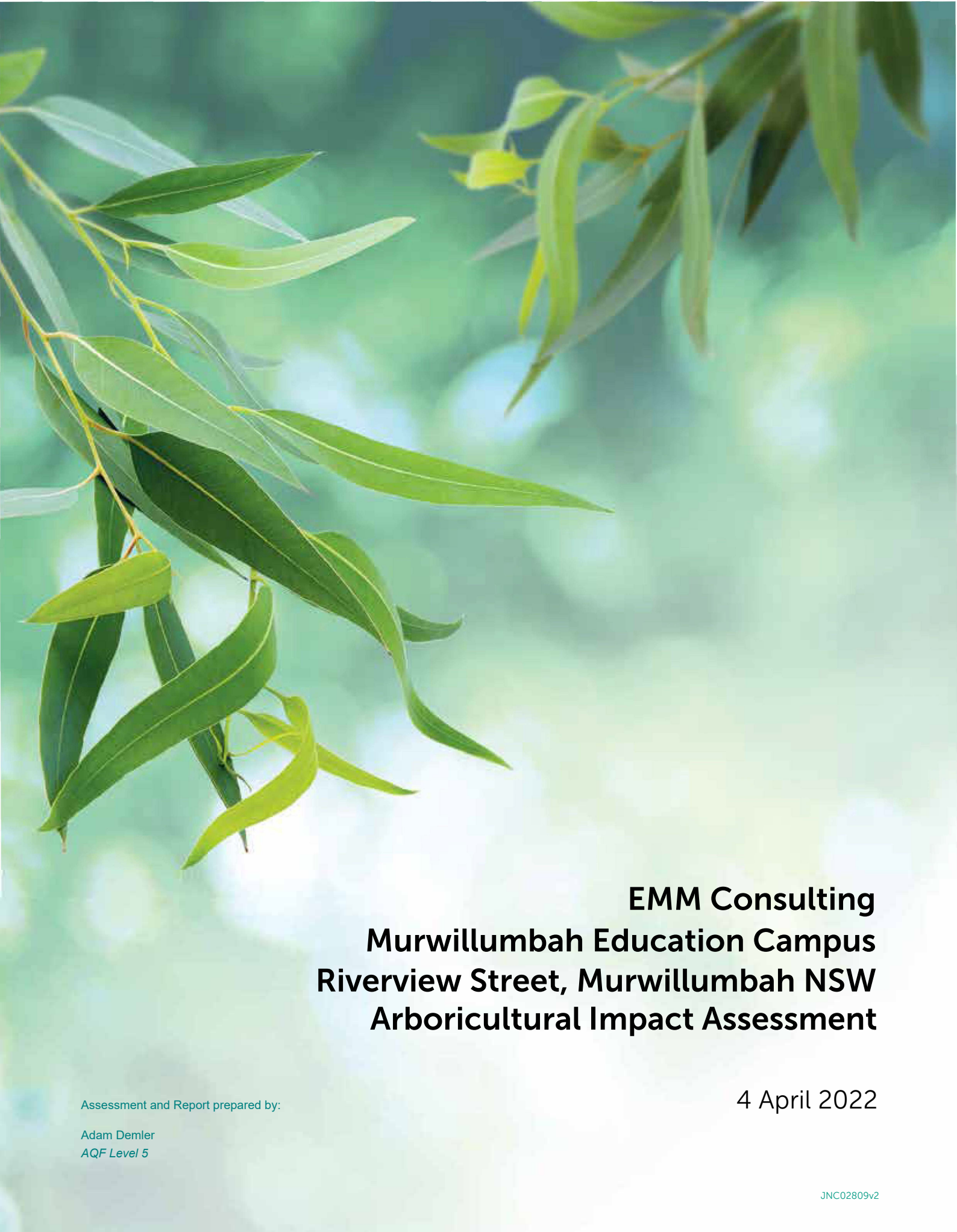




**EMM Consulting
Murwillumbah Education Campus
Riverview Street, Murwillumbah NSW
Arboricultural Impact Assessment**

Assessment and Report prepared by:

Adam Demler
AQF Level 5

4 April 2022

4 April 2022

Ryl Parker
EMM Consulting
Level 1, 87 Wickham Terrace
Brisbane QLD 4000

Arboricultural Impact Assessment Report regarding four hundred and forty (440) trees located within the vicinity of the proposed development at Murwillumbah High School, 86 Riverview Street, Murwillumbah

Dear Ryl,

We are pleased to provide you with the following Arboricultural Impact Assessment Report for four hundred and thirty-nine (439) trees within the grounds of Murwillumbah High School.

Complete use of this report is authorised under the conditions limiting its use as stated in Appendix A Item 7 of "*Arboricultural Reporting Assumptions and Limiting Conditions*".

Should you have any queries relating to this report, its recommendations, or the options considered please do not hesitate to contact us on 1300 272 671.

Regards,



Adam Demler

Consulting Arborist
Dip. Hort. (Arb.), AQF Level 5

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1 Introduction

- 1.1.1 ArborSafe Australia Pty Ltd was engaged by EMM Consulting (the Client) to complete an Arboricultural Impact Assessment (AIA) report on four hundred and thirty-nine (439) trees located within or adjacent to the Murwillumbah High School at 86 Riverview Street, Murwillumbah (the site).
- 1.1.2 The following documents have been supplied by the Client which have been used to form conclusions and recommendations made within this Report:
- NSW Request for Tender Murwillumbah Education Campus Environmental Consultancy Services Attachment B – Scope of Services SINSW02122/21 (pdf)
 - Landscape Management Plan (pdf.) published by Black Ash Bushfire Consulting (D.Pedderson,2020)
 - Updated Site plan / Project footprint (SD0012 [B] PROPOSED SITE PLAN.dwg);
 - Hoop Pine area to be cleared (SK6000 - SITE PLAN - Plantation Zone.dwg);
 - Hoop Pine area to be cleared (SK6000 - SITE PLAN - Plantation Zone.pdf, architectus, 9/12/2021);
 - Marked up file (pdf.) showing locations and heights of proposed retaining walls and cut/fill locations.
- 1.1.3 The report was intended to provide information on site trees and how they may be impacted upon by the proposed development. Report findings and recommendations provided are based upon guidance provided within Australian Standard AS 4970–2009: *Protection of Trees on Development Sites*.
- 1.1.4 Observations and recommendations provided within this report are based upon observations during the site visit, information contained in documents provided, and discussions with the Client and consultants working on the project.

2 Project Description / Scope

- 2.1.1 **Project Description**
- 2.1.2 The Murwillumbah Education Campus development, involves the co-location of Murwillumbah Primary School, Murwillumbah East Primary School, Murwillumbah High School, and Wollumbin High School, to establish a new primary school and a new high school as part of the same education campus.
- 2.1.3 The project will include the following scope of works within the SSD application:
- Demolition of Building E,
 - Demolition of all inground slabs, pathways, hardstands and footings including those to buildings B, C, D, G, H, M, P, S, AW and AZ (Note: the above ground demolition of these buildings will be under a separate planning pathway),
 - Associated ground works required to facilitate the construction of new buildings and landscaped areas,
 - Construction of new Buildings 1, 2, 3 and 4:
 - Building 1 – New public school building comprising general learning spaces, administration, canteen, School Support Unit (SSU) and library;
 - Building 2 – Hall building including a public school hall, out of school hours care (OSHC) facilities, high school hall/gymnasium and other spaces for physical education and creative and performing arts (CAPA);
 - Building 3 – New high school building including the following facilities; general and specialist learning spaces, SSU, and library;
 - Building 4 - New high school building including the following facilities; science, support, administration and canteen.

- Refurbish Building A for DoE offices and school community health facilities along with associated access requirements. Building A is a locally listed heritage building and will be retained and refurbished;
- Refurbishment of Building F to provide learning space for agricultural education;
- Retention of existing AY,
- Creation of new public school and high school outdoor learning spaces to support future focused learning outcomes;
- New landscaping and embellishment of outdoor playgrounds;
- Civil and infrastructure works; and
- Kiss n drop and parking off Nullum Street.

2.1.4 Scope

- 2.1.5 Carry out a visual examination of the nominated trees located within the vicinity of the proposed development, identified in supplied documents (Figure 1).
- 2.1.6 Provide an objective appraisal of the subject trees in relation to their species, estimated age, health, structural condition, useful life expectancy (ULE) and viability within the landscape.
- 2.1.7 Based on the findings of this investigation, provide independent recommendations on the retention value of the trees.
- 2.1.8 Nominate subject trees that can be retained or require removal to facilitate the development.
- 2.1.9 Identify and reduce potential conflicts between subject trees and site development by providing accurate information on the area required for tree retention and methods/techniques suitable for tree protection during construction.
- 2.1.10 Provide information on restricted activities within the area nominated for tree protection, as well as suitable construction methods to be adopted during demolition and/or construction.

3 Methodology

3.1 Data Collection

- 3.1.1 Data collection was carried out previously by A. Demler on 11, 12, and 13 August 2021.
- 3.1.2 Trees that form the subject of this report (Figure 1) were identified during discussions with the Client, reviewing relevant supplied development documentation.
- 3.1.3 The subject trees were inspected from the ground using the initial component of Visual Tree Assessment (VTA) (Matthek, 1994). No foliage or soil samples were taken and no aerial, underground or internal investigations were undertaken.
- 3.1.4 Tree height and canopy width were estimated and have been provided in metres. Trunk diameter at breast height (DBH) and trunk diameter at the root crown (DRB) were measured with a diameter tape and provided to the nearest centimetre.
- 3.1.5 Site canopy cover figures are displayed as a percentage (%) and were calculated using i-Tree Canopy v7.1 (i-Tree Cooperative 2022) estimated using 800 random data entry points.
- 3.1.6 ArborCAD® was used to assist in determining encroachments into the trees Recommended Protection Zones (RPZ).

- 3.1.7 Data made available was analysed by Adam Demler, collated into report format, and relevant recommendations were formulated.

3.2 Tree Protection Zones

- 3.2.1 The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) methods have been derived from the Australian Standard AS 4970–2009: *Protection of Trees on Development Sites*.
- 3.2.2 The TPZ is defined as a specified area above and below ground and at a given distance measured radially away from the centre of the tree's trunk and which is set aside for the protection of its roots and crown. It is the area required to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development. The radius of the TPZ is calculated by multiplying its DBH by 12. TPZ radius = DBH × 12. (Note "Breast Height" is nominally measured as 1.4m from ground level).
- 3.2.3 The SRZ is the area around the base of a tree required for the tree's stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright. The SRZ is nominally circular with the trunk at its centre and is expressed by its radius in metres. SRZ radius = $(D \times 50)^{0.42 \times 0.64}$.

3.3 Images and Site Photographs

- 3.3.1 All photographs were taken at the time of the site inspection by the inspecting arborist. Photographs have been altered for brightness and/or cropped only. Other images used within this report have been sourced from via the internet. The source of all images has been referenced accordingly.



Figure 1. Excerpt from Detail Survey – Vegetation Whole Site Murwillumbah High School Stage 2 (Ref No. 200188, Sheet 12) detailing the trees nominated for assessment (green circles). (Newton Denny Chapelle, 13 August 2020)

4 Observations

4.1 Site Details

- 4.1.1 The site was located within the grounds of Murwillumbah High School (Appendix F). The assessment included the area of open space south of the school grounds.
- 4.1.2 The site is located within the Tweed Shire Council Local Government Area (LGA).
- 4.1.3 In accordance with the Local Environmental Plan (LEP) Order 2006, specifically The Tweed Development Control Plan – Section A16 Tweed Shire Council is obliged to determine whether or not a development, including any proposal to clear vegetation, is likely to have a significant impact on threatened species, populations or ecological communities or their habitats. This is demonstrated in the Development Control Plan (DCP) by compliance with relevance state and federal legislation including:
 - NSW Threatened Species Conservation Act 1995 (TSC Act);
 - Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act);
 - Native Vegetation Act 2003 (NV Act);
 - State Environmental Planning Policies (SEPP) 14 and 26;
 - Fisheries Management Act 1994;
 - National Parks and Wildlife Act 1974.
- 4.1.4 Definitions, permit application processes, and permit exemptions are explained further in the LEP.
- 4.1.5 Site soils were determined to be that of Yellow Podzolic Soils – less fertile (YPI) (SEED, 2022) (Appendix G) whereby: *strongly differentiated soil layers developed under mixed forests in warm-temperate moist climates. Yellow podzols are composed of thin organic and organic-material layers (vegetative cover) resting on a greyish yellow, light to medium-textured A¹ horizon over pale A² horizon over firm B horizon.*

4.2 Site Assessment Data

- 4.2.1 Refer to Appendix J of this report for data relating to the specific trees covered within this report.

4.3 Tree / Site Images



Figure 2. Bruce Chick Pine Forest.
(A. Demler, August 2021).



Figure 3. Tree 215 – *Delonix regia* (Poinciana).
(A. Demler, August 2021).



Figure 4. Tree 214 – *Eucalyptus microcorys* (Tallowwood).
(A. Demler, August 2021).



Figure 5. Tree 347 – *Corymbia citriodora* (Lemon scented gum).
(A. Demler, August 2021).

4.4 Heritage Status

4.4.1 The heritage status of the site has not been reviewed as part of this report.

4.4.2 Botanical and Environmental Status

4.4.3 The site trees were considered a mix of common, vulnerable, endangered, and critically endangered species in the local area. Biodiversity Conservation (BC) Act 2016 and the Environmental Protection and Biodiversity Conservation (EPBC) Act 1999 assisted in determining botanical significance.

Genus species (Common name)	Botanical status listed by relevant legislation		Trees within the site		Trees location is within or impacted by development	
	BC Act 2016	EPBC Act	Qty	Tree numbers	Qty	Tree numbers
<i>Davidsonia jerseyana</i> (Davidson's Plum)	Endangered	Endangered	6	317, 343, 362, 372, 377, 381	5	343, 362, 372, 377, 381
<i>Davidsonia johnsonii</i> (Smooth Davidson's Plum)	Endangered	Endangered	3	243, 321, 322,	0	
<i>Diploglottis campbellii</i> (Small-leaved Tamarind)	Endangered	Endangered	7	3, 245, 279, 298, 316, 338, 370	2	338, 370
<i>Lepiderema pulchella</i> (Fine-leaved Tuckeroo)	Vulnerable	Not listed	0		0	
<i>Macadamia integrifolia</i> (Queensland Nut)	Not listed	Vulnerable	4	18, 398, 399, 415	1	18
<i>Owenia cepiodora</i> (Onion Cedar)	Vulnerable	Vulnerable	4	292, 294, 301, 340	1	340
<i>Rhodamnia rubescens</i> (Scrub Turpentine)	Critically Endangered	Critically Endangered	0		0	
<i>Syzygium moorei</i> (Coolamon)	Vulnerable	Vulnerable	5	284, 320, 333, 334, 334	3	333, 334, 334,

4.4.4 Additionally, trees are classified as significant or potentially significant due to belonging to a larger group with significance.

Group Significance	Trees within the site		Trees location is within or impacted by development	
	Qty	Tree numbers	Qty	Tree numbers
Memorial Tree	3	245, 329, 330	2	329, 330
Captain Tree	20	225, 240, 331, 332, 333, 337, 339, 340, 342, 345, 439, 440, 444, 445, 446, 447, 448, 449, 450, 451,	15	225, 240, 331, 332, 333, 337, 339, 340, 342, 345, 439, 440, 444, 448, 451
Trees with no mount and plaque (further assessment required)	22	223, 226, 227, 228, 229, 230, 231, 232, 233, 235, 236, 237, 238, 239, 334, 336, 338, 341, 344, 346, 347	22	223, 226, 227, 228, 229, 230, 231, 232, 233, 235, 236, 237, 238, 239, 334, 336, 338, 341, 344, 346, 347
Harmony Day Trees (Planted 2004)	38	241, 242, 243, 244, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279	1	242
Bruce Chick Rainforest	41	280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 311, 312, 313, 315, 316, 317, 318, 319, 320, 321, 322	0	
Bruce Chick Pine Forest	118	19, 20, 21, 22, 23, 24, 25, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138	73	19, 52, 53, 54, 61, 62, 63, 65, 69, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 121, 122, 123, 124, 125, 126, 127, 128, 129, 134, 135, 136, 137, 138

4.4.5 Declared Weed Species

4.4.6 Various trees are regarded as environmental weed species by the Department of Primary Industries (2021) NSW WeedWise register (Department of Primary Industries, n.d.).

4.4.7 General biosecurity duty is taken from the *Biosecurity Act 2015* and its subordinate legislation, and the Regional Strategic Weed Management Plans (published by each Local Land Services region in NSW) describing the state and regional priorities for weeds in NSW, Australia (NSW Government, n.d.). General biosecurity duty states:

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

4.4.8 Due to the potential environmental and ecological benefits a tree can provide to the amenity and greater environment, eradication of weed species has not been prioritised, unless the species is classed as a State Priority Weed species whereby: *The plant must be eradicated from the land and be fully and continuously suppressed and destroyed; and the land must be kept free of the plant* (Department of Primary Industries, n.d.).

4.4.9 Removal of weed species may be undertaken at the discretion of the project manager with direct consent of the landowner to:

- facilitate the development
- divert resources to protecting species of more significance
- replace tree being removed with a native or endemic species at a ratio of 1:1.

Weed species – Genus species (Common name)	Qty	Tree numbers
<i>Cinnamomum camphora</i> (Camphor laurel)	30	24, 25, 59, 60, 126, 127, 128, 131, 132, 145, 146, 147, 148, 149, 151, 152, 157, 168, 170, 179, 182, 186, 199, 200, 203, 204, 206, 211, 438, 441
<i>Leucaena leucocephala</i> (Leucaena)	1	17
<i>Syagrus romanzoffiana</i> (Cocos Palm)	1	236
<i>Ligustrum lucidum</i> (Privet)	2	281, 282
<i>Koelreuteria elegans</i> (Golden Rain Tree)	6	418, 420, 421, 428, 431, 436

4.5 Outline of Site Trees

4.5.1 Four hundred and thirty-nine (439) trees were inspected and are the subject of this report. Eight (8) trees had been removed prior to inspection. Complete attributes for each tree can be found in Appendix J of this report.

4.5.2 Trees forming the discussion of this AIA have been previously tagged for identification and referencing purposes. The corresponding tree tag correlates with the respective Tree ID allocated in Appendix J of this report. Trees located in the 'Bruce Chick Pine Forest' have not been tagged as directed by the Client.

5 Discussion

5.1 Advice from Landscape Management Plan (Bushfire)

- 5.1.1 Advice contained within Landscape Management Plan published by Black Ash Bushfire Consulting (D. Pedderson, 2020) surrounding the Hoop Plantation and perimeters (Bruce Chick Pine Forest) was used to determine tree removal/ retention. The advice states; *reduce the parcel size to less than 1ha by tree removal as per the plan (avoid removal on steep slopes greater than 18°)*. Further, plans were provided by the Client identifying trees within the Bruce Chick Pine Forest for removal.

Bushfire Management Proposed Removals

Qty	Tree Numbers
57	72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 121, 122, 123, 124, 125, 126, 127, 128, 129, 135, 136, 137, 138

- 5.1.2 Additionally, vegetation was identified on the supplied plans (224m²) which has not yet been assessed and therefore tree data is unavailable. This parcel of vegetation is located on the north-west aspect of the Bruce Chick Pine Forest and is yet to be assessed.

5.2 Retaining walls and the addition of Fill (Soil)

- 5.2.1 Specific methodologies surrounding the proposed retaining walls were not provided for review. A marked-up site plan (pdf.) assisted in determining TPZ encroachments from retaining walls/ fill. Further discussions with the Client and M. Walsh (Senior Project Manager) of Mace Group on 18th January 2022 assisted in understanding methodologies surrounding proposed retaining walls and cut/ fill activities.
- 5.2.2 Where practicable, site soil textural (field) analysis is recommended to help guide the composition of infill.
- 5.2.3 Unless otherwise specified, select fill should be composed of non-cohesive granular material which is free draining.
- 5.2.4 As a guide (and in the absence of onsite soil analysis) fill should consist of suitably sourced and clean (i.e. free of weeds/contaminants and providing a beneficial environment for the promotion of plant growth) material consistent with a sandy loam. Indicative organic matter content should be no higher than 2–5% with a clay content of between 10–20% by mass.
- 5.2.5 Backfill is to be consolidated/compacted as per construction standards/specifications.

5.3 TPZ Encroachment

- 5.3.1 TPZ encroachments were calculated on proposed development footprints only. Trees which may be subject to common development techniques within TPZ's including foot traffic/ plant equipment access, scaffolding etc. are not listed as encroachments although protection measures have been applied.
- 5.3.2 **Major encroachment.** As per the Australian Standard AS 4970–2009: Protection of Trees on Development Sites, a major encroachment into the TPZ of any tree is considered to occur when it is beyond 10% of the total TPZ area. Trees with major encroachment may require removal or, in certain instances, be retained with specific protection requirements throughout the construction stage.
- 5.3.3 **Minor encroachment.** A minor encroachment is determined as being less than 10% of the total TPZ area. Trees with minor encroachment may be retained with specific, generic or no protection requirements throughout the construction stage.

5.3.4 **No encroachment.** Trees with no encroachment may be retained with specific, generic or no protection requirements throughout the construction stage.

- 5.3.5 For the purposes of this report, trees to be removed or retained have been identified as those:
- Requiring removal due to a level of encroachment into their TPZ that would likely result in a detrimental impact upon their future health and/or stability
 - Retainable and requiring specific protection requirements throughout construction (i.e. generic requirements plus arborist supervision and careful construction methods within their TPZ)
 - Retainable and requiring generic tree protection measures only (i.e. protective fencing and restriction of activities within the TPZ).

5.4 Site Canopy Coverage

5.4.1 The site canopy coverage was calculated based on the development footprint identified in Figure 1. Refer to Appendix H for i-Tree Canopy Cover Assessment Report.

5.4.2 The figures post-tree removal have been estimated based on the recommendations in this report and are indicative only. Estimations do not consider replacement planting.

