Notice of Commercial Services Committee Meeting

A Commercial Services Committee Meeting will be held in the Ballina Shire Council Chambers, 40 Cherry Street, Ballina on **Thursday 15 October 2015 commencing at 4.00 pm.**

Business

1. Apologies
2. Declarations of Interest
3. Deputations
4. Committee Reports

Paul Hickey
General Manager

Table of Contents

1. Apologies
2. Declarations of Interest
3. Deputations

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1. Apologies

Apologies have been received from Crs Sharon Cadwallader and Robyn Hordern.

2. Declarations of Interest

3. Deputations

4. Committee Reports

4.1 Flat Rock Tent Park Fees and Charges 2016/17

Delivery Program	Commercial Services
Objective	To obtain approval to exhibit the draft fees and charges for the Council operated tent park for the period 1 February 2016 to 31 January 2017

Background

The NSW Local Government Act requires councils to formally advertise and adopt their fees and charges prior to implementation. The majority of Council's fees are set each June as part of the annual Operational Plan.

With Flat Rock Tent Park it is important that our customers are informed well in advance as to the fees for their next holiday during the following year and also meet important industry media advertising publications.

This report has been prepared to obtain Council approval to advertise next year's tent park fees and charges. The period the fees are applicable for is 1 February 2016 to 31 January 2017.

Key Issues

- Variation in fees
- Conditions attached to the fees

Information

A copy of the proposed fees, charges and cancellation policy is included as an **attachment** to this report. The attachment provides a comparison between the existing and the proposed fees.

The proposed fees have been formulated taking into account factors such as park facilities and standards, feedback from Park Managers and customers, industry comparisons with similar parks on the NSW Far North Coast and the latest Consumer Price Index (CPI). Consideration has also been given to the negative impact on income due to recent shark sightings on local beaches.

In summary the changes are set out as such:

Current Fees	Off Peak	Shoulder	Peak
Unpowered site (based on 2 people)	$32.00	$39.00	$42.00
Adult (extra)	$15.00	$15.00	$15.00
Child (4-16 years incl)	$8.00	$8.00	$8.00

Proposed Fees	Off Peak	Shoulder	Peak
Unpowered site (based on 2 people)	$33.00	$40.00	$45.00
Adult (extra)	$15.00	$15.00	$15.00
Child (4-16 years incl)	$8.00	$8.00	$8.00

In summary minimal changes are recommended based on current market conditions.

Legal / Resource / Financial Implications

Council is legally required to exhibit and adopt its fees.

In respect to income figures in recent years the following is a summary of the revenue collected by the end of each quarter as per Council's financial records. The figures are accumulated for each quarter as the year progresses.

Year	30 September	31 December	31 March	30 June
2015/16	81,100	N/A	N/A	N/A
2014/15	106,900	248,200	331,400	432,400
2013/14	82,700	235,700	316,600	422,600
2012/13	71,600	213,900	268,200	354,700

The trend is currently well down, albeit it will be interesting to see if this continues throughout the rest of the financial year.

Consultation

The draft fees and charges are to be exhibited for public comment.

Options

The options are to either adopt the recommendation to advertise the proposed fees as presented or amend the fees.

The preferred option is to exhibit the fees and charges, as any changes are consistent with industry trends and competitors.

RECOMMENDATION

That Council authorises the exhibition of the draft Flat Rock Tent Park fees and charges for 1 February 2016 to 31 January 2017, as attached to this report, for public comment.

Attachment(s)

1. Draft Flat Rock Tent Park Fees & Charges 2016-17

Draft

Flat Rock Tent Park Fees 1/2/2016 to 31/1/2017

FLAT ROCK TENT PARK
FEE PERIOD 1/2/2016 to 31/1/2017

Accommodation Pricelist
1 February 2016 to 31 January 2017

Tourist Sites Accommodation

	Proposed 2016/17 $	Proposed 2016/17 $	Proposed 2016/17 $
	Off Peak*	Shoulder+	Peak^
Sites/night			
Unpowered Site (based on 2 people)	33.00	40.00	45.00
Extra Adult	15.00	15.00	15.00
Extra Child (4-16 years incl)	8.00	8.00	8.00

Prices are gst inclusive

*Off Peak – All periods other than Shoulder and Peak Period.
+Shoulder – All NSW and Queensland Public Holidays and School Holidays, including long weekends, excluding Christmas and Easter Peak Period.
^Peak – Christmas: 25 December 2016 – 15 January 2017
Easter: 24 March 2016 – 28 March 2016

