BLACKWOOD ECOLOGICAL SERVICES

Ecological Assessment

Ballina Coast High School

Swift Street, Ballina
A Report to EJE Architecture
September 2018

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1 INTRODUCTION

1.1 Background

Blackwood Ecological Services has been engaged by EJE Architecture to complete an Ecological assessment for proposed tree removal associated with the redevelopment of the sports ovals at Ballina Coast High School, Swift St, Ballina.

1.2 The Subject site

The Subject site consists of land within the northern portion of the existing High School grounds which currently supports two large playing fields with planted eucalypt shade trees.

FIGURE 1 shows the location of the Subject site.

FIGURE 1 Site location

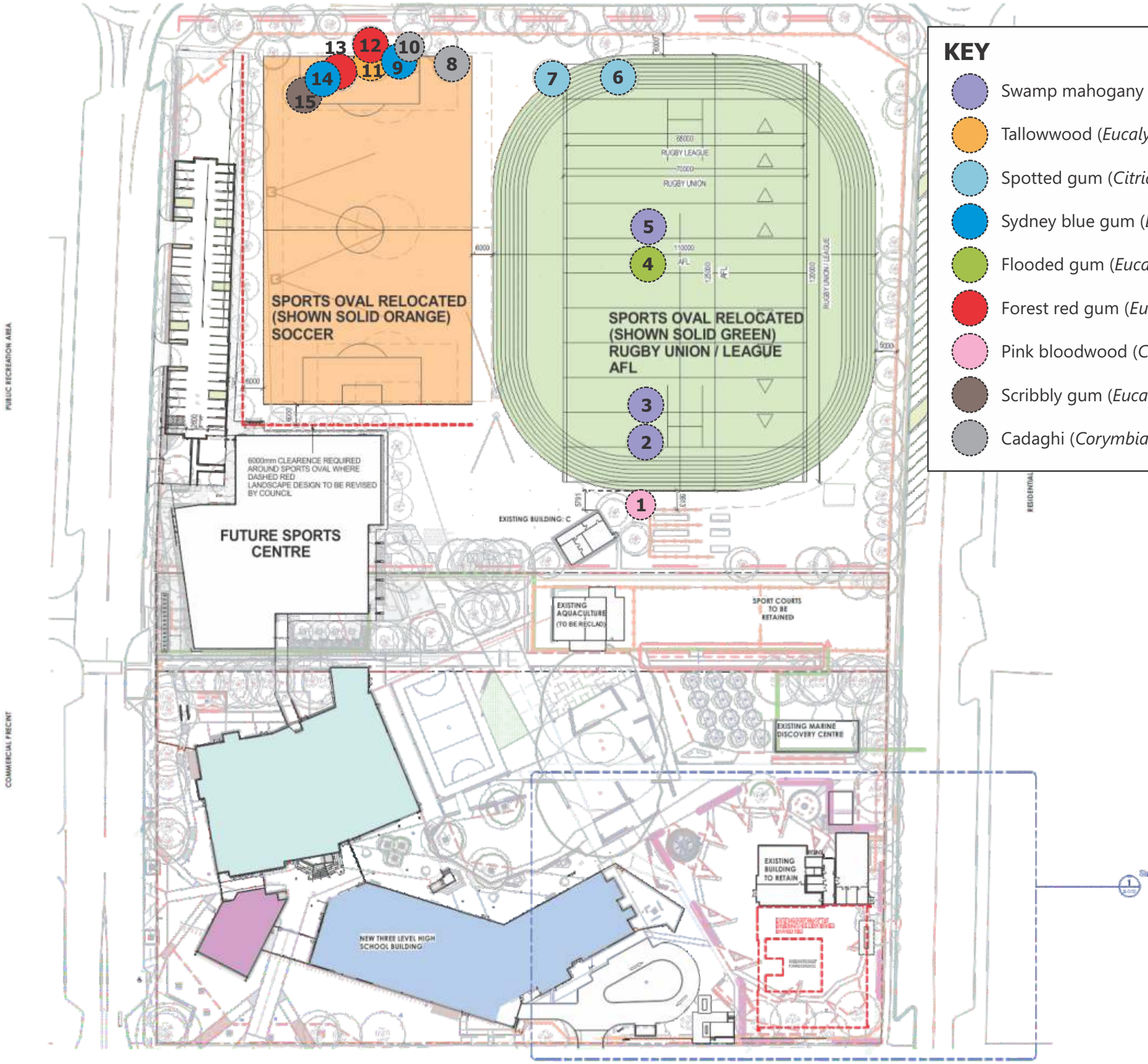
1.3 The Study area

The Study area includes areas of habitat on adjacent land. The Subject site is located within the central residential and commercial precinct of Ballina and nearby habitat consists of isolated native trees and patches of vegetation within residential blocks and planted as street trees. The Richmond River and major tributary North Creek are located within half a kilometre of the site and provide important riparian, intertidal and aquatic habitats.

1.4 The proposed development

The proposed development involves the removal of 15 trees to allow for reconfiguration of the sports ovals for the school. The school is currently undergoing a major refurbishment.

FIGURE 2 shows the trees proposed for removal. The Subject site is shown in **PLATE 1**.



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Project	Author & Date	Source	Figure 1
Ballina Coast High School Tree Removal	MF Sep 18	EJE 10806 A-010 RevE	Tree identification plan

PLATE 1 Trees along the northern boundary (Bentnick St)

A site assessment was completed on the 7th of September. The site assessment was completed in association with arborist Peter Gray of Northern Tree Services. The arborist report is included as **APPENDIX A**.

