T.T.A.

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Independent
Arborist/ Tree Protection Report

Prepared for:

Weston Building Group

Prepared by:

Tree Test Australia (Consulting Arborists)

Site:

4 Wonderly Street
Toowoomba, QLD

Site Visits:

13th //16th June 2025

1. Discussion:

1.1 Tree Information

Assessing the requested five trees on the proposed construction site according, according to the Q.T.R.A. (*Quantified Tree Risk Assessment*) and VTA methodology & guidelines as a certified and licensed consultant. - *Lic. No. # 1729* **as well as to the guidelines of Standards Australia, 2009, *Protection of trees on development sites,* AS 4970, 2009 Standards Australia Ltd - Sydney**

2. Introduction:

2.1 Disclaimer

DISCLAIMER

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2.2 Methodology

Two types of visual methodologies have been applied:

1. Q.T.R.A. (Quantified Tree Risk Assessment)

Tree safety management is a matter of limiting the risk of harm from tree failure while maintaining the benefits conferred by trees. Although it may seem counter-intuitive, the condition of trees should not be the first consideration. Instead, the managers should consider first the usage of the land on which the tree stands, and in turn this will inform the progress of assessing the trees.

The Quantified Tree Risk Assessment system applies established and accepted risk management principles to tree safety management. Firstly, the use of land upon which trees could fail is assessed and quantified, (target areas) thus enabling tree managers to determine whether or not and to what degree of rigor a survey or inspection of the trees is required. Where necessary, the tree or branch is then considered in terms of both impact potential (size) and probability of failure. Values derived from the assessment of these three components are then used to calculate the probability of harm.

2. VTA (Visual Tree Assessment)

The inspection method used was the Visual Tree Assessment (VTA) method *(Mattheck & Breloer 2010*). This method involves inspecting the trees from ground level, identification of any external signs of decay, physical damage, growth related structural defects and the site conditions where the tree is growing. This method will ascertain whether there is need for a more detailed inspection of any part of the tree.
A balance between the health and structure of the tree and the target/traffic is important, i.e. a decayed and structurally faulty tree in a non-traffic/target area has generally a lower risk rating than a tree with medium serious faults in a high traffic area.

- Standards Australia, 2009, *Protection of trees on development sites,* AS 4970, 2009 Standards Australia Ltd - Sydney

Photos:

Object trees #01/02.

Object trees #01/02.

Object trees #03.

Object trees #03.

Object trees #04.

