ARBORICULTURAL ASSESSMENT FOR DEVELOPMENT – 51 SIMMONS ST WAGGA WAGGA

1. INTRODUCTION.

There is planned development for *Multi Dwelling Housing – 2 x two storey units to rear of existing dwelling, new single garage and associated tree removal works* at 51 Simmons Street Wagga Wagga. Wagga Wagga City Council development application DA20/0109 applies.

An assessment of the tree vegetation on site has been requested as part of the development application process.

2. SCOPE AND PURPOSE.

Assessment of the tree vegetation is required to determine what trees are on site, condition, significance and recommendations for retention or removal.

Mr Andrew Jones of Jones Design has commissioned this report, he can be contacted on 0439715702.

The site was formally inspected on Thursday 9 April 2020.

The report is designed to provide;

- accurate identification of tree vegetation,
- tree condition, including any hazards present
- evaluation of the trees relative to their contribution to the environment, amenity and any other identified values
- evaluation of potential development impacts on the trees.
- recommendations for management of the issues identified.

Interpretation of impacts and recommendations are based on the author's interpretation of *Australian Standard 4970-2009 Protection of trees on development sites*.

The following site plan was provided;

PROPOSED RESIDENCE UNITS LOT 1 (DP743421) 51 SIMMONS ST WAGGA WAGGA. SITE & LANDSCAPE PLAN 10222 2 of 10 dated 5/2/20. Jones Designs Wagga Wagga.

Table one provides a list and details on the trees identified.

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3. Site Conditions and Background.

The site is 835 square meters and located in the older part of the City of Wagga Wagga. There is a current dwelling of some age that occupies about 35% of the block fronting Simmons Street. The remaining portion of the block contains an old shed and mostly garden and lawn area. Joining the north boundary of the property is a pathway or laneway that provides 'rear lane accesses to a number of properties on Kincaid Street and the subject property.

There is a proposal to demolish the old garage at the east end of the block and construct 2 new two story units and a garage. The development will comprise about 50% of the block and the existing dwelling is planned to remain.

The tree vegetation on the property is contained on the north and south fence boundaries with the central area grassed and some hard paving.

There are effectively 5 trees identified as part of the tree vegetation assessment – 4 contained on the subject property, and a 5th tree located on the unnamed laneway or pathway that presents as WWCC property at the rear of 66 Kincaid Street.

Diagram 1 – Subject property – 51 Simmons Street. Location of development is circled. *Source – WWCC – IntraMaps 2020.*

