AUSTRALIS
Tree Management

Trinity Grammar School, Summer Hill Campus

The Renewal Project

Near Chapel Drive

Arboriculture Impact Assessment

Lot 11 in DP 1171965
Trinity Grammar School
113-119 Prospect Rd, Summer Hill NSW 2130

Commissioned By:	Bloompark Consulting Pty Ltd Suite 2.04/41 McLaren Street North Sydney NSW 2060
Date:	10 November 2021
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Document Details

Document Title	Arboriculture Impact Assessment		
Client	Bloompark Consulting Pty Ltd		
Site Details	113 - 119 Prospect Rd, Summer Hill NSW 2130 Lot 11 in DP 1171965		
Written By	Meredith Gibbs		
Australis Reference	Version Number	Date	Details
20221841	1	10 November 2021	For Client Review

Meredith Gibbs
Australis Tree Management
10 November 2021

Disclaimer
Australis Tree Management has no affiliation with any private contractors, associations or nurseries involved in the tree removal and pruning business. This ensures an impartial approach to all recommendations given regarding tree removals, tree hazard inspections and surveys. The Principal of the business, Meredith Gibbs, has a certificate level 5 in Arboriculture obtained from Northern Sydney Institute, Ryde TAFE College, NSW in 2003.

This report/assessment is made solely for the use and benefit of the client named on the front of this report. No liability or responsibility whatsoever, in contract or tort, is accepted to any third party who may rely on the report/assessment wholly or in part. Any third party acting or relying on this report / assessment in whole, or in part, does so at their own risk.

The addressee is required to peruse the report and contact Australis Tree Management within fourteen days for corrections. The addressee is also required to advise if any of the information or data supplied is inaccurate or incomplete, thereby affecting the conclusions and recommendations given in this report.

Any required updates, reassessments or re-examinations of the original report required by any other party will incur a fee.

Because of the nature of living organisms and the circumstances and condition that can affect their health and well-being this report will have a validity of 3 months from the date hereof. Where further information/data is supplied to Australis Tree Management, which nullifies the original report then a further fee will apply.

Summary

Australis Tree Management has been commissioned by Mr Shaun Diamond from Bloompark Consulting Pty Ltd to complete an arboriculture impact assessment. This report aims to identify the health and condition of the trees, potential impacts from proposed works and to provide recommendations regarding tree retention, protection and removals within the selected location near Chapel Drive.

The development proposed is for the redesign and new landscaping within the selected area.

On the 3 November 2021, I attended the site at 113-119 Prospect Rd, Summer Hill and inspected two (2) trees, which are located on site and within 5m of the boundaries of the site on adjoining properties. These trees are proposed for removal and replacement.

I completed a modified Tree Survey Form (Matheny & Clark, 1994), applied *'TreeAZ'* ratings (Barrell, 2010) as well as taking supporting photographs of the trees.

The inspection performed by visibly inspecting the trees from accessible points at ground level and assessing the supplied proposed plans.

The tree defects and symptoms that were encountered have been discussed in section 5 and a detailed tree schedule is included in appendix a.

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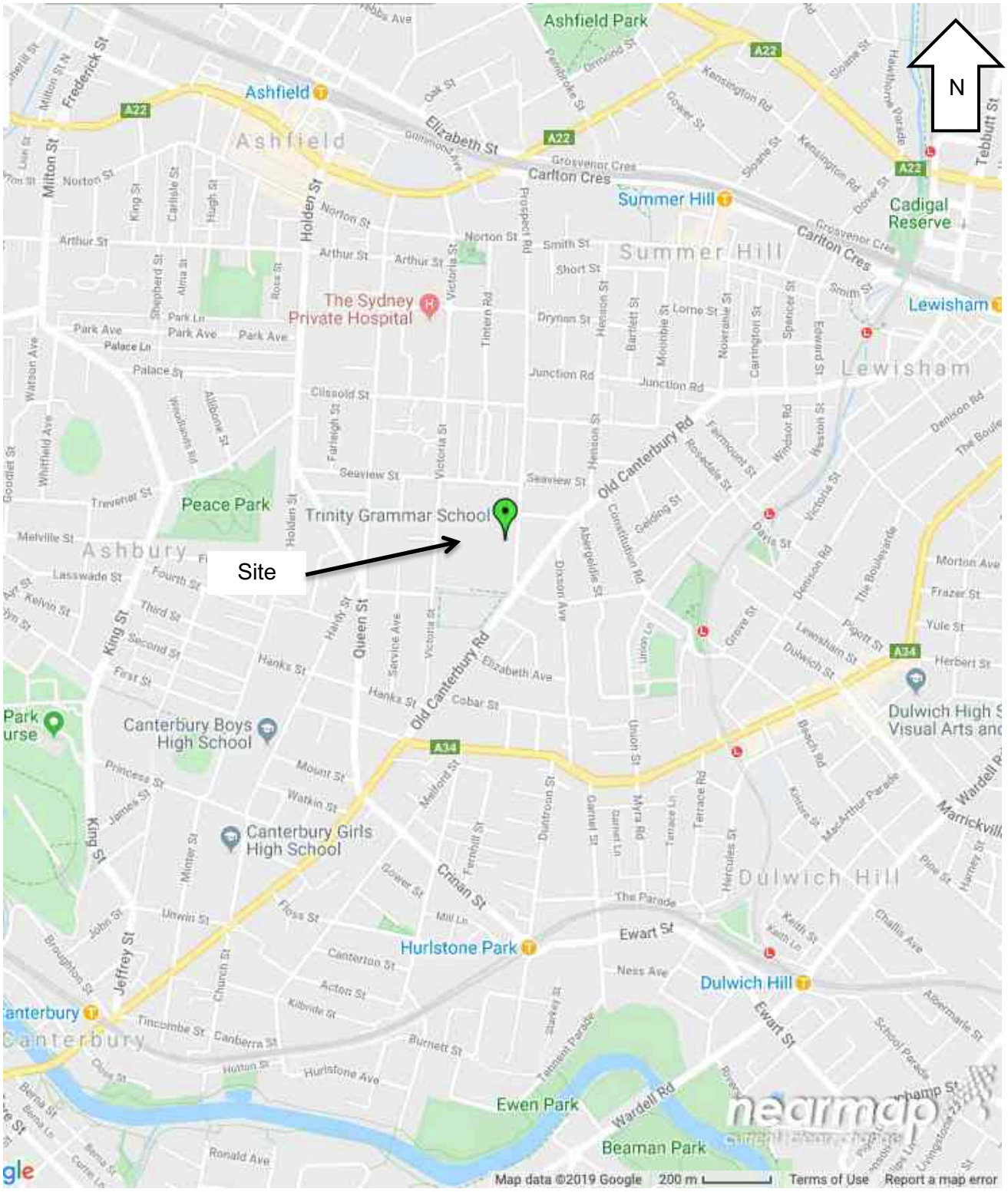
Abbreviations

