APRIL 5, 2022

# ARBORICULTURAL IMPACT ASSESSMENT

## PREPARED FOR MR. A. BELLING 22 ALKOOMIE AVENUE, FORESTVILLE

PREPARED BY LEE HANCOCKCONSULTING ARBORIST AQF LEVEL 5

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## 1.Introduction

At the request of Ms. N. Peart and Mr. A. Belling, Lee Hancock Consulting Arborist was commissioned to prepare an Arboricultural Impact Assessment of trees located on and offsite of the proposed alterations and additions to existing dwelling. Known as Lot 20 in D.P. 27312, 22 Alkoomie Avenue, Forestville, in the local government area of Northern Beaches Council.

1.1 The Proposal

The applicant seeks permission to make alterations and additions to the existing residence.

## 2. Aim

This report has been undertaken to meet the following objectives:

- Conduct a visual assessment of all trees on and offsite of the proposed alterations and additions
- Recommend removal or retention of trees.
- Provide Tree protection specifications for the long-term viability of trees retained.

2.1 Measures necessary to protect the trees throughout all demolition and construction phases have been recommended and methodologies to minimise impacts on the retained trees, where there is encroachment into the TPZ (Tree Protection Zone) have also been included.

2.2 The author is aware of and will comply with the determining authorities Northern Beaches Council Development Control Plan (DCP) and Local Environment Plan (LEP).

**Table 1. Documents Provided**

| PLAN/DOCUMENT | PREPARED BY | DWG/REF NO | DATED |
|---|---|---|---|
| Architectural Drawings | Dragonfly Architects | DA 01 - 24 | April 2022 |
| Surveyor | Benchmark Surveys | 200214 | 19.2.2020 |

2.3 All trees included in the site survey are numbered and assessed by the Author as the basis as to which trees are suitable for retention.

For each tree they have been assessed for.

a) Correct botanical identification and common name
b) Health and vigour
c) Structure
d) Dimensions, height, crown spread and DBH
e) Age class
f) Estimated life expectancy
g) Heritage and /or cultural matters
h) Ecological and habitat matters
i) The location relative to existing site features
j) Other matters to the site
k) Retention value

2.4 *Wildlife Habitat*

The majority of the trees are native species.

2.4.1 *Noxious Plants and Environmental Weeds*

None of the trees assessed are scheduled as weeds by the Biosecurity Act 2015.

2.4.2 *Threatened species& Ecological Communities*

None of the subject trees are listed as NSW Threatened Species Scientific Committee or form part of Endangered Ecological Communities ( EEC's) under the provisions of the Biodiversity *Conservation Act 2016.*

*2.4.3 Heritage Conservation Area*

The site is not in a Heritage Conservation Area

2.5.4 *Significant Tree Register*

Council does not currently maintain a Register of Significant Trees i

## 3. Site Analysis

The site is a double fronted single storey residence, the existing vegetation is a mix of exotic and native species. The site measures 862.6m2.

## 4. Discussion

An assessment of each tree was made using the Visual Tree Assessment (VTA) procedure. The subject trees were assessed from the ground. No aerial inspection has been undertaken as part of this assessment. The initial point of reference in assessing the impacts of the proposed development is AS4970 (2009) *'Protection of trees on development sites.*

4.1 Each tree has been provided with an identification number for reference purposes denoted on the Tree Location Plan. This discussion will focus primarily on the trees that will experience conflicts with the proposed development. This report will then guide the site layout and design process showing the spatial requirements and constraints the trees have imposed on the site.

4.2 Measures necessary to protect the trees throughout all demolition and construction phases have been recommended and methodologies to minimise impacts on retained trees.

**Tree 1. *Corymbia citriodora* (Lemon Scented Gum)**

Located centre of front yard, tree is showing two branch failures that have occurred in the recent past, the tree is only a semi mature specimen which is unusual for a tree of this age to be dropping limbs. Although this tree species has a reputation for limb failure.

