SEASONED TREE CONSULTING

ARBORICULTURAL IMPACT ASSESSMENT REPORT

Prepared for-
Justin Caruana

Site Address-
129 Upper Clontarf Street
Seaforth NSW 2092

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Date	15 November 2019

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EXECUTIVE SUMMARY

Seasoned Tree Consulting has been engaged by Justin Caruana to prepare an Arboricultural Impact Assessment report for proposed alterations and additions at 129 Upper Clontarf Street Seaforth.

The site is within Northern Beaches Council Local Government Area (LGA). The site consists of an existing double storey dwelling with driveway and front deck areas with a large amount of sandstone outcrop areas and different landscaped levels. There are multiple trees located on site that could be impacted by the proposed plans.

A site inspection was undertaken on Wednesday 6th November 2019 to determine the trees present and visually inspect them.

Trees identified are assessed in Appendix A and tree numbers are noted on a Tree location Plan in Appendix B.

There is a total of 5 trees that are on or adjacent to the site.

Tree # 1, a medium sized Angophora costata is located on the lowest level of the front yard and would have a low amount of impact due to the proposed plans and would be expected to suffer no loss of health or structure. The clients love this tree and want it retained with no impact.

Tree # 2, another Angophora costata located beside the existing driveway has a poor form. This tree is recommended for removal and replacement.

Tree # 3 is a Callistemon species located beside the start of the driveway. There is a replacement driveway proposed for this area that would have a minimal impact on this tree.

Tree # 4 is a Hakea species and is recommended for removal due to it reaching the end of its life.

Tree# 5 is a Banksia integrifolia is will have no encroachment or impact from the proposed works due to its position away from development area.

All the proposed works that could have a negative impact on the site trees can be mitigated via tree protection methods and extensive arboricultural supervision of any works within the TPZ of the tree.

As a result there will be nil to low level of impact to any of the trees.

INTRODUCTION

The site is an existing double storey house set to the back of the property, with a natural rock escarpment multi-level front yard with multiple trees and other vegetation. The alterations and additions proposed includes demolition of the existing driveway and front deck area, a new elevated driveway, suspended pool and new deck.

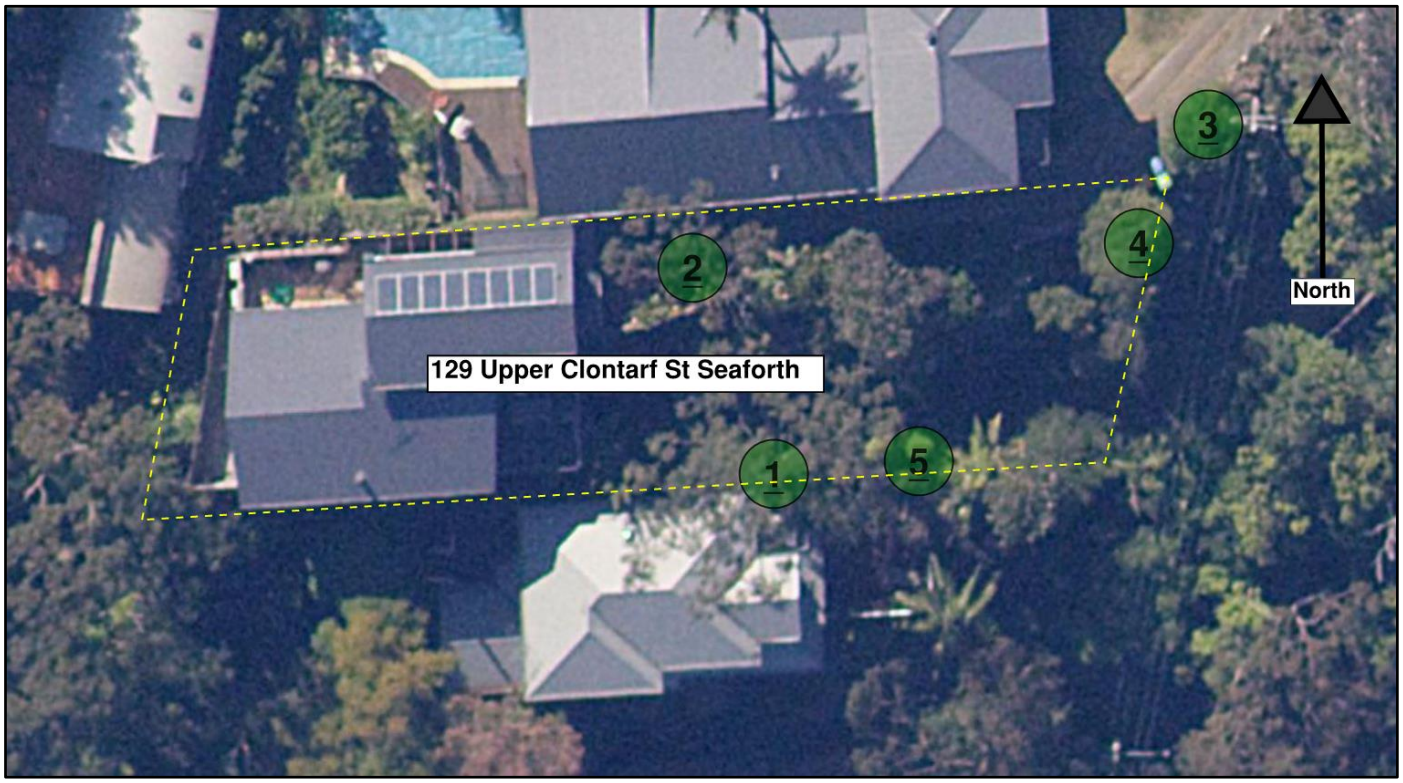


Figure 1- Aerial Image of the site with approximate boundary marked in yellow (Six maps 2019)

A site inspection was undertaken on Wednesday 6th November 2019 to assess the trees within and adjacent to the proposed area as well as existing structures. This report assesses the health and condition of the surveyed trees, identifies the potential impacts the proposed development may have on those trees and provides recommendations for tree retention or removal. The report also provides guidelines for tree protection and maintenance.

