

## **ARBORICULTURAL IMPACT ASSESSMENT**



**Date: 16<sup>th</sup> December 2024**

**Site: 46 Killarney Drive, Killarney Heights 2087 (Lot 47/72/Dp758566)**

**Commissioned By: Rosemary Estephan**

**Client: Shore Projects**

**Author:**

**Antony Osborn - AQF5 Diploma in Arboriculture – Sydney Arborist**

## 1 Executive Summary

- 1.1 The report was commissioned by Rosemary Estephan from Shore Projects to assess the impacts on trees affected by the proposed building development at 46 Killarney Drive, Killarney Heights 2087 (Lot 47/72/Dp758566).
- 1.2 The property is in the LGA (Local Government Area) of Northern Beaches Council. The property is zoned R2 - Low Density Residential: (pub. 21-4-2023).
- 1.3 It was determined that there will be seven (7) trees affected by the proposed development. Tree 1 is a Cocos palm and Tree 2 is a Bangalow palm located on the council nature strip. Trees 3, 4, 5, 6 and 7 are located on the subject site. Tree 3 is a group of Bangalow palms, these trees have been assessed as one tree for the purposes of this report. Trees 3, 4, 5, 6 and 7 are all exempt species and therefore no TPZ (Tree protection zone), SRZ (Structural root zone) or encroachment values have been included for these trees as they are to be removed prior to construction. Trees 1 and 2 are on councils exempt species list, however they are on council land and require council approval to remove. Therefore, the TPZ and the encroachment values have been included in the report for these trees.
- 1.4 The purpose of this report is to assess the impacts of the proposed development on the seven (7) trees located at the above address. Recommendations have been made in accordance with AS 4970-2009 Protection of Trees on Development Sites, Warringah Local Environmental Plan 2011 (pub. 14-2-2014) and Northern Beaches Council DCP (Development Control Plan).
- 1.5 The trees Landscape significance and Useful Life Expectancy (ULE) were assessed. Tree retention values were awarded using IACA S.T.A.R.S © (tree retention matrix (IACA, 2010 *IACA Significance of a Tree, Assessment Rating System (STARS)*), Institute of Australian Consulting Arboriculturists, Australia, [www.iaca.org.au](http://www.iaca.org.au)) (see Appendix 1 for further information). They were rated a High, Medium, Low and Removal. Options such as tree retention, tree protection and tree removal will be discussed.
- 1.6 Two site diagrams have been included with the location of the trees and TPZ (Tree Protection Zone) for Trees 1 and 2. Diagram 1, the site survey shows the location of Trees 3, 4, 5, 6 and 7. These trees are exempt species which are to be removed prior to construction. Diagram 2 shows the location and TPZ of Trees 1 and 2. These diagrams are both in a separate PDF attachment and are to be used in conjunction with the report.
- 1.7 The proposed development is building of a new home and landscaping. The stages of development will be demolition, site preparation/excavation, building of the new house and landscaping.
- 1.8 Recommendations have been made for the removal of Trees 1, 2, 3, 4, 5, 6 and 7. Tree 1 is a *Syagrus romanzoffiana* (Cocos Palm) and Tree 2 is a *Archontophoenix cunninghamiana* (Bangalow Palm – 3 stems). Trees 1 and 2 are located on the nature strip and require council approval to remove. Trees 1 and 2 are directly impacted by the proposed front boundary wall and excavation. Trees 3, 4, 5 and 7 are exempt species and are to be removed prior to construction. Tree 6 is dead and is to be removed prior to construction.
- 1.9 The AIA (Arboricultural Impact Assessment) is a supporting document that will be presented to Northern Beaches Council as part of the DA. Northern Beaches Council are the determining authority that will make the final decision on the trees.

## Contents

|   |  |    |
|---|--|----|
| 1 | Executive Summary.....                     | 2  |
| 2 | Method.....                                | 4  |
| 3 | Observations.....                          | 5  |
|   | The Site.....                              | 5  |
|   | Legislation.....                           | 5  |
|   | The Trees.....                             | 6  |
| 4 | Discussion.....                            | 7  |
| 5 | Recommendations.....                       | 8  |
| 6 | Limitations on the use of this report..... | 9  |
| 7 | Assumptions.....                           | 9  |
| 8 | Bibliography.....                          | 10 |
|   | Appendix 1 - IACA S.T.A.R.S ©.....         | 11 |
|   | Glossary of Terms.....                     | 13 |

