

# ARBORICULTURAL REPORT



Kingsgrove Surface Works

**(Including stormwater under bore, motorway complex facility and C1 tunnelling compound)**

WestConnex New M5

Prepared for CDS-JV

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## 1. Introduction

The WestConnex scheme which is a NSW Government initiative to connect Sydney's west and south-west with the Sydney Airport and Port Botany precinct. It is being delivered by the Sydney Motorway Corporation (SMC), formerly the WestConnex Delivery Authority (WDA). Part of that project is the WestConnex Stage 2 referred to as the New M5. The Project will run from the existing M5 East corridor at Beverly Hills via a tunnel to St Peters, providing improved access to the airport, South Sydney and Port Botany precincts. The Project will substantially improve the east - west corridor access between the Sydney CBD, Port Botany and Sydney Airport precincts and the South West growth areas. The Project will deliver approximately nine (9) kilometers of two-lane twin tunnels with capacity to operate three lanes in the future, motorway to motorway connections to the King Georges Road Interchange Upgrade at Beverly Hills, and a new interchange at St Peters. Infrastructure Approval was granted for the project on 20 April 2016. Major works are expected to commence in mid-2016 and the New M5 tunnel is scheduled to open to traffic in late 2019.

The CPB Contractors Dragados Samsung Joint Venture (CDS-JV) has been awarded the design and construction of the New M5.

CPB Dragados Samsung Joint Venture (CDS-JV) has commissioned Australian Tree Consultants Pty Ltd (ATC) to prepare an Arboricultural Impact Assessment Report associated with four proposed scopes of works. The scopes of work being:

- Scope 1: Establishment of shared pedestrian path near tunnel site. Installation of construction infrastructure.
- Scope 2: Installation of Stormwater under bore on the bank of Wolli Creek.
- Scope 3: New motorway complex for southern compound.
- Scope 4: Use of Tullawalla pathway for access/egress for truck, plant and equipment.

The proposed works are part of the WestConnex New M5 Development Project.

The purpose of this report is to:

Identify trees that are likely to be affected by both proposed scope of works.

- Assess the current overall health and condition of the subject trees.
- Evaluate the significance of the subject trees and assess their suitability for retention.

The Report has been developed to mirror the same requirements of the reports previously approved DPE and addresses the requirements of Condition B63 in accordance with Table 1.

Table 1: Condition of Approval B63 Compliance Table

<b>Condition</b>	<b>Requirement</b>	<b>Where addressed in this Report</b>
B63	The SSI must be designed to retain as many trees as possible and provide a net increase in the number of replacement trees. The Proponent must commission an independent experienced and suitably qualified arborist, to prepare a comprehensive Tree Report(s) prior to removing any trees on the periphery and/or outside the construction footprint as identified in the figures in Section 6 of the document referred to in condition A2(b), including any tree(s) removed along Euston Road. The Tree Report may be prepared for the entire SSI or separate reports may be prepared for individual areas where trees are required to be removed. The report(s) must identify the impacts of the SSI on trees and vegetation within and adjacent to the construction footprint. The report(s) must include:	This Report
B63(a)	a visual tree assessment with inputs from the design, landscape architect, construction team;	Section 4a: Site Observation Section 4c: Documents Meetings and Plans Referenced
B63(b)	consideration of all options to amend the SSI where a tree has been identified for removal, including realignment, relocation of services, redesign of or relocation of ancillary components (such as substations, fencing etc.) and reduction of standard offsets to underground services; and	Section 4c: Documents Meetings and Plans Referenced
B63(c)	measures to avoid the removal of trees or minimise damage to existing trees and is to ensure the health and stability of those trees to be protected. This includes details of any proposed canopy or root pruning, excavation works, site controls on waste disposal, vehicular access, storage of materials and protection of public utilities.	Section 6: Recommendations
	In the event that trees are to be removed, then replacement trees are to be planted within, or in close proximity to, the SSI boundary, including along Euston Road where feasible and reasonable. The location of the trees must be determined in consultation with the relevant council(s). The replacement trees are to have a minimum pot size of 75 litres. A copy of the report(s) must be submitted to the Secretary for approval prior to the removal, damage and/or pruning of any trees, including those affected by site establishment works. All recommendations of the report must be implemented by the Proponent, unless otherwise agreed by the Secretary.	Consistent with earlier approved Tree Reports replanting will be detailed in the Urban Design and Landscape Plan in consultation with relevant councils.

## 2. Study Area – Kingsgrove.

The study area comprises four (4) different sites with approximately 1.15 ha of land adjacent to the existing M5 corridor at Kingsgrove.