SCOPE OF THE REPORT

This report has been undertaken to meet the following objectives:

a. Conduct a comprehensive visual inspection of the site and its environment. For the purpose of this report, trees identified and surveyed are described as

- having a height of 5m or more (Warringah Council LEP 2011).

b. Determine the condition and structure of the trees on the site.

c. To assess any potential impacts on the identified trees during demolition and construction of the proposed alterations and additions.

METHODOLOGY

a. In preparation for this report, ground level, *visual tree assessments* of the site trees, and general visual observations of the vegetation and built structures on adjoining properties were undertaken on Wednesday 6th November 2019.

b. Tree heights were visually estimated and are expressed in metres. In some cases, a Leica Disto ™ laser distance meter is used to assist tree height estimates.

c. Tree crown spreads were measured by the assessor standing at the outer edge of the dripline, using a Leica Disto ™ laser distance meter to measure the distance from the assessor to the tree stem at the trees approximate Diameter at Breast Height (DBH).

d. Unless otherwise noted in this report, the DBH of a tree is measured at 1.4 m above ground level, using a Yamiyo® diameter tape.

e. The vigour (health) of the tree is assessed by visual observation of the crown density, leaf colour and size, presence of epicormic shoots, degree of dieback, and the tree's ability to withstand predation by pests or disease. The observations result in a rating of Good, Fair or Poor for each assessed tree.

f. The condition of the tree is assessed by visual observation of the crown form and the trees growth habit, as modified by its growing environment. The condition of the tree at the time of inspection is recorded as Good, Fair, Poor or High Risk.

g. Unless otherwise noted in this report, no aerial inspections, root mapping or woody tissue testing were undertaken as part of the tree

assessments. Tree inspections may include minor excavation around the root crown if any defects are suspected.

h. This report is not intended to be a comprehensive hazard or risk assessment of the subject trees; however, the report may make recommendations, where appropriate, for further assessment or testing of trees where potential structural problems have been identified, or where below ground investigation may be required.

i. Field observations were recorded and written down on paper. All CAD (including all plotting and incursion calculations) work was completed with Bluebeam Revue™. Photographs of trees and other site and locality features were taken using an iPhone 8 camera.

j. The information contained in this tree report covers only the trees that were examined and reflects the health and condition of those trees at the time of inspection.

k. Plans and documents referenced for the preparation of this report include (All prepared by Altere Gardens)

    a) Landscape Site Plan Drawing No UC_001 Rev B

    b) Section Elevation AA UC_002 Rev B

    c) Section Elevation AA UC_003 Rev B

    d) Landscape Areas UC_004

No drainage or sewer plans have been viewed.

l. The subject trees are shown on marked-up excerpts of the Existing and Proposed Plan.

m. This marked up plan is attached as Appendix B Tree Location Plan.

n. Referred legalities and regulations

- AS4970-2009 "The Protection of Trees on Development Sites'
- Warringah Council Local Environment Plan (LEP) 2011
- Warringah Council Development Control Plan (DCP) 2011

OBSERVATIONS

Proposed for development is the removal/demolition of the existing driveway and front deck area, a new elevated driveway, suspended pool and new deck.

There are currently 5 trees on the subject site that could be affected by the proposed alterations and additions. There are many other small trees and palms onsite under 5m in height that were not assessed.

Tree #1 is located on the lowest level of the front yard and is a healthy mature *Angophora costata* (Sydney Red Gum). The tree possesses a Very High Landscape Significance Rating and subsequently a very high retention value and must be retained and protected. The clients love this tree and want it retained with no impact.


T1

Tree # 2 is located beside the existing driveway. The tree is a semi-mature *Angophora costata (*Sydney Red Gum*)*, showing fair to poor form due to its extremely lopsided structure. The tree currently knocks on the neighbours roof during windy weather. This tree is recommended for removal and replacement.

Tree # 3 and # 4 are both located below the driveway on the way in. The owners want to retain Tree # 3 and this is easily attainable as there will be low impact to this tree from the replacement driveway.

Tree #4 is recommended for removal due to the species (Hakea), known to be short lived, and the tree is at the end of its life.

Tree #5 is located on the lowest level of the front yard beside the large Angophora.

The tree is a healthy mature *Banksia integrifolia (*Coast Banksia) and is located away from proposed construction.

DISCUSSION/Comment on roots and the protection of trees on development sites)

Tree roots grow opportunistically in response to their environment with oxygen as their greatest limiting factor. They generally radiate out from the trunk and are shallow to best access water, nutrients and air from above ground. (Gerhold et al, 2003).

For trees on development sites, direct physical damage to tree roots such as severing and indirect impacts through soil compaction, soil water changes and soil chemical changes can impact on large sections of the root system and interfere with the long term health of the tree. As damage occurs closer to the trunk, defence against pathogens and whole tree stability can decrease (Fite & Smiley 2009; Smiley, 2008).

