Arborist Report

Project No: 11506.54

Location: 48 Brown Street
Newcastle East, NSW 2303

TERRAS LANDSCAPE ARCHITECTS
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Ref: 11506.54-TAR-001-A

Contents

REV	DESCRIPTION	DATE
A	CLIENT REVIEW	2018-02-02

1 Introduction

Terras Landscape Architects has been engaged to inspect 23 trees for the purpose of determining their health and vigour and to determine what impacts the construction of a new home base building may have with the aim of providing advice to assist in their retention.

2 Assessing Arborist

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3 Client

CLIENT:	EJE Architecture for the Department of Education
ADDRESS:	412 King Street, Newcastle, NSW, 2303
CONTACT NO.:	02 4929 2353

4 Methodology

The following methods have been employed in preparing this report:

- Visual Tree Inspection (VTA), (Mattheck & Breloer, 1994) was undertaken. All trees located on the site and adjoining property, were inspected and assessed from the ground. The visual tree inspection included all visible above ground parts of the tree including exposed roots, trunk, branches and foliage.
- Measurements were taken from diameter at breast height (DBH) to calculate the (TPZ) radius and diameter at basal flare (DABF) to calculate the structural root zone (SRZ) radius.
- An assessment of Useful Life Expectancy (ULE) (Barrell, 1993). ULE categories give an indication of the useful life expectancy of a tree. Several factors are taken into consideration in determining ULE ratings such as location, species, age, health and structure of the tree (Refer to Appendix 3)
- Retention value was determined tree AZ version 10.10-ANZ (Refer to Appendix 3 for an explanation of Tree AZ).

No below ground inspections or analyses were undertaken in the root zone.

No internal inspections or tissue analyses were undertaken on the subject trees.

No aerial inspections were undertaken.

5 Site

The site of the proposed development is Newcastle East Public School (NEPS), 48 Brown Street, The Hill, NSW, 2300.

The project area consists of a covered concrete play area within the grounds of the school. This area is surrounded by a number of mature trees which have the potential to be impacted by the proposed works. These trees have been included in this assessment.

FIGURE 1: AERIAL IMAGE OF 48 BROWN STREET, THE HILL, NSW, 2300. (SOURCE: NEARMAPS USED UNDER LICENCE –2018-02-23).

6 Proposal

It is proposed to demolish a covered play area to then construct a raised level common space and additional class rooms with a new covered play area to be re-established beneath. Construction works will include a new playing surface for the covered area, new concrete pathways, sandstone retaining, landscaping and turf installation.

FIGURE 2: ARTIST'S IMPRESSION (FROM DA APPLICATION, EJE ARCHITECTURE, 2017)

7 Tree Inspection

A total of 23 trees located in the vicinity of the proposed development were assessed on 19 February, 2017.

Trees 19-23 were not included in original survey as supplied to Terras. These trees have, therefore, been located using measurements taken on site by Terras.