Abbreviation	Cover Class	Description	Current cover (%)	Current area (ac)	Cover post-tree removal (%)	Area post-tree removal (ac.)	Difference (+/- %)
H	Grass/ Herbaceous	Sports fields, Open spaces south of site.	45.31	13.04	45.75	13.17	0.44
IB	Impervious Buildings	Existing Buildings	9.64	2.77	7.63	2.19	2.01
IO	Impervious Other	Tennis Courts, Footpaths, Carpark.	6.88	1.98	3.62	1.04	3.26
IR	Impervious Road	Internal/ External Roadways	4.26	1.22	8.88	2.55	4.62
S	Soil/ Bare Ground	Vegetable Gardens	0.25	0.07	6.75	1.94	6.5
T	Tree Canopy/ Shrub	Subject Trees + other existing tree canopy within footprint (not assessed).	33.67	9.69	27.88	7.88	5.79
W	Water	Water courses, lakes.	0	0	0	0	0

5.5 Impact of Proposed Development

- 5.5.1 Review of the proposed design has been undertaken in the context of tree retention and removal across the site.
- 5.5.2 The trees affected by direct conflict with the proposed construction footprint would require removal under the current design. To retain any of these trees a redesign or relocation of the development would be required.
- 5.5.3 The other main development impact which affects trees, but not necessarily to the point of requiring immediate removal, is through significant root damage due to major TPZ encroachment. These can largely be placed into three (3) categories – soil compaction, level changes or direct root severance.
- 5.5.4 Negative tree impacts can manifest as either a reduction in health and/or vigour due to root loss (absorption and/or transport roots) resulting in a reduction in water and nutrient absorption capability or on tree stability if larger roots are impacted. Ultimately, the outcome for the trees depends on a number of variable factors including species, age, current health, TPZ encroachment percentage, soil type, topography, previous site use and the proposed design and construction methodology.
- 5.5.5 Compacted soils, especially artificially compacted soils such as those found under driveways or building platforms, have a higher bulk density down to a deeper level of subsoil. Bulk density is the term used for describing the weight of soil per unit volume. The broad engineering thinking is that the higher the density the more stable the road surface due to less soil movement in expansion, contraction, or compression. A higher bulk density is produced by compacting the soil to reduce available pore space between the soil particles.
- 5.5.6 The effect of compacted soils on plants is somewhat influenced by the soil type but generally a reduction in available pore space reduces the available area for oxygen and water within the soil. A reduction in available soil water and oxygen inhibits root activity within the soil, as they are essential for root elongation and growth, and the lack of these properties is considered a major limiting factor.
- 5.5.7 A similar reduction in root activity, due to a reduction in pore space, can occur following significant soil level changes across the TPZ, although this generally occurs over a longer time frame than if the roots were directly severed. Root severance has the same effect, reduction in root function and capability, but on an instantaneous time scale where there is no time for the tree to adjust.
- 5.5.8 The assumption of allowable encroachment and minimal long-term health or structural impacts to the trees rely on a combination of the following being used - root sensitive construction methods being adhered to within the TPZ, minimal excavation within the TPZ to limit root severance (i.e. construction placed outside the TPZ where possible), fill rather than excavation utilised to affect level changes where possible (i.e. to minimise root severance and allow the trees root system time to adjust), no construction occurring within the SRZ, compensatory area being available around the unimpacted aspects of the trees and the enhancement of the existing TPZ area (i.e. mulched, soil conditioning and irrigation when required).
- 5.5.9 **Trees 52 – 69**
- 5.5.10 Trees 52 – 69 are located within the Bruck Chick Pine Forest adjacent to a proposed retaining wall. Post hole auguring will be required to facilitate the retaining wall which will damage wood roots. Impacts sustained to the trees vary from direct impact (location conflicts with retaining wall), major encroachment/ works within SRZ, major encroachment/ works outside of SRZ, minor encroachment, and no encroachment within the TPZ. Trees with works within the SRZ have high potential of adversely affecting structural integrity and therefore have been recommended for removal. Trees which are proposed to sustain a major encroachment, where works will be located outside of the TPZ, have been recommended to be retained using specific protection measures (exploratory hydra-vacuum excavation and root pruning (where required)). Trees with minor or no encroachment can be retained using generic protection measures.

5.5.11 Trees 223 and 347

- 5.5.12 Tree 223 – a mature *Corymbia citriodora* (Lemon scented gum) is a remnant specimen with high landscape significance. The proposed development encroaches approximately 30-40% within the TPZ (major incursion). Compounding defects including root severance and unfavourable changes to the growing environment are likely to result from the development. The Total Life Expectancy (TLE) of Tree 223 will be significantly reduced and is may increase the likelihood of failure to a point where retention would become impractical.
- 5.5.13 Tree 347 – a mature *Corymbia citriodora* (Lemon scented gum) is a remnant specimen with high landscape significance. The proposed Building 2, conflicts with the location of Tree 347, therefore requiring removal to facilitate the development.



Figure 6. Tree 223 - *Corymbia citriodora* (Lemon scented gum) adjacent to existing Building D. (A. Demler, August 2021).



Figure 7. Tree 347 - *Corymbia citriodora* (Lemon scented gum). (A. Demler, August 2021).

5.5.14 Tree 349 – 364

- 5.5.15 Trees 349 – 364 are a variety of semi-mature – mature species. Trees 349 – 357 *Archontophoenix alexandrae* (Alexander palm) are considered common species in the local area and as such hold limited botanical significance. The trees collectively, are likely to be adversely impacted from the demolition works of Buildings B and D and changes to soil levels within the TPZ. Trees 349 – 364 are impractical to retain. Transplanting Tree 362 – a semi-mature *Davidsonia jerseyana* (Davidson plum), is encouraged due to its high-significance.

6 Recommendations

Refer to Appendix I for technical drawings for trees identified to be retained and removed within the context of the site.

6.1 Tree Removal

- 6.1.1 One hundred and thirty (130) trees would require removal as follows, based on the supplied design proposal. These trees would require removal to allow the proposed development.
- 6.1.2 Tree removal techniques should be carried out using techniques that protect canopy and roots of existing trees to be retained.

Remove To Facilitate Development		Remove Irrespective Of Development	
Qty	Tree numbers	Qty	Tree numbers
119	16, 17, 18, 53, 54, 57, 59, 60, 61, 62, 63, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 121, 122, 123, 124, 125, 126, 127, 128, 129, 134, 135, 136, 137, 138, 216, 217, 218, 219, 223, 224, 225, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 380, 381, 382, 385, 386, 387, 388, 389, 390, 391, 392, 393, 421, 428, 431, 432, 438	11	141, 142, 143, 144, 162, 164, 165, 166, 167, 293, 379

6.2 Tree Retention

- 6.2.1 Three hundred and nine (309) trees were recommended for retention and require either specific or generic protection measures during construction to ensure they remain viable following the completion of works.

Specific Protection Measures		Generic Protection Measures	
Qty	Tree numbers	Qty	Tree numbers
39	26, 27, 52, 55, 56, 58, 213, 215, 226, 242, 334, 365, 366, 367, 368, 370, 371, 372, 373, 374, 375, 376, 377, 378, 418, 419, 422, 423, 424, 425, 426, 427, 429, 430, 433, 436, 437, 439, 440	270	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 19, 20, 21, 22, 23, 24, 25, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 64, 65, 66, 67, 68, 69, 70, 71, 116, 117, 118, 119, 120, 130, 131, 132, 133, 139, 140, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 163, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 214, 220, 227, 228, 229, 230, 231, 232, 233, 235, 236, 237, 238, 239, 240, 241, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 311, 312, 313, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 411, 412, 413, 414, 415, 416, 417, 420, 434, 435, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451

- 6.2.2 Refer to Appendix D for further specifications on “Generic Protection Measures”.

6.3 Tree Pruning

- 6.3.1 Trees 9, 26, 44, 215 and 396 require pruning to facilitate construction and prevent damage to crown and branches. These trees are recommended to undergo crown modifications to allow for plant and equipment access.
- 6.3.2 Reduction and crown lifting pruning should focus on the removal of smaller diameter branches where feasible and remove no greater than 10% of the total crown. Branches no greater than 100mm diameter are to be removed unless specifically approved by the project arborist.

6.4 Quality of arboricultural works

- 6.4.1 To ensure a high standard of works is achieved, all arboricultural works administered to the subject tree must be completed by a suitably qualified and experienced arborist(s) (minimum AQF Level 3) in accordance with the Australian Standard AS 4373–2007: *Pruning of Amenity Trees*.

- 6.4.2 After pruning has been completed, no further material is to be removed from the subject tree without the consent of the project arborist and the City of Parramatta. At no time are personnel working on the project to remove branches, foliage, bark or roots from either subject tree.

6.5 Demolition guidelines

- 6.5.1 Small machinery/excavators combined with hand excavation is the preferred method of demolition within TPZ's. If large machinery must be used around the trees, spotters must assist to help guide and direct operations. Large machinery should be positioned outside the TPZ and/or within the existing building footprint and move carefully toward to the tree to minimise root/canopy conflict. If large machinery is used to demolish the building structure all material should be brought back within the existing building footprint to minimise the risk of soil compaction and/or trunk/canopy damage.

6.6 Underground service installation

- 6.6.1 The installation of underground services (including drainage) must not encroach within the TPZ of any of the subject trees unless authorised by the project arborist in which case underground boring will invariably be recommended. Boring of services is to occur at a minimum depth of 800mm (top of pipe) below the existing grade for trees with a trunk DBH of <100cm, 950mm for trees with a trunk DBH of 100–150cm and 1100mm for trees with a trunk DBH of >150cm. To minimise soil disturbance associated with service installation communal service lines must be used where appropriate. The entry and exit pits for boring must be positioned outside the designated TPZ for each tree.

6.7 Excavation within the TPZ

- 6.7.1 Excavation is required to demolish existing buildings, auger post holes for retaining walls and prepare foundations for new buildings.
- 6.7.2 Excavation within the TPZ is to be carried out only under arborist supervision. No excavation should occur within the SRZ of this tree. It was recommended that the proposed excavation commence at the outer extent of the TPZ and move inwards to minimise root damage to the trees.
- 6.7.3 Works should be undertaken using techniques that are sensitive to tree roots to avoid unnecessary damage. Such techniques include:
- Excavation using a high-pressure water jet and vacuum truck
 - Excavation using an Air Spade with vacuum truck
 - Excavation by hand.
- 6.7.4 Machine excavation should be prohibited within the TPZs of retained trees unless undertaken at the direct consent from the project arborist.
- 6.7.5 Roots discovered are to be treated with care and minor roots (<40mm diameter) pruned with sharp, clean handsaw or secateurs. All significant roots (>40mm diameter) are to be recorded, photographed and reported to the project arborist.
- 6.7.6 Other proposed surfacing within the TPZ is to be installed above existing grade and be of a permeable nature to allow the passage of air and moisture. If the surfacing is to be load bearing, then it is suggested that a geogrid/web or similar is incorporated to ensure the rooting area below does not become compacted.

6.8 Footings and Foundations

- 6.8.1 Footings and foundations within the TPZ are to be of pier and beam foundation or equivalent methodology having least impact to woody roots. Suitable locations for pier beams are to be located using root sensitive exploratory excavation techniques.

7 References

- I-Tree Cooperative, 2022. Accessible via <https://canopy.itreetools.org/>
- Merriam-Webster, 2022. Yellow podzolic soil. Assessable via <https://www.merriam-webster.com/dictionary/yellow%20podzolic%20soil>.
- Standards Australia, 2007. AS 4373–2007 Pruning of Amenity Trees, GPO Box 476 Sydney NSW 2001: Standards Australia.
- Standards Australia, 2009. AS4970–2009: Protection of Trees on Development Sites, Sydney: Standards Australia.
- State of NSW and Office of Environment and Heritage, 2017. Glossary of Terms used in Soil Landscape Science, NSW: The Office of Environment and Heritage.
- The British Standards Institution, 2012. BS5837–2012: Trees in relation to design, demolition and construction, London: BSI Standards Limited.

Appendix A. Arboricultural Reporting Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. Any titles and ownership of any property are assumed to be good. No responsibility is assumed for matters legal in character.
2. It is assumed that any property/project is not in violation of any applicable codes, ordinances, statutes or other government regulations.
3. Care has been taken to obtain all information from reliable sources. All data has been verified in so far as possible, however, the consultant can neither guarantee nor be responsible for the accuracy of the information provided by others.
4. The consultant shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.
5. Loss or alteration of any part of this report invalidates the entire report.
6. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by anyone but the person to whom it is addressed, without the prior written consent of the consultant.
7. Neither all nor any part of the contents of this report, nor any copy thereof, shall be used for any purpose by anyone but the person to whom it is addressed, without the written consent of the consultant. Nor shall it be conveyed by anyone, including the Client, to the public through advertising, public relations, news, sales or other media, without the written consent of the consultant.
8. This report and any values expressed herein represent the opinion of the consultant and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
9. Sketches, diagrams, graphs and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys unless expressed otherwise.
10. Information contained in this report covers only those items that were examined and reflect the condition of those items at the time of inspection.
11. Inspection is limited to visual examination of accessible components without dissection, excavation or probing. There is no warranty or guarantee expressed or implied that the problems or deficiencies of the plants or property in question may not arise in the future.

Appendix B. Explanation of Tree Assessment Terms

Tree number: Refers to the individual identification number assigned within the ArborSafe software to each assessed tree on the site and the number which appears of the tree's tag.

Tree location: Refers to the easting and northing coordinates assigned to the location of the tree as obtained from the geo-referenced aerial image within the ArborSafe software.

Tree species: Provides the botanic name (genus, species, sub-species, variety and cultivar where applicable) in accordance with the International Code of Botanical Nomenclature (ICBN), and the accepted common name.

Trees in group: The number of trees encompassing a collective assessment of more than one tree. Typically grouped trees have similar attributes that can be encompassed within one data record.

Height: The estimated range in metres attributed to the tree from its base to the highest point of the canopy. Where required height will be estimated to the nearest metre.

Diameter at Breast Height (DBH): Refers to the tree's estimated trunk diameter measured 1.4m from ground level for a single trunked tree. These estimates increase in 50mm increments. Where required DBH will be measured to give an accurate measurement for single trunked trees, trees with multiple trunks, significant root buttressing, bifurcating close to ground level or trunk defects and will be measured as per the Australian Standard AS 4970–2009: *Protection of Trees on Development Sites*.

Tree Protection Zone (TPZ): A specified area above and below ground and at a given distance measured radially away from the centre of the tree's trunk and which is set aside for the protection of its roots and crown. It is the area required to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development. The radius of the TPZ is calculated by multiplying its DBH by 12. $TPZ\ radius = DBH \times 12$. (Note "Breast Height" is nominally measured as 1.4m from ground level). TPZ is a theoretical calculation and can be influenced by existing physical constraints such as buildings, drainage channels, retaining walls, etc. (Standards Australia, 2009).

Structural Root Zone (SRZ): The area close to the base of a tree required for the tree's anchorage and stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright. The SRZ is nominally circular with the trunk at its centre and is expressed by its radius in metres. $SRZ\ radius = (D \times 50)^{0.42 \times 0.64}$ (Standards Australia, 2009).

Canopy spread: The estimated range in metres attributed to the spread of the tree's canopy on its widest axis. Where required crown spread will be estimated to the nearest metre.

Origin: Refers to the origin of the species and its type.

Category	Description
Indigenous	Occurs naturally in the local area and is native to a given region or ecosystem.
State Native	Occurs naturally within State but is not indigenous.
Australian Native	Occurs naturally within Australia and its territories but is not a State native or indigenous.
Exotic Evergreen	Occurs naturally outside of Australia and its territories and typically retains its leaves throughout the year.
Exotic Deciduous	Occurs naturally outside of Australia and its territories and typically loses its leaves at least once a year.

Health: Refers to the health and vigour of the tree.

Category	Description
Excellent	Canopy full with even foliage density throughout, leaves are entire and are of an excellent size and colour for the species with no visible pathogen damage. Excellent growth indicators, e.g. seasonal extension growth. Exceptional specimen.
Good	Canopy full with minor variations in foliage density throughout, leaves are entire and are of good size and colour for the species with minimal or no visible pathogen damage. Good growth indicators, none or minimal deadwood.
Fair	Canopy with moderate variations in foliage density throughout, leaves not entire with reduced size and/or atypical in colour, moderate pathogen damage. Reduced growth indicators, visible amounts of deadwood, may contain epicormic growth.
Poor	Canopy density significantly reduced throughout, leaves are not entire, are significantly reduced in size and/or are discoloured, significant pathogen damage. Significant amounts of deadwood and/or epicormic growth, noticeable dieback of branch tips, possibly extensive.
Dead	No live plant material observed throughout the canopy, bark may be visibly delaminating from the trunk and/or branches.

Age: Refers to the life cycle of the tree.

Category	Description
Young	Newly planted small tree not fully established may be capable of being transplanted or easily replaced.
Juvenile	Tree is small in terms of its potential physical size and has not reached its full reproductive ability.
Semi-mature	Tree in active growth phase of life cycle and has not yet attained an expected maximum physical size for its species and/or its location.
Mature	Tree has reached an expected maximum physical size for the species and/or location and is showing a reduction in the rate of seasonal extension growth.
Senescent	Tree is approaching the end of its life cycle and is exhibiting a reduction in vigour often evidenced by natural deterioration in health and structure.

Structure: Refers to the structure of the tree from roots to crown.

Category	Description
Good	Sound branch attachments with no visible structural defects, e.g. included bark or acute angled unions. No visible wounds to the trunk and/or root plate. No fungal pathogens present.
Fair	Minor structural defects present, e.g. apical leaders sharing common union(s). Minor damage to structural roots. Small wounds present where decay could begin. No fungal pathogens present.
Poor	Moderate structural defects present, including bifurcations with included bark with union failure likely within 0–5 years. Wounding evident with cavities and/or decay present. Damage to structural roots.
Hazardous	Significant structural defects with failure imminent (3–6 months). Defects may include active splits and/or partial branch or root plate failures. Tree requires immediate arboricultural works to alleviate the associated risk.

Useful Life Expectancy (ULE): Useful life expectancy refers to an expected period of time the tree can be retained within the landscape before its amenity value declines to a point where it may detract from the appearance of the landscape and/or presents a greater risk and/or more hazards to people and/or property. ULE values consider tree species, current age, health, structure and location. ULE values are based on the tree at the time of assessment and do not consider future changes within the tree's location and environment which may influence the ULE value.

Category
0 Years
<5 Years
5–10 Years
10–15 Years
15–25 Years
25–50 Years
>50 Years

Defects: Visual observations made of the presenting defects of the tree and its growing environment that are, or have the capacity to impact upon, the health, structural condition and/or the useful life expectancy of the tree. Defects may include adverse physical traits or conditions, signs of structural weaknesses, plant disease and/or pest damage, tree impacts to assets or soil related issues.

Tree Significance: Includes environmental, social or historical reasons why the tree is significant to the site. The tree may also be rare under cultivation or have a rare or localised natural distribution.

Arborist Actions: A list of arboricultural and/or plant health care works that are aimed at maintaining or improving the tree's health, structural condition or form. Actions may also directly or indirectly reduce the risk potential of the tree such as via the removal of a particular branch or the moving of infrastructure from under its canopy.

Appendix C. Tree Retention Values

Based upon a modified version of the British Standard BS 5837–2012: *Trees in relation to design, demolition and construction – recommendations*.

Category and definition	Criteria (including sub-categories where appropriate)		
Category U			
Trees in such a condition that they cannot realistically be retained as viable trees in the context of the current land use for longer than 5 years.	- Trees that have a severe structural defect that are not remediable such that their failure is expected within 12 months. - Trees that will become unviable after removal of other Category U trees (e.g. where for whatever reason the loss of companion shelter cannot be mitigated by pruning). - Trees that are dead or are showing signs of significant, immediate and irreversible overall decline. - Trees infected with pathogens of significance to the health and or safety of other trees nearby - Low quality trees suppressing adjacent trees of better quality. - Noxious weeds or species categorised as weeds within the local area. Note: Category U trees can have existing or potential conservation value* which might make it desirable to preserve.		
	1. Arboricultural Qualities	2. Landscape qualities	3. Cultural and environmental values
Category A			
Trees of High Quality with an estimated remaining life expectancy of at least 25 years and of dimensions and prominence that it cannot be readily replaced in <20 years.	Trees that are particularly good examples of their species, especially if rare or unusual (in the wild or under cultivation); or those that are important components of groups or avenues.	Trees or groups of significant visual importance as arboricultural and/or landscape features. (e.g. feature and landmark trees).	Trees, groups or plant communities of significant conservation, historical, commemorative or other value (e.g. remnant trees, aboriginal scar trees, critically endangered plant communities, trees listed specifically within a Heritage statement of significance).
Category B			
Trees of Moderate Quality with an estimated remaining life expectancy of 15–25 years and of dimensions and prominence that cannot be readily replaced within 10 years.	Trees that might be included within Category A but are downgraded because of diminished condition such that they are unlikely to be suitable for retention beyond 25 years.	Trees that are visible from surrounding properties and/or the street but make little visual contribution to the wider locality.	Trees with conservation or other cultural value (trees within conservation areas or landscapes described within a statement of significance, locally indigenous species).
Category C			
Trees of Low Quality with an estimated remaining life expectancy of 5–15 years, or young trees that are easily replaceable.	Trees of very limited value or such impaired condition that they do not qualify in higher categories.	Trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural value.

* Where trees would otherwise be categorised as U, B or C but have significant identifiable conservation, heritage or landscape value even though only for the short term, they may be upgraded, although they might be suitable for retention only.

Tree Quality

		Health**			
		Excellent/ Good	Fair	Poor	Dead
Structure	Good	A	B	C	U
	Fair	B	B	C	U
	Poor	C	C	U	U
	Hazard *	U	U	U	U

* Structural hazard that cannot be remediated through mitigation works to enable safe retention.

** Trees of short term reduced health that can be remediated via basic, low cost plant health care works (e.g. mulching, irrigation etc.) may be designated in a higher health rating to ensure correct retention value nomination.

Category A	Typically trees in this category are of high quality with an estimated remaining life expectancy of at least 25 years and of dimensions and prominence that it cannot be readily replaced in <20 years. The tree may make significant amenity contributions to the landscape and may make high environmental contributions. In some cases, trees within this category may not meet the above criteria, however possess significant heritage or ecological value. Trees of this retention value warrant design consideration and amendment to ensure their viable retention.
Category B	Typically trees in this category are of moderate quality with an estimated remaining life expectancy of 15–25 years and prominence of size dimensions that cannot be readily replaced within 10 years. They may make moderate amenity contributions to the landscape and make low/moderate environmental contributions. Trees with this retention value warrant lesser design consideration in an attempt to allow for their retention.
Category C	Trees in this category are of low quality with an estimated remaining life expectancy of 5–15 years, or young trees that are easily replaceable, may have poor health and/or structure, are easily replaceable, or are of undesirable species and do not warrant design consideration.
Category U	Trees in this category are found to be in such a condition that they cannot realistically be retained as viable trees in the context of the current land use for longer than five years. These trees may be dead and/or of a species recognised as a weed that resulted in them being unretainable.

Appendix D. Tree Protection Measures

All trees to be retained require protection during the construction stage. Tree protection measures include a range of:

- Activities restricted within the TPZ
- Protective fencing
- Trunk and ground protection
- Tree protection signage
- Involvement from the project arborist
- Project milestones
- Compliance reporting

Activities Prohibited within the TPZ

- Machine excavation including trenching
- Storage
- Preparation of chemicals, including cement products
- Parking of vehicles and plant
- Refueling
- Dumping of waste
- Wash down and cleaning of equipment
- Placement of fill
- Lighting of fires
- Soil level changes
- Temporary or permanent installation of utilities and signs
- Physical damage to the tree

Protective Fencing Specification

Protective fencing (Figure 9) is to be installed as far as practicable from the trunk of any retained trees. Fencing should be erected as per the image below before any machinery or materials are brought to site and before commencement of works (including demolition).