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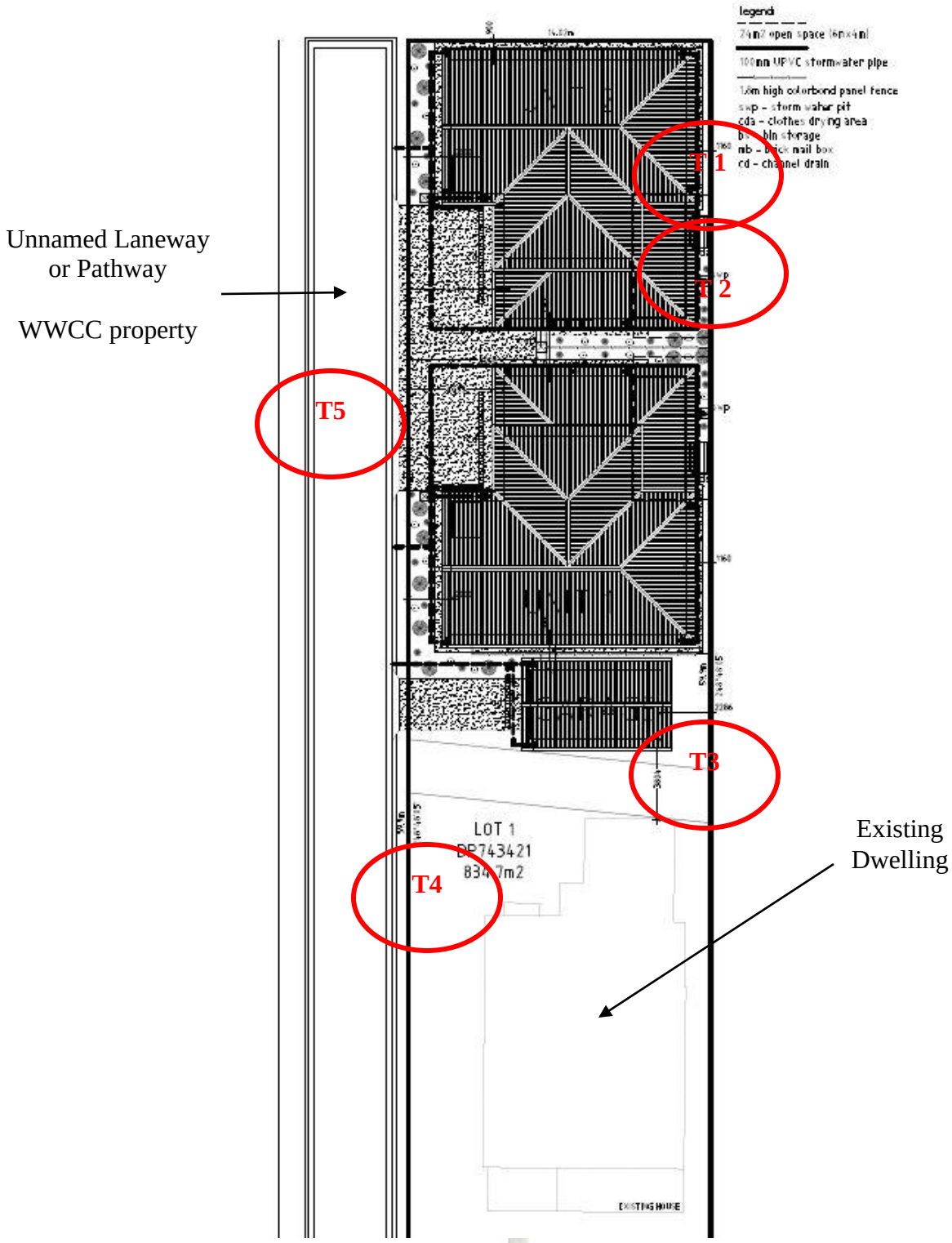

Diagram 2 - Floor plan of the subject property, *with existing dwelling in the lower portion and the proposed units in the top portion. Unnamed laneway or pathway indicated to the left. Approximate location of the 5 trees have been added as indicated – relative to the proposed development. Source - Adapted from Jones Design.*

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Diagram 3 – Aerial view of the property and the 5 subject trees have been identified. *Source WWCC Intramaps 2020.*

The tree population on site was reviewed against *WWCC Development Control Plan 2020 - Section 5 - Natural Resource and Landscape Management – Section 5.2 Preservation of Trees (WWCC 2020).* Effectively 5 Trees have been identified as vegetation above 8m in height and relevant tree details are contained in Table 1 below.

All other vegetation on the property is less than 8m in height or has no potential for impact by the development.

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4. Tree Inspection Details.

Table One – Tree Inspection Details								
Tree No	**Species ,Origin Age Class Dimensions Stem /Height/Canopy spread - m**	**Enviro Rating**	**Condition**	**Significant Tree status**	**Comments**	**Tree Protection zone**	**Retention Value**	**Recommend.**
1 And 2	*Celtis Species* (Hackberry) H – 9-10m Stems – 400mm Canopy spread 10m Semi Mature trees Australian Natives	4 - Low	Good	Not Significant	Trees located in tight 700mm gap between existing shed and south fence. Trees have obviously seeded in location from bird droppings Trees only semi mature dimensions could easily double in time. Trees now touching fence and Fence damage will occur Trees heavily pruned on south side for vehicle access clearances joining property.	4.8m	Very Low	<u>Removal.</u> Trees effectively a weed in this location. Development cannot proceed with tree on site. Trees growth potential is far too great this close to fence.
3	Callistemon species (Bottle Brush) H – 8-9m Stem 350mm Canopy 8 m Small mature tree Australian Native	3 - Medium	Good	Not significant	Sound young tree Species provides good foraging site native birds.	4.2m	Medium	<u>Retain tree if possible</u> If development cannot maintain at least 2.5 to 3m TPZ then remove and replace tree. Tree value can be replaced in 5-7 years.
4	*Celtis Species* (Hackberry) H 9m	4- Low	Good	Not Significant	Tree have obviously seeded in location from bird droppings	3.6m	Very Low	<u>Remove Tree.</u>