Tree protection zones are applied to trees on construction sites to prevent damage to roots and the above ground parts of trees. The Australian Standards 4970 protection of trees on development sites provides formulas to calculate protection setback distances around trees. These distances are measured as radius from and approximate center of the trunk and are used to infer an area of expected root growth. Site changes within these zones can be possible depending on the type of change and the methods used to make the change (Matheny and Clark, 1998). Further, it is reasonable to consider existing site conditions and the limitations imposed on a 'typical' spread.

DEVELOPMENT IMPACT

Tree Protection Zones have been calculated for the subject trees in order to define the encroachment of the proposed development in accordance with the AS4970-2009. The tree protection zones (TPZ) required have been taken as a circular area with a radius 12 x the diameter at breast height of the tree. This requirement is in line with Australian Standard AS 4970-2009 Protection of Trees on Development Sites. This standard defines up to 10% encroachment to be a minimal level of impact on the tree. Any encroachment over 10% requires the site arborist to give consideration as to the viability of the tree due to the proposed development. The extent of impacts to the trees can be generally rated using the guideline in Table 1.

Table 1- Guideline to the rating of impacts on trees

TPZ IMPACT RATING	
O	<1% of root zone impacted – *no* impact of significance
L	1 to 10% of root zone impacted – *low* level of impact
L – M	>10 to 15% of root zone impacted – *low to moderate* level of impact
M	>15 to 20% of root zone impacted – *moderate* level of impact
M – H	>20 to 25% of root zone impacted – *moderate to high* level of impact
H	>25 to 35% of root zone impacted – *high* level of impact
S	>35% of root zone impacted – *significant* level of impact

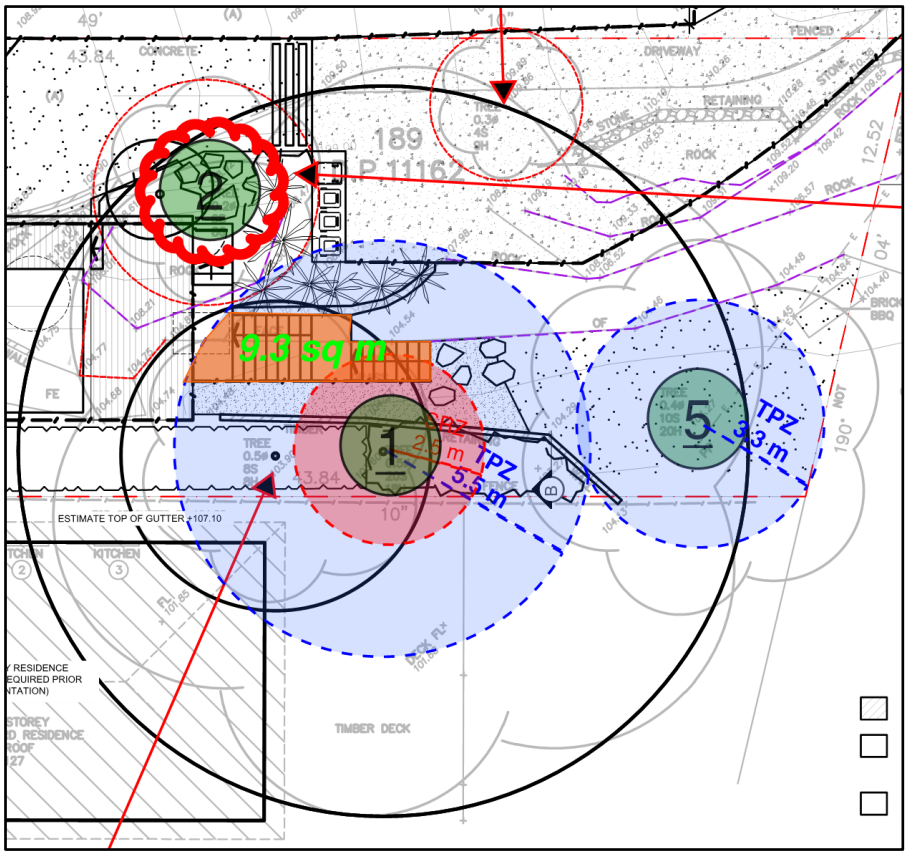
Any identified encroachment into the SRZ, and the extent of encroachments into the TPZ of the trees, are summarised in Table 2 (located on the following page) and further discussed in detail below.

Table 2- Estimated SRZ and TPZ encroachments

Tree No.	SRZ encroachment	TPZ Area (approx. m²)	TPZ encroachment (approx. m²)	TPZ encroachment (approx. %)	TPZ Impact Rating
1	Possibly due to proposed new built steps	**95.7**	9.3 sq m	10%	Low
2	Recommend removing tree due to poor form				
3	No	**35.5**	8.8 sq m	24%	Moderate-High
4	Recommend removing tree due to end of life				
5	No	**30.6**	0	Nil	0