**Tree 2. *Juniperus chinensis* ( Spartan Juniper)**

Mature tree located southern boundary corner of front yard in good form and vigour, the supplied plans show no works proposed in this area. Rated as high landscape significance and amenity value. High retention value.

**Tree 3. *Jacaranda mimosifolia* (Jacaranda)**

Mature tree positioned southern boundary in good form and vigour, tree appears structurally stable, the supplied plans show tree will not be adversely impacted upon when tree sensitive protection measures are implemented. High landscape significance and amenity value. High retention value.

**Tree 4. Brachychiton *populneus* (Kurrajong)**

Mature tree located adjacent to tree 3, in good form and vigour, the supplied plans show tree will not be impacted upon by the proposed development. High landscape significance amenity and ecological value.

**Tree 5. *Melaleuca quinquenervia* (Paperbark)**

Mature tree located off centre of rear yard, appears in fair form and vigour, Rated as moderate landscape significance amenity and ecological value. High retention value.

**Tree 6. *Eucalyptus haemostoma* (Scribbly Gum)**

Mature tree with prominent lean to the south, tree appears to have been planted too deep as there is very little trunk taper, rated as moderate landscape significance amenity and ecological value. High retention value.

**Tree 7. *Jacaranda mimosifolia* (Jacaranda)**

Mature tree in good form and vigour, appears structurally stable, the supplied plans show tree will not be adversely impacted upon when tree sensitive construction methods are implemented. Rated as high landscape significance and amenity value. High retention value.

**Tree 8. *Agonis flexuosa* (Willow Myrtle)**

Mature tree/shrub in fair form and vigour, appears structurally stable, the supplied plans show tree will not be impacted upon by the proposed development. Moderate landscape significance and amenity. High retention value.

**Tree 9. *Melaleuca citrinus* (Bottlebrush) Offsite**

Located offsite southeast boundary, in good form and vigour, the supplied plans show tree will not be impacted upon by the proposed development. High landscape significance amenity and ecological value.

**Tree 10. *Alnus parvifolia* (Chinese Elm)**

Located southeast corner of adjacent property, the supplied plans show tree will not be impacted upon the proposed development. High landscape significance and amenity value. High retention value.

**Tree 11. *Melaleuca bracteata* (Tea Tree)**

Located offsite rear boundary in good form and vigour, the supplied plans show tree will not be impacted upon by the proposed development. High landscape significance amenity and ecological value.

**Tree 12. *Archontophoenix cunninghamiana* (Bangalow Palm)**

Located offsite north boundary, semi mature palm in good form and vigour, the supplied plans show tree is remote from proposed works. Rated as moderate landscape significance amenity and ecological value. High retention value.

**Tree 13. Livistona australis (Cabbage Tree Palm)**

Located on adjoining property the supplied plans show Palm will not be adversely impacted upon by the proposed alterations and additions. Rated as High landscape significance amenity and ecological value. High retention value.

**Tree 14. *Protea* Spp. (Protea)**

Located southern boundary offsite forming part of an informal screening hedge, the supplied plans show the existing crossover and driveway will remain with a 2.753m setback from the Tree, this is an adequate clearance and should not impact the below ground parts of the tree. High landscape significance amenity and ecological value. High retention value.

**Tree 15 *Liquidambar styraciflua* (Liquidambar)**

Street Tree in fair form and vigour, will require trunk protection for the proposed alterations and additions. Rated as high landscape significance and amenity value. High retention value.

