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# **rain Tree consulting**

## **Arboricultural Management**

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25 September 2021

## **49 GRANDVIEW DRIVE**

**NEWPORT, NSW**

## **DEVELOPMENT PROPOSAL**

## **ARBORICULTURAL IMPACT ASSESSMENT REPORT**

*Report Ref No- 14821*

Prepared for  
Mr. Ben Weatherall  
49 Grandview Drive  
NEWPORT NSW  
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Prepared by  
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AQF Level 5 Consulting arborist



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## INTRODUCTION

This report has been commissioned by Mr. Ben Weatherall to assess the remaining Useful Life Expectancy (ULE) and potential impacts that may occur to significant trees in relation to a new development proposal. The new development proposal consists of additions and alterations to the existing dwelling situated within Lot 25 of DP 16029 known as 49 Grandview Drive, NEWPORT NSW.

Recommendations for retention or removal of trees is based on the trees condition, accorded ULE category, current design and potential impacts to trees under this development application.

Development incursions within tree protection zones (TPZ) and impacts to trees have been outlined within Note 2 of Appendix- A where incursions are described as Minor (<10%) & Major (>10%) TPZ occupancy having low, moderate to high level impacts within the TPZ. Where site restrictions within notional root zone radiuses exists development impacts or encroachment disturbances are based on author's experience, observations of site conditions, soil type and topography.

Each tree assessed has been accorded a temporary identification number and is referred to by number throughout this report. For additional trees not plotted on provided documentation their location has been estimated by taking offsets from existing trees and structures. The trees, their location, development impact and design requirements may be referenced within the Tree Assessment Schedule and Tree Location Plan of Appendices C & D.

Care has been taken to obtain information from reliable sources. All data has been verified as far as possible, however, I can neither guarantee nor be responsible for the accuracy of information provided by others.

### DISCLAIMER & LIMITATION ON THE USE OF THIS REPORT

This report is to be utilized 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 copy) is referenced in, and directly to that submission, report or presentation. Unless stated otherwise: Information contained in this report covers only the tree/s that were examined and reflects the condition of the trees at the time of inspection: and the inspection was limited to visual examination of the subject tree without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject tree/s may not arise in the future. Arborist cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specific period of time. Trees are a living entity and change continuously, they can be managed but not controlled and to be associated near one involves some degree of risk.

## METHODOLOGY

- i In preparation for this report a ground level Visual Tree Assessment (VTA) was conducted on Friday 20<sup>th</sup> September 2021 by the author of this report. The principles of VTA were primarily adopted from components of Mattheck & Breloer 1994 '*The Body Language of Trees*' with basic risk values determined by criteria explained within the ISA TRAQ manual 2017. The inspection included assessment of the overall health and vigour of trees, tree form, structure and structural condition commencing from near the lower trunk to the upper first order branch division as best as site conditions would allow. On completion of the VTA the retention value of the tree was summarised utilizing the tree assessment Checklist provided within Appendix- B.
- ii The inspection was limited to visual assessment from within the subject site where the retention value, condition and diameters of neighbouring trees was estimated. No aerial (climbing) inspections, woody tissue testing, or tree root investigation was undertaken as part of this tree assessment. Tree height and canopy spread was estimated and expressed in metres with trunk diameters measured at approximately 1.4 metres above ground level, rounded off to the nearest 50mm and expressed as DBH (Diameter at Breast Height). The height of palms was taken from ground level to the top of the crown shaft only and excludes the central apical spear projection.
- iii This report acknowledges and utilizes the current Australian Standards 'Protection of Trees on Development Sites' AS 4970 – 2009 as explained within Notes of Appendix- A.  
Unless specified otherwise all distances and development offsets within this report are taken from the centre of the tree.
- iv Plans and/or documentation received to assist in preparation of this assessment include:  
Beecraft: Drawing No's 01-21-GRA *specific to:*
  - Ground Floor Plan, Sheet 2 dated January 2021
  - First Floor Plan, Sheet 3 dated January 2021
  - East & North Elevations Sheet 4 dated January 2021
  - West & South Elevations Sheet 5 dated January 2021
  - Section 2 Sheet 6 dated January 2021
  - Site Plan Sheet 7 dated January 2021DP Surveying
  - Survey Plan, ref No. 3419 dated 9.6.2021