The study area was chosen to ensure consistency with Condition of Approval B63, namely that the report must identify the impacts or potential impacts of the SSI on trees and vegetation within and adjacent to the construction footprint.

Future works that may affect trees beyond the study area will be addressed in a tree report prepared and approved before any such works.



**Map 1.** The four (4) sites of interest.

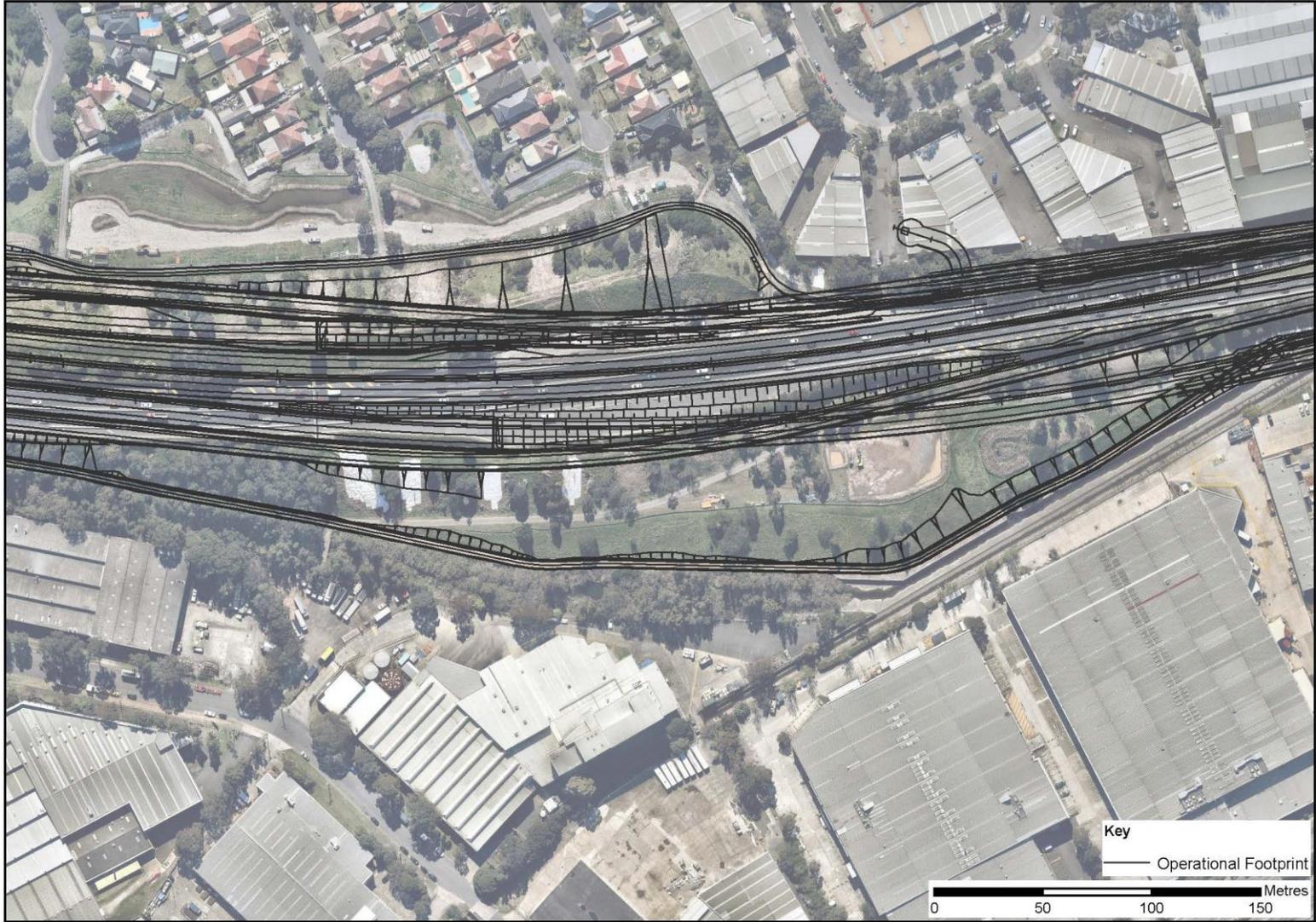
### 3. Scope of works

- **Shared pedestrian path near tunnelling site entrance** – Trees north of the tunnelling site are located within the area of the new shared pedestrian path around the tunnelling works site at C1. These trees will require removal to enable the shared path to be installed. One tree is also within the footprint of the tunnel construction site and requires removal to install tunnel support infrastructure.
- **Stormwater under bore** - New stormwater infrastructure is proposed to be installed on the bank of Wolli Creek. The stormwater infrastructure will divert excess water from the northern compound in order to allow construction in the north to begin.