**Table 2. Tree Health & Retention values.**

| Tree | Genus & Species | Height | DBH /DAGL | Crown Spread | Maturity | Health and Vigour | Landscape Significance Rating | Useful Life Expectancy | Retention Value |
|---|---|---|---|---|---|---|---|---|---|
| 1 | *Corymbia citriodora* (Lemon Scented Gum) | 15m | 410/ 470mm | 20m2 | Semi mature | Fair | High | Long greater than 40 years | Low |
| 2 | *Juniperus chinensis* (Spartan Juniper) | 17m | Multi stem | 20m2 | Mature | Good | High | Long greater than 40 years | High |
| 3 | *Jacaranda mimosifolia* (Jacaranda) | 15m | 380x200/ 640mm | 30m2 | Mature | Good | High | Long greater than 40 years | High |
| 4 | Brachychiton *populneus* (Kurrajong) | 14m | 380/ 480mm | 25m2 | Mature | Good | High | Long greater than 40 years | High |
| 5 | *Melaleuca quinquenervia* (Paperbark) | 12m | 170x180x 200/ 350mm | 25m2 | Mature | Fair | High | Long greater than 40 years | High |
| 6 | *Eucalyptus haemostoma* (Scribbly Gum) | 12m | 350/ 400mm | 20m2 | Semi mature | Fair | High | Long greater than 40 years | High |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7 | *Jacaranda mimosifolia* (Jacaranda) | 12m | 240x220/ 410mm | 20m2 | Mature | Fair | High | Long greater than 40 years | High |
| 8 | *Agonis flexuosa* (Willow Myrtle) | 7m | 190x220x 170/ 400mm | 20m2 | Mature | Fair | High | Long greater than 40 years | High |
| 9 | *Melaleuca citrinus* (Bottlebrush) | 13m | No access | 30m2 | Mature | Good | High | Long greater than 40 years | High |
| 10 | *Alnus parvifolia* (Chinese Elm) | 15m | No access | 30m2 | Mature | Good | High | Long greater than 40 years | High |
| 11 | *Melaleuca bracteata* (Tea Tree) | 11m | No access | 30m2 | Mature | Good | High | Long greater than 40 years | High |
| 12 | *Archontophoenix cunninghamiana* (Bangalow Palm) | 6m | No Access | 5m2 | Semi mature | Good | High | Long greater than 40 years | High |
| 13 | *Livistona australis* (Cabbage Tree Palm) | 18m | No Access | 15m2 | Mature | Good | High | Long greater than 40 years | High |
| 14 | *Protea* Spp. | 9m | Multi stem | 15m2 | Mature | Good | High | Long greater than 40 years | High |
| 15 | *Liquidambar styraciflua* (Liquidamber) | 12m | _____ | 30m2 | Mature | Fair | High | Long greater than 40 years | High |

## 5. Conclusion

The site analysis has collected all relevant data in assessing the condition of 15 trees on and offsite, an assessment of their health and vigour, estimated life expectancy and their significance in the landscape and amenity value have been recorded.

## 6. Recommendation

The proposed alterations and additions will necessitate the removal of Tree 1 the applicant seeks approval for its removal.

6.1 The remaining trees 2, 3, 4, 5, 6, 7 and 8 onsite shall be retained and protected throughout all stages of the development.

6.2 Trees offsite on adjoining boundaries will not be adversely impacted upon by the proposed development.

6.2.1 To mitigate root damage to retained trees, the proposed alterations and additions shall be constructed using pier and beam footings, no strip footings inside tree protection zones. Where any woody roots are encountered the pier shall be relocated 100mm offset from root to enable future root growth.

6.3 To compensate for the loss of amenity value, replacement planting should be considered. To improve the urban forest values of the site ensuring the new tree planting will provide sustainability into the foreseeable future. Please Refer: Kerrie Pook Landscape Designer plans.

- The trees should have a minimum 10m height at maturity to compensate for the loss of existing trees.
- The planting size shall be 75 litres and compliant with the AS2373 *Tree Stock and Specifications for Landscape Use.*
- Planted by a qualified horticulturalist or arborist AQF Certificate 3.
- The replacement plantings must be planted in such a manner as to promote good health during the establishment period, and must be maintained, as far as practicable to ensure tree growth into maturity.

