

ARBORIST'S REPORT



PROPERTY:	157 Maitland Street, Muswellbrook
NUMBER OF INDIVIDUAL SUBJECT TREES:	32
NUMBER OF GROUPS OF TREES:	4
DATE OF REPORT:	16 April 2020
PREPARED FOR:	Stanton Dahl Architects

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REPORT SUMMARY

The report recommends the following:

Tree removal before use beneath canopy increases – Tree 1.

Tree removal within 12 months – Tree 32.

Tree removal within 5 years – Trees 11, 18, 19, 24, 28, 31.

Prune within 12 months (at the property owner's determination) – Tree 7.

Monitor every 3 – 5 years – Trees 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 25, 26, 27, 29, 30.

Remove or retain as required – Groups A, B, C, D (in the order required).

INTRODUCTION

Project Brief

Assess the condition of all trees in the nominated area, and supply a written report.

Methodology

A visual inspection was made of all the trees on site from ground level (walk by) on the 1st of April 2020 using the VTA (Visual Tree Assessment) method.

The trees have been assigned a risk rating based on size, defect(s) and use beneath canopy. No internal testing e.g. Resistograph or drilling, or excavation was carried out. No aerial inspection was carried out. The trees were assessed from observations made during the inspection. Some sounding of trunk areas with a mallet was used where considered necessary. Probing of accessible cavities was carried out.

Tree height was noted and recorded.

Tree health and structure have been listed according to the following criteria:

			Health/Vigour	Structure
G	Good	Pest and disease	None or minor observed	No or minor defects visible; no indications of instability. Symmetrical canopy Good branching habit
		Branches	Good/fair extension Minor deadwood	
		Foliage (size, colour and density)	Good or with slight abnormalities	
F	Fair	Pest and disease	Moderate presence (not severe enough to be life threatening).	Some defects which may be remediated to provide acceptable levels of risk. Other defects, such as co - dominant stems with no or slight included bark, which may be considered problematic as the tree ages and increases in size.
		Branches	Fair extension growth Some or moderate deadwood	
		Foliage (size, colour and density)	Some abnormalities	
P	Poor	Pest and disease	Extensive presence, untreatable	Defects/damage which render the tree a higher risk such as co - dominant stems with significant included bark, symptoms of loss of internal structural integrity such as the presence of fruiting bodies of fungi which attack standing trees (<i>Phellinus</i> sp. (bracket fungus) or soil borne <i>Armillaria</i>)).
		Branches	Poor extension growth or significant deadwood and/or dieback. Advancing decline	
		Foliage (size, colour and density)	Thinning leaf density, more advanced abnormalities in size and/or colour.	

Risk Assessment

Based on the condition of each tree, its position and the criteria in the Risk Rating Matrix (Table 1), a risk rating for each tree will be listed as noted below.

Likelihood of Failure and Impact	Consequences			
	Negligible	Minor	Minor Significant	Severe
<i>Very Likely</i>	Low	Moderate	High	Extreme
<i>Likely</i>	Low	Moderate	High	High
<i>Somewhat Likely</i>	Low	Some	Moderate	Moderate
<i>Unlikely</i>	Low	Low	Low	Low

Table 1.

Low

Some

Moderate

High

Extreme

Trees listed as a Extreme, high, moderate or some risk are those with obvious health or structural defects in areas of assumed high or less usage, and considered to be an eventual risk of failure.

All trees have a recommendation for the property owner's consideration of action.

Where a tree has been identified to genus only, time and tree volume constraints prevented the collection and keying of identification material.

Sizes [noted] of defective parts are approximations. Branch diameters are listed as the largest (proximal) end.

Circumference at 1.4 metres high (CBH) and Diameter at 1.4 metres high (DBH) are given in millimetres.

Tree Protection Zones (TPZ) and Structural Root Zones (SRZ) are given in metres radius from centre of the trunk.

Recommendations for remedial action are based on tree defects and the above information. If a tree is recommended for removal but retention is required (e.g. heritage significance) further investigative methods as outlined in Level 3 Advanced Techniques of the ISA Best Management Practices is required in determining the structural integrity of the trunk and to assess cavities and branch attachment points to trunk (Appendix 1.2).

Cavities can be used as habitat by native fauna. Native habitat or ecological significance of the tree in question should be assessed separately by a suitably qualified Ecologist.

Note

All trees in the report have been identified with painted numbers using orange paint on the most visual side for easy identification.

