
Sent: 20/12/2020 3:50:27 PM

Subject: Development Assessment - Mod2020/0575 - DA2018/0697

Attachments: DA2018 0697 Letter from Mal Cameron.pdf; AURA 733B Warringah Road FORESTVILLE FINAL V2 14-10-20.pdf;

Dear Rebecca

Please find attached letter and Arborist report for council consideration.

I look forward to you at your earliest convenience.

Regards

Mal Cameron
(025336920)

733B Warringah Road (Lot 312)
Forestville NSW 2087

20 December 2020

Att: Rebecca Englund
Principal Planner
Northern Beaches Council
725 Pittwater Road
DEE WHY NSW 2099

Dear Rebecca

**RE: Modification Number Mod2020/0575
DA2018/0697 – 723, 725, 727 Warringah Road, Forestville
Draft Voluntary Planning Agreement (VPA)**

I write with reference to the above Modification number, and Draft Voluntary Planning Agreement (VPA) as received via mail, as the adjacent neighbour.

The two notification letters from Council dated 16 and 17 November arrived in the same mail and I have mis-read the closing date for the DA submission of 04 December as the closing date for the VPA which is 21 December. I would appreciate you taking into consideration this letter please based on being the adjacent neighbour.

- I have not opposing this current development;
- **I am concerned about the development impacting on the integrity of a tree (Cheese Tree – Glochidion Ferdinandi) on my property, which to date Council has refused permission for this to be removed. It is also a danger to my property and potentially human lives if it falls.**

Please note that my legal instruction requires me to put in writing to you this clause:

“I will hold Council responsible if the tree falls and causes damage, significant harm or death to me, visitors to my home or any other persons. Please put your insurer on notice to the risk as detailed herein.” I am further instructed that your automatic email reply confirms your receipt of this clause from me.

I am the adjacent neighbour at 733B Warringah Road and have had correspondence previously with the Council regarding this development. As a background:

- On 23 December 2015, at an on-site meeting in my backyard, the solicitor representing Council advised that the tree in question should be removed, and I was advised to put in an application.
- I applied in 2019 due to root damage to my house, and as part of the process, submitted a professional arborist’s field notes which identified potential compromise of the tree due to the development (supporting the Solicitor’s advice that the tree should be removed).
- This application was refused by the Tree Assessment Officer (TA2019/0288).

- Daniel Spiric advised me in writing on 12 August 2019 that the impact of the development on the tree should be notified to the Town Planning department. See below.

From: Daniel Spiric <Daniel.Spiric@northernbeaches.nsw.gov.au>
Date: Mon, Aug 12, 2019 at 3:22 PM
Subject: RE: TA2019/0288 - 733B Warringah Road FORESTVILLE NSW 2087 - Tree Permit - Additional Information Required
To: Mal Cameron <mal.a.cameron@gmail.com>
Hi Mal
Apologies for the delay.
I can advise that I can provide approval for root pruning to proceed as per the Level 5 Arborist Field Notes form Aura Trees that you have provided. If you have concerns relating to the development on the adjoining property you would need to raise the issue with Council's planning department. Concerns with documents relating to the adjoining property's DA cannot be considered as part of this tree application process.
I will proceed with providing you a permit for root pruning as per the field notes.
Regards

Daniel Spiric
|
Tree Assessment Officer
Tree Services
t 02 9976 1563 m 0466 317 137
daniel.spiric@northernbeaches.nsw.gov.au

- I then instructed my arborist to proceed to a full arborist report to further support my request for the tree to be removed. The major points of the attached arborist report are:
 1. The tree would be adversely compromised by the DA determination by virtue of tree protection zones being breached by the major excavation;
 2. The tree is not on a "significant tree register", and the site is not listed as a 'Heritage Conservation Area';
 3. There are inconsistencies in the DA applicant's Arborist Report supplied with the DA, produced by Tristan Bradshaw of Bradshaw Tree Services, dated 16 April 2018;
 4. Arborist Discussion notes supporting the tree removal:

By the Australian Standard (AS4970:2009 Protection of trees on development sites) this tree should have been subjected to a 'root investigation' to determine if the as proposed excavation for 'fire exit & rooms' on the basis they are less than two (2.00m) from the discussed tree trunk centre. Simply, the determined works create a MINIMUM total TPZ surface area breach of 34.10%, i.e. 67.19m² of 197.06m². AS4970-2009 classes any total TPZ surface area breach greater than 10% as a 'Major encroachment'.