The exit locations at Wolli Creek will involve the construction of a coffer dam style headwall approximately 10m in length which will facilitate the exit points of two 1500mm stormwater pipes. This diversion design will remove the need for the current stormwater network which runs through the northern construction compound and allow the permanent construction works to begin. Any trees removed as part of this work will be replaced upon the completion of the project and detailed in the Urban Design and Landscaping Report.

A 10m buffer north and south along the Wolli Creek stormwater exit point has been included. The buffer exists to allow plant movements and appropriate access to the headwall.

- **Motorway complex** - A new motorway complex is proposed for the southern compound (see construction footprint in Map 2). This area has extensive sloping batters which will need to be removed in order to build the new structure. Trees located within the construction footprint of the proposed motorway will require complete removal in order for construction to begin.
- **Tullawalla pedestrian path** - The Tullawalla pedestrian path will be used as access/egress for truck, plant and equipment. Trees adjacent/overhanging this pathway will require pruning in order to establish clearances for the truck and plant.



**Map 2.** Operational footprint



## **4. METHODOLOGY**

### **a. Site Observations**

The subject trees were inspected on 22<sup>nd</sup> August 2016 and 22<sup>nd</sup> September 2016. [REDACTED] AQF Level 5 Consulting Arborist from Australian Tree Consultants Pty Ltd undertook the site inspection on the 22<sup>nd</sup> September to verify the tree data. The GNSS waypoints were collected as fifty nine (59) waypoints.

One hundred and forty six (146) trees were identified within the study area. Trees of the same species, with similar dimensions, growing in close proximity to each other, have been documented as a group and presented under a single way point. Trees located outside of the specified study area have not been included in this report. If trees located outside of the study area are likely to be impacted, additional arboricultural assessment will be required.

Details on species; measurements of height, canopy spread, diameter at breast height (DBH), Tree Protection Zones (TPZ) and Structural Root Zones (SRZ); and an assessment of the health, structure, retention value and recommended outcome for each of the subject trees is contained in Appendix A.

### **b. Visual Tree Inspection**

The subject trees were assessed in accordance with a stage one Visual Tree Assessment (VTA) as formulated by Mattheck & Breloer (1994), and practices consistent with modern arboriculture.

The following limitations apply to this methodology:

- Trees were inspected from ground level, without the use of any invasive or diagnostic tools and testing.
- Trees within adjacent properties or restricted areas were not subject to a complete visual inspection (i.e. defects and abnormalities may be present but not recorded).
- No aerial inspections or root mapping was undertaken.
- Tree heights, canopy spread and diameter at breast height (DBH) was estimated, unless otherwise stated.
- Tree identification was based on broad taxonomical features present and visible from ground level at the time of inspection.

### **c. Retention Value**

Tree Retention Value takes into account the significance of each of the subject trees and an assessment of their suitability for retention within the proposed development site (refer Appendix B).

#### **d. Documents, Meetings and Plans Referenced**

A tree assessment input meeting was held on 22<sup>nd</sup> September 2016 with this report Author and the following attendees;

- CDS-JV Project Engineer, Local Road Works
- CDS-JV Engineering Design Manager
- Hassell Studio Principal Urban Landscape Designer
- Hassell Studio Urban Landscape Designer
- CDS-JV – Environment Manager - East

The conclusions and recommendations of this report are based on the *Australian Standard, AS 4970-2009, Protection of Trees on Development Sites*.

## 5. RESULTS

Within the study area one hundred and forty six (146) trees were inspected.

All data of trees is contained in Appendix A Tree Schedule.

The Tree Schedule also identifies which trees need to be removed or can be retained with tree works undertaken. This is also illustrated in Maps 3 - 7.

Trees within the site need to be removed for the following reasons:

- Trees 1 – 7 Installation of shared pedestrian path and tunnel Support infrastructure (Map 3).
- Trees 8 – 34 Storm water under-boring (Map 4).
- Trees 35 – 55 Motorway complex (Map 5).