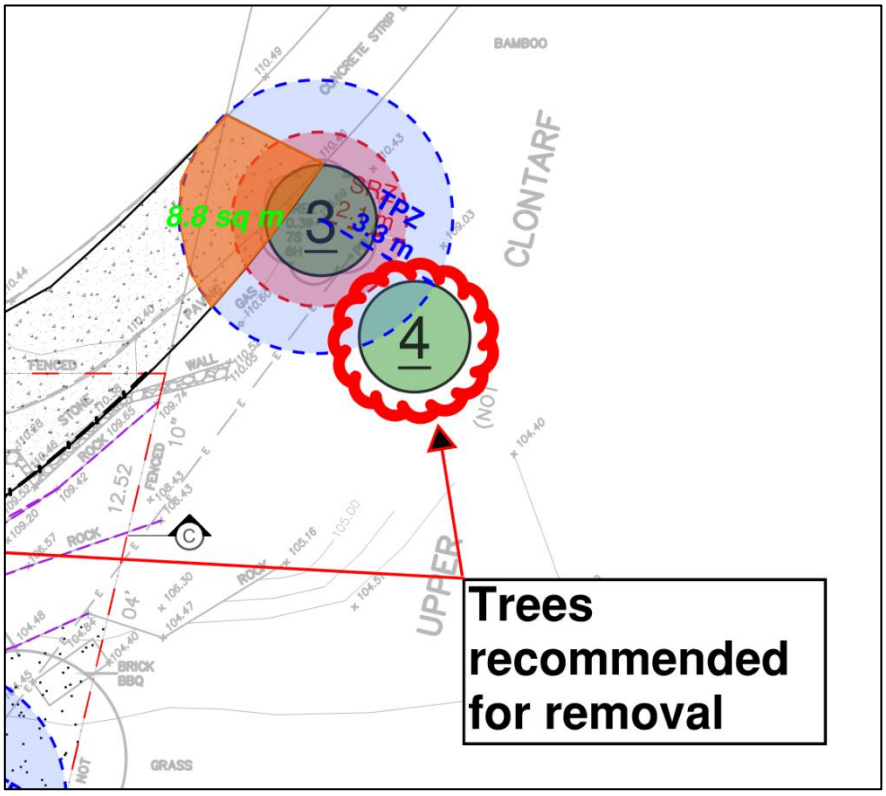
IMPACT DISCUSSION-

Tree # 1 has a calculated amount of impact of just under 10% (9.3 sq metres- see diagram below). This is due to the proposed new steps. This is an impact rating of low, but as the proposed steps jut into the SRZ, the impact rating becomes major. As long as the steps are placed on small posts/piers (with a fleixble post placement in case there is a root over 50mm in the position), this should be a low impact.



Tree # 3 has a moderate to high amount of encroachment into the TPZ/SRZ of 24% (8.8 sq m- see diagram below) due to the proposed ground floor alteration and addition (see diagram below).

This calculated impact is deemed to be a major encroachment. In this case as there is an existing driveway in place (which is being replaced in a similar layout to the existing), the calculated impact would be minimal. Recommendations are made to further lower any impact.



Trees # 2 and #4 are recommended for removal due to their poor form/ end of life.

Tree #5 will have no impact or encroachment due to the proposed works.

GENERAL RECOMMENDATIONS

Tree ID no.	Recommendations	Reasons
1	Tree to be retained and protected to the AS4970 with Tree protection fencing to be installed as per the Tree Protection Plan (Page 15) Arboricultural supervision will be required during any demolition/excavation/ ground works within the TPZ. Posts for the proposed stairs will need to be installed on a flexible post placement, under supervision by a project arborist. All excavation work within the calculated TPZ and SRZ must be undertaken by hand (manual shovel excavation)	Tree is in good overall condition and has a high landscape significance rating.
3	Tree to be retained and protected to the AS4970 with Tree protection fencing to be installed as per the Tree Protection Plan (Page 15) All demolition work and reforming/ pouring new concrete driveway within the calculated TPZ must be undertaken by hand/manual excavation, under direct supervision of a project arborist.	Tree is in good condition and home owners want to retain. Moderate to high impacts from proposed construction, can be easily lowered to negligible.
2 and 4	Both trees recommended for removal	Due to poor form (Tree #2), end of life (Tree #4).
5	Tree to be retained and protected to the AS4970 with Tree protection fencing to be installed as per the Tree Protection Plan (Page 15)	Tree is in good condition, no works planned near the trees.

CONCLUSION

Alterations and additions are proposed for the site at 129 Upper Clontarf Street Seaforth. The work includes a new driveway with a pool and surrounding deck and stairs.

There are 5 trees all located on or close to the site that have been recorded and inspected.

2 trees are recommended for removal due to poor form or heading towards the end of their life.

The other 3 trees have varying amounts of encroachment from the proposed works, with correct tree protection measures installed and extensive arboricultural supervision during demolition, excavation and construction, the 3 trees to be retained should see no loss of physical health and no loss of structural stability.

RECOMMENDATIONS AND TREE PROTECTION METHODS

Assigning a site arborist

Before work commences on site, a project arborist must be appointed. The project arborist must hold a minimum AQF5 level of qualification in Arboriculture. The project arborist will periodically attend the site to gather information needed for the issuing of certificates of compliance for the duration of the build.

Duties of the project arborist will include:

- Oversee the correct implementation of tree protection measures listed below
- Recording of tree health and vigour on a quarterly basis, if the trees are showing any form of decline in health then solutions will need to be sought to improve the health of the tree
- Be witness to any excavation works within the tree protection zones and advise upon the discovery of roots above 40mm in diameter.
- Numbering the trees and advising contractors which trees are to be protected.