DCP…….Development Control Plan
LEP……..Local Environmental Plan
LGA…….Local Government Authority
SRZ…….Structural Root Zone
TPO…….Tree Preservation Order
TPZ…….Tree Protection Zone

Location Map

113-119 Prospect Rd, Summer Hill NSW 2130



Source – Near Map 30 October 2019
Figure 1. Location Map

Site Map

113-119 Prospect Rd, Summer Hill NSW 2130

Source – Near Map, 9 November 2021
Figure 2. Site Map

Introduction

1.1 Brief

Mr Shaun Diamond from Bloompark Consulting Pty Ltd provided instructions to inspect and assess the health and condition of the selected trees at 113-119 Prospect Rd, Summer Hill. I have prepared an Arboriculture Impact Assessment on the proposed impacts of the development works on the subject trees.

1.2 The Proposed Development

The development proposed is for the redesign and new landscaping within the selected area.

1.3 Aims

- Undertake field surveys for tree health and condition.
- Conduct a literature review on the tree defects and symptoms.
- Identify Tree Protection Zones for all trees assessed and assess the likely impacts from the development on the trees.
- Provide preliminary advice and tree protection recommendations for trees proposed for retention and protection.

1.4 Qualifications and Experience

This report has been based upon site observations and the assessment of the subject trees. Conclusions have been reached from experience and follow up research. Qualification details are included in the appendix.

1.5 Documents Provided

- Provided by Bloompark Consulting Pty Ltd – 8 November 2021
  - 18-586_TGS_A1_Chapel Drive_211108.pdf

1.6 Scope

- This report is only concerned with the health and condition of the subject trees and the potential impacts from the proposed development. Root mapping, invasive structural strength of the trees, soils assessments or aerial inspections were not performed. This report has been prepared in accordance with Inner West (Ashfield) LEP and DCP. It includes a detailed assessment based on the site visit and the documents provided.
- Recommendations may be provided regarding alterations to the proposed design or construction methods to mitigate detrimental impacts on the subject trees.
- Only trees which qualify as a being protected under Inner West (Ashfield) 's Tree Preservation Policy have been included in the body of this report.

2 Methodology

2.1 Methods

The following relevant information was compiled for consideration of the proposed works. Details are located in the appendices.

- AS 4970- 2009 Protection of trees on development sites
- AS 4373 - 2007 Pruning of amenity trees
- Tree Survey Form (Matheny & Clark, 1994)
- Visual Tree Assessment (Mattheck & Breloer, 1994)

2.2 *TreeAZ* (Barrell, 2016)

- **TreeAZ 'A'** - Moderate and high-quality trees suitable for retention for more than 10 years, and worthy of being a material constraint
- **TreeAZ 'Z'** - Low quality trees not worthy of being material constraint

2.3 Information Collected

Information collected includes tree species, dimensions, tree health and condition, tree assessment ratings and tree protection zones etc. Trees located on adjoining properties will be inspected from the ground on the subject site or public land only. All relevant information is included in the Tree Schedule (Appendix A). The inspection was of a preliminary nature and did not involve any climbing or detailed investigation beyond what was visible from accessible points at ground level.

2.4 Species Identification

Identification of the subject trees are determined by visible features only at the time of the inspection. Every effort is made to correctly identify the subject trees where time permits. Photographs are compared with varying text listed in 'References'.

2.5 Tree Measurements

In accordance with AS 4970-2009 tree trunk diameters were measured with a diameter tape at 1.4m high (unless stated). Tree heights are measured with a clinometer and canopy spreads estimated accordingly.

2.6 Photography

A Nikon D5200 SLR camera or an iPhone were used. In low light levels photographs maybe altered to improve visual quality, this involves adjustments to exposure, contrast, reduction of shadows and increased sharpness. No adjustments to vibrancy that alter colours were applied.

2.7 Proposed Pruning

All pruning specifications are written in compliance of *AS 4373 - 2007 Pruning of amenity trees* and should be carried out in accordance with *AS 4373 - 2007* and Workcover NSW Code of Practice '*Amenity Tree Industry*', 1998. Definitions for all terminology used in this report are taken from *AS 4373 - 2007 Pruning of amenity trees,*

AS 4970- 2009 Protection of trees on development sites and the International Society of Arboriculture's Glossary of Arboricultural Terms.

2.8 Vegetation in Non-Rural Areas [NSW] (2017)

The State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 includes provisions requiring the preservation of trees and bushland within Inner West (Ashfield) LGA.

3 Aims of Policy

The aims of this Policy are:

(a) to protect biodiversity values of trees and vegetation in non-rural areas of the State, and

(b) to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.