2 BIODIVERSITY OFFSET SCHEME (BOS) AND BIODIVERSITY ASSESSMENT METHOD (BAM)

2.1 Introduction

The Biodiversity Offsets Scheme Threshold is a test used to determine when is necessary to engage an accredited assessor to apply the Biodiversity Assessment Method (the BAM) to assess the impacts of a proposal. It is used for local developments (development applications submitted to councils) and clearing that does not require development consent in urban areas and areas zoned for environmental conservation (under the State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017).

The Biodiversity Conservation Regulation 2017 sets out threshold levels for when the Biodiversity Offsets Scheme will be triggered. The threshold has two elements:

- whether the amount of native vegetation being cleared exceeds a threshold area set out below
- whether the impacts occur on an area mapped on the Biodiversity Values map published by the Minister for the Environment.

If clearing and other impacts exceeds either trigger, the Biodiversity Offset Scheme applies to the proposed development including biodiversity impacts prescribed by clause 6.1 of the Biodiversity Regulation 2017.

2.2 Biodiversity offset scheme (BOS) Entry Test Report

The Biodiversity Offsets Scheme Entry Threshold Tool was accessed on 12th September 2018 following an initial site inspection and assessment of clearing required. The BOSET map produced shows that:

- The site is located on land Excluded from the LLS Act.
- The site does not contain mapped Biodiversity Values.

The BOSET report and mapping is included as **APPENDIX B**. An estimated area of clearing of 0.18ha was entered into the calculator although the actual clearing of native vegetation is limited to fifteen trees. The BOSET report indicates that the proposed development will not exceed the BOS Threshold and a Biodiversity Development Assessment Report is not required to accompany the development application.

3 SITE DESCRIPTION

3.1 Introduction and methods

This section provides a description of vegetation communities and habitats present on the site. Site surveys were completed on the 12th of September 2018.

3.2 Site vegetation

Vegetation on the Subject site consists of the maintained landscaped grounds of the sports ovals. Vegetation is comprised of mown grassland with a mixed planting of local eucalypt species as well as species from outside the local area commonly planted as landscape specimens.

FIGURE 2 shows the location of trees on the Subject site proposed for removal.

PLATE 2 Trees in the central part of the existing sports ovals

3.3 Significant flora

A number of Threatened (NSW BC Act 2016; Commonwealth EPBC Act 1999) plant species are known from the locality. The majority of these occur in rainforest habitats or eucalypt forest with rainforest elements. No Threatened plant species occur within or adjacent to the proposed development area. Vegetation on the Subject site does not conform to the description of any listed Threatened Ecological Community.

3.4 Significant fauna

Site habitats were assessed for their potential to provide habitat for significant fauna, including species listed as Threatened on the NSW BC Act (2016). The site represents marginal habitat for native fauna and may be used occasionally as forage habitat by frugivorous fauna including birds, flying-foxes and microchiropteran bats. The Ringtail and Common brushtail possum are likely occurrences.

None of the trees proposed for removal support tree hollows suitable for hollow dwelling fauna.

Koalas are known from the wider Ballina area although no evidence of Koala use was recorded during the site survey. The school site is surrounded by security fencing that would be likely to prevent Koalas accessing the site should they be present on the vicinity.

4 POTENTIAL IMPACTS

4.1 Introduction

This section discusses impacts associated with the removal of the fifteen trees as shown in **APPENDIX A**.

4.2 Impact assessment

Trees on the site were identified and located based on the tree survey plan as shown in **FIGURE 2**. This survey plan also depicts the footprint of the proposed new oval configuration. The diameter at breast height (dbh) of each tree was measured.

TABLE 1 provides details on the trees proposed for removal.

TABLE 1
TREES PROPOSED FOR REMOVAL

Tree No.	Common name	Botanical name	DBH[1] (cm)	Notes
1	Pink bloodwood	*Corymbia intermedia*	11	Poor condition
2	Swamp mahogany	*Eucalyptus robusta*	66	Preferred Koala feed tree species
3	Swamp mahogany	*Eucalyptus robusta*	100	Preferred Koala feed tree species
4	Flooded gum	*Eucalyptus grandis*	67	
5	Swamp mahogany	*Eucalyptus robusta*	86	Preferred Koala feed tree species
6	Spotted gum	*Corymbia maculate*	58	
7	Spotted gum	*Corymbia maculate*	39	
8	Cadaghi	*Corymbia torelliana*	40	Undesirable species
9	Sydney blue gum	*Eucalyptus saligna*	64	
10	Cadaghi	*Corymbia torelliana*	35	Undesirable species
11	Tallowood	*Eucalyptus microcorys*	67	Preferred Koala feed tree species
12	Forest red gum	*Eucalyptus tereticornis*	81	Preferred Koala feed tree species
13	Forest red gum	*Eucalyptus tereticornis*	72	Preferred Koala feed tree species
14	Sydney blue gum	*Eucalyptus saligna*	64	
15	Scribbly gum	*Eucalyptus signata*	79	

Trees to be removed have been planted and, although several are species that occur naturally in the locality, vegetation on the site does not represent a naturally occurring vegetation community. The loss of these trees represents a minor loss of habitat for native fauna adapted to open disturbed habitat types and is unlikely to be significant for any local population of native fauna.

4.3 Compensation for tree loss

It is proposed to compensate for the loss of 15 trees by replanting on the Subject site at a ratio of 3:1 for a total of 45 plants. As discussed in the arborist report, species to be planted should be suitable locally occurring rainforest species rather than eucalypt trees.