## 1. SUMMARY OF ASSESSMENT

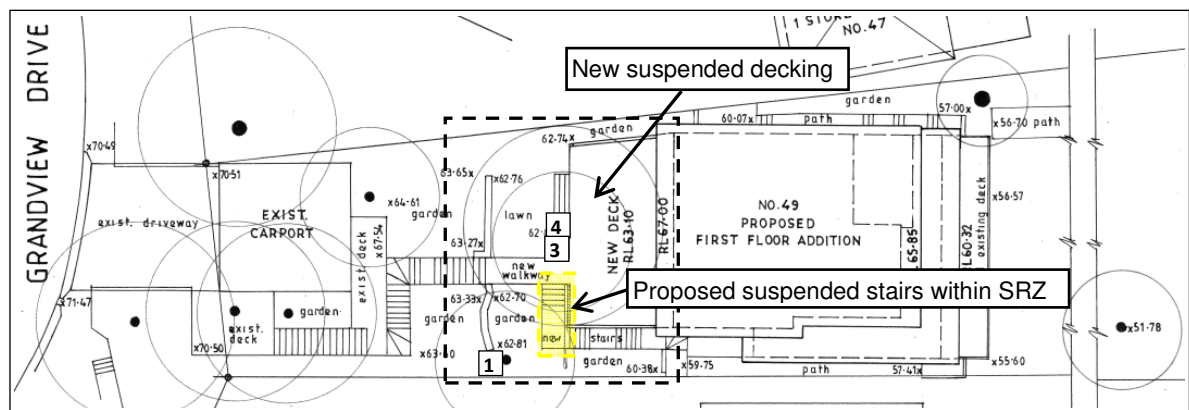
### 1.1 General tree assessment

- 1.1.1 Five (5) trees have been assessed for the purpose of this development proposal. Of the five trees two (2) trees, palms T2 & 5 are non-prescribed exempt species and are permitted to be managed (pruned, removed or relocated) to accommodate design without Council consent.
- 1.1.2 Remaining trees are considered viable for retention without change in existing site conditions or modification within Tree Protection Zone (TPZ) radiuses as indicated within the SRZ & TPZ distance column of Appendix- C.

### 1.2 The development proposal

- 1.2.1 The development proposal consists of additions and alterations to the existing dwelling with new suspended decking and stair access located within tree protection zones.

Figure 1: showing design footprint adjacent prescribed trees T1, 3 & 4



### 1.3 Tree removal to accommodate design

- 1.3.1 No prescribed trees have been identified for removal under this development application.

Discussion of development encroachments and associated impacts have been detailed within Appendix- C and summarized within the following sections.

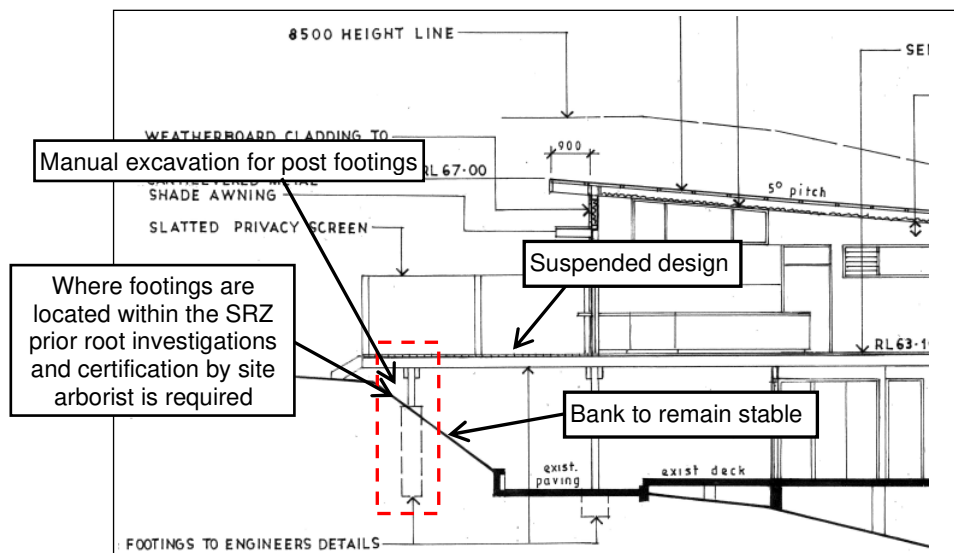
### 1.4 Discussion of development impacts – prescribed trees