On this basis, the potential damage to the discussed tree relative to total tree stability & a compromised ULE is clear for all to see. Simply, it is very unlikely this tree will be able to be viably retained with respect to the DA determination.

1A2019/0288).

The tree discussed is assessed as potentially being significantly compromised by the DA determined for the adjoining site. As such, the discussed tree is supported to be replaced as there is no guarantee what the impacts as per the DA determined for the adjoining site will have relative to its ULE & 'total tree stability'. It would be reasonable for the developer of the adjoining site to fund the works supported should at the time of excavation the tree being determined to be compromised.

5. My Arborist report (attached) recommends:

6 Management Options:

1. To avoid any foreseeable problems relative to the DA determination, seek approval for the removal/replacement of the discussed tree prior to the commencement of any works within the adjoining site.
2. Monitor the excavation process (this will be difficult relative to access & trespass issues). Should the concerns expressed within this document become a reality, works within the subject site must be shut down by council for breach of the Annexure A, Clause 19 from the NSWLEC orders made, 3 May 2019.

If you have any questions relating to this report or require the implementation of recommendations, please contact Kyle Hill (Monday to Friday) on 02 9939 0078.

Therefore, I am very concerned if the development proceeds and the subject tree roots are compromised:

- There is a very high risk that the tree will damage my property;
- There is a very high safety risk (potentially fatal) to me, my visitors and children/occupants of the childcare centre.

I look forward to hearing from you at your earliest convenience regarding approval to have this tree removed as per the Arborist report attached.

Yours sincerely



Malcolm Cameron
Mobile: 0425 336 920



Arboriculture Assessment & Management Statement

October 2020

Site:	Lot 312 in DP 1016664 733B Warringah Road FORESTVILLE, NSW
Client:	Mal Cameron 733B Warringah Road FORESTVILLE, NSW Email: mal.a.cameron@gmail.com
Commissioned:	Mal Cameron
Author:	Kyle A Hill Registered (Arb Aus #1884) Practising & Consulting Arborist Post Graduate Certificate in Arboriculture, Melbourne University Diploma of Horticulture-Arboriculture TAFE, Grow SA Certificate of Horticulture, TAFE Certificate Advanced Tree Care TAFE Founder -Growing My Way Tree Services (1977) Member of International Society of Arboriculture Member of Arboriculture Australia

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1 Summary

Mal Cameron (as the property owner) of 733B Warringah Road, Forestville (from herein the subject site) commissioned *Aura Tree Services Pty Ltd* to prepare an "Arboriculture Assessment & Management Statement" relative to a Development Application linked to the common boundary property known as 723 Warringah Road, Forestville (from herein the adjoining site).

The as briefed required to be assessed & discussed tree is an Australian Native tree species known as a Cheese Tree, (*Glochidion ferdinandi*). It is classified to be a locally indigenous tree species.

The referenced sites are within the *Northern Beaches Council* (from herein NBC) local government area.

The NBC as the consent authority relative to development & tree management within the subject site & the adjoining site was only able to determine a *deferred commencement* relative to the DA as lodged. The DA applicants (Warringah Road Developments Pty Ltd) instigated a Class 1 Conciliation Conference against the NBC, [2019] NSWLEC 1203. *The conciliation conference was on 3 May 2019. The Court ordered that (1) The appeal be upheld, (2) Development Consent be granted to DA2018/0697 for demolition works & construction of a centre-based childcare facility for a maximum of 146 children subject to the imposition of the conditions of consent set out in Annexure A.*

The discussed tree is confirmed to be located within the rear yard of the subject site, approximately one (1.00m) metre from the subject & adjoining sites common boundary.