## 2 Method

- 2.1** On Monday, 9<sup>th</sup> December 2024, a site inspection was carried out for the purpose of gathering information to produce this report. During the inspection the tree was assessed from ground level. The application of VTA (Visual Tree Assessment), *methodology produced by Mattheck & Breloer 1994*, was used in this process.
- 2.2** The trees health, vigour and retention value were assessed. The impact of building works and the trees capability to tolerate disturbances along with species and suitability was taken into consideration.
- 2.3** Trees are identified from ground level only by a visual assessment of foliage, bark, fruit and other visible characteristics of the tree.
- 2.4** Photographs were taken using an iPhone.
- 2.5** Height measurements were estimated.
- 2.6** Canopy spread was estimated to the four cardinal points (N, S, E, and W).
- 2.7** Diameter at breast height (DBH) was measured at 1.4 meters above root buttress where possible.
- 2.8** The trees were allocated a Useful Life Expectancy (ULE) categorised as follows:
- Long (40+ years)
  - Medium (15-40 years)
  - Short (5-15 years)
  - Removal (<5 years)
- 2.9** Tree retention values have been allocated to the trees using the IACA S.T.A.R.S © (tree retention matrix (IACA, 2010 *IACA Significance of a Tree, Assessment Rating System (STARS)*, Institute of Australian Consulting Arboriculturists, Australia, [www.iaca.org.au](http://www.iaca.org.au)) (see Appendix 1 for further information and matrix).
- 2.10** No Invasive, underground, root mapping, aerial inspections, tissue/soil analysis or structural integrity (resistograph or tomograph) testing will be carried out. This testing will incur extra costs.
- 2.11** The following documentation was provided prior to writing this report:
- Architectural DA plans
  - Site survey
- 2.12** A site diagram has been provided with tree locations, TPZ (Tree Protection Zone) and SRZ (Structural Root Zone). The SRZ and TPZ overlay has been added as accurately as possible. The original DA plans were used for this purpose.
- 2.13** Refer to the appropriate appendix for further information:
- Appendix 1 – IACA S.T.A.R.S© retention matrix
  - Glossary of Terms
  - Site diagram (Separate PDF Attachment)

### 3 Observations

#### The Site

3.1 The site is located at 46 Killarney Drive, Killarney Heights 2087 (Lot 47/72/Dp758566).

3.2 The site is sloping facing west (Location map):



#### Legislation

3.3 The site is zoned R2 - Low Density Residential: (pub. 21-4-2023) and is in the LGA (Local Government Area) of Northern Beaches Council. The site is covered by Warringah Local Environmental Plan 2011 (pub. 14-2-2014).

3.4 A tree as prescribed by Northern Beaches Council:

- *a palm or woody perennial plant, single or multi stem greater than 5m in height.*

3.5 State Environmental Planning Policy (Biodiversity and Conservation) 2021 Chapter 2 has been taken into consideration when writing this report. The aims of this Chapter are:

- (a) *to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and*
- (b) *to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.*

3.6 The site is not located in a heritage conservation area. There are no heritage items on these trees.

3.7 The subject species are not listed under the Threatened Species Conservation Act (1995).

3.8 The site is zoned Landslide Risk: Land Area B - Flanking Slopes 5 to 25.

## The Trees

### 3.9 Retention value Table:

| Tree No. | Genus/Species<br>Common name                           | Health/ Vigour | Structure | Age    | ULE (Useful Life Expectancy) (Years) | Landscape Significance | Retention Value (IACA S.T.A.R.S) |
|----------|--|----------------|-----------|--------|--------------------------------------|------------------------|----------------------------------|
| 1        | <i>Syagrus romanzoffiana</i><br>Cocos Palm             | Good           | Good      | Mature | Short<br>(5-15 years)                | Low                    | Low                              |
| 2        | <i>Archontophoenix cunninghamiana</i><br>Bangalow Palm | Good           | Good      | Mature | Short<br>(5-15 years)                | Low                    | Low                              |
| 3        | <i>Archontophoenix cunninghamiana</i><br>Bangalow Palm | Good           | Good      | Mature | Medium<br>(15-40 years)              | Low                    | Low                              |
| 4        | <i>Syagrus romanzoffiana</i><br>Cocos Palm             | Good           | Good      | Mature | Medium<br>(15-40 years)              | Low                    | Low                              |
| 5        | <i>Syagrus romanzoffiana</i><br>Cocos Palm             | Good           | Good      | Mature | Medium<br>(15-40 years)              | Low                    | Low                              |
| 6        | Dead Tree<br><i>Melaleuca sp.</i>                      | Poor           | Poor      | Dead   | Removal<br>(<5 years)                | Low                    | Removal                          |
| 7        | <i>Cinnamomum camphora</i><br>Camphor Laurel           | Good           | Fair      | Mature | Short<br>(5-15 years)                | Medium                 | Low                              |

### 3.10 TPZ Table:

| Tree No. | Genus/Species<br>Common Name                           | Height (m) | Canopy Spread (m) |   |   |   | DBH (cm) | DAB (cm) | TPZ (Tree Protection Zone)(m) | SRZ (Structural Root Zone)(m) |
|----------|--|------------|-------------------|---|---|---|----------|----------|-------------------------------|-------------------------------|
|          |  |            | N                 | S | E | W |          |          |                               |                               |
| 1        | <i>Syagrus romanzoffiana</i><br>Cocos Palm             | 7          | 2                 | 2 | 2 | 2 | N/A      | N/A      | 3                             | N/A                           |
| 2        | <i>Archontophoenix cunninghamiana</i><br>Bangalow Palm | 5          | 2                 | 2 | 2 | 2 | N/A      | N/A      | 3                             | N/A                           |