Trees within the site that can be retained if access to the footpath area is altered as suggested and discussed:

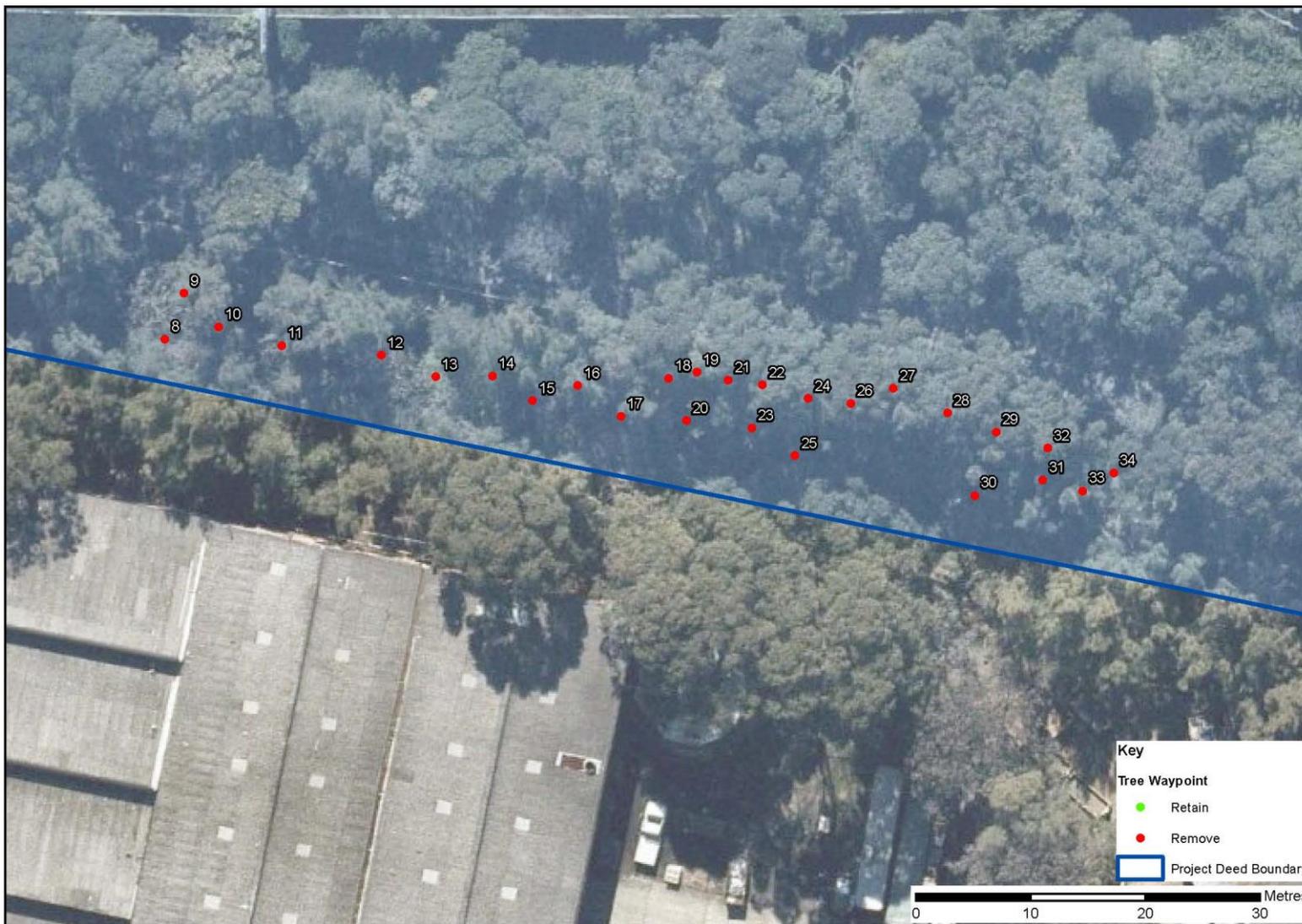
- Trees 56 – 59 Final decision still to be decided for trees in Tullawalla Pedestrian Path (Map 6).



**Map 3.** Location of trees to be removed red dot. Green dot trees retention/ or removal of trees under consideration.



**Map 4.** Trees proposed for removal from tunnelling site.



**Map 5.** Trees to be removed from storm water under boring site.



**Map 6.** Trees to be removed from Motorway complex.



**Map 7.** Tullawalla pedestrian path. Final plans for this area and whether the trees can be retained or removed pending final plans.



## **6. RECOMMENDATIONS - Tree Management Plan**

### **a. Trees recommended for retention**

The following tree protection measures will be required for trees suitable for retention currently is only trees No 56 – 59. If it is determined that trees No 56-59 cannot be retained then this section is not required.