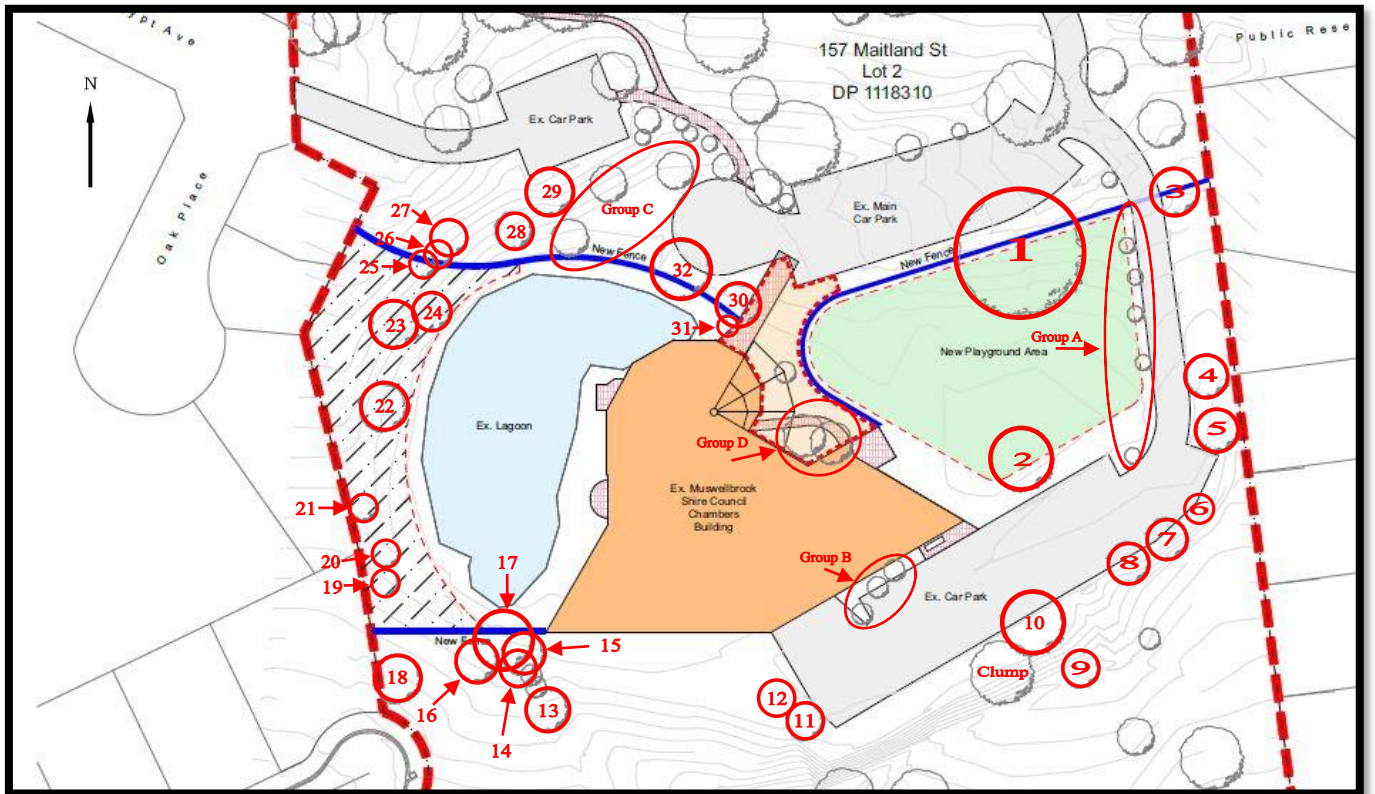
Significance Checklist

None of the remaining subject trees have any heritage significance, or any listing on the Biodiversity Conservation Act 2016 or Council's Tree Register.

Action Timeframe

Remedial action for each tree should be carried out as recommended on their individual page.

SITE PLAN



The supplied site plan, showing the positions of the subject trees.

TREE ASSESSMENT

Tree 1 – *Eucalyptus microcarpa* – Green Leaved Box – ULE: 4C

Location: – Adjacent to lower car park

Approximate Height – 19 metres – Canopy Spread – 10 x 9 metres

CBH/DBH – 3000/960

TPZ/SRZ – 11.5/3.2

Health – Good

Structure – Poor

Description:

- Leaf density 80% coverage
- Co - dominant stems from 5 metres high with some old cockatoo damage
- Slight deadwood to 50 mm diameter
- Remedial pruning has been carried out which shows hollow branches throughout from extensive subterranean termite activity
- Cavity (south) at 7 metres high 400 mm x 100 mm with recent cockatoo damage

Risk Status

- High (loss of structural integrity of branches – more frequent branch drop expected)

Target

- Pedestrians/motor vehicles

Recommended Remedial Action

- Remove tree before use [underneath] increases

Photographs



Tree 1 viewed from the south.



Examples of hollow branches in Tree 1.

Tree 2 – *Eucalyptus botryoides* – Bangalay – ULE: 2B

Location: –adjacent to north side of upper car park

Approximate Height – 9.5 metres – Canopy Spread – 10 x 9 metres

CBH/DBH – 1260/400

TPZ/SRZ – 4.8/2.3

Health – Good

Structure – Good

Description:

- Leaf density of 70% coverage
- Slight deadwood to 50 mm diameter

Risk Status

- Low (minor deadwood)

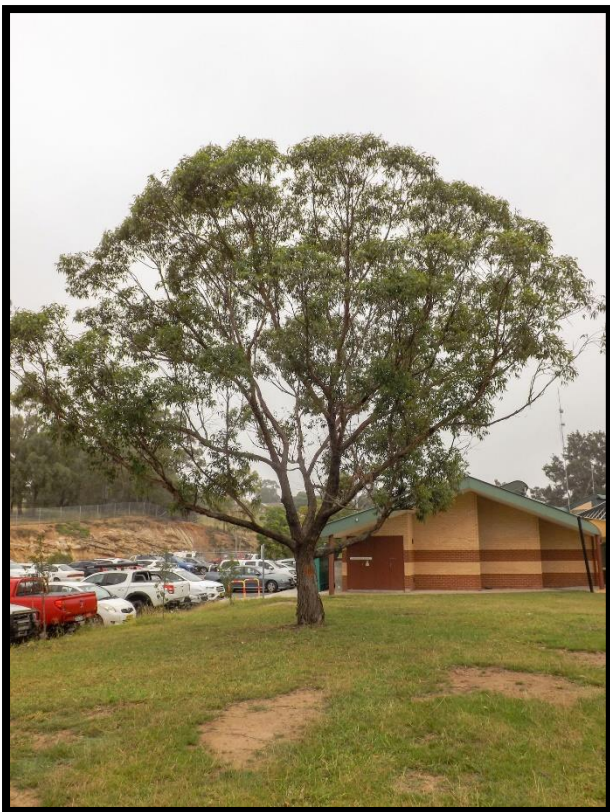
Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 2 viewed from the east.

Tree 3 – *Corymbia torelliana* – Cadaghi – ULE: 2B

Location: – East side of entry road adjacent to boundary

Approximate Height – 11 metres – Canopy Spread – 10 x 9 metres

CBH/DBH – 1150/370

TPZ/SRZ – 4.4/2.2

Health – Good

Structure – Good

Description:

- Leaf density of 80% coverage
- Slight deadwood to 70 mm diameter

Risk Status

- Low (minor deadwood over low use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 3 viewed from the south.

Tree 4 – *Corymbia torelliana* – Cadaghi – ULE: 2B

Location: – East side of entry road some metres south of Tree 3

Approximate Height – 10.5 metres – Canopy Spread – 10 x 9.5 metres

CBH/DBH – 1170/372

TPZ/SRZ – 4.5/2.2

Health – Good

Structure – Good

Description:

- Leaf density of 80% coverage
- Slight deadwood to 50 mm diameter
- Slight deadwood stubs to 250 mm long x 100 mm diameter

Risk Status

- Low (minor deadwood over low use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 4 viewed from the south.