### 3.11 Encroachment Values:

| Tree No | Genus/ Species<br>Common Name                          | TPZ | TPZ Incursion % | TPZ Incursion Rating | SRZ | SRZ Incursion |
|---------|--|-----|-----------------|----------------------|-----|---------------|
| 1       | <i>Syagrus romanzoffiana</i><br>Cocos Palm             | 3   | 27.5%           | Major                | N/A | N/A           |
| 2       | <i>Archontophoenix cunninghamiana</i><br>Bangalow Palm | 3   | 27.5%           | Major                | N/A | N/A           |



## 4 Discussion

- 4.1** The proposed development is building of a new home and landscaping. The stages of development will be demolition, site preparation, building of the new house and landscaping.
- 4.2** Tree 1 was identified as a mature *Archontophoenix cunninghamiana* (Bangalow Palm – 3 stems) and Tree 2 was identified as a mature *Syagrus romanzoffiana* (Cocos Palm). The trees are located on the council nature strip. The trees share the same TPZ (Tree protection zone) for the purpose of this report. There is a major encroachment from the proposed front boundary wall and excavation. Damage to the trunks would likely occur during the preparation for these works.
- 4.3** Trees 3, 4, 5 and 7 are all exempt species and can be removed prior to construction. Tree 3 is a clump of *Archontophoenix cunninghamiana*. Trees 4 and 5 are *Syagrus romanzoffiana*. Trees 3, 4 and 5 are in the proposed building footprint. Tree 7 is a mature *Cinnamomum camphora* (Camphor Laurel). Tree 7 is located at the rear of the property. The tree will be affected by the proposed dwelling and landscaping works.
- 4.4** Tree 6 is a dead tree located in the backyard.
- 4.5** Trees 3, 4, 5 and 7 are all exempt species and do not require council approval to remove. Tree 6 is dead and does not require council approval to remove.
- 4.6** Refer to Site diagrams PDF attachment for the location of the trees. Diagram 1 – site survey/demolition plan , shows location of exempt trees to be removed prior to construction. Diagram 2 – DA Plan, shows the location of Tree 1 and the encroachment.

## 5 Recommendations

5.1 Recommendations have been made for the removal of:

- Tree 1 - *Archontophoenix cunninghamiana* (Bangalow Palm – 3 stems), council nature strip.
- Tree 2 - *Syagrus romanzoffiana* (Cocos Palm), council nature strip.
- Tree 3 - *Archontophoenix cunninghamiana* (Bangalow Palm – 3 stems).
- Tree 4 - *Syagrus romanzoffiana* (Cocos Palm).
- Tree 5 - *Syagrus romanzoffiana* (Cocos Palm).
- Tree 6 - Dead Tree (*Melaleuca sp.*).
- Tree 7 - *Cinnamomum camphora* (Camphor Laurel).

5.2 Trees 1 and 2 are located on council land and will require council approval to remove. Trees 1 and 2 are near the proposed front boundary wall and excavation. It would be unlikely that they would tolerate the impacts of the proposed development and could become unstable.

5.3 Trees 3, 4, 5 and 7 are exempt species. They do not require council approval to remove. These trees should be removed prior to construction.

5.4 Tree 6 is dead. It does not require council approval to remove. This tree should be removed prior to construction.

5.5 Tree removal should be carried out by a minimum AQF3 level Arborist.

5.6 Refer to Site diagrams, PDF attachment for the location of the trees. Diagram 1 – site survey/demolition plan shows the location of exempt trees to be removed prior to construction. Diagram 2 – DA Plan shows the location of Tree 1 and the encroachment.

5.7 This AIA (Arboricultural Impact Assessment) is a supporting document that will be presented to Northern Beaches Council as part of the DA. Northern Beaches Council are the determining authority that will make the final decision on the trees.

Antony Osborn



Sydney Arborist

(AQF5 Diploma of Arboriculture)



## 6 Limitations on the use of this report

This report is to be utilised in its entirety only. Any written or verbal submission, report or presentation that includes statements taken from the findings, discussions, conclusions or recommendations made in this report, may only be used where the whole of the original report (or a copy) is referenced in & directly attached to that submission, report or presentation.

## 7 Assumptions

Care has been taken to obtain information from reliable sources. All data has been verified insofar as possible, however, Sydney Arborist or Antony Osborn can neither guarantee nor be responsible for the accuracy of information provided by others.

### **Unless stated otherwise:**

Information contained in this report covers only the tree/trees that were examined and reflects the condition of trees at the time of inspection.