It is our opinion the discussed tree, based on onsite assessment of Wednesday, 10 July 2019 & perusal of the DA determination (DA2018/0697) linked to the adjoining site will likely be adversely compromised by the DA determination by virtue of its calculated Tree Protection Zone (from herein TPZ) & Structural Root Zone (from herein SRZ) radial distances being breached by major excavation within the adjoining site.

The site is not listed within the NBC (*old Warringah Council*) 'Local Environment Plan, 2011' (from herein LEP) as being part of any 'Heritage Conservation Area'. The tree discussed is not a species within any *endangered ecological community listing*. The discussed tree is not listed within any known "significant tree register".

From a *Local Government Tree Management* perspective, the discussed tree is subject to the provisions within the NBC (*old Warringah Council*) 'Development Control Plan, 2011' (from herein DCP) & the SEPP 'Vegetation in Non-Rural Areas, 25 August 2017'. Clause 19 of the [2019] NSWLEC 1203 within Annexure A clearly states how tree management is to be applied.

For best Practice Arboriculture principles & the NSWLEC Annexure A Clause 19 to be addressed this document requires that the developer 'manually excavates' & documents the outcomes (supported by photographic evidence) within the trees' 7.92m TPZ radial distance. A focus on 'live tree roots' of a significant diameter, defined as being fifty millimetres or more in diameter (50mm Ø) within its SRZ radial distance is essential as these are scientifically accepted as being of a very high relevance with respect to 'total tree stability'.

Simply, the concern is whether the DA determined works will or will not compromise;

1. most importantly 'total tree stability' &
2. its potential Useful Life Expectancy (from herein ULE). The discussed tree at the time of assessment was determined to have (without significant disturbance to below ground roots & its canopy not being significantly reduced) of at least the

medium term, in this circumstance medium term equates to twenty-five (25) years or longer.

This scope of this document includes:

- *NBC DA Tracking webtool for as lodged adjoining site plans/documents etc. & communications from NBC,*
- *General site & tree assessment,*
- *Tree condition assessment (i.e. present condition & probable Useful Life Expectancy),*
- *“Site Specific Plan of Management”.*

Kyle Hill, Practicing & Consulting Arborist AQF Level 5 & 8, has prepared this document based on onsite inspection (Wednesday, 10 July 2019). ‘Field Notes’ were provided at this time to Mal Cameron. A request for the field notes to be expanded into a formal report was received by AURA Tree Services Pty Ltd on Monday, 21 September 2020.

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2 Introduction

NBC is the local government area primary consent authority relative to development & tree management for the discussed & surrounding properties. By perusal of the NBC DA tracking web tool it appears there was a request (NBC) for the DA (DA2018/0697) be withdrawn for multiple reasons. (None of which appeared to relate to the tree discussed within this document.)

It is noted the NBC determined a Deferred Commencement which went to the NSW Land & Environment Court where the Appeal was Upheld with Amended Plans. These (determined) Plans are not readily available to the public on any researched NBC web tool. On this basis, it is presumed the as proposed 'line of excavation' within 723 Warringah Road (the adjoining site to the subject site) has not changed as it was not part of the list of NBC required to be solved for DA determination issues.

The discussed tree is confirmed to be an up to term (i.e. greater than 25 years old) established Cheese Tree, (*Glochidion ferdinandi*). It is confirmed to be a locally indigenous tree species. It has been assessed as being a likely specimen. There is no conclusive evidence the discussed tree was present prior to the development of the subject site. NSW Department of Lands (SixMaps website tool) 1943 aerial photograph confirms the subject site to have trees present within its boundaries in 1943. There is no evidence of a tree being located where the discussed tree is located in 1943.