Tree 5 – *Corymbia torelliana* – Cadaghi – ULE: 2B

Location: – East side of entry road some metres south of Tree 4

Approximate Height – 10 metres – Canopy Spread – 10 x 9 metres

CBH/DBH – 1090/350

TPZ/SRZ – 4.2/2.1

Health – Good

Structure – Good

Description:

- Leaf density of 90% coverage
- Slight deadwood to 80 mm diameter

Risk Status

- Low (minor deadwood over low use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 5 viewed from the south.

Tree 6 – *Eucalyptus sideroxylon* – Mugga Ironbark – ULE: 2B

Location: – East end of upper car park (south side)

Approximate Height – 8 metres – Canopy Spread – 5.5 x 5 metres

CBH/DBH – 550/180

TPZ/SRZ – 2.1/1.6

Health – Fair

Structure – Fair

Description:

- Leaf density 60% coverage
- Some tip dieback
- Co – dominant stems from 1.8 metres high with some included bark
- Some deadwood to 60 mm diameter

Risk Status

- Low (small tree in low use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 6 viewed from the north.

Tree 7 – *Eucalyptus crebra* – Narrow Leaved Ironbark – ULE: 2B

Location: – Some metres west of Tree 6

Approximate Height – 14 metres – Canopy Spread – 12 x 12.5 metres

CBH/DBH – 1210, 1710/670

TPZ/SRZ – 8.0/2.8

Health – Good

Structure – Fair (form)

Defects:

- Leaf density 80% coverage
- Slight deadwood to 80 mm diameter
- Co – dominant stems from 900 mm high (stem union appears stable)

Risk Status

- Some (minor deadwood over car park)

Target

- Pedestrians, motor vehicles

Recommended Remedial Action

- Prune deadwood over 50 mm diameter within 12 months at property owner's determination
- Monitor every 3 – 5 years

Photograph



Tree 7 viewed from the NW.

Tree 8 – *Eucalyptus crebra* – Narrow Leaved Ironbark – ULE: 2B

Location: – Some metres west of Tree 7

Approximate Height – 14 metres – Canopy Spread – 9.5 x 8 metres

CBH/DBH – 1070/340

TPZ/SRZ – 4.1/2.1

Health – Good

Structure – Good

Defects:

- Leaf density 60% coverage
- Slight deadwood to 50 mm diameter

Risk Status

- Low (50 mm or less diameter deadwood over car park)

Target

- Pedestrians, motor vehicles

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 8 viewed from the north.

Tree 9 – *Corymbia citriodora* – Lemon Scented Gum – ULE: 2B

Location: – Some metres west of Tree 8 on top of bank

Approximate Height – 10 metres – Canopy Spread – 6.5 x 6 metres

CBH/DBH – 540/170

TPZ/SRZ – 2.1/1.6

Health – Good

Structure – Good

Defects:

- Leaf density 60% coverage
- Slight deadwood to 10 mm diameter

Risk Status

- Low (minor deadwood over low use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 9 viewed from the north.

Tree 10 – *Corymbia citriodora* – Lemon Scented Gum – ULE: 2B

Location: – Some metres north of Tree 9 adjacent to car park

Approximate Height – 21 metres – Canopy Spread – 11.5 x 12 metres

CBH/DBH – 1450/460

TPZ/SRZ – 5.5/2.4

Health – Good

Structure – Good

Defects:

- Leaf density 60% coverage
- Slight deadwood to 20 mm diameter
- Slight bark splitting on trunk (possibly stress from drought and surface root damage)
- Some cockatoo damage in branch union at 8 metres high

Risk Status

- Low (minor deadwood over low use area)

Target

- Pedestrians, motor vehicles

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 10 viewed from the north.

Tree 11 – *Corymbia citriodora* – Lemon Scented Gum – ULE: 4C

Location: – West end of upper car park

Approximate Height – 11 metres – Canopy Spread – 7 x 7 metres

CBH/DBH – 450, 410/190

TPZ/SRZ – 2.3/1.7

Health – Good

Structure – Poor

Defects:

- Leaf density 60% coverage
- Slight deadwood to 10 mm diameter
- Co – dominant stems from ground level with active termites (early stages of damage)

Risk Status

- Some (stem union will eventually fail)

Target

- Pedestrians, motor vehicles

Recommended Remedial Action

- Remove tree within 5 years

Photograph



Tree 11 viewed from the north.

Tree 12 – *Corymbia torelliana* – Cadaghi – ULE: 2B

Location: – Directly adjacent to Tree 11

Approximate Height – 7 metres – Canopy Spread – 6 x 6.5 metres

CBH/DBH – 500/160

TPZ/SRZ – 1.9/1.5

Health – Good

Structure – Good

Description:

- Leaf density of 90% coverage
- Slight deadwood to 10 mm diameter

Risk Status

- Low (small tree adjacent to car park)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 12 viewed from the NE.

Tree 13 – *Casuarina cunninghamiana* – River Oak – ULE: 2B

Location: – Adjacent to SW corner of existing building

Approximate Height – 11 metres – Canopy Spread – 10 x 10 metres

CBH/DBH – 610, 970, 760/480

TPZ/SRZ – 5.7/2.4

Health – Good

Structure – Fair (form)

Defects:

- Leaf density 90% coverage
- Slight deadwood to 50 mm diameter
- Three dominant stems from 300 mm high (stem union appears stable)
- Epicormic shoot 8 metres long x 120 mm diameter at the base

Risk Status

- Low (minor deadwood over low use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 13 viewed from the east.

Tree 14 – *Casuarina cunninghamiana* – River Oak – ULE: 2B

Location: – Some metres north of Tree 13

Approximate Height – 8 metres – Canopy Spread – 7.5 x 8 metres

CBH/DBH – 630, 530/260

TPZ/SRZ – 3.1/1.9

Health – Good

Structure – Fair (form)

Defects:

- Leaf density 90% coverage
- Slight deadwood to 20 mm diameter
- Co – dominant stems from 500 mm high (stem union appears stable)

Risk Status

- Low (minor deadwood over low use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 14 viewed from the east.