The inspection was limited to visual examination of the subject trees without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

## 8 Bibliography

- [Google Maps](#)
- NSW Government Office of Environment & Heritage, Threatened Species Conservation Act (1995) Online Threatened Species Search <http://www.environment.nsw.gov.au/threatenedSpeciesApp>
- NSW Government Office of Environment & Heritage, State Heritage Inventory <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2060110>
- NSW Government ePlanning portal <https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/address>
- Barrell, J. (1996), Useful Life Expectancy of Trees (ULE.) Barrell Tree Care. UK
- Arboriculture Integrated Management of Landscape Trees, Shrubs and Vines Fourth edition. Richard W. Harris, James R. Clark and Nelda P. Matheny.
- The Body language of Trees, C. Mattheck
- Field Guide for Visual Tree Assessment, C Mattheck
- AS4970-2009 Protection of Trees on Development Sites SAI Global Sydney Australia
- Warringah Local Environmental Plan 2011 (pub. 14-2-2014)
- Northern Beaches Council DCP (Development Control Plan)
- Council Arboriculture Victoria - <https://as4970calculator.web.app/>

## Appendix 1 - IACA S.T.A.R.S ©

### Significance of a Tree, Assessment Rating System\* (IACA 2010) – S.T.A.R.S. ©

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process all definitions for terms used in the *Tree Significance - Assessment Criteria and Tree Retention Value - Priority Matrix*, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

This rating system will assist in the planning processes for proposed works, above and below ground where trees are to be retained on or adjacent a development site. The system uses a scale of *High, Medium* and *Low* significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined. An example of its use in an Arboricultural report is shown as Appendix A.

#### Tree Significance - Assessment Criteria



##### High Significance in landscape

- The tree is in *Good condition* and *Good vigor*;
- The tree has a form typical for the species;
- The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age;
- The tree is listed as a Heritage Item, Threatened Species or part of an Endangered ecological community or listed on Councils significant Tree Register;
- The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity;
- The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values;
- The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa *in situ* - tree is appropriate to the site conditions.

##### Medium Significance in landscape

- The tree is in *Fair-Good condition* and *Good or Low vigor*;
- The tree has form typical or atypical of the species;
- The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area
- The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street,
- The tree provides a fair contribution to the visual character and amenity of the local area,
- The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa *in situ*.

##### Low Significance in landscape

- The tree is in fair-poor condition and good or low vigor;
- The tree has form atypical of the species;
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings,
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area,
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen,
- The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa *in situ* - tree is inappropriate to the site conditions,
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,
- The tree has a wound or defect that has potential to become structurally unsound.

##### Environmental Pest / Noxious Weed Species

- The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties,
- The tree is a declared noxious weed by legislation.

##### Hazardous/Irreversible Decline

- The tree is structurally unsound and/or unstable and is considered potentially dangerous,
- The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

The tree is to have a minimum of three (3) criteria in a category to be classified in that group.

Note: The assessment criteria are for individual trees only, however, can be applied to a monocultural stand in its entirety e.g. hedge.

Institute of Australian Consulting Arboriculturists (IACA 2010), *IACA Significance of a Tree, Assessment Rating System (STARS)*, [www.iaca.org.au](http://www.iaca.org.au)



**Table 1.0 Tree Retention Value - Priority Matrix.**

|                           |                       | Significance              |                           |                           |   |                                  |
|---------------------------|-----------------------|---------------------------|---------------------------|---------------------------|---|----------------------------------|
|                           |                       | 1. High                   | 2. Medium                 | 3. Low                    |   |                                  |
|                           |                       | Significance in Landscape | Significance in Landscape | Significance in Landscape | Environmental Pest / Noxious Weed Species | Hazardous / Irreversible Decline |
| Estimated Life Expectancy | 1. Long >40 years     |                           |                           |                           |   |                                  |
|                           | 2. Medium 15-40 Years |                           |                           |                           |   |                                  |
|                           | 3. Short <1-15 Years  |                           |                           |                           |   |                                  |
|                           | Dead                  |                           |                           |                           |   |                                  |

| Legend for Matrix Assessment |  |
|------------------------------|--|
|                              | <b>Priority for Retention (High)</b> - These trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by the Australian Standard AS4970 <i>Protection of trees on development sites</i> . Tree sensitive construction measures must be implemented e.g. pier and beam etc if works are to proceed within the Tree Protection Zone. |
|                              | <b>Consider for Retention (Medium)</b> - These trees may be retained and protected. These are considered less critical; however their retention should remain priority with removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.  |
|                              | <b>Consider for Removal (Low)</b> - These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.  |
|                              | <b>Priority for Removal</b> - These trees are considered hazardous, or in irreversible decline, or weeds and should be removed irrespective of development.  |

**USE OF THIS DOCUMENT AND REFERENCING** The IACA Significance of a Tree, Assessment Rating System (STARS) is free to use, but only in its entirety and must be cited as follows:

IACA, 2010, *IACA Significance of a Tree, Assessment Rating System (STARS)*, Institute of Australian Consulting Arboriculturists, Australia, [www.iaca.org.au](http://www.iaca.org.au)

**REFERENCES** Australia ICOMOS Inc. 1999, *The Burra Charter – The Australian ICOMOS Charter for Places of Cultural Significance*, International Council of Monuments and Sites, [www.icomos.org/australia](http://www.icomos.org/australia) Draper BD and Richards PA 2009, *Dictionary for Managing Trees in Urban Environments*, Institute of Australian Consulting Arboriculturists (IACA), CSIRO Publishing, Collingwood, Victoria, Australia. Footprint Green Pty Ltd 2001, *Footprint Green Tree Significance & Retention Value Matrix*, Avalon, NSW Australia, [www.footprintgreen.com.au](http://www.footprintgreen.com.au)

IACA 2010, *IACA Significance of a Tree, Assessment Rating System (STARS)*, Institute of Australian Consulting Arboriculturists, [www.iaca.org.au](http://www.iaca.org.au)

## Glossary of Terms

**Age class** - (SM) Semi Mature, (M) Mature, (OM) Over Mature.

**Aerial Inspection** - Refers to climbing a tree to obtain more accurate information.

**AS4970 (2009) Protection of Trees on Development Sites** – These are guidelines/ industry standards to minimise negative impacts on trees on building sites.