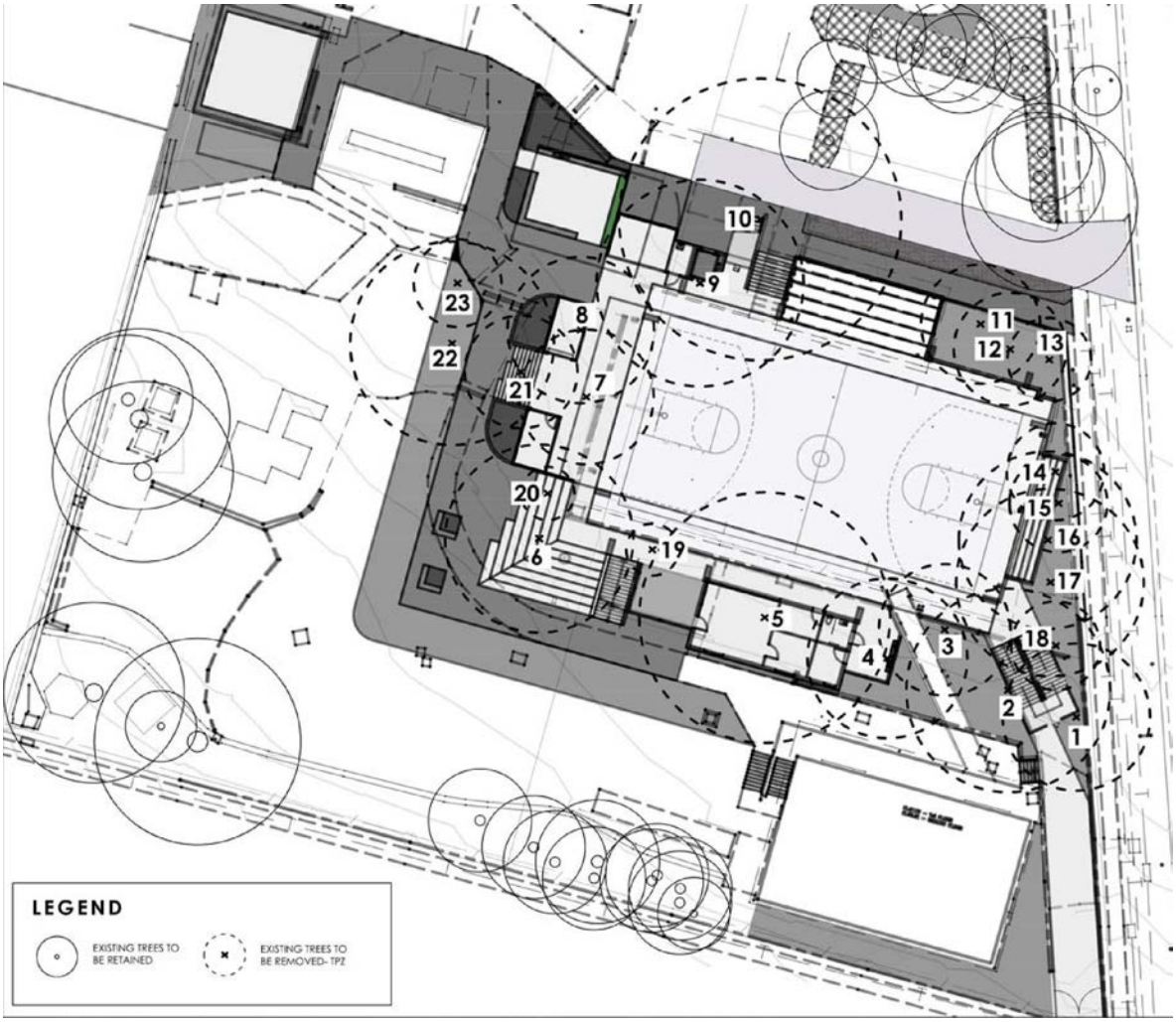

FIGURE 3: PROPOSED DEVELOPMENT AND ASSESSED TREES 1-23 (TPZ PLAN: TERRAS, 2018).

Trees 1-23 are species of *Eucalyptus, Melaleuca, Banksia, Araucaria* and *Casuarina*. These trees are 150 mm in diameter or greater and have semi mature to mature age classes with various conditions, structures and useful life expectancies.

Appendix 1 contains a summary of measurements and observations taken on site including a calculation of the Tree Protection Zones (TPZs) and Structural Root Zones (SRZs).

The following pages are an individual assessment of each of the 23 trees.

Tree 1: *Melaleuca quinquenervia* [Broad-leaved Paperbark] is a mature tree growing on a sloping gradient in close proximity to a cinder block wall. This tree has a well tapered trunk which supports a co-dominant branch structure.

The top soil zone around the base of the tree has been eroded exposing large buttressing surface roots. There are no visible signs of these surface roots affecting the block wall.

RECOMMENDATION (IF RETAINED): Applying mulch around the root zone would benefit the tree by improving vigour and health also protecting the exposed surface roots from damage.

FIGURE 4: TREE 1 WITH CO-DOMINANT CANOPY STRUCTURE AND EXPOSED ANCHOR ROOTS.

Tree 2: *Eucalyptus botryoides* [Bangalay] is a mature tree with co-dominant structure. The trunk bi-furcates at 1.5 meteres into two, reasonably tapered first order branch structures.

Second order branches within the upper canopy display signs of minor recession with interior epicormic growth and deadwood <30mm in diameter.

RECOMMENDATION (IF RETAINED): This tree would benefit from regulated irrigation, minor branch end weight reduction, dead wooding and detailing. Large deadwood overhanging the seating area should be removed.

FIGURE 5: TREE 2 WITH LARGE DEADWOOD OVER HANGING SEATING AREA.

Tree 3: *Eucalyptus paniculata* [Grey Ironbark] is a mature tree with a singular, tapered trunk which supports an asymmetric canopy structure. The upper canopy has first order branches with minor elongation. Second order branches have reasonable taper and minor deadwood <30 mm.

Previous pruning works have been undertaken to remove large branch scaffolds towards the covered play area. Collar cuts which remain from pruning works are occluded by callused wound wood.

RECOMMENDATION (IF RETAINED): This tree would benefit from canopy works to reduce asymmetry with minor branch end weight reduction and dead wood removal over the classroom walkway.

FIGURE 6: TREE 3 WITH AN ASYMMETRIC UPPER CANOPY STRUCTURE INDICATED IN RED.

Tree 4: *Eucalyptus botryoides* [Bangalay] is a mature tree with a singular tapered trunk which supports a bi-furcated upper canopy structure.

First and second order branch structures are slightly elongated with selected branches having local wound areas, minor torsion cracks and deadwood <30 mm.

RECOMMENDATION (IF RETAINED): Branch end weight reduction, deadwood removal and selective target pruning would reduce the likelihood of branch failures.

FIGURE 7: TREE 4 WITH A BI-FURCATED CANOPY STRUCTURE.

Tree 5: *Eucalyptus botryoides* [Bangalay] is a mature tree with a singular trunk which extends to support an open co-dominant canopy structure.

This tree has large over extended first order branch scaffolds. Recent branch failures have occurred as the result.

An over extended second order branch has a poor attachment point above a decayed hollow area pictured in Figure 9.

RECOMMENDATION (IF RETAINED): Branch end weight reduction, deadwood removal and selective target pruning would reduce the likelihood of further branch failures.

FIGURE 8: TREE 5 WITH RECENT BRANCH FAILURES INDICATED IN YELLOW.

FIGURE 9: TREE 5 WITH AN ELONGATED SECOND ORDER BRANCH EXTENDING ABOVE A DECAYED HOLLOW AREA.