[1] Diameter @ Breast Height

5 THREATENED SPECIES AND KOALA IMPACT ASSESSMENT

5.1 Koala assessment

5.1.1 Ballina Shire Koala Management Strategy

The Subject site is located outside of the planning area for the Ballina Shire Koala Management Strategy, which includes extensive areas in the western part of the Shire as well as a smaller area in East Ballina.

5.1.2 SEPP 44 Koala Habitat Protection

The SEPP 44 Koala Habitat Protection Policy aims to "encourage the proper conservation and management of area of natural vegetation that provide habitat for Koalas, to ensure permanent free-living populations over their present range and to reverse the current trend of population decline."

SEPP 44 consists of a series of questions to provide a basis for the assessment of lands as potential and/or core Koala habitat. These questions have been addressed below.

1. Does the policy apply?

Does the subject land occur in an LGA identified in Schedule 1?

The Subject site occurs in the Ballina LGA, which is listed under Schedule 1.

Is the landholding to which the DA applies greater than 1 hectare in area?

Yes

2. Is the land potential Koala habitat?

Does the site contain areas of native vegetation where the trees of types listed in Schedule 2 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component?

No Schedule 2 Koala food trees do occur but constitute less than 15% of the tree component of vegetation within and adjacent to the school.

3. Is there core Koala habitat on the subject land?

No. Koalas are known from the wider Ballina area although no evidence of Koala use was recorded during the site survey. The school site is surrounded by security fencing that would be likely to prevent Koalas accessing the site should they be present on the vicinity. The area subject to the proposed development is unlikely to form part of a Koala movement corridor.

4. Is there a requirement for the preparation of a Plan of Management for identified core Koala habitat?

No.

5.2 Threatened species assessment

Section 7.3 of the BC Act specifies the criteria to determine when a proposed development or activity is likely to significantly affect threatened species. This test largely reflects the current 7 part test in section 5A of the EP&A Act.

The NSW Bionet database was searched to identify records of Threatened fauna and flora known from the locality. No Threatened flora species were recorded or considered possible occurrences

on the site. An assessment was completed of the habitat requirements of Threatened fauna species known from the locality. It is considered that the following fauna species have some potential to occur in the Study area over time:

- Little bent-wing bat
- Grey-headed flying-fox.

None of these species are likely to have any significant degree of reliance on site habitats and the loss of these trees has negligible potential to impact upon these species. A test of significance under the NSW BC Act (2016) is not required.

5.3 Coastal Wetlands and Littoral Rainforests

FIGURE 3 shows mapping of Coastal wetlands and Littoral rainforest from the Coastal Management SEPP. The site is not located within any mapped Coastal wetlands or Littoral rainforest or within the proximity areas for these areas.

FIGURE 3 Coastal Management SEPP mapping (SEPP wetlands in blue with hatched proximity area)

6 SUMMARY AND RECOMMENDATIONS

Blackwood Ecological Services has been engaged by EJE Architecture to complete an Ecological assessment for proposed tree removal associated with the redevelopment of the sports ovals at Ballina Coast High School, Swift St, Ballina. The proposed development involves the removal of 15 trees to allow for reconfiguration of the sports ovals for the school. The school is currently undergoing a major refurbishment.

A site assessment was completed on the 7th of September. The site assessment was completed in association with arborist Peter Gray of Northern Tree Services. Vegetation on the Subject site consists of the maintained landscaped grounds of the sports ovals. Vegetation is comprised of mown grassland with a mixed planting of local eucalypt species as well as species from outside the local area commonly planted as landscape specimens. Species present include Swamp mahogany, Flooded gum, Sydney blue gum, Forest red gum, Tallowood, Spotted gum and Cadaghi.

The Biodiversity Offsets Scheme Entry Threshold Tool was accessed on 12th September 2018 following an initial site inspection and assessment of clearing required. The BOSET map produced shows that:

- The site is located on land Excluded from the LLS Act.
- The site does not contain mapped Biodiversity Values.

An estimated area of clearing of 0.18ha was entered into the calculator although the actual clearing of native vegetation is limited to fifteen trees. The BOSET report indicates that the proposed development will not exceed the BOS Threshold and a Biodiversity Development Assessment Report is not required to accompany the development application.

A number of Threatened (NSW BC Act 2016; Commonwealth EPBC Act 1999) plant species are known from the locality. The majority of these occur in rainforest habitats or eucalypt forest with rainforest elements. No Threatened plant species occur within or adjacent to the proposed development area. Vegetation on the Subject site does not conform to the description of any listed Threatened Ecological Community.

Site habitats were assessed for their potential to provide habitat for significant fauna, including species listed as Threatened on the NSW BC Act (2016). The site represents marginal habitat for native fauna. None of the trees proposed for removal support tree hollows suitable for hollow dwelling fauna.

Koalas are known from the wider Ballina area although no evidence of Koala use was recorded during the site survey. The school site is surrounded by security fencing that would be likely to prevent Koalas accessing the site should they be present on the vicinity.

Trees to be removed have been planted and, although several are species that occur naturally in the locality, vegetation on the site does not represent a naturally occurring vegetation community. The loss of these trees represents a minor loss of habitat for native fauna adapted to open disturbed habitat types and is unlikely to be significant for any local population of native fauna.