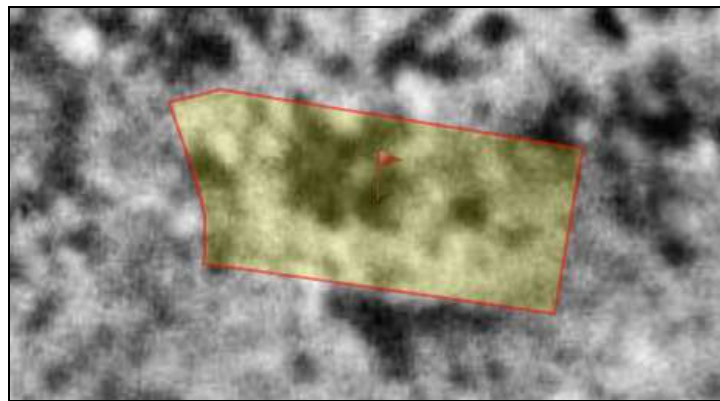


Figure 1: 1943 NSW Department of Lands Aerial Photograph confirms the discussed tree not to have been present at the time of the aerial photograph being taken.

The Warringah DCP & NBC 'Tree Management Provisions/Guidelines' plus the SEPP 'Vegetation in Non-Rural Areas, 25 August 2017 are acknowledged to be the management criteria required to be addressed.

The subject site is Zoned R2 "Low Density Residential" (old Warringah Council LEP, 2011, Land Zoning Map-Sheet LZN_007).

The discussed is not known to have been the subject of any previous management specifications by either council or a Practicing/Consulting Arborist other than an approval for small diameter 'live roots to be pruned' near the edge of the subject site rear ground level patio floor, (NBC TA2019/0288).

The tree discussed is assessed as potentially being significantly compromised by the DA determined for the adjoining site. As such, the discussed tree is supported to be replaced as there is no guarantee what the impacts as per the DA determined for the adjoining site will have relative to its ULE & 'total tree stability'. It would be reasonable for the developer of the adjoining site to fund the works supported should at the time of excavation the tree being determined to be compromised.

3 Methodology

Assessment of the trees has been by eye from ground level & aerial photography from multiple sources. Implementation of the *Visual Tree Assessment (VTA) Stage 1* principles developed by Claus Mattheck, et.al is the assessment method & tool chosen for this site. The principles of VTA Stage 1 are explained & illustrated in the publication *The Body Language of Trees (1994)*.

Assessment includes:

- *Tree's current condition & likely future health.*
- *Perusal of NBC (old Warringah Council) "Tree Management Provisions". Perusal of NBC (old Warringah Council) "Endangered Ecological Community listing" information.*
- *Perusal of the 723 Warringah Road, Forestville determined DA.*
- *Perusal of NBC communication/responses to any as lodged Tree Works Application submission.*
- *Discussion of environment where the tree is growing. Tree's amenity & retention value, such as significance, screening & habitat.*

No root tissue analysis, soil testing, 'Resistograph'[®], 'ArborTom'[®] assessment or similar was undertaken.

See the following Appendices for further information:

- *Appendix A Glossary of Common Arboreal terms*

* **VTA–Visual Tree Assessment**, as referenced is a systematic inspection of a tree for indicators of structural defects that may pose a risk due to failure. Stage 1 is made from ground level (i.e. no aerial inspection is undertaken). An aerial inspection (Stage 2) is undertaken when there are easily identified visual indicators that suggest such an inspection is merited. Visual indicators are outlined within *The Body Language of Trees (Mattheck & Breloer, 1994)*. VTA is a broadly used relatively standardised approach. More complex (can be invasive) diagnostic fault detection equipment may be recommended once visual indicators of potential defects are confirmed.

4 Observations

4.1 The Site

By NBC 'Property Search' website tool the total site area for the subject site is approximately 410.30m².

The site is developed to contain a single dwelling residence with hard & soft landscape features. The subject site & adjoining common boundary sites are also zoned R2 'Low Density residential'. The subject site shares common boundaries with three (3) developed properties. Motor vehicle & pedestrian access is only via Warringah Road.