Tree Protection

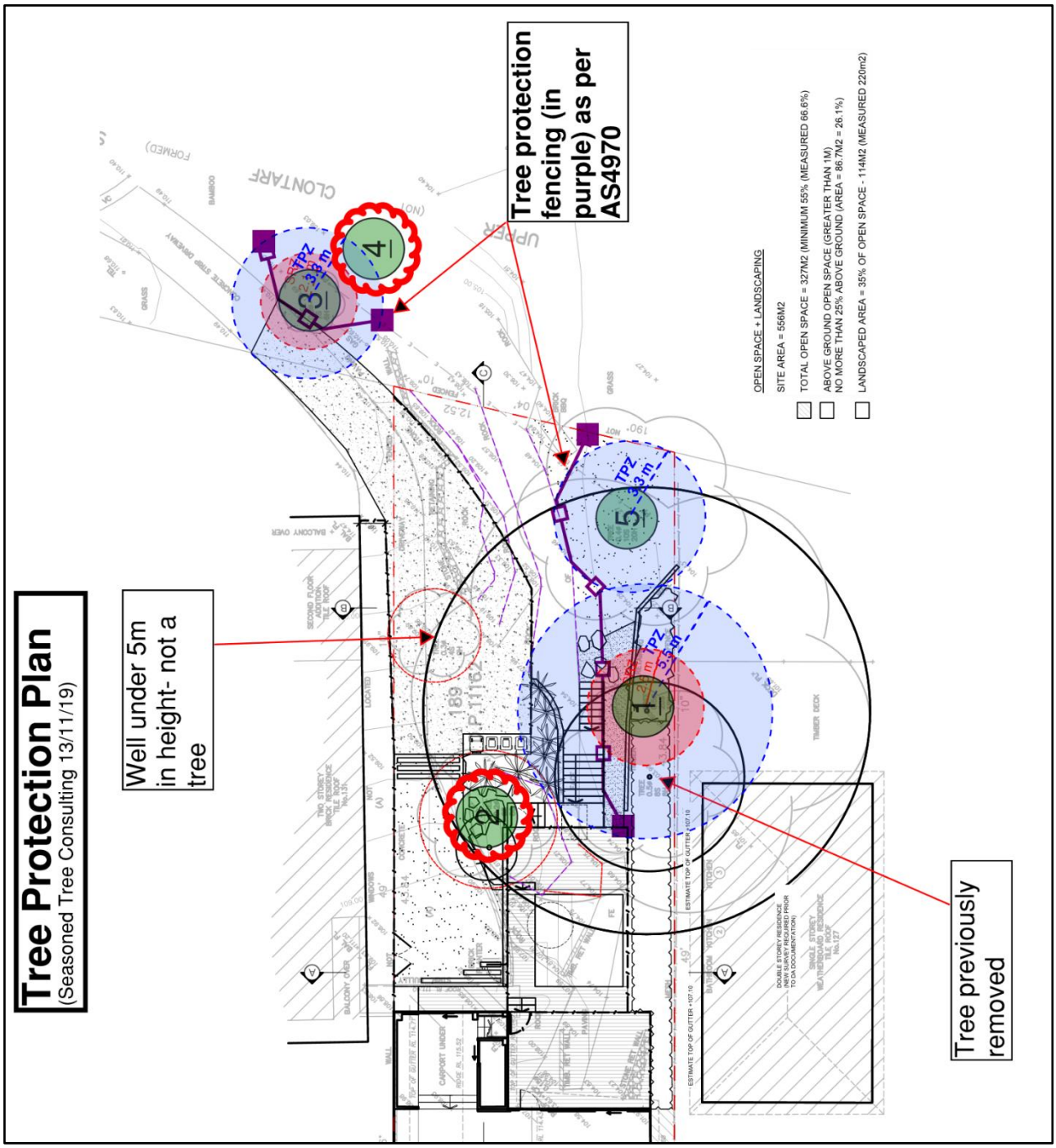
The 3 trees to be retained will require Tree protection measures, which include Tree protection fencing (See Tree Protection Plan Page 15)

Supervision of excavation works within the TPZ of Protected Trees-

Excavation and any work around protected trees must:

- Be done with hand tools only. No excavation around protected trees is to be undertaken with machinery to limit the chance of accidental damage to the tree.
- To minimise the disturbance of roots within the Protection Zones of trees it is advised that trees or shrubbery planted within their TPZ's come in a maximum pot size of 200mm.

TREE PROTECTION PLAN



MITIGATION MEASURES

General recommendation.

Tree protection devices

The tree protection devices are to be in accordance with the following:

a. AS4970 (Examples detailed in Appendix C)

b. Tree protection devices must be in place prior to any site works commencing, including clearing, demolition or grading.

c. The most appropriate fencing for tree protection is 1.8m chain-link with 50mm metal pole supports. During installation, care must be taken to avoid damage to significant roots. The practicality of providing this fencing on this site must be addressed by the arborist.

d. Any areas of the TPZ outside fenced protection areas must, where practicable, be covered in thick, coarse mulch to a depth of 100mm to reduce soil compaction and soil moisture losses.

e. Construction traffic areas (including foot traffic) within the TPZ are to be protected by wide timber planks over the mulch, or similar means of providing access whilst avoiding soil compaction.

f. Any tree roots (under 40mm) that must be severed must be cut cleanly with a sharp handsaw. Tearing of roots is not acceptable. If significant roots (ie greater than 40mm) are encountered, the level 5 arborist and City of Sydney Council is to be contacted.

g. The exposed soil at the face of an excavation within the TPZ radius of a tree must be kept moist to prevent drying out. This may be achieved by carefully pinning layers of hessian against the cut face and regular light watering as advised by the arborist.

h. Nothing should occur inside the TPZ, so therefore all access to personnel and machinery, storage of fuel, chemicals, cement or site sheds is prohibited.

i. No washing or rinsing of tools is to be carried out within eight metres of the trees.

j. Signage should explain exclusion from the area defined by TPZ and carry a contact name for access or advice.

k. The tree protection devices cannot be removed, altered, or relocated without the project arborist approval

LIMITATIONS

a. The trees and immediate environment were inspected from the ground only, using the methodology detailed in this report on the following page.

b. The findings of this report are based on the observations made at the time of inspection of Wednesday 6th November 2019.

c. The report reflects on the site as found on the day of inspection. Any changes to the growing environment of the site or remedial works beyond those recommended by this report may alter the findings of the report.