The Subject site is located outside of the planning area for the Ballina Shire Koala Management Strategy, which includes extensive areas in the western part of the Shire as well as a smaller area in East Ballina. The NSW Bionet database was searched to identify records of Threatened fauna and

flora known from the locality. None of these species are likely to have any significant degree of reliance on site habitats and the loss of these trees has negligible potential to impact upon these species. A test of significance under the NSW BC Act (2016) is not required.

The site is not located within any mapped Coastal wetlands or Littoral rainforest or within the proximity areas for these areas.

It is proposed to compensate for the loss of 15 trees by replanting on the Subject site at a ratio of 3:1 for a total of 45 plants. As discussed in the arborist report, species to be planted should be suitable locally occurring rainforest species rather than eucalypt trees.

7 REFERENCES

Ballina Shire Council (2017) **Ballina Shire Koala Management.Strategy.**

Briggs, J.D. and Leigh, J. (1995). **Rare or Threatened Australian Plants.** (Commonwealth Scientific and Industrial Research Organisation: Australia).

Kleinschmidt, H., Holland, A. and Simpson, P. (1996) **Suburban Weeds**. DPI, Brisbane.

Northern Tree Care (2018) **Arboricultural Impact Assessment Report**.

Appendix A
Arboricultural Impact Assessment Report (Northern Tree Care 2018)

Arboricultural Impact Assessment Report

Ballina High School
37 - 49 Swift St
Ballina.
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Report compiled by
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Revised 10th September, 2018.

Table of Contents

1. Introduction

Peter Gray has compiled this report on request from Mr Mark Free of Blackwood Ecological Services. Mr Free has been requested by Ballina High School to provide an Arborist Report on trees that are planned to be removed to allow the relocation of sports fields at the school. Mr Free subsequently requested that Northern Tree Care provide the Arborist Report.

2. Scope

The proposed development part of an upgrade to the school. The advice from Ms Gresham, Director of EJE Architects is that the relocation of the sports fields has been designed to minimise the impact of the relocation. The planned construction will require the removal of 15 trees growing on and near the existing fields. This report describes the trees and assesses the retention value of the trees. Recommendations are made for the management of the trees, protection of trees that are to be retained and suitable replacement for the trees proposed to be removed.

3. Method

The trees were assessed visually from the ground. The diameter at breast height (DBH) was measured at 1.4 m above ground level with a girthing tape and height of the trees was measured with a hypsometer. The Australian Standard AS 4970-2009 *Protection of trees on development sites* was used assess the likely affect of the proposed development on the trees.

The health and condition of the trees was assessed using the Visual Tree Assessment method (Mattheck & Breloer 2003). This is a method of assessing the trees using the body language or shape and features of the trees to indicate their condition. The theory underpinning VTA is the *Axiom of Uniform Stress* that states that as self optimizing organisms, trees will grow sufficient wood to enable them to withstand the forces of gravity and wind but limit the growth to that amount of supporting wood necessary for structural integrity. For example, if there is decay in the trunk of a tree that has compromised the strength of the tree in that particular area, the tree will grow additional wood to compensate and that can be readily seen as a bulge in the otherwise straight trunk. Consequently these tree shapes or body language are a reliable indicator of the underlying condition of that part of the tree.

The information in this report is gathered from a site inspection carried out on 7th September, 2018 and by Peter Gray from Northern Tree Care and Mr Mark Free of Blackwood Ecological Services. Documents and drawings supplied by Blackwood Ecological Services include:

- *Site Plan - Reconfiguration Overall* EJE Architecture. Drawing A-010 Rev E. 25/06/2018.

4. Description

The school sports grounds are located in a residential area of East Ballina (see Attachment 1. Site Plan). They are bounded by Bentinck St to the north, Ballina High School to the south, Martin St to the east and Cherry St to the west. The land is flat and the soil is clay loam. The school has a number of large trees growing on the grounds and the trees are generally in good condition. The trees planned to be removed to enable the relocation of the sports fields are all Gum trees. Only the trees affected by the sports field relocation have been described in this report.

The section of the school grounds where the tree is growing is zoned RE1 (see Attachment 2. Zoning Map) and Ballina Shire Development Control Plan 2012 Chapter 2a- Vegetation Management applies to this property (BSDCP Section 3.3.1). Trees # 8 and 10 are Gadaghi trees that are listed as exempt as undesirable species (BSDCP Section 3.4).

The subject trees are described in detail in **Table 1.** below.

Table 1. Tree Data.

Tree #	Name	Age	Condition	Height m	DBH mm	Crown m	TPZ m	Comments
1	Bloodwood *Corymbia intermedia*	Mature	Poor	8	110	1	2.0	Tree has been topped at 1.0 m.
2	Swamp Mahogany *Eucalyptus robusta*	Mature	Good	13	660	8	7.9	Dead stick in the crown
3	Swamp Mahogany *Eucalyptus robusta*	Mature	Good	14	1,000	16	12.0	Large tree
4	Flooded Gum *Eucalyptus grandis*	Mature	Good	14	670	15	8.0	Large tree
5	Swamp Mahogany *Eucalyptus robusta*	Mature	Good	15	860	14	10.3	Large tree
6	Spotted Gum *Corymbia maculata*	Mature	Good	22	580	12	7.0	Tall tree
7	Spotted Gum *Corymbia maculata*	Mature	Good	15	390	10	4.7	Tall tree
8	Gadaghi *Corymbia torelliana*	Mature	Good	15	400	8	4.8	Undesirable species
9	Blue Gum *Eucalyptus saligna*.	Mature	Good	18	640	10	7.7	Large tree
10	Gadaghi *Corymbia torelliana*	Mature	Good	14	350	9	4.2	Undesirable species
11	Tallowood *Eucalyptus microcorys*	Mature	Good	14	670	10	8.0	Large tree
12	Forest Red Gum *Eucalyptus tereticornis*	Mature	Good	20	810	14	9.7	Large tree
13	Forest Red Gum *Eucalyptus tereticornis*	Mature	Good	18	720	14	8.6	Large tree
14	Blue Gum *Eucalyptus saligna*	Mature	Good	18	640	14	7.7	Large tree
15	Gum *Eucalyptus* sp.	Mature	Good	20	790	15	9.5	Large tree

5. Tree Retention Value

When considering the retention value of trees, two major issues were considered. They are the significance of the tree and its estimated life expectancy.