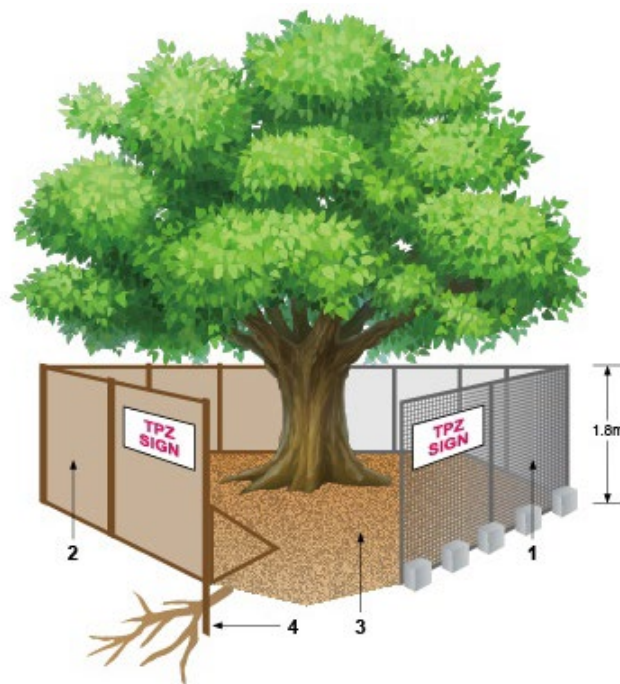
In some areas of the site (i.e. protection of trees on neighbouring properties) existing boundary fencing may be used as an alternative to protective fencing.

Once erected, protective fencing must not be removed or altered without approval from the project arborist. The TPZ fencing should be secured to restrict access.

TPZ fencing is to be a minimum of 1.8m high and mesh or wire between posts must be highly visible. Fence posts and supports should have a diameter greater than 20mm and should ideally be freestanding, otherwise be located clear of the roots. See image below.

Tree protection fencing must remain intact throughout all proposed construction works and must only be dismantled after their conclusion. The temporary dismantling of tree protection fencing must only be done with the authorisation of a consulting arborist and/or the responsible authority.

The subject trees themselves must also not to be used as a billboard to support advertising material. Affixing nails or screws into the trunks of trees to display signs of any type is not a recommended practice in the successful retention of trees.



Legend:

1. Chain wire mesh panels with shade cloth attached (if required), 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 discretion of the project arborist). No excavation, construction activity, grade changes, surface treatment or storage materials of any kind are permitted within the TPZ
4. Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

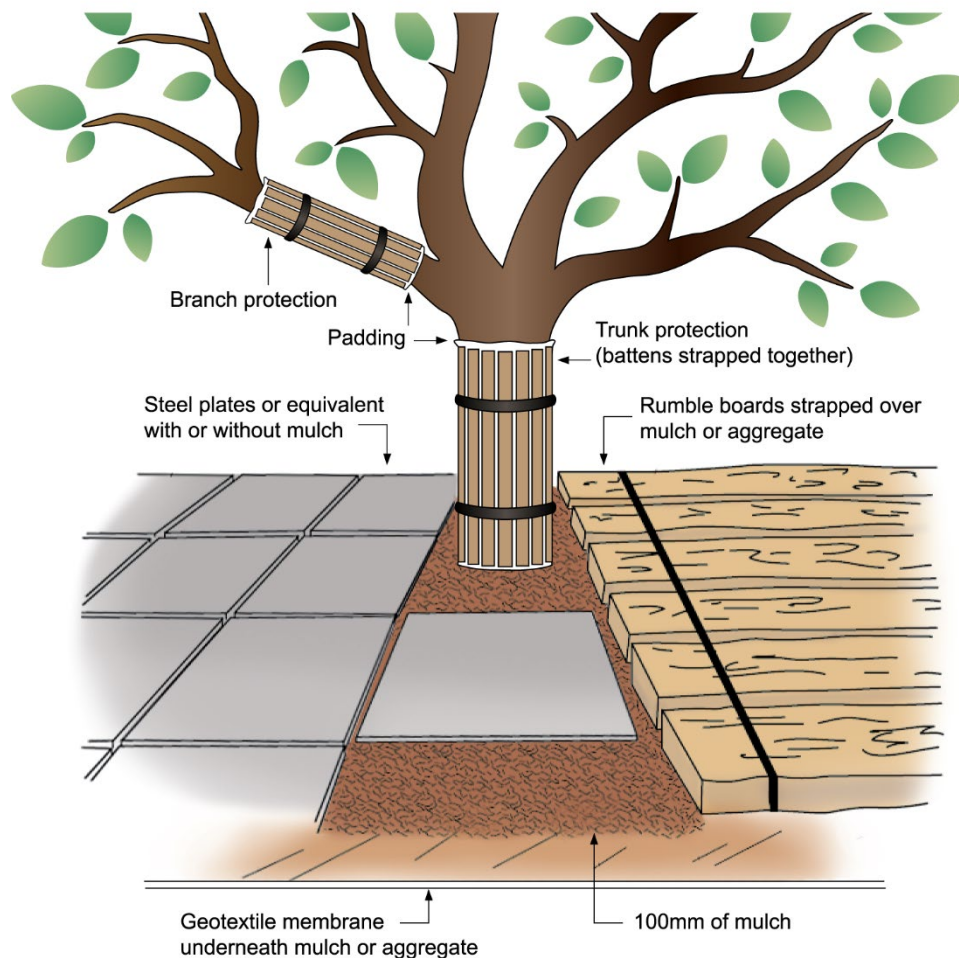
Figure 8. Depicts standard fencing techniques. (AS 4970–2009).

Trunk and Ground Protection

Given that proposed works are often within the TPZs of retained trees, standard protective fencing may not always be a viable method of protection. In these areas trunk protection and ground protection should be installed prior to the commencement of works and remain in place until after construction works have been completed.

Where construction access into the TPZ of retained trees cannot be avoided, the root zone of each tree must be protected using either steel plates or rumble board strapped over mulch/aggregate until such a time as permanent above ground surfacing (cellular confinement system or similar) is to be installed.

Trunk and ground protection (Figure 10) should be undertaken in line with the Australian Standard AS 4790–2009: *Protection of Trees on Development Sites* as per the image below:



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 9. Depicts trunk and ground protection techniques. (AS 4790–2009).

Tree Protection Signs

Signs identifying the TPZ (Figure 11) should be placed at 10m intervals around the edge of the TPZ and should be visible from within the development site.



Figure 10. Depicts standard fencing techniques. (AS 4970–2009).

Crown protection

Tree crowns may be damaged by machinery such as excavators, cranes, trucks, hoarding installation and scaffolding. The TPZ may need to include additional protection of the above ground tree parts such as height limiters on mobile plant, competent operators and observers, physical branch protection, and additional setback for scaffolding. Crown protection may also include pruning, tying-back of branches or other measures.

Project Arborist

An official “Project Arborist” must be commissioned to oversee the tree protection, any works within the TPZ’s and complete regular monitoring compliance certification.

The project arborist must have minimum five (5) years industry experience in the field of arboriculture, horticulture with relevant demonstrated experience in tree management on construction sites, and Diploma level qualifications in arboriculture – AQF Level 5.

Inspections are to be conducted by the project arborist at several key points during the construction in order to ensure that protection measures are being adhered to during construction stages and decline in tree health or additional remediation measures can be identified.

Contacting the project arborist

The project arborist must be contacted and/or called to the site at any time during the proposed works where issues and/or concerns arise regarding any of the subject trees. Issues can sometimes be dealt with over the course of a phone call whilst at other times may require a site visit. The initial phone contact will establish the exact requirements to resolve the issue, with the negation of damage occurring to the tree(s) being the primary motivation.

Other than in an emergency, the project arborist will be afforded at least five (5) working days' notice of a requirement to attend the site. Notice of less than this period will not guarantee their attendance on the day required.

Project Milestones

The following visits and milestones were recommended as to when on-site tree inspection by the project arborist is required:

Item	Purpose of Visit	Timing of Visit(s)	Prerequisites
1	Pre-start induction	Contractor to provide a minimum of five days advance notice for this visit.	Prior to commencement of works. All parties involved in the project to attend.
2	Supervision of works in TPZ's including all regrading and excavations	Whenever there is work planned to be performed within the TPZ's. Contractor to provide a minimum of five days advance notice for such visits.	
3	Regular site inspections	Minimum frequency monthly for the duration of the project.	The checklist must be completed by the Project Arborist at each site inspection and signed by both parties.
4	Final sign off	Following completion of works.	Practical completion of works and prior to tree protection removal.

Compliance Reporting

Following each inspection, the project arborist shall prepare a report detailing the condition of the trees. These reports should certify whether or not the works have been completed in compliance with the consent relating to tree protection.

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

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

The reports and Compliance Statements shall be submitted to the Project Manager (as well as the Clients' nominated representative) following each inspection.

The reports and any Non-Compliance Statements shall be submitted to the Project Manager (as well as the Clients' nominated representative) if tree protection conditions have been breached. Reports should contain clear remedial action specifications to minimise any adverse impact on any subject tree.

Additional Excavation/Trenching within TPZs

In the event additional excavation is required within the TPZs of retained trees identified within this report, or any other site trees, arborist involvement will be required to ensure works are undertaken in accordance with the Australian Standard AS 4970–2009: *Protection of Trees on Development Sites*.

Where excavation or trenching is required to facilitate installation of underground services within the TPZs of any site trees arborist supervision is required. Works should be undertaken using techniques that are sensitive to tree roots to avoid unnecessary damage. Such techniques include:

1. Excavation by hand
2. Excavation using a high-pressure water jet and vacuum truck
3. Excavation using an Air Spade with vacuum truck.

Machine excavation should be prohibited within the TPZs of retained trees unless undertaken at the direct consent from the project arborist and/or the responsible authority.

Site hygiene

Before any demolition and/or construction related vehicles enter the site they are to be washed down thoroughly to remove all soil from upon and under them. This is to ensure that no vehicle can transfer soil borne plant diseases onto the site, particularly the destructive soil borne fungus *Phytophthora cinnamomi* (Cinnamon Fungus) which is known to cause root rot in a wide range of species.

After working at 86 Riverview Street, Murwillumbah, vehicles that visit other work sites must be washed down prior to their re-entry to the site.

Site sheds and storage areas

All site sheds and storage areas must be located outside of the TPZ of the subject tree. This will serve to negate excessive soil compaction and root damage/severance that may occur as a result of the installation of temporary services for sheds (such as water and electricity etc) and excessive use around the sheds.

Where site storage is required to be positioned within the TPZ, it must be done with direct consent of the project arborist prior to installation. The storage must be non-permeable and stored on a load bearing footing over a suitable dampening material such as mulch or gravel to minimise compaction and damage to roots.

Appendix E. Plant Health Care and Mulching

Guide to plant health tonics and root growth stimulants

Considering the varying sizes of trees in common urban landscapes, it is suggested that an application volume of combined water and product solution of 80–150L for small to medium sized trees (5-10m height), 150–250L for medium to large sized trees (10-20m height) and 250–400L for large to very large sized trees (+20m height). Note: a lesser volume of total mixed product could be used if a more concentrated mix is drenched and water irrigation used to further drench the area and therefore dilute the stronger mix application.

The following product recommendations have been based on previous successful works undertaken by ArborSafe. The information provided is to be used as a general guide only, depending on your tree species, health or location. We recommend you always refer to the manufacturers label before applying any product. You may need to further consult with ArborSafe or your Project Arborist to develop a more specific program for your tree needs.

- **Soil Conditioner** concentrate such as Kelpro, Seasol or similar 600–800mL/100L of water. A concentration of beneficial nutrients stimulating plant growth and root establishment, ideal for trees under stress.
- **Nitrogen Boost** concentrate such as Nitrosol liquid plant food or similar 300mL/100L of water. A general-purpose fertilizer that contains a nitrogen boost (the most abundantly used element for tree growth). NB: Care must be taken when applying general fertilizer, particularly where plants can be affected Phosphorus toxicity.
- **Root Biostimulant** concentrate such as Auxinone or similar 400mL/100L of water. A scientific blend of hormone root growth stimulants and vitamins assisting in the regeneration of roots.
- **Microbial Formulation** concentrate such as Nocate Liquid or similar 500mL/100L of water. Generally containing strains of beneficial soil microorganisms, humic acid, kelp, essential amino acids, vitamins, biotin, folic acid and natural sugars designed to enhance the establishment of beneficial microbial populations.
- **Carbohydrate Energy Source** such as Molasses 500-800mL/100L of water. Molasses is the by-product of sugar refining. It contains all the nutrients from the raw sugarcane plant and is a carbohydrate energy source that feeds soil microorganisms and increases microbial activity.
- **Surfactant/Wetting Agent** (optional) such as Dispatch (Liquid) 200–300ml/100L of water. Improves the infiltration and penetration of applied water and irrigation.

We recommend you always refer to the manufacturers label before applying any product using the above as a guide only.

Guide to mulching and maintenance for established trees

Whether a tree is a newly planted young tree, or a well-established mature tree, the area around its base is a key factor in its long-term retention and viability. Maintaining a soil environment that is conducive to tree root development is vital for trees of all ages. This guide provides information on appropriate maintenance practices around the base of trees including mulching and the restriction of activities that may cause harm to tree roots or trunks.

1. Why mulch?

Mulching is a plant health care action which can be undertaken to improve plant and soil health (Figure 12), as well as overall landscape aesthetics. Placing an organic (or sometimes inorganic) material on the soil surface reduces the level of direct sunlight contact. Mulching should not be confused with composting which involves incorporating organic matter such as composts or manures into the soil profile. All plants in their natural ecologies (except for some arid and coastal ecologies) are naturally mulched by the falling of leaves, bark, flowers and other organic material.

This action is of great importance in successful cultivation of plants as it:

- assists in the regulation of soil moisture and temperature levels
- helps to suppress weeds
- minimises soil compaction
- reduces run-off during periods of heavy rain
- adds organic matter to the soil, and
- improves overall structure, nutrition and water holding composition.

Mulch is best comprised of organic materials such as wood chips, leaf litter, straw or hay as these will degrade over time. Long-term mulching improves soil health and structure as it encourages the activities of earthworms, microflora and beneficial fungi. Inorganic materials such as stones and gravel can be moderately effective as mulch but will not provide the ongoing improvements to soil health.



Figure 11. An excellent example of how to mulch a young tree. (Lachlan Andrews, September 2015).

2. How to mulch

- Apply mulch to damp soil, as placing over dry soil makes it difficult to rehydrate. Applying during the cooler months of the year is an ideal time.
- If mulching on top of a pre-existing grass area, grass or weeds must first be hand weeded and/or sprayed with a non-selective herbicide and left to wilt and die before applying mulch.
- Mulch should be applied at a uniform thickness of 75–100mm and re-applied approximately every 12 months. Do not place mulch up against the trunk of a tree as the damp mulch can cause bark to decay.
- Apply over a wide area, at least as large as a tree's crown projection (preferably larger), within and outside the current root mass to encourage lateral root development and expansion.
- Wood chip mulch (such as that generated from wood chippers) is considered an ideal mulch for landscape use as it contains a wide variety of materials that are of different sizes (such as bark, foliage and timber), is relatively cheap to purchase, and can be obtained in large quantities. Stockpiling of mulch after tree contractors have conducted works at a site is a way of generating 'free' mulch and ensuring that plant material from tree pruning and/or removals is recycled on site, not imported from external suppliers, saving costs and making the site more self-sustaining.
- The use of mulch made from pine bark or red gum chips are discouraged as they seldom degrade and therefore do not add nutrition to the soil profile. The uniform particle size and resin content can provide an impervious layer to water as well as retarding gaseous exchange.
- Mulching within the canopy areas of larger trees (Figure 13) can not only improve long-term tree health but can also act to reduce tree risk by decreasing the number of targets that pass and/or congregate under their canopies. This in turn will minimise the likelihood of injury in the event of a branch failure.
- When using wood chip mulch, ensure that if it has been made from live plant material that is stored and allowed to compost for between 3 and 6 months prior to use. Never apply fresh, 'green' mulch around trees as this can induce what is called the nitrogen drawdown, which can result in the removal of nitrogen from the soil resulting in plants with nutrient deficiencies.

For further information refer to the Australian Standard AS 4454–2012: *Composts, Soil Conditioners and Mulches*.

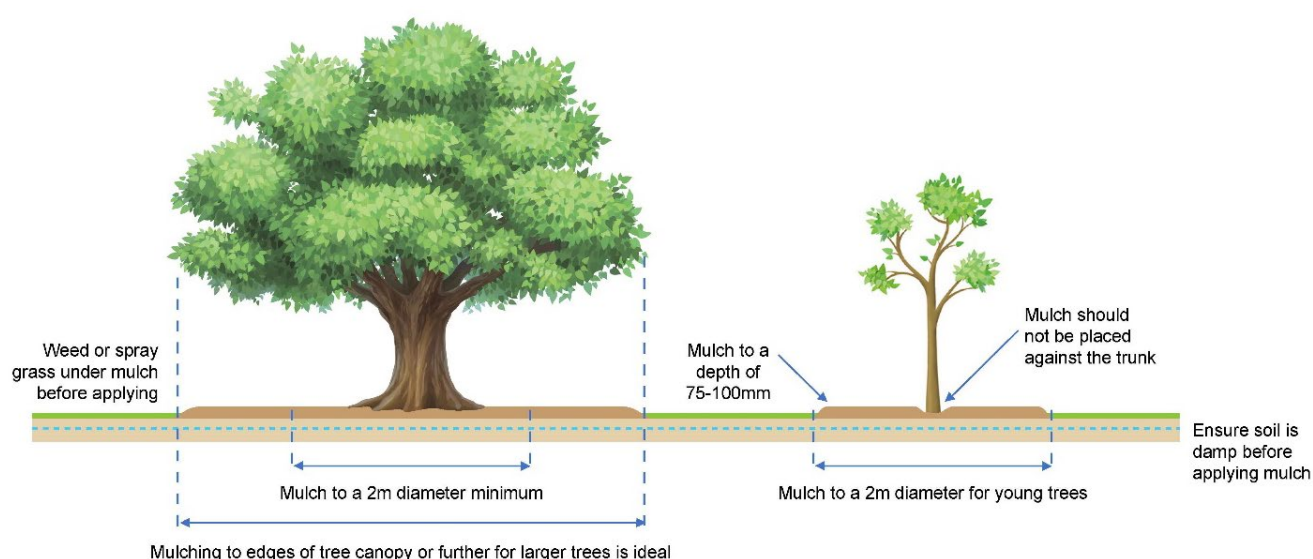


Figure 12. Mulching established and young trees (ArborSafe Australia, 2020).

3. Root and trunk damage

The function of tree roots is primarily to provide water and nutrient uptake for the tree, provide stability through structural roots that anchor it to the ground and as a means of food and nutrient storage. Damage to tree roots can lead to a reduction to any or all of these functions.

Damage to tree roots (Figure 14 and 15) and the lower portion of a tree's trunk is a common and often unnecessary occurrence that can lead to the entry of decay fungi into a tree's structural framework. Once present, decay may develop in larger structural roots and/or the base of the trunk, which can result in a reduction in tree health and in severe cases even compromise stability.

Works such as trenching and excavation are often the cause of root damage to trees. Refer to ArborSafe's Guide – Tree protection during construction or the Australian Standard AS 4970–2009: *Protection of Trees on Development Sites* for things to consider when performing construction activities near trees.

Everyday activities such as grass cutting via mowing or brush cutters can result in serious root damage or wounding to the lower trunk. Young trees with their trunks damaged by machinery often need replacing, while damage to the trunks and/or surface roots of established trees is not only detrimental to tree health but can also result in costly repairs to machinery.

Another advantage to mulching around the trunk and root crown is that it limits damage to both parts from mowing equipment. This in turn reduces mechanical damage and compaction.



Figure 13. An example of damage to tree roots caused via mowing. (Luke Dawson, June 2017).



Figure 14. Image showing wound caused to upper portion of surface root by mower. (Luke Dawson, June 2017).

4. How to avoid root and trunk damage

The following points serve to highlight ways to avoid damage to tree roots and trunks caused via grass cutting activities:

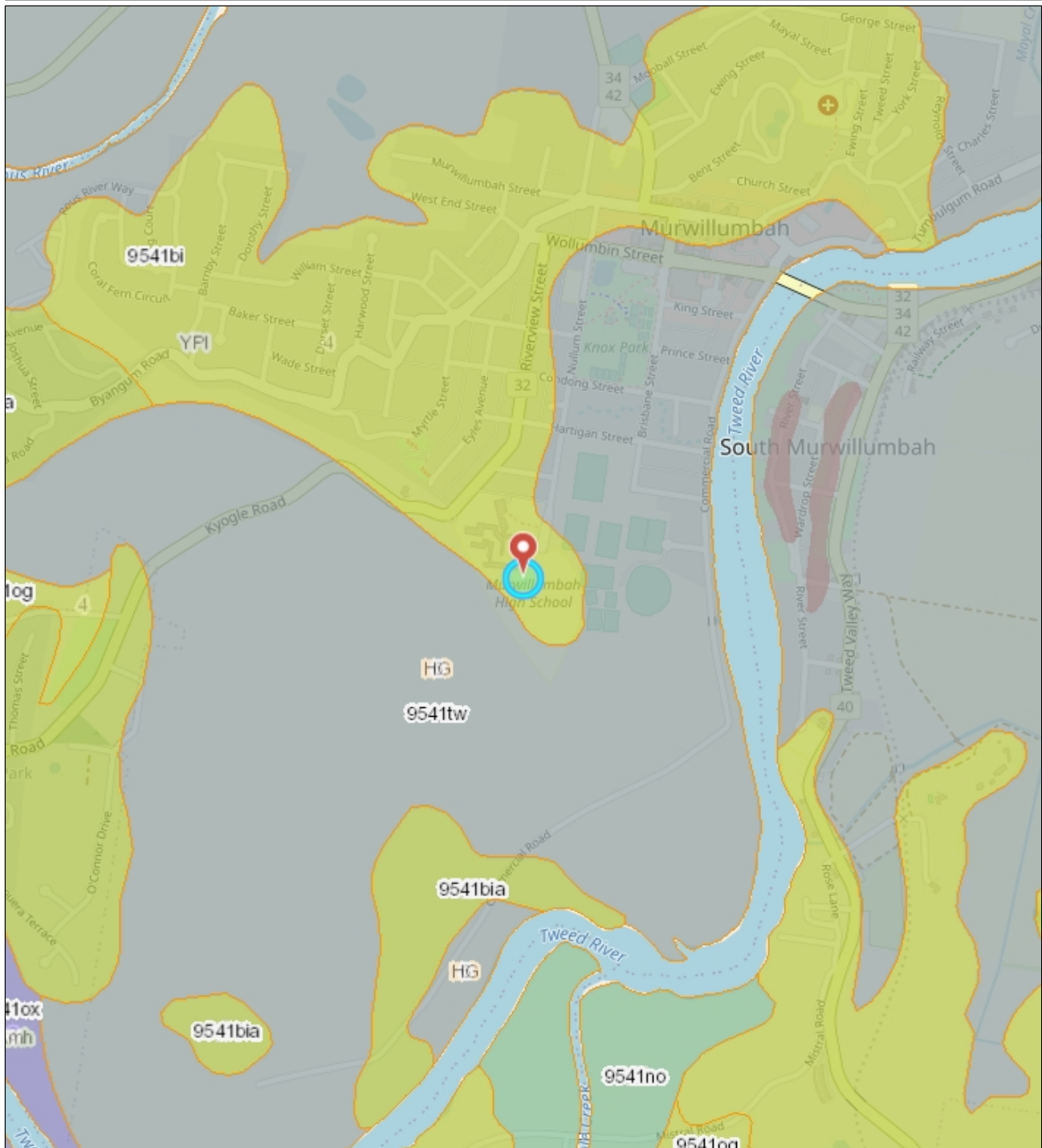
- Mulching around young and established trees negates the need for brush cutter and/or lawn mower use around the base of a tree. Mulching therefore not only creates a barrier between tree roots and trunk that are susceptible to damage, it improves soil condition, minimises soil compaction and decreases the total area required for mowing.
- Where mulching is not feasible, raising the cutting height of mowers and maintaining grass at a greater height can avoid unnecessary 'scalping' of roots and damage to mowers/blades.
- Where surface roots are located away from the trunk and in a location where neither the application of mulch nor the raising of mower height is inappropriate, it may be possible to raise the soil grade directly around the root/s to minimise damage. It is important that the application of new material does not result in significant changes to the soil profile that may inadvertently damage roots. Material applied should be permeable and allow the development of turf which will protect the roots. Coarse sand or a planting mix with a high sand to organic matter ratio (e.g. 80/20 mix) spread at a depth of 75–100mm could suitably protect the surface root from damage, while allowing turf to redevelop within the area.