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

e. The recommendations proposed in this report are subject to approval by Northern Beaches Council.

Regards

David Gowenlock

Diploma of Arboriculture AQF5

Diploma of Conservation and Land Management AQF5

TRAQ (ISA – Tree Risk Assessment Qualification)

QTRA (Quantified Tree Risk Assessment System- User no. 5459)

AQF2 + AQF3 Arboriculture

Tree Safety Assessment and Evaluation Workshop- (Frank Rinn Nov 2018)

APPENDIX A - Tree Inspection Schedule

Tree Inspection Site: 129 Upper Clontarf Street Seaforth NSW 2092

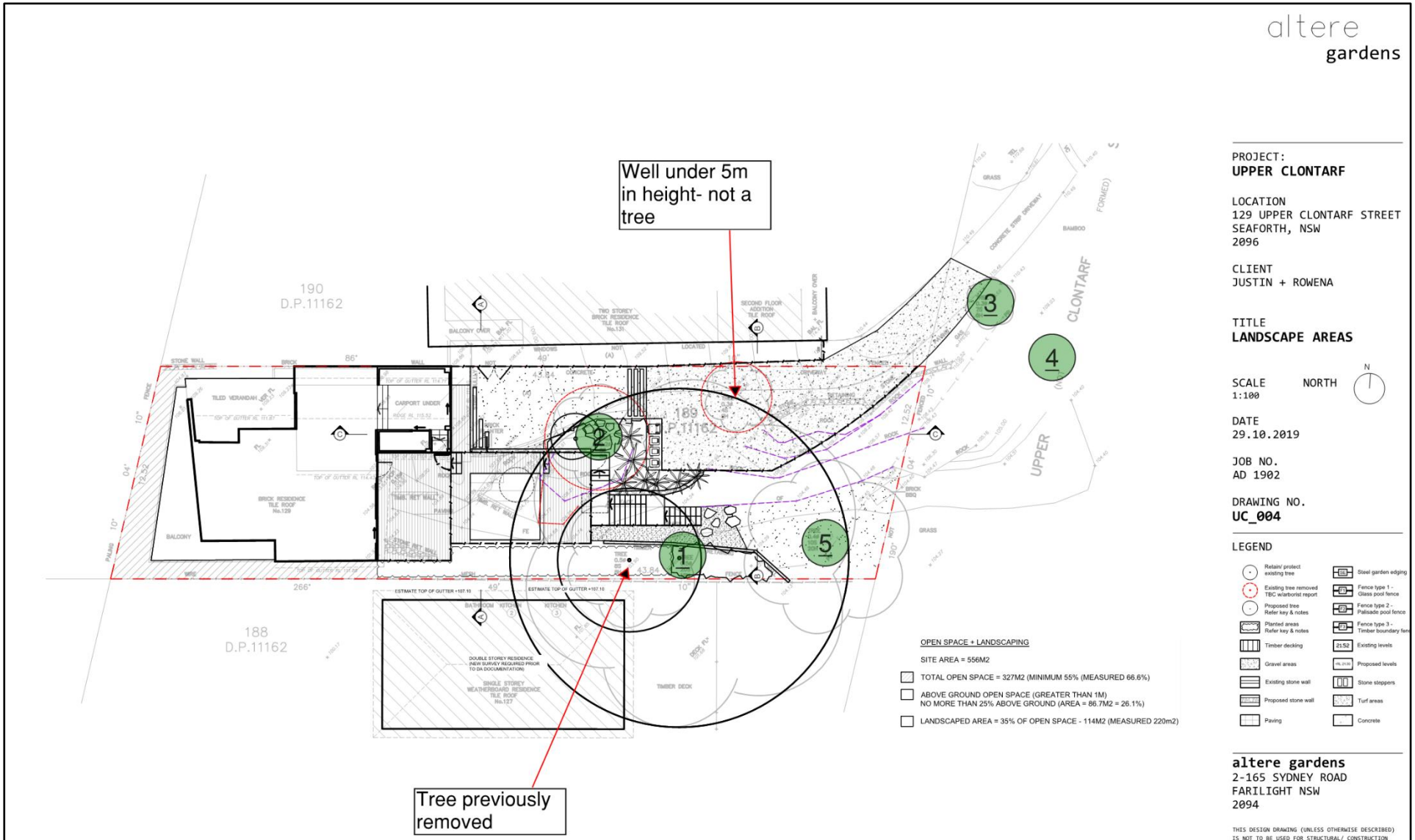
Surveyed by: David Gowenlock **Date of Inspection:** Wednesday 6th November 2019 **Tagged:** No

Tree ref no.	Species	Age Class	DBH (cm)	DARB (cm)	Height (m) x Canopy spread (m)	Vigour/ Physiological Condition	Structural Condition (See Appendix D)	Landscape Significance Value (See Appendix E)	Useful Life Expectancy (ULE) (See Appendix F)	Comments
1	*Angophora costata* Sydney Red Gum	Mature	46	53	15 x 14	Good	Good	High	Long	Good condition, minor deadwood through crown. Some soil build up surrounding base of tree trunk.
2	*Angophora costata* Sydney Red Gum	Semi-Mature	26	30	7 x 7	Good	Fair	Moderate	Short	Fair structural condition due to poor form of tree (has been suppressed its life by a previously removed tree) Remove and replant.
3	*Callistemon/Melaleuca spp.* Bottle Brush	Mature	28	34	8 x 5	Good	Good	High	Short	Good condition overall.
4	*Hakea spp.* Hakea	Mature	35	38	7 x 3	Fair	Fair	Low	Transient	End of life, remove and replant.
5	*Banksia integrifolia* Coast Banksia	Semi Mature	25	30	8 x 4	Good	Good	Moderate	Medium- 15-40 years	Good condition, well away from proposed works