- Tree protection fencing must be established around the perimeter of the TPZ. If the protective fencing requires temporary removal, trunk, branch and ground protection must be installed and must comply with *AS 4970-2009 - Protection of trees on development sites*.
- If temporary access for machinery is required within the TPZ, ground protection measures will be required. The purpose of ground protection is to prevent root damage and soil compaction within the TPZ. Ground protection may include a permeable membrane such as geotextile fabric beneath a layer of mulch, crushed rock or rumble boards.
- The area within the TPZ is to be mulched with material that complies with *AS 4454-2012, Composts, soil conditioners and mulches*, and should be maintained at a depth of 50 - 100 mm.
- Any additional construction activities within the TPZ of the subject trees must be assessed and approved by the project arborist, and must comply with *AS 4970-2009 - Protection of trees on development sites*.
- If any changes are made to Tree Protection Fencing it must be authorised by the site arborist prior to the fencing being removed.

Further information and guidelines on tree protection if required can be provided by Australian Tree Consultants.

### **b. The subject trees**

The tree management plan should be implemented for all subject trees assessed for retention which are trees No 56 – 59 (refer to Map 6 and Appendix A).

Scheduled inspections should be undertaken for all subject trees assessed for retention during the course of construction. Normally this is every two (2) weeks. Site diary for Arboricultural works must be kept at the onsite office for the duration of the project. All matters pertaining to tree management must be documented in this diary and signed off as each issue is resolved.

Trees outside of the study area that may be impacted during the works will require additional Arboricultural Assessment. Site arborist to organise as required.

### **c. Tree work**

- All pruning and/or tree removal work is to be carried out by an arborist with a minimum AQF Level 3 qualification in Arboriculture.

- All pruning must be in accordance with *Australian Standard AS 4373-2007, Pruning of Amenity Trees*.
- All pruning and/or tree removal work is to be carried out in accordance with the *NSW WorkCover Code of Practice for the Amenity Tree Industry (1998)*.
- Reference should also be undertaken for any tree works to the SafeWork Australia Guide to Managing Risks of Tree Trimming and Removal Work – 2016.
- Permission must be granted from the relevant consent authority, prior to removing or pruning of any of the subject trees.
- All tree material to be mulched and taken off site and stored for landscaping use or disposal.

## References

Australian Standard, AS 4373-2007, *Pruning of Amenity Trees*.

Australian Standard, AS 4970-2009, *Protection of Trees on Development Sites*.

Mattheck, C & Breloer, H (1994) 'Field Guide for Visual Tree Assessment' *Arboricultural Journal*, Vol 18 pp 1-23.

SafeWork Australia Guide to Managing Risks of Tree Trimming and Removal Work - 2016.

WorkCover NSW. 1998. *Code of Practice: Amenity Tree Industry*

## Appendix A - Tree schedule

Tunnelling compound												
No	Botanical name	Height (m)	Spread (m)	DBH (mm)	TPZ (m)	SRZ (m)	Health	Structure	Other notes	Retention value	Outcome	Reason for outcome
1	<i>Casuarina glauca</i>	5	2	150	2	1.5	Good	Good	Group of 5 trees	Low	Remove	Installation of shared path
2	<i>Casuarina glauca</i>	10	3	300	3.6	2	Good	Moderate	N/A	Medium	Remove	Installation of shared path
3	<i>Eucalyptus tereticornis</i>	8	10	300	3.6	2	Poor	Poor	N/A	Low	Remove	Installation of shared path
4	<i>Callistemon species</i>	3	3	150	2	1.5	Moderate	Good	N/A	Low	Remove	Widening of existing footpath to connect with new shared user path.
5	<i>Casuarina glauca</i>	15	4	300	3.6	2	Good	Moderate	N/A	Medium	Remove	Installation of shared path
6	<i>Leptospermum petersonii</i>	3	3	150	2	1.5	Poor	Poor	N/A	Low	Remove	Installation of shared path
7	<i>Leptospermum petersonii</i>	4	2	150	2	1.5	Moderate	Moderate	N/A	Low	Remove	Tunnelling comp. internal access road