ArborSafe is able to answer any questions regarding the material, depth and method of application to be used to ensure the tree/s remain viable for the long-term.



Figure 15. Aerial imagery of “the site” bounded in red). (Nearmap, 2022).

Layer Intersect Tool (LIT) Summary Report



0.6 0 0.28 0.6 Miles

1: 18,056



 AOI

 Buffer of AOI

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Layer legend

Soil Condition Monitoring

-  No issue of concern
-  Gully erosion
-  Sheet erosion
-  Soil acidity
-  Soil carbon
-  Soil salinity
-  Soil structure
-  Wind erosion

Labels

- ☐ Boundaries

Areas

-  1 - Very slight to negligible limitations
-  2 - Slight but significant limitations
-  3 - Moderate limitations
-  4 - Moderate to severe limitations
-  5 - Severe limitations
-  6 - Very severe limitations
-  7 - Extremely severe limitations
-  8 - Extreme limitations
-  Disturbed Terrain
-  Water

Labels

- ☐ Boundaries

Areas

-  Acid Peats (ACP)
-  Alluvial Soils - light sandy textured (AI)
-  Alluvial Soils - medium to heavy textured
-  Alpine Humus Soils (AHS)
-  Black Earths (BE)
-  Brown Earths (BRE)
-  Brown Podzolic Soils (BP)
-  Calcareous Red Earths (KRE)
-  Calcareous Sands (KS)
-  Chernozems (CH)
-  Chocolate Soils (C)
-  Desert Loams (DL)
-  Earthy Sands (ES)
-  Euchrozems (E)
-  Gleyed Podzolic Soils (GP)
-  Grey, Brown and Red Clays (GC_BC_RC)
-  Grey, Brown and Red Clays - good surface
-  Grey-brown Podzolic Soils (GBP)
-  Grey-brown and Red Calcareous Soils
-  Humic Gleys (HG)
-  Humus Podzols (HP)
-  Krasnozems (K)
-  Lateritic Podzolic Soils (LP)
-  Lithosols (L)
-  Neutral to Alkaline Peats (NP_AP)
-  No Suitable Group (NSG)
-  Non-calclac Brown Soils (NKB)
-  Peaty Podzols (PP)
-  Podzols (P)
-  Prairie Soils (PS)
-  Red Earths - less fertile (REI)
-  Red Earths - more fertile (REm)
-  Red Podzolic Soils - less fertile (RPI)
-  Red Podzolic Soils - more fertile (RPm)
-  Red and Brown Hardpan Soils (RBH)
-  Red-brown Earths (RBE)

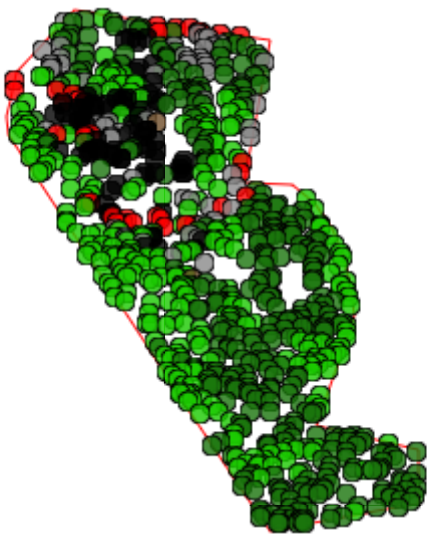
-  Rendzinas (R)
-  Siliceous Sands (SS)
-  Solodic Soils (SC)
-  Solodized Solonetz (SDS)
-  Solonchaks (SK)
-  Solonized Brown Soils (SB)
-  Soloths (SH)
-  Terra Rossa Soils (TR)
-  Weisenbodens (W)
-  Xanthozems (X)
-  Yellow Earths (YE)
-  Yellow Podzolic Soils - less fertile (YPI)
-  Yellow Podzolic Soils - more fertile (YPm)
-  Not assessed
-  Water

- ☐ Soil Landscapes - published 100K - 250K

i-Tree Canopy

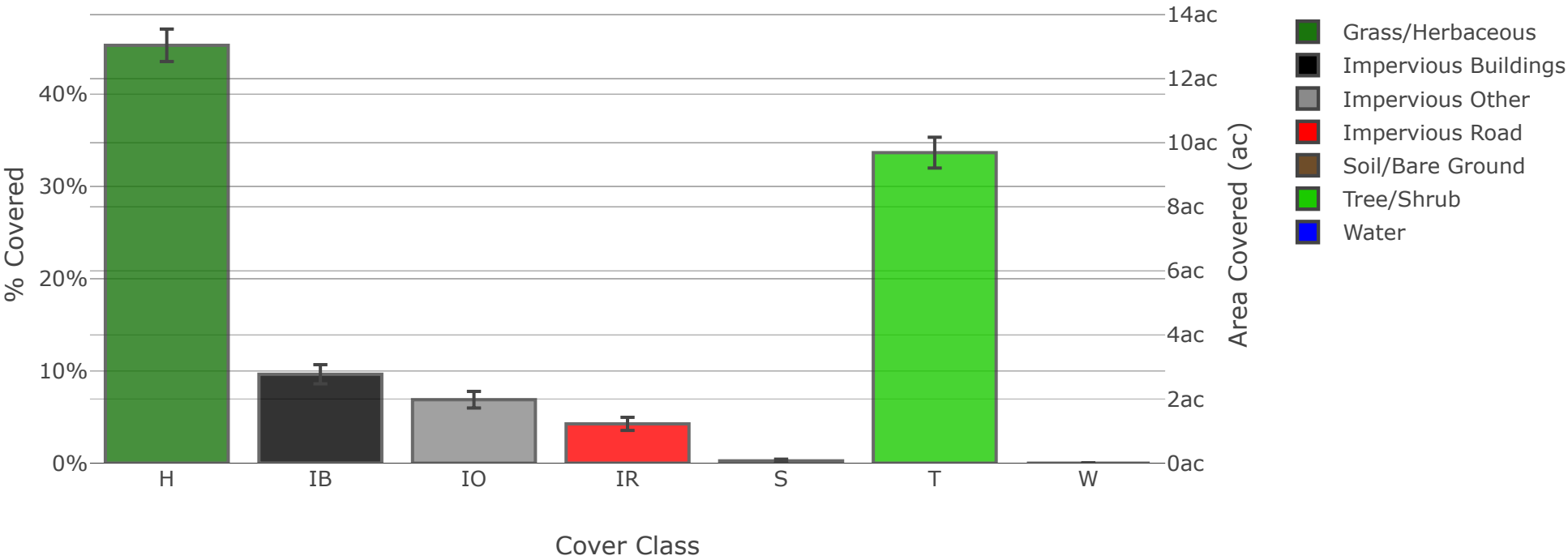
Cover Assessment and Tree Benefits Report

Estimated using random sampling statistics on 4/4/2022



Google

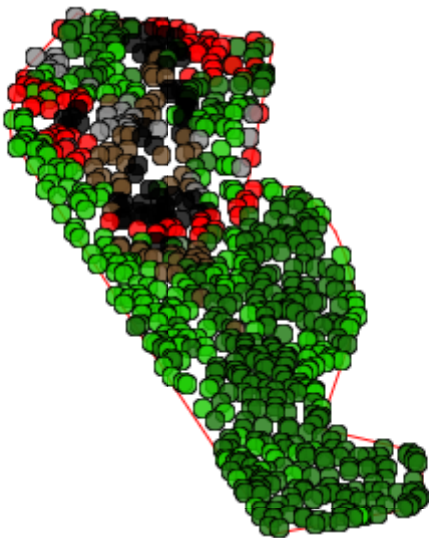
Land Cover



i-Tree Canopy

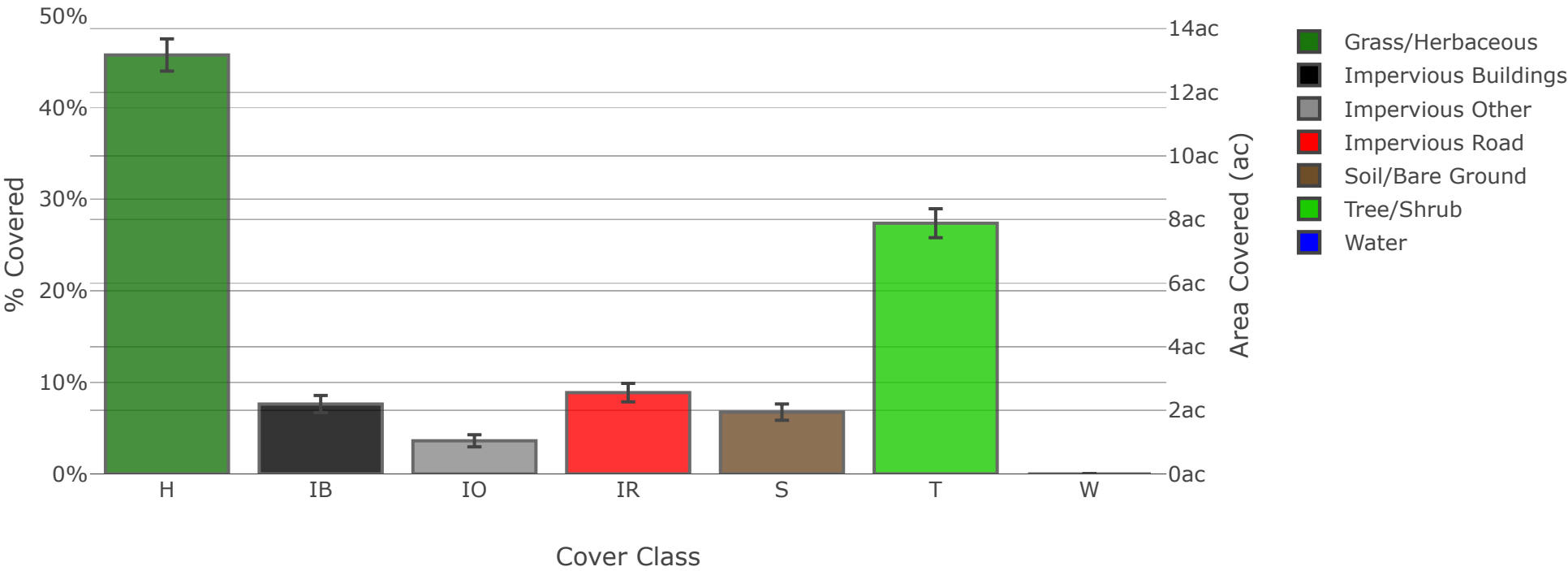
Cover Assessment and Tree Benefits Report

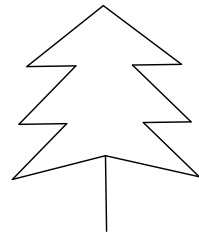
Estimated using random sampling statistics on 4/4/2022



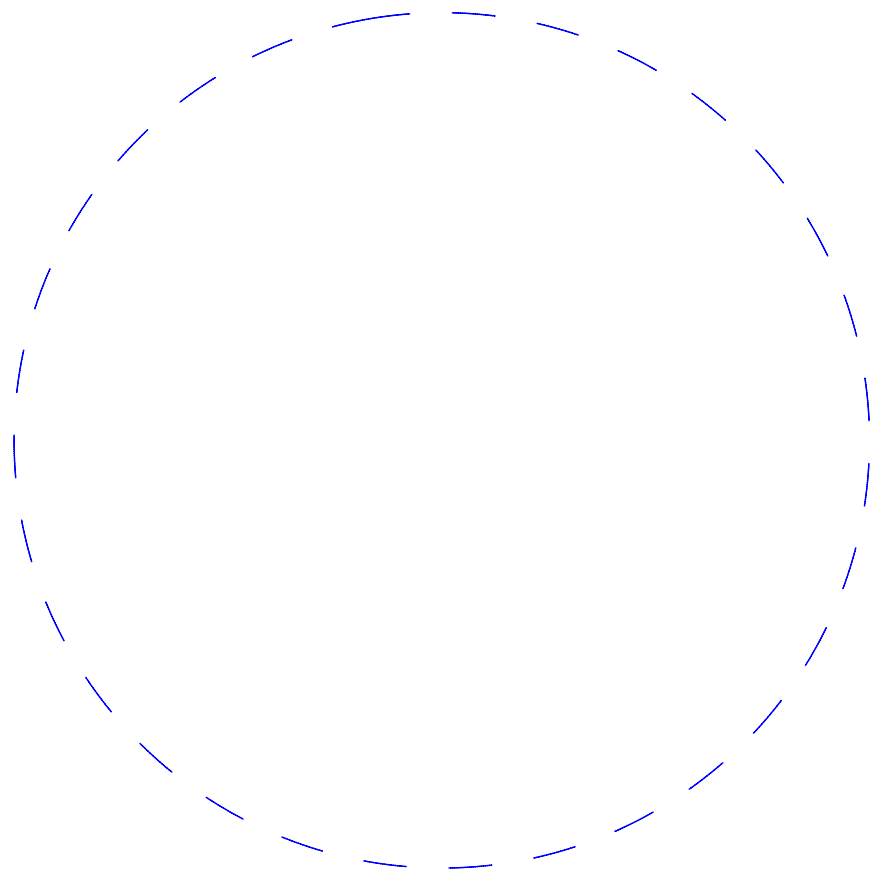
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Land Cover