When assigning a value to the significance of the tree a number of factors should be considered (Moreton 2003). The significant outcomes have been determined in **Table 2. Significance of Tree in the Landscape**.

Table 2. Significance of Tree in the Landscape.

Tree #	Name	Condition	Vigour	Protected	Environmental value	Amenity value	Significance
1	Bloodwood *Corymbia intermedia*	Poor	Poor	Yes	High	Low	Low
2	Swamp Mahogany *Eucalyptus robusta*	Good	Good	Yes	High	High	High
3	Swamp Mahogany *Eucalyptus robusta*	Good	Good	Yes	High	High	High
4	Flooded Gum *Eucalyptus grandis*	Good	Good	Yes	High	High	High
5	Swamp Mahogany *Eucalyptus robusta*	Good	Good	Yes	High	High	High
6	Spotted Gum *Corymbia maculata*	Good	Good	Yes	High	High	High
7	Spotted Gum *Corymbia maculata*	Good	Good	Yes	High	Medium	High
8	Gadaghi *Corymbia torelliana*	Good	Good	No	Low	Medium	Very Low
9	Blue Gum *Eucalyptus saligna.*	Good	Good	Yes	High	High	High
10	Gadaghi *Corymbia torelliana*	Good	Good	No	Low	Medium	Very Low
11	Tallowood *Eucalyptus microcorys*	Good	Good	Yes	High	Medium	High
12	Forest Red Gum *Eucalyptus tereticornis*	Good	Good	Yes	High	High	High
13	Forest Red Gum *Eucalyptus tereticornis*	Good	Good	Yes	High	High	High
14	Blue Gum *Eucalyptus saligna*	Good	Good	Yes	High	High	High
15	Gum *Eucalyptus* sp.	Good	Good	Yes	High	High	High

Once the significance of the tree in the landscape has been determined, it can be assessed against its Estimated Life Expectancy. The values for the tree has been placed into Table 3. Tree Retention Values below.

Table 3. Tree Retention Values

Estimated Life Expectancy	Landscape Significant Rating						
	1 Significant	2 Very High	3 High	4 Moderate	5 Low	6 Very Low	7 Insignificant
Greater than 40 years	High Retention Value # 2, 3, 4, 5, 6, 7, 9, 11, 12, 13, 14, 15			Moderate Retention Value		Low Retention Value	
15 to 40 years						# 8, 10	
5 to 15 years					# 1		
Less than 15 years						Very Low Retention Value	
Dead							

Ref:- Modified from
Couston, Mark & Howden, Melanie (2001) *Tree Retention Values Table.* Footprint Green Pty Ltd, Sydney Australia

Where trees have a high retention value they should be retained and protected in the development if possible. It may be necessary to remove the trees to allow for the development and this can only be done it is considered that the development is more important than the trees (Barrell 2006). Where trees have a low retention value they can be removed if they conflict with the development.

6. Appraisal

The trees subject of this report are required to be removed to allow the relocation of the school sport fields. The trees are protected by Ballina Shire Council's Control Plan 2014 Chapter 2a- Vegetation Management and are assessed as having High Retention Value except for two Gadaghi trees that are not protected and are assessed as having a Low Retention Value.

When making a decision as to whether trees can be removed to allow a development it should be considered whether the trees are important and then whether the development is more important than the trees (Barrell 2006).

7. Recommendations

It is recommended that the relocation be carried out as planned. The trees # 1 ~ 15 identified in this report should be removed to facilitate the relocation. The trees to be removed should be replaced in the school grounds by planting local native rainforest species in the ratio of 3:1 for trees removed. This is a total of 45 replacement trees. The planting stock should be made with trees in 1 litre pots sourced from reputable local nurseries. The trees can be planted individually or in several groups. The trees to be removed are Gum trees but rather than replace them with Gums, local native rainforest species have been recommended to be used as these species are considered to be more suitable for this situation.

The trees that will be retained particularly in the north east corner of the grounds should be protected during construction of the relocated sports grounds. Specific tree protection measures are outlined in 8. Tree Protection. A temporary protective fence is recommended to be erected so as to afford protection to the trees close to the works that are planned to be retained (see Attachment 3. Tree Protective Fencing).

8. Tree Protection

The trees retained on the site should be protected during construction in accordance with the recommendations of the Australian Standard AS 4970-2009 *Protection of trees on development sites*. The standard sets out a Tree Protection Zone that is calculated to be an area around the tree with a radius of 12 times the diameter at breast height (DBH). The TPZ has a maximum radius of 15m. The TPZ should be protected during development to ensure the viability of the tree.