2.9 Tree Protection

The State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 includes provisions requiring the preservation of trees and bushland within Inner West (Ashfield) LGA. This report relies on the information contained within Inner West (Ashfield) Local Environmental Plan (2013) and Development Control Plan (2016). This report may include trees on adjoining properties that are likely to be impacted by the proposed development regardless of the definition contained in the LEP and DCP. Council may require a greater setback from proposed structures to ensure the preservation and protection of the tree.

2.10 Vegetation

Vegetation types have been determined using a variety of methods depending on the location and LGA. Depending on the sources results can vary and should be used as a guide only.

3 Site Visit and Observations

3.1 Field Visit

The unaccompanied site visit was conducted on 29 October 2019. All observations were from ground level without detailed investigations. The weather at the time of the inspection was clear, still and dry with good visibility.

3.2 NSW Property Details

The following relevant information was gathered from NSW Planning Portal on 9 November 2021.

- Terrestrial Biodiversity – No
- Environmental Protection – No
- Native Vegetation Protection – No
- Riparian Lands & Watercourses – No
- Bushland in Urban Areas (SEPP No. 19) – Yes
- Green Asset – No

3.3 Brief Site Description

Trinity Grammar School at Summer Hill is located in the residential suburb of Summer Hill. The campus grounds are bordered by Prospect Road, Victoria Street and Seaview Street. The grounds consist of school buildings, classrooms, recreational areas, driveway's and sports fields.

3.4 Location of the Trees

The trees in question are located near Chapel Drive in the north-eastern area of the site. The trees have been located on the aerial site map and supplied plans and numbered accordingly. This plan is for illustrative purposes only and it should not be used for directly scaling measurements. The site contains indigenous, planted native and exotic tree species. They are of varying ages and stages of maturity with some over mature specimens.

3.5 On Site Vegetation

The site contains indigenous, planted native and exotic tree species. They are of varying ages and stages of maturity. There is no remnant vegetation on site.

3.6 The Benefits of Trees

- Reduce urban heat island effects
- Purify and oxygenate the air
- Sequester carbon through photosynthesis
- Intercepting rainfall and modifying runoff
- Enhance biodiversity
- Providing habitat and wildlife corridors

3.1 Councils Exempt Species

The assessed tree species are not listed in the councils' list of exempt species.

3.2 Biodiversity Values

The subject site is mapped as not having Biodiversity Values according to The Biodiversity Values Map (BV Map) defined by the *Biodiversity Conservation Regulation 2017*.

3.3 Biosecurity Act 2015

The assessed tree species are not listed in the Biosecurity Act 2015.

3.4 Replacement Tree Planting

Replacement trees should preferably include indigenous tree species. These will aid in preserving landscape character and wildlife habitat. The trees proposed for removal must be offset through replacement plantings. Council may recommend an increased replacement ratio. All replacement plantings must be species selected from indigenous tree species such as

Location and Size of Plantings

- All replacement trees must be located in the designated areas on the Tree Protection Plan and must be 4 metres or greater from the foundation walls of any proposed dwelling.
- The pot size of the replacement tree(s) must be a minimum 25 litres.
- All replacement tree(s) must be maintained until they reach the height of 3 metres.
- All replacement trees must have the potential to reach a mature height greater than six metres.
- All tree stock must meet the specifications outlined in "Specifying Trees" by Ross Clark, Publisher NATSPEC Books.
- Planting methods must meet professional (best practice) industry standards.

4 Results

- A complete tree schedule is located in appendix a.
- **TreeAZ 'A'** - Moderate and high-quality trees suitable for retention for more than 10 years, and worthy of being a material constraint
- **TreeAZ 'Z'** - Low quality trees not worthy of being material constraint

4.1 Trees Species and Life Expectancy

Tree No.	Species	Life Expectancy
1	*Syzygium australe* (Brush Cherry)	40+yrs
2	*Calodendrum capense* (Cape Chestnut)	5-15yrs

Table 1. Trees and Life Expectancy

4.2 Proposed for Removal

Tree no.	Species	TPZ	Proposed TPZ Encroachment
1	*Syzygium australe* (Brush Cherry)	2m	100%
2	*Calodendrum capense* (Cape Chestnut)	2m	100%

Table 2. Trees Proposed for Removal

Figure 3. The subject trees

5 Discussion

5.1 Trees Proposed for Removal

5.1.1 Tree No. 1 *Syzygium australe* (Brush Cherry)

5.1.1.1 This native tree is located on site and is protected by council. The tree is mature with a dominant trunk and is in fair health. The crown is showing good (4) health and the structural condition is fair with no significant issues sighted. There was no deadwood and epicormic growth was determined as moderate and young at approximately <10% from previous pruning events. This tree has a *'TreeAZ'* rating of 'Z1' and an estimated life expectancy of 40+yrs.

5.1.1.2 The tree is proposed for removal as it is located within the proposed redesigned area and new landscaping.

5.1.2 Tree No. 2 *Calodendrum capense* (Cape Chestnut)

5.1.2.1 This exotic tree is located on site and is also protected by council. The tree is young with a dominant trunk and is in poor health. The crown is showing declining (1-2) health and the structural condition is fair with numerous pruning wounds present leaving small cavities and locations for potential decay. The crown is showing declining (1-2) health with low vigour and the structural condition is fair with numerous pruning wounds present leaving small cavities and locations for potential decay. There are areas in the canopy of twig dieback with minimal epicormic growth present. This tree also has a *'TreeAZ'* rating of 'Z1' and with an estimated life expectancy of 5-15yrs.