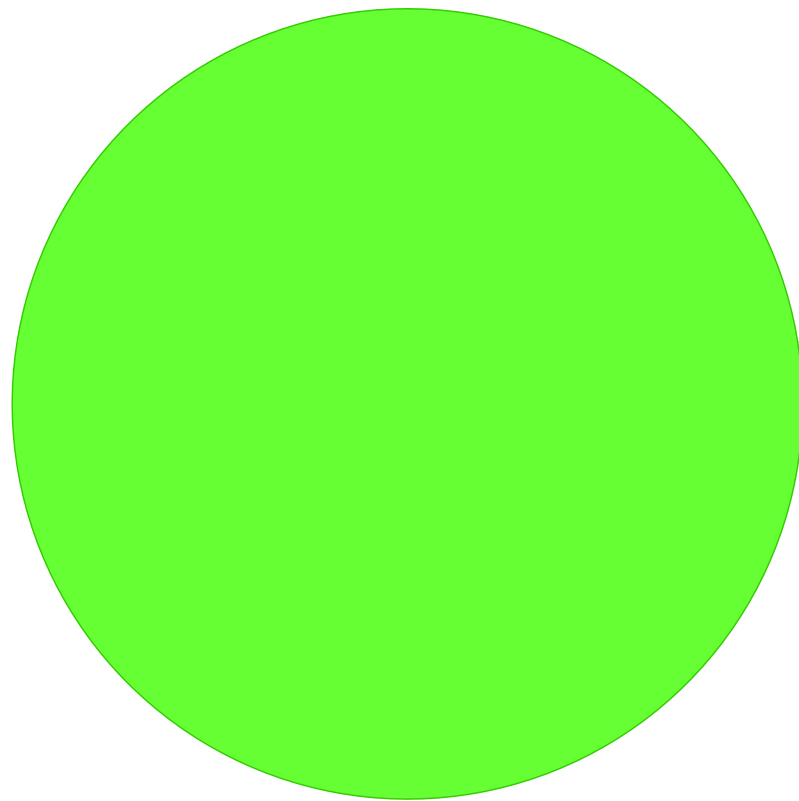




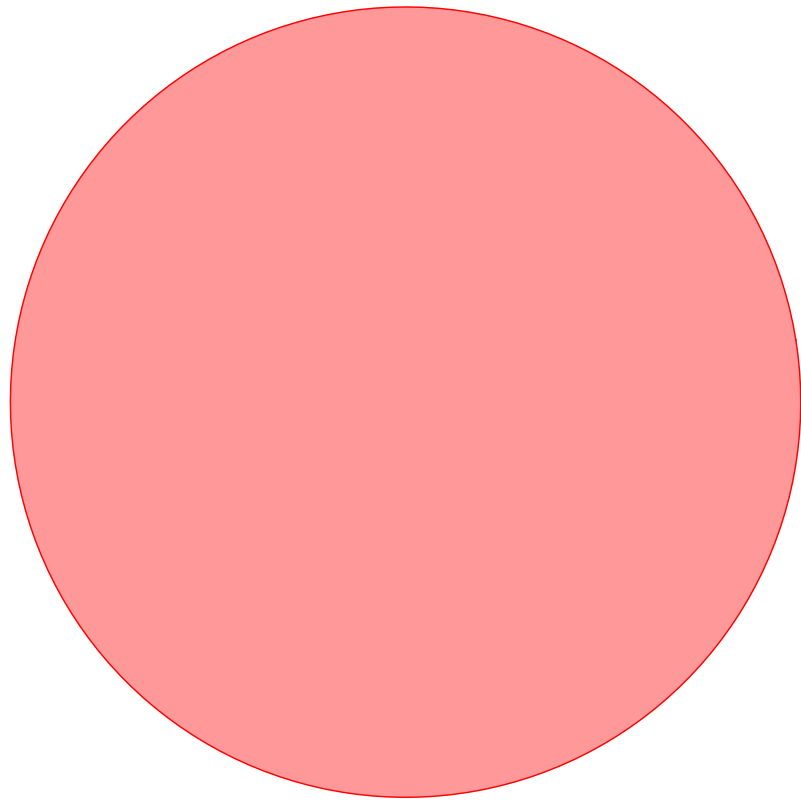
TREE LOCATION



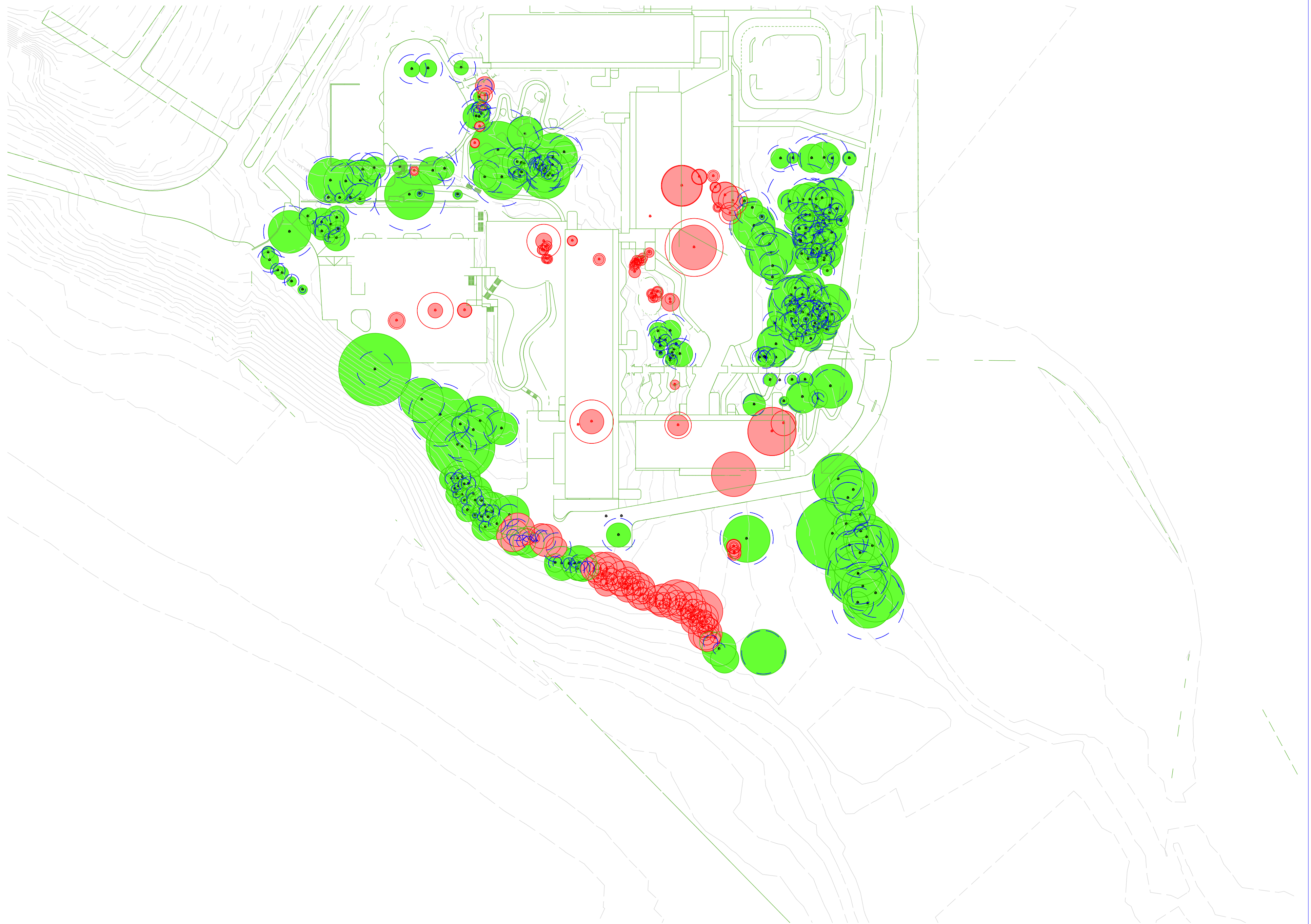
CANOPY DISTRIBUTION

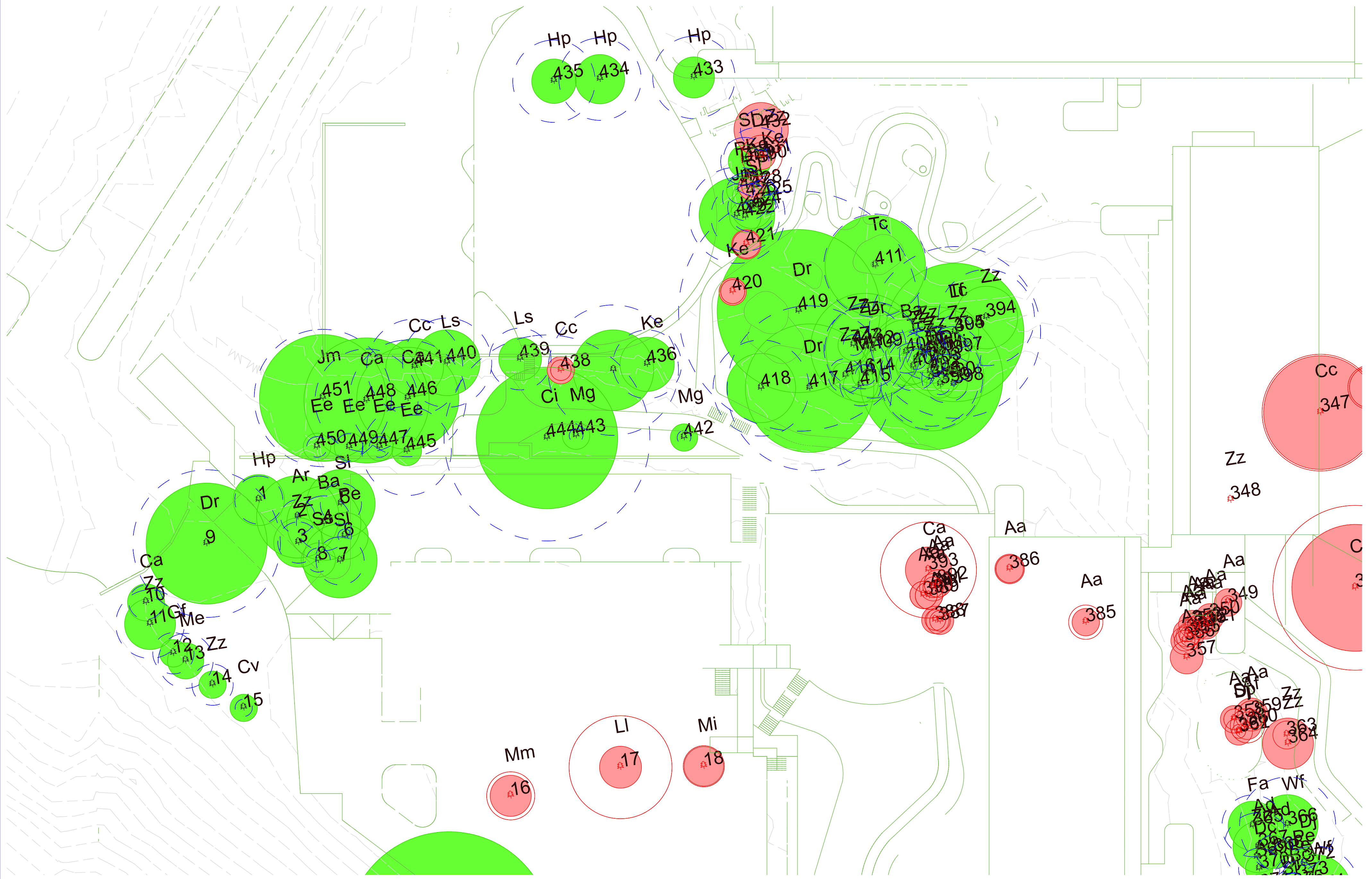


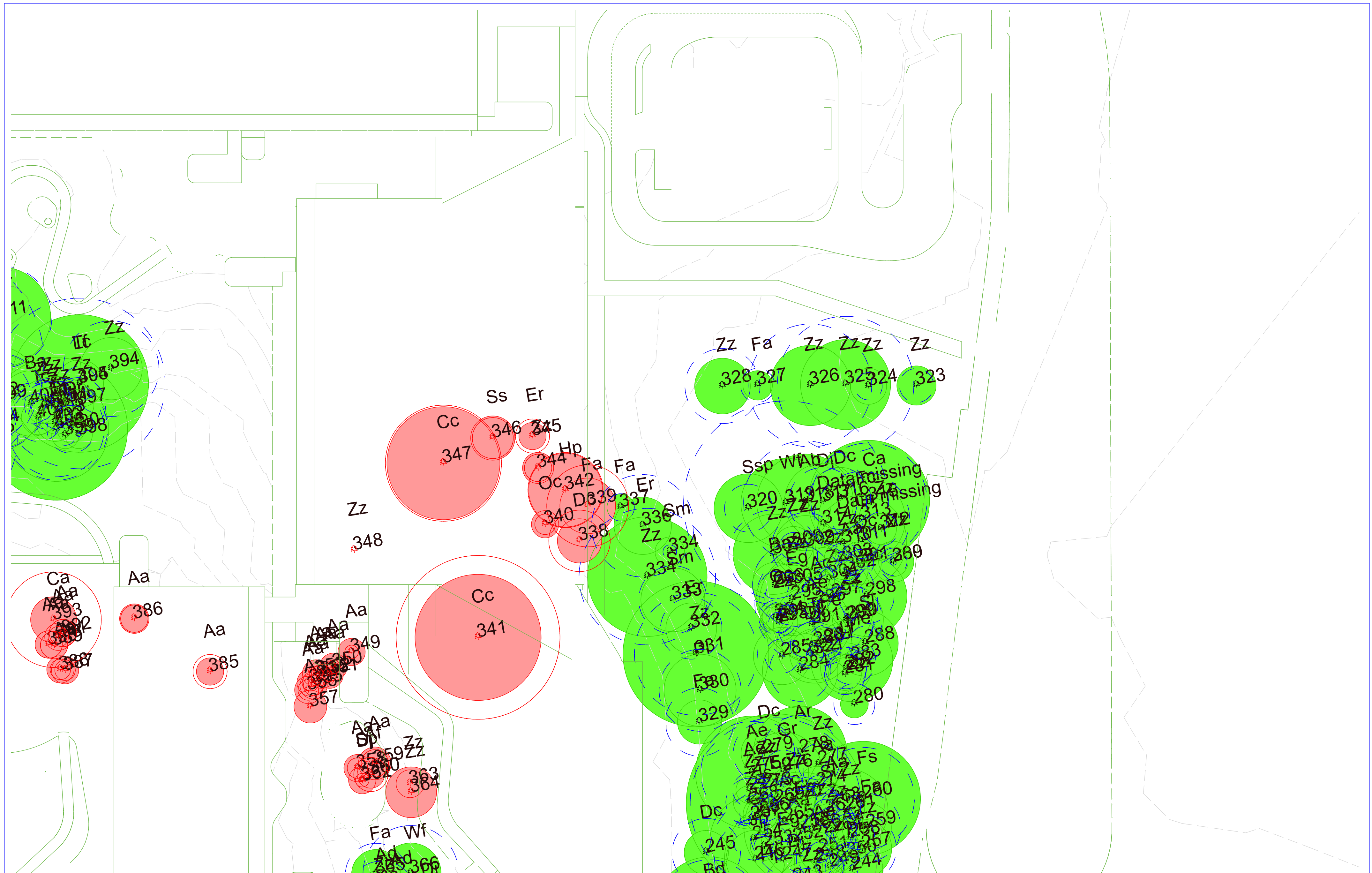
TPZ OF RE-TAINED TREE

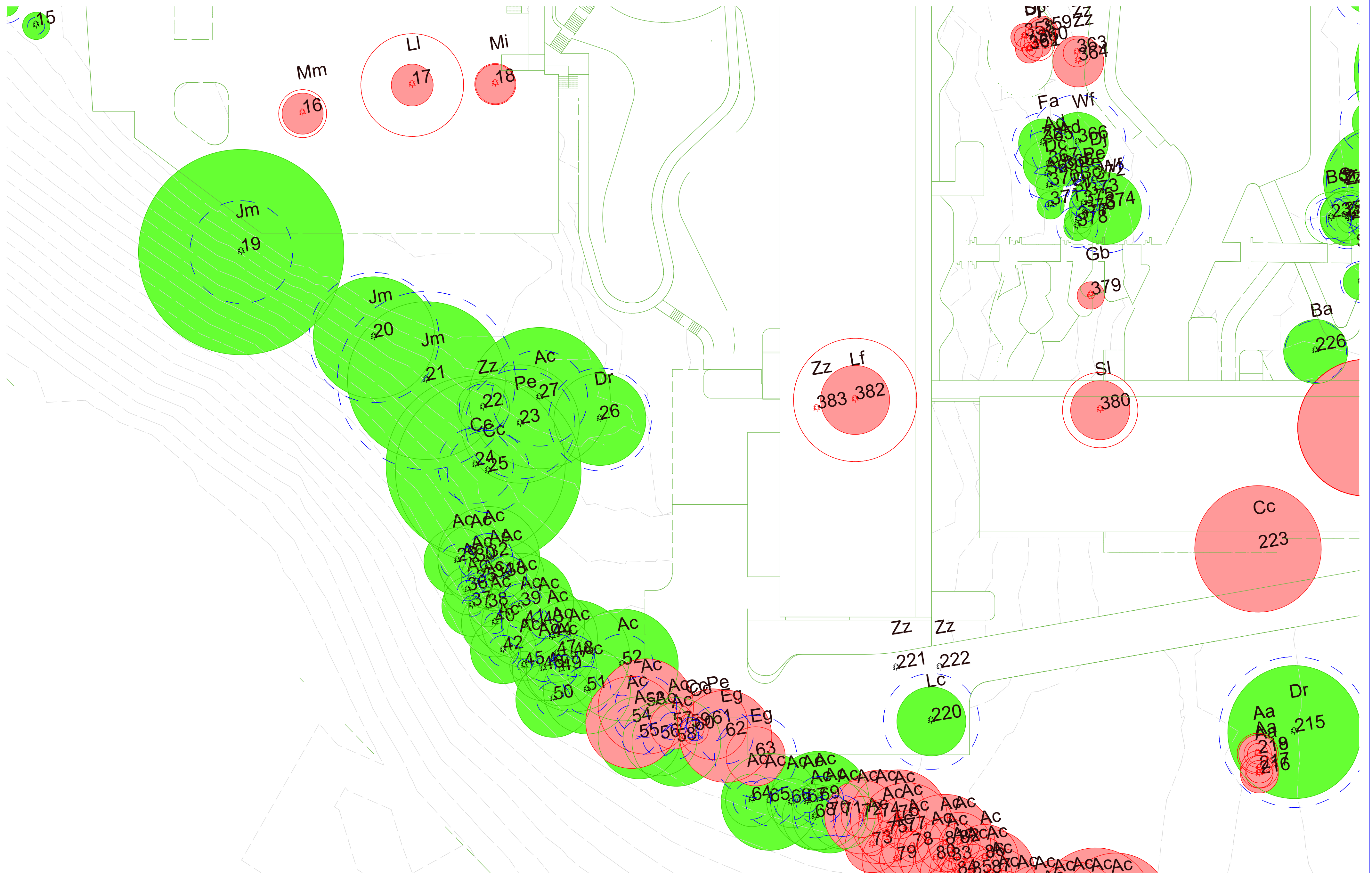


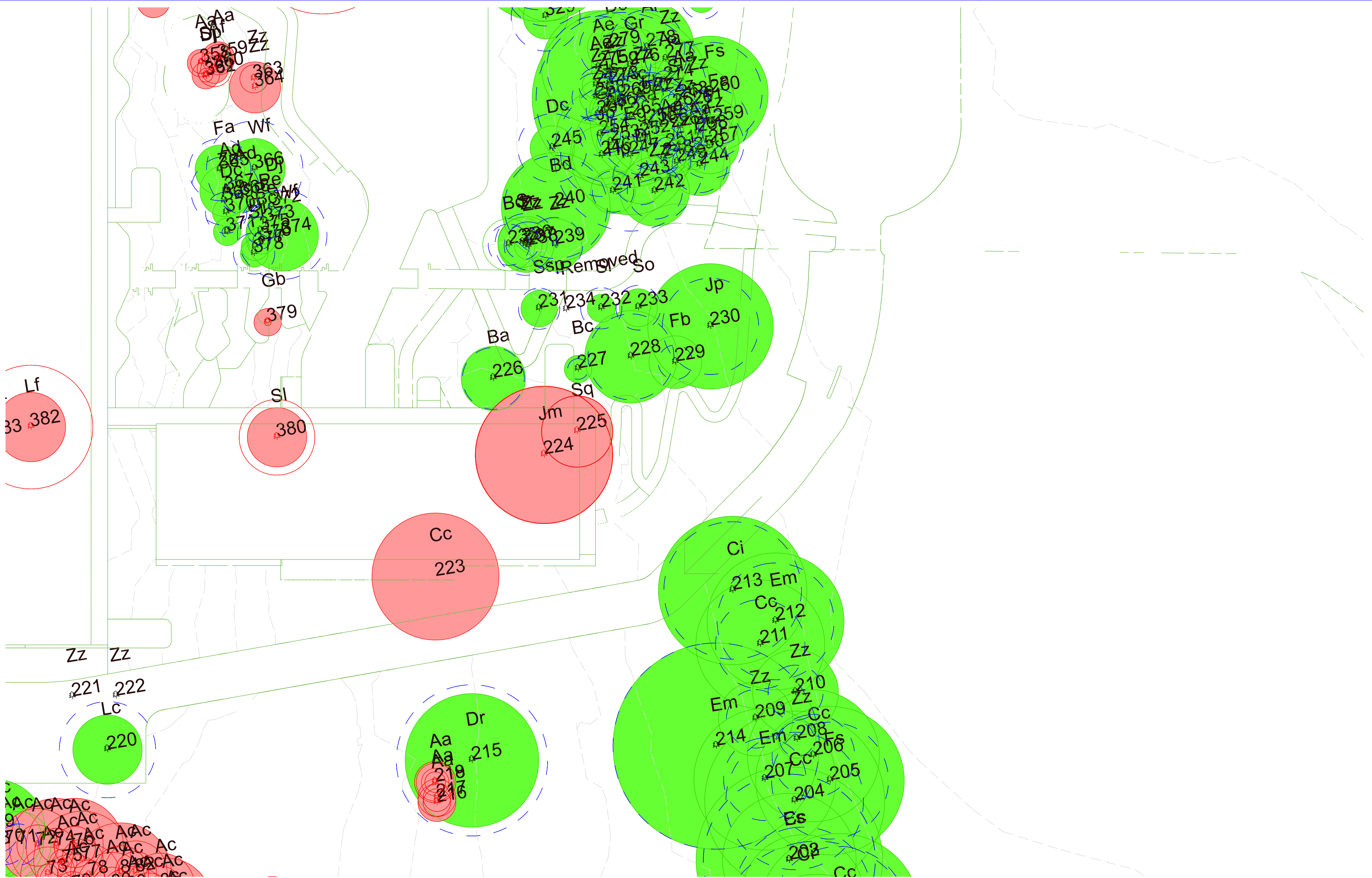
TPZ OF RE-MOVED TREE

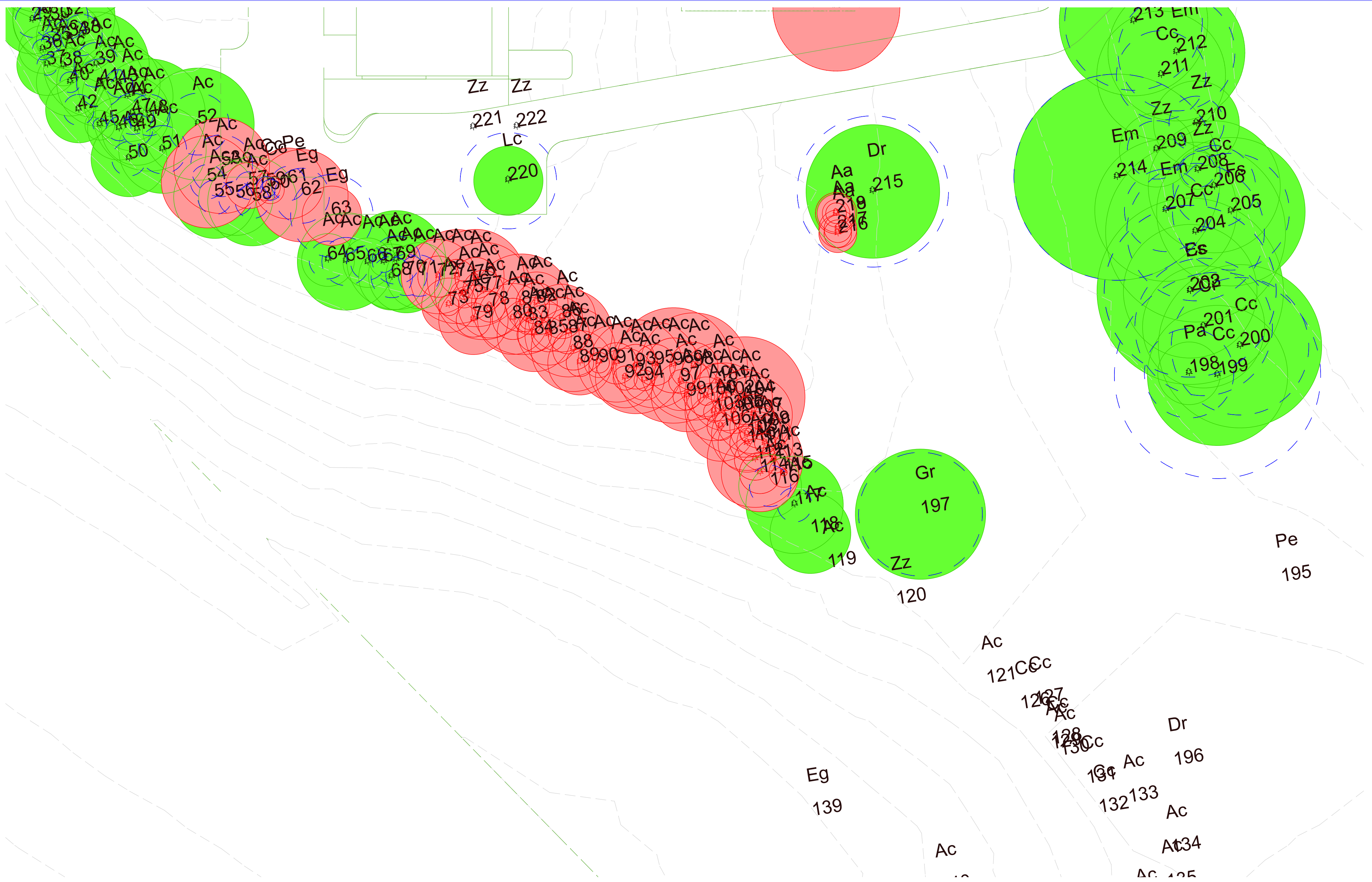


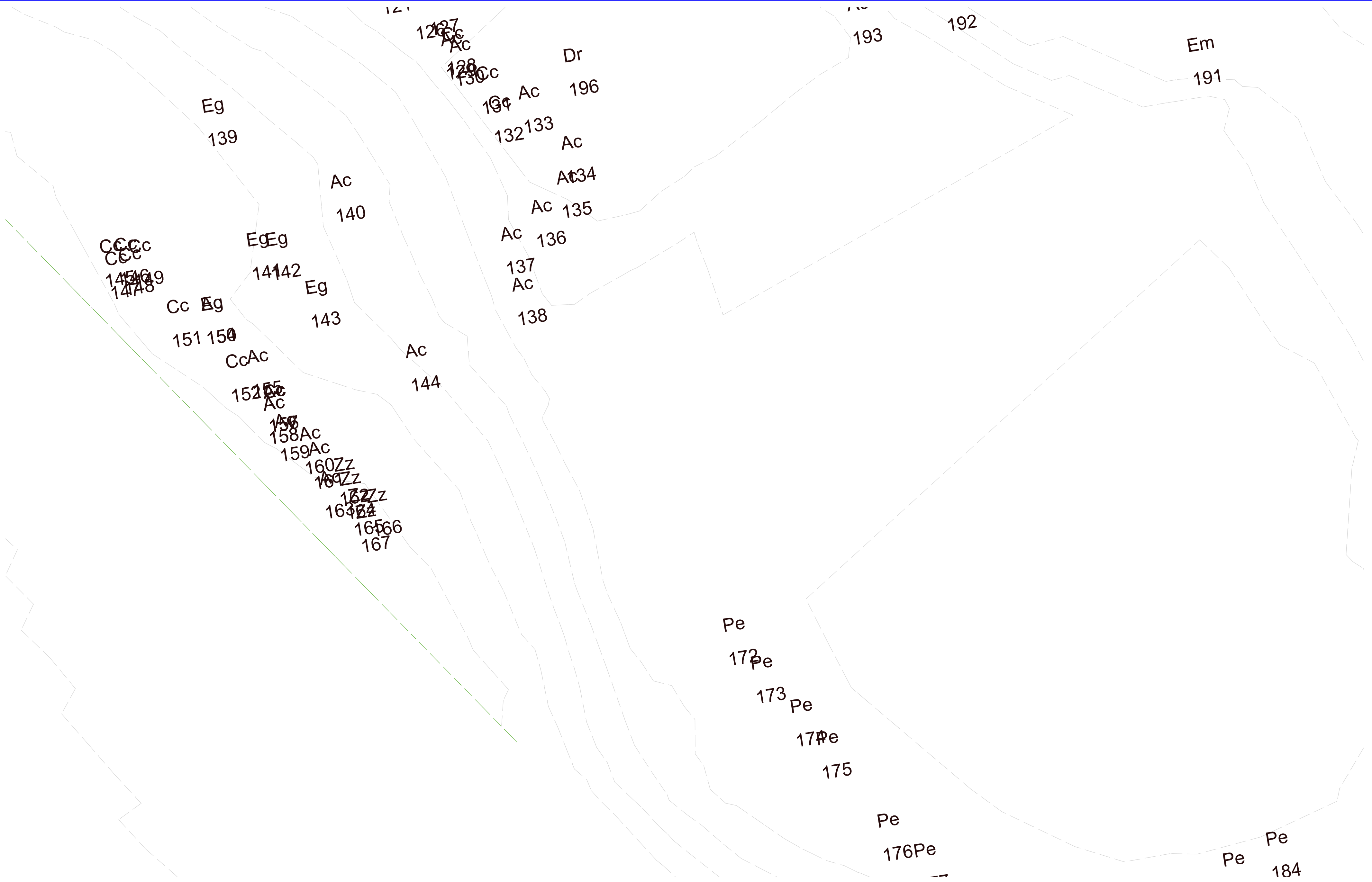


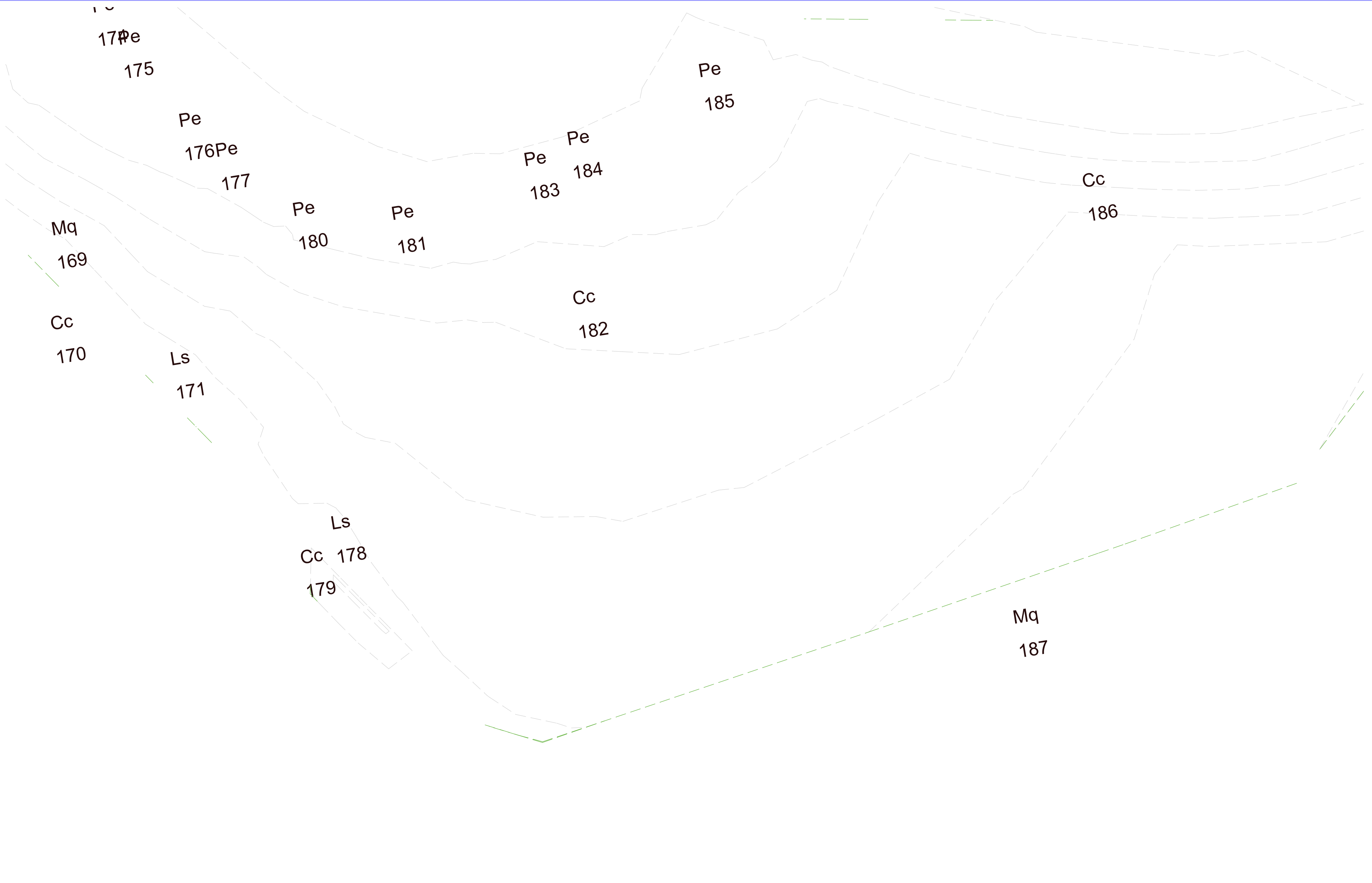












Appendix J. Tree Assessment Data

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
1	<i>Harpullia pendula</i>	Tulipwood	31	45	3.7	43.47	2.4	7	7	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
2	<i>Agathis robusta</i>	Kauri pine	50	53	6.0	113.10	2.5	15.3	5	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
3	<i>Diploglottis campbellii</i>	Small-leaved Tamarind	30	33	3.6	40.72	2.1	7.5	6	Good	Good	Mature	Endangered	ID'd by EMM.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
4	<i>Brachichiton acerfolia</i>	Flame tree	45	54	5.4	91.61	2.6	9.2	8	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
5	<i>Syzygium luehmannii</i>	Small leaf Lilly pilly	42	40	5.0	79.80	2.3	5.5	6	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
6	<i>Podocarpus elatus</i>	Brown pine	29	29	3.4	36.75	2.0	12.2	2	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
7	<i>Syzygium luehmannii</i>	Small leaf Lilly pilly	45	53	5.4	91.61	2.5	8.4	7	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
8	<i>Stenocarpus sinuatus</i>	Firewheel	21	26	2.5	19.95	1.9	8.5	3.5	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
9	<i>Delonix regia</i>	Poinciana	74	70	8.8	244.39	2.8	9	21.5	Good	Fair	Mature		May require canopy prune to allow for high vehicle access.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
10	<i>Cupaniopsis anacardioides</i>	Tuckeroo	23	26	2.7	22.90	1.9	5	5	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
11	<i>Commersonia bartramia</i>	Brown kurrajong	31	47	3.7	43.47	2.4	7	10	Good	Fair	Mature		ID'd by EMM.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
12	<i>Glochidion ferdinandi</i>	Cheese tree	13	23	2.0	12.57	1.8	5	6	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
13	<i>Melicope elleryana</i>	Pink euodia	22	31	2.6	21.90	2.0	7.3	8	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
14	<i>Unknown species</i>	Unknown	12	16	2.0	12.57	1.5	3	6	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
15	<i>Callistemon viminalis</i>	Bottlebrush	13	20	2.0	12.57	1.7	5	2.5	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
16	<i>Mangifera indica</i>	Mango	25	45	3.0	28.27	2.4	6	7	Good	Fair	Mature		Direct impact from carpark	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
17	<i>Leucaena leucocephala</i>	Leucaena	26	36	3.1	29.42	2.2	9	15	Good	Fair	Mature	Weed sp.	Direct impact from carpark	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
18	<i>Macadamia integrifolia</i>	QLD nut tree	24	29	2.9	26.06	2.0	8	6	Good	Fair	Mature	Vulnerable sp.	Direct impact from carpark	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
19	<i>Jacaranda mimosifolia</i>	Jacaranda	200	200	15.0	706.86	4.4	12	15	Good	Poor	Senescent	Bruce Chick Pine Forest.	Major encroachment from car park. Due to topography, tree roots are not expected to be impacted. TPZ may also be exaggerated due to the amount of stems (6).	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
20	<i>Jacaranda mimosifolia</i>	Jacaranda	74	97	8.9	247.73	3.3	14	19	Good	Poor	Mature	Bruce Chick Pine Forest.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
21	<i>Jacaranda mimosifolia</i>	Jacaranda	96	150	11.5	416.92	3.9	14	26	Good	Fair	Mature	Bruce Chick Pine Forest.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
22	<i>Unknown species</i>	Fig	32	35	3.8	46.32	2.1	11.5	7	Good	Fair	Mature	Bruce Chick Pine Forest.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
23	<i>Pinus elliotii</i>	Slash pine	72	95	8.6	234.52	3.2	19	16	Good	Good	Mature	Bruce Chick Pine Forest.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
24	<i>Cinnamomum camphora</i>	Camphor laurel	109	110	13.1	537.48	3.4	16	11	Good	Fair	Mature	Bruce Chick Pine Forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
25	<i>Cinnamomum camphora</i>	Camphor laurel	113	135	13.6	577.66	3.8	16	12	Good	Fair	Mature	Bruce Chick Pine Forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
26	<i>Delonix regia</i>	Poinciana	56	58	6.7	141.87	2.6	9	15	Good	Good	Mature		Est. working space (~1m) for retaining wall proposes minor encroachment. Construction methodology unclear whether fill is proposed within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
27	<i>Araucaria cunninghamii</i>	Hoop pine	86	100	10.3	334.59	3.3	18	14	Good	Fair	Mature		Est. working space (~1m) for retaining wall proposes minor encroachment. Construction methodology unclear whether fill is proposed within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
28	<i>Araucaria cunninghamii</i>	Hoop pine	61	76	7.3	168.33	2.9	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
29	<i>Araucaria cunninghamii</i>	Hoop pine	41	54	4.9	76.05	2.6	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
30	<i>Araucaria cunninghamii</i>	Hoop pine	46	52	5.5	95.73	2.5	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
31	<i>Araucaria cunninghamii</i>	Hoop pine	51	57	6.1	117.67	2.6	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
32	<i>Araucaria cunninghamii</i>	Hoop pine	62	71	7.4	173.90	2.9	24.5	7	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
33	<i>Araucaria cunninghamii</i>	Hoop pine	46	49	5.5	95.73	2.5	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
34	Araucaria cunninghamii	Hoop pine	40	47	4.8	72.38	2.4	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
35	Araucaria cunninghamii	Hoop pine	19	21	2.3	16.33	1.7	24.5	3	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
36	Araucaria cunninghamii	Hoop pine	29	38	3.5	38.05	2.2	24.5	3	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
37	Araucaria cunninghamii	Hoop pine	37	42	4.4	61.93	2.3	24.5	3	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
38	Araucaria cunninghamii	Hoop pine	24	28	2.9	26.06	1.9	24.5	4	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
39	Araucaria cunninghamii	Hoop pine	64	75	7.7	185.30	2.9	24.5	6.5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
40	Araucaria cunninghamii	Hoop pine	41	43	4.9	76.05	2.3	24.5	3	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
41	Araucaria cunninghamii	Hoop pine	53	60	6.4	127.08	2.7	24.5	7	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
42	Araucaria cunninghamii	Hoop pine	40	44	4.8	72.38	2.3	24.5	4.5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
43	Araucaria cunninghamii	Hoop pine	50	54	6.0	113.10	2.6	24.5	4	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
44	Araucaria cunninghamii	Hoop pine	55	60	6.6	136.85	2.7	24.5	7	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
45	Araucaria cunninghamii	Hoop pine	18	21	2.2	14.66	1.7	15	2	Good	Fair	Young	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
46	Araucaria cunninghamii	Hoop pine	38	44	4.6	65.33	2.3	24.5	3.5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
47	Araucaria cunninghamii	Hoop pine	45	52	5.4	91.61	2.5	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
48	Araucaria cunninghamii	Hoop pine	68	72	8.2	209.18	2.9	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
49	Araucaria cunninghamii	Hoop pine	43	49	5.2	83.65	2.5	24.5	4.5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
50	Araucaria cunninghamii	Hoop pine	46	57	5.5	95.73	2.6	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
51	Araucaria cunninghamii	Hoop pine	53	65	6.4	127.08	2.8	24.5	7	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
52	Araucaria cunninghamii	Hoop pine	68	80	8.2	209.18	3.0	24.5	9	Good	Fair	Mature	Bruce Chick Pine Forest	Major encroachment from retaining wall.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
53	Araucaria cunninghamii	Hoop pine	58	70	7.0	152.18	2.8	24.5	9	Good	Fair	Mature	Bruce Chick Pine Forest	Tree conflicts with retaining wall.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
54	Araucaria cunninghamii	Hoop pine	56	66	6.7	141.87	2.8	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest	Major encroachment from retaining wall. Works within SRZ.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
55	Araucaria cunninghamii	Hoop pine	50	55	6.0	113.10	2.6	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest	~10% encroachment from wall.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
56	Araucaria cunninghamii	Hoop pine	45	49	5.4	91.61	2.5	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest	Major encroachment from retaining wall.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
57	Araucaria cunninghamii	Hoop pine	28	31	3.4	35.47	2.0	24.5	4	Good	Fair	Mature	Bruce Chick Pine Forest	Major encroachment from retaining wall. Works within SRZ.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
58	Araucaria cunninghamii	Hoop pine	54	58	6.5	131.92	2.6	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest	Major encroachment from retaining wall.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
59	Cinnamomum camphora	Camphor laurel	10	10	2.0	12.57	1.5	7	3	Good	Fair	Young	Bruce Chick Pine Forest. Weed sp.	Minor encroachment from retaining wall.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
60	Cinnamomum camphora	Camphor laurel	9	9	2.0	12.57	1.5	7	3	Good	Fair	Young	Bruce Chick Pine Forest. Weed sp.	Minor encroachment from retaining wall.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
61	Pinus elliotii	Slash pine	43	51	5.2	83.65	2.5	13	5	Good	Fair	Mature	Bruce Chick Pine Forest	Tree conflicts with retaining wall.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
62	Eucalyptus grandis	Flooded gum	56	74	6.7	141.87	2.9	15	8	Good	Fair	Mature	Bruce Chick Pine Forest	Works within SRZ.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
63	Eucalyptus grandis	flooded gum	36	48	4.3	58.63	2.4	12	12	Good	Fair	Mature	Bruce Chick Pine Forest	Tree conflicts with retaining wall.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
64	Araucaria cunninghamii	Hoop pine	32	35	3.8	46.32	2.1	16	5.5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
65	Araucaria cunninghamii	Hoop pine	59	70	7.1	157.48	2.8	24.5	7	Good	Fair	Mature	Bruce Chick Pine Forest	Minor encroachment from retaining wall.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
66	Araucaria cunninghamii	Hoop pine	30	34	3.6	40.72	2.1	18	5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
67	Araucaria cunninghamii	Hoop pine	17	21	2.0	13.07	1.7	10	3	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
68	Araucaria cunninghamii	Hoop pine	40	45	4.8	72.38	2.4	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
69	Araucaria cunninghamii	Hoop pine	60	62	7.2	162.86	2.7	24.5	7	Good	Fair	Mature	Bruce Chick Pine Forest	Minor encroachment from retaining wall.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
70	Araucaria cunninghamii	Hoop pine	46	52	5.5	95.73	2.5	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
71	Araucaria cunninghamii	Hoop pine	40	45	4.8	72.38	2.4	22	6	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
72	Araucaria cunninghamii	Hoop pine	45	49	5.4	91.61	2.5	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
73	Araucaria cunninghamii	Hoop pine	33	36	4.0	49.27	2.2	24	3	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
74	Araucaria cunninghamii	Hoop pine	57	65	6.8	146.98	2.8	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
75	Araucaria cunninghamii	Hoop pine	13	16	2.0	12.57	1.5	10	1.5	Good	Fair	Young	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
76	Araucaria cunninghamii	Hoop pine	59	68	7.1	157.48	2.8	24.5	6	Good	Good	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
77	Araucaria cunninghamii	Hoop pine	59	70	7.1	157.48	2.8	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
78	Araucaria cunninghamii	Hoop pine	38	47	4.6	65.33	2.4	24.5	4.5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
79	Araucaria cunninghamii	Hoop pine	42	46	5.0	79.80	2.4	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
80	Araucaria cunninghamii	Hoop pine	43	46	5.2	83.65	2.4	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
81	Araucaria cunninghamii	Hoop pine	61	72	7.3	168.33	2.9	24.5	8	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
82	Araucaria cunninghamii	Hoop pine	38	46	4.6	65.33	2.4	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
83	Araucaria cunninghamii	Hoop pine	16	17	2.0	12.57	1.6	13	2.5	Good	Fair	Young	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
84	Araucaria cunninghamii	Hoop pine	45	53	5.4	91.61	2.5	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
85	Araucaria cunninghamii	Hoop pine	37	46	4.4	61.93	2.4	34.5	5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
86	Araucaria cunninghamii	Hoop pine	41	52	4.9	76.05	2.5	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
87	Araucaria cunninghamii	Hoop pine	53	67	6.4	127.08	2.8	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
88	Araucaria cunninghamii	Hoop pin	51	57	6.1	117.67	2.6	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
89	Araucaria cunninghamii	Hoop pine	39	43	4.7	68.81	2.3	24.5	4	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
90	Araucaria cunninghamii	Hoop pine	18	21	2.2	14.66	1.7	14	3	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
91	Araucaria cunninghamii	Hoop pine	47	53	5.6	99.93	2.5	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
92	Araucaria cunninghamii	Hoop pine	36	43	4.3	58.63	2.3	24.5	3.5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
93	Araucaria cunninghamii	Hoop pine	57	64	6.8	146.98	2.7	24.5	6.5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
94	Araucaria cunninghamii	Hoop pine	24	27	2.9	26.06	1.9	18	3	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
95	Araucaria cunninghamii	Hoop pine	52	58	6.2	122.33	2.6	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
96	Araucaria cunninghamii	Hoop pine	70	83	8.4	221.67	3.1	24.5	8	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
97	Araucaria cunninghamii	Hoop pine	35	39	4.2	55.42	2.2	21	3.5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
98	Araucaria cunninghamii	Hoop pine	65	78	7.8	191.13	3.0	24.5	7	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
99	Araucaria cunninghamii	Hoop pine	43	46	5.2	83.65	2.4	22	4	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
100	Araucaria cunninghamii	Hoop pine	24	26	2.9	26.06	1.9	17	2.5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
101	Araucaria cunninghamii	Hoop pine	47	53	5.6	99.93	2.5	24.5	5.5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
102	Araucaria cunninghamii	Hoop pine	41	45	4.9	76.05	2.4	22.5	4	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
103	Araucaria cunninghamii	Hoop pine	35	37	4.2	55.42	2.2	24.5	3	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
104	Araucaria cunninghamii	Hoop pine	73	86	8.8	241.08	3.1	24.5	8	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
105	Araucaria cunninghamii	Hoop pine	26	30	3.1	30.58	2.0	21	2.5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
106	Araucaria cunninghamii	Hoop pine	42	51	5.0	79.80	2.5	24.5	4	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
107	Araucaria cunninghamii	Hoop pine	47	52	5.6	99.93	2.5	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
108	<i>Araucaria cunninghamii</i>	Hoop pine	43	47	5.2	83.65	2.4	22	2	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
109	<i>Araucaria cunninghamii</i>	Hoop pine	36	39	4.3	58.63	2.2	19	6	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
110	<i>Araucaria cunninghamii</i>	Hoop pine	35	39	4.2	55.42	2.2	23	5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
111	<i>Araucaria cunninghamii</i>	Hoop pine	34	37	4.1	52.30	2.2	18	3	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
112	<i>Araucaria cunninghamii</i>	Hoop pine	58	63	7.0	152.18	2.7	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
113	<i>Araucaria cunninghamii</i>	Hoop pine	14	15	2.0	12.57	1.5	8	0.5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
114	<i>Araucaria cunninghamii</i>	Hoop pine	47	59	5.6	99.93	2.7	24.5	6	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
115	<i>Araucaria cunninghamii</i>	Hoop pine	18	20	2.2	14.66	1.7	12	1	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
116	<i>Araucaria cunninghamii</i>	Hoop pine	38	45	4.6	65.33	2.4	22	6	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
117	<i>Araucaria cunninghamii</i>	Hoop pine	59	70	7.1	157.48	2.8	23	5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
118	<i>Araucaria cunninghamii</i>	Hoop pine	49	55	5.9	108.62	2.6	23	5.5	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
119	<i>Araucaria cunninghamii</i>	Hoop pine	67	77	8.0	203.08	3.0	24.5	8	Good	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
120	<i>Uknown species</i>	Cedar	41	50	4.9	76.05	2.5	13	8	Dormant	Fair	Mature	Bruce Chick Pine Forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
121	<i>Araucaria cunninghamii</i>	Hoop pine	53	57	6.4	127.08	2.6	24.5	1.5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
122	<i>Araucaria cunninghamii</i>	Hoop pine	54	62	6.5	131.92	2.7	24.5	5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
123	<i>Araucaria cunninghamii</i>	Hoop pine	70	89	8.4	221.67	3.2	25	8	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
124	<i>Araucaria cunninghamii</i>	Hoop pine	63	74	7.6	179.55	2.9	23	8	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
125	<i>Araucaria cunninghamii</i>	Hoop pine	21	23	2.5	19.95	1.8	11	3	Good	Fair	Young	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
126	<i>Cinnamomum camphora</i>	Camphor laurel	43	49	5.2	83.65	2.5	11	9	Good	Good	Mature	Bruce Chick Pine Forest. Weed sp.	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
127	<i>Cinnamomum camphora</i>	Camphor laurel	74	92	8.9	247.73	3.2	15	14	Good	Fair	Mature	Bruce Chick Pine Forest. Weed sp.	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
128	<i>Cinnamomum camphora</i>	Camphor laurel	18	27	2.2	14.66	1.9	7	8	Good	Fair	Young	Bruce Chick Pine Forest. Weed sp.	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
129	<i>Araucaria cunninghamii</i>	Hoop pine	35	37	4.2	55.42	2.2	14	4	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
130	<i>Araucaria cunninghamii</i>	Hoop pine	19	21	2.3	16.33	1.7	11	2	Good	Fair	Mature	Bruce Chick Pine Forest. Fauna trees.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
131	<i>Cinnamomum camphora</i>	Camphor laurel	49	56	5.9	108.62	2.6	12	9	Good	Fair	Mature	Bruce Chick Pine Forest. Weed sp. Fauna trees.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
132	<i>Cinnamomum camphora</i>	Camphor laurel	52	68	6.2	122.33	2.8	12	8	Good	Fair	Mature	Bruce Chick Pine Forest. Weed sp. Fauna trees.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
133	<i>Araucaria cunninghamii</i>	Hoop pine	34	47	4.1	52.30	2.4	11	6	Good	Fair	Mature	Bruce Chick Pine Forest. Fauna trees.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
134	<i>Araucaria cunninghamii</i>	Hoop pine	27	31	3.2	32.98	2.0	11	5	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