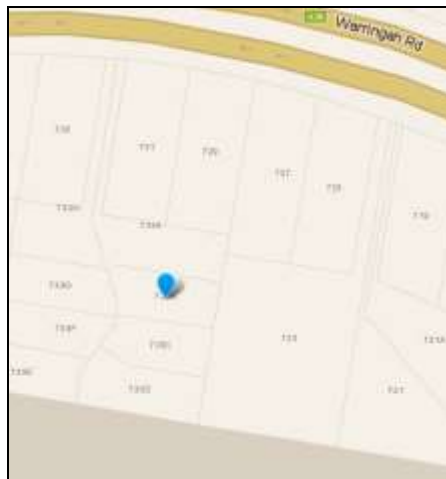


Figure 2: Location Maps/Images courtesy of Whereis.com & NBC website tools.



The subject site is NOT within an area noted to be a classified "Wildlife Corridor". The discussed tree is not listed on any known "significant tree register".



Warringah Local Environmental Plan 2011

Land Zoning Map - Sheet LZN_008

Zone

- B1 Neighbourhood Centre
- B2 Local Centre
- B3 Commercial Core
- B4 Mixed Use
- B5 Business Development
- B7 Business Park
- E1 National Parks and Nature Reserves
- E2 Environmental Conservation
- E3 Environmental Management
- E4 Environmental Living
- IN1 General Industrial
- IN2 Light Industrial
- R2 Low Density Residential
- R3 Medium Density Residential
- RE1 Public Recreation
- RE2 Private Recreation
- RU4 Primary Production Small Lots
- SP1 Special Activities
- SP2 Infrastructure
- W1 Natural Waterways
- DM Deferred matter

Cadastre

- Cadastre 30/06/2020 © Northern Beaches Council

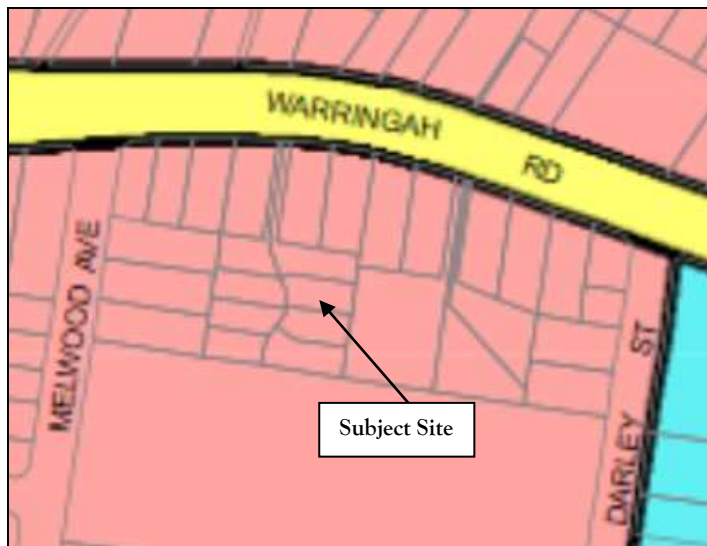
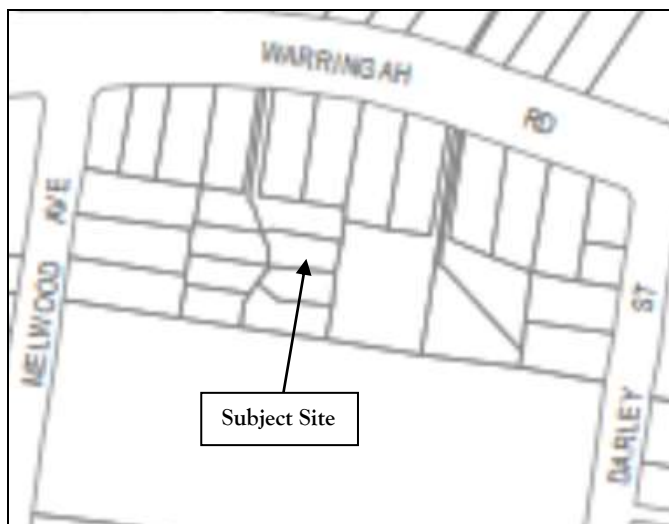


Figure 3: Confirms Land Zoning classification as being R2 'Low Density Residential'. Below confirms the subject site heritage Status.




