

Appendix H

Preliminary Arboricultural Assessment

PRELIMINARY ARBORICULTURAL ASSESSMENT

7-33 WATER STREET STRATHFIELD SOUTH NSW 2136

Prepared for RJ Green & Lloyd Pty Ltd and Westport Pty Ltd
1 December 2015
Revision D (amended 31/3/16)

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1. INTRODUCTION

- 1.1 This report was commissioned by Spiro Prevezanos, National Business Development Director of Crown Group to provide a Preliminary Arboricultural Assessment relating to the existing trees located on 7-33 Water Street, Strathfield South, or in close proximity to the site.
- 1.2 The site currently comprises a number of industrial premises. It is understood Crown Group are in the process of preliminary planning to develop the site and seek advice regarding the existing trees on the site or within close proximity to the site that may be impacted upon by any future development of the site.
- 1.3 Generally, a tree is protected in accordance with Strathfield Council's Consolidated Development Control Plan 2005, if it is a height equal to or exceeding four (4.0) metres or a girth greater than half (0.5) metre measured at a point (1.0) metre above ground. In some cases a tree may meet this criteria, however may not be protected for other reasons such as it being a species listed as exempt.
- 1.4 The purpose of this report is to undertake a visual assessment of the trees including current health and condition; determine the sustainability of each tree in the landscape and assess suitability for retention; determine the retention value for each tree; provide details of appropriate setback distances for any new future building or structures that may be built on the site; make recommendation of appropriate construction methods where any future construction may be within the Tree Protection Zones.
- 1.5 This report shall reflect the expert opinion of the Arborist. The Arborist is acting independently of and not as the advocate for the owner. The Arborist shall not receive any commission to prune or remove the tree/s which is the subject of this report.
- 1.6 This report has been prepared in accordance with guidelines set out in the Australian Standard "*Protection of Trees on Development Sites*" (AS 4970:2009).
- 1.7 The following plans were reviewed in this assessment:

Title	Author	Dwg. No.	Date
Topographical Survey Plan	Author unknown	-	undated

- 1.8 Key Definitions and Abbreviations used in this report.
- **TPZ = Tree Protection Zone.** This is the area as defined by AS 4970 – "*Protection of trees on development sites*" and means the typical minimum area above and below ground at a given distance from the trunk to provide for protection of the tree. Most importantly it represents the root zone required to be kept uninjured to maintain a healthy and viable tree. Note, roots will usually extend well beyond this zone, so this represents the minimum remaining root zone required, assuming all others are lost or damaged due to construction. It is typically calculated as a circle centred on the trunk unless existing site conditions can be assessed and indicate otherwise. According to the Australian Standard, a minor encroachment of 10% of the TPZ is allowable, provided the 10% is compensated for elsewhere and contiguous to the TPZ.
 - **SRZ = Structural Root Zone.** This is the area as defined by AS 4970 – "*Protection of trees on development sites*" and means the area immediately around the base of the tree at a given distance from the trunk. The woody roots and soil cohesion in this area are considered vital to the structural stability of the tree. Damage or removal of soil and roots from this area will typically render the tree unstable and require its removal. It is typically calculated as a circle, centred on the trunk, unless existing site conditions can be assessed and indicate otherwise.

2. METHODOLOGY

2.1 Health and Condition Assessment

A site inspection was undertaken on the 27 November 2015 at around 11am to visually assess the trees in view from the ground. This report is limited to the methods of assessment listed below (and outlined in **Appendix 1**), and does not include any internal probing, compaction testing, drilling, aerial inspection or diagnostic testing.

- Tree Species (botanical and common name).
- Tree height and age was estimated.
- Canopy spread was estimated.
- Diameter at Breast Height (DBH) and Diameter at Ground Level (DGL) was measured (or estimated if not accessible).
- Health and vigour, including foliage size, colour, extension growth, presence of disease or pest infestation, canopy density, presence of deadwood, dieback, epicormic growth as indicators.
- Condition, using visible evidence of structural defects, instability, evidence of previous pruning and physical damage as indicators.
- Suitability of the tree to the site and its existing location.
- The photographs included in this report were taken at the time of inspection.
- Assessment was carried out visually from ground level.
- The comments and recommendations in this report are based on findings from the site inspection.

2.2 Landscape Significance

The significance of a tree in the landscape is a combination of its environmental, heritage and amenity values. A criteria for the assessment of landscape significance as devised by Andrew Morton (2003) and shown in **Appendix 2** have been applied. Whilst it may be somewhat subjective to assess these values consistently, it is appropriate to assign some measure to assist in determining the overall retention value of each tree.

The rating system which has been applied to each tree and to assist in determining priorities for retention, includes the following categories:

- | | |
|----------------|------------------|
| 1. Significant | 5. Low |
| 2. Very High | 6. Very Low |
| 3. High | 7. Insignificant |
| 4. Moderate | |

2.3 Tree Retention Value

The retention value shown in the Tree Assessment Schedule in **Appendix 4** has been determined on the basis of the estimated longevity of the tree and its landscape significance rating, in accordance with Table 1 below. These retention values will help determine the most appropriate position of any future building footprints and/or structures within the site, to minimise the impact on trees considered worthy of preservation. When a tree is located on a neighbouring property or public land, typically a higher retention value has been allocated given that the tree is not owned by the client and the client is therefore obligated to ensure the neighbouring or Council owned trees are not negatively impacted upon by proposed works.

	Landscape Significance Rating						
Estimated Life Expectancy	1	2	3	4	5	6	7
Long (>40 yrs)	High Retention Value						
Medium (15-40 yrs)			Moderate Retention Value				
Short (5-15 yrs)					Low Retention Value		
Transient (<5 yrs)					Very Low Retention Value		
Dead or poses an unacceptable risk to life							

Table 1: Tree Retention Values - assessment methodology (Ref:- Morton, Andrew 2006 modified from Couston, Mark & Howden, Melanie (2001) Footprint Green Pty Ltd, Sydney, Australia)

3. OBSERVATIONS

3.1 The Site

The site is located on the western side of Water Street and comprises several allotments formally identified as Lot 1 & 2 in D.P. 603465, Lot 3 in DP 217450, Lot 22 in D.P. 402062, and Lot 23 & 24 in D.P. 29213. The overall site is irregular in shape and measures a total site area of approximately 19,000 square metres.