5.1.2.2 The tree is proposed for removal as it is located within the proposed redesigned area and new landscaping.

6 Conclusion & Recommendations

6.1 Trees Proposed for Removal

6.1.1 Tree No. 1 *Syzygium australe* (Brush Cherry) is a mature, small, native tree located on site. It is in good condition with a *'TreeAZ'* rating of 'Z1' and a 40+yrs life expectancy. The tree is proposed for removal new landscaping.

- Recommendation
  - Replace with *Tristaniopsis laurina* 'Luscious' (Water Gum)

6.1.2 Tree No. 2 *Calodendrum capense* (Cape Chestnut) is a young, small, exotic tree located on site. It is in poorhealth with a *'TreeAZ'* rating of 'Z1' and a 5-15yrs life expectancy. The tree is proposed for removal new landscaping.

- Recommendation
  - Replace with *Tristaniopsis laurina* 'Luscious' (Water Gum)

Appendix A - Tree Schedule

Tree no.	1	2
Species	Syzygium australe (Brush Cherry)	Calodendrum capense (Cape Chestnut)
DBH (diam)	15cm	25cm
DGL (diam)	20cm	30cm
Height	4.0m	6.0m
Canopy N (radius)	1.0m	3.0m
Canopy S (radius)	1.0m	2.0m
Canopy E (radius)	1.0m	2.0m
Canopy W (radius)	1.0m	2.0m
Live Crown Ratio	90%	80%
Age	mature	young
Life Expectancy	40+yrs	5-15yrs
Crown Class	codominant	dominant
Crown Condition	good (4)	decline (2)
Structural Condition	fair	fair
Tree Condition	fair	poor
Deadwood	0%	<10%
	N/A	medium and small
Epicorms	10%-25%	0%
	low and young	N/A
Health & Condition	pruning events	decline / pruning events
Root Zone	garden	garden
Structures	foot path and road	foot path and road
Type	native	exotic
TreeAZ	Z1	Z1
Location	on site	on site
TPO Protected	yes	yes
TPZ	2.0m	3.0m
SRZ	1.7m	2.0m
Proposed Works Comments	landscaping	landscaping
Distance to prop works	0.0m	0.0m
Proposed Works Encr	100%	100%
Proposed Status	Remove	Remove

Appendix B - Tree Schedule Definitions & Information

Location - Adjoining Property / Nature Strip / On Site
Dimensions - Diameter at breast height at 1.4m (DBH) / Diameter at ground level (DGL)
Height - Height measured in meters determined with a clinometer or estimated by eye
Canopy - Canopy spread measured in meters in each direction (radius)
Age Class

- Young - Recently planted or seeded
- Semi mature - < 20% of life expectancy
- Mature - 20% - 80% of life expectancy
- Over mature - > 80% of life expectancy

Life Expectancy - >5 years / 5-15 years / 15-40 years / 40+ years
Crown Class

- Dominant - Crown extends above general canopy; not restricted by other trees.
- Co-dominant - Crown forms the bulk of the general canopy but crowded by other trees.
- Intermediate - Crown extends into dominant / co dominant canopy but quite crowded on all sides.
- Emergent - Crown development restricted from surrounding trees.
- Suppressed - Crown development restricted from overgrowing trees.

Tree Condition
Good - The crown is unrestricted. Free of pests, diseases and obvious structural issues. Has adequate vigour, foliage volume, size and colour.
Fair - The crown is not significantly restricted. Minor signs of pests and diseases. Some signs of damage or branch failures from storms. Some signs of reduced health or potential decline. They tree may improve in health or deteriorate in health and condition and may improve with remedial works.
Poor - The crown is significantly restricted. Major signs of pests and diseases. Significant signs of damage or branch failures where structural integrity may be compromised or the tree is in decline and unlikely to recover.
Senescent - The tree is overmature and show irreversible decline, dying or nearly dead.
Dead - The tree is no longer capable of photosynthesis, osmosis and turgidity. Any dead tree must be assessed for hollow bearing capabilities and habitat potential.
Removed - No longer present at location.
Crown Condition

- 1 - Severe decline, <20% canopy density; major dead wood
- 2 - Declining, 20-60% canopy density; twig and branch dieback
- 3 - Average / low vigour, 60-90% canopy density; twig dieback
- 4 - Good, 90-100% canopy density; little or no dieback or other problems
- 5 - Excellent, 100% canopy density; no deadwood or other problems

Structural Condition

- Poor - Wounds with fungal fruiting bodies, excessive included bark unions, numerous previous failures, significant wounds.
- Fair - Minor wounds, minor included bark unions, minor deadwood etc.
- Good - No significant issues and good foliage volume

Deadwood

- Low - Less than 10% of the canopy - Small, <10mm diameter and <2 metres in length / Large, >10mm diameter and >2 metres in length
- Medium - Between 10% and 50% of the canopy - Small, <10mm diameter and <2 metres in length / Large, >10mm diameter and >2 metres in length
- High - Greater than 50% of the canopy - Small, <10mm diameter and <2 metres in length / Large, >10mm diameter and >2 metres in length

Epicormic growth

- Low - Less than 10% of the canopy - young / mature
- Medium - Between 10% and 50% of the canopy - young / mature
- High - Greater than 50% of the canopy - young / mature

Tree Type

- Endemic - Species that occur naturally and are restricted to a given area.
- Exotic - An introduced plant from outside Australia.
- Indigenous - Species that occur naturally to a given area but may not be restricted to only that area.
- Native - A general term referring to any plant indigenous to Australia including cultivars.