Tree 15 – *Casuarina cunninghamiana* – River Oak – ULE: 2B

Location: – Some metres north of Tree 14

Approximate Height – 14 metres – Canopy Spread – 13 x 9.5 metres

CBH/DBH – 930, 1190/480

TPZ/SRZ – 5.8/2.4

Health – Good

Structure – Fair (form)

Defects:

- Leaf density 90% coverage
- Slight deadwood to 50 mm diameter
- Co – dominant stems from 1.3 metres high (stem union appears stable)
- Partial occlusion base (900 mm long x 100 mm wide – termite damage, resonates solid)
- Partial occlusion at 3 metres high (300 mm long x 50 mm wide, resonates solid)

Risk Status

- Low (minor deadwood over low use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 15 viewed from the east.

Tree 16 – *Casuarina cunninghamiana* – River Oak – ULE: 2B

Location: – Some metres west of Tree 15

Approximate Height – 13 metres – Canopy Spread – 8.5 x 8.5 metres

CBH/DBH – 890, 1330/510

TPZ/SRZ – 6.1/2.5

Health – Good

Structure – Fair (form)

Defects:

- Leaf density 70% coverage
- Some deadwood to 60 mm diameter
- Co – dominant stems from 900 mm high (stem union appears stable)

Risk Status

- Low (minor deadwood over low use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 16 viewed from the SE.

Tree 17 – *Casuarina cunninghamiana* – River Oak – ULE: 2B

Location: – Some metres north of Tree 15

Approximate Height – 15 metres – Canopy Spread – 17 x 14.5 metres

CBH/DBH – 2370/750

TPZ/SRZ – 9.1/2.9

Health – Good

Structure – Fair (form)

Defects:

- Leaf density 80% coverage
- Some deadwood to 80 mm diameter
- Co – dominant stems from 3 metres high (stem union appears stable)
- Two scaffold branches from 600 mm high

Risk Status

- Low (minor deadwood over low use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 17 viewed from the east.

Tree 18 – *Casuarina cunninghamiana* – River Oak – ULE: 4C

Location: – Several metres west of Tree 16, adjacent to boundary

Approximate Height – 10 metres – Canopy Spread – 6.5 x 7 metres

CBH/DBH – 890, 690/360

TPZ/SRZ – 4.3/2.1

Health – Fair

Structure – Fair

Defects:

- Leaf density 50% coverage
- Some deadwood to 70 mm diameter
- Co – dominant stems from 900 mm high with slight included bark and termite activity

Risk Status

- Some (minor deadwood over low use area, some structural defects)

Target

- Pedestrians

Recommended Remedial Action

- Remove within 5 years

Photograph



Tree 18 viewed from the east.

Tree 19 – *Casuarina cunninghamiana* – River Oak – ULE: 4C

Location: – SW corner of [fenced] lagoon area

Approximate Height – 13 metres – Canopy Spread – 9.5 x 8 metres

CBH/DBH – 1470/470

TPZ/SRZ – 5.6/2.4

Health – Good

Structure – Poor

Defects:

- Leaf density 90% coverage
- Slight deadwood to 70 mm diameter
- Co – dominant stems from 3.5 metres high with pressure bulge and included bark

Risk Status

- Some (structural defect over low use area)

Target

- Pedestrians

Recommended Remedial Action

- Remove within 5 years

Photographs



Tree 19 viewed from the NW.



Included bark on Tree 19.

Tree 20 – *Casuarina cunninghamiana* – River Oak – ULE: 2B

Location: – Several metres north of Tree 19

Approximate Height – 12 metres – Canopy Spread – 7.5 x 9 metres

CBH/DBH – 1110/350

TPZ/SRZ – 4.2/2.1

Health – Good

Structure – Good

Defects:

- Leaf density 80% coverage
- Some deadwood to 50 mm diameter

Risk Status

- Low (minor deadwood over low use area)

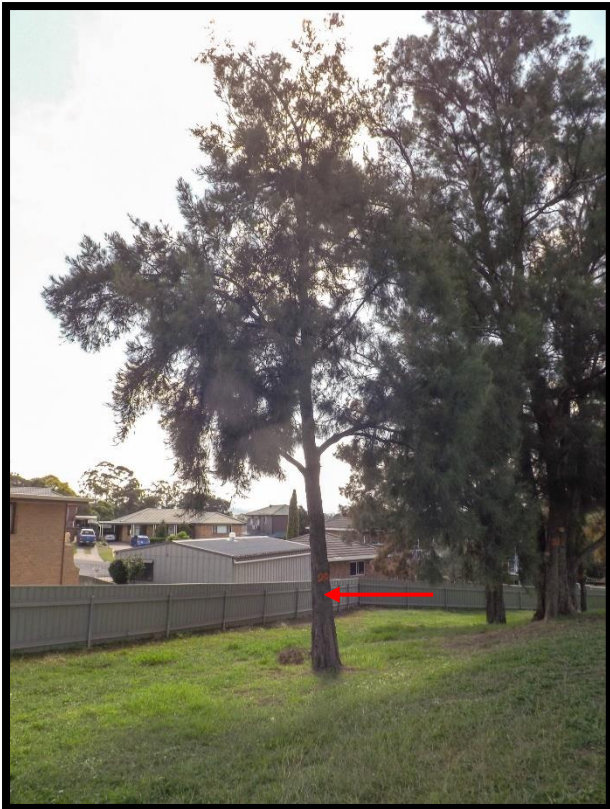
Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 20 viewed from the SE.