The site is currently zoned as General Industrial and there are a number of buildings and structures located on the site for this purpose (refer to Figure 1). Residential properties adjoin the northern boundary, whilst industrial properties adjoin the western rear boundary. The southern boundaries adjoin the Cooks River reserve which includes a cycle path and walkway, and mostly native vegetation running along the reserve which forms a riparian corridor. The vegetation within the reserve is predominantly mature *Casuarina glauca* (Swamp She-Oaks) much of which is directly adjacent to the site and in some areas the stands of Swamp She-Oaks extends across the southern boundaries and into the subject site.

The site has relatively few trees. Most of the trees that are located on the site are located to the front eastern boundary that adjoins Water Street, and extend a little into the along the adjoining boundary between Lot 1 & 2 in D.P.603465.

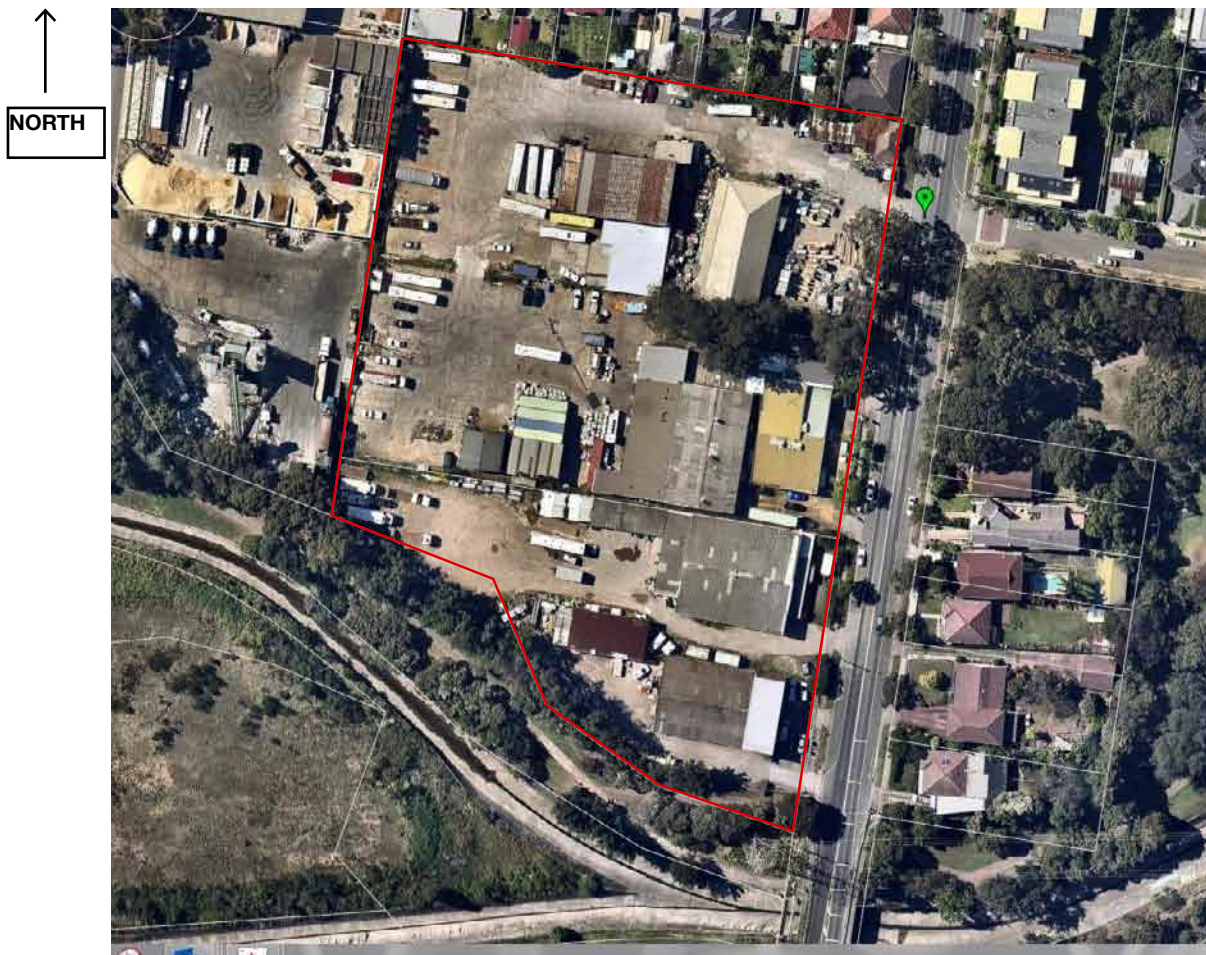


Figure 1: An aerial image of the site with the property boundaries indicated in red (accessed from Nearmaps and provided by Crown Group on 20/11/15).

3.2 The Trees

The trees included in this assessment include a total number of forty four (44). In some instances, where there is a group of similar trees they have been assigned one tree identification number. For example, the stand (or group) of densely spaced Swamp She-Oaks located towards the southern boundary have been identified as T41 and T42. For these groups of trees, an average calculation has been made to provide an overall Tree Protection Zone for these trees.

The tree identification number for reference purposes is denoted on the Preliminary Tree Retention Values Plan in **Appendix 3**. The numbers on the plan correlate with the Tree Assessment Schedule (**Appendix 4**). Some additional trees that were not shown on the original site plan provided have been plotted on the Preliminary Tree Retention Values Plan and their approximate positions by taking offsets from existing features. Site context photographs of the trees can be found in **Appendix 5**.