Root Zone - Compacted / Garden / Grass / Mulched / Natural Bush / Paved / Soil level lowered / Soil level raised

Structures - Fence / Garage / Footpath / Verandah / Dwelling / Road / Driveway / Seat

Appendix C - Photographs

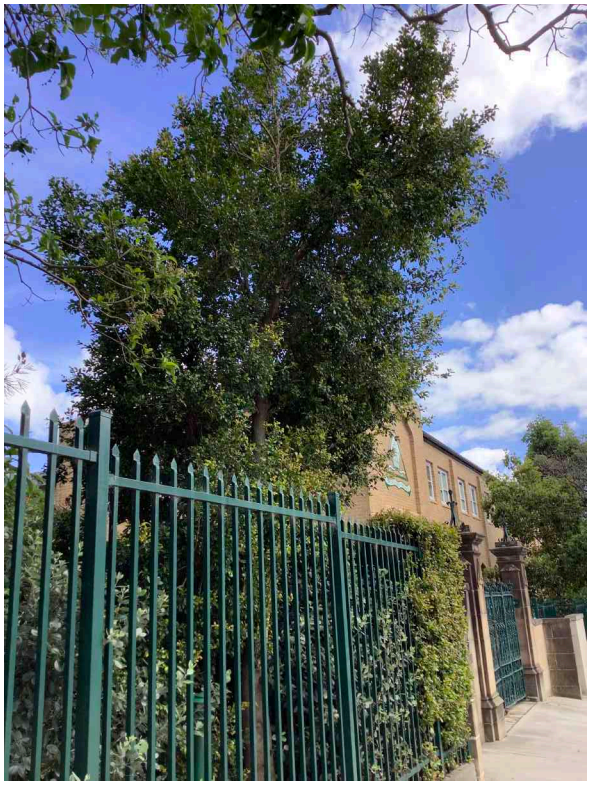


Figure 4. Tree No. 1 *Syzygium australe* (Brush Cherry)

Figure 5. Tree No. 1 Trunk

Figure 6. Tree No. 2 *Calodendrum capense* (Cape Chestnut)

Figure 7. Tree No. 2 Trunk

Appendix D - Proposed Site Plan

18-586_TGS_A1_Chapel Drive_211108.pdf

TGS Chapel Drive
Tree Replacement

2x Replacement Species

Tristaniopsis *luscious*
Water Gum
8 x 4m

With the Arborcultural advice recieved regarding the health status of the 2 existing trees (Caleodendron & Lilly Pilly) it is Arcadia's advice to remove and replace these species with Tristaniopsis *luscious* for its solar access suitability.

Appendix E - Glossary

Shigo, A.L. (1986) A New Tree Biology Dictionary.
*Docktor, D (2001) City of Palo Alto, Tree Technical Manual.

Bark*	All tissue outside the vascular cambium. Bark is usually divided into inner bark active phloem and aging and dead crushed phloem.
Basal	Lower trunk area of the tree.
Branch*	Organ which supports leaves, flowers and fruit.
Branch collar*	Trunk tissue that forms around the base of a branch between the main stem and the branch wood and trunk wood to meet. Formed by compaction or expansion as the girth of the branch and trunk increase.
Canopy	The part of the crown composed of the leaves and small twigs.
Cavity	An open wound, characterized by the presence of decay and resulting in a hollow (Matheny & Clarke, 1994).
Codominant stems*	Stems or trunks of about the same size originating from the same position from the main stem.
Compaction	Compaction of soils causes roots to die due to lack of oxygen and water.
Compartmentalization*	Dynamic tree defense process involving protection features that resist the spread of pathogens.
Crown*	Portion of the tree consisting of branches and leaves and any part of the trunk from which branches arise.
Decay*	Degeneration and delignification of plant tissue, including wood, by pathogens or microorganisms.
Dieback	Dieback is the reduction in the dynamic mass of a tree as twigs and branches die and are walled off by protection boundaries.
Epicormic shoots*	Shoots produced by dormant buds within the bark or stems of a tree as a result of stress, lopping or increase light. Epicormic shoots usually have a weaker form of branch attachment.
Included bark*	Inwardly formed bark at the junction of branches or codominant stems.
Kino	A dark red to brown resin-like substance produced by the trees in the genera Eucalyptus and other related genera. Kino forms when living cells are injured and infected.
Lopping*	Random cutting of branches or stems between branch union or at internodes on young trees.
Mycorrhiza	A symbiotic, nonpathogenic, or weakly pathogenic association of fungi and non woody, absorbing roots of plants. The common belief is that the mycorrhiza help the tree with mineral absorption, especially phosphorus.
Microorganisms	An organism of microscopic size. Bacteria, the tree pathogens, may be as small as 3 microns wide by 5 microns long.
Pathogen	Any agent that causes disease.
Photosynthesis	A process where chlorophyll in plants traps the energy of the sun in a molecule of carbon dioxide and water that is called sugar.
Roots	An organ of a tree that serves to maintain mechanical support, to provide water and essential elements from the soil through absorption, and to store energy reserves.
Stem*	Organ which supports branches, leaves flowers and fruit.
Tree*	Long lived woody perennial plant greater than (or potentially greater than) 3m in height with one or relatively few stems.
Trunk*	The main stem.
Wound*	An opening that is created when the bark is cut, removed or injured.

Appendix F - TreeAZ (Barrell 2010)

TreeAZ Categories (Version 10.10-ANZ)