## 7. Images

**Plate 1.**

**Tree 1. *Corymbia citriodora* (Lemon Scented Gum)**

**Plate 2.**

**Tree 3 *Jacaranda mimosifolia* (Jacaranda) & Tree 4. *Brachychiton populneus* ( Kurrajong)**

**Plate 3.** **Tree 5 *Melaleuca quinquenervia* (Paperbark)**

**Plate 4.**

**Tree 6. *Eucalyptus haemostoma* ( Scribbly Gum)**

**Plate 5.**

**Tree 7. *Jacaranda mimosifolia* (Jacaranda) & Tree 8. *Agonis flexuosa* (Willow Myrtle)**

**No Images Tree 9. Melaleuca citrinus (Bottlebrush) Tree 10. *Ulmus parvifolia* Chinese Elm)**

**Tree 11. *Melaleuca bracteata* ( Black Tea Tree) offsite**

**Plate 6.**

**Tree 12 *Archontophoenix cunninghamiana* (Bangalow Palm) offsite**

**Plate 7.**

**Tree 13. *Livistona australis* (Cabbage Tree Palm) offsite**

**Plate 8.**

**Tree 14. *Photinia glabra*, *Murraya paniculata* & *Protea* spp. adjacent driveway**

## 8. References

AS4970 *'Protection of Trees on Development Sites'.* (2009)

Harris, Clark & Matheny. *Arboriculture: Integrated Management of Landscape Trees, Shrubs and Vines*, (1999) Prentice Hall, New Jersey.

Mattheck, C. & Breloer, H. (1994) *The Body Language of Trees.*

Morton, A. Earthscape Horticultural Services -Tree Retention Values

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Disclaimer

The author, Lee Hancock Consulting Arborist takes no responsibility for actions taken and their consequences, contrary to those expert and professional instructions given as recommendations pertaining to safety by way of exercising our responsibility to our client and the public as our duty of care commitment to mitigate or prevent hazards from arising, from a failure moment in full or part, from a structurally deficient or unsound tree or a tree likely to be rendered thus by its retention and subsequent modifications to its growing environment either above or below ground contrary to our advice.

**This report is a recommendation only. In no way does it guarantee any particular actions by the determining authorities.**

## 9. Methodologies

### 9.1 Visual Tree Assessment (VTA)

A visual tree assessment technique developed by (Mattheck & Breloer) was conducted on the subject tree from the ground. The technique involves, identification of the Genus and Species of trees on the site. The Diameter at Breast Height (DBH) 1.4m above ground level determined from the circumference of the trunk divided by *pi* (π).Tree height (m) Diameter at Ground Level (DAGL), Canopy spread (m) in four cardinal points (north, south, east, west) Structural integrity, Amenity value, Indigenous/ Endemic value, Health and vigor of trees.

### 9.2 Useful Life Expectancy (ULE)

An assessment procedure has been developed by (Barrell, J.D.) 1993 'by which trees on a site are accurately recorded and designated according to their suitability for retention in the short, medium or long term'. This methodology is a measure of the "sustainability" of the remaining contribution in years that the tree can provide in the context of the site.

### 9.3 Landscape Significance

The significance of trees in the landscape is assessed in determining their retention values in three categories. Heritage Value reflects Historical significance, Ecological Value maintains biodiversity values and Amenity values contributes to the character of the landscape.

### 9.4 Tree Retention Values

A rating was given to each tree on site; the information gathered was then processed by evaluating the health and vigour, the remaining useful life expectancy (ULE), plus their significance in the landscape. A retention value for each tree was then evaluated ranging from High, Moderate, Low and Very Low.

### 9.5 Structural Root Zone (SRZ)

SRZ is the measurement of the area around the base of the tree. Measurements are taken at the centre of the trunk; a radial measurement is calculated in meters. This process determines the trees structural stability. The formula is SRZ radius = (D x 50) x 0.64 D = trunk diameter, in meters.