Tree 6: *Eucalyptus botryoides* [Bangalay] is a mature tree with a large trunk diameter which supports elongated, over extended first order branch structures within the upper canopy.

The previous failure of a large terminal leader has left second order branch structures exposed to a decayed wound area as the result.

RECOMMENDATION: Second order branch structures with poor attachment points adjacent to the wound area displayed in Figure 10 should be removed. This tree would benefit from branch end weight reduction, removal of dead wood and canopy sail area reduction to reduce the likelihood of further branch failures.

FIGURE 10: TREE 6 WITH A WOUND AREA RESULTING FROM BRANCH FAILURE.

Tree 7: *Eucalyptus paniculata* [Grey Iron Bark] is a mature tree with an open union at 1.6 metres which then bi-furcates into semi-elongated, co-dominant first order branch structures.

An abnormal canopy profile has resulted from suppression of adjacent trees. Second order branches are elongated with deadwood <30mm.

RECOMMENDATION (IF RETAINED): This tree would benefit from the corrective pruning of elongated branch scaffolds, branch end weight reduction and the removal of deadwood.

FIGURE 11: TREE 7 WITH CO-DOMINANT STRUCTURE AND CANOPY MASS OVER COVERED PLAY AREA.

Tree 8: *Casuarina glauca* [Swamp She-oak] is mature tree with a multi-stemmed upper trunk and an asymmetric canopy structure.

Second order branches towards the demountable classroom have been poorly pruned leaving long branch stubs as the result.

RECOMMENDATION (IF RETAINED): The sealed pathway beneath the canopy has broken away leaving exposed roots and a raised undulated surface. Make pavement safe by patching over roots. Refer to Figure 13

FIGURE 12: TREE 8 WITH A MULTI-STEMMED ASYMMETRIC CANOPY.

FIGURE 13: TREE 8, EXPOSED ROOTS AND BROKEN PATHWAY SURFACE.

Tree 9: *Casuarina cunninghamiana* [River She-oak] is a large mature tree with a co-dominant trunk which supports a multi-stemmed upper canopy structure.

Second order branch structures have reasonable taper. Minor branch failures have occurred previously leaving long branch stubs as a result.

RECOMMENDATION: Branch end weight reduction, deadwood removal and selective target pruning would reduce the likelihood of future branch failures.

FIGURE 14: TREE 9 WITH A CO-DOMINANT TO MULTI-STEMMED CANOPY STRUCTURE

Tree 10: *Casuarina cunninghamiana* [River She-oak] is a large mature tree with a low bi-furcated co-dominant trunk structure.

The upper canopy structure is multi-stemmed with large lateral second order branches which extend outwards over the pathway beneath.

Tree 10 and Tree 9 both have similar characteristics which could indicate their similar age classes and planting periods.

FIGURE 15: TREE 10 WITH A LOW BRANCHING CO-DOMINANT STRUCTURE.

Tree 11: *Eucalyptus botryoides* [Bangalay] is a semi-mature tree with a singular trunk which supports a co-dominant second order branch structure.

Low first order branch scaffolds are well tapered with the presents of juvenile foliage.

This tree is located in a position which could promote future growth and requires minimal maintenance at this stage.