Category Z: Unimportant trees not worthy of being material constraint		
Z	**Local policy exemptions:** Trees that are unsuitable for legal protection for local policy reasons including size, proximity and species	
	1	Young or insignificant small trees, i.e. below the local size threshold for legal protection, etc
	2	Too close to a building i.e exempt from legal protection because of proximity etc
	3	Species that cannot be protected for other reasons, i.e. scheduled noxious weeds, out of character in a setting of acknowledged importance, etc
	High risk of death or failure: Trees that are likely to be removed within 10 years because of acute health issues or severe structural failure	
	4	Dead, dying, diseased or declining
	5	Severe damage and/or structural defects where a high risk of failure cannot be satisfactorily reduced by reasonable remedial care, i.e. cavities, decay, included bark, wounds, excessive imbalance, overgrown and vulnerable to adverse weather conditions, etc
	6	Instability, i.e. poor anchorage, increased exposure, etc
	Excessive nuisance: Trees that are likely to be removed within 10 years because of unacceptable impact on people	
	7	Excessive, severe and intolerable inconvenience to the extent that a locally recognized court or tribunal would be likely to authorize removal, i.e. dominance, debris, interference, etc
	8	Excessive, severe and intolerable damage to property to the extent that a locally recognized court or tribunal would be likely to authorize removal, i.e. severe structural damage to surfacing and buildings, etc
	Good management: Trees that are likely to be removed within 10 years through responsible management of the tree population	
	9	Severe damage and/or structural defects where a high risk of failure can be temporarily reduced by reasonable remedial care, i.e. cavities, decay, included bark, wounds, excessive imbalance, vulnerable to adverse weather conditions, etc
	10	Poor condition or location with a low potential for recovery or improvement, i.e. dominated by adjacent trees or buildings, poor architectural framework, etc
	11	Removal would benefit better adjacent trees, i.e. relieve physical interference, suppression, etc
	12	Unacceptably expensive to retain, i.e. severe defects requiring excessive levels of maintenance, etc

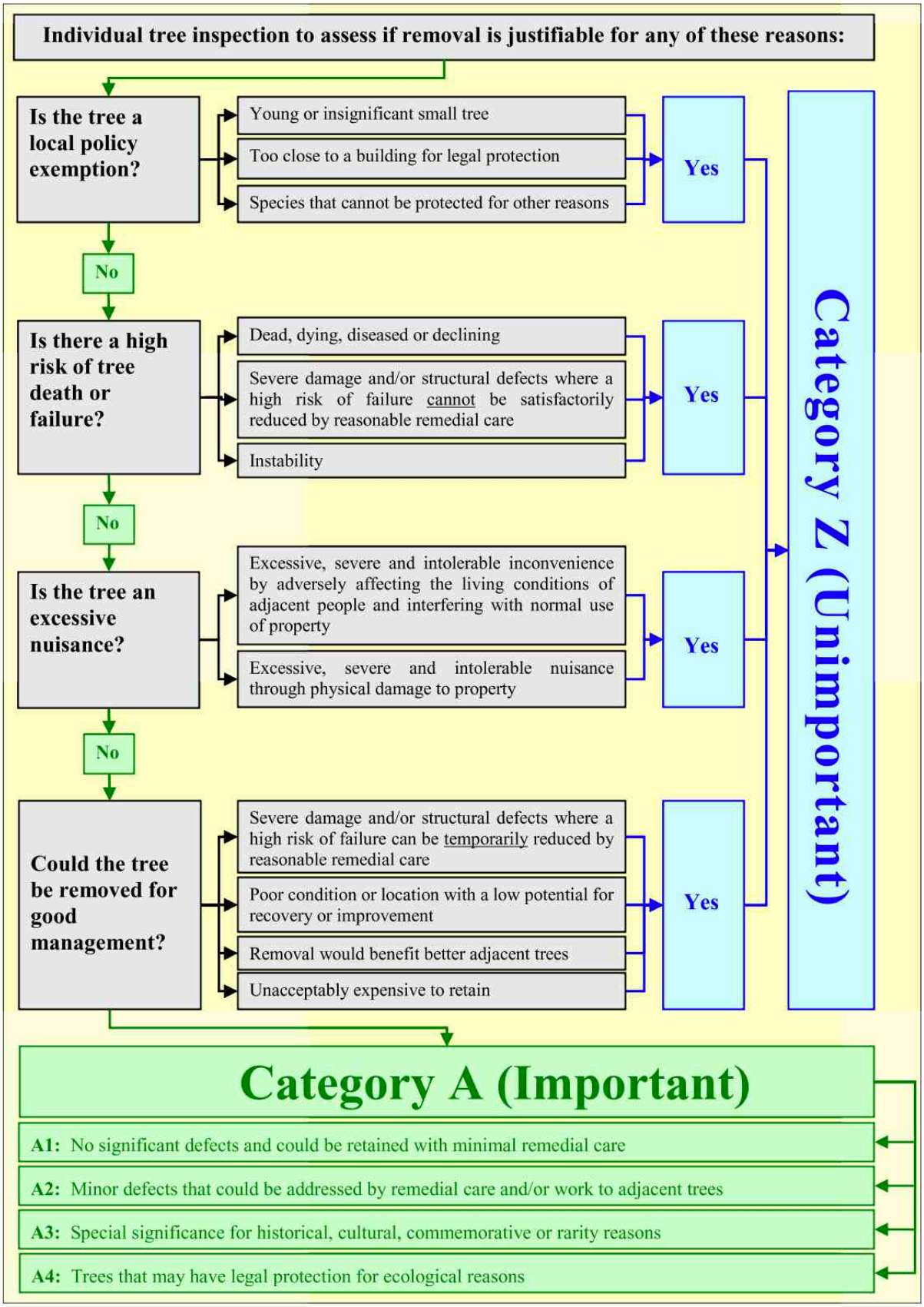
NOTE: Z trees with a high risk of death/failure (Z4, Z5 & Z6) or causing severe inconvenience (Z7 & Z8) at the time of assessment and need an urgent risk assessment can be designated as ZZ. ZZ trees are likely to be unsuitable for retention and at the bottom of the categorization hierarchy. In contrast, although Z trees are not worthy of influencing new designs, urgent removal is not essential and they could be retained in the short term, if appropriate

Category A Important trees suitable for retention for more than 10 years and worthy of being a material constraint	
A1	No significant defects and could be retained with minimal remedial care
A2	Minor defects that could be addressed by remedial care and/or work to adjacent trees
A3	Special significance for historical, cultural, commemorative or rarity reasons that would warrant extraordinary efforts to retain for more than 10 years
A4	Trees that may be worthy of legal protection for ecological reasons (Advisory requiring specialist assessment)

NOTE: Category A1 trees that are already large and exceptional, or have the potential to become so with
minimal maintenance, can be designated as AA at the discretion of the assessor. Although all A and AA trees are sufficiently important to be material constraints, AA trees are at the top of the categorization hierarchy and should be given the most weight in any selection process.