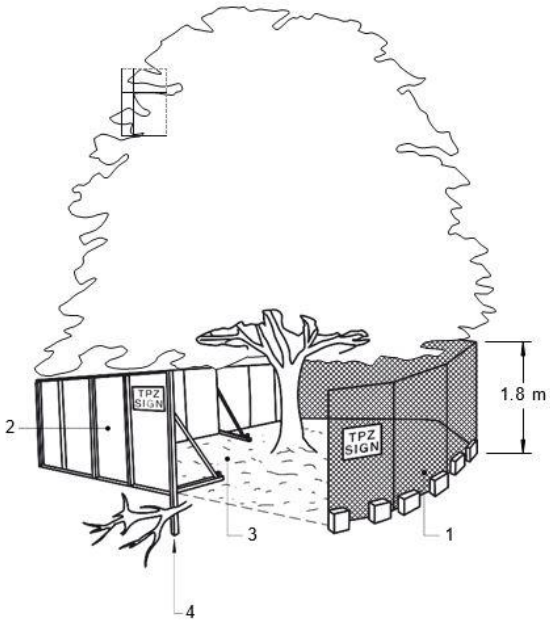
Tree inspection schedule continued- SRZ and TPZ calculations

Tree ref no.	Tree	Diameter @ breast height (cm)	TPZ Calculated radius	Diameter immediately above root flare (cm)	SRZ Calculated radius in metres = (Diameter x 50) to the power of 0.42 x 0.64	TPZ area calculated (square metres
1	*Angophora costata* Sydney Red Gum	46	5.52	53	2.5	95.7
2	*Angophora costata* Sydney Red Gum	26	3.12	30	2	30.6
3	*Callistemon/Melaleuca spp.* Bottle Brush	28	3.36	34	2.1	35.5
4	*Hakea spp.* Hakea	35	4.2	38	2.2	55.4
5	*Banksia integrifolia* Coast Banksia	28	3.36	30	2	30.6

APPENDIX B - Tree location Plan

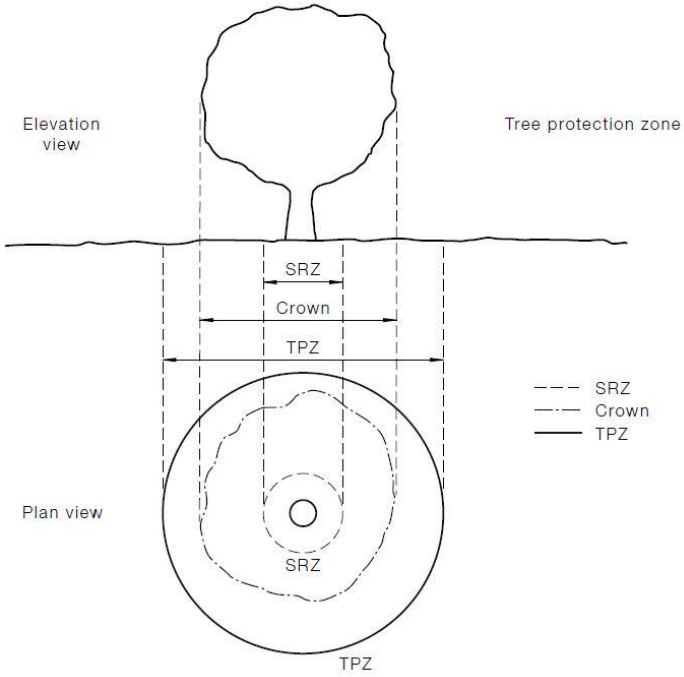


APPENDIX C - Tree Protection Information graphics



EGEND:

- Chain wire mesh panels with shade cloth (if required) attached, held in place with concrete feet.
- Alternative plywood or wooden paling fence panels. This fencing material also prevents building materials or soil entering the TPZ.
- Mulch installation across surface of TPZ (at the discretion of the project arborist). No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.
- Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.



APPENDIX D – Tree Condition Specifications

(Draper BD and Richards PA 2009)

Condition A tree's crown form and growth habit, as modified by its environment (aspect, suppression by other trees, soils), the stability and viability of the root plate, trunk and structural branches (first (1st) and possibly second (2nd) order branches), including structural defects such as wounds, cavities or hollows, crooked trunk or weak trunk/branch junctions and the effects of predation by pests and diseases. These may not be directly connected with vigour and it is possible for a tree to be of normal vigour but in poor condition. Condition can be categorized as *Good Condition, Fair Condition, Poor Condition and Dead.*

GOOD Condition Tree is of good habit, with crown form not severely restricted for space and light, physically free from the adverse effects of predation by pests and diseases, obvious instability or structural weaknesses, fungal, bacterial or insect infestation and is expected to continue to live in much the same condition as at the time of inspection provided conditions around it for its basic survival do not alter greatly. This may be independent from, or contributed to by vigour.

FAIR Condition Tree is of good habit or misshapen, a form not severely restricted for space and light, has some physical indication of decline due to the early effects of predation by pests and diseases, fungal, bacterial, or insect infestation, or has suffered physical injury to itself that may be contributing to instability or structural weaknesses, or is faltering due to the modification of the environment essential for its basic survival. Such a tree may recover with remedial works where appropriate, or without intervention may stabilise or improve over time, or in response to the implementation of beneficial changes to its local environment. This may be independent from, or contributed to by vigour.