135	<i>Araucaria cunninghamii</i>	Hoop pine	75	83	9.0	254.47	3.1	18	16	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
136	<i>Araucaria cunninghamii</i>	Hoop pine	80	92	9.6	289.53	3.2	22	16	Good	Good	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
137	<i>Araucaria cunninghamii</i>	Hoop pine	61	69	7.3	168.33	2.8	25	7	Good	Fair	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
138	<i>Araucaria cunninghamii</i>	Hoop pine	80	91	9.6	289.53	3.2	25	11	Good	Good	Mature	Bruce Chick Pine Forest	Remove for bushfire management.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
139	<i>Eucalyptus grandis</i>	Flooded gum	52	108	6.2	122.33	3.4	25	20	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
140	<i>Araucaria cunninghamii</i>	Hoop pine	90	96	10.8	366.44	3.3	27	6	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
141	<i>Eucalyptus grandis</i>	Flooded gum	52	66	6.2	122.33	2.8	30	15	Good	Poor	Mature	Remnant forest	Compounding defects have significantly reduced SULE.	Remove tree irrespective of future development.
142	<i>Eucalyptus grandis</i>	Flooded gum	46	55	5.5	95.73	2.6	30	8	Poor	Poor	Mature	Remnant forest	Compounding defects have significantly reduced SULE.	Remove tree irrespective of future development.
143	<i>Eucalyptus grandis</i>	Flooded gum	55	67	6.6	136.85	2.8		13	Good	Poor	Mature	Remnant forest	Compounding defects have significantly reduced SULE.	Remove tree irrespective of future development.
144	<i>Araucaria cunninghamii</i>	Hoop pine	42	50	5.0	79.80	2.5	14	7	Good	Poor	Mature	Remnant forest	Compounding defects have significantly reduced SULE.	Remove tree irrespective of future development.
145	<i>Cinnamomum camphora</i>	Camphor laurel	88	11	10.6	350.33	1.5	20	9	Good	Fair	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
146	Cinnamomum camphora	Camphor laurel	92	105	11.0	382.90	3.4	20	11	Good	Fair	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
147	Cinnamomum camphora	Camphor laurel	53	70	6.4	127.08	2.8	20	9.5	Good	Fair	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
148	Cinnamomum camphora	Camphor laurel	42	57	5.0	79.80	2.6	20	6	Good	Fair	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
149	Cinnamomum camphora	Camphor laurel	57	68	6.8	146.98	2.8	20	9	Good	Fair	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
150	Araucaria cunninghamii	Hoop pine	12	18	2.0	12.57	1.6	6	3	Good	Good	Young	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
151	Cinnamomum camphora	Camphor laurel	87	105	10.4	342.41	3.4	16	15	Good	Fair	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
152	Cinnamomum camphora	Camphor laurel	22	26	2.6	21.90	1.9	11	3	Good	Fair	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
153	Araucaria cunninghamii	Hoop pine	13	17	2.0	12.57	1.6	9	3	Good	Fair	Young	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
154	Eucalyptus grandis	Flooded gum	29	36	3.5	38.05	2.2	20	3	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
155	Araucaria cunninghamii	Hoop pine	82	90	9.8	304.19	3.2	30	13	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
156	Araucaria cunninghamii	Hoop pine	72	87	8.6	234.52	3.1	30	7	Poor	Poor	Senescent	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
157	Cinnamomum camphora	Camphor laurel	25	34	3.0	28.27	2.1	12	5	Good	Fair	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
158	Araucaria cunninghamii	Hoop pine	66	72	7.9	197.06	2.9	30	10	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
159	Araucaria cunninghamii	Hoop pine	73	81	8.8	241.08	3.0	30	13	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
160	Araucaria cunninghamii	Hoop pine	65	73	7.8	191.13	2.9	30	13	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
161	Araucaria cunninghamii	Hoop pine	78	87	9.4	275.23	3.1	30	13	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
162	Dead Tree	Dead Tree	37	45	4.4	61.93	2.4	17	3	Dead	Dead	Dead	Remnant forest		Remove tree irrespective of future development.
163	Araucaria cunninghamii	Hoop pine	86	87	10.3	334.59	3.1	30	13	Normal	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
164	Dead Tree	Dead Tree	42	0	5.0	79.80		17	10	Dead	Fair	Mature	Remnant forest		Remove tree irrespective of future development.
165	Dead Tree	Dead Tree	44	0	5.3	87.58		17	3	Dead	Fair	Mature	Remnant forest		Remove tree irrespective of future development.
166	Dead Tree	Dead Tree	39	0	4.7	68.81		15	10	Dead	Fair	Mature	Remnant forest		Remove tree irrespective of future development.
167	Dead Tree	Dead Tree	38	0	4.6	65.33		15	5	Dead	Fair	Mature	Remnant forest		Remove tree irrespective of future development.
168	Cinnamomum camphora	Camphor laurel	71	100	8.5	228.05	3.3	14	13	Good	Good	Mature	Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
169	Melaleuca quinquenervia	Broad leaved paperbark	85	102	10.2	326.85	3.3	15	9	Good	Poor	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
170	Cinnamomum camphora	Camphor laurel	105	110	12.6	498.76	3.4	14	12	Good	Good	Mature	Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
171	Lophostemon suaveolens	Swamp box	67	95	8.0	203.08	3.2	13	11	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
172	Pinus elliotii	Slash pine	57	71	6.8	146.98	2.9	14	11	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
173	Pinus elliotii	Slash pine	70	92	8.4	221.67	3.2	15	15	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
174	Pinus elliotii	Slash pine	51	66	6.1	117.67	2.8	15	13	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
175	Pinus elliotii	Slash pine	56	74	6.7	141.87	2.9	15	14	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
176	Pinus elliotii	Slash pine	73	93	8.8	241.08	3.2	15	13	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
177	Pinus elliotii	Slash pine	72	99	8.6	234.52	3.3	15	14	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
178	Lophostemon suaveolens	Swamp box	115	141	13.8	598.28	3.8	17.5	16	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
179	Cinnamomum camphora	Camphor laurel	90	105	10.8	366.44	3.4	10	12	Good	Fair	Mature	Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
180	Pinus elliotii	Slash pine	80	90	9.6	289.53	3.2	23	13	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
181	Pinus elliotii	Slash pine	114	146	13.7	587.93	3.9	26	22	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
182	Cinnamomum camphora	Camphor laurel	102	119	12.2	470.67	3.6	17	17	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
183	Pinus elliotii	Slash pine	96	120	11.5	416.92	3.6	22	22	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
184	<i>Pinus elliotii</i>	Slash pine	46	70	5.5	95.73	2.8	19	9	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
185	<i>Pinus elliotii</i>	Slash pine	67	92	8.0	203.08	3.2	19	13	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
186	<i>Cinnamomum camphora</i>	Camphor laurel	42	50	5.0	79.80	2.5	14.5	9	Good	Fair	Mature	Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
187	<i>Melaleuca quinquenervia</i>	Broad leaved paperbark	70	107	8.4	221.67	3.4	14	12	Good	Poor	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
188	<i>Eucalyptus grandis</i>	Flooded gum	92	104	11.0	382.90	3.4	51.4	25	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
189	<i>Corymbia citridora</i>	Lemon scented gum	45	58	5.4	91.61	2.6	21	13	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
190	<i>Eucalyptus grandis</i>	Flooded gum	74	103	8.9	247.73	3.4	36	30	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
191	<i>Eucalyptus microcorys</i>	Tallowood	116	130	13.9	608.74	3.7	38	17	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
192	<i>Previously removed</i>	Previously removed													Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
193	<i>Araucaria cunninghamii</i>	Hoop pine	82	95	9.8	304.19	3.2	30	14	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
194	<i>Eucalyptus grandis</i>	Flooded gum	94	118	11.3	399.73	3.5	38	30	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
195	<i>Pinus elliotii</i>	Slash pine	68	86	8.2	209.18	3.1	18	16	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
196	<i>Delonix regia</i>	Poinciana	38	45	4.6	65.33	2.4	12.5	12	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
197	<i>Grevillea robusta</i>	Silky oak	79	98	9.5	282.34	3.3	44	18	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
198	<i>Persea americana</i>	Avocado	38	63	4.6	65.33	2.7	13	13	Fair	Poor	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
199	<i>Cinnamomum camphora</i>	Camphor laurel	85	145	10.2	326.85	3.9	23	30	Good	Good	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
200	<i>Cinnamomum camphora</i>	Camphor laurel	99	142	11.9	443.39	3.8	27	20	Good	Fair	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
201	<i>Corymbia intermedia</i>	Pink bloodwood	74	101	8.9	247.73	3.3	27	20	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
202	<i>Eucalyptus sp</i>	Stringybark	113	135	13.6	577.66	3.8	35	25	Good	Good	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
203	<i>Cinnamomum camphora</i>	Camphor laurel	81	114	9.7	296.81	3.5	25	25	Good	Fair	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
204	<i>Cinnamomum camphora</i>	Camphor laurel	109	160	13.1	537.48	4.0	25	20	Good	Fair	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
205	<i>Ficus species</i>	Fig	90	113	10.8	366.44	3.5	19	17	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
206	<i>Cinnamomum camphora</i>	Camphor laurel	80	104	9.6	289.53	3.4	19	12	Good	Fair	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
207	<i>Eucalyptus microcorys</i>	Tallowood	86	150	10.3	334.59	3.9	33	12	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
208	<i>Toechima dasyrrhache</i>	Blunt-leaved steelwood	23	33	2.8	23.93	2.1	6	5	Good	Fair	Mature	Remnant forest	ID'd by EMM.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
209	<i>Unknown species</i>	Unknown	45	59	5.4	91.61	2.7	12	8.5	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
210	<i>Toechima dasyrrhache</i>	Blunt-leaved steelwood	52	68	6.2	122.33	2.8	8	8	Poor	Fair	Over mature	Remnant forest	ID'd by EMM.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
211	<i>Cinnamomum camphora</i>	Camphor laurel	78	104	9.4	275.23	3.4	15	13	Good	Fair	Mature	Remnant forest. Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
212	<i>Eucalyptus microcorys</i>	Tallowood	83	120	10.0	311.65	3.6	23	17	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
213	<i>Corymbia intermedia</i>	Pink bloodwood	90	123	10.8	366.44	3.6	34	20	Good	Good	Mature	Remnant forest	Major encroachment from internal roadway.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
214	<i>Eucalyptus microcorys</i>	Tallowood	129	180	15.0	706.86	4.2	35	30	Good	Fair	Mature	Remnant forest		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
215	<i>Delonix regia</i>	Poinciana	81	81	9.7	296.81	3.0	12.5	22	Good	Fair	Mature		Within close proximity to demolition (Major encroachment)	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
216	<i>Archontophoenix alexandrae</i>	Alexander palm	23	44	2.8	23.93	2.3	15	4	Good	Good	Mature		Remove for demolition access.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
217	<i>Archontophoenix alexandrae</i>	Alexander palm	23	44	2.8	23.93	2.3	9	4	Good	Fair	Mature		Remove for demolition access.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
218	<i>Archontophoenix alexandrae</i>	Alexander palm	10	15	2.0	12.57	1.5	7	3	Good	Fair	Mature		Remove for demolition access.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
219	<i>Archontophoenix alexandrae</i>	Alexander palm	23	44	2.8	23.93	2.3	12.5	6	Good	Poor	Mature		Remove for demolition access.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
220	<i>Litchi chinensis</i>	Lychee tree	42	56	5.0	79.80	2.6	10.5	14	Good	Fair	Mature		Remove for demolition access.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
221	Previously removed	Previously removed													
222	Previously removed	Previously removed													
223	Corymbia citriodora	Lemon scented gum	77	102	9.2	268.22	3.3	33	24	Good	Good	Mature	Tree with no mount and no plaque. Further assessment may be required.	Remnant specimen. Major encroachment from building 3A/ footpath.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
224	Jacaranda mimosifolia	Jacaranda	83	92	10.0	311.65	3.2	17	20	Good	Fair	Mature		Direct impact from Building 3A	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
225	Sterculia quadrifolia	Peanut tree	43	44	5.2	83.65	2.3	20	15	Good	Good	Mature	Captain tree	Direct impact from Building 3A	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
226	Brachichiton acerifolia	Flame tree	39	52	4.7	68.81	2.5	13	9	Good	Good	Mature	Tree with no mount and no plaque. Further assessment may be required.	Minor encroachment from Building 3A/ footpath.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
227	Backhousia citriodora	Lemon scented myrtle	10	11	2.0	12.57	1.5	6	3	Good	Fair	Mature	Tree with no mount and no plaque. Further assessment may be required.	Site access is expected to encroach within TPZ's.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
228	Flindersia australe	Crows ash	56	65	6.7	141.87	2.8	18	12.5	Good	Fair	Mature	Tree with no mount and no plaque. Further assessment may be required.	Site access is expected to encroach within TPZ's.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
229	Flindersia bennettii	Bennetts ash	32	39	3.8	46.32	2.2	18.5	5	Good	Good	Mature	Tree with no mount and no plaque. Further assessment may be required.	Site access is expected to encroach within TPZ's.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
230	Jagera pseudorhus?	Foam bark tree	76	100	9.1	261.30	3.3	16.5	14	Good	Fair	Mature	Tree with no mount and no plaque. Further assessment may be required.	Site access is expected to encroach within TPZ's.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
231	Syzygium species	Lilly pilly	22	23	2.6	21.90	1.8	6	6	Good	Fair	Mature	Tree with no mount and no plaque. Further assessment may be required.	Site access is expected to encroach within TPZ's.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
232	Syzygium luehmannii	Small leaved Lilly pilly	17	21	2.0	13.07	1.7	7	6	Good	Good	Mature	Tree with no mount and no plaque. Further assessment may be required.	Site access is expected to encroach within TPZ's.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
233	Syzygium luehmannii	Small leaved Lilly pilly	23	25	2.8	23.93	1.8	11.5	6.5	Good	Good	Mature	Tree with no mount and no plaque. Further assessment may be required.	Site access is expected to encroach within TPZ's.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
234	Acmena ingens	Red apple												Previously Removed. Plaque remains.	
235	Brachychiton discolor	QLD lacebark	32	35	3.8	46.32	2.1	12	6	Good	Fair	Mature	Tree with no mount and no plaque. Further assessment may be required.	Site access is expected to encroach within TPZ's. Minor encroachment from footpath.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
236	Syagrus romanzoffiana	Cocos palm	30	37	3.6	40.72	2.2	15	5	Good	Good	Mature	Tree with no mount and no plaque. Further assessment may be required. Weed sp.	Site access is expected to encroach within TPZ's.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
237	Unknown species	Unknown	34	40	4.1	52.30	2.3	14.5	9	Good	Fair	Young	Tree with no mount and no plaque. Further assessment may be required.	Site access is expected to encroach within TPZ's. Minor encroachment from footpath.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
238	Unknown species	Shrub	10	10	2.0	12.57	1.5	3	7	Good	Fair	Mature	Tree with no mount and no plaque. Further assessment may be required. Weed sp.	Site access is expected to encroach within TPZ's.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
239	Unknown species	Unknown	32	42	3.8	46.32	2.3	11	8	Good	Fair	Mature	Tree with no mount and no plaque. Further assessment may be required.	Site access is expected to encroach within TPZ's. Minor encroachment from footpath.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
240	Brachichiton discolor	QLD Lacebark	66	71	7.9	197.06	2.9	15.5	15	Good	Fair	Mature	Captain's tree.	Site access is expected to encroach within TPZ's.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
241	Harpullia pendula	Tulipwood	27	35	3.2	32.98	2.1	14	6	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
242	Unknown species	Unknown	42	35	5.0	79.80	2.1	16	8	Good	Fair	Mature	Harmony Day trees (Planted 2004)	Major encroachment to proposed footpath.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
243	Davidsonia johnsonii	Davidson plum	32	42	3.8	46.32	2.3	18	8	Good	Good	Mature	Indigenous tree and endangered species. Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
244	Podocarpus elatus	Brown pine	37	52	4.4	61.93	2.5	17.5	8	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
245	Dipoglottis campbellii	Small leaved tamrind	27	33	3.2	32.98	2.1	23	10	Good	Good	Mature	Memorial tree. Endangered		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
246	Jagera pseudorhus?	Foam bark tree	36	41	4.3	58.63	2.3	14.5	12	Good	Good	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
247	Eleocarpus grandis	Blue quandong	72	85	8.6	234.52	3.1	28	22	Good	Good	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
248	Toona ciliata	Red cedar	27	30	3.2	32.98	2.0	15	5	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
249	Unknown species	Unknown	18	22	2.2	14.66	1.8	11	4	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
250	Archontophoenix alexandrae	Alexander palm	22	29	2.6	21.90	2.0	12	3	Good	Good	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
251	Archontophoenix alexandrae	Alex palm	24	33	2.9	26.06	2.1	13	3	Good	Good	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
252	Archontophoenix alexandrae	Alexander palm	15	21	2.0	12.57	1.7	9	2	Good	Good	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
253	Archontophoenix alexandrae	Alexander palm	17	24	2.0	13.07	1.8	11	3	Good	Good	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
254	Grevillea robusta	Silky oak	53	72	6.4	127.08	2.9	31	6	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
255	Ficus benjamina	Weeping fig	69	84	8.3	215.38	3.1	18	15	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
256	Unknown species	Unknown	63	72	7.6	179.55	2.9	15	13	Good	Fair		Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
257	Unknown species	Unknown	36	44	4.3	58.63	2.3	17	10	Good		Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
258	Podocarpus elatus	Brown pine	24	33	2.9	26.06	2.1	8	7	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
259	Flindersia australis	Crows ash	30	38	3.6	40.72	2.2	17	10	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
260	Fraxinus sp	Ash	70	82	8.4	221.67	3.0	20	15	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
261	Unknown species	Cedar	51	62	6.1	117.67	2.7	22	5	Good	Fair		Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
262	Syzygium luehmannii	Small leaved Lilly pilli	16	21	2.0	12.57	1.7	7	4	Good	Good	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
263	Archontophoenix alexandrae	Alex palm	21	28	2.5	19.95	1.9	15	3	Good	Good	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