The Standard lists activities that are prohibited in the TPZ. They are:

(a) machine excavation including trenching;
(b) excavation for silt fencing;
(c) cultivation;
(d) storage;
(e) preparation of chemicals, including preparation of cement products;
(f) parking of vehicles and plant;
(g) refuelling;
(h) dumping of waste;
(i) wash down and cleaning of equipment;
(j) placement of fill;
(k) lighting of fires;
(l) soil level changes;
(m) temporary or permanent installation of utilities and signs, and
(n) physical damage to the tree.

A temporary 1.8 m high fence should be installed as close to the planned retaining was as practicable (see Attachment 1. Site Plan). An example of a suitable temporary fence is shown in Figure 1 below. The fence should have a sign indicating it is a tree protection zone. An example of a suitable sign is given in Figure 2 below.

Figure 1.
Example of a suitable temporary fence.

Figure 2.
Example of a suitable sign.

9. Disclaimer

The information contained in the report is true and accurate to the best knowledge of the author. Best professional judgement was used to make recommendations. However the author of this report is not responsible for any action which might be taken or not taken in reliance on it.

This report remains the property of the author and Ballina HIgh School . It may not be used or reprinted without their express permission.

10. Bibliography

Australian Standards. 2009. *AS 4970 Protection of Trees on Development Sites*. Australian Standards. Sydney.

Barrell J. 2006. *Workshop Manual Trees on Construction Sites*. Barrell Tree Consultancy. Brisbane.

Mattheck C. Breloer H. 2003. *The Body Language of Trees.* TSO. London.

11. About the Author

This report was compiled by Peter Gray, of Northern Tree Care. The author is an arborist who has been providing Arborist Assessment Reports for Local Government, State Government and private clients for over 15 years. His qualifications include:

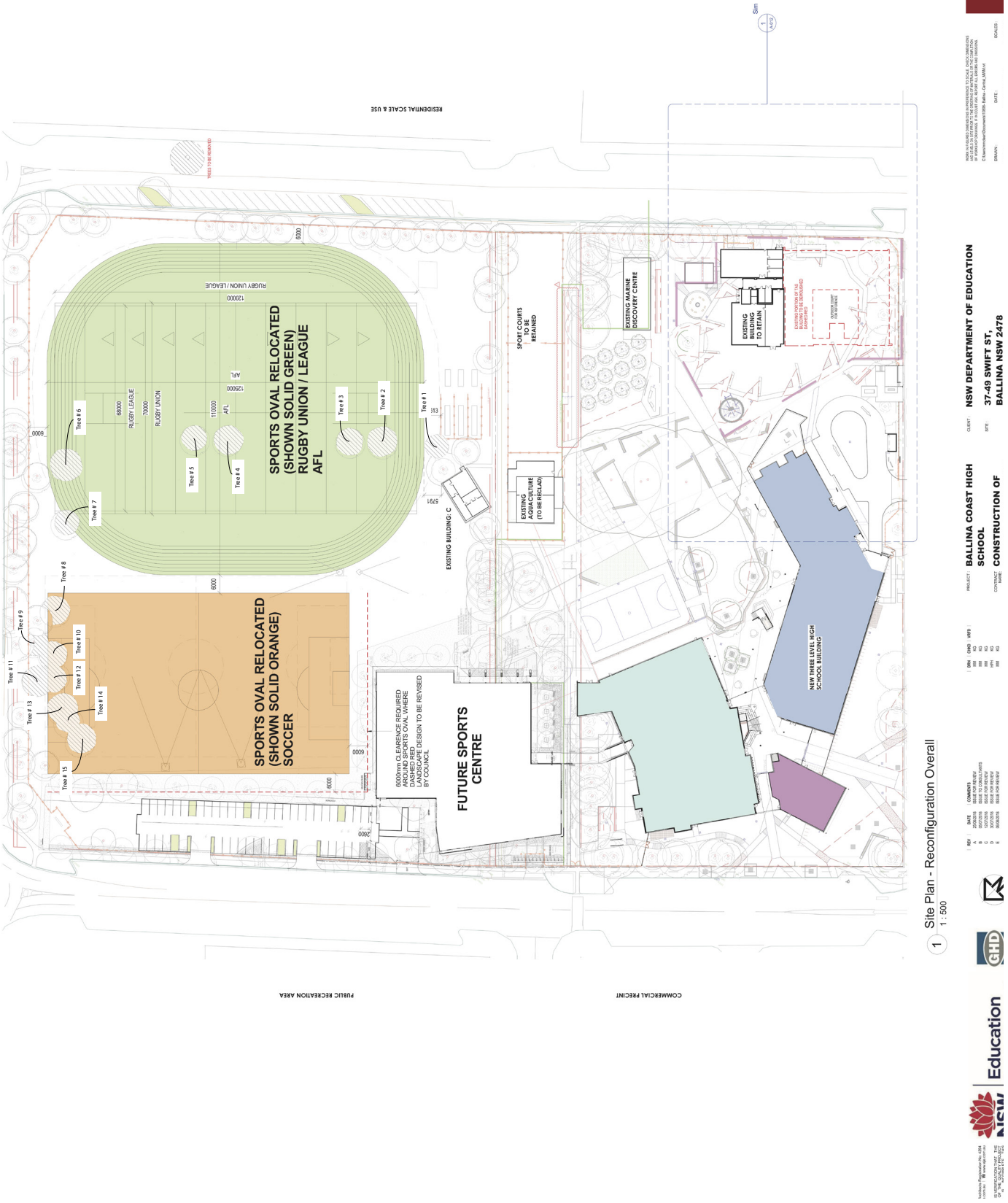
Graduate Certificate in Arboriculture
Diploma of Arboriculture
Diploma of Horticulture (Arboriculture)
Quantified Tree Risk Assessment (QTRA)
Tree Risk Assessment Qualification (ISA).