POOR Condition Tree is of good habit or misshapen, a form that may be severely restricted for space and light, exhibits symptoms of advanced and irreversible decline such as fungal, or bacterial infestation, major die-back in the branch and foliage crown, structural deterioration from insect damage e.g. termite infestation, or storm damage or lightning strike, ring barking from borer activity in the trunk, root damage or instability of the tree, or damage from physical wounding impacts or abrasion, or from altered local environmental conditions and has been unable to adapt to such changes and may decline further to death regardless of remedial works or other modifications to the local environment that would normally be sufficient to provide for its basic survival if in good to fair condition. Deterioration physically, often characterised by a gradual and continuous reduction in vigour but may be independent of a change in vigour, but characterised by a proportionate increase in susceptibility to, and predation by pests and diseases against which the tree cannot be sustained. Such conditions may also be evident in trees of advanced senescence due to normal phenological processes, without modifications to the growing environment or physical damage having been inflicted upon the tree. This may be independent from, or contributed to by vigour.

APPENDIX E -Landscape Significance Rating

Rating	Heritage value	Ecological value	Amenity value
1. SIGNIFICANT	The subject site is listed as a Heritage Item under the Local Environment Plan (LEP) with a local, state or national level of significance or is listed as a Significant Tree.	The subject tree is scheduled as a Threatened Species as defined under the *Threatened Species Conservation Act 1995 (NSW)* or the *Environmental Protection and Biodiversity Conservation Act 1999.*	The subject tree has a very large live crown size exceeding 100m² with normal to dense foliage cover, is located in a visually prominent position in the landscape, exhibits very good form and habit typical of the species.
	The subject tree forms part of the curtilage of a Heritage Item (building /structure /artefact as defined under the LEP) and has important association with that item.	The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter or nesting tree for endangered or threatened fauna species.	The subject tree makes a significant contribution to the amenity and visual character of the area by creating a sense of place or creating a sense of identity.
	The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event.	The subject tree is a Remnant Tree, being a tree in existence prior to development of the area.	The tree is visually prominent in view from surrounding areas, being a landmark or visible from a considerable distance.
2. VERY HIGH	The tree has a strong historical association with a Heritage Item (building/structure/artefact/garden etc) within or adjacent the property and/or exemplifies a particular era or style of landscape design associated with the original development of the site.	The tree is a locally-indigenous species, representative of the original vegetation of the area and is a dominant or associated canopy species of an Endangered Ecological Community (EEC) formerly occurring in the area occupied by the site.	The subject tree has a very large live crown size exceeding 60m²; a crown density exceeding 70% (normal-dense), is a very good representative of the species in terms of its form and branching habit or is aesthetically distinctive and makes a positive contribution to the visual character and the amenity of the area.

Rating	Heritage value	Ecological value	Amenity value
3. HIGH	The tree has a suspected historical association with a heritage item or landscape supported by anecdotal or visual evidence.	The tree is a locally-indigenous species and representative of the original vegetation of the area and the tree is located within a defined Vegetation Link / Wildlife Corridor or has known wildlife habitat value.	The tree is a good representative of the species in terms of its form and branching habit with minor deviations from normal (e.g. crown distortion/suppression) with a crown density of at least 70% (normal); the subject tree is visible from the street and/or surrounding properties and makes a positive contribution to the visual character and the amenity of the area.
4. MODERATE	The tree has no known or suspected historical association, but does not detract or diminish the value of the item and is sympathetic to the original era of planting.	The subject tree is a non-local native or exotic species that is protected under the provisions of this Development Control Plan.	The subject tree has a medium live crown size exceeding 25m²; the tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc) with a crown density of more than 50% (thinning to normal); and
			The tree is visible from surrounding properties, but is not visually prominent – view may be partially obscured by other vegetation or built forms. The tree makes a fair contribution to the visual character and amenity of the area.
5. LOW	The subject tree detracts from heritage values or diminishes the value of a Heritage Item.	The subject tree is scheduled as exempt (not protected) under the provisions of this Development Control Plan due to its species, nuisance or position relative to buildings or other structures.	The subject tree has a small live crown size of less than 25m² and can be replaced within the short term (5-10 years) with new tree planting.
6. VERY LOW	The subject tree is causing damage to a Heritage Item.	The subject tree is listed as an Environment Weed Species in the Leichhardt Local Government Area, being invasive, or is a known nuisance species.	The subject tree is not visible from surrounding properties (visibility obscured) and makes a negligible contribution or has a negative impact on the amenity and visual character of the area. The tree is a poor representative of the species, showing significant deviations from the typical form and branching habit with a crown density of less than 50% (sparse).

APPENDIX F Useful Life Expectancy (ULE)

- USEFUL LIFE EXPECTANCY (ULE). The remaining Useful Life Expectancy of the tree is an estimate of the sustainability of the tree in the landscape, calculated based on an estimate of the average age of the species in an urban area, less its estimated current age. The life expectancy of the tree has been further modified where necessary in consideration of its current health and vigour, condition and suitability to the site. The estimated ULE of each tree is shown in Appendix A.

ULE Category	**Description**
Long	Greater than 40 years
Medium	Between 15 and 40 years
Short	Between 5 and 15 years
Transient	Less than 5 years
Dead or Hazardous	Dead or immediately hazardous

REFERENCES AND BIBLIOGRAPHY

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