**AS4373 (2007) Pruning of Amenity Trees** – These are guidelines/ industry standards to minimise negative impacts on trees.

**Classes** - (G) Good, (F) Fair, (D) Declining, (P) Poor.

**Critical Root Zone (CRZ)** - Refers to a radial offset of five (5) times the trunk DBH measured from the centre of the trunk. This zone is often the location of the tree's structural support roots.

**Crown lifting** – The removal of lower branches.

**DBH (Diameter at Breast Height)** – This is the diameter of the trunk at breast height (1.4 Metres above ground level).

**Dead wood** – Refers to any branches that have no living tissue left in them. Some dead wood can be beneficial for the tree.

**Decay** – Is when healthy wood/tissue breaks down.

**Defect** – An imperfection or flaw in the trees structure.

**Die back** – Refers to the dying of the tips or ends of branches. This can mean the tree is stressed and is a factor in assessing tree health.

**Electrical service** –

- **OHP** Overhead electricity wiring.
- **LVOHP** Low Voltage Overhead Power lines
- **HVOHP** High Voltage Overhead Power lines
- **ABC** Aerial Bundled Cable

**Endemic** – Restricted to a certain place.

**Epicormic growth** – Also known as sucker growth, is usually a result of bad pruning/lopping or signs of a stressed tree. They sprout from axillary buds in the bark. They are usually weakly attached.

**Form** – The visible shape or configuration of a tree.

**Health** – Refers to the trees ability to grow, modified by aspects of its environment. Signs of good health are; tree vigour, green foliage, crown density and amount of dead wood.

Classes are: Good (G), Fair (F), Declining (D) & Poor (P)

**Included bark/Inclusion** – Refers to weak branch attachment. This is where bark grows between the join of the branch and stem instead of healthy tissue. Usually a very acute angled branch.

**Indigenous** – Native to Australia but not to one particular place.

**Landscape significance rating** – Refers to Species, Landscape Significance, Ecological Significance and Historical Significance.

Classes: Very high, High, Moderate, Low

**Lopped** – Incorrect pruning method not to AS4373 (2009) Pruning of Amenity Trees.

**Point of attachment** – Is the part of tree joins another i.e. a branch joins the trunk.

**Retention value** - The trees contribution to the amenity, landscape quality and visual character of an area that is important from a planning perspective.

**Root mapping** – Removing/excavating soil from around the roots with hand tools.

**SRZ (Structural Root Zone)** – Refers to the part of the root zone necessary for the structural integrity of a tree as set out in AS4970-2009 Protection of Trees on Development Sites. The calculation for this measurement is  $((D \times 50)^{0.42} \times 0.64)$ , D = Diameter at the trunk buttress measured in metres. The SRZ for trees with DAB under 0.15 metres is 1.5 metres.

**Taper** – Reduce or increase in thickness.

**Transverse Crack** – A crack that extends crossways against the fibres of a tree part. Usually caused by bending of the trunk or branch.

**Tree Protection Zone (TPZ)** - Is the combination of root and canopy area required to maintain tree stability, health & vitality as set out in AS4970-2009 Protection of Trees on Development Sites. TPZ calculation is twelve (12) times the trunk DBH (Diameter at breast height) measured as a radial offset from the centre of the tree trunk. The TPZ indicates the location where protective fencing should be installed to create an exclusion zone around a protected tree.

**Vigour** – Refers to the growth rate of the tree. This includes; new growth, reaction wood, ability to compartmentalise at a rapid rate and the ability to fight off pest & disease infection.

Classes are: Good (G), Fair (F), Declining (D), and Poor (P)

**Useful Life Expectancy (ULE)** – Is a guide to assessing trees longevity. ULE takes into consideration the trees environment, health, vigour, structural integrity and suitability. Adapted from Barrell 1996, (Updated April 2001).