10.5.1 Determining Structural Root Zones

As defined in AS 4970 Section 1.4.5 the SRZ is 'the area around the base of a tree required for the tree's stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright.' The SRZ area has been calculated as specified in Section 3.3.5 of AS 4970.

## 9.6 Tree Protection Zone (TPZ)

This area is specified above and below the ground at a given distance from the trunk to protect tree roots and canopy to protect the viability and stability of a tree retained on site where there is a potential for the tree to be damaged by development

### 9.6.1 Determining Tree Protection Zones

As defined in AS 4970 Section 1.4.7 the TPZ is 'A specified area above and below ground and at a given distance from the trunk set aside for the protection of a tree's roots and crown (canopy) to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development'. The TPZ is the root zone/canopy area required for vigour and long-term viability. The TPZ area has been calculated as specified in Section 3.2 of AS 4970.

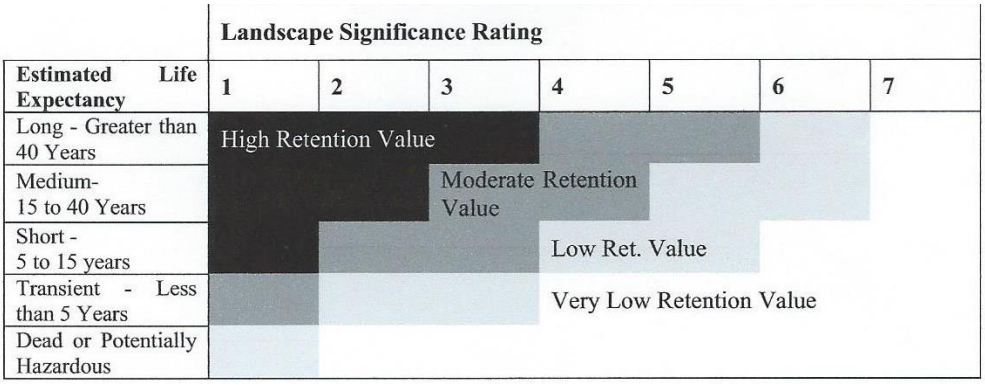
## 9.7 Variations to the TPZ – Minor

If there are no other options a minor encroachment ($\leq$10%) into the TPZ area may be acceptable provided the incursion does not impact the SRZ. Examples of how minor encroachments can be configured are given in Appendix X. Refer to Section 3.3.2 of AS 4970 for additional details relating to minor encroachments. AS 4970 states that the area lost to the encroachment must be compensated for elsewhere and must be contiguous with the TPZ.

## 9.8 Variation to the TPZ – Major

Should major encroachments (> 10%) of the TPZ be proposed it must be demonstrated by The Project Arborist that the tree will remain viable into the long term. Demonstration of viability may include non - destructive methods of root investigation and should be made in consideration of the following factors as listed in Section 3.3.4 of AS 4970

## Retention Values.




## Retention Value Methodology

| RETENTION VALUE | RECOMMENDED ACTION |
|---|---|
| "High" | These trees considered worthy of preservation and as such careful consideration should be given to their retention as a priority.<br><br>Proposed site design and placement of buildings and infrastructure should consider lessening any mitigating issues in relation to trees.<br><br>In addition, the extent of the canopy (canopy dripline) should also be considered, particularly in relation to high rise developments. Significant pruning of the trees to accommodate the building envelope or temporary scaffolding is generally not acceptable. |
| "Moderate" | These trees should be retained as part of any potential development if possible however they trees are considered less critical for retention.<br><br>If these trees must be removed, replacement planting should be considered in accordance with Council's Tree Replacement Policy to compensate for loss of amenity. |
| "Low" | These trees are not considered to worthy of any special measures to ensure their preservation, due to current health, condition, or suitability. They do not have any special ecological, heritage or amenity value, or these values are substantially diminished due to their ULE.<br><br>These trees should not be considered as a constraint to the potential development of the site. |
| "Very Low" | These trees are considered potentially hazardous or very poor specimens or may be environmental or noxious weeds.<br><br>The removal of these trees is therefore recommended regardless of the implications of any proposed development. |

## 10. Tree Protection Specifications

The tree protection measures included in this plan, are to be implemented prior to, during and after the construction phase, including landscape construction of the project to ensure the long - term survival of the trees. The project arborist will monitor the impacts of demolition, bulk earth works, installation of temporary infrastructure including bunding, sediment control and drainage works.