Booking Information

Christmas Peak Period: 25 December 2016 – 15 January 2017

- Bookings of a minimum two weeks, up to 30 September.
- Bookings of a minimum one week, from 1 October.
- Shorter bookings taken at park manager's discretion from 1 December if the booking can be added to the beginning or end of an existing booking
- Payment for bookings - $100.00 deposit at time of booking. 50% of accommodation charge less deposit to be paid by 31 July and remaining balance to be paid by 31 October. If making your reservation after 31 July, 50% deposit is required at time of booking with remaining balance payable by 31 October. If making your booking after 31 October, full payment is required at time of booking.

Easter Peak Period – 24 March 2016 – 28 March 2016

- Bookings of minimum one week taken until one month prior to Easter Holidays for the Easter weekend period only.
- Shorter bookings taken at Park manager's discretion if the booking can be added to the beginning or end of an existing booking.
- Payment for bookings - $100 deposit at time of booking and remaining balance to be paid by 28 February.

Shoulder Periods – All NSW and Queensland Public Holidays & School Holidays, including long weekends, excluding Christmas and Easter Peak Season

- Minimum two night booking (subject to park manager's discretion).
- Payment for bookings - $100.00 deposit at time of booking with balance on arrival.

Off Peak Period

- Minimum two night booking (subject to park manager's discretion).
- Payment for bookings – one night's accommodation deposit at time of booking with balance on arrival.

Whilst every effort is made to provide specific site bookings, management reserves the right to relocate or change the booked site number prior to or on arrival.

Cancellation Policy

Refunds of deposits and fees paid are available from Flat Rock Tent Park under certain circumstances:

Peak Period Bookings

Where at least 28 days written notice of cancellation has been given before being due to arrive, deposits or prepayments will be refunded with the following options:

Option A: Full credit of deposit or prepayment to a future booking. Future booking date(s) must be provided at the time of request. Future booking date(s) can only happen once with any booking and if the second booking cannot be kept the whole deposit is lost. Any future booking dates must be within 12 months of the original booking date.

Option B: Refund of deposit or prepayment less administration fee.

Where less than 28 days written notice has been given before being due to arrive, deposits or prepayments will be refunded with the following options:

- If management are able to rebook the site and no losses are incurred to the park, both Options A and B are applicable
- If the site is not able to be rebooked, no refund is applicable.

Shoulder and Off Peak Bookings

Where at least 14 days written notice of cancellation has been given before being due to arrive, deposits or prepayments will be refunded with the following options:

Option A: Full credit of deposit or prepayment to a future booking. Future booking date(s) must be provided at the time of request. Future booking date(s) can only happen once with any booking and if the second booking cannot be kept the whole deposit is lost. Any future booking dates must be within 12 months of the original booking date.

Option B: Refund of deposit or prepayment less administration fee.

Where less than 14 days written notice of cancellation has been given, the full deposit will be forfeited. Balance of amounts above the deposit paid will be refunded either via cash, cheque or credit card upon a written application by the guest.

NOTIFICATION OF CANCELLATION OF BOOKINGS WITHIN 24 HOURS OF BEING DUE TO ARRIVE - NO REFUND OF ANY MONIES SHALL BE PAID.

How refund payments are made

Cash payments in person – refunded by cash (providing sufficient cash reserves are held in the park, if not, then refunded by cheque).
Credit card payments – refunded back to the original credit card.
Cheque payment – refunded by cheque (Note: cheque refunds may take approximately 2-3 weeks for processing and posting)

Administration Fee - Refunds
A $50.00 administration fee applies to all refunds.
No administration fee will be charged for bookings made and cancelled on the same day.

The administration fee may be waived for cancellations in emergency situations. A request in writing must be sent to the Park Management.

General

Late Departure Fee
Late departure fee of $15.00 when guests staying request a late checkout. Latest check out time of 6.00pm (at manager's discretion).

Rates
All reservations made online must be paid in full at the time of booking.

- Should people vacate a site early, no refund or credit is to be given.
- Tariffs and deposits are not refundable if your stay is cut short.
- Booked sites will only be held for 24 hours from booked time of arrival, unless otherwise arranged.