Peter Gray is an (AQF) level 8 Consulting Arborist general member No. 2344 with Arboriculture Australia. He is a trained and registered practitioner of Quantified Tree Risk Assessment (QTRA) Registered User number 980.

I declare that I have compiled this report impartially using best professional judgement. I have no financial interest in the outcome of the report.

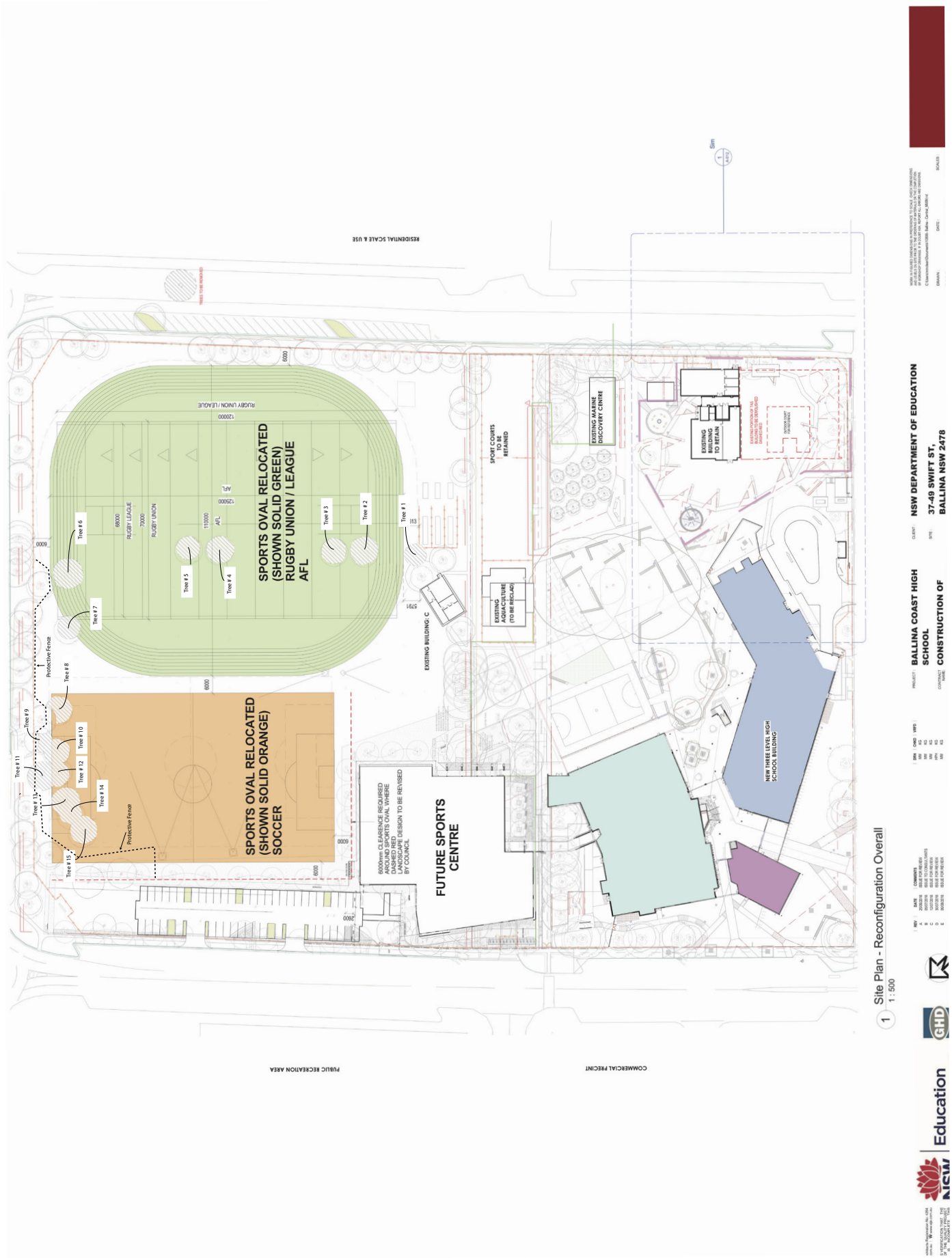
Signed Peter Gray, Northern Tree Care
10th September, 2018.

12. Attachment 1. Site Plan.



13. Attachment 2. Zoning Map

14. Attachment 3. Protective Fence.



15. Attachment 4. Photos

Photo 1.
Bloodwood tree.

Photo 2.
Swamp Mahogany.

Photo 3.
Swamp Mahogany.

Photo 4.
Flooded Gum.

Photo 5.
Spotted Gum

Photo 6.
Spotted Gum.

Photo 7.
Gadaghi tree.

Photo 8.
Tallowood tree.

Photo 9.
Forest Red Gum.