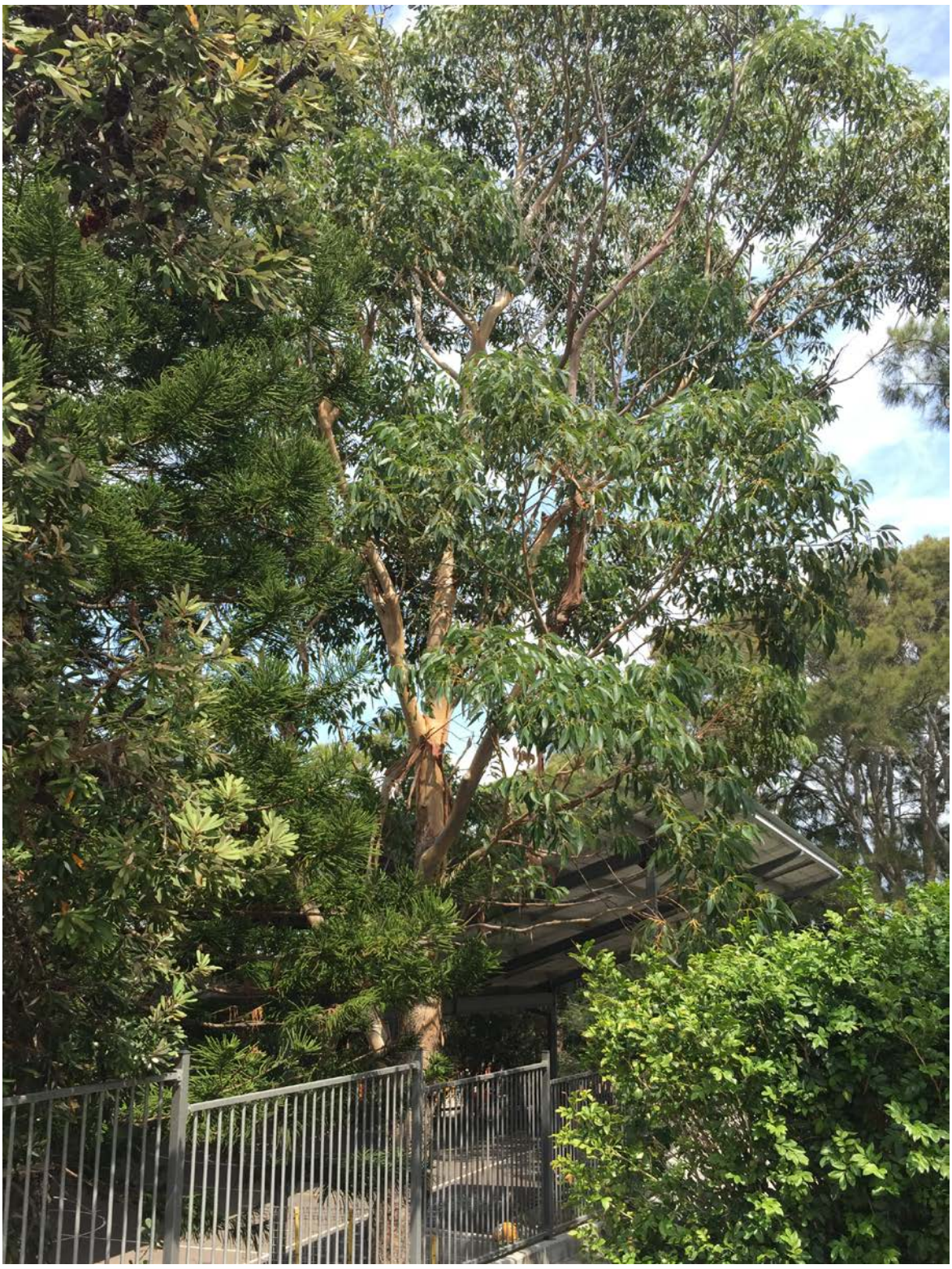

FIGURE 16: TREE 11 LOCATED NEAR COVERED PLAY AREA AND MAIN ENTRY PATH WAY ON BROWN STREET.

Tree 12: *Araucaria heterophylla* [Norfolk Island Pine] is a semi-mature single stemmed pine with a slight lean at the base of the tree which could indicate a completion for light and space within the earlier stages of growth development.

This tree is located in a position which could promote future growth and requires minimal maintenance at this stage.

FIGURE 17: TREE 12 NORFOLK ISLAND PINE NEAR THE BROWN STREET ENTRANCE.

Tree 13: *Banskia integrifolia* [Coastal Banksia] is a mature tree which has a severe lean towards Brown Street and an asymmetric upper canopy structure.

RECOMMENDATION (IF RETAINED): This tree would benefit from canopy reduction and thinning of banksia cones to reduce dispersal onto the footpath.

FIGURE 18: TREE 13 WITH ASYMMETRY OVER THE FOOTPATH ON BROWN STREET

Tree 14: *Melaleuca quinquenervia* [Broad-leaved Paperbark] is a mature tree with a co-dominant branch structure.

Previous works have been undertaken to clear first and second order branches from the gutter line of the covered play area.

Poor pruning techniques have triggered the regrowth of multiple epicormic shoots with poor attachments. A large first order branch stub remains as a result.

The second co-dominant stem extends over the public footpath which services the Brown Street entry to the school.

FIGURE 19: TREE 14 WITH LOPPED CO-DOMINANT STEM AND EPICORMIC REGROWTH INDICATED IN YELLOW.

Tree 15: *Melaleuca quinquenervia* [Broad-leaved Paperbark] is a mature tree which has been previously lopped below gutter height.

The remaining epicormic regrowth is structurally unsound as a result of lopping.

RECOMMENDATION (IF RETAINED): Corrective pruning is unachievable and therefore this tree will require removal.

FIGURE 20: TREE 15 WITH LOPPED REGROWTH BELOW GUTTER HEIGHT INDICATED IN YELLOW.

Tree 16: *Melaleuca quinquenervia* [Broad-leaved Paperbark] is a mature tree with poor trunk taper and severe asymmetry over the public footpath which services the Brown Street and the entry to the school.

RECOMMENDATION (IF RETAINED): Corrective pruning to reduce asymmetry is unachievable and will exceed the allowable annual pruning percentage therefore this tree will require removal.

FIGURE 21: TREE 16 WITH MAJOR ASYMMETRY TOWARDS BROWN STREET (RED ARROW).

Tree 17: *Eucalyptus botryoides* [Bangalay] is a mature tree with minor asymmetry and over extended first order branch scaffolds towards Brown Street.

Previous works has left a lopped branch scaffold with epicormic regrowth bellow gutter height simular to trees 14 and 15.

This tree has a callused, torsion crack wound area (RED ARROW) which indicates a longitudinal internal stress fracture along an over-extended first order branch scaffold.