3.3 Exempt Trees

Under the provisions of Council's *Consolidated Development Control Plan 2005*, five (5) trees included in this assessment are exempt (not protected) and are located within the site. As such, these trees may be removed without requiring consent from Council. The exempt trees include:

Tree No.	Tree Species	Exemption
T15 & T16	<i>Syagrus romanzoffiana</i> (Cocos Palm)	Exempt species
T17	<i>Cinnamomum camphora</i> (Camphor Laurel)	Exempt species
T18	<i>Robinia pseudoacacia</i> (Black Locust)	Exempt species
T8	<i>Eucalyptus sp.</i> (Eucalypt)	Dead tree

4. DISCUSSION

- 4.1 The three (3) Brush Box street trees (including T1, T2 and T31) located in the grass verge adjacent to Water Street are considered to have a moderate retention value and should be retained and protected as part of any future development on the site.
- 4.2 The row of seven (7) Eucalypts located to the rear north western corner of the site (identified as T3) have been lopped at approximately 7.5 metres above ground level, resulting in single trunks with no secondary limbs, and epicormic growth only. Due to this poor pruning practice, the trees have very poor form and are unable to develop into a well structured tree. As such, they have been allocated a low retention value and are not considered worthy of being a constraint to any future development on the site.
- 4.3 The three (3) mature Sydney Blue Gums (being T5, T6, and T9) located to the front of the site are generally in fair condition and considered to have a moderate retention value. These trees are estimated to have a medium life expectancy of 15-40 years and as such should be retained and the specified Tree Protection Zones considered for the positioning of new structures on site.
- 4.4 There are twelve (12) mature Swamp She-Oaks located within the site (including T11-T14, T20-T27) that form a stand and make a significant contribution to canopy coverage and amenity to the site. Each of the trees are considered to have a moderate retention value. Should this group of trees be removed to accommodate the future building footprint, consideration should be given to replacement planting within the site to compensate for loss of amenity.
- 4.5 There are several low and very low retention value trees located to the front of the site (including T4, T8, T10, T15-T19, and T28-T30). None of these trees are considered significant or worthy of being a constraint to any future development on the property, and several of these trees are exempt species and can be removed without requiring permission from Council as noted in section 3.3 of this report.
- 4.6 The stand of predominantly Swamp She-Oaks (identified as T41 and T42) as well as the individually identified Swamp She-Oaks (identified as T35, T39 and T40) are located along the southern boundary of the site, with some of the trees located within the site and some located immediately adjacent to the site in the public reserve. The stand of trees is dense and consists primarily of mature Swamp She-Oaks which are a locally occurring species commonly found along the Cooks River Valley. The health and condition of each individual tree within the stand varies greater, however is generally considered to be fair to poor. Despite this, the trees as a whole provide a great deal of canopy cover and amenity to the southern end of the site and the adjacent reserve. Overall, the stand of trees (identified as T41 and T42) in their entirety are considered to have a moderate to high retention value and should be retained and protected as part of any future development on the site. An overall Tree Protection Zone (TPZ) of 3 metres from the existing fence line has been nominated for the stand of trees (T41 and T42), while the largest trees located in the stand or nearby (T35, T39 and T40) have been allocated a specific TPZ based on Diameter at Breast Height (DBH) measurements to ensure appropriate setback distances are considered in the future development of the southern end of the site.
- 4.7 T36 (Lemon Scented Gum), T37 and T38 (both Swamp She-Oak) are located in the reserve to the south western corner of the site. Whilst the trees are located immediately adjacent to the existing chainlink fence, the southern boundary line is located outside the TPZ of the trees. As such, the future development of the site should not result in any adverse impact upon the trees providing that future works sit within the existing site boundaries.
- 4.8 T32, T33 (Weeping Bottlebrush) and T34 (Native Frangipani) are not shown on the survey plan however appear to be located within the site or within very close proximity to the site on the Cooks River reserve. Each of the trees are considered to have a low retention value given their relatively small crown size. If the existing cycle path/walkway is retained in its current location it is unlikely these trees will be adversely impacted upon by any future development of the site.

- 4.9 There are a number of large shrubs and small trees located in the neighbouring residential properties to the north of the site including T43 (Weeping Bottlebrush) and T44 (Crepe Myrtle). While there was no access directly to the trees, nor visibility to view trunk diameter, a general setback distance has been allocated to the two trees. It is recommended any future building or structure should be a minimum two metre setback distance from the northern boundary line to avoid any potential adverse impact upon the neighbouring trees.

5. CONCLUSION & RECOMMENDATIONS

- 5.1 The site comprises a number of allotments that are zoned by Council as General Industrial. Located to the western side of Water Street, the site adjoins residential properties to the northern boundary, industrial premises to the western boundary, and the Cooks River reserve to the southern boundary which includes a cycle path and walkway.
- 5.2 The site itself has relatively few trees in relation to the size of the site. The majority of trees are located to the front eastern boundary that adjoins Water Street, with some trees extending into the site along the allotment boundary between Lot 1 & 2 in D.P.603465 from the front boundary. The remaining trees included in this assessment are located close to the southern boundary, located either on the site or immediately adjacent to the site in the Cooks River reserve which forms a riparian corridor. A large stand of mature *Casuarina glauca* (Swamp She-Oaks) stretch along the extent of the southern boundary. Swamp She-Oak is a locally occurring tree species, which is commonly found growing along the Cooks River.
- 5.3 A total of forty four (44) trees are included in this preliminary tree assessment and can be summarised as follows:
- (a) There are nine (9) trees considered to have a very low retention value, and eleven (11) trees considered to have a low retention value. None of these trees are considered significant or worthy of being a constraint to any future development on the site.
 - (b) There are a total of twenty two (22) trees considered to have a moderate retention value. Some of these trees are located on neighbouring properties, the grass council verge or the Cooks River reserve. Whilst these trees are not considered to hold high significance, they are generally considered to be in good health and fair condition making a substantial contribution to the amenity of the site and surrounding area. All trees located on adjacent land must be retained.
 - (c) T20-T27 (inclusive) are a group of mature Swamp She-Oaks located centrally within the site and are considered to have a moderate retention value. Whilst a moderate retention value tree should be retained where possible, it may not always be practical to retain the tree and also meet with other objectives in developing the site. If the future building design necessitates the removal of these trees, then compensatory planting should be recommended as part of the future landscaping of the site.
 - (d) A total of two (2) groups of trees are considered to have a moderate to high retention value, comprising the large, dense stand of Swamp She-Oak located to the southern end of the site. These trees are mostly locally occurring species and in their entirety make a significant contribution to amenity and canopy cover on and near the site. These trees should be retained and protected as part of any future development on the site.
- 5.4 Any future development of the site should consider the recommended setback distances shown on the Preliminary Tree Retention Values Plan in **Appendix 3** which corresponds with the information shown in the Tree Assessment Schedule in **Appendix 4**.