264	Unknown species	Unknown	18	28	2.2	14.66	1.9	10	7	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
265	Araucaria cunninghamii	Hoop pine	31	40	3.7	43.47	2.3	23	6	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
266	Jagera pseudorhus?	Foam bark	21	27	2.5	19.95	1.9	15	6	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
267	Previously removed	Previously removed	0	0	2.0	12.57							Harmony Day trees (Planted 2004)		
268	Unknown species	Unknown	20	23	2.4	18.10	1.8	15	7	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
269	Eleocarpus grandis	Blue quandong	109	115	13.1	537.48	3.5	35	25	Good	Good	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
270	Unknown species	Unknown	28	33	3.4	35.47	2.1	15	7	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
271	Toona ciliata	Red cedar	34	42	4.1	52.30	2.3	18	7	Good	Good	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
272	Alphitonia excelsa	Soap bark	16	18	2.0	12.57	1.6	9	5	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
273	Unknown species	Unknown	17	19	2.0	13.07	1.6	9	3	Good	Good	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
274	Archontophoenix alexandrae	Alex palm	24	29	2.9	26.06	2.0	15	3	Good	Good	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
275	Jagera pseudorhus?	Foam bark	69	72	8.3	215.38	2.9	18	15	Good	Good	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
276	Grevillea robusta	Silky oak	47	61	5.6	99.93	2.7	25	6	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
277	Unknown species	Unknown	30	35	3.6	40.72	2.1	12	6	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
278	Agathis robusta	QLD Kauri pine	57	65	6.8	146.98	2.8	24	11	Good	Fair	Mature	Harmony Day trees (Planted 2004)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
279	<i>Dipoglottis campbellii</i>	Small leaved tamarind	28	32	3.4	35.47	2.1	11	9	Good	Fair	Mature	Harmony Day trees (Planted 2004). Endangered		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
280	<i>Unknown species</i>	Unknown	17	26	2.0	13.07	1.9	10	6	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
281	<i>Ligustrum lucidum</i>	Privet	20	28	2.4	18.10	1.9	10	6	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant). NSW DPI declared weed		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
282	<i>Ligustrum lucidum</i>	Privet	31	36	3.7	43.47	2.2	11	6	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant). NSW DPI declared weed		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
283	<i>Melicope elleryana</i>	Pink eudia	50	71	6.0	113.10	2.9	23	7	Good	Poor	Over mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
284	<i>Syzygium moorei</i>	Coolamon	46	52	5.5	95.73	2.5	19	9	Good	Good	Mature	Remnant forest. Bruce Chick Rainforest (significant). Vulnerable sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
285	<i>Toona ciliata</i>	Red cedar	35	37	4.2	55.42	2.2	17	5	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
286	<i>Toona ciliata</i>	Red cedar	46	68	5.5	95.73	2.8	21	7	Good	Good	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
287	<i>Podocarpus elatus</i>	Brown pine	18	22	2.2	14.66	1.8	10	5	Good	Good	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
288	<i>Syzygium luehmannii</i>	Small leaved Lilly pilly	40	50	4.8	72.38	2.5	7	5	Poor	Poor	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
289	<i>Unknown species</i>	Unknown	18	21	2.2	14.66	1.7	4	1	Poor	Poor	Over mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
290	<i>Unknown species</i>	Cedar	43	55	5.2	83.65	2.6	17	10	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
291	<i>Alphitonia excelsa</i>	Soap box	47	52	5.6	99.93	2.5	16	10	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
292	<i>Owenia cepiodora</i>	Onion cedar	16	21	2.0	12.57	1.7	16	5	Good	Good	Mature	Remnant forest. Bruce Chick Rainforest (significant). Vulnerable.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
293	<i>Dead Tree</i>	Dead tree	23	34	2.8	23.93	2.1	8	3	Poor	Dead	Dead	Remnant forest. Bruce Chick Rainforest (significant)		Remove tree irrespective of future development.
294	<i>Owenia cepiodora</i>	Onion cedar	15	18	2.0	12.57	1.6	10	5	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant). Vulnerable.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
295	<i>Eleocarpus grandis?</i>	Blue quandong	44	71	5.3	87.58	2.9	23	8	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
296	<i>Araucaria cunninghamii</i>	Hoop pine	70	96	8.4	221.67	3.3	29	18	Good	Good	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
297	<i>Cryptocarya triplinervis</i> var. <i>triplinervis</i>	Three-veined laurel	34	50	4.1	52.30	2.5	18	9	Good	Fair	Mature	ID'd by EMM. Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
298	<i>Dipoglottis campbellii</i>	Small leaved tamrind	49	65	5.9	108.62	2.8	11	8	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant). Endangered		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
299	<i>Unknown species</i>	Unknown	15	20	2.0	12.57	1.7	6	8	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
300	<i>Viburnum tinus</i>	Viburnum	25	30	3.0	28.27	2.0	5	4	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
301	<i>Owenia cepiodora</i>	Onion cedar	26	31	3.1	30.58	2.0	11	4	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant). Vulnerable.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
302	<i>Archontophoenix alexandrae</i>	Alexander palm	26	32	3.1	30.58	2.1	15	3	Good	Good	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
303	Unknown species	Unknown	24	31	2.9	26.06	2.0	12	5	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
304	Unknown species	Unknown	25	27	3.0	28.27	1.9	11	3	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
305	Unknown species	Unknown	50	52	6.0	113.10	2.5	14.5	12	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
306	Brachichiton acerifolia	QLD Lacebark	28	35	3.4	35.47	2.1	14	4	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
307	Cupaniopsis anacardioides	Tuckeroo	49	64	5.9	108.62	2.7	23	13	Good	Good	Mature	Remnant forest. Bruce Chick Rainforest (significant)	ID'd by EMM.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
308	Unknown species	Unknown	24	30	2.9	26.06	2.0	11	4	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
309	Cupaniopsis anacardioides	Tuckeroo	38	47	4.6	65.33	2.4	21	10	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)	ID'd by EMM.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
311	Grevillea robusta	Silky oak	56	71	6.7	141.87	2.9	19	5	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
312	Unknown species	Unknown	19	22	2.3	16.33	1.8	11	5	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
313	Ficus coronata	Creek fig	53	62	6.4	127.08	2.7	7	14	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
315	Castanospermum australe	Black bean	74	104	8.9	247.73	3.4	23	17	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
316	Dipoglottis campbellii	Small leaved tamarind	38	43	4.6	65.33	2.3	13.5	9	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant). Endangered		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
317	Davidsonia jerseyana	Davidson plum	47	55	5.6	99.93	2.6	23	10	Good	Good	Mature	Remnant forest. Bruce Chick Rainforest (significant). Indigenous tree and endangered species.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
318	Araucaria bidwillii	Bunya pine	59	72	7.1	157.48	2.9	27	18	Good	Good	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
319	Waterhousia floribunda	Weeping Lilly pilly	55	105	6.6	136.85	3.4	22	30	Good	Good	Mature	Remnant forest. Bruce Chick Rainforest (significant)		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
320	Syzygium moorei	Coolamon	42	56	5.0	79.80	2.6	17	7	Good	Fair	Mature	Remnant forest. Bruce Chick Rainforest (significant). Vulnerable sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
321	Davidsonia johnsonii	Davidson plum	31	12	3.7	43.47	1.5	8	2.5	Good	Good	Mature	Remnant forest. Bruce Chick Rainforest (significant). Indigenous tree and endangered species.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
322	Davidsonia johnsonii	Davidson plum	3	3	2.0	12.57	1.5	3	0.5	Good	Good	Young	Remnant forest. Bruce Chick Rainforest (significant). Indigenous tree and endangered species.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
323	Endiandra discolor	Domatia tree	24	27	2.9	26.06	1.9	10.5	5	Good	Fair	Mature		ID'd by EMM.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
324	Toechima dasyrrhache	Blunt-leaved steelwood	22	24	2.6	21.90	1.8	6	4	Good	Fair	Mature		ID'd by EMM.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
325	Flindersia brayleyana	QLD maple	55	71	6.6	136.85	2.9	21	20	Good	Good	Mature		ID'd by EMM.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
326	Gmelina leichhardtii	White beech	49	63	5.9	108.62	2.7	19	18	Good	Good	Mature		ID'd by EMM.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
327	Flindersia australis	Crows ash	18	22	2.2	14.66	1.8	8	5	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
328	Gmelina leichhardtii	White beech	34	43	4.1	52.30	2.3	14	11	Good	Good	Mature		ID'd by EMM.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
329	Flindersia australis	crows ash	27	27	3.2	32.98	1.9	17.5	10	Good	Good	Mature	Memorial tree.	Site access is expected to encroach within TPZ.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
330	<i>Prunus laurocerasus</i>	Cherry laurel	44	47	5.3	87.58	2.4	10	12	Good	Good	Mature	Memorial tree.	Site access is expected to encroach within TPZ.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
331	<i>Unknown species</i>	Unknown	89	108	10.7	358.34	3.4	25	18	Good	Fair	Mature	Captain's tree.	Site access is expected to encroach within TPZ. Minor encroachment from Basketball court.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
332	<i>Eleocarpus reticulatus</i>	Blueberry ash	31	37	3.7	43.47	2.2	13	9	Good	Fair	Mature	Captain's tree.	Site access is expected to encroach within TPZ.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
333	<i>Syzygium moorei</i>	Coolamon	39	50	4.7	68.81	2.5	20	10	Good	Good	Mature	Captain's tree. Vulnerable sp.	Site access is expected to encroach within TPZ.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
334	<i>Syzygium moorei</i>	Coolamon	73	86	8.8	241.08	3.1	20	20	Good	Good	Mature	Tree with no mount and no plaque. Further assessment may be required. Vulnerable sp.	ID'd by EMM. Site access is expected to encroach within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
334	<i>Syzygium moorei</i>	Coolamon	18	14	2.2	14.66	1.5	6	2	Good	Poor	Mature	Tree with no mount and no plaque. Further assessment may be required. Vulnerable sp.	Site access is expected to encroach within TPZ.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
336	<i>Eleocarpus reticulatus</i>	Blueberry ash	35	41	4.2	55.42	2.3	11	15	Good	Fair	Mature	Tree with no mount and no plaque. Further assessment may be required.	Site access is expected to encroach within TPZ.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
337	<i>Flindersia australis</i>	Crows ash	15	19	2.0	12.57	1.6	8	4	Good	Fair	Mature	Captain's tree.	Site access is expected to encroach within TPZ. Minor encroachment from Basketball court.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
338	<i>Dipoglottis campbellii</i>	Small leaved tamrind	27	32	3.2	32.98	2.1	14.5	9	Good	Good	Mature	Tree with no mount and no plaque. Further assessment may be required. Endangered	Direct impact from Building 2.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
339	<i>Flindersia australis</i>	Crows ash	34	42	4.1	52.30	2.3	17.5	12	Good	Fair	Mature	Captain's tree.	Major encroachment to building 2.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
340	<i>Owenia cepiodora</i>	Onion cedar	15	20	2.0	12.57	1.7	10	3	Good	Good	Mature	Captain's tree. Vulnerable.	Direct impact from Building 2.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
341	<i>Corymbia citriodora</i>	Lemon scented gum	77	94	9.2	268.22	3.2	22	24	Good	Fair	Mature	Tree with no mount and no plaque. Further assessment may be required.	Direct impact from Building 2.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
342	<i>Harpullia pendula</i>	Tulipwood	45	52	5.4	91.61	2.5	12	11	Good	Fair	Mature	Captain's tree.	Direct impact from Building 2.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
343	<i>Davidsonia jerseyana</i>	Davidson plum	8	10	2.0	12.57	1.5	6	1	Good	Fair	Mature	Indigenous tree and/or endangered species	Direct impact from Building 2. Potential to transplant.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
344	<i>Unknown species</i>	Unknown	19	18	2.3	16.33	1.6	8	4	Good	Fair	Mature	Tree with no mount and no plaque. Further assessment may be required.	Direct impact from Building 2.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
345	<i>Eleocarpus reticulatus</i>	Blueberry ash	14	18	2.0	12.57	1.6	5	5	Good	Fair	Mature	Captain's tree.	Direct impact from Building 2.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
346	<i>Syzygium species?</i>	Lilly pilly	27	27	3.2	32.98	1.9	6	6	Good	Fair	Mature	Tree with no mount and no plaque. Further assessment may be required.	Direct impact from Building 2.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
347	<i>Corymbia citriodora</i>	Lemon scented gum	69	90	8.3	215.38	3.2	19	17	Good	Fair	Mature	Tree with no mount and no plaque. Further assessment may be required.	Direct impact from Building 2.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
348	<i>Previously removed</i>	Previously removed													
349	<i>Archontophoenix alexandrae</i>	Alexander palm	11	15	2.0	12.57	1.5	7	2	Good	Fair	Mature		Species holds limited significance. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
350	<i>Archontophoenix alexandrae</i>	Alexander palm	12	15	2.0	12.57	1.5	8	2	Good	Fair	Mature		Species holds limited significance. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
351	<i>Archontophoenix alexandrae</i>	Alexander palm	12	15	2.0	12.57	1.5	8	2	Good	Fair	Mature		Species holds limited significance. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
352	<i>Archontophoenix alexandrae</i>	Alexander palm	16	20	2.0	12.57	1.7	11	3	Good	Good	Mature		Species holds limited significance. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
353	<i>Archontophoenix alexandrae</i>	Alexander palm	10	15	2.0	12.57	1.5	7	2	Good	Fair	Mature		Species holds limited significance. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
354	<i>Archontophoenix alexandrae</i>	Alexander palm	15	25	2.0	12.57	1.8	11	2.5	Good	Good	Mature		Species holds limited significance. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
355	Archontophoenix alexandrae	Alexander palm	15	20	2.0	12.57	1.7	12	3	Good	Fair	Mature		Species holds limited significance. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
356	Archontophoenix alexandrae	Alexander palm	15	20	2.0	12.57	1.7	13	3	Good	Fair	Mature		Species holds limited significance. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
357	Archontophoenix alexandrae	Alexander palm	20	25	2.4	18.10	1.8	9	3	Dead	Fair	Mature		Species holds limited significance. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
358	Archontophoenix alexandrae	Alexander palm	15	20	2.0	12.57	1.7	15	3	Good	Fair	Mature		Species holds limited significance. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
359	Archontophoenix alexandrae	Alexander palm	20	25	2.4	18.10	1.8	23	4	Good	Fair	Mature		Species holds limited significance. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
360	Atractocarpus fitzalanii	Native gardenia	10	15	2.0	12.57	1.5	8	5	Good	Fair	Mature		Unpractical to retain during demolition. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
361	Schizolobium parahyba	Mexican tree fern	9	15	2.0	12.57	1.5	5	2	Good	Good	Mature		Unpractical to retain during demolition. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
362	Davidsonia jerseyana	Davidson plum	9	9	2.0	12.57	1.5	10	5	Fair	Fair	Semi-mature	Indigenous tree and/or endangered species	Unpractical to retain during demolition. Major encroachment proposed from retaining wall + fill. Potential to be transplanted.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
363	Unknown species	Unknown	17	20	2.0	13.07	1.7	8.5	8	Good	Fair	Young		Unpractical to retain during demolition. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
364	Unknown species	Unknown	31	37	3.7	43.47	2.2	12	13	Good	Fair	Mature		Unpractical to retain during demolition. Major encroachment proposed from retaining wall + fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
365	Flindersia australis	Crows ash	30	35	3.6	40.72	2.1	13	9	Good	Fair	Mature		Central to demolition. Fill within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
366	Waterhousia floribunda	Weeping Lilly pilli	37	44	4.4	61.93	2.3	11.5	14	Good	Good	Mature		Central to demolition. Fill within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
367	Athertonia diversifolia	Atherton oak	31	40	3.7	43.47	2.3	16.4	10	Good	Fair	Mature		Central to demolition. Fill within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
368	Athertonia diversifolia	Atherton oak	20	30	2.4	18.10	2.0	14.5	5	Good	Fair	Mature		Central to demolition. Fill within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
369	Previously removed	Previously removed													
370	Dipoglottis campbellii	Small leaved tamrind	15	21	2.0	12.57	1.7	12	6	Good	Fair	Mature	Endangered	Central to demolition. Fill within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
371	Athertonia diversifolia?	Atherton oak	16	20	2.0	12.57	1.7	11	1.5	Good	Good	Mature		Central to demolition. Fill within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
372	Davidsonia jerseyana	Davidson plum	12	17	2.0	12.57	1.6	10	1	Good	Good	Mature	Indigenous tree and/or endangered species	Central to demolition. Fill within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
373	Podocarpus elatus	Brown pine	12	16	2.0	12.57	1.5	9	5	Good	Fair	Mature		Central to demolition. Fill within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
374	Waterhousia floribunda	Weeping Lilly pilli	44	55	5.3	87.58	2.6	14.5	13	Good	Fair	Mature		Central to demolition. Fill within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
375	Podocarpus elatus	Brown pine	10	13	2.0	12.57	1.5	9	4	Good	Fair	Mature		Central to demolition. Fill within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
376	Backhousia citriodora	Lemon myrtle	16	22	2.0	12.57	1.8	14	2.5	Good	Fair	Mature		Central to demolition. Fill within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
377	Davidsonia jerseyana	Davidson plum	7	10	2.0	12.57	1.5	7	3	Good	Good	Mature	Indigenous tree and/or endangered species	Central to demolition. Fill within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
378	Syzygium luehmannii	Small leaved Lilly pilli	16	20	2.0	12.57	1.7	6	6	Good	Fair	Mature		Central to demolition. Fill within TPZ.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
379	Grevillea bailyana	White oak	10	15	2.0	12.57	1.5	5	1	Fair	Poor	Young		Poor specimen with severe structural defects and low chance of improvement.	Remove tree irrespective of future development.