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	Stem 300mm Canopy – 10m Young semi mature tree Australian Native				Stem is now hard on north fence. Tree has significant growth potential remaining - likely 2 times current dimensions. It has already outgrown is available space.			Tree effectively a weed in this location Tree has commenced to damage existing fence. If new fence is to be installed then it will not be possible to retain tree and erect fence. Lost vegetation can be replaced in 5-7 years.
5	Celtis Species (Hackberry) Height – 15m 2 stems at 550mm Canopy 20m Young Mature Tree Australian Native **Tree not issued with WWCC Tree Asset number**	3-Medium	Fair to Good	Not Significant	Tree has some elevated values as imposing tree in location and offering notable amenity to residents in Kincaid street address. (sign erected) Tree was lopped some years ago – epicormic attachment considered good. Stems are bifurcated at ground – moderate risk of failure. Canopy encroaches 51 Simmons street property by 3-4 meters.	9.36m	Medium	<u>Retain and protect tree.</u> Canopy reduction on south side will be required to clear 51 Simmons street property and allow development access.

Evaluation criteria details below

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Photo 1 – Trees 1 and 2 – Celtis Species *located between current shed and south boundary fence.*

Photo 2 – Tree 1 Celtic Species *– stem in location between shed on right and south fence on left. Tree has already outgrown the available space.*

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Photo 3 – Tree 3 – Callistemon species *in location at rear of current dwelling. Tree should be retained if possible as an Australian native suited to the local environment and provides foraging sties for native birds.*

Photo 4 – Tree 4 – Celtis species *– stem hard against north boundary fence.*

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Photo 5 – Tree 4 in location *– young semi mature tree has already outgrown its available space. Tree seed has been disposed by birds in location.*

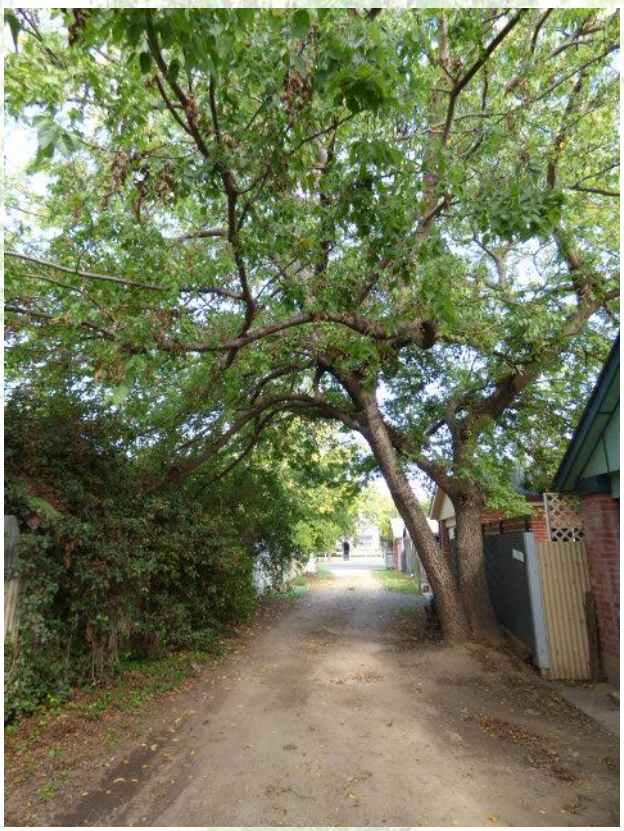

Photo 6 – Tree 5 Celtis Species on WWCC property *– unnamed laneway or pathway between 51 Simmons and 66 Kincaid St.*