Severe Weather
In the event of severe weather, if deemed so by Council, no refunds apply. Guests may apply, in writing, for the following option depending on which circumstances applies:

- Full Cancellation Prior to Arrival - a full credit will be held for the period of three (3) months from when the booking was first made with the Park to be used during an Off Peak Period only.

- Remaining stay cancellation - a credit of the remaining amount of the guest's nights left on the reservation will be held for the period of three (3) months from when the booking was first made with the Park to be used during an Off Peak Period only.

4.2 Site Investigation - Corner of Boeing Avenue and Cessna Crescent

Delivery Program	Commercial Services
Objective	Provide information on the status of Pt Lot 98 DP 1194043 located on the corner of Boeing Avenue and Cessna Crescent, Southern Coss Industrial Estate

Background

This report has been prepared in response to a request by Councillors that the status of a site located on the corner of Boeing Avenue and Cessna Crescent, Southern Cross Industrial Estate, be investigated to determine its potential for development. The site is described as Part Lot 98 DP 1194043.

Key Issues

- Status of operational land
- Development consent
- Environmental factors

Information

The site is located on the corner of Boeing Avenue and Cessna Crescent, comprises and area of approximately 15,000m^2 and is zoned "Industrial IN1" (see **attached** plan). The site is currently covered with various forms of vegetation.

The site was quarantined as part of the rezoning proposal for LEP Amendment 95 which now encompasses the three large bulky goods lots (including the Harvey Norman Complex) located in Boeing Avenue due to the presence of an endangered ecological community (including wallum froglets).

This area was also identified as "open space and detention basin" in Development Consent 2004/855 granted to "Undertake a Thirty-Nine Lot Torrens Title Industrial Subdivision".

Council's Development Services Manager has provided the following comments regarding planning issues that would need to be dealt with if it were proposed to develop the site as serviced industrial lots:

"The subject land is zoned IN1 General Industrial under BLEP 2012. A range of industrial uses are permissible in this zone. However, no development consent has been granted for industrial use of the subject land.

A Development Application would be required to develop the land for industrial purposes. The application would need to be supported by a comprehensive statement of environmental effects, that would in particular need to address, but not limited to, the ecological impacts of the proposed development under S.5A of the Environmental Planning and Assessment Act 1979."

Council's Infrastructure Planning Manager also advises that:

"*The area of land was quarantined from development on environmental/ecological grounds.*

The stormwater management for the site meant that adjoining Cessna Crescent road drainage was piped around the site to ensure the hydrology was not adversely affected.

A current ecological report for the site would be necessary if the status quo is to be changed."

Based on advice from Council staff, it appears that if development of the site were pursued, amongst other things, a comprehensive statement of environmental effects would be required to determine the potential impact on ecological communities inhabiting the site and whether the provision of compensatory habitat would be an acceptable proposition to enable development to proceed.

It is also likely that NSW Department of Environment and Conservation ("DEC") would also have to be consulted if it is proposed to develop the site. A meeting note **attached** to this report makes clear DEC's position in regards to the subject site:

"*3. The proposed drainage area within the existing Industrial zone (Area E) being protected by way of a DCP"*

The current DCP does not incorporate site specific requirements in relation to the drainage area characteristics of the land. However, the stormwater plans recognising this area for open space and stormwater detention have been approved (see plan attached).

Legal / Resource / Financial Implications

This land is classified as operational land and as such Council is able to sell the land.

Funds would be required to be allocated to engage consultants to undertake the necessary investigations to determine if development of the site as serviced industrial lots is possible.

Consultation

Council's Development Services Manager and Infrastructure Planning Manager have been consulted along with Council's Manager of Strategic Planning who has provided input into this report.

Options

Council could potentially pursue investigations into a comprehensive statement of environmental effects and other related studies to assess whether reductions could be made to the areas currently restricted for development. Based on other similar studies the cost of this work would be estimated at somewhere between $20,000 and $50,000, with no guarantee that Council will achieve a positive outcome from a commercial perspective.

The other concern with this approach is that we are currently in the process of pursuing the rezoning of 39 hectares to the north of this site, of which Council owns 36.5 hectares.

There may well be areas of this rezoning that require environmental restrictions and offsets with input from DEC. Rather than raising with DEC the possibility of reducing existing offset areas the preference is to complete the current rezoning process. Once the outcomes of that process are known a more holistic review of the entire precinct can be undertaken.