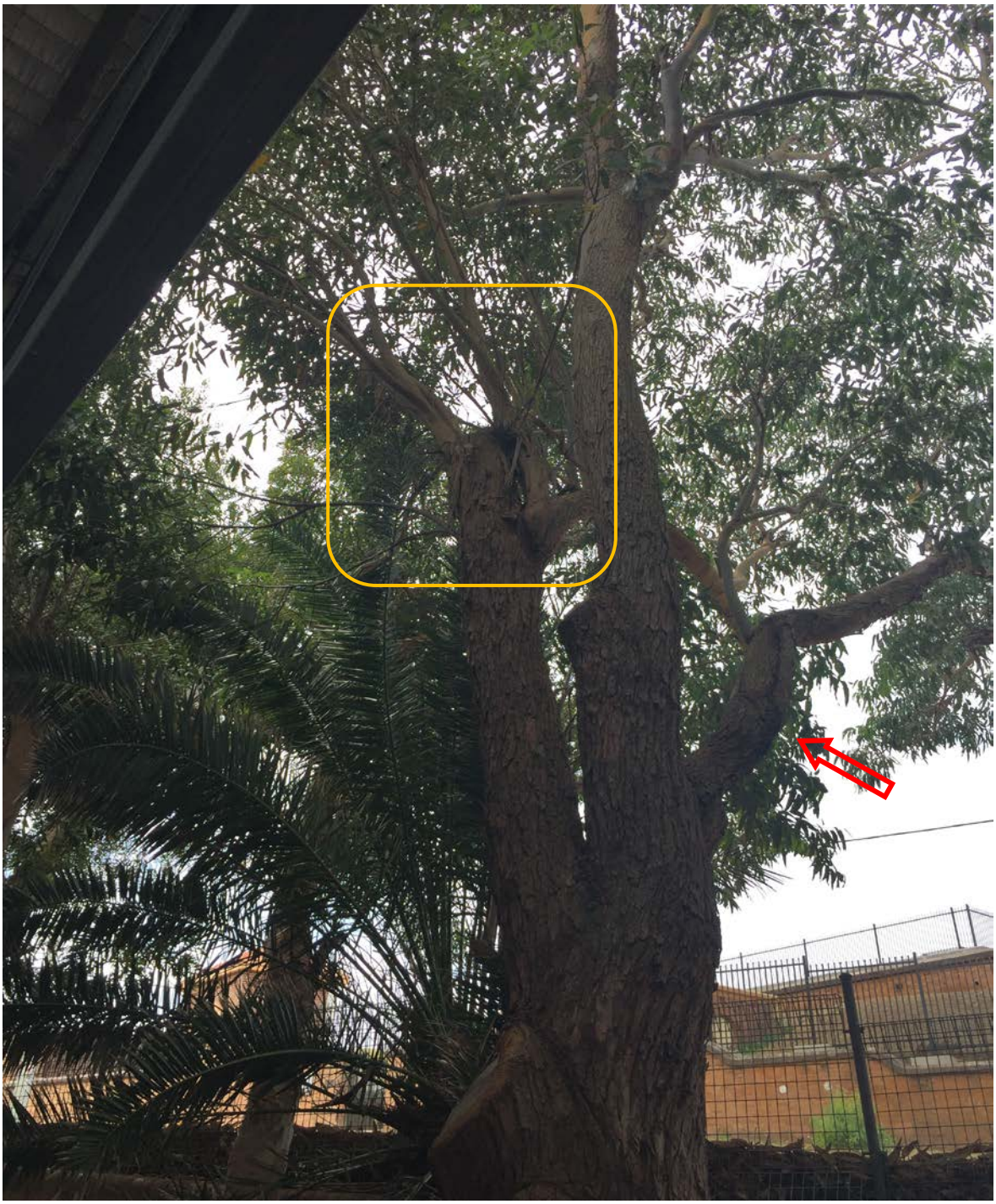

FIGURE 22: TREE 17 WITH A TORSION CRACK AND LOPPED LIMB REGROWTH INDIACTED IN YELLOW.

Tree 18: *Eucalyptus botryoides* [Bangalay] is a mature tree with over extended first order branch scaffolds overhanging the footpath of Brown Street.

The combination of a wound area and an over extended branch scaffold has resulted in longitudinal torsion cracking and dormant bud release. Refer to Figure 23.

A large first order branch towards the covered play area has been previously removed back to the stem bark ridge. An inaccurate finish cut has resulted in a partial wound occlusion. Refer to Figure 24

FIGURE 23: WOUND AREA AND DORMANT BUD RELEASE FROM LONGITUDINAL TORSION CRACKING INDICATED IN YELLOW.

FIGURE 24: TREE 18 WITH STEM BARK RIDGE PRUNING FINISH CUT WITH A PARTIAL OCCLUSION.

Tree 19: *Casuarina glauca* [Swamp She-oak] is a semi mature tree which is assumed to be propagation from seed dispersal.

FIGURE 25: SEMI- MATURE SWAMP SHE-OAK

Tree 20: *Banksia integrifolia* [Coastal Banksia] is a semi mature tree with a suppressed sparse canopy structure.

This tree is subject to wasp gall causing distortion in juvenile flower cones of certain Banksia species.

FIGURE 26: TREE 20 WITH A SUPPRESSED CANOPY STRUCTURE

Tree 21: *Eucalyptus botryoides* [Bangalay] is a semi-mature tree with a poor trunk taper and a sparse upper canopy structure.

A previous strong wind event has caused root plate heave resulting in large lifted surface roots.

RECOMMENDATION (IF RETAINED):: This tree cannot be retained and therefore will require removal.

FIGURE 27: TREE 21 WITH LARGE EXPOSED SURFACE ROOTS RESULTING FROM ROOT PLATE HEAVE.