- 1.4.1 Tree 1; Port Jackson Fig: Overall new TPZ encroachment is considered Minor (<10%) TPZ occupancy with minor stair excavation for post hole footings proposed within the trees 3.2m SRZ. As shown within drawing Sheet 5 given the minor post hole footing excavation required the following guidelines in managing impacts during works are provided:

- Excavation areas are to be clearly marked out on site and carefully manually (hand) excavated as not to damage tree roots <30mm(Ø). An appointed project arborist shall inspect the open exposed holes and certify that no critical root damage has occurred prior to filling.

- 1.4.2 Trees 3 & 4; Turpentine's likely one of the same tree having twin stems rising from ground level. New TPZ occupancy is considered negligible to very minor for deck post footings within the SRZ as shown within Plan Section 2, Dwg Sheet 2 & Figure 2 below. New stair access is also proposed within the SRZ of T3 with the following recommendations provided to mitigate impacts by design within tree protection zones.
- There shall be no excavation or demolition within the SRZ without prior arborist advice, site supervision and/or tree root investigation. Where post footings are located within the SRZ tree root investigations shall be conducted to a depth of 0.5m (500mm) for arborist review and certification.
  - Adjacent T3 the timber retaining wall is recommended to remain as structural support for the trees & soil profile. Should this wall require removal engineers' advice and certification is required to ensure the soil profile responsible for tree anchorage is not disrupted.
  - The steep embankment to the east shall remain intact, not disrupted, or disturbed in a manner that would compromise tree anchorage within tree protection zones.
  - Footing excavation within the SRZ & TPZ shall be undertaken manually (carefully by hand) for the first 0.5m (500mm) ensuring no tree roots at or >30mm(Ø) are damaged. An appointed site arborist shall provide certification that excavation has not disrupted critical roots responsible for tree anchorage.
  - As shown within Figure 3[C], the trees shall be protected with timber beam trunk & ground protection within the SRZ prior to works commencing.

Figure 2: showing design impact area adjacent trees 3 & 4



## 2. CONCLUSIONS & RECOMMENDATIONS

### 2.1 Tree Removal

- 2.1.1 No prescribed trees have been identified for removal to accommodate design with non-prescribed palms T2 & 5 permitted to be managed (removed) without Council consent.