Warringah Local Environmental Plan 2011

Heritage Map - Sheet HER_008

Heritage

- / / / Conservation Area - General
- | | | Conservation Area - Landscape
- Item - General
- Item - Archaeological
- Item - Landscape

Cadastre

- Cadastre 21/12/2016 © Northern Beaches Council

4.2 The Tree Summary Table & Site/Tree Photographs

Read this table in conjunction with Appendix A-Common Arboreal Terms

Trees Recommended for removal relative to site characteristics

Trees Recommended for protection & retention

Exempt species

Trees retainable but of low amenity/significance

	Identification	Height (approx in m)	Crown (approx in m)	DBH (approx in m)	TPZ (approx in m)	SRZ (approx in m)	Age	Health/Vigour	Retention & Significance Value	Structure/Form	Comments
1	<i>Glochidion ferdinandi</i> Cheese Tree	<11.50	<10.00	0.66	7.92m	2.85	M	Fair to Good / Fair to Good	High/High	Atypical, tree has co-dominant trunks/stems with broad open canopy	<u>Retain, Protect & Manage:</u> Tree is considered as able to be retained for at least the medium term.

Note: DBH/TPZ/SRZ measurements/calculations are different to the DA accompanying Arborist Report referenced by the DA submission. This is likely an outcome caused by the Arborist Report accompanying the DA submission data being estimated as opposed to actually being measured/calculated as a consequence of the tree being located within adjoining private property in accessible without the subject site owner's permission.



Figure 4: The above aerial photograph was taken on Saturday, 26 September 2020 (courtesy of Nearmap.com). The discussed tree is circled in yellow.

5 Discussion

Background to this document is the tree owner (Mal Cameron) had previously expressed concern (July 2019) that in the event of the tree totally failing (i.e. at ground level) his property (plus potentially neighbours) property or occupants of any such property may be damaged/injured by the event. Whilst the tree is taller than the distance between its trunk & any built form (i.e. dwellings) this at the time of original assessment by virtue of no 'live root damage' having occurred could not be supported as a predictable outcome. However, now that a DA has been approved these concerns once the adjoining site excavations occur becomes a more predictable concern relative to total tree failure on the basis that both TPZ & SRZ radial distances being breached by the DA determination. Simply, by AS4970-2009 provisions with likely supporting structural root damage the tree may become unstable & therefore not sustainable (especially if subjected to very strong winds from the east to south east to south direction).

The DA determination was ultimately determined by the NSW Land & Environment Court by a Conciliation conference on 3 May 2019. (See, NSWLEC website *Caselaw, Warringah Road Developments Pty Ltd v Northern beaches Council [2019] NSWLEC 1203.*)

In Annexure A of the upheld appeal, Clause 19 deals with the management of trees to be retained (including adjoining land), see below portion extracted from the published Caselaw outcome;

19. Tree protection

- (a) Existing trees which must be retained
 - i) All trees not indicated for removal on the approved plans, unless exempt under relevant planning instruments or legislation: and
 - ii) Trees located on adjoining land.

- (b) Tree protection
 - i) No tree roots greater than 50mm diameter are to be cut from protected trees unless authorised by a qualified Arborist on site.
 - ii) All structures are to bridge tree roots greater than 50mm diameter unless directed otherwise by a qualified Arborist on site.
 - iii) All tree protection to be in accordance with AS4970-2009 Protection of trees on development sites, with particular reference to Section 4 Tree Protection Measures.
 - iv) All tree pruning within the subject site is to be in accordance with WDCP2011 Clause E1 Private Property Tree Management and AS 4373 Pruning of amenity trees
 - v) All tree protection measures, including fencing, are to be in place prior to commencement of works.

Reason: To ensure compliance with the requirement to retain and protect significant planting on the site. (DACLAD01)

Unfortunately, no discussion or specifications were made on a tree by tree level. Notwithstanding this observation the Developer/Builder for compliance with the NSWLEC determined DA clearly must abide by the above Clause 19 specifications.