If you have any questions regarding this report please do not hesitate to contact the undersigned.



Joanne Leigh

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Member of I.A.C.A. (Institute of Australian Consulting Arborists)

Member of I.S.A (International Society of Arboriculture)

Assumptions

Care has been taken to obtain all information from reliable sources. All data has been verified as far as possible. However Joanne Leigh – Consulting Arborist can neither guarantee nor be responsible for the accuracy of information provided by others.

Unless stated otherwise:

- Information contained in this report covers only the tree that was examined and reflects the condition of the tree at the time of inspection: and
- The inspection was limited to visual examination of the subject tree without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject tree may not arise in the future.

6. REFERENCES

- Draper, Danny B. and Richards, Peter A (2009) "Dictionary for Managing Trees in Urban Environments". CSIRO Publishing, Collingwood, VIC Australia
- Harris, R.W; Clark, J.R; & Matheny, N.P (2004) Arboriculture; Integrated Management of Landscape Trees, Shrubs & Vines 4th Edition, Prentice Hall, New Jersey.
- Mattheck, Claus (2007) "Updated Field Guide for Visual Tree Assessment". Karlsruhe Research Centre, Germany.
- Standards Australia (2009) AS2970-2009 "Protection of Trees on Development Sites", Sydney.
- Strathfield Council's relevant planning documents

APPENDIX 1: TREE INSPECTION INVENTORY NOTES

The values for terminology provided below are sourced from SRIV© Sustainable Retention Index Value © From Draper BD and Richards PA 2009, Dictionary for Managing Trees in Urban Environments, Institute of Australian Consulting Arboriculturists (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.

Age: Most trees have a stable biomass for the major proportion of their life. The estimation of the age of a tree is based on the knowledge of the expected lifespan of the taxa in situ divided into three distinct stages of measurable biomass, when the exact age of the tree from its date of cultivation or planting is unknown and can be categorized as Young, Mature and Over-mature.

Young - Tree aged less 20% of life expectancy, in situ.

Mature - Tree aged 20-80% of life expectancy, in situ.

Over-mature - Tree aged greater than >80% of life expectancy, in situ, or senescent with or without reduced vigour, and declining gradually or rapidly but irreversibly to death.

Height: In metres (estimated)

Spread: Average diameter of canopy in metres (estimated)

Crown class:

(D) Dominant (crown extends above general canopy; not restricted by other trees)

(C) Co-dominant (crown forms the bulk of the general canopy but crowded by other trees)

(I) Intermediate (crown extends into dominant/codominant canopy but quite crowded on all sides)

(S) Suppressed (crown development restricted from overgrowing trees)

Vigour: Ability of a tree to sustain its life processes. This is independent of the condition of a tree but may impact upon it. Vigour can appear to alter rapidly with change of seasons (seasonality) e.g. dormant, deciduous or semi-deciduous trees. Vigour can be categorized as:

Normal Vigour Ability of a tree to maintain and sustain its life processes. This may be evident by the typical growth of leaves, crown cover and crown density, branches, roots and trunk and resistance to predation. This is independent of the condition of a tree but may impact upon it, and especially the ability of a tree to sustain itself against predation.

High Vigour Accelerated growth of a tree due to incidental or deliberate artificial changes to its growing environment that are seemingly beneficial, but may result in premature aging or failure if the favourable conditions cease, or promote prolonged senescence if the favourable conditions remain, e.g. water from a leaking pipe; water and nutrients from a leaking or disrupted sewer pipe; nutrients from animal waste, a tree growing next to a chicken coop, or a stock feed lot, or a regularly used stockyard; a tree subject to a stringent watering and fertilising program; or some trees may achieve an extended lifespan from continuous pollarding practices over the life of the tree.

Low Vigour Reduced ability of a tree to sustain its life processes. This may be evident by the atypical growth of leaves, reduced crown cover and reduced crown density, branches, roots and trunk, and a deterioration of their functions with reduced resistance to predation. This is independent of the condition of a tree but may impact upon it, and especially the ability of a tree to sustain itself against predation.

Dormant Tree Vigour Determined by existing turgidity in lowest order branches in the outer extremity of the crown, with good bud set and formation, and where the last extension growth is distinct from those most recently preceding it, evident by bud scale scars. Normal vigour during dormancy is achieved when such growth is evident on a majority of branches throughout the crown.

Useful Life Expectancy: The life span of a tree in the urban environment may often be reduced by the influences of encroachment and the dynamics of the environment and can be categorized as Immediate, Short Term, Medium Term and Long Term.

Short Term - Period of time less than 15 years.

Medium Term - Period of time 15 - 40 years.

Long Term - Period of time greater than >40 years.

Condition: A tree's crown form and growth habit, as modified by its environment (aspect, suppression by other trees, soils), the stability and viability of the root plate, trunk and structural branches (first (1st) and possibly second (2nd) order branches), including structural defects such as wounds, cavities or hollows, crooked trunk or weak trunk/branch junctions and the effects of predation by pests and diseases. These may not be directly connected with vigour and it is possible for a tree to be of normal vigour but in poor condition. Condition can be categorized as:

Good Condition - Tree is of good habit, with crown form not severely restricted for space and light, physically free from the adverse effects of predation by pests and diseases, obvious instability or structural weaknesses, fungal, bacterial or insect infestation and is expected to continue to live in much the same condition as at the time of inspection provided conditions around it for its basic survival do not alter greatly. This may be independent from, or contributed to by vigour.