## Storm water under boring

No	Botanical name	Height (m)	Spread (m)	DBH (mm)	TPZ (m)	SRZ (m)	Health	Structure	Other notes	Retention value	Outcome	Reason for outcome
8	<i>Casuarina glauca</i>	16	9	400	4.8	2.3	Moderate	Moderate	N/A	Low	Remove	Storm water under-bore
9	<i>Casuarina glauca</i>	15	8	350	4.2	2.1	Moderate	Moderate	N/A	Low	Remove	Storm water under-bore
10	<i>Erythrina crista - galli</i>	5	4	200	2.4	1.7	Moderate	Poor	N/A	Low	Remove	Storm water under-bore
11	<i>Casuarina glauca</i>	16	9	250	3	1.9	Good	Moderate	Group of 5 trees	Medium	Remove	Storm water under-bore
12	<i>Erythrina crista - galli</i>	5	4	250	3	1.9	Moderate	Poor	Group of 5 trees	Low	Remove	Storm water under-bore
13	<i>Casuarina glauca</i>	15	8	400	4.8	2.3	Good	Moderate	N/A	Medium	Remove	Storm water under-bore
14	<i>Casuarina glauca</i>	15	9	250	3	1.9	Good	Moderate	Group of 3 trees	Medium	Remove	Storm water under-bore
15	<i>Erythrina crista - galli</i>	7	5	250	3	1.9	Moderate	Poor	N/A	Low	Remove	Storm water under-bore
16	<i>Casuarina glauca</i>	15	8	250	3	1.9	Good	Moderate	Group of 5 trees	Medium	Remove	Storm water under-bore
17	<i>Erythrina crista - galli</i>	9	4	200	2.4	1.7	Moderate	Poor	Group of 2 trees	Low	Remove	Storm water under-bore

## Storm water under boring

No	Botanical name	Height (m)	Spread (m)	DBH (mm)	TPZ (m)	SRZ (m)	Health	Structure	Other notes	Retention value	Outcome	Reason for outcome
18	<i>Casuarina glauca</i>	16	8	250	3	1.9	Good	Moderate	Group of 5 trees	Medium	Remove	Storm water under-bore
19	<i>Eucalyptus grandis</i>	16	9	300	3.6	2	Good	Good	N/A	Medium	Remove	Storm water under-bore
20	<i>Casuarina glauca</i>	14	4	150	2	1.5	Good	Moderate	Group of 2 trees	Medium	Remove	Storm water under-bore
21	<i>Casuarina glauca</i>	15	4	200	2.4	1.7	Good	Good	N/A	Medium	Remove	Storm water under-bore
22	<i>Eucalyptus grandis</i>	22	9	350	4.2	2.1	Good	Good	N/A	High	Remove	Storm water under-bore
23	<i>Erythrina crista-galli</i>	8	5	250	3	1.9	Moderate	Poor	Group of 2 trees	Low	Remove	Storm water under-bore
24	<i>Eucalyptus grandis</i>	22	9	300	3.6	2	Good	Good	N/A	High	Remove	Storm water under-bore
25	<i>Casuarina glauca</i>	10	5	150	2	1.5	Good	Moderate	Group of 10 trees	Medium	Remove	Storm water under-bore
26	<i>Casuarina glauca</i>	12	4	150	2	1.5	Good	Moderate	Group of 15 trees	Medium	Remove	Storm water under-bore
27	<i>Eucalyptus grandis</i>	19	9	300	3.6	2	Good	Good	N/A	High	Remove	Storm water under-bore
28	<i>Casuarina glauca</i>	12	5	200	2.4	1.7	Good	Moderate	Group of 6 trees	Medium	Remove	Storm water under-bore

## Storm water under boring

No	Botanical name	Height (m)	Spread (m)	DBH (mm)	TPZ (m)	SRZ (m)	Health	Structure	Other notes	Retention value	Outcome	Reason for outcome
29	<i>Eucalyptus grandis</i>	19	7	300	3.6	2	Good	Moderate	N/A	Medium	Remove	Storm water under-bore
30	<i>Erythrina crista-galli</i>	7	5	200	2.4	1.7	Moderate	Poor	Group of 5 trees	Low	Remove	Storm water under-bore
31	<i>Casuarina glauca</i>	16	4	200	2.4	1.7	Good	Moderate	Group of 7 trees	Medium	Remove	Storm water under-bore
32	<i>Eucalyptus grandis</i>	18	6	250	3	1.9	Good	Moderate	Group of 3 trees	Medium	Remove	Storm water under-bore
33	<i>Erythrina crista-galli</i>	5	4	150	2	1.5	Moderate	Poor	Group of 3 trees	Low	Remove	Storm water under-bore
34	<i>Casuarina glauca</i>	15	4	200	2.4	1.7	Moderate	Poor	Group of 7 trees	Low	Remove	Storm water under-bore