Tree 22: *Casuarina glauca* [Swamp She-oak] is a mature tree with a low branching co-dominant stems which support an upper multi-stemmed second order branch structure.

Surface roots have been exposed from soil erosion and foot traffic.

RECOMMENDATION (IF RETAINED):: Applying mulch around the root zone would benefit the tree by improving vigour and health also protecting the exposed surface roots from damage.

FIGURE 28: TREE 22 WITH EXPOSED SURFACE ROOTS.

Tree 23: *Casuarina glauca* [Swamp She-oak] is a semi-mature, co-dominant tree with a multi-stemmed canopy structure.

RECOMMENDATION (IF RETAINED):: Applying mulch around the root zone would benefit the tree by improving vigour and health, also protecting the surface roots from foot traffic.

FIGURE 29: TREE 23 SEMI-MATURE WITH A CO-DOMINANT STRUCTURE (REDARROW)

8 Tree Retention Values

A visual tree assessment was undertaken to determine tree retention values in accordance with the NCC Urban Forest Technical Manual, April, 2015.

TREE RETENTION VALUES [IN ACCORDANCE WITH THE *NCC URBAN FOREST TECHNICAL MANUAL*]				
TREE NO.	SPECIES	SUSTAINABILITY PERIOD (YEARS)	LANDSCAPE SIGNIFICANCE RATING	RETENTION VALUE
01	*Melaleuca quinquenervia*	15-40	4	Moderate
02	*Eucalyptus botryoides*	15-40	4	Moderate
03	*Eucalyptus paniculata*	15-40	4	Moderate
04	*Eucalyptus botryoides*	15-40	4	Moderate
05	*Eucalyptus botryoides*	15-40	4	Moderate
06	*Eucalyptus botryoides*	15-40	4	Moderate
07	*Eucalyptus paniculata*	15-40	4	Moderate
08	*Casuarina glauca*	15-40	4	Moderate
09	*Casuarina cunninghamiana*	15-40	4	Moderate
10	*Casuarina cunninghamiana*	15-40	4	Moderate
11	*Eucalyptus botryoides*	15-40	4	Moderate
12	*Araucaria heterophylla*	15-40	4	Moderate
13	*Banskia integrifolia*	15-40	4	Moderate
14	*Melaleuca quinquenervia*	15-40	4	Moderate
15	*Melaleuca quinquenervia*	>5	5	Low
16	*Melaleuca quinquenervia*	15-40	4	Moderate
17	*Eucalyptus botryoides*	15-40	4	Moderate
18	*Eucalyptus botryoides*	15-40	4	Moderate
19	*Casuarina glauca*	15-40	4	Moderate
20	*Banksia integrifolia*	15-40	4	Moderate
21	*Eucalyptus botryoides*	>5	5	Low
22	*Casuarina glauca*	15-40	4	Moderate
23	*Casuarina glauca*	15-40	4	Moderate

TABLE 1: TREE SPECIES AND THEIR RETENTION VALUES.

9 Proposal & Impact Assessment

The proposed development work includes the demolition of an existing covered play area and surrounding infrastructure.

New works will include the extension of the existing area, construction of a raised level common space and additional class rooms with a new covered play area. Trenching and earthworks will be required to allocate services and utilities for the proposed building.

Additional works are to include the construction of concrete pathways, sandstone retaining, landscaping and turf installation.

Trees 1-23 will require removal as they will be adversely affected by the proposal with significant TPZ and SRZ incursions from construction works.

10 Recommendations

- Remove trees 1-23 which will have significant impacts from the proposed demolition and construction works.
- Ensure all tree removal/pruning work is carried out by or supervised by a qualified tree worker (AQF Level 3 or equivalent) in accordance with the NSW WorkCover Code of Practice for the Amenity Tree Industry, 1998 and AS 4373 Pruning of amenity trees. (March 2007).
- Ensure all tree works are carried out in accordance with the *NCC Urban forest Technical Manual*.
- Reuse processed felled material as organic mulch throughout the school as directed by the site supervisor.

11 References

Barrell Tree Consultancy	*Tree AZ,* version 10.10-ANZ (2010)
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Matheny, N. & Clark, J.R.	*Trees and Development (A Technical Guide to Preservation of Trees During Land Development),* ISA, Illinois, 1998
NSW Rural Fire Service.	*10/50 Vegetation Clearing Code Of Practice*, 2015, Lidcombe, NSW.
Robinson , L.	*Field Guide To Native Plants Of Sydney,* Revised 3rd Edition 2003
Standards Australia	*Australian Standard: AS 4970 Protection of trees on development sites*. (August 2009)
Standards Australia	*Australian Standard< AS 4373 Pruning of amenity trees*. (March 2007)