TreeAZ is designed by Barrell Tree Consultancy (www.barrelltreecare.co.uk) and is reproduced with their permission

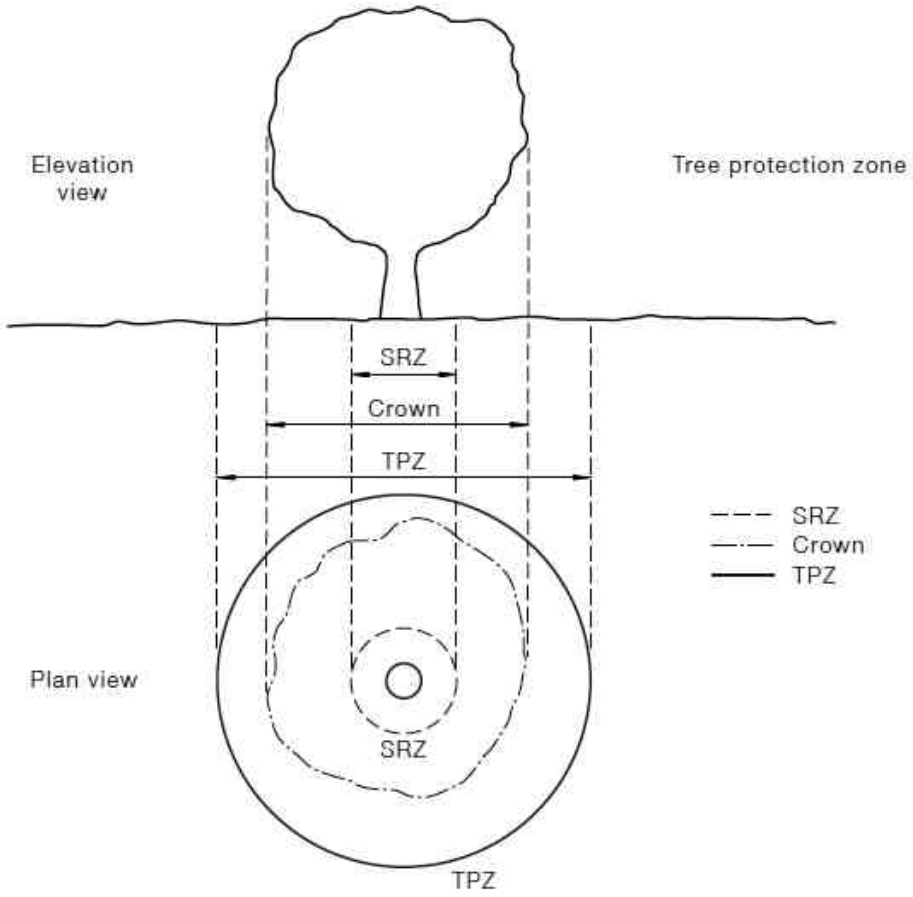
TreeAZ Flow Chart



Appendix G - Tree Protection Zones AS4970-2009

Tree Protection Zone

The tree protection zone (TPZ) is the principal means of protecting trees on development sites. The TPZ is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable.



Determining the TPZ

The **radius** of the TPZ is calculated for each tree by multiplying its DBH × 12.
TPZ = DBH×12
Where DBH = trunk diameter measured at 1.4 m above ground

Radius is measured from the centre of the stem at ground level.

A TPZ should not be less than 2m nor greater than 15m (except where crown protection is required). Clause 3.3 covers variations to the TPZ.

The TPZ of palms, other monocots, cycads and tree ferns should not be less than 1 m outside the crown projection.

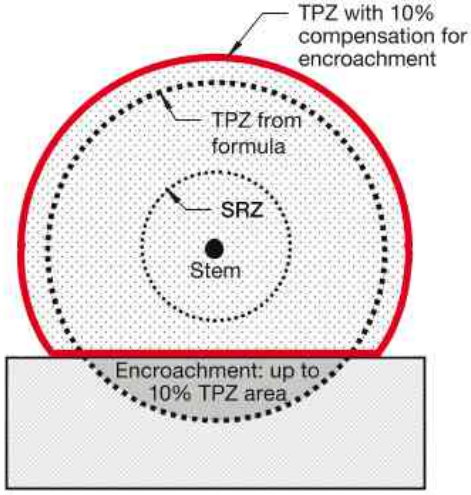
Appendix H - Tree Protection Zone Encroachments AS4970-2009