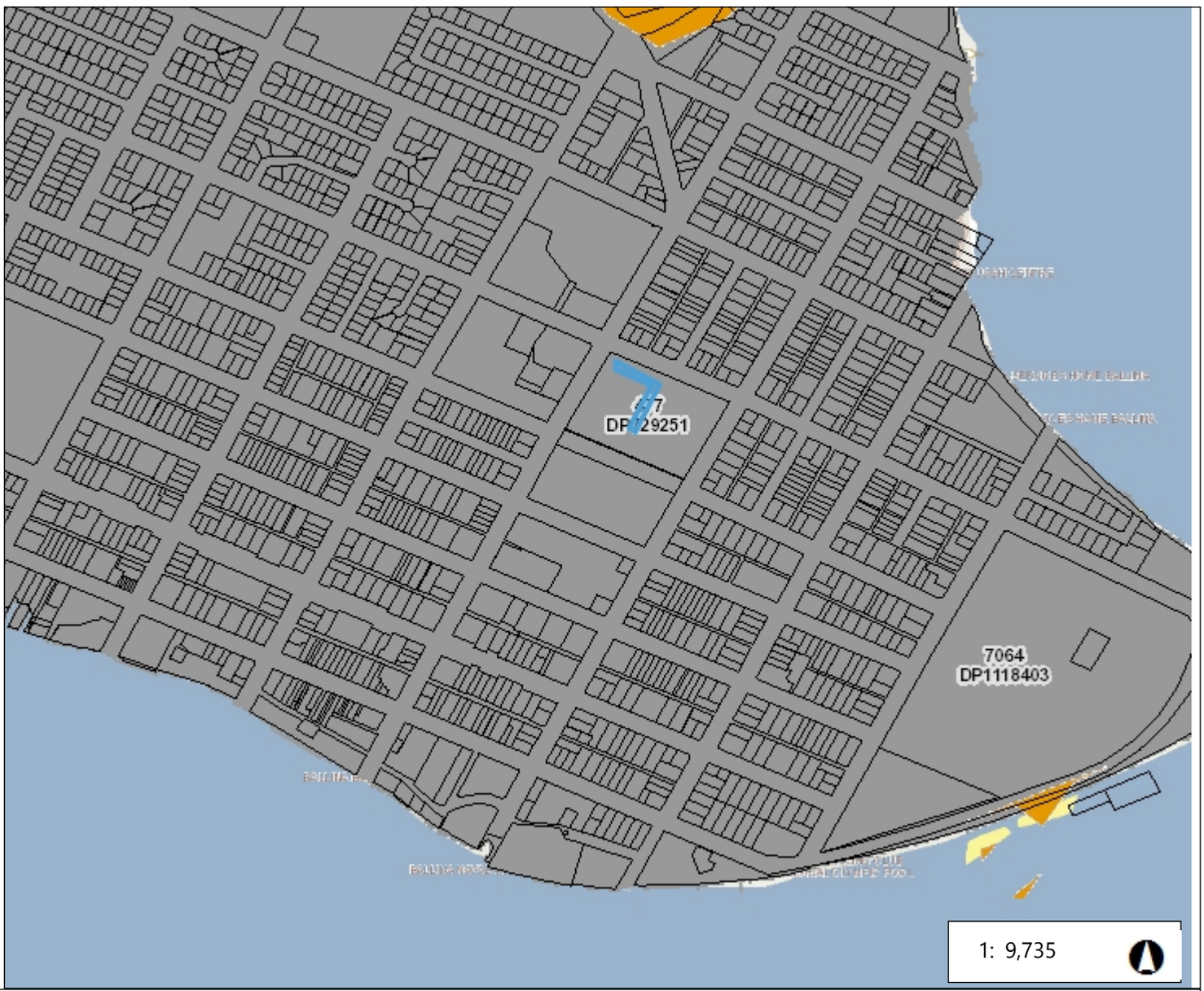
Photo 10.
Forest Red Gum.

Photo 11.
Blue Gum

Photo 12.
Gum tree.

Appendix B
BOSET Map and Report

Biodiversity Offset Scheme (BOS) Entry Threshold Map



0.5 0 0.25 0.5 Kilometers

GCS_GDA_1994

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

- Biodiversity Values
- Land Excluded from LLS Act

Notes

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Results Summary

Date of Calculation	12/09/2018 11:01 AM	**BAM Required***
Total Digitised Area	0.18 ha	
Minimum Lot Size Method	LEP	
Minimum Lot Size	0.08 ha	
Area Threshold	0.25 ha	
Area of native vegetation cleared	Unknown #	Unknown #
Impact on biodiversity values land map	no	no

*If BAM required has:

- at least one 'Yes': you have exceeded the BOS threshold. You are now required to submit a Biodiversity Development Assessment Report with your development application. Go to https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor to access a list of assessors who are accredited to apply the Biodiversity Assessment Method and write a Biodiversity Development Assessment Report
- 'No': you have not exceeded the BOS threshold. You may still require a permit from local council. Review the development control plan and consult with council. You may still be required to assess whether the development is '"likely to significantly affect threatened species' as determined under the test in s. 7.3 of the Biodiversity Conservation Act 2016. You may still be required to review the area where no vegetation mapping is available.

Where the area of impact occurs on land with no vegetation mapping available, the tool cannot determine the area of native vegetation cleared and if this exceeds the Area Threshold. You will need to work out the area of native vegetation cleared – refer to the BOSET user guide for how to do this.

Disclaimer

This results summary and map can be used as guidance material only. This results summary and map is not guaranteed to be free from error or omission. The State of NSW and Office of Environment and Heritage and its employees disclaim liability for any act done on the information in the results summary or map and any consequences of such acts or omissions. It remains the responsibility of the proponent to ensure that their development application complies will all aspects of the *Biodiversity Conservation Act 2016.*

The mapping provided in this tool has been done with the best available mapping and knowledge of species habitat requirements. This map is valid for a period of 30 days from the date of calculation (above).

Acknowledgement

I as the applicant for this development, submit that I have correctly depicted the area that will be impacted or likely to be impacted as a result of the proposed development.

Signature_____ Date:12/09/2018 11:01 AM