Appendix 1 - Tree Assessment Summary

TREE ASSESSMENT SUMMARY

No	BOTANICAL NAME	COMMON NAME	AGE CLASS	HEIGHT [M]	DBH[1] [MM]	TPZ [M]	DAB[2] [MM]	SRZ [M]	ULE	TREE AZ	STRUCT	HEALTH	COMMENTS
01.	*Melaleuca quinquenervia*	Broad-leaved Paper Bark	M	10	470	5.64	560	2.59	1A	A1	Av	Av	Requires mulch over root zone out to dripline
02.	*Eucalyptus botryoides*	Bangalay	M	11	330 320	7.80	510	2.49	1A	A2	F	F	Bifurcated, Deadwood <30mm
03.	*Eucalyptus paniculata*	Grey Iron Bark	M	13	420	5.04	430	2.32	1A	A1	Av	Av	Minor asymmetry, Tagged as #4
04.	*Eucalyptus botryoides*	Bangalay	M	12	510	6.12	520	2.51	1A	A1	Av	Av	Deadwood <30mm
05.	*Eucalyptus botryoides*	Bangalay	M	15	800	9.60	900	3.17	2A	A2	F	F	Hanging failed limbs, poor attachments
06.	*Eucalyptus botryoides*	Bangalay	M	15	600	7.20	670	2.80	1A	A2	Av	Av	Encroaching collar roof
07.	*Eucalyptus paniculata*	Grey Iron Bark	M	12	430	5.16	460	2.39	1A	A1	Av	Av	Encroaching collar roof
08.	*Casuarina glauca*	Swamp She-oak	M	13	430	5.16	520	2.51	1A	A2	Av	Av	Tagged as #20
09.	*Casuarina cunninghamiana*	River She-oak	M	13	660	7.92	700	2.85	1A	A1	Av	Av	Requires mulch over root zone out to dripline
10.	*Casuarina cunninghamiana*	River She-oak	M	13	530 370	10.8	800	3.01	1A	A2	Av	Av	Multi-stemmed, Requires mulch over root zone out to dripline
11.	*Eucalyptus botryoides*	Bangalay	M	11	380	4.56	420	2.30	1A	A1	Av	Av	Tagged as #1
12.	*Araucaria heterophylla*	Norfolk Island Pine	M	13	360	4.32	430	2.32	1A	A1	Av	Av	No tag
13.	*Banskia integrifolia*	Coastal Banksia	M	6	270	3.24	330	2.08	1A	A2	F	Av	Major asymmetry towards Brown Street
14.	*Melaleuca quinquenervia*	Broad-leaved Paper Bark	M	8	310	3.72	400	2.25	1A	A2	F	AV	Prune lopped branch with epicormic regrowth
15.	*Melaleuca quinquenervia*	Broad-leaved Paper Bark	M	8	240	2.88	320	2.05	4D	Z5	P	P	Remove tree with epicormic regrowth
16.	*Melaleuca quinquenervia*	Broad-leaved Paper Bark	M	7	280	3.36	320	2.05	1A	A2	F	Av	Asymmetry towards Brown street
17.	*Eucalyptus botryoides*	Bangalay	M	14	700	8.40	720	2.88	1A	A2	F	Av	Torsion crack wound area, lopped branch with epicormic regrowth, Tagged as #8
18.	*Eucalyptus botryoides*	Bangalay	M	13	600	7.20	530	6.36	1A	A2	F	F	Remove limbs with poor regrowth attachments, Tagged as #9
19.	*Casuarina glauca*	Swamp She-oak	SM	10	160	2.00	210	1.72	1A	A1	Av	Av	Propagation from seed dispersal, Not in survey.
20.	*Banksia integrifolia*	Coastal Banksia	SM	5	170	2.04	170	1.57	1A	A2	F	Av	Not in survey
21.	*Eucalyptus botryoides*	Bangalay	SM	10	240	2.88	300	2.00	4C	Z5	P	F	Root plate heave form strong wind event
22.	*Casuarina glauca*	Swamp She-oak	M	12	350/300	7.80	610	2.77	1A	A2	F	F	Multi-stemmed, requires mulched root zone
23.	*Casuarina glauca*	Swamp She-oak	SM	6	150/130	3.36	300	2.00	1A	A1	Av	Av	Multi-stemmed, requires mulched root zone

1. MULTI TRUNKED TREES HAVE AN AVERAGE MEASUREMENT CALCULATED IN ACCORDANCE WITH AS 4970.

2. DAB = DIAMETER ABOVE BUTTRESS USED WHEN CALCULATING SRZ

LEGEND

AGE CLASS	**Y**	**YOUNG** SAPLING/HAS NOT REACHED 1ST ADULT FORM	**SM**	**SEMI-MATURE** DBH < 300mm/APPROACHING FULL HEIGHT	**M**	**MATURE** DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	**OM**	**OVER-MATURE/SENESCENT** LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	**P**	**POOR** NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	**F**	**FAIR** STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	**Av**	**AVERAGE** SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	**Ex**	**EXCELLENT** SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	**P**	**POOR** SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	**F**	**FAIR** SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	**Av**	**AVERAGE** LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	**Ex**	**EXCELLENT** NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION	**TREES TO BE RETAINED**			**TREES TO BE REMOVED**			**THREATENED TREE**	