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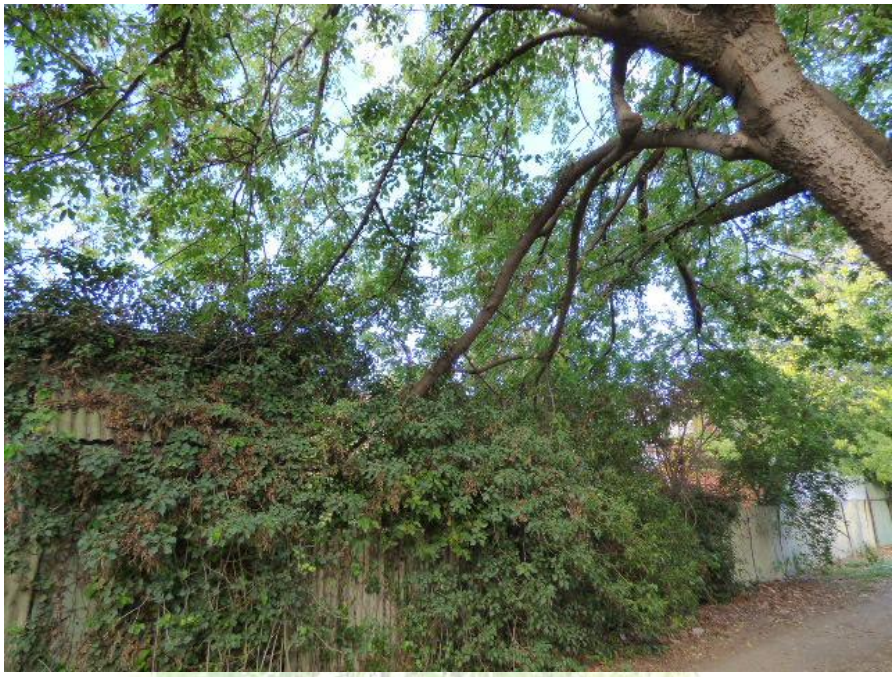

Photo 7 – Tree 5 – WWCC tree in laneway *– canopy encroachment into 51 Simmons Street that will require management.*

Photo 8 – Tree 5 – south leader *of tree has been lopped as circled – epicormic shoots or stems have good attachment over laneway area.*

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5. Discussion

The *Celtis species* (Hackberry) is an Australian Native species to the northern temperate zone (Rowell 1991). The tree is well suited to the local Wagga Wagga environment and was widely planted in the older parts of Wagga Wagga as a hardy tree. Unfortunately the seeds are easily and rapidly dispersed by birds in bird droppings and young seedlings typically establish along fence lines and left unchecked can grow into medium trees that readily displace light structures such as fences. To some degree the tree is a weed species although not listed as undesirable by WWCC (2020). There were 10-20 such seedlings scattered throughout the property of 51 Simmons Street on the day of the inspection – although not counted.

Trees 1, 2 and 4 are Celtis species that have established as a weed or nuisance tree from bird droppings. Trees 1 and 2 cannot be retained as they are in direct conflict with the proposed development. Tree 4 is already hard against the north fence and should also be removed.

Notwithstanding the potential for weed or nuisance status, the tree can from a larger and notable or significant tree with excellent amenity values if provided with sufficient space.

Tree 5 has likely established in a similar fashion as described above, however the tree has more space and is considered close to mature dimensions. The tree is effectively owned by WWCC and with protection measures and some canopy pruning the tree can effectively be retained. Canopy pruning will also alleviate potential for the stem system to fail.

Tree 3 – *Callistemon species*, is a small mature tree with positive environmental values, particularly as a foraging site for native birds. If a TPZ of 2.5 to 3m on the property of 51 Simmons can be maintained then the tree should be retained with a loss of about 10% of the TPZ. If this is not possible then the tree should be removed and the landscape design for the development should take into account its replacement.

6. Recommendations.

The following recommendations as per Table 1 and Section 5 Discussion are provided.

1. Trees 1, 2 and 4 should be removed.
2. Tree 3 should be retained if possible.
3. Tree 5 – Tree on WWCC property requires the following measures for protection and consideration of the development.
    a. The south side of the canopy should be pruned – reduced and uplifted by about 30-40%. The pruning needs to achieve sufficient lifting to allow light commercial vehicles access to the development site and allow at least 2 meters clearance on the boundary line of 51 Simmons Street.

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i. The pruning should occur prior to the development commencing.

b. There should be specific terms in the consent to ensure that waste, materials or other items are not stored or dumped under the tree, and that the tree is protected as part of the development consent.

c. The south leader of the tree should be fitted with protection barriers as per *Australian Standard 4970 – 2009 - Protection of trees on development sites – page 17* – to prevent vehicle and plant impacts to the tree stem, which is a WWCC asset – (See Diagram 4 below).

4. The landscape plan for the development needs to appropriately consider the loss of 3 or 4 young trees with appropriate replacements.

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20 April 2020
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QTRA – (Quantified Tree Risk Assessment - Registered Advance User)
Member – ISA (International Society of Arboriculture)
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 # Details of Descriptors & Evaluation Methods.