The intention is to ensure that construction related issues and conflicts (with tree retention) are resolved prior to the commencement of this project. The aim is to ensure that specifications site specific and that the whole Tree Management Plan can be required to be implemented as part of the conditions of consent.

10.1 Certification Reporting

Following each stage, Site establishment, Construction Stage and Landscape Construction. The Project Arborist shall prepare a statement of compliance certifying whether the works have been completed in compliance with this plan and the conditions of development consent Northern Beaches Council relating to Tree Protection. If conditions have been breached, remedial action shall be recommended to minimise any further adverse effect on the tree's health.

10.2 Appointment of a Project Arborist

An Arborist with an AQF Level 5 Diploma in Arboriculture with experience in tree protection on construction sites should be engaged prior to the commencement of work on the site. If conditions have been breached, remedial action shall be recommended to minimise any further adverse effect on the tree's health.

Hold Point: PRE-CONSTRUCTION - Prior to Site Clearance

Project Arborist to inspect Tree Protection Measures are compliant with *AS4970 Protection of Trees on Development Sites.*

Compliance certificate will then be issued to the Principal Certifier by the Project Arborist.

**Table 3 Impact Assessment Table**

| Tree | Genus Species | SRZ | TPZ | Recommendation |
|---|---|---|---|---|
| 1 | *Corymbia citriodora* (Lemon Scented Gum) | 2.4mR | 5.0mR | Removal is recommended |
| 2 | *Juniperus chinensis* (Spartan Juniper) | Multi Stem | Multi stem | Remote from proposed works, will benefit from proposed new landscape plan |
| 3 | *Jacaranda mimosifolia* (Jacaranda) | 2.7mR | 5.1mR | Minor impact if at all when tree protection measures are installed |
| 4 | Brachychiton *populneus* (Kurrajong) | 2.4mR | 4.5mR | Remote from works. |
| 5 | *Melaleuca quinquenervia* (Paperbark) | 2.1mR | 3.8mR | Remote from works |
| 6 | *Eucalyptus haemostoma* (Scribbly Gum) | 2.3mR | 4.2mR | Remote from works |
| 7 | *Jacaranda mimosifolia* (Jacaranda) | 2.3mR | 3.9mR | Very minor incursion into TPZ within acceptable limits less than 10% |
| 8 | *Agonis flexuosa* (Willow Myrtle) | 2.3mR | 4.0mR | Remote from works |
| 9 | *Melaleuca citrinus* (Bottlebrush) | No Access | No Access | Offsite remote from works |
| 10 | *Alnus parvifolia* (Chinese Elm) | No Access | No Access | Offsite remote from works |
| 11 | *Melaleuca bracteata* (Tea Tree) | No Access | No Access | Offsite remote from works |
| 12 | *Archontophoenix cunninghamiana* (Bangalow Palm) | No Access | No Access | Palm shall not be adversely impacted upon by proposed development. |

| Tree | Genus Species | SRZ | TPZ | Recommendation |
|---|---|---|---|---|
| 13 | *Livistona australis* (Cabbage Tree Palm) | No Access | No Access | Palm shall not be adversely impacted upon by proposed development. |
| 14 | *Protea* Spp. | Multi stem | Multi stem | The 2.73.5 m setback and proposed gravel driveway shall not adversely impact Tree/Shrub, Tree Protection fence installed perimeter of adjacent boundary. |
| 15 | *Liquidambar styraciflua* (Liquidamber) | _____ | _____ | Tree Protection fence installed prior to site establishment. |

10.3 Trunk Protection  Street Tree

Trunk Protection by way of Timber planks (50mmx 100mm or similar) with a geotextile fabric shall be placed around Street tree. The timber planks shall be spaced at 100mm intervals, and must be fixed against the trunk secured together with 2mm galvanised wire. These shall be strapped around the trunk (not fixed in anyway) to avoid mechanical injury or damage. Trunk protection should be installed prior to any site works and maintained in good condition for the duration of the construction period. The hessian and timber planks must not be fixed to the tree in any instance or in any fashion.