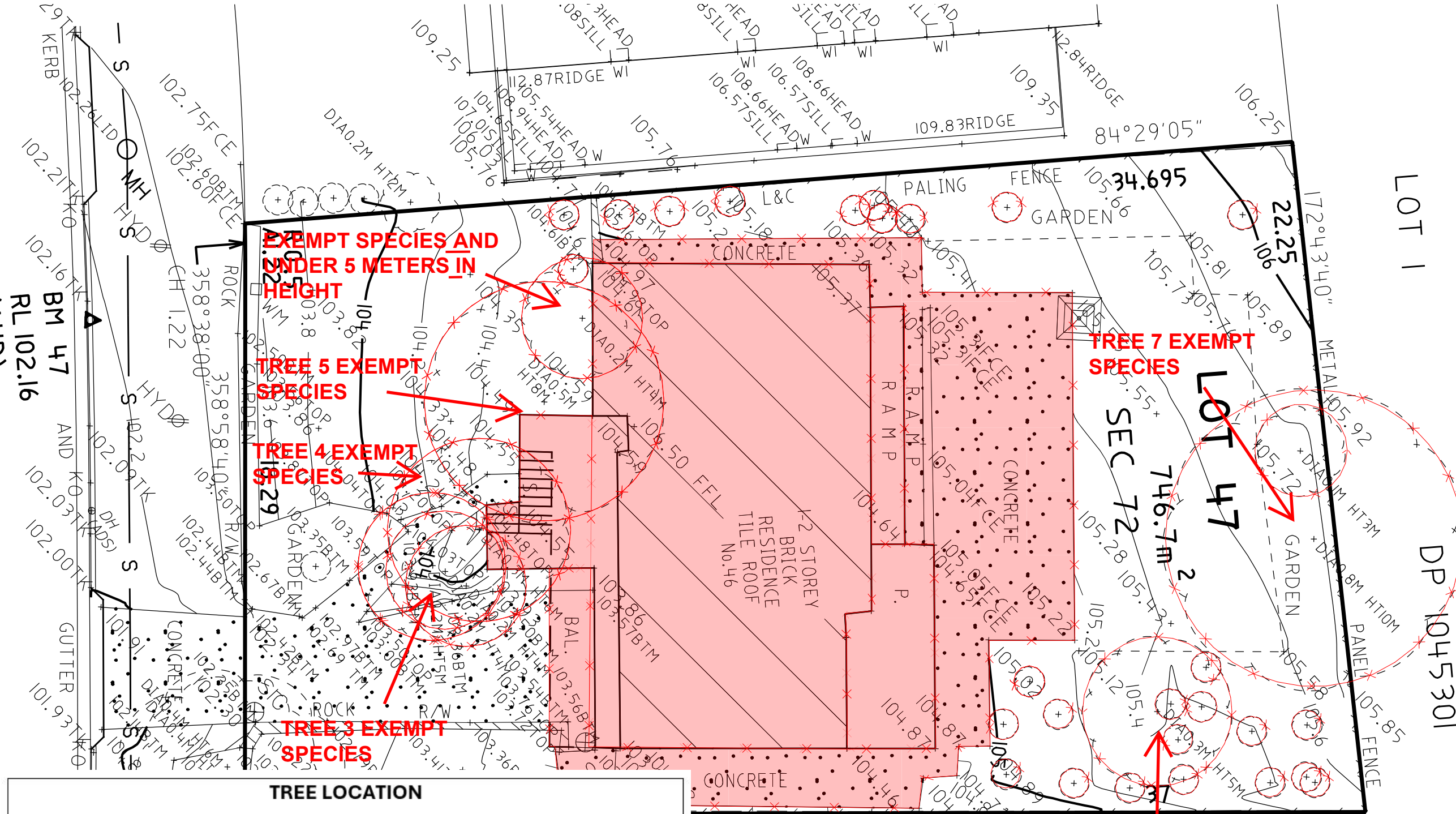
Classes: (Long) 40 years +, (Medium) 15-40 years, (Short) 5-15 years, (Removal) Less than 5 years.

**VTA (Visual Tree Assessment)** – This refers to techniques developed to evaluate trees by Mattheck & Breloer “The Body Language of Trees”.



# KILLARNEY DRIVE

BM 47  
RL 102.16  
(AHD)



**EXEMPT SPECIES AND UNDER 5 METERS IN HEIGHT**

**TREE 5 EXEMPT SPECIES**

**TREE 4 EXEMPT SPECIES**

**TREE 3 EXEMPT SPECIES**

**TREE 7 EXEMPT SPECIES**

**TREE 6 DEAD TREE**

### TREE LOCATION

PLANS DRAWN BY SHORE PROJECTS. PLAN SHOWING LOCATION OF TREES THAT ARE EXEMPT SPECIES ONLY. THESE TREES CAN BE REMOVED WITHOUT COUNCIL CONSENT PRIOR TO CONSTRUCTION (SYDNEY ARBORIST 16/12/24).

THESE PLANS TO BE READ IN CONJUNCTION WITH THE ARBORICULTURAL IMPACT ASSESSMENT PREPARED FOR 46 KILLARNEY DRIVE KILLARNEY HEIGHTS 2087 (LOT 47/72/DP758566).