RECOMMENDATION

That Council notes the contents of this report in respect to the site investigation for Council owned land on the corner of Boeing Avenue and Cessna Crescent.

Attachment(s)

1. Locality Plan
2. File Note and Plans Regarding Rezoning Proposal


CESSNA
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BOEING
CRES
GDA
Locality Plan - Part Lot 98 DP 1194043
cnr Boeing Avenue & Cessna Crescent, Ballina
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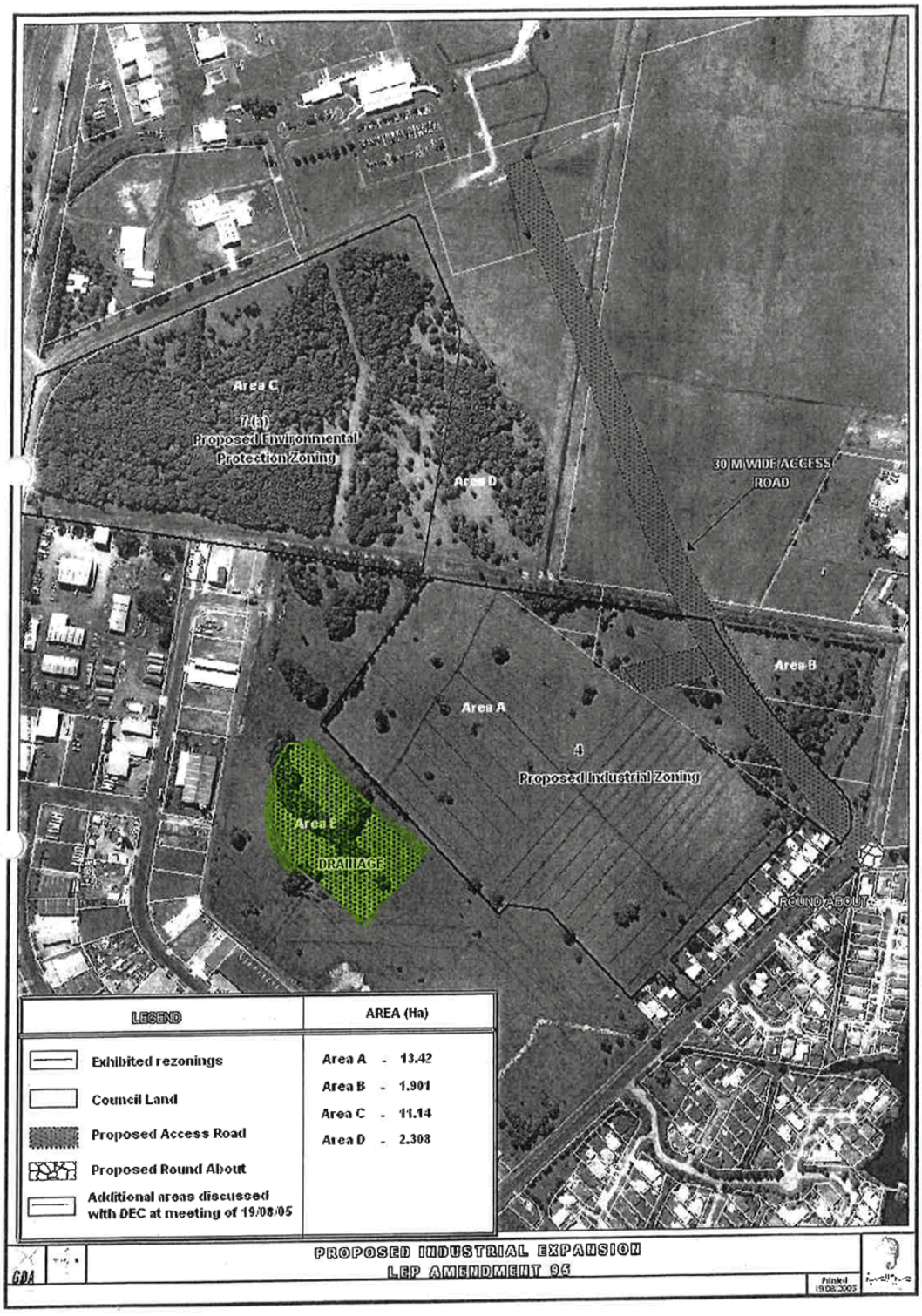