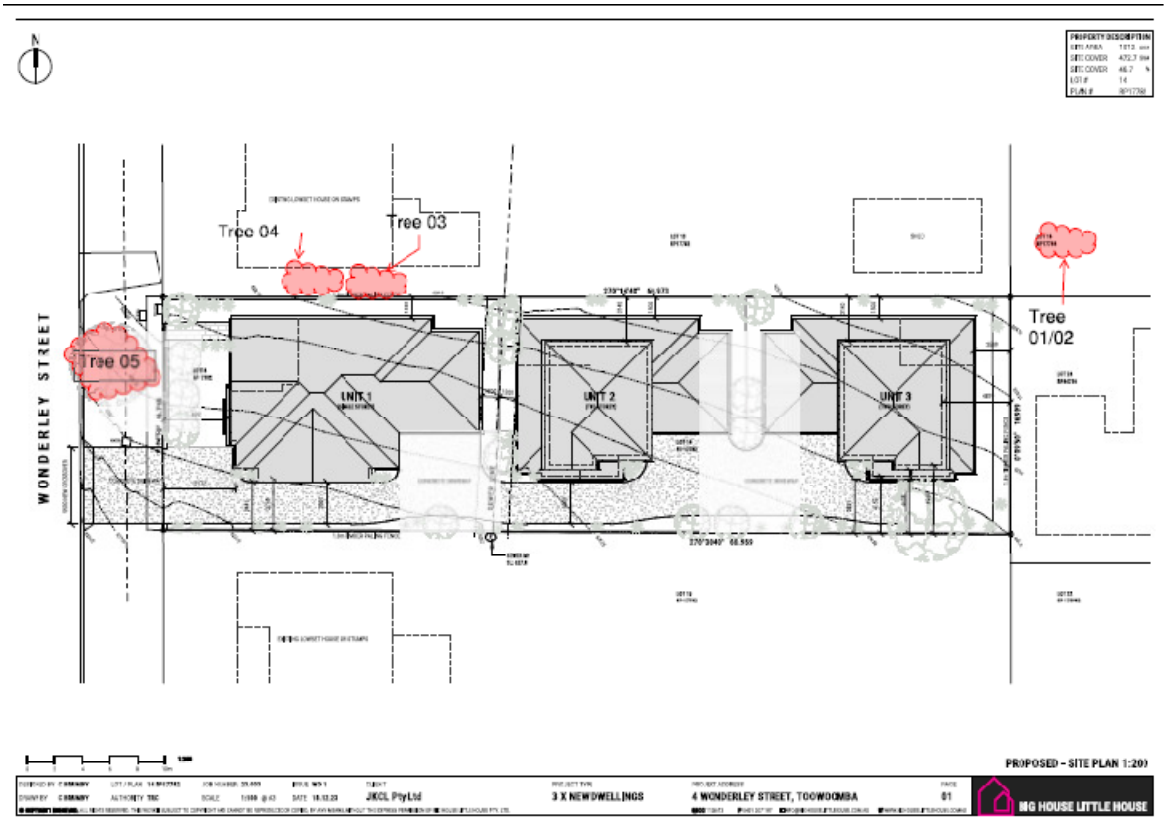
Object trees #04.

Photos: continued.

Object trees #05.

Object trees #05.

Plan (supplied)**:**



Showing location of the object trees

Tree Information:

Object tree 01: Mature *Eucalyptus piluaris,* DBH: 650 mm, Height: 18.5 meters, Crown: 9 meters
Situated on the eastern neighbour's property. 5 meters from boundary fence.

- Dead wood in crown
- Overhanging limbs
- Condition: Fair/Good

Object tree 02: Immature *Jacaranda mimosa,* DBH: 300 mm, Height: 10 meters, Crown: 6.5 meters
Situated on the eastern neighbour's property. 4 meters from boundary fence.

- Dead wood in crown
- Excessive overhanging weight
- Condition: Good

Object tree 03: Immature *Avocado,* DBH: 200 mm, Height: 6 meters, Crown: 6.5 meters
Situated on the northern neighbour's property. 1.2 meters from boundary fence.

- Overhanging Limbs
- Condition: Good

Object tree 04: Early mature *Callistemon spp,* DBH: 250 mm, Height: 7 meters, Crown: 5 meters
Situated on the northern neighbour's property. 1 meter from boundary fence.

- Overhanging Limbs
- Condition: Good/Fair

Object tree 05: Mature *Callistemon spp,* DBH: 150 mm, Height: 6 meters, Crown: 5 meters
Situated on the western footpath (Wonderly Street).

- Multi-stem
- Condition: Poor
- Wound in base

SRZ & TPZ: (Structural Root Zone & Tree Protection Zone) (*see appendix*)

	SRZ	TPZ
Object tree 01:	2.7 meters	7.8 meters
Object tree 02:	2.0 meters	3.6 meters
Object tree 03:	1.7 meters	2.4 meters
Object tree 04:	1.8 meters	3.0 meters
Object tree 05:	1.5 meters	1.8 meters

Recommendations:

- **Following the protection measures, these trees should not be impacted by the construction work**

Object tree 01: Mature *Eucalyptus piluaris,* DBH: 650 mm, Height: 18.5 meters, Crown: 9 meters
Situated on the eastern neighbour's property. 5 meters from boundary fence.