Appendix 2 – ULE Classifications

ULE CLASSIFICATIONS	
1	LONG ULE : GREATER THAN 40 YEARS [>40] TREES THAT APPEAR TO BE RETAINABLE WITH AN ACCEPTABLE LEVEL OF RISK FOR MORE THAN 40 YEARS
A	Structurally sound trees located in positions that can accommodate future growth.
B	Storm damaged or defective trees that could be made suitable for retention by remedial tree surgery.
C	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.
2	MEDIUM ULE : MORE THAN 15 YEARS, LESS THAN 40 YEARS [15 - 40] TREES THAT APPEAR TO BE RETAINABLE WITH AN ACCEPTABLE LEVEL OF RISK FOR 15 TO 40 YEARS
A	Trees that may only live between 15 and 40 more years
B	Trees that may live for more than 40 years but would be removed to allow the safe development of more suitable individuals
C	Trees that may live for more than 40 years but would be removed during the course of normal management for safety or nuisance reasons
D	Storm damaged or defective trees that can be made suitable for retention by remedial work
3	SHORT ULE : MORE THAN 5 YEARS, LESS THAN 15 YEARS [5 -15] TREES THAT APPEAR TO BE RETAINABLE WITH AN ACCEPTABLE LEVEL OF RISK FOR 5 TO 15 YEARS
A	Trees that may only live between 5 and 15 more years
B	Trees that may live for more than 15 years but would be removed to allow the safe development of more suitable individuals
C	Trees that may live for more than 15 years but would be removed during the course of normal management for safety or nuisance reasons
D	Storm damaged or defective trees that require substantial remedial work to make safe, and are only suitable for retention in the short term
4	REMOVE : LESS THAN 5 YEARS [<5] TREES WITH A HIGH LEVEL OF RISK THAT WOULD NEED REMOVING WITHIN THE NEXT 5 YEARS
A	Dead trees
B	Dying or suppressed and declining trees through disease or inhospitable conditions
C	Dangerous trees through instability or recent loss of adjacent trees
D	Dangerous trees through structural defects, including cavities, decay, included bark, wounds or poor form
E	Damaged trees that are considered unsafe to retain
F	Trees that will become dangerous after removal of others for the reasons given in A to E

REFERENCE: LINK TREE SYSTEM LTD. JEREMY BARRELL, ARBORICULTURAL JOURNAL 1993, VOL. 17PP. 33-46, 01/03/98

Appendix 3 – Tree A-Z Categories

TREE A-Z CATEGORIES	
CATEGORY Z: UNIMPORTANT TREES NOT WORTHY OF BEING A MATERIAL CONSTRAINT	
Local policy exemptions: Trees that are unsuitable for legal protection for local policy reasons including size, proximity and species.	
Z1	Young or insignificant small trees, i.e. below the local size threshold for legal protection.
Z2	Too close to a building i.e. exempt from legal protection because of proximity.
Z3	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.
High risk of death or failure: Trees that are likely to be removed within 10 years because of acute health issues or severe structural failure	
Z4	Dead, dying, diseased or declining
Z5	Severe damage and/or structural defects where a high risk of failure **cannot** be satisfactorily reduced by reasonable remediation care, i.e. cavities, decay, included bark, wounds, excessive imbalance, overgrown and vulnerable to adverse weather conditions.
Z6	Instability, i.e. poor anchorage and/or increased exposure.
Excessive nuisance: Trees that are likely to be removed within 10 years because of unacceptable impact on people	
Z7	Excessive, severe and intolerable inconvenience to the extent that a locally recognised court or tribunal would be likely to authorise removal, i.e. dominance, debris and/or interference.
Z8	Excessive, severe and intolerable damage to property to the extent that a locally recognised court or tribunal would be likely to authorise removal, i.e. severe structural damage to surfacing and buildings.
Good management: Trees that are likely to be removed within 10 years through responsible management of the tree population	
Z9	Severe damage and/or structural defects where high risk of failure can be **temporarily** reduces by reasonable remedial care, i.e. cavities, decay, included bark, wounds, excessive imbalance, overgrown and vulnerable to adverse weather conditions.
Z10	Poor condition or location with a low potential for recovery or improvement, i.e. dominated by adjacent trees or buildings and/or poor architectural framework.
Z11	Removal would benefit better adjacent trees, i.e. relieve physical interference and/or suppression.
Z12	Unacceptably expensive to retain, i.e. severe defects requiring excessive levels of maintenance.

NOTE: Z trees with a high risk of death/failure (Z4, Z5 & Z6) or causing severe inconvenience (Z7 & Z8) at the time of assessment and need an urgent risk assessment can be designated as ZZ. ZZ trees are likely to be unsuitable for retention and at the bottom of the categorisation hierarchy. In contrast, although Z trees are not worthy of influencing new designs, urgent removal is not essential and they could be retained in the short term, if appropriate.

CATEGORY A: IMPORTANT TREES SUITABLE FOR RETENTION FOR MORE THAN 10 YEARS AND WORTHY OF BEING A MATERIAL CONSTRAINT	
A1	No significant defects and could be retained with minimal remedial care.
A2	Minor defects that could be addressed remedial care and/or work to adjacent trees.
A3	Special significance for historical, cultural, commemorative or rarity reasons that would warrant extraordinary efforts to retain for more than 10 years.
A4	Trees that may be worthy of legal protection form ecological reasons (Advisory requiring specialist assessment)

NOTE: Category A1 trees that are already large and exceptional, or have potential to become so with minimal maintenance, can be designated as AA at the discretion of the assessor. Although all A trees are sufficiently important to be material constraints, AA trees are at the top of the categorisation hierarchy and should be given the most weight in any selection process.

CAUTION: Tree AZ assessments must be carried out by a competent person qualified and experienced in arboriculture. The preceding category descriptions are designed to be a brief field reference and are not to be self explanatory. They must be read in conjunction with the most current explanations published at www.treeaz.com

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