



# TREETALK

ARBORICULTURAL CONSULTING

ABN 36 323 568 677

Interim Tree Protection Measures  
2964 Wisemans Ferry Road  
Mangrove Mountain

Project No 4602/ITPM  
July 2012

## Prepared for

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**Appendices**

*Appendix A – Tree Protection Plans*

*Appendix B – Tree Protection Diagrams*

*Appendix C – Tree Protection Measures*

## Tree Protection Measures: 2964 Wisemans Ferry Road Mangrove Mountain

### 1.0 Summary

Management of the trees to be retained is provided. Maximum tree protection measures (as per AS4970) have been applied for most groups of trees. Some trees near the buildings required further assessment in relation to works proposed. Soil surface protection is recommended where future planting is proposed.

### 2.0 Background

Further to the early TreeTalk report on general assessment of trees on the site, Gosford Council require information regarding tree protection measures.

### 3.0 Method

As this relates to the concept design of works near it is necessary to provide general tree protection measures. These will be, where possible, to the maximum distance during site preparation and building phases. Further arboricultural advice can be provided at the landscaping phase.

The Tree Protection Zone (TPZ) has been arrived at using widely recognised methods as detailed in Australian Standard AS 4970– 2009 (see Appendix B). Tree Protection zone will be the maximum as per AS4970 ie a 15 metres or 12 x trunk diameter.

## 4.0 Tree Groups

Trees have been assessed in groups of common usage or proposed works (see Image below).

Group A: An avenue of trees along the driveway to be removed and for later planting

Group B: Turpentine' beyond the driveway to be retained and protected

Group C: Front boundary trees to be protected and for future management and planting

Group D: Trees towards the south of site to be protected and future replanting management

Group E: Trees outside area of proposed works to be isolated from works and protected

Group F: Trees forward of the existing house within building platform and to be removed.

Group G: Trees forward of house and shed within building platform and to be removed.

Tree H: A single Jacaranda near building platform and to be considered further.

Group I: A group trees to be isolated from works and protected (or considered further).



Image 1: Aerial view of site with overlay of tree groups as assessed

Base Image from Google Maps

## 5.0 Management of Tree Groups

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See Appendix A for diagrammatic representation.

### Group A - Driveway Avenue

After tree removal soil surface should be protected with mulch to maintain soil quality for future planting.

### Group B Entrance

These trees are outside the area of proposed works and can be isolated to the extent of the driveway (and the removal process for pines group A), and 15 metres in all other directions.

### Group C - Front Boundary - along Wiseman Ferry Road

All trees along the front driveway should be isolated from the works process with fencing to 15 metres. Individual assessment can be made at a later date after or prior to weed removal and re-landscaping.

### Group D – Row of trees reflecting driveway

All trees along this avenue should be isolated from the works process with fencing to 15 metres. Individual assessment can be made at a later date after or prior to weed removal and re-landscaping.

### Group E -Trees near shed

These trees can be isolated from the works to the extent of the adjacent roadways and 15 metres in other directions.

### Groups F & G -Trees forward of the house

These trees are within the building platform and all proposed for removal.

Groups H & I – These trees are immediately adjacent to works proposed. Fencing installation should be managed under arboricultural supervision.

## 6.0 Tree Protection at Work Phases

To ensure that adequate tree protection is in place, it is important that protection measures are the first works on site. (Removal of existing structures and site preparation are often the time that most tree damage occurs).

- Protect soil with mulch in areas of future planting.
- Consider where materials are to be stored and keep this outside tree protection zones.

Works Phase	Protection Required	Solution
<b>First Works</b>		See Appendix A
<b>Tree Groups B, C, D &amp; E</b>	All roots and soil (from damage and soil compaction)	Install fencing to 15 metres on works side off group and/or to existing roadway.
<b>Tree Groups H &amp; I</b>	All roots and soil (from damage and soil compaction)	Further consideration may be required or Fence to extent of foliage under arboricultural supervision
<b>Landscaping Groups C &amp; D</b>	Protect trees to be retained Avoid damage to large roots.	Remove & treat weeds using hand tools preferably under arboricultural supervision. Locate plants to avoid tree roots of 40mm or greater.

## 7.0 Conclusion

Tree protection fencing should be installed to isolate all trees being retained to the maximum distance possible as outlined in Sections 5 & 6 and diagrams in Appendix A. Retention of any trees near site works (groups H & I) will require considerable effort and further advice should be sought.

Please contact me if any sections of this report requires clarification.



Sue Wylie  
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Group A is the avenue of trees along the driveway

Group B is the Turpentine's beyond the driveway

Group C is the front boundary Fence

Group D is a row of trees reflecting the driveway towards the southern side of site