Age Class. N= New planting Y=Young Semi =semi mature M=Mature OM=Over mature S=Senescent D=Dead
Dimensions – D =Stem diameter measured at 1.4m above ground in m H=Height estimated in m. C=Canopy diameter in m.
Condition – Consideration of stem & canopy structure, root system, defects, form, canopy vigour, extent of any decay, pest or disease
TPZ/SRZ – Tree Protection Zone specified area above and below ground and at a given distance from the trunk set aside for the protection of the tree's roots and crown to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development.
Structural Root Zone – the area around the base of a tree required for the tree's stability in the ground - calculated in meters radially from stem centre. From *Australian Standard 4970-2009 Protection of Trees on development sites*
TPZ Impact -Percentage of encroachment into TPZ – impacts of more than 10% require review.
Retention Value - Very High, High, Medium, Low, Very low. Considerations – Significant Tree. Environmental and habitat values, condition, safety or hazard risks, heritage, amenity and scenic values, species performance and site condition, weed status or listed undesirable, potential for property damage.

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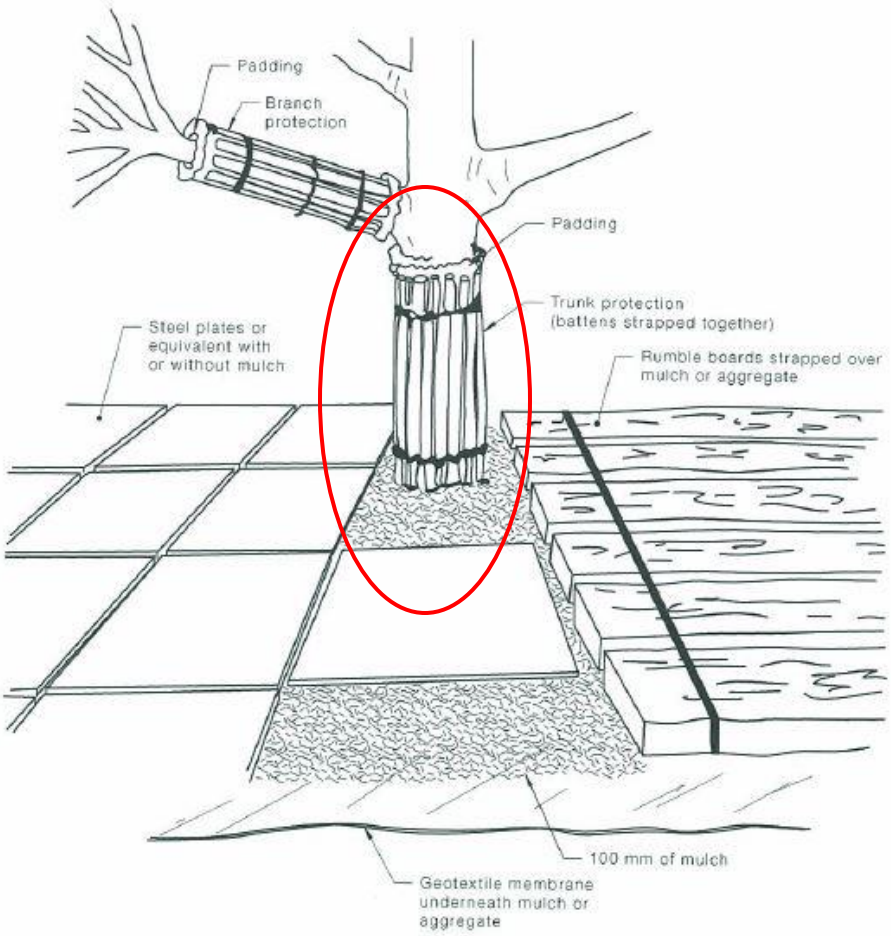

NOTES:

1 For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed.

2 Rumble boards should be of a suitable thickness to prevent soil compaction and root damage.

FIGURE 4 EXAMPLES OF TRUNK, BRANCH AND GROUND PROTECTION

Diagram 4 – Extract from AS 4370- Protection of Trees on Development sites.

Physical protection should be fitted to the south stem of Tree 5 – whereby timber slats should be installed to prevent damage to the stem from any vehicle or plant impacts. As noted – the timber is not to be screwed or nailed to the stem it needs to be fitted so that no damage occurs to the tree and it can be removed at completion of the development. If further advice is required on how this can be practically installed please contact the author for further instructions.