### 2.2 Specific tree management recommendations

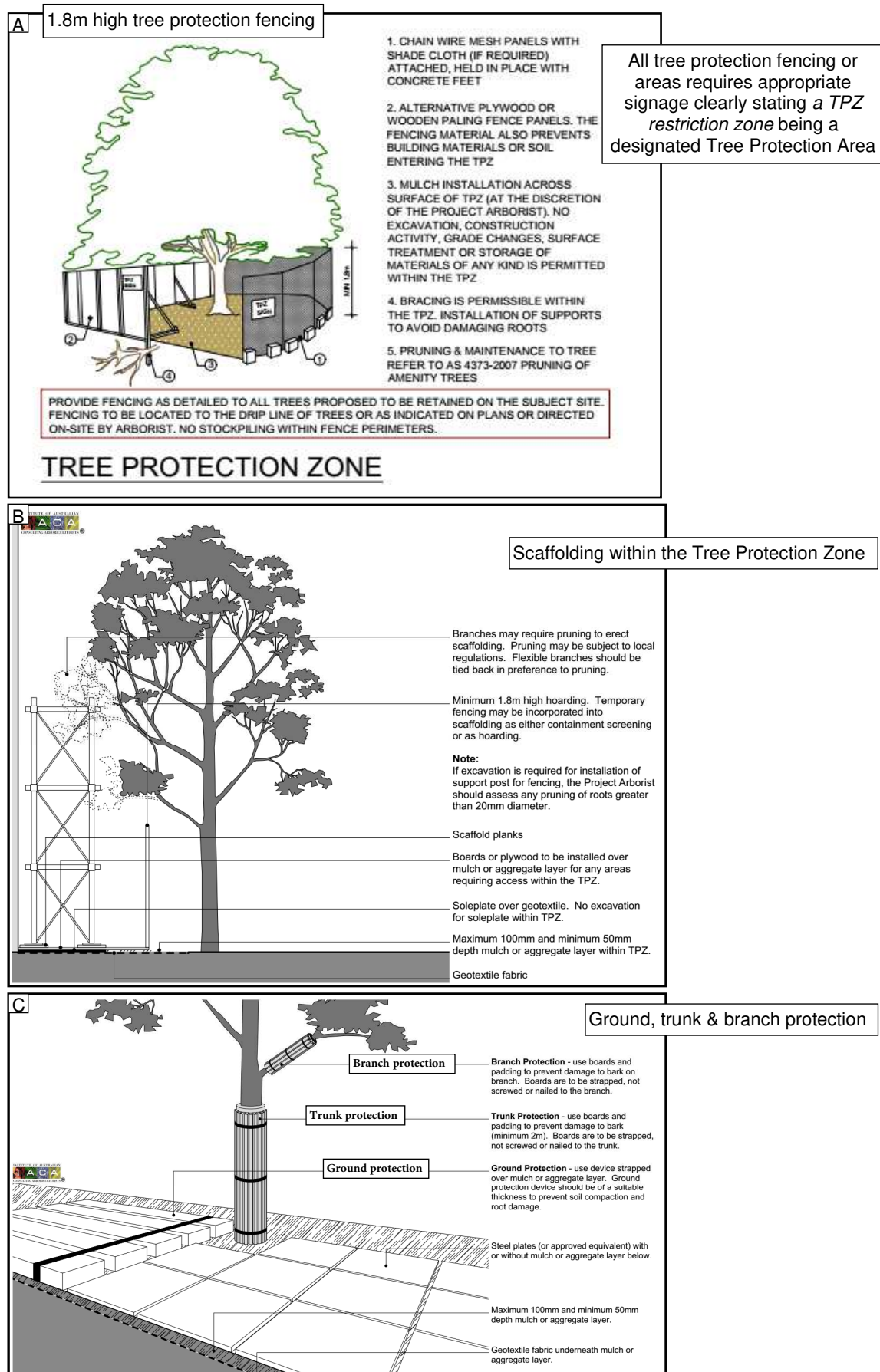
- 2.2.1 In addition to tree management requirements provided within this report and those identified within Australian Standard AS4970 the following summary and/or additional recommendations are provided as a guide for tree protection during works:
- a) Tree 1: The location of post hole footings for stair access are to be clearly marked on site and manually excavated to ensure no tree root at or >30mm(Ø) is damaged by works. An appointed project arborist shall inspect open potholes and certify that no critical root has been disrupted prior to filling.
  - b) Trees 3 & 4: Ideally adjacent T3 the timber retaining wall responsible for soil profile and potential tree support should remain. Should the wall require demolition engineers' advice and certification is required to ensure the soil profile responsible to tree support remains stable and is not disrupted in a manner that would compromise tree stability.
  - c) Where post hole footings are required within the SRZ root investigations shall be conducted to ensure critical roots are not disrupted or damaged by proposed footing locations. Appointed site arborist shall inspect excavated potholes to a depth of 0.5m and certify that no critical root has been damaged or compromised by footing locations.
  - d) General tree protection for trees 1, 3 & 4 should consist of timber beam trunk & ground protection spanning the SRZ as indicated within Figure 3[C] with general tree protection conducted in accordance with Section 2.3 *General tree protection requirements*.

### 2.3 General tree protection requirements

- a) Prior to demolition & works Tree Protection Fencing (TPF) and/or zones as identified within Figure 4 are recommended to be located under the guidance of an appointed site arborist. Unless specified otherwise the location of tree protection fencing is to be positioned to allow for adequate work access and/or be located at the extremity of the TPZ radius, see SRZ & TPZ distance column Appendix- C. Where design & construction access may be restrictive timber beam trunk protection is recommended to be installed, with ground protection mats provided to protect underlying tree roots within tree protection zones or specified protection areas.

Should there be any uncertainty with all recommended tree protection requirements the site superintendent shall contact the appointed project or site arborist for advice prior to works occurring within tree protection zones (TPZ).