Tree 21 – *Casuarina cunninghamiana* – River Oak – ULE: 2B

Location: – Several metres north of Tree 20

Approximate Height – 14 metres – Canopy Spread – 11 x 11 metres

CBH/DBH – 1640, 1280, 1180/760

TPZ/SRZ – 9.1/2.9

Health – Good

Structure – Fair (form)

Defects:

- Leaf density 80% coverage
- Slight deadwood to 50 mm diameter
- Three dominant stems from 300 mm high (stem union appears stable)

Risk Status

- Low (minor deadwood over low use area)

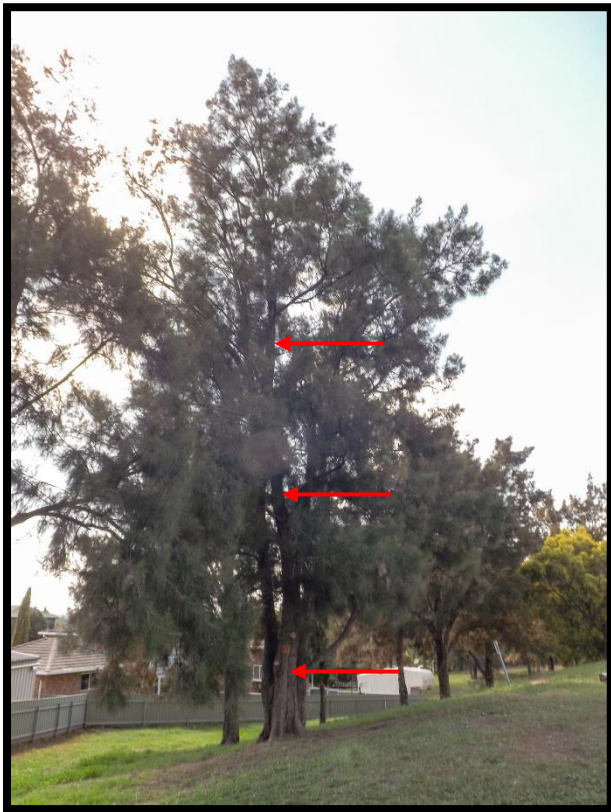
Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 21 viewed from the south.

Tree 22 – *Casuarina cunninghamiana* – River Oak – ULE: 2B

Location: – Some metres north of Tree 21

Approximate Height – 13 metres – Canopy Spread – 8 x 9 metres

CBH/DBH – 1070/340

TPZ/SRZ – 4.1/2.1

Health – Good

Structure – Fair (form)

Defects:

- Leaf density 70% coverage
- Slight deadwood to 70 mm diameter
- Co – dominant stems from 2 metres high (stem union appears stable)

Risk Status

- Low (minor deadwood over low use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 22 viewed from the south.

Tree 23 – *Casuarina cunninghamiana* – River Oak – ULE: 2B

Location: – Some metres north of Tree 22

Approximate Height – 12 metres – Canopy Spread – 10 x 9.5 metres

CBH/DBH – 1240/390

TPZ/SRZ – 4.7/2.2

Health – Good

Structure – Good

Description:

- Leaf density 80% coverage
- Slight deadwood to 50 mm diameter
- Some tip dieback
- Large beehive present

Risk Status

- Low (minor deadwood and bees over low use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 20 viewed from the south.

Tree 24 – *Casuarina cunninghamiana* – River Oak – ULE: 4E

Location: – Some metres north of Tree 23

Approximate Height – 8 metres – Canopy Spread – 3 x 3.5 metres

CBH/DBH – 630/200

TPZ/SRZ – 2.4/1.7

Health – Fair

Structure – Fair

Description:

- Leaf density 60% coverage
- Slight deadwood to 20 mm diameter
- Dead leader (deadwood stub 2 metres long x 80 mm diameter)

Risk Status

- Low (minor deadwood over low use area)

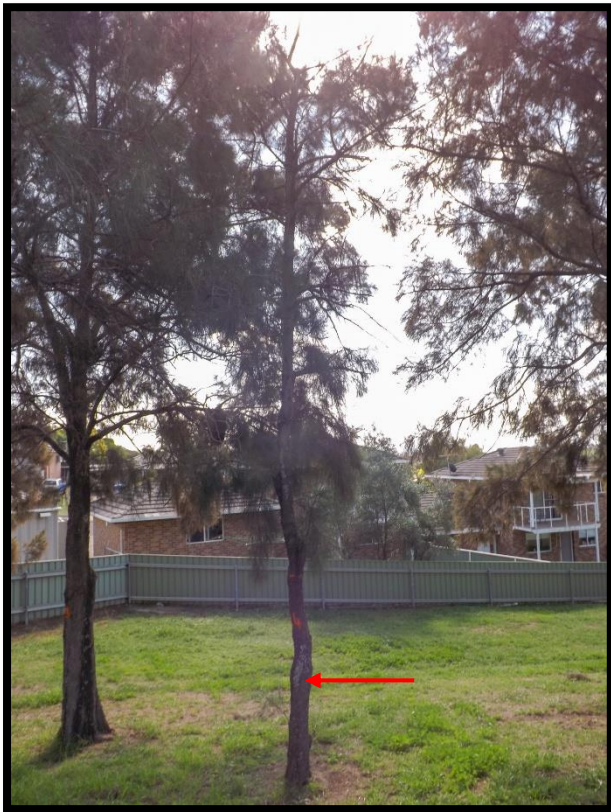
Target

- Pedestrians

Recommended Remedial Action

- Remove within 5 years

Photograph



Tree 24 viewed from the east.

Tree 25 – *Casuarina cunninghamiana* – River Oak – ULE: 2B

Location: – Some metres north of Tree 24

Approximate Height – 12 metres – Canopy Spread – 5.5 x 7.5 metres

CBH/DBH – 890/280

TPZ/SRZ – 3.4/1.9

Health – Good

Structure – Fair (form)

Description:

- Leaf density 80% coverage
- Slight deadwood to 50 mm diameter
- Co – dominant stems from 4.5 metres high (stem union appears stable)

Risk Status

- Low (minor deadwood over low use area)

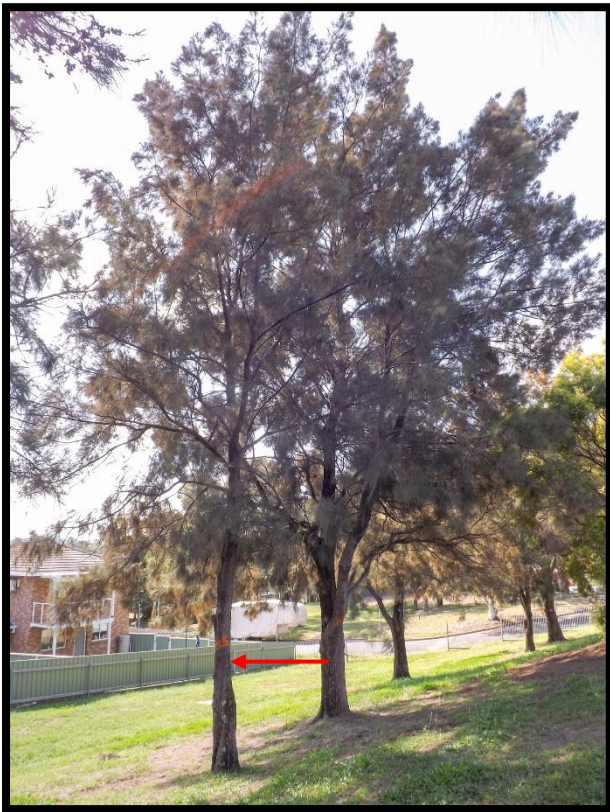
Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 25 viewed from the south.