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
380	<i>Syzygium luehmannii</i>	Small leaved Lilly pilly	36	48	4.3	58.63	2.4	14	11	Good	Good	Mature		Direct impact from building 3A.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
381	<i>Davidsonia jerseyana</i>	Davidson plum	9	11	2.0	12.57	1.5	10	1	Good	Good	Mature	Indigenous tree and/or endangered species	Direct impact from building 3A. Potential for transplant.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
382	<i>Libidibia ferrea</i>	Leopard tree	42	42	5.0	79.80	2.3	9	18	Good	Fair	Mature		Direct impact from building 3B.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
383	<i>Previously removed</i>	Previously removed													
385	<i>Archontophoenix alexandrae</i>	Alexander palm	16	20	2.0	12.57	1.7	18	3	Good	Good	Mature		Direct impact from building 3B.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
386	<i>Archontophoenix alexandrae</i>	Alexander palm	18	25	2.2	14.66	1.8	9	5	Good	Good	Mature		Direct impact from building 3B.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
387	<i>Archontophoenix alexandrae</i>	Alexander palm	12	15	2.0	12.57	1.5	16.5	4	Good	Good	Mature		Direct impact from basketball court.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
388	<i>Archontophoenix alexandrae</i>	Alexander palm	12	15	2.0	12.57	1.5	16.5	3	Good	Good	Mature		Direct impact from basketball court.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
389	<i>Archontophoenix alexandrae</i>	Alexander palm	12	15	2.0	12.57	1.5	15	3	Good	Good	Mature		Direct impact from basketball court.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
390	<i>Archontophoenix alexandrae</i>	Alexander palm	12	15	2.0	12.57	1.5	15	4	Good	Fair	Mature		Direct impact from basketball court.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
391	<i>Archontophoenix alexandrae</i>	Alexander palm	12	15	2.0	12.57	1.5	13	4	Good	Fair	Mature		Direct impact from basketball court.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
392	<i>Archontophoenix alexandrae</i>	Alexander palm	13	15	2.0	12.57	1.5	15	3	Good	Fair	Mature		Direct impact from basketball court.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
393	<i>Castanospermum australe</i>	Black bean	28	37	3.4	35.47	2.2	14	4	Good	Fair	Mature		Direct impact from basketball court.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
394	<i>Unknown species</i>	Maple	38	47	4.6	65.33	2.4	15	14	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
395	<i>Toona ciliata</i>	Red cedar	84	105	10.1	319.21	3.4	25	14	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
396	<i>Delonix regia</i>	Poinciana	87	88	10.4	342.41	3.1	18	25	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
397	<i>Unknown species</i>	Rainforest tree	19	28	2.3	16.33	1.9	16	15	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
398	<i>Macadamia integrifolia</i>	QLD nut tree	11	14	2.0	12.57	1.5	2.5	8	Good	Poor	Mature	Vulnerable sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
399	<i>Macadamia integrifolia</i>	QLD nut tree	14	15	2.0	12.57	1.5	9	0.5	Good		Mature	Vulnerable sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
400	<i>Delonix regia</i>	Poinciana	15	17	2.0	12.57	1.6	7	3	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
401	<i>Toona ciliata</i>	Red cedar	64	80	7.7	185.30	3.0	21	7	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
402	<i>Unknown species</i>	Unknown species	23	29	2.8	23.93	2.0	10.5	14	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
403	<i>Unknown species</i>		23	31	2.8	23.93	2.0	13	4	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
404	<i>Libidibia ferrea</i>	Leopard tree	29	27	3.5	38.05	1.9	10	5	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
405	<i>Unknown species</i>	Rainforest tree	22	30	2.6	21.90	2.0	14	7	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
406	<i>Unknown species</i>	Unknown	13	15	2.0	12.57	1.5	9	3	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
407	<i>Unknown species</i>	Cedar	21	27	2.5	19.95	1.9	15	7	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
408	<i>Brachichiton acerifolia</i>	Flame tree	40	47	4.8	72.38	2.4	18.5	6	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
409	<i>Delonix regia</i>	Poinciana	57	65	6.8	146.98	2.8	16	14	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
411	<i>Toona ciliata</i>	Red cedar	61	80	7.3	168.33	3.0	20	15	Good	Good	Mature		Minor encroachment from footpath.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
412	<i>Unknown species</i>	Unknown	66	77	7.9	197.06	3.0	20	12	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
413	<i>Unknown species</i>	Unknown	19	24	2.3	16.33	1.8	15	3	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
414	<i>Unknown species</i>	Rainforest tree	13	17	2.0	12.57	1.6	10	3	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
415	<i>Macadamia integrifolia</i>	QLD nut tree	21	25	2.5	19.95	1.8	15	6			Mature	Vulnerable sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
416	<i>Unknown species</i>		15	21	2.0	12.57	1.7	10	5	Good	Good	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
417	<i>Delonix regia</i>	Poinciana	78	80	9.4	275.23	3.0	14.5	24	Good	Fair	Mature		Minor encroachment from footpath.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
418	<i>Koelreuteria elegans</i>	Golden rain tree	42	48	5.0	79.80	2.4	12.5	14	Good	Fair	Mature	Weed sp.	Minor encroachment from footpath. Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
419	<i>Delonix regia</i>	Poinciana	99	105	11.9	443.39	3.4	20	35	Good	Fair	Mature		Minor encroachment from footpath. Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
420	<i>Koelreuteria elegans</i>	Golden rain tree	13	15	2.0	12.57	1.5	10	3.5	Good	Fair	Young	Weed sp.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
421	<i>Koelreuteria elegans</i>	Golden rain tree	18	22	2.2	14.66	1.8	12	4	Good	Fair	Mature		Major encroachment from fill + footpath.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
422	<i>Jacaranda mimosifolia</i>	Jacaranda	19	22	2.3	16.33	1.8	10	10	Good	Fair	Mature		Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
423	<i>Jacaranda mimosifolia</i>	Jacaranda	46	60	5.5	95.73	2.7	12	14	Good	Fair	Mature		Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
424	<i>Syzygium luehmannii</i>	Small leaved Lilly pilli	25	28	3.0	28.27	1.9	6	7	Good	Fair	Mature		Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
425	<i>Syzygium luehmannii</i>	Small leaved Lilly pilli	17	20	2.0	13.07	1.7	7	5	Good	Fair	Mature		Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
426	<i>Delonix regia</i>	Poinciana	17	30	2.0	13.07	2.0	7	7	Good	Fair	Mature		Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
427	<i>Podocarpus elatus</i>	Brown pine	16	20	2.0	12.57	1.7	6	4	Good	Fair	Mature		Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
428	<i>Koelreuteria elegans</i>	Golden rain tree	15	17	2.0	12.57	1.6	7	3	Good	Fair	Young	Weed sp.	Major encroachment from fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
429	<i>Syzygium luehmannii</i>	Small leaved Lilly pilli	20	22	2.4	18.10	1.8	7	7	Good	Fair	Mature		Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
430	<i>Delonix regia</i>	Poinciana	12	15	2.0	12.57	1.5	8	10	Good	Fair	Mature		Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
431	<i>Koelreuteria elegans</i>	Golden rain tree	10	12	2.0	12.57	1.5	10	6	Good	Fair	Young	Weed sp.	Major encroachment from fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
432	<i>Unknown species</i>	Maple	33	36	4.0	49.27	2.2	10	6	Good	Fair	Mature		Major encroachment from fill/ internal roadway.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
433	<i>Harpullia pendula</i>	Tulipwood	25	30	3.0	28.27	2.0	13.5	12	Poor	Poor	Mature		Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
434	<i>Harpullia pendula</i>	Tulipwood	30	35	3.6	40.72	2.1	13.5	12	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
435	<i>Harpullia pendula</i>	Tulipwood	27	37	3.2	32.98	2.2		12	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
436	<i>Koelreuteria elegans</i>	Golden rain tree	33	35	4.0	49.27	2.1	11	10	Good	Good	Mature	Weed sp.	Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
437	<i>Toona ciliata</i>	Red cedar	49	67	5.9	108.62	2.8	20437	19	Good	Good	Mature		Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
438	<i>Cinnamomum camphora</i>	Camphor laurel	14	18	2.0	12.57	1.6	12	3	Good	Fair	Young	Weed sp.	Major encroachment from fill.	Remove - tree located within proposed development footprint or has major encroachment into its TPZ.
439	<i>Lagerstroemia speciosa</i>	Queen crepe myrtle	26	26	3.1	30.58	1.9	10.5	9	Good	Good	Mature	Captain's tree.	Major encroachment from fill.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
440	<i>Lagerstroemia speciosa</i>	Queen crepe myrtle	40	40	4.8	72.38	2.3	11	13	Good	Fair	Mature	Captain's tree.	Major encroachment from fill/ basketball court.	Retain tree with specific protection requirements (i.e. Generic measures plus supervision of works within the TPZ and/or use of root sensitive construction techniques).
441	<i>Cinnamomum camphora</i>	Camphor laurel	35	40	4.2	55.42	2.3	16	14	Good	Fair	Mature	Weed sp.	Major encroachment from basketball court.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
442	<i>Magnolia grandiflora</i>	Magnolia	9	11	2.0	12.57	1.5	5	2	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
443	<i>Magnolia grandiflora</i>	Magnolia	9	11	2.0	12.57	1.5	6	2	Good	Fair	Mature			Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
444	<i>Carya illinoensis</i>	Pecan nut tree	86	105	10.3	334.59	3.4	25	30	Good	Fair	Mature	Captain's tree.	Crown raise for plant/machinery access. Deadwood over carpark to be used by construction workers.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
445	<i>Eleocarpus eumundi</i>	Eumundi quandong	18	23	2.2	14.66	1.8	17	13	Good	Good	Mature	Captain's tree.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
446	<i>Castanospermum australe</i>	Black bean	62	81	7.4	173.90	3.0	15.5	17	Good	Fair	Mature	Captain's tree.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
447	<i>Eleocarpus eumundi</i>	Eumundi quandong	13	19	2.0	12.57	1.6	10.5	3	Good	Good	Mature	Captain's tree.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
448	<i>Castanospermum australe</i>	Black bean	76	74	9.1	261.30	2.9	17	15	Good	Fair	Mature	Captain's tree.	Minor encroachment from basketball court.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).

Tree no.	Botanical Name	Common Name	DBH Total (cm)	DRB (cm)	Radial TPZ (m)	TPZ area (m2)	Radial SRZ (m)	Tree Height (m)	Canopy (m)	Health	Structure	Age	Significance	Arborist comments	Recommendation
449	Eleocarpus eumundi	Eumundi quandong	18	24	2.2	14.66	1.8	15	4	Good	Good	Mature	Captain's tree.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
450	Eleocarpus eumundi	Eumundi quandong	16	23	2.0	12.57	1.8	13.5	3	Good	Fair	Mature	Captain's tree.		Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).
451	Jacaranda mimosifolia	Jacaranda	77	90	9.2	268.22	3.2	14	20	Poor	Fair	Mature	Captain's tree.	Minor encroachment from basketball court.	Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ).



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