Figure 1.Indicative Trunk Protection

10.4 Tree Protection Fence.

Tree Protection fencing to be chain link fencing of 1.8m high suitably clamped and braced to prevent sideways movement held in place with concrete feet. Tree Protection Fence shall be installed rear yard in line with Tree protection zones. Appendix A. Tree Location Plan and Tree Management Plan

10.4.1 Unless otherwise stated, the following activities must not be carried out within the TPZ:

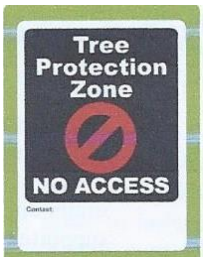
- Modification of existing soil levels.
- Cultivation of soil
- Movement of natural rock
- Storage of materials, plant, or equipment
- Preparation of chemicals, including preparation of cement products.
- Parking of vehicles and plant
- Refuelling.
- Wash down and cleaning of equipment
- Physical damage to tree

10.5 Mulch

To be applied in TPZ minimum 75 -100mm using material that complies with Australian Standard® 4454-2003 *Composts, soil conditioners and mulches*

10.5.1 Signage - Tree Protection Zone

To be displayed around the edge of all TPZ fenced off areas and visible within the development site. Identifying the TPZ should be placed outside the edge of TPZ the lettering on the sign should comply with AS1319.



10.6 Ground Protection:

Ground protection if temporary access for machinery is unavoidable within the TPZ ground protection measures will be required. The purpose of ground protection is to avoid root damage and soil compaction. The area within the TPZ may be protected with mulch and geo textile fabric blanket or crushed rock below rumble boards to provide access of equipment.

10.6.1 Canopy Encroachments

If required, minor canopy pruning may be acceptable provided that the works do not result in an aesthetically disfigured tree. As a rule, it is acceptable to remove up to 10% of the canopy volume provided works are undertaken by a qualified AQF (Australian Qualification Framework) Level 3 Arborist and as specified in AS 4373 'Pruning of Amenity Trees'.

10.7 Tree Protection Plan Construction Phase.

The following Tree protection measures are to be implemented during the construction phase.

10.7.1 Temporary Infrastructure

Site sheds, Waste disposal and Stock piling areas to be placed outside the Tree Protection Zone.

10.7.2 Haul Route vehicles accessing site.

Haul route usage entry from Alkoomie Avenue.

10.7.3 Plant and Equipment

Light weight plant equipment such as small rubber tracked excavators and the demolition material for excavations removed to stockpiling area using small tipper trucks (2-3 tonne maximum).

8.8 Underground services

Installing underground services should be routed outside of TPZ. When this is unavoidable services installed by directional drilling or manually excavated trenches.