Tree 26 – *Casuarina cunninghamiana* – River Oak – ULE: 2B

Location: – Some metres north of Tree 25

Approximate Height – 14 metres – Canopy Spread – 9.5 x 12.5 metres

CBH/DBH – 1580/500

TPZ/SRZ – 6.0/2.5

Health – Good

Structure – Fair (form)

Defects:

- Leaf density 80% coverage
- Slight deadwood to 50 mm diameter
- Co – dominant stems from 1.7 metres high (stem union appears stable)

Risk Status

- Low (minor deadwood over low use area)

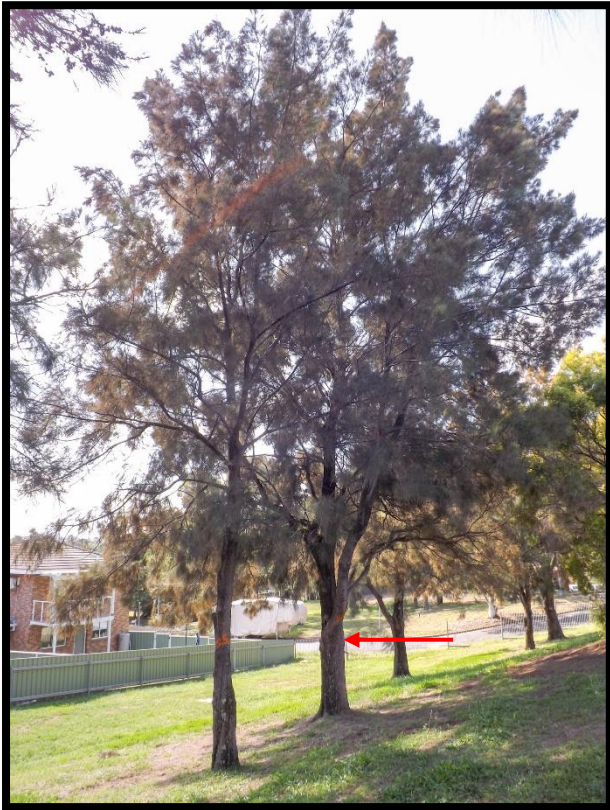
Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 26 viewed from the south.

Tree 27 – *Casuarina cunninghamiana* – River Oak – ULE: 2B

Location: – Some metres north of Tree 26

Approximate Height – 13 metres – Canopy Spread – 9 x 11 metres

CBH/DBH – 1260/400

TPZ/SRZ – 4.8/2.3

Health – Good

Structure – Good

Description:

- Leaf density 80% coverage
- Slight deadwood to 50 mm diameter

Risk Status

- Low (minor deadwood over low use area)

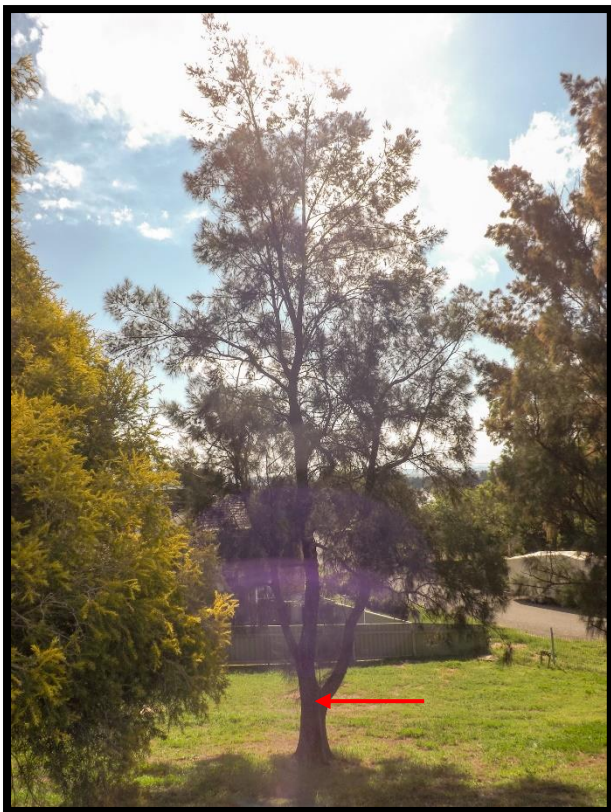
Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 27 viewed from the east.

Tree 28 – *Casuarina cunninghamiana* – River Oak – ULE: 4E

Location: – Some metres NE of Tree 27

Approximate Height – 11 metres – Canopy Spread – 5 x 8 metres

CBH/DBH – 610, 550/260

TPZ/SRZ – 3.1/1.9

Health – Fair

Structure – Fair (form)

Description:

- Leaf density 70% coverage
- Some deadwood to 80 mm diameter
- Co – dominant stems from 1 metre high (stem union appears stable)

Risk Status

- Low (minor deadwood over low use area)