- Prune overhanging limbs up o the boundary
- Monitor for any dead wood and changes in structure & health

- All trees can be pruned up to fence/boundary line if necessary

- All excavation work should be carefully undertaken by under boring or Vac-truck within the TPZ zones.
- No earthworks within the SRZ
- A ridged trunk protection fence should be installed to avoid wounds and damage to the object tree
- All protection measures must be followed *refer below & appendix*
- All object trees can be retained if all protection measures are followed

Protection measures: (Summary)

In order to protect these trees, the following measures have to be implemented:

- Keep construction/excavation as far away as possible from the SRZ
- Follow SRZ & TPZ guidelines - *outlined in the appendix* *
- Any large equipment that passes by the trees must be supervised to ensure that no damage to trunk, limbs and canopy is inflicted
- Any damage to the tree is to be immediately reported
- Supervision and briefing of work crew by a qualified arborist
- Any excavation even outside the SRZ (but inside the TPZ) is to be carefully undertaken by hand and/or Vac-Truck under supervision by a qualified arborist
- Any roots encountered must be professionally pruned to Australian standards
- Soil level not to change around object tree
- No ground compaction and uncovered root damage by machinery and vehicles
- Hessian bandage on lower overhanging lateral limbs, protecting from high reaching machinery (if possible)

**Refer to Appendix*

Currency of assessment:

Tree assessments have a limited currency as we are dealing with living plants that change continuously. Also, severe drought, heat, storms, flooding or any other sudden decline can alter the health & structural integrity of trees.
This report reflects the state of the trees on the time of inspection, the health and structure can alter any time after.

PLEASE NOTE: We are NOT a Tree Contractor and therefore our reports are independent and with no conflict of interest! Having additional Professional Indemnity Insurance, we can give written legal advice!

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Bibliography

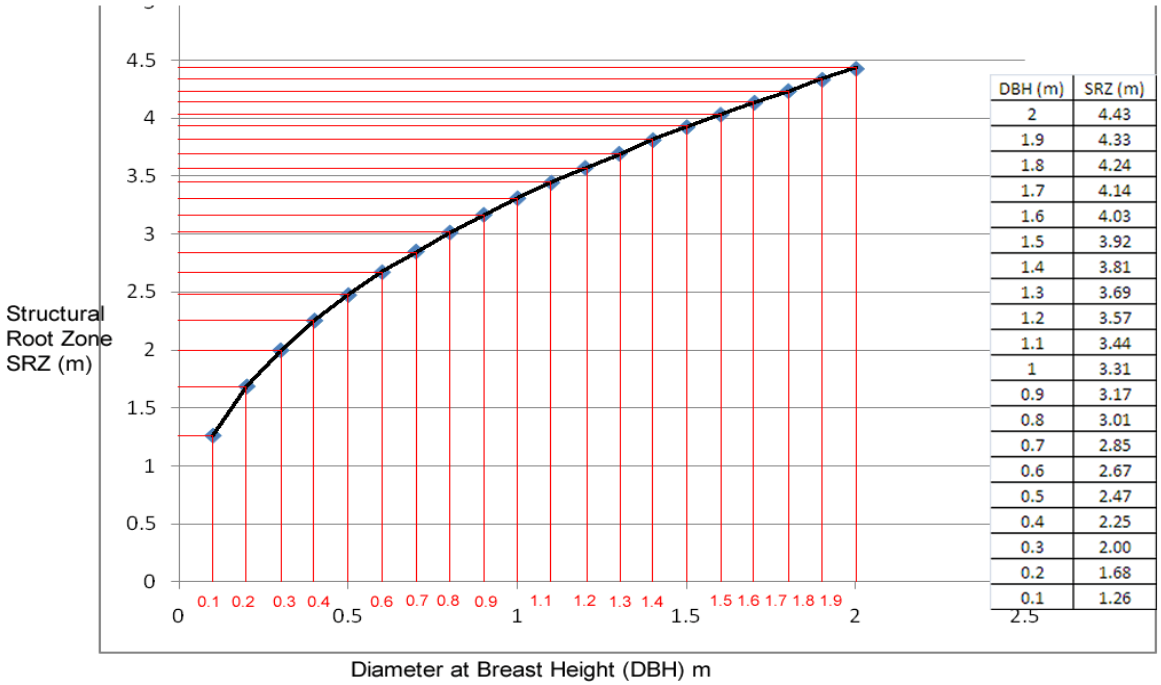
Standards Australia, 2009, *Protection of trees on development sites,* AS 4970, 2009
Standards Australia Ltd - Sydney