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Environmental Rating		Evaluation Considerations/Criteria
1	Very High	Normally Old growth Remnant Tree, multiple hollows important to endangered fauna, replacement would be well in excess of 100 years
2	High	Mature or semi mature Endemic Tree with or without hollows, plays an important part in local ecology, or Australian Native that has high substitute values as endemic tree replacement would take 50-100 years
3	Medium	Young or semi mature Endemic tree or Australian native species that has some positive values for local fauna - replacement would take 20 or more years.
4	Low	Normally exotic species, or small, young endemic or native that could be replaced in the short term 5-10 years
5	Very Low	Listed Weed or nuisance species; or very small value or insignificant to local ecology - could be replaced within 5 years or readily replaced with species of greater value

Significant Tree values/criteria	
Very Significant	• Defined as Significant Tree by regulatory or other authority or • Environmental rating 1 • Large tree with Condition 1 or 2 with retention values of 1 or 2 • Heritage Listed or Very High Cultural or heritage Values
Significant	• Environmental value 2 • Medium or larger tree in good/excellent condition, suited to environment • Imposing within the local landscape - long life expectancy • Strong amenity values or some cultural or heritage links

References.

Australian Standard (2009). *Australian Standard 4970-2009 Protection of trees on development sites*.

WWCC (2020). *WWCC Development Control Plan 2010 - PART B - Section 5 Natural Resource and Landscape Management. Section 5.2 Preservation of Trees.* Accessed on line 20/4/20 at; https://wagga.nsw.gov.au/__data/assets/pdf_file/0015/112254/9.-Version-Control-Project-Wagga-Wagga-DCP-2010-as-amended-Section-5-Natural-Resource-and-Landscape-Management-Version-20.pdf

Rowell, Raymond J. (1991). *Ornamental flowering trees in Australia*. University of NSW, Kensington NSW. pp 87-88.

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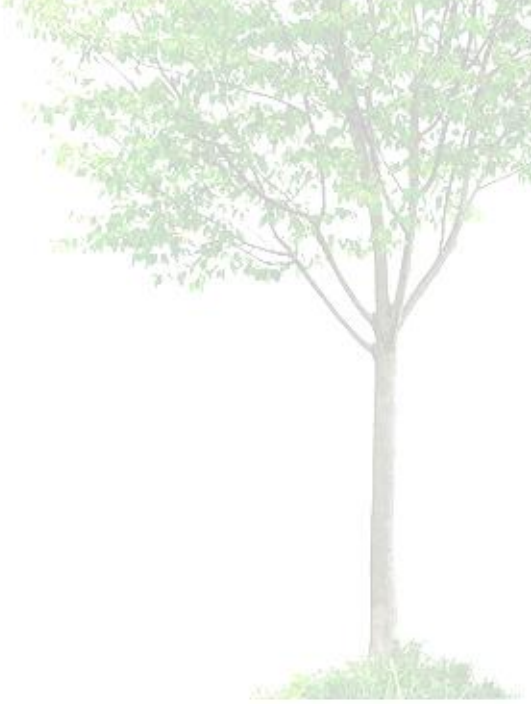
Terms, Conditions and Limitations that apply.

This is a basic set of conditions and limitations that accompany a report or email (as an attachment). Obviously, visual tree assessment from the ground has some limitation as every single portion of the tree cannot be observed or inspected. Most or the large majority of defects and tree issues can be observed from the ground. Where aerial inspection or other investigative means should be considered the report or email will recommend or provide those as an additional consideration.

Trees are a valuable asset and necessary part of both the urban and natural environment. They are the cornerstone of our environment and provide numerous benefits to our social wellbeing, biodiversity and ecology of any area. They provide water balance stability, salinity and erosion control, amenity, cultural, public health and aesthetic benefits; efforts should be made to preserve and plant new trees where possible. As an asset they require appropriate management and resource inputs.

It should be noted that trees cannot be guaranteed 'risk free'. All trees represent some degree of risk. Arboriculture is not an exacting science; rather it is an educated interpretation of the interaction of biotic and environmental circumstances, which change over time. It is not possible to determine or predict all limb or tree failures. This report is such an interpretation at the time of inspection.

Unless Quantified Tree Risk Assessment (QTRA) has been specifically applied and reported, then this report or email does not constitute a risk assessment. The Author does not seek to determine what level of risk any individual or organisation is prepared to accept but serves to provide tree managers with tree condition, hazards and other salient issues associated with the tree or trees; and provide or recommend management options.



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