[antony@sydneyarborist.com](mailto:antony@sydneyarborist.com)

**NOTES**  
 - DRAWINGS NOT ISSUED FOR CONSTRUCTION.  
 - DO NOT SCALE OFF THIS DRAWING. USE NOTATED DIMENSIONS ONLY AS A GUIDE.  
 - VERIFY ALL DIMENSIONS ON-SITE AND RESOLVE ANY DISCREPANCIES OR OMISSIONS WITH THE SUPERINTENDANT PRIOR TO COMMENCING WORKS.  
 - ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL CONSULTANT SPECIFICATIONS & DRAWINGS.  
 - ANY DISCREPANCIES BETWEEN THESE DRAWINGS & ENGINEERING ARE TO HAVE ENGINEERS' DETAILS PREVAIL.  
 - THESE DESIGNS, DRAWINGS & SPECIFICATIONS AND THE COPYRIGHT THEREIN ARE THE PROPERTY OF SH STUDIO AND MUST NOT BE USED, REPRODUCED OR COPIED, WHOLLY OR IN PART, WITHOUT THE WRITTEN PERMISSION OF SH STUDIO.

| LEGEND |                               |
|--------|-------------------------------|
|        | SITE BOUNDARY                 |
|        | SUBDIVISION LINE              |
|        | PROPOSED GROUND FLOOR OUTLINE |
|        | DEMOLISH                      |
|        | NEW                           |

|                                    |             |                    |                |                   |
|------------------------------------|-------------|--------------------|----------------|-------------------|
| SCALE<br>NOT TO SCALE<br>@A2 1:100 | ISSUE<br>02 | DATE<br>25/11/2024 | DRAWN BY<br>YZ | REVIEWED BY<br>AP |
| PROJECT<br>46 Killarney Drive      |             |                    |                |                   |

|                                |                 |
|--------------------------------|-----------------|
| LAYOUT NAME<br>Demolition plan | PROJECT<br>A004 |
|--------------------------------|-----------------|

**SHORE** | sh.studio  
 PROJECTS by SHORE

UNIT 10 MADDOCK ST ALEXANDRIA NSW 2015  
 INFO@SHORE.COM.AU + 61 2 9557 8808 WWW.SHORE.COM.AU



# TREE LOCATION, TPZ AND SRZ PLAN

PLANS DRAWN BY SHORE PROJECTS. TREE PROTECTION ZONE OVERLAY (SYDNEY ARBORIST 16/12/24).

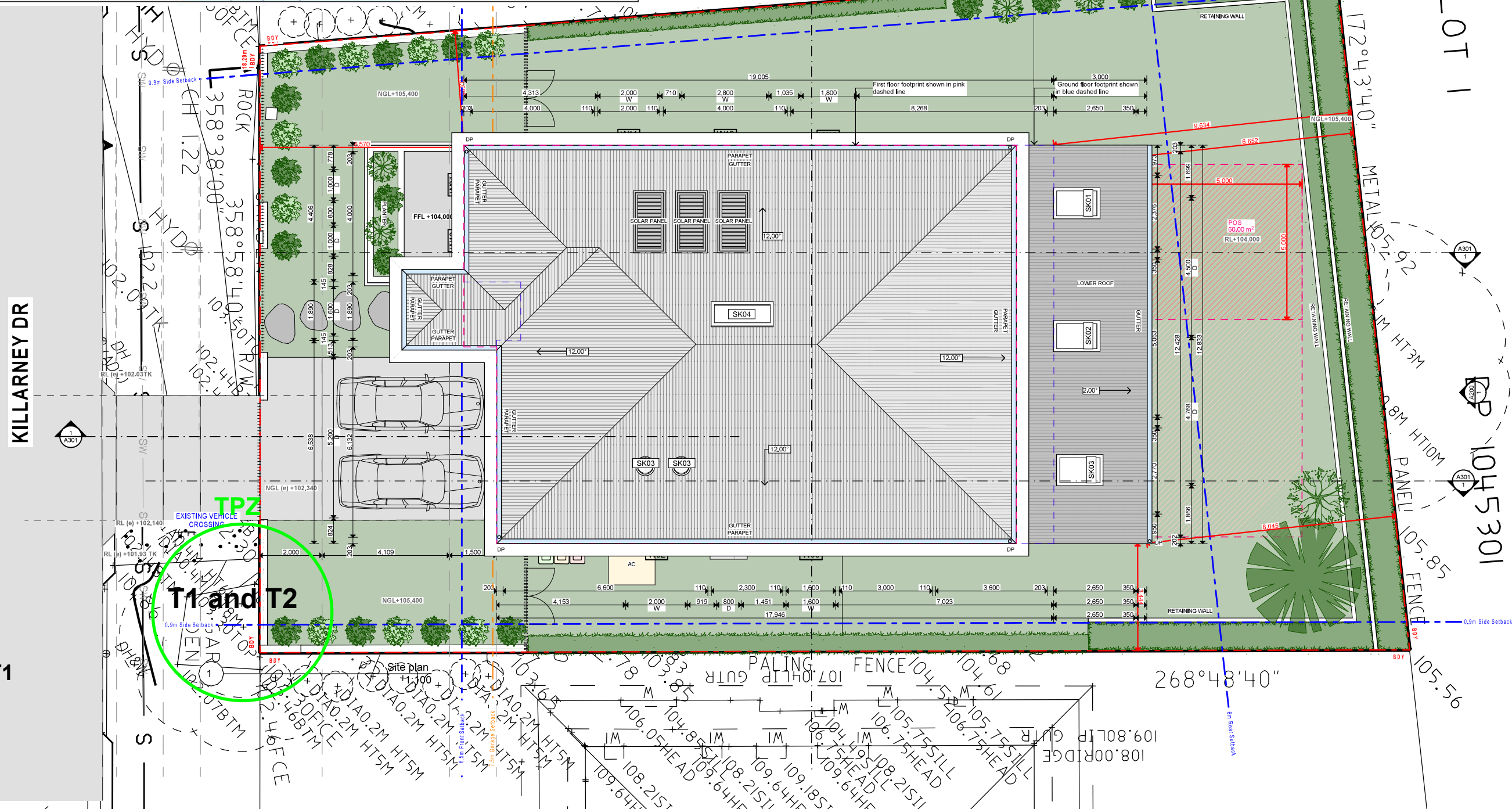
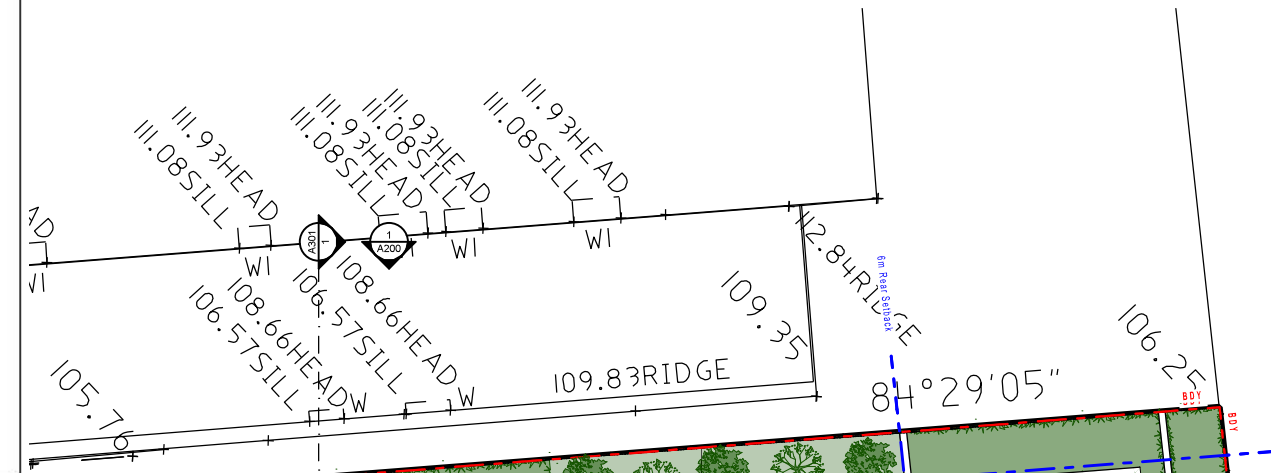
THESE PLANS TO BE READ IN CONJUNCTION WITH THE ARBORICULTURAL IMPACT ASSESSMENT PREPARED FOR 46 KILLARNEY DRIVE, KILLARNEY HEIGHTS 2087 (LOT 47/72/DP758566).