Fair Condition - Tree is of good habit or misshapen, a form not severely restricted for space and light, has some physical indication of decline due to the early effects of predation by pests and diseases, fungal, bacterial, or insect infestation, or has suffered physical injury to itself that may be contributing to instability or structural weaknesses, or is faltering due to the modification of the environment essential for its basic survival. Such a tree may recover with remedial works where appropriate, or without intervention may stabilise or improve over time, or in response to the implementation of beneficial changes to its local environment. This may be independent from, or contributed to by vigour.

Poor Condition - Tree is of good habit or misshapen, a form that may be severely restricted for space and light, exhibits symptoms of advanced and irreversible decline such as fungal, or bacterial infestation, major die-back in the branch and foliage crown, structural deterioration from insect damage e.g. termite infestation, or storm damage or lightning strike, ring barking from borer activity in the trunk, root damage or instability of the tree, or damage from physical wounding impacts or abrasion, or from altered local environmental conditions and has been unable to adapt to such changes and may decline further to death regardless of remedial works or other modifications to the local environment that would normally be sufficient to provide for its basic survival if in good to fair condition. Deterioration physically, often characterised by a gradual and continuous reduction in vigour but may be independent of a change in vigour, but characterised by a proportionate increase in susceptibility to, and predation by pests and diseases against which the tree cannot be sustained. Such conditions may also be evident in trees of advanced senescence due to normal phenological processes, without modifications to the growing environment or physical damage having been inflicted upon the tree. This may be independent from, or contributed to by vigour.

APPENDIX 2: CRITERIA FOR ASSESSMENT OF LANDSCAPE SIGNIFICANCE

The level of landscape significance has been determined using the following key criteria as a guide:

1. SIGNIFICANT

- The subject tree is listed as a Heritage Item under the Local Environment Plan (LEP) with a local, state or national level of significance; or
- The subject tree forms part of the curtilage of a Heritage Item (building /structure /artifact as defined under the LEP) and has a known or documented association with that item; or
- The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event;
- The subject tree is scheduled as a Threatened Species or is a key indicator species of an Endangered Ecological Community as defined under the Threatened Species Conservation Act 1995 (NSW) or the Environmental Protection and Biodiversity Conservation Act 1999; or
- The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter or nesting tree for endangered or threatened fauna species; or
- The subject tree is a Remnant Tree, being a tree in existence prior to development of the area; or
- The subject tree has a very large live crown size exceeding 300m² with normal to dense foliage cover, is located in a visually prominent in the landscape, exhibits very good form and habit typical of the species and makes a significant contribution to the amenity and visual character of the area by creating a sense of place or creating a sense of identity; or
- The tree is visually prominent in view from surrounding areas, being a landmark or visible from a considerable distance.

2. VERY HIGH

- The tree has a strong historical association with a heritage item (building/structure/artifact/garden etc) within or adjacent the property and/or exemplifies a particular era or style of landscape design associated with the original development of the site; or
- The subject tree is listed on Council's Significant Tree Register; or
- The tree is a locally-indigenous species and representative of the original vegetation of the area and the tree is located within a defined Vegetation Link / Wildlife Corridor or has known wildlife habitat value;
- The subject tree has a very large live crown size exceeding 200m²; a crown density exceeding 70% Crown Cover (normal-dense), is a very good representative of the species in terms of its form and branching habit or is aesthetically distinctive and makes a positive contribution to the visual character and the amenity of the area.

3. HIGH

- The tree has a suspected historical association with a heritage item or landscape supported by anecdotal or visual evidence; or
- The tree is a locally-indigenous species and representative of the original vegetation of the area; or
- The subject tree has a large live crown size exceeding 100m²; and
- The tree is a good representative of the species in terms of its form and branching habit with minor deviations from normal (eg crown distortion/suppression) with a crown density of at least 70% Crown Cover (normal); and
- The subject tree is visible from the street and surrounding properties and makes a positive contribution to the visual character and the amenity of the area.

4. MODERATE

- The subject tree has a medium live crown size exceeding 40m²; and
- The tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc) with a crown density of more than 50% Crown Cover (thinning to normal); and
- The tree makes a fair contribution to the visual character and amenity of the area; and
- The tree is visible from surrounding properties, but is not visually prominent – view may be partially obscured by other vegetation or built forms.
- The tree has no known or suspected historical association

5. LOW

- The subject tree has a small live crown size of less than 40m² and can be replaced within the short term with new tree planting; or
- The tree is a poor representative of the species, showing significant deviations from the typical form and branching habit with a crown density of less than 50% Crown Cover (sparse); and
- The subject tree is not visible from surrounding properties (visibility obscured) and makes a negligible contribution or has a negative impact on the amenity and visual character of the area.

6. VERY LOW

- The subject tree is listed as an Environment Weed Species in the relevant Local Government Area, being invasive, or a nuisance species.
- The subject tree is scheduled as exempt (not protected) under the provisions of the local Council's Tree Preservation Order due to its species, nuisance or position relative to buildings or other structures.

7. INSIGNIFICANT

- The tree is a declared Noxious Weed under the Noxious Weeds Act (NSW) 1993

Ref:- Morton, Andrew (2003) *Criteria for Assessment of Landscape Significance Earthscape Horticultural Services. Sydney, Australia*

Rev: Description: Date:

Contractors to check and verify all dimensions, levels and boundaries prior to commencement of any work on site. Check location of all underground services prior to excavations or drilling. All workmanship to be in accordance with current trade practice, new standards, specifications and local authority bylaws. Seek resource and building consents as required.