Structural root zone (SRZ)

The SRZ is the area required for tree stability. A larger area is required to maintain a viable tree.

There are many factors that affect the size of the SRZ (e.g. tree height, crown area, soil type, soil moisture). The SRZ may also be influenced by natural or built structures, such as rocks and footings. An indicative SRZ radius can be determined from the trunk diameter measured immediately above the root buttress using the following formula or Figure 1. Root investigation may provide more information on the extent of these roots.

SRZ radius = $(DBH \times 50)^{0.42} \times 0.64$



DBH (m)	SRZ (m)
2	4.43
1.9	4.33
1.8	4.24
1.7	4.14
1.6	4.03
1.5	3.92
1.4	3.81
1.3	3.69
1.2	3.57
1.1	3.44
1	3.31
0.9	3.17
0.8	3.01
0.7	2.85
0.6	2.67
0.5	2.47
0.4	2.25
0.3	2.00
0.2	1.68
0.1	1.26

Tree Protection Zone calculations

TREE PROTECTION ZONE (TPZ)

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

The radius of the TPZ is calculated for each tree by multiplying its DBH × 12

TPZ = DBH × 12

DBH = trunk diameter measured at 1.4 m above ground

Tree Protection Zone (TPZ) Calculations

Australian Standard 4970 – 2009 Protection of Trees during Construction states that the method of calculating the ideal TPZ is as follows:

TPZ radial distance (m) = DBH (m) x 12

It is also noted that the TPZ can be encroached by 10 – 20% where the remainder of the TPZ remains undisturbed due to site restrictions. This formula has been applied as a guideline.

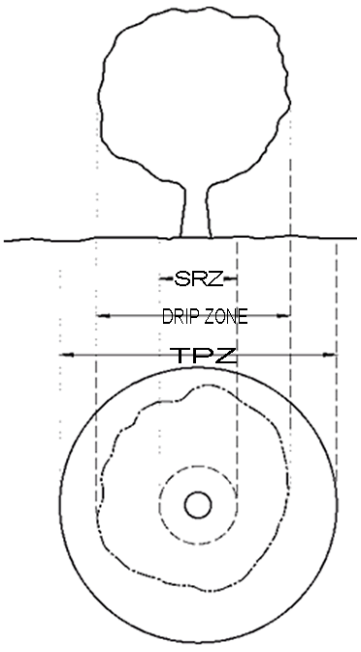


Figure 1 shows a sketch of the different dimensions related to tree preservation, SRZ, TPZ and Drip zone (the area directly under the canopy).

ACTIVITIES RESTRICTED WITHIN THE TPZ

Activities generally excluded from the TPZ include but are not limited to:

(a) machine excavation including trenching;(within SRZ)

(b) excavation for silt fencing;

(c) cultivation;

(d) storage;

(e) preparation of chemicals, including preparation of cement products;

(f) parking of vehicles and plant;

(g) re-fueling;

(h) dumping of waste;

(i) wash down and cleaning of equipment;

(j) placement of fill;

(k) lighting of fires;

(l) soil level changes;

(m) temporary or permanent installation of utilities and signs, and

(n) any physical damage to the tree.

Common causes of Tree Death