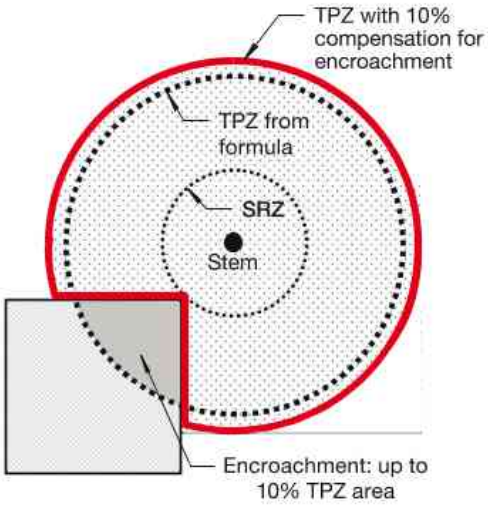
Minor Encroachments

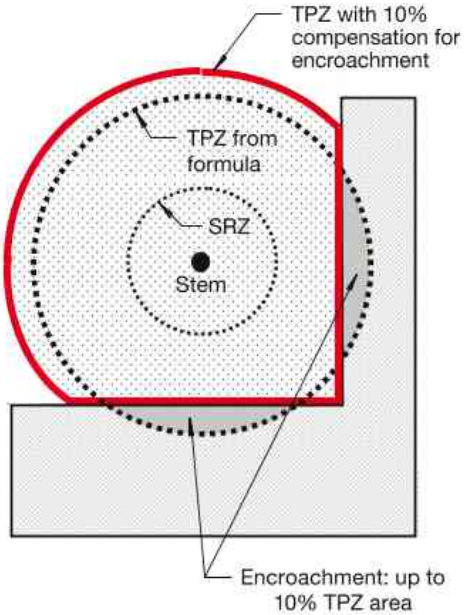
The proposed encroachment is less than 10% of the area of the TPZ and is outside the SRZ. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ.

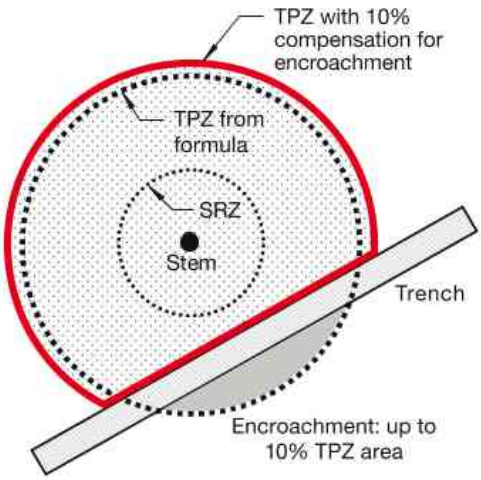
Major Encroachments

The proposed encroachment is greater than 10% of the TPZ or inside the SRZ, the project arborist must demonstrate that the tree(s) would remain viable. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. This may require root investigation by non-destructive methods.









Appendix I - Qualifications & Experience

Meredith Gibbs (January 2020)

Qualifications:

1999 Advanced Certificate in Urban Horticulture
2002 Horticulture Diploma (Arboriculture) Level 5
2002 Occupational Health & Safety course
2002 Risk Management course
2002 Smart Train 008397
2010 Collecting Catchment Data
2011 Quantified Tree Risk Assessment
2014 Quantified Tree Risk Assessment
2015 Horticulture Diploma (Arboriculture), Level 5
2018 White Card Number 2234996

Practical experience:

1996 - 1998 Nursery Hand - Horticulturist
1988 - 2001 Garden Maintenance - Horticulturist
1997 - 2004 Silver Springs Nursery (Owner/Operator)
2000 - Australis Tree Management (Owner/Operator)

Memberships and affiliations:

Arboriculture Australia
Australian Institute of Horticulture
Australian Plant Society of NSW
Burrendong Botanic Garden & Arboretum
International Society of Arboriculture
Quantified Tree Risk Assessment Registered User
Society of Municipal Arborists
Women in Arboriculture

Insurance:

Professional Indemnity Insurance
Liberty International Underwriters
$5,000,000.00
Policy No. HC-ME-SPC-01-104260

Public Liability Insurance
Liberty International Underwriters
$20,000,000.00
Policy No. 463763

Pro Bono Work:

Middle Dural Public School

Continuing Professional Development:

NAAA Conference, Mature Trees, 2001
Claus Mattheck Seminar 2001
ISAAC Conference - Parramatta 2004
AILA Tree Management Forum 2005
Jeremy Barrell Tree AZ & Report Writing Workshop 2006
A Practitioner's Guide to Visual Tree Assessment – Mike Ellison 2007
Quantified Tree Risk Assessment Workshop – Mike Ellison 2007
ISAAC Conference - Brisbane 2008
ISAAC Conference Workshop Dr. David Lonsdale 2008
ISAAC Conference Workshop Dr. Phillip Gibbons 2008
ISAAC Conference - Newcastle 2009
ISAAC Conference - Adelaide 2010
ISA International Conference Parramatta 2011
ISA International Conference Workshop Dr. Ken James 2011
Arboriculture Australia Annual Conference - Sunshine Coast 2014
Arboriculture Australia Annual Conference - Adelaide 2015
Arboriculture Australia Annual Conference - Canberra 2017
Jeremy Barrell Arboriculture Australia Workshop 2017
Arboriculture Australia Annual Conference - Hobart 2018
Arboriculture Australia Annual Conference - Alice Springs 2019

Past Projects

Pennant Street Castle Hill (Castle Towers) 2006
Fairway Drive, Kellyville 2012
Summit Care, Baulkham Hills 2013
105-115 Portman Street, Zetland 2016
114 Tallawong Road, Rouse Hill 2016
2 Lexington Dr Bella Vista 2016
The Hermitage - Gledswood Hills 2010-2019
105 Cudgegong Rd Rouse Hill Development 2018
33 Greenwich Road, Greenwich Redevelopment 2017-2019
Gosford Park Redevelopment 2019
Blacktown Workers Sports Club Redevelopment 2016-2019
Gregory Hills Industrial Estate 2019

Appendix J - References

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NSW Government (2018) *NSW Planning Portal.* https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/address (9 November 2021)

NSW Government NSW Legislation (2018) *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017.* https://www.legislation.nsw.gov.au/#/view/EPI/2017/454/part1/cl5 (9 November 2021)

NSW National Parks & Wildlife Service (1995) *Threatened Species Conservation Act.* NSW NPWS, Hurstville, NSW, Australia.

State Environmental Planning Policy No 19 - Bushland in Urban Areas :(pub1986-10-24)

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017: Subject Land :(pub2017-08-25)