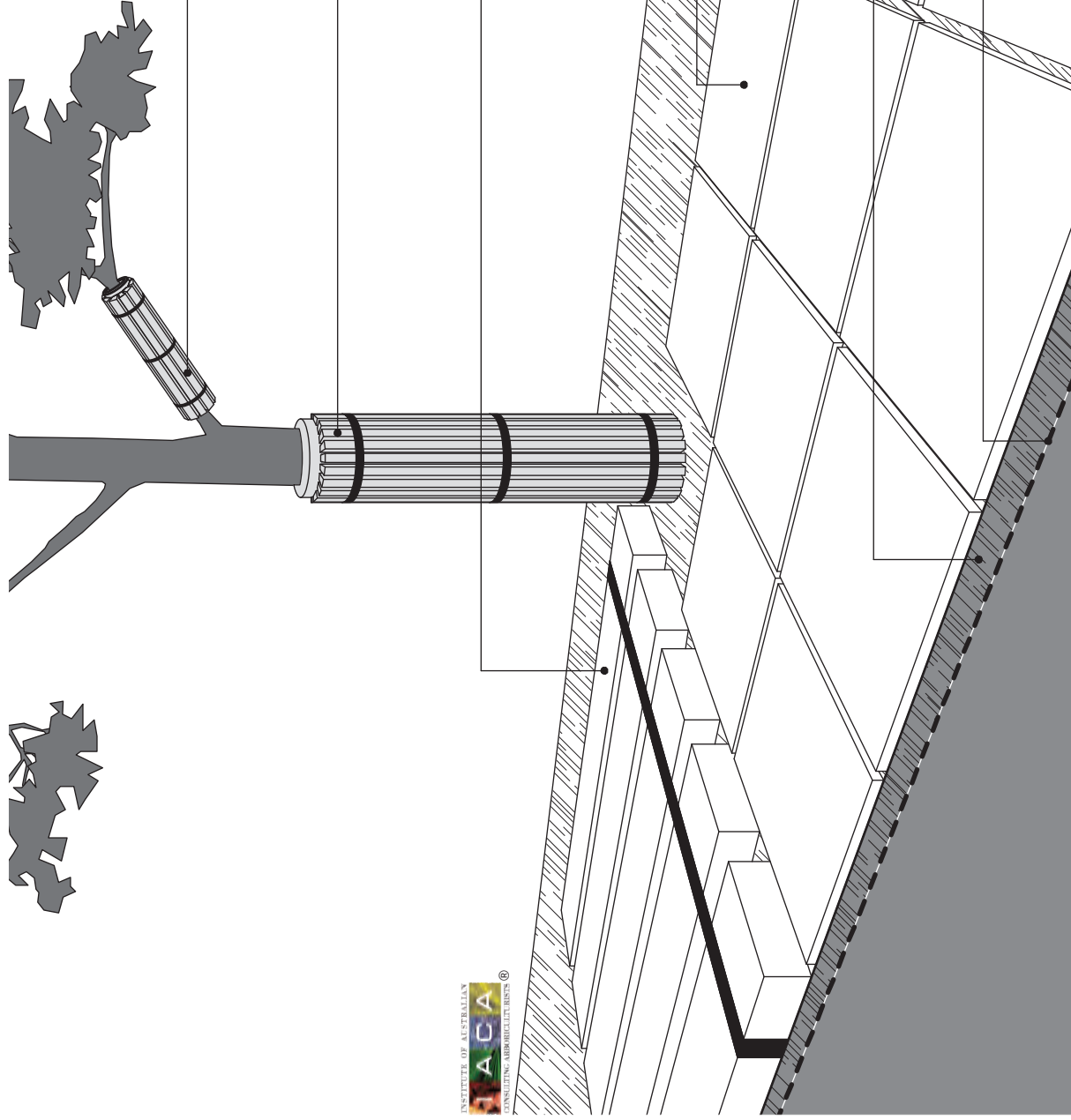
Pruned roots shall be cleanly severed with sharp pruning implements to ensure a smooth wound face, free from tears. Severance of structural roots (>25mm $\varnothing$) within the Structural Root Zone is not recommended as it may lead to tree destabilisation. **All root pruning requires approval from the Project Arborist.**

Pruned roots shall be immediately treated with a suitable trichoderma-based seedling inoculant product such as Tri-D25 (or similar approved product) mixed with a root growth hormone product containing the active constituents Indol-3-yl-Butric Acid (IBA) and 1-Naphthylacetic Acid (NAA). The exposed roots and excavation face shall be protected from direct sunlight, drying out and extremes of temperature by covering with a 10mm thick jute mat. The mat shall be kept in a damp condition at all times.

Appendix 7: Typical Tree Protection Details

Adapted from *AS 4970-2009 Protection of Trees on Development Sites*
(Source: Institute of Australian Consulting Arboriculturists)





Branch Protection - use boards and padding to prevent damage to bark on branch. Boards are to be strapped, not screwed or nailed to the branch.

Trunk Protection - use boards and padding to prevent damage to bark (minimum 2m). Boards are to be strapped, not screwed or nailed to the trunk.

Ground Protection - use device strapped over mulch or aggregate layer. Ground protection device should be of a suitable thickness to prevent soil compaction and root damage.

Steel plates (or approved equivalent) with or without mulch or aggregate layer below.

Maximum 100mm and minimum 50mm depth mulch or aggregate layer.

Geotextile fabric underneath mulch or aggregate layer.