Figure 3: Tree protection fencing, ground and trunk protection detail





- b) In accordance with AS4970 - 2009 (1.4.4) a Project or Site Arborist is to be engaged to monitor, supervise excavation within TPZ setbacks, advise and provide certification of protection works conducted. The project arborist is recommended to hold a minimum Australian Qualification Framework (AQF) Level 4 certification and be competent in methodology of protecting trees on development sites.
- c) The project arborist is to provide final certification outlining tree protection measures with photographic evidence of ongoing works retained for certification purposes (AS4970 S/5.5.2 *Final certification*).
- d) The project arborist is to be familiar with protection measures specific to Australian Standard AS4970 'Protection of Trees on Development Sites' – 2009 requirements with any modification in Tree Protection Fencing (TPF) or Zones (Z) to be compliant with AS4970 Section 4.5 *Other Tree Protection Measures*.
- e) Unless specified otherwise during approved excavation within TPZ setbacks excavation is to be conducted manually (by hand) under the supervision of an appointed project arborist. Where approved by the arborist the pruning of roots at or <30mm(Ø) is to be conducted in accordance with AS4970 – 2009 Section 4.5.4 *Root protection during works within the TPZ*, such that tree roots are not damaged or ripped beyond the point of excavation by site machinery. Where larger roots have been encountered they are to be referred to an independent Level 5 arborist for further advice. For deep excavations exposed roots at the excavated cut face are to be protected with jute mesh, geotextile fabric or similar being secured in place to avoid drying of roots and the exposed soil profile.
- f) During approved excavation within TPZ setbacks there shall be no over excavation beyond the line of cut as shown within construction drawings. Should over excavation be required the extent of excavation should be detailed within approved drawings or a construction management plan for arborist review and certification.
- g) *Additional inground services* which may include landscape works, sewer, stormwater, water and electrical services, final design and impact to trees shall be reviewed and endorsed by the project arborist prior to their installment. Where landscaping (excavation) is required within the SRZ further advice from an appointed project arborist is recommended.
- h) *Tree sensitive construction measures* such as pier and beam bridging over critical roots, suspended slabs, cantilevered building sections, screw piles and contiguous piling can minimise the impact of encroachment (AS4970).

Where Bushfire BAL construction conflicts exist with tree management advice the appointed project arborist shall be consulted to advise on appropriate design outcomes.

- i) *Canopy pruning / tree removal*: where required tree removal and canopy reductions are to be approved by the Local Government Authority. Works are to be conducted by a suitably qualified AQF Level 3 certified arborist in accordance with AS4373 Pruning Standards, and specifically be conducted in accordance with Safe Work Australia – Guide to managing risks of tree trimming and removal works 2016 ([www.swa.gov.au](http://www.swa.gov.au)).
- j) *Hold points*: specific to no works are to commence without arborist advice, inspections & certifications:
  - 1) Prior to construction arboricultural certification is required ensuring that all trees have been adequately protected in accordance with this report, or as directed & approved by appointed site arborist.
  - 2) No works (including landscaping) shall occur within the SRZ of any tree without prior arborist advice and certification. Where excavation may be required prior exploratory tree root investigation are to identify the location, distribution and impact to underlying tree roots for arborist review.
  - 3) No excavation shall occur within the TPZ without prior project arborist notification and/or site supervision.
  - 4) No access or work activity is permitted within fenced or designated tree protection areas (TPA's) without arborist advice.

Table 1, certification requirements & hold points

1	Pre-construction	Prior to works install tree protection fencing & zones as specified within this report or as directed by the site arborist.
2	During construction	Project arborist to supervise & certify approved excavation works within tree protection areas.
3	Post construction	Prior to handover project arborist to provide final inspection & certification of tree health & vitality

- k) To ensure tree(s) are appropriately protected the development site superintendent is recommended to be familiar with all tree protection and ongoing certification requirements. The superintendent is responsible for informing all subcontractors of the responsibilities and requirements of tree protection prior to their engagement.

Yours sincerely



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AQF Level 5 consulting arborist

Diploma of Hort/Arboriculture (AQF5), Associate Diploma Parks Management (AQF4)  
Certified Arborist / Tree Surgeon (AQF3), ISA Tree Risk Assessment Qualified 6/2024  
Member: ISA, Arboriculture Australia & IACA, Working With Children No: WWC0144637E