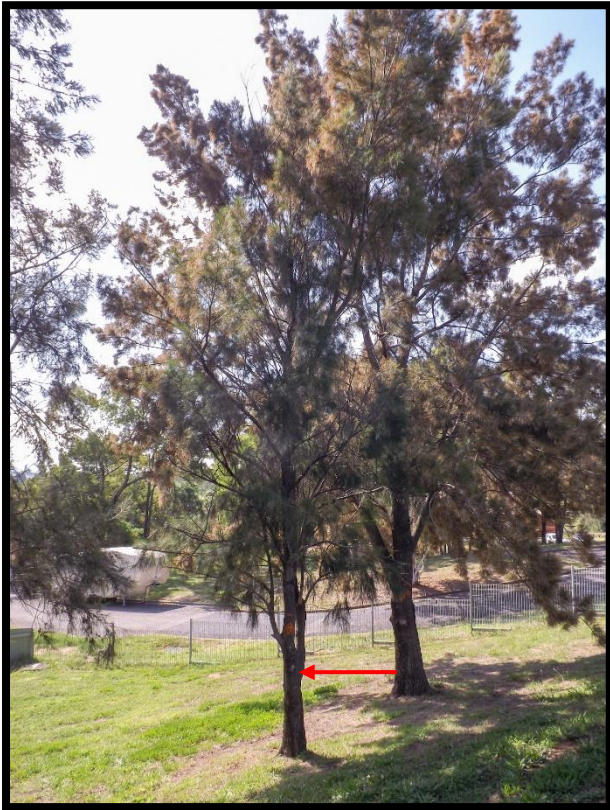
Target

- Pedestrians

Recommended Remedial Action

- Remove within 5 years

Photograph



Tree 28 viewed from the south.

Tree 29 – *Casuarina cunninghamiana* – River Oak

Location: – Some metres north of Tree 28

Approximate Height – 14 metres – Canopy Spread – 12.5 x 12.5 metres

CBH/DBH – 1510/480

TPZ/SRZ – 5.8/2.4

Health – Good

Structure – Fair (form)

Defects:

- Leaf density 80% coverage
- Slight deadwood to 60 mm diameter
- Co – dominant stems from 1.7 metres high (stem union appears stable)

Risk Status

- Low (minor deadwood over low use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 29 viewed from the south.

Tree 30 – *Melaleuca bracteata* ‘Revolution Gold’ – Revolution Gold – ULE: 2B

Location: – North side of existing building, adjacent to brick wall

Approximate Height – 7 metres – Canopy Spread – 7.5 x 8 metres

CBH/DBH – 880, 490/320

TPZ/SRZ – 3.8/2.0

Health – Good

Structure – Fair (form)

Description:

- Leaf density 80% coverage
- Slight deadwood to 20 mm diameter
- Co – dominant stems from ground level (stem union appears stable)

Risk Status

- Low (minor deadwood adjacent to high use area)

Target

- Pedestrians

Recommended Remedial Action

- Monitor every 3 – 5 years

Photograph



Tree 30 viewed from the north.

Tree 31 – *Acacia salicina* – Native Willow – ULE: 4E

Location: – Some metres south of Tree 30, adjacent to brick wall

Approximate Height – 9 metres – Canopy Spread – 6.5 x 6.5 metres

CBH/DBH – 470/150

TPZ/SRZ – 1.8/1.5

Health – Good

Structure – Fair (form)

Description:

- Leaf density 80% coverage
- Slight deadwood to 10 mm diameter
- Co – dominant stems from 3 metres high (stem union appears stable)

Risk Status

- Low (minor deadwood adjacent to high use area)

Target

- Pedestrians

Recommended Remedial Action

- Remove within 5 years

Photograph



Tree 31 viewed from the west.

Tree 32 – *Acacia salicina* – Native Willow – ULE: 4C

Location: – Several metres NW of Tree 30, adjacent to main car park turning area

Approximate Height – 12 metres – Canopy Spread – 16 x 12.5 metres

CBH/DBH – 2330/740

TPZ/SRZ – 8.9/2.9

Health – Poor

Structure – Poor

Description:

- Leaf density 50% coverage
- Some deadwood to 70 mm diameter
- Co – dominant stems from 1100 mm high with included bark and split one side
- Numerous root suckers

Risk Status

- Moderate (structurally defective stem union adjacent to vehicular turning area)

Target

- Pedestrians, motor vehicles

Recommended Remedial Action

- Remove within 12 months

Photographs



Tree 32 viewed from the NW.



Split in stem union of Tree 32.

Group A (6 specimens) – *Fraxinus* ‘Raywood’ – Claret Ash – ULE: 2B

Location: – Western edge of access road to upper car park

Approximate Height – to 5 metres – Canopy Spread – to 3 x 3 metres

CBH/DBH – N/A

TPZ/SRZ – N/A

Health – Good

Structure – Good

Description:

- All in generally good condition

Risk Status

- Low (small trees adjacent to low use area)

Target

- Pedestrians, motor vehicles

Recommended Remedial Action

- Retain or remove as required

Photograph



Group A viewed from the NE.

Group B (3 specimens) – *Sapium sebiferum* – Chinese Tallow – ULE: 2B

Location: – North edge of upper car park, adjacent to existing building

Approximate Height – to 7 metres – Canopy Spread – to 5 x 5 metres

CBH/DBH – N/A

TPZ/SRZ – N/A

Health – Good

Structure – Good

Description:

- All in generally good condition

Risk Status

- Low (small trees adjacent to moderate use area)

Target

- Pedestrians, motor vehicles

Recommended Remedial Action

- Retain or remove as required

Photograph



Group B viewed from the SE.

Group C (3 specimens) – *Melaleuca bracteata* ‘Revolution Gold’ – Revolution Gold – ULE: 2B

Location: – North edge of lagoon

Approximate Height – to 7 metres – Canopy Spread – to 6 x 6 metres

CBH/DBH – N/A

TPZ/SRZ – N/A

Health – Good

Structure – Good

Description:

- All in generally good condition

Risk Status

- Low (small trees adjacent to low use area)

Target

- Pedestrians

Recommended Remedial Action

- Retain or remove as required

Photograph



Group C viewed from the SW.

Group D (4 specimens) – *Melaleuca bracteata* ‘Revolution Gold’ – Revolution Gold (plus some smaller differing species – ULE: 2B, and 1 specimen of *Acacia salicina*, 11 metres high, and self sown) – ULE:3B

Location: – NE side of existing building, adjacent to main entrance

Approximate Height – to 7 metres – Canopy Spread – to 6 x 6 metres

CBH/DBH – N/A

TPZ/SRZ – N/A

Health – Good

Structure – Good

Description:

- All in generally good condition

Risk Status

- Low (small trees adjacent to moderate use area)

Target

- Pedestrians, infrastructure

Recommended Remedial Action

- Retain or remove as required

Photograph



Group D viewed from the north.