By the *Australian Standard (AS4970-2009 Protection of trees on development sites)* this tree should have been subjected to a 'root investigation' to determine if the as proposed excavation for 'fire exit & rooms' on the basis they are less than two (2.00m) from the discussed tree trunk centre. Simply, the determined works create a MINIMUM total TPZ surface area breach of 34.10%, i.e. 67.19m² of 197.06m². AS4970-2009 classes any total TPZ surface area breach greater than 10% as a 'Major encroachment'.

On this basis, the potential damage to the discussed tree relative to total tree stability & a compromised ULE is clear for all to see. Simply, it is very unlikely this tree will be able to be viably retained with respect to the DA determination.

The discussed tree owner must be very vigilant with respect to monitoring the excavation process & any able to be verified damage to 'live tree roots' of a significant diameter. Photographs are an essential part of the monitoring process.

Whilst the NBC is relatively powerless until breach of DA determination 'Condition of Consent' may occur it would be worthwhile discussing the concerns & contents of this letter with the appointed Principle Certifying Authority & your elected local council member for this area. The tree has been determined to have rights (by court order), it is the developer/builders responsibility to honour these orders.

6 Management Options:

1. To avoid any foreseeable problems relative to the DA determination, seek approval for the removal/replacement of the discussed tree prior to the commencement of any works within the adjoining site.
2. Monitor the excavation process (this will be difficult relative to access & trespass issues). Should the concerns expressed within this document become a reality, works within the subject site must be shut down by council for breach of the Annexure A, Clause 19 from the NSWLEC orders made, 3 May 2019.

If you have any questions relating to this report or require the implementation of recommendations, please contact Kyle Hill (Monday to Friday) on 02 9939 0078.

Yours faithfully,



Kyle A Hill, Practicing & Consulting Arborist (AQF level 5 & AQF level 8)

7 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.

8 Assumptions

Care has been taken to obtain information from reliable resources. All data has been verified insofar as possible; however, AURA Tree Services Pty Ltd, 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 trees that were examined & reflects the condition of the trees at the time of inspection; and

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.

9 Recommended References

- Barrell, J. 1993. 'Preplanning Tree Surveys: Safe Useful Life Expectancy (SULE) is the Natural Progression', *Arboricultural Journal* 17:1, February 1993,
- Barrell, J. 1995, 'Pre-development Tree Assessments', in *Trees & Building Sites*, Proceedings of n International Conference Held in the Interest of Developing a Scientific Basis for Managing Trees in Proximity to Buildings, International Society of Arboriculture, Illinois,
- Dr. G. Watson & Dr. D. Neely, 'Trees & Building Sites', ISA Illinois USA 1995,
- Dr. N. Matheny & Dr. J.R. Clark, 'Trees & Development', ISA Illinois USA 1998 ,
- Phillip J. Craul, 'Urban Soil in Landscape Design', J. Wiley & Sons, New York USA 1992,
- Clark, Ross, 'A Guide to Assessment of Tree Quality'. NATSPEC/ Construction Information, Milson's Point NSW, 2003 &
- Clark, Ross. 'Purchasing Landscape Trees', Construction Information Systems Australia Pty. Ltd., Milson's Point NSW, 1996.

10 Selected Bibliography

- Hitchmough, J.D. 1994. 'Urban Landscape Management', Inkata Press, Sydney.
- Mattheck, C. & Breloar, H. (1994) 'Body Language of Trees'. The Stationery Office. London.
- AS4373.2007 'Pruning of amenity trees', Standards Australia.
- AS4970.2009 'Protection of trees on development sites', Standards Australia.
- BS5837-2005. 'Guide for Trees in Relation to Construction', Standards Board, UK.