TPZ



antony@sydneyarborist.com



NOTES

- DRAWINGS NOT ISSUED FOR CONSTRUCTION.
- DO NOT SCALE OFF THIS DRAWING. USE NOTATED DIMENSIONS ONLY AS A GUIDE.
- VERIFY ALL DIMENSIONS ON-SITE AND RESOLVE ANY DISCREPANCIES OR OMISSIONS WITH THE SUPERINTENDANT PRIOR TO COMMENCING WORKS.
- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL CONSULTANT SPECIFICATIONS & DRAWINGS.
- ANY DISCREPANCIES BETWEEN THESE DRAWINGS & ENGINEERING ARE TO HAVE ENGINEERS' DETAILS PREVAIL.
- THESE DESIGNS, DRAWINGS & SPECIFICATIONS AND THE COPYRIGHT THEREIN ARE THE PROPERTY OF SH STUDIO AND MUST NOT BE USED, REPRODUCED OR COPIED, WHOLLY OR IN PART, WITHOUT THE WRITTEN PERMISSION OF SH STUDIO.

LEGEND

- - - - - SITE BOUNDARY
- - - - - SUBDIVISION LINE
- - - - - PROPOSED GROUND FLOOR OUTLINE
- - - - - PROPOSED FIRST FLOOR OUTLINE
- - - - - DEMOLISH
- - - - - NEW

|              |                    |            |          |             |
|--------------|--------------------|------------|----------|-------------|
| SCALE        | ISSUE              | DATE       | DRAWN BY | REVIEWED BY |
| NOT TO SCALE | 02                 | 25/11/2024 | YZ       | AP          |
| @A2 1:100    |                    |            |          |             |
| PROJECT      | 46 Killarney Drive |            |          |             |
| LAYOUT NAME  | Site plan          |            |          |             |
| PROJECT      | A004               |            |          |             |



1/30 MADDOCK ST. ALEXANDRIA, NSW 2015  
 INFO@SHORE.COM.AU • 61 2 9557 0808 WWW.SHORE.COM.AU