7-33 WATER STREET
STRATHFIELD SOUTH
NSW 2136

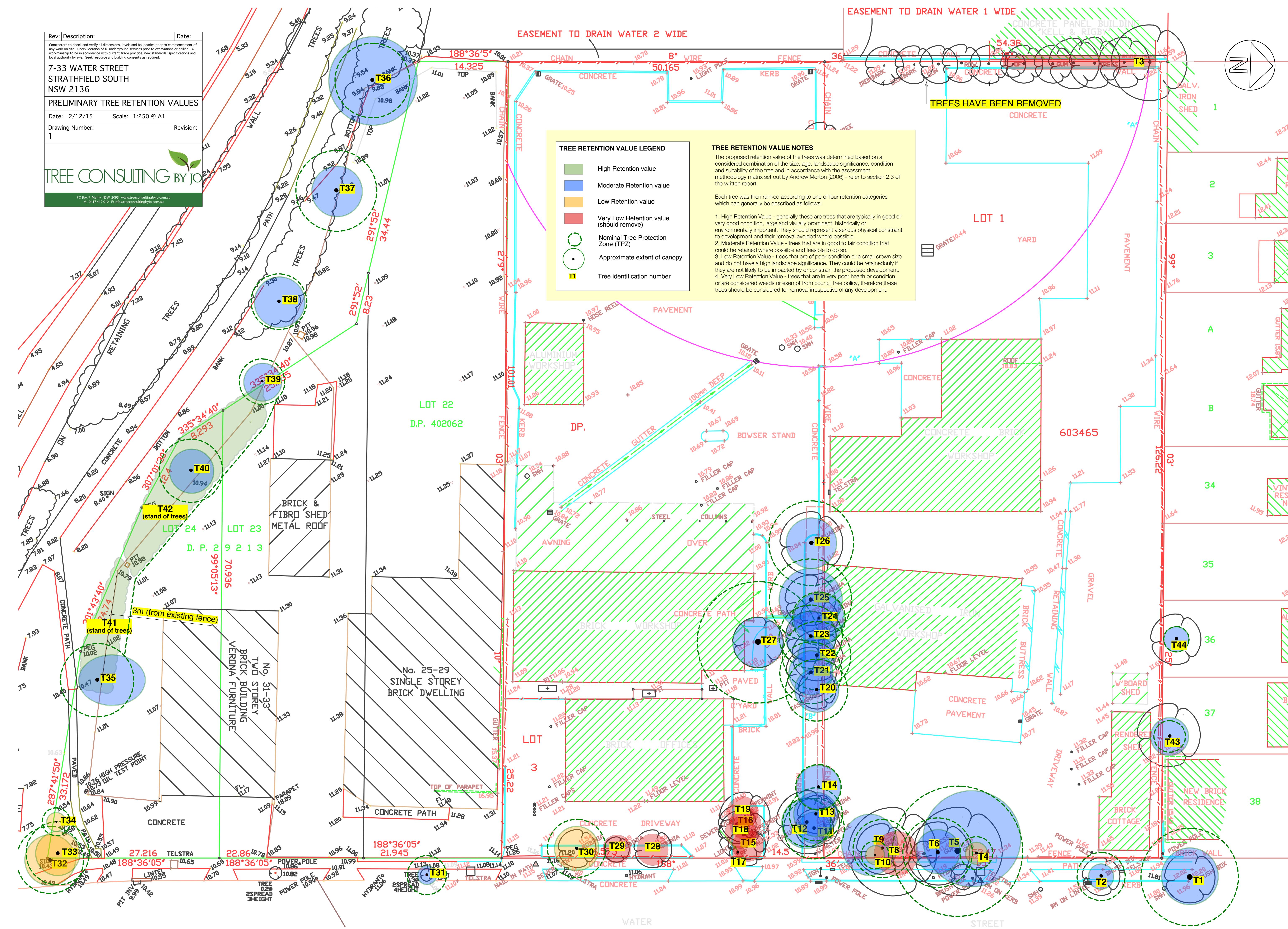
PRELIMINARY TREE RETENTION VALUES

Date: 2/12/15 Scale: 1:250 @ A1

Drawing Number: 1 Revision:

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TREE RETENTION VALUE LEGEND

High Retention value

Moderate Retention value

Low Retention value

Very Low Retention value (should remove)

Nominal Tree Protection Zone (TPZ)

Approximate extent of canopy

Tree identification number

TREE RETENTION VALUE NOTES

The proposed retention value of the trees was determined based on a considered combination of the size, age, landscape significance, condition and suitability of the tree and in accordance with the assessment methodology matrix set out by Andrew Morton (2006) - refer to section 2.3 of the written report.

Each tree was then ranked according to one of four retention categories which can generally be described as follows:

1. High Retention Value - generally these are trees that are typically in good or very good condition, large and visually prominent, historically or environmentally important. They should represent a serious physical constraint to development and their removal avoided where possible.

2. Moderate Retention Value - trees that are in good to fair condition that could be retained where possible and feasible to do so.

3. Low Retention Value - trees that are of poor condition or a small crown size and do not have a high landscape significance. They could be retained only if they are not likely to be impacted by or constrain the proposed development.

4. Very Low Retention Value - trees that are in very poor health or condition, or are considered weeds or exempt from council tree policy, therefore these trees should be considered for removal irrespective of any development.