## APPENDICES

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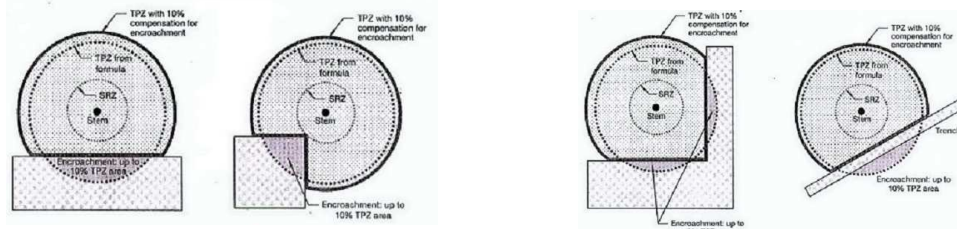
## APPENDIX- A: Terminology & references

**Acceptable Risk:** Exposure to or reject risk of varying degrees. The acceptable risk is defined as 'The person who accepts some degree of risk in return for a benefit being exposed to some risk of varying degree. **Age classes:** (I) Immature refers to a well established but juvenile tree. (ESM) refers to an early semi mature tree not of juvenile appearance. (SM) Semi-mature refers to a tree at growth stages advancing into maturity and full size. (LSM) Late Semi-Mature, refers to a tree between semi-mature and close to mature. (EM) refers to a tree at the first stages of maturity. (M) Mature refers to a full size tree with some capacity for future growth. **Health:** Refers to a trees vigor exhibited by the crown density, leaf colour, presence of epicormic shoots, ability to withstand disease invasion and the degree of dieback. **Condition:** Refers to the tree's form and growth habit, as modified by its environment (aspect, suppression by other trees, soils) and the state of the scaffold (i.e. Trunk and major branches), including structural defects such as cavities, crooked trunks or weak trunk / branch junctions. These are not directly connected with health and it is possible for a tree to be healthy but in poor condition. **Decay:** (N) – an area of wood that is undergoing decomposition. (V) – decomposition of an area of wood by fungi or bacteria. **Decline:** Is the response of a tree to a reduction of energy levels resulting from stress. Recovery from decline is difficult and slow; is usually irreversible. **Defect:** A identifiable fault in a tree. **Epicormic Shoots:** Shoots that arise from latent or adventitious buds that occur on stems and branches and on suckers produced from the base of the tree. A symptom / result of stress related factors. **Footprint:** The area occupied by site structures, including the dwelling driveways and hard surfaces. **Included Bark:** (Inclusion) a genetic weak fault, pattern of development at branch junctions where the bark is turned inwards rather than pushed out, can pose a potential hazard. **Order of branches:** First order being those that are the first to extend from the main trunk or codominant limbs, second order branches extend from the first order and third order branches extend from the second order. **Probability:** The likelihood of some event happening. **Risk:** Is the probability of something adverse happening. **Suppression:** Restrained growth pattern from competition of other trees or structures. **Wound:** Damage inflicted upon a tree through injury to its living cells, may continue to develop further weakening of the structure compromising structural integrity.

**NOTE 1:** This report acknowledges the current **Australian Standards 'Protection of Trees on Development Sites'** AS 4970 – 2009 with reference to the Tree Protection Zone (TPZ): being a combination of the root and crown area requiring protection. The TPZ takes into consideration the Structural Root Zone (SRZ): The area required for tree stability. Determined by AS4970 - 2009 Figure 1, Table of determining the SRZ, section 3.3.5 of the standards. The standard states where a greater than 10% encroachment occurs the arborist is to take into consideration the schedule of determining impacts as set within AS4970 s. 3.3.4. Encroachments are referred to within this report as major or minor encroachments (AS4970 s. 3.3.2 & 3.3.3). Below is the terminology used for estimated percentage of development incursion used within this report. To retain specific trees and ensure their viability development must take into consideration protection of the TPZ radius.

**NOTE 2: The extent of inclusion within the TPZ radius has been categorised as follows:**

No impact (0%) incursion, Low to negligible impact (<10%) of minor consequence, 10 - <15% incursion of moderate to low impact, 15 - <20% Medium to moderate level of impact and incursion where the project arborist is to demonstrate the tree/s remain viable by tree sensitive construction techniques, 20 - <25% incursion of Medium to high level of impact, 25 - <35% of High level impact to significant >35% incursion where moderate to high level impacts may require design changes or further information to manage tree vitality. **WBF** = located within the building footprint where design necessitates tree removal. Showing acceptable incursion within the TPZ (AS4970)