## Motorway complex

No	Botanical name	Height (m)	Spread (m)	DBH (mm)	TPZ (m)	SRZ (m)	Health	Structure	Other notes	Retention value	Outcome	Reason for outcome
35	<i>Acacia species</i>	13	9	300	3.6	2	Moderate	Moderate	N/A	Medium	Remove	Motorway complex
36	<i>Acacia species</i>	4	2	150	2	1.5	Poor	Poor	N/A	Low	Remove	Motorway complex
37	<i>Acacia species</i>	5	3	150	2	1.5	Poor	Poor	N/A	Low	Remove	Motorway complex
38	<i>Acacia decurrens</i>	8	12	450	5.4	2.4	Poor	Poor	N/A	Low	Remove	Motorway complex
39	<i>Pittosporum undulatum</i>	4	4	150	2	1.5	Good	Good	N/A	Low	Remove	Motorway complex
40	<i>Acacia decurrens</i>	9	7	450	5.4	2.4	Poor	Poor	N/A	Low	Remove	Motorway complex
41	<i>Acacia species</i>	9	6	250	3	1.9	Poor	Poor	N/A	Low	Remove	Motorway complex
42	<i>Casuarina glauca</i>	9	4	200	2.4	1.7	Good	Good	N/A	Low	Remove	Motorway complex
43	<i>Acacia species</i>	6	5	200	2.4	1.7	Poor	Poor	N/A	Low	Remove	Motorway complex
44	<i>Acacia species</i>	3	2	150	2	1.5	Moderate	Moderate	Group of 3 trees	Low	Remove	Motorway complex
45	<i>Acacia species</i>	3	4	150	2	1.5	Poor	Poor	N/A	Low	Remove	Motorway complex



## Motorway complex

No	Botanical name	Height (m)	Spread (m)	DBH (mm)	TPZ (m)	SRZ (m)	Health	Structure	Other notes	Retention value	Outcome	Reason for outcome
46	<i>Casuarina glauca</i>	13	5	200	2.4	1.7	Good	Moderate	N/A	Medium	Remove	Motorway complex
47	<i>Acacia species</i>	8	5	200	2.4	1.7	Poor	Poor	N/A	Low	Remove	Motorway complex
48	<i>Acacia species</i>	8	4	200	2.4	1.7	Poor	Poor	N/A	Low	Remove	Motorway complex
49	<i>Acacia species</i>	3	3	150	2	1.5	Poor	Poor	Group of 2 trees	Low	Remove	Motorway complex
50	<i>Acacia species</i>	3	3	150	2	1.5	Poor	Poor	N/A	Low	Remove	Motorway complex
51	<i>Casuarina glauca</i>	9	3	200	2.4	1.7	Good	Moderate	N/A	Low	Remove	Motorway complex
52	<i>Ligustrum sp.</i>	3	3	150	2	1.5	Moderate	Moderate	Group of 3 trees	Low	Remove	Motorway complex
53	<i>Ficus macrophylla</i>	6	6	200	2.4	1.7	Good	Good	N/A	Medium	Remove	Motorway complex
54	<i>Acacia species</i>	8	8	250	3	1.9	Moderate	Poor	N/A	Low	Remove	Motorway complex
55	<i>Eucalyptus moluccana</i>	9	5	250	3	1.9	Good	Good	Group of 10 trees	Medium	Remove	Motorway complex

## Tullawalla pedestrian path

No	Botanical name	Height (m)	Spread (m)	DBH (mm)	TPZ (m)	SRZ (m)	Health	Structure	Other notes	Retention value	Outcome	Reason for outcome
56	<i>Eucalyptus microcorys</i>	18	14	1000	12	3.3	Good	Good	Crown lift to 5m	High	Retain	Site access for plant/truck
57	<i>Melaleuca quinquenervia</i>	12	9	500	6	2.5	Good	Moderate	Crown lift to 5m	Medium	Retain	Site access for plant/truck
58	<i>Eucalyptus microcorys</i>	20	14	700	8.4	2.9	Good	Good	Crown lift to 5m	High	Retain	Site access for plant/truck
59	<i>Eucalyptus moluccana</i>	8	5	200	2.4	1.7	Good	Moderate	Crown lift to 5m	Medium	Retain	Site access for plant/truck