APPENDIX 4: TREE ASSESSMENT SCHEDULE

Tree No.	Plant Name (Species/Common Name)	Age	Tree Height (m)	Average Canopy spread (m)	DBH (m)	DGL (m)	Crown class D/G/S	Vigour	Condition	Useful Life Expectancy	Landscape Significance	Tree Retention Value	Observations/comments	Tree Protection Zone (TPZ) radius in metres	Structural Root Zone (SRZ) radius in metres
	<i>Lophostemon confertus</i> (Broad Box)														
1	<i>Lophostemon confertus</i> (Broad Box)	M	12.0	9.0	0.64	0.77	D	low	good	long (>40yrs)	moderate	moderate	Council street tree	7.7	3.0
2	<i>Lophostemon confertus</i> (Broad Box)	M	7.5	4.0	0.24 0.21	0.41	D	low	good	long (>40yrs)	low	moderate	Council street tree, co-dominant in form with main branch located at 1m above ground level	3.8	2.3
	7 x <i>Eucalyptus</i> sp. (Eucalypt)	M	7.5	1.0	0.17-0.30	0.20-0.35	C	epicormic growth only	poor	transient (<5yrs)	low	very low	A row of 7 x Eucalypts each has been topped at approx. 7.5m so that they don't overhang the road. They are all in poor to moderate condition. Trees will not be removed but should be removed due to excessive pruning and very poor form.	n/a	n/a
3	<i>Casuarina glauca</i> (Swamp She-Oak)	S	8.0	3.5	multi-trunked	0.30	S	normal	fair	medium (15-40yrs)	low	low	Multi-trunked specimen from base, suppressed by 15 semi-mature specimen, deadwood minor.	2.6	2.0
4	<i>Eucalyptus saligna</i> (Siding Blue Gum)	M	16.0	14.5 (bias to north)	0.86	1.13	C	low	fair	medium (15-40yrs)	moderate	moderate	Decay to lower section (western side) of main trunk, exposed woody roots some decay evident, branch stubs, deadwood minor.	10.3	3.5
6	<i>Eucalyptus saligna</i> (Siding Blue Gum)	M	14.0	7.0	0.46	0.58	C	low	fair	medium (15-40yrs)	moderate	moderate	Decay and bore damage to western side of lower section of trunk, root buttress present, presence of kino indicative of tree's response to decay.	5.5	2.6
7	<i>Cupressus sempervirens</i> (Mediterranean Cypress)	M	11.0	3.5	0.31	0.34	S	low	poor	short (5-15yrs)	low	low	Suppressed specimen	3.7	2.1
8	<i>Eucalyptus</i> sp. (Eucalypt)	M	14.0	7.0	-	-	-	-	-	Dead tree	-	very low	Dead tree - should be removed	-	-
9	<i>Eucalyptus saligna</i> (Siding Blue Gum)	M	14.0	8.0	0.38	0.52	C	low	fair	medium (15-40yrs)	moderate	moderate	Decay and bore damage evident, presence of kino indicative of tree's response to decay.	4.6	2.5
10	<i>Casuarina glauca</i> (Swamp She-Oak)	M	9.5	3.0	0.18	0.21	S	normal	fair	medium (15-40yrs)	low	low	Fair form specimen, suppressed canopy	2.2	1.7
11	<i>Casuarina glauca</i> (Swamp She-Oak)	M	15.0	5.0	0.4	0.55	C	low	fair	medium (15-40yrs)	low	low	DBHDGL estimates only - no access	4.8	2.6
12	<i>Casuarina glauca</i> (Swamp She-Oak)	M	14.0	9.0	0.20 0.35	0.5	C	low	fair	medium (15-40yrs)	low	low	DBHDGL estimates only - no access	3.8	2.5
13	<i>Casuarina glauca</i> (Swamp She-Oak)	M	15.0	7.0	0.35	0.48	C	low	fair	medium (15-40yrs)	low	low	DBHDGL estimates only - no access	4.2	2.4
14	<i>Casuarina glauca</i> (Swamp She-Oak)	M	15.0	7.0	0.3	0.35	C	low	fair	medium (15-40yrs)	low	low	DBHDGL estimates only - no access	3.6	2.1
15	<i>Syagrus romanzoffiana</i> (Cocco Palm)	M	12.0	5.5	0.2	-	D	normal	good	medium (15-40yrs)	very low	very low	Exempt species in accordance with Council's DOP 2005.	-	-
16	<i>Syagrus romanzoffiana</i> (Cocco Palm)	M	12.0	5.5	0.2	-	D	normal	good	medium (15-40yrs)	very low	very low	Exempt species in accordance with Council's DOP 2005.	-	-
17	<i>Cinnamomum camphora</i> (Camphor Laurel)	S	5.0	2.0	multi-trunked	multi-trunked	S	normal	fair	long (>40yrs)	very low	very low	Exempt species in accordance with Council's DOP 2005.	-	-