### SELECTED REFERENCES:

- Barrell J. 1993, 'Preplanning Tree Surveys: Safe useful Life expectancy (SULE) is the Natural Progression', *Arboricultural Journal* 17: 1, February 1993, pp. 33-46.
- International Society of Arboriculture (ISA) 2013, *Tree Risk Assessment Manual*, Martin Graphics, Champaign Illinois U.S.
- Mattheck, C. & Breloer, H.(1994) *The Body Language of Trees*. Research for Amenity Trees No.4 the Stationary Office, London.
- Matheny N. & Clark J. 1998, *Trees & Development 'A Technical Guide to Preservation of Trees During Land Development'* International Society of Arboriculture, Champaign USA.
- ProSafe: TPZ encroachment calculator [https://proofsafe.com.au/tpz\\_incursion\\_calculator.html](https://proofsafe.com.au/tpz_incursion_calculator.html)
- Australia 2009, *Australian Standards 4970 Protection of Trees on Development Sites* - Standards Australia, Sydney, Australia.
- Standards Australia 2007, *Australian Standards 4373 Pruning of Amenity Trees* - Standards Australia, Sydney, Australia.
- Northern Beaches Council DCP <https://www.northernbeaches.nsw.gov.au/planning-and-development/building-and-renovations/planning-controls>

**APPENDIX- B: Tree Retention Value Check list @rainTree consulting**

**VTA i) Landscape Significance (LS):** The significance of a tree in the landscape is a combination of its amenity, environmental and heritage values.

Values may be subjective however, offer a visual understanding of the relative importance of the tree to the environment. The Landscape Significance of a tree is described in seven categories to assist in determining the retention value of trees.

1	Significant	2	Very High	3	High	4	Moderate	5	Low	6	Very Low	7	Insignificant
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**ii) Visual Tree Assessment (VTA)**

0	If appropriate to VTA - *exempt trees from Local Government Authority (LGA) Tree Management or Preservation Orders (TPO)	2E	Trees location likely to be affected by infrastructure restricting root growth potential, or tree has potential to cause infrastructure damage &/or risk mitigation or rectification works may compromise tree anchorage. Tree(s) may be contained within a vault have restricted anchoring root potential
0A	Noxious or invasive species located within heritage conservation area		
1	Trees that are dead, significantly declining >75% volume or obviously hazardous	3	This rating incorporates trees that may require further investigation of defects such as cavities or symptoms indicating internal decay to an extent that cannot be quantified under visual examination. Further inspections may be in the way of arborist climbing inspection within the canopy, root crown investigation and/or drill penetrating or Picus Sonic Tomograph ultrasound testing procedures to determine percentage of internal decay.
2	Trees that are structurally damaged. Have poor structure or weak & detrimental large stem inclusions capable of failure opposed to 2B. Tree also may be affected by extensive borer damage, fungal pathogens (wood rot) or viruses. Some symptoms may be reversible, remediated or controlled give appropriate management.		
2A	Tree damage specific to basal and/or root plate damage, very shallow soils or steep topography resulting in poor anchorage where condition may become problematic in near future / may include trees with included bark splits to ground level	4	Trees which appear specifically environmentally stressed by drought, poor soil or site conditions. Symptoms may be reversible given appropriate management
2B	Defect specific to stem inclusions development (weak branch attachments) where the condition may not be immediately detrimental however, require annual to biannual monitoring with control to prevent stem failure by installing slings, cable or bracing. Tree may also contain multi stems or codominant twin stems	5	Trees that would benefit from crown maintenance pruning as identified within the Australian Standards AS 4373 – 2007 Pruning of Amenity Trees
		5A	Trees that require little or no maintenance at time of inspection other than close monitoring
2C	Tree may contain minor wounds, pest or minor pathogen activity, altered from storm damaged to an extent that is not considered immediately detrimental - may also display average form. Likely to require close annual monitoring or minor corrective pruning	6	Trees may be typical for species type, of good form and visual condition for age class May have suppressed one sided canopies or are low risk trees
2D	Trees significantly altered by recent storm or over pruning events which may reduce retention values due to average form- or tree extensively pruned for power line clearance	7	VTA restricted by canopy or plant material vine or ivy covering tree parts, or site conditions which do not allow access- fences to neighbouring sites

**iii) Retention Value (RV):** Determined by [1] tree free of visual defects and viable for retention, [2] viable for retention with minor faults which may reduce ULE, [3] trees which should not restrict development applications containing faults that are likely to become problematic in the short term, [4] trees to be considered for removal due to average condition.