Group E are trees outside area of proposed works

Group F are trees forward of the existing house

Group G are trees forward of house and shed

Group H is a single Jacaranda that may contribute to the site

Group I is a group west of sheds



Image 1: Aerial view of site with overlay of tree groups as assessed

Image from Google Maps



Trees to be retained or assessed further



Later landscaping works



Trees proposed for removal



Tree protection fencing to existing boundary or 15 metres

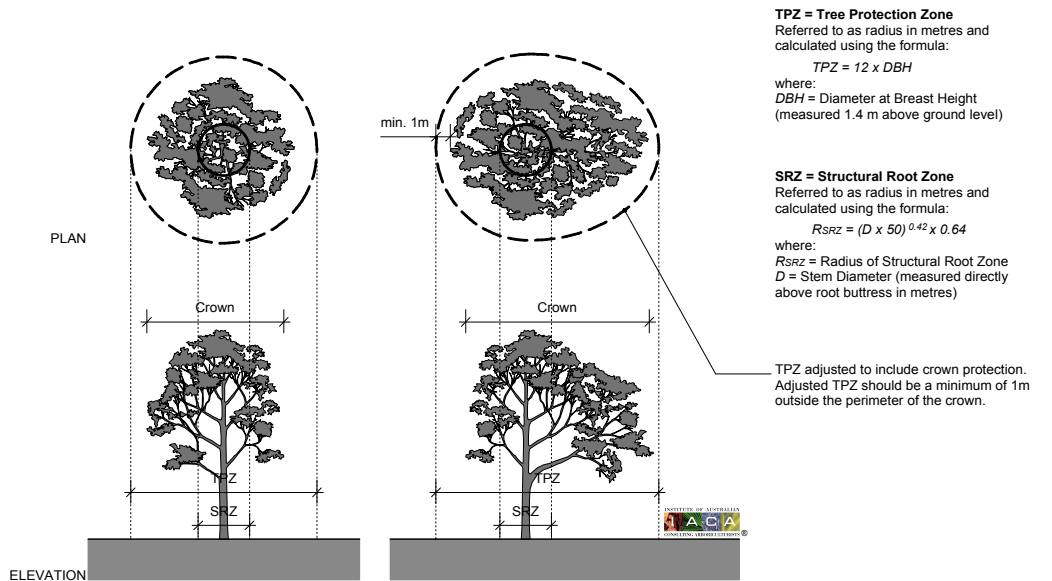




# Appendix B

## Tree Root Zones as per AS 4970

Based on IACA Members licence of AS4970-2009

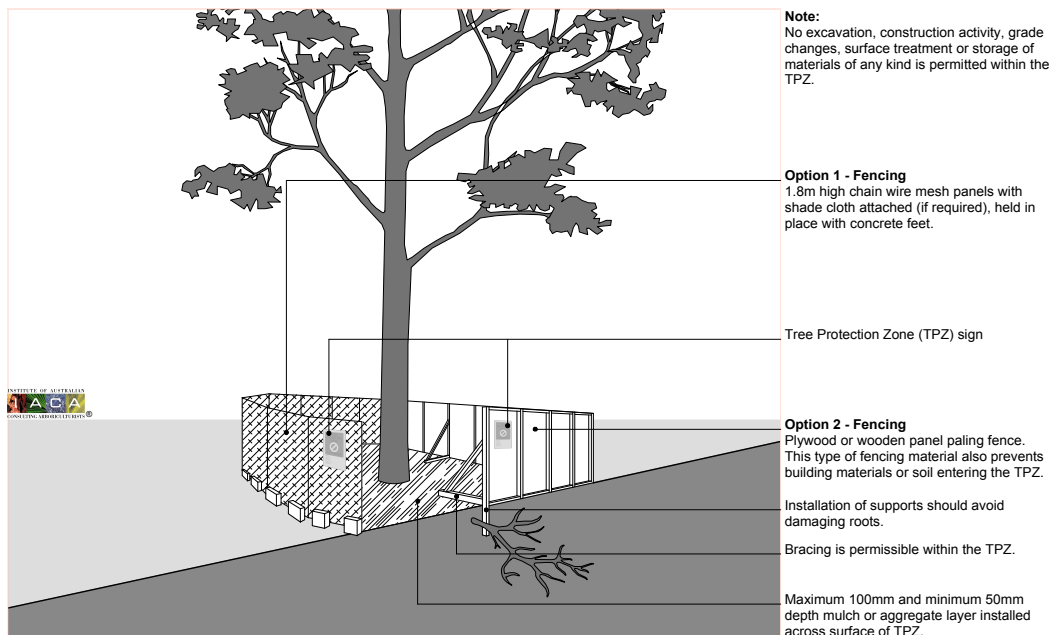


Indicative Tree Protection Zone (TPZ)

Scale 1:500 @ A4

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Based on IACA Members licence of AS4970-2009



Tree Protection Fencing

Not to Scale

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### General Tree Protection Measures

Tree roots require space and air to function and as most tree roots are in the top 1/3rd metre of soil they are easily damaged by compaction of the soil and therefore loss of air spaces necessary for healthy root survival.

Soil compaction is a common cause of tree decline on development sites. Protection of tree roots requires that activity be eliminated within the tree protection zone with fencing (ie 12 times trunk diameter or as otherwise specified in the report - See Appendix C1).

Theoretical Tree Protection Zones (TPZ) of trees to be retained are given in Table 1. If works are proposed within the Tree Protection Zone (TPZ) by an area of greater than 10%, further consideration may be required and may require root mapping/exploratory digging using hand tools to ensure that no structural roots are impacted upon.

### Works with TPZ

Minimising soil compaction, by isolating most of the tree roots zone (TPZ) from site works or significant changes is important in the early stages of site works.

Heavy site equipment (such as in demolition and the site preparation process) passes over the TPZ or materials stockpiling within a trees growing area, is detrimental to both the tree as well as the soil proposed for future plant growth (later landscaping).

Where works are required within this area, soil surface protection methods need to be undertaken. This involves adding mulch and rumble boards (see Appendix C2) and other methods of avoiding compaction.

Weight distribution over the area with the use of rumble boards or steel plates over mulch over geotextile fabric (Appendix C2).

### Works with SRZ

Where works are required within the SRZ it is essential to avoid creating a dangerous tree by causing damage to roots providing tree anchorage. All works within SRZ should be above ground and to specific arboricultural specifications preferably with your AQF Level 5 arborist on site. Piers for pier and beam construction are the only works possible. Piers must avoid roots with diameters of 40cm or greater. Digging to locate these large roots must be undertaken using hand tools.

Services paving and landscaping within the TPZ should be carefully considered in relation to damaging tree roots and loss of air and oxygen in the soil.

Tree decline is often not evident for several years. It is important to protect trees from damage or remove them to avoid creating a hazardous tree.