Tree No.	Plant Name (Species/Common Name)	Age	Tree Height (m)	Average Canopy spread (m)	DHR (m)	DGL (m)	Crown class D/G/S	Vigour	Condition	Useful Life Expectancy	Landscape Significance	Tree Retention Value	Observations/comments	Tree Protection Zone (TPZ) radius in metres	Structural Root Zone (RPZ) radius in metres
18	<i>Robinia pseudacacia</i> (Black Locust)	S	6.5	6	multi- trunked	multi- trunked	S	normal	fair	medium (15-40yrs)	very low	very low	Exempt species in accordance with Council's DCP 2005	-	-
19	<i>Prunus americana</i> (African)	S	6	3	multi- trunked	multi- trunked	C	normal	fair	medium (15-40yrs)	very low	very low	Fruit tree	-	-
20	<i>Casuarina glauca</i> (Swamp She-Oak)	M	13	7		0.45	C	normal	fair	medium (15-40yrs)	moderate	moderate		3.8	2.4
21	<i>Casuarina glauca</i> (Swamp She-Oak)	M	12	7		0.54	S	low	fair	medium (15-40yrs)	moderate	moderate	Some twig dieback	4.9	2.6
22	<i>Casuarina glauca</i> (Swamp She-Oak)	M	14	6		0.61	C/S	low	fair	medium (15-40yrs)	moderate	moderate	Located close to building (<1m)	5.4	2.7
23	<i>Casuarina glauca</i> (Swamp She-Oak)	M	13	6		0.52	C	low	fair	medium (15-40yrs)	moderate	moderate		5.0	2.5
24	<i>Casuarina glauca</i> (Swamp She-Oak)	M	14	8		0.47	S	low	poor	medium (15-40yrs)	moderate	moderate	Suppressed and located close to building (<0.5m), small cavity and poor pruning cuts	4.2	2.4
25	<i>Casuarina glauca</i> (Swamp She-Oak)	M	15	10		0.54	C	low	fair	medium (15-40yrs)	moderate	moderate	Some decay in main trunk	6.5	2.9
26	<i>Casuarina glauca</i> (Swamp She-Oak)	M	15	8		0.56	C	normal	fair	medium (15-40yrs)	moderate	moderate		6.7	2.6
27	<i>Casuarina glauca</i> (Swamp She-Oak)	M	15	8		0.77	C	normal	fair	medium (15-40yrs)	moderate	moderate		9.6	3.0
28	<i>Robinia pseudacacia</i> 'Frisia' (Golden Robinia)	M	9.5	5		0.33	D	low	poor	transient (<5yrs)	low	very low	Co-dominant at 2m above ground level with included branch junction, one large limb previously removed, deadwood major	4.0	2.3
29	<i>Robinia pseudacacia</i> 'Frisia' (Golden Robinia)	M	7.5	4.5		0.29	C	low	poor	transient (<5yrs)	low	very low	Included branch junction at 2.5m, reduced crown density less than 50%, deadwood major	2.9	2.0
30	<i>Robinia pseudacacia</i> 'Frisia' (Golden Robinia)	M	10.5	7		0.38	C	normal	fair	short (5-15yrs)	low	low	Decay evident, very poor form, reduced crown density approx. 70%, deadwood	4.6	2.5
31	<i>Lophostemon confertus</i> (Red Box)	S	9.5	3		0.26	D	normal	good	long (>40yrs)	low	moderate	Council street tree, co-dominant in form at 2m, good semi-structure specimen	3.1	2.0
32	<i>Callistemon viminalis</i> (Wesping Bottlebrush)*	M	7	8	multi- trunked	0.27 0.49	C	normal	fair	medium (15-40yrs)	low	low	Multi-trunked from base - possibly located on public land (tree not shown on survey plan)	5.3	2.4
33	<i>Callistemon viminalis</i> (Wesping Bottlebrush)	M	7	7	multi- trunked	0.27 0.29	C	normal	fair	medium (15-40yrs)	low	low	Multi-trunked from base - (tree not shown on survey plan)	5.0	2.3
34	<i>Myrsineporum laurum</i> (Rat Tail Fraxinoid)	M	8	3		0.18	C	normal	good	medium (15-40yrs)	low	low		2.2	1.7
35	<i>Casuarina glauca</i> (Swamp She-Oak)	M	14	8		0.46	D	normal	good	medium (15-40yrs)	moderate	moderate	Lopsided canopy with bias to north, one of the larger specimens in the grove	5.8	2.8
36	<i>Corymbia citrifolia</i> (Lemon Scented Gum)*	M	17	14		0.49	D	normal	good	long (>40yrs)	moderate	moderate	Cavity approx. 10m to southern side of main trunk due to previous branch tear out, good reaction to pruning. Overall a good representation for the species	5.9	2.7
37	<i>Casuarina glauca</i> (Swamp She-Oak)	M	14	9		0.53	C	normal	good	medium (15-40yrs)	moderate	moderate		6.4	2.6
38	<i>Casuarina glauca</i> (Swamp She-Oak)*	M	13	7		0.37	C	normal	good	medium (15-40yrs)	moderate	moderate		4.4	2.5
39	<i>Casuarina glauca</i> (Swamp She-Oak)*	M	12	7		0.45	C	normal	good	medium (15-40yrs)	moderate	moderate		3.6	2.4

Tree No.	Plant Name (Species/Common Name)	Age	Tree Height (m)	Average Canopy spread (m)	DBH (m)	DGL (m)	Crown class D/G/S	Vigour	Condition	Useful Life Expectancy	Landscape Significance	Tree Retention Value	Observations/comments	Tree Protection Zone (TPZ) radius in metres	Structural Root Zone (SRZ) radius in metres
40	<i>Casuarina glauca</i> (Swamp She-Oak)	M	12	7	0.42	0.6	C	normal	good	medium (15-40yrs)	moderate	moderate		5.0	2.7
41	Stand of trees. Predominantly <i>Casuarina glauca</i> (Swamp She- Oak), with some <i>Melaleuca</i> <i>triaris</i> (Swamp She-Oak) in Strathfield	S-M	average 5m	average 3m	0.25	0.35	C/S	normal	good	medium (15-40yrs)	moderate	moderate-high	Locally occurring species that forms part of Cooks River Valley vegetation. A dense stand of mostly She-Oaks. TPZ/SRZ calculations are an estimation only.	3.0 (setback distance from existing fence)	2.1
42	Stand of trees. Predominantly <i>Casuarina glauca</i> (Swamp She- Oak).	S-M	average 12m	average 5m	0.25	0.39	C/S	normal	good	medium (15-40yrs)	moderate	moderate-high	Locally occurring species that forms part of Cooks River Valley vegetation. A dense stand of mostly She-Oaks. TPZ/SRZ calculations are an estimation only.	3.0 (setback distance from existing fence)	2.2
43	<i>Callistemon viminalis</i> (Weeping Bottlebrush)*	M	7	6	not visible	not visible	C	normal	good	medium (15-40yrs)	moderate	moderate	Located in neighbouring property at 4 William Street.	2.50	2
44	<i>Lagerstroemia indica</i> (Crape Myrtle)	M	5	5	not visible	not visible	C	normal	good	medium (15-40yrs)	moderate	moderate	Located in neighbouring property at 6 William Street.	2.00	1.5

* Trees located on neighbouring property or council verge (also shaded blue)

APPENDIX 5: PHOTOGRAPHS



Photograph 1: Viewing north west at the site from Water Street, to the existing trees located to the northern end of the site.



Photograph 2: Viewing west along the Cooks River reserve, with the fence line of the site visible to the right hand side.



Photograph 3: Viewing west along the southern boundary.



Photograph 4: Viewing south from within the site, with the prominent stand of Swamp She-Oaks just visible in the background.



Photograph 5: Viewing west, at the northern end of the western boundary at the 7 x lopped Eucalypts (T3)