1	High retention	2	Medium retention	3	Low retention	4	Consider removal
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**iv) U.L.E. categories** Useful Life Expectancy (after Barrell 1996, modified by the author). A trees U.L.E. category is the life expectancy of the tree modified first by its age, health, condition, safety and location. U.L.E. assessments are not static but may be modified as dictated by changes in trees health and environment.

1. Long U.L.E. - Appear retainable at the time of assessment for over 40 years with an acceptable degree of risk assuming reasonable maintenance.
2. Medium U.L.E. - Appear to be retainable at the time of assessment for 15 to 40 years with an acceptable degree of risk assuming reasonable maintenance.
3. Short U.L.E. - Trees appear to be retainable at the time of assessment for 5 to 15 years with an acceptable degree of risk assuming reasonable maintenance.
4. Very short - Removal- Trees which should be scheduled for removal within the very short term or as specified within this report.
5. Small, young or regularly pruned – Trees under 5m in height that can be easily moved or replaced, includes screen plantings or hedge lines.

**APPENDIX- C: Tree Assessment Schedule**

Trees requiring removal due to hazardous or dead condition - subject to Local Government Authority notification							Trees with low retention values: senescence, developing defects or being *exempt trees from the LGA Tree Preservation Order (TPO)					
Tree No	Botanical Name COMMON NAME	Height x spread (m)	DBH (mm)	SRZ	Age	Vigour	Condition	Significance	VTA	RV	U. L.E.	Comments CV = Council verge tree NT= Neighbouring tree
				TPZ								
1	<i>Ficus rubiginosa</i> Port Jackson Fig	18 x 12	900	3.2m 10.8	SM	Good	Fair / Good	3	2B	2	2	Three (x3) stems at 2.1m with minor stem inclusion development
Design & impact summary		Retain & protect with timber beam trunk & ground protection. New TPZ encroachment of Minor (<10%) encroachment with excavation proposed within the SRZ. Excavation requires tree root investigations to determine impacts on critical roots, where tree should be managed based on the outcome of the root mapping investigation										
*2	<i>Archontophoenix cunninghamiana</i> Bangalow Palm	11 x 4	250	- 3	SM	Good	Good	4	0/6	1	2	Exempt palm species, 2x smaller palms at base with no visual significant defects evident
Design & impact summary		Exempt palm species permitted to be removed without consent, manage in accordance with design requirement specific to Section 2.3 General tree protection requirements for palm retention										
3	<i>Syncarpia glomulifera</i> Turpentine	15 x 6	300	2.1 3.6	ESM	Good	Good	3	4	2	2	Suppressed canopy form biomass S, slightly environmentally stressed with minor fine tip dieback
Design & impact summary		Retain & protect: Likely negligible TPZ encroachment with decking suspended at 63.10 to existing 62.3. Tree retention requires no excavation or demolition of existing timber retaining wall SW side & without soil disruption to S for decking proposal. Arborist to certify no excavation or demolition has occurred within SRZ with any post hold footing conducted manual to ensure no tree root at or >30mm(Ø) is affected within the SRZ.										
4	<i>Syncarpia glomulifera</i> Turpentine	15 x 9	550	2.7 6.6	ESM	Fair / Good	Fair / Good	3	4	2	2	Suppressed canopy form biomass N, slightly environmentally stressed with minor fine tip dieback
Design & impact summary		Retain & protect: Likely negligible to very Minor (<10%) TPZ encroachment with decking suspended at 63.10 to existing 62.3. Tree retention requires no excavation within SRZ with proposed stair to NE constructed without cut within the SRZ. Arborist to certify no excavation or demolition has occurred within SRZ with any post hold footing conducted manual to ensure no tree root at or >30mm(Ø) is affected within the SRZ.										
*5	<i>Phoenix canariensis</i> Phoenix Palm	6 x 6	700	- 4	SM	Good	Good	4	0	1	2	Exempt palm species with no visual significant defects evident
Design & impact summary		Exempt palm species permitted to be removed without consent, manage in accordance with design requirement or Section 2.3 General tree protection requirements for palm retention										

## APPENDIX- D: Tree Location Plan