## Appendix B: Tree retention assessment<sup>©</sup>



<b>Tree Significance - Assessment Criteria - STARS<sup>©</sup></b>		
Low	Medium	High
<p>The tree is in fair-poor condition and good or low vigour.</p> <p>The tree has form atypical of the species</p> <p>The tree is not visible or is partly visible from the surrounding properties or obstructed by other vegetation or buildings</p> <p>The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area</p> <p>The tree is a young specimen which may or may not have reached dimensions to be protected by local Tree Preservation Orders or similar protection mechanisms and can easily be replaced with a suitable specimen</p> <p>The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa in situ – tree is inappropriate to the site conditions</p> <p>The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms</p> <p>The tree has a wound or defect that has the potential to become structurally unsound.</p> <p>The tree is an environmental pest species due to its invasiveness or poisonous/allergenic properties.</p> <p>The tree is a declared noxious weed by legislation</p>	<p>The tree is in fair to good condition</p> <p>The tree has form typical or atypical of the species</p> <p>The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area</p> <p>The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street</p> <p>The tree provides a fair contribution to the visual character and amenity of the local area</p> <p>The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situ</p>	<p>The tree is in good condition and good vigour</p> <p>The tree has a form typical for the species</p> <p>The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age.</p> <p>The tree is listed as a heritage item, threatened species or part of an endangered ecological community or listed on councils significant tree register</p> <p>The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity.</p> <p>The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values.</p> <p>The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ – tree is appropriate to the site conditions.  </p>

**Useful Life Expectancy - Assessment Criteria – Tree AZ©**

<b>Dead</b>	<b>Short</b>	<b>Medium</b>	<b>Long</b>
<p>Trees that should be removed within the next 5 years.</p> <p>Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.</p> <p>Dangerous trees because of instability or recent loss of adjacent trees.</p> <p>Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.</p> <p>Damaged trees that are clearly not safe to retain.</p> <p>Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.</p> <p>Trees that are damaging or may cause damage to existing structures within 5 years.</p> <p>Trees that will become dangerous after removal of other trees for the reasons.</p>	<p>Trees that appear to be retainable at the time of the assessment for 5-15 years with an acceptable level of risk.</p> <p>Trees that may only live between 5 and 15 more years.</p> <p>Trees that could live for more than 15 years but may be removed for safety or nuisance reasons.</p> <p>Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.</p> <p>Trees that could be made suitable for retention in the medium term by remedial tree care.</p>	<p>Trees that appear to be retainable at the time of the assessment for 15-40 years with an acceptable level of risk.</p> <p>Trees that may only live between 15 and 40 more years.</p> <p>Trees that could live for more than 40 years but may be removed for safety or nuisance reasons.</p> <p>Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.</p> <p>Trees that could be made suitable for retention in the medium term by remedial tree care.</p>	<p>Trees that appear to be retainable at the time of the assessment for more than 40 years with an acceptable level of risk.</p> <p>Structurally sound trees located in positions that can accommodate future growth.</p> <p>Trees that could be made suitable for retention in the long term by remedial tree care.</p> <p>Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention.</p>

		Tree Significance			
		High	Medium	Low	
Useful Life Expectancy	Long >40 years				
	Medium 15-40 years				
	Short <1-15 years				
	Dead				

## **LIMITATION OF LIABILITY**

Australian Tree Consultants Pty Ltd and their employees are tree specialists who use their qualifications, education, knowledge, training, diagnostic tools and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of this assessment and report.

Australian Tree Consultants Pty Ltd and its employees cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that sometimes fail in ways the arboriculture industry does not fully understand. Conditions are often hidden within trees and below ground. Unless otherwise stated, observations have been visually assessed from ground level. Australian Tree Consultants Pty Ltd cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of Australian Tree Consultants Pty Ltd services, such as property boundaries and ownership, disputes between neighbours, sight lines, landlord-tenant matters, and related incidents. Australian Tree Consultants Pty Ltd cannot take such issues into account unless complete and accurate information is given prior or at the time of the site inspection. Likewise Australian Tree Consultants Pty Ltd cannot accept responsibility for the authorisation or non-authorisation of any recommended treatment or remedial measures undertaken.

In the event that Australian Tree Consultants Pty Ltd recommends retesting or inspection of trees at stated intervals or installs any cable/s, bracing systems and support systems, Australian Tree Consultants Pty Ltd must inspect the system installed at intervals not greater than 12 months unless otherwise specified in written reports. It is the client's responsibility to make arrangements with Australian Tree Consultants Pty Ltd to conduct the re-inspection.

Trees can be managed, but they cannot be controlled. To live or work near a tree involves a degree of risk. The only way to eliminate all risks associated with a tree is to eliminate the tree.

All written reports must be read in their entirety, at no time shall part of the written assessment be referred to unless taken in full context of the whole written report.

If this written report is to be used in a court of law or any legal situation Australian Tree Consultants Pty Ltd must be advised in writing prior to the written assessment being presented in any form to any other party.