CONCLUSION

At the time of the inspection, the subject trees were considered to require the following remedial action:

Tree removal before use beneath increases – Tree 1.

Tree removal within 12 months – Tree 32.

Tree removal within 5 years – Trees 11, 18, 19, 24, 28, 31.

Prune within 12 months (at the property owner's determination) – Tree 7.

Monitor every 3 – 5 years – Trees 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 25, 26, 27, 29, 30.

Remove or retain as required – Groups A, B, C, D (in the order required).

RECOMMENDATIONS

The recommendations for each tree should be carried out as listed on its individual page.

Stephen Williams.



AQF 5 Arborist

Hunter Horticultural Services

DISCLAIMER

The recommendations given in this report assumes that reasonable maintenance will be provided by a qualified Arboriculturist working to Australian Standard 4373 (2007), *Pruning Amenity Trees* and AS 4970 (2009), *Protection of Trees on Development Sites*.

Incorrect tree work practices can significantly accelerate tree decline and increase hazard potential.

No liability is accepted for any effects if the recommendations in this report were not followed.

The information in this report does not take into account the effects of unforeseen circumstances, severe weather, external organisms or tree aging on the subject trees.

REFERENCES

Mattheck, C, and Breloer, H. 2007, *The Body Language of Trees*. The Stationary Office. P.O Box 29, Norwich, England.

APPENDICES

Glossary of Terminology_____	1
Useful Life Expectancy (ULE)_____	2
Advanced Tree Assessment Techniques_____	3
Qualifications_____	4

Glossary of Terminology

CBH:	Trunk circumference at 1.4 metres high or as otherwise stated
DBH:	Trunk diameter at 1.4 metres high or as otherwise stated
Epicormic:	Leaf shoots which arise from under the bark, and are not attached to the heartwood. These can detach, especially as they become larger, and have a high risk factor
Frass	Sawdust and webbing combined to cover holes of certain types of wood borer
Fungal Bracket	Fruiting body of a wood decaying fungus which destroys the structural integrity of a tree's heartwood
Kino:	A type of resin exudated by Eucalypts and Angophoras as a defence mechanism against pathogen attack
Mistletoe:	A family (<i>Loranthaceae</i> in the southern hemisphere) of several genera [in the Sydney region] of parasitic plants, often hastening the decline of trees in poor health; many species are host specific.
Included Bark:	Bark that occurs in a crotch between branch and trunk or between co-dominant stems.
Included bark usually:	
• prevents the trunk from growing around a branch. • occurs on defective V-shaped crotches in which the bark grows inward and on itself, causing a physical weakness where the co-dominant leaders meet.	

Appendix 1

ULE

ULE is an acronym for Useful Life Expectancy. There are a number of ULE categories that indicate the safe useful life anticipated for each tree. Factors such as the location, age, condition and health of the tree are significant to determining this rating. Other influences such as the tree's effect on better specimens and the economics of managing the tree successfully in its location are also relevant to ULE (Barrell 1993, 1995).

ULE Categories and Subgroups

1 = Long ULE of > 40 years

A Structurally sound in suitable location	B Suitable to retain with some remedial care	C Significant status – requires Special care to preserve
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2 = Medium ULE of 15 – 40 years

A Lifespan limit	B Eventual removal for safety or nuisance	C Remove for adjacent trees or replanting	D Requires extensive remedial care
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3 = Short ULE of 5 – 15 years

A Lifespan limit	B Eventual removal for safety or nuisance	C Remove for adjacent trees or replanting	D Requires extensive remedial care
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4 = Remove tree within 5 years

A Dead, dying or diseased	B Unstable or exposed by new clearing	C Structurally defective	D Damaged and unsafe	E Remove for adjacent trees or replanting	F Damaging existing structures	G Clearing will affect stability
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5 = Trees suitable to transplant

A Less than 5m high	B Young trees over 5m high	C Height/width contained by pruning
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The ULE rating given to any tree in this report assumes that reasonable maintenance will be provided by a qualified Arboriculturist using correct and acknowledged techniques. Retained trees are to be protected from root damage. Incorrect tree work practices can significantly accelerate tree decline and increase hazard potential.

Appendix 2

Level 3: Advanced Techniques

There are many techniques that can be considered for advanced risk assessment. Some situations may be assessed with several techniques.

Advanced assessment techniques include:

- Aerial inspection and evaluation of structural defects in branches
 - Visual inspection
 - Decayed testing
 - Load testing
- Detailed target analysis
 - Property value
 - Use and occupancy statistics
 - Potential disruption of activities
- Detailed site evaluation
 - History evaluation
 - Soil profile inspection to determine root depth
 - Soil mineral and structural testing
- Decay testing
 - Increment boring
 - Drilling with small diameter bit
 - Resistance recording drilling
 - Single path sonic (stress) wave
 - Sonic tomography
 - Electrical impedance tomography
 - Radiation (radar, x-ray and gamma ray)
- Health evaluation
 - Tree ring analysis (in temperate trees)
 - Shoot length measurement
 - Detailed health/vigour analysis
 - Starch assessment
- Root inspection and evaluation
 - Root and root collar excavation
 - Root decay evaluation
 - Ground penetrating radar
- Storm/wind load analysis
 - Detailed assessment of tree exposure and protection
 - Computer based estimations according to engineering standards
 - Wind reaction monitoring over a defined interval
- Measuring and assessing the change in trunk lean
- Load testing
 - Hand pull
 - Measured static pull
 - Measured tree dynamics

Inclusion of specific techniques in this list should not be considered an endorsement of the use of that technique.

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Appendix 3

Contact Details	Qualifications
P.O. Box 3193 Glendale NSW 2285 Ph 0409 559 147 Email: jwi52886@bigpond.net au	Bachelor of Arts Degree (Botany) Horticulture Certificate (1989) with Arboriculture component included. Horticulture Certificate (2000 Northern Melbourne Institute of Technology) Diploma of Horticulture (2007 Kurri Kurri Tafe) Arboriculture. Accreditation Number 5510397 AQF Level 5

Appendix 4