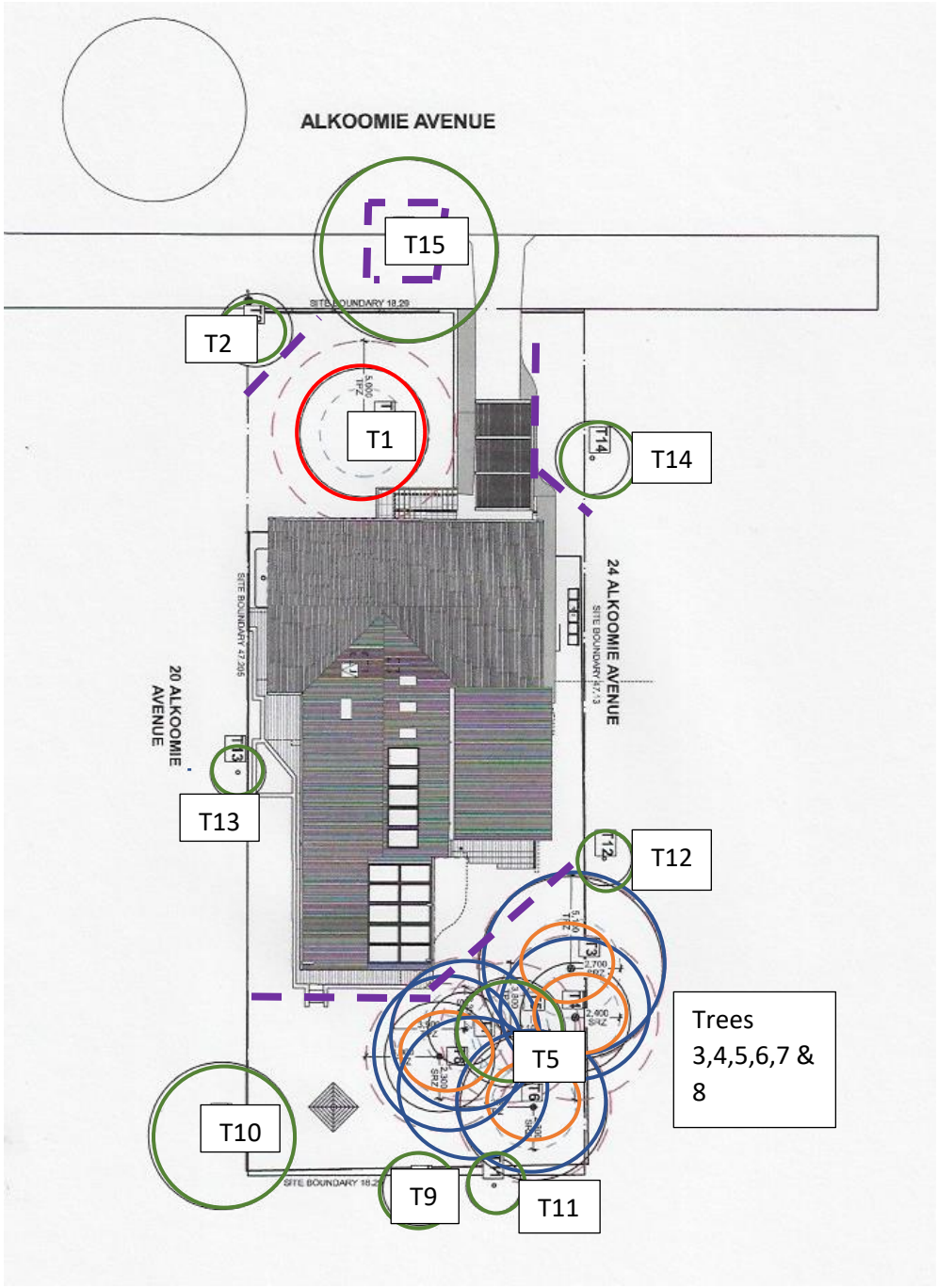
10.8 Landscape Construction

The landscape plan to be checked for compliance with the tree protection plan. Project Arborist to approve the staged removal of protection measures required to allow for landscape works. This includes the installation of paving, irrigation, installing and planting.

10.8.1 Post Construction Phase

On completion of construction and landscaping works. Project Arborist to assess tree condition and provide certification of tree protection. Following final inspection Project Arborist should certify that the completed works have been carried out in compliance with the approved plans and specifications for tree

## Appendix A. Tree Location Plan & Tree Retention Management Plan




**LEGEND:**

**RETAIN** **REMOVE** **SRZ** **TPZ**

**TREE PROTECTION FENCE**