Appendix A – Glossary of Common Arboreal Terms

Age:	I	<i>Immature</i> refers to a well-established but juvenile tree
	SM	<i>Semi-mature</i> refers to a tree at growth stages between immaturity & full size
	M	<i>Mature</i> refers to a full sized tree with some capacity for further growth
	LM	<i>Late Mature</i> refers to a full sized tree with little capacity for growth that is not yet about to enter decline
	OM	<i>Over-mature</i> refers to a tree about to enter decline or already declining
	LS	<i>Live Stag</i> refers to a tree in a significant state of decline. This is the last life stage of a tree prior to death.

Hth & Vig Health & Vigour

Health refers to the tree's form & growth habit, as modified by its environment (aspect, suppression by other tree, soils) & the state of the scaffold (ie. trunk & major branches), including structural defects such as cavities, crooked trunks or weak trunk/branch junctions. These are not directly connected with health & it is possible for a tree to be healthy but in poor condition/vigour. **Classes are:**

Excellent (E), V. Good (VG), Good (G), Fair (F), Declining (D), Poor (P), Very Poor (VP)

Vigour refers to the tree's growth rate/condition as exhibited by the crown density, leaf colour, presence of epicormic shoots, ability to withstand disease invasion & the degree of dieback. **Classes are:**

Excellent (E), V. Good (VG), Good (G), Fair (F), Declining (D), Poor (P), Very Poor (VP)

Useful Life Expectancy refers to any trees potential life expectancy (viability) not related to potential disturbances based on VTA assessment, classifications are: **Short, (0 – 5 years), Medium, (5 – 15 years) & Long, (15 or more years).**

Retention Value is expressed as Low, Medium, High or of Heritage Importance

Diameter at Breast Height (DBH) refers to the tree trunk diameter at breast height (1.4 metres above ground level).

Significant Diameter Roots are defined as being woody roots with a diameter greater than 0.05m/50mm. (Unless otherwise specified)

Structural Root Zone (SRZ) refers to a radial offset which relates to tree stability. This zone is presumed to be main location of the tree's structural support roots. It is calculated using the formula $SRZ\ radius = (D \times 50)^{0.42} \times 0.64$.

Tree Protection Zone (TPZ) is ideally a "No Go Zone" surrounding a tree to aid in its ability to cope with disturbances associated with construction works. **TPZ = DBH x 12**. Tree protection involves minimising root damage that is caused by activities such as construction. Tree protection also reduces the chance of a tree's decline in health or death & the possibly damage to structural stability of the tree from root damage

To limit damage to the tree, protection within a specified distance of the tree's trunk must be maintained throughout the proposed development works. No excavation, stockpiling of building materials or the use of machinery is permitted within the TPZ

A TPZ is required for each tree or group of trees within five metres (unless otherwise specified) of building envelopes.

Stem/bark inclusion refers to a genetic fault in the tree's structure. This fault is located at the point where the stems/branches meet. In the case of an inclusion this point of

attachment is potentially weak due to bark obstructing healthy tissue from joining together to strengthen the joint

Decay refers to the break down tissues within the tree. There are numerous types of decay that affect different types of tissues, spread at different rates & have different affect on both the tree's health & structural integrity

Point of Attachment refers to the point at which a stem/branch etc join

Dead wood refers to any whole limb that no longer contains living tissues (eg live leaves &/or bark). Some dead wood is common in a number of tree species.

Die back refers to the death of growth tips/shoots & partial limbs. Die back is often an indicator of stress & tree health

One dimensional crown refers to branching habits & leaves that extend/grow in One direction only. There are many causes for this growth habit such as competition & pruning

Crown Foliage Density of Potential (CFDP) refers to the density of a tree's crown in relation to the expected density of a healthy specimen of the same species. CFDP is measured as a percentage

Epicormic growth/shoots refers to growth/shoots that are/have sprouted from axillary buds within the bark. Epicormic growth/shoots are a survival mechanism that often indicates the presence of a current or past stress even such as fire, pruning, drought etc

Over Head Powerlines (OHP) Over head electricity wiring.

LVOHP Low Voltage Over head Powerlines

HVOHP High Voltage Over head Powerlines

ABC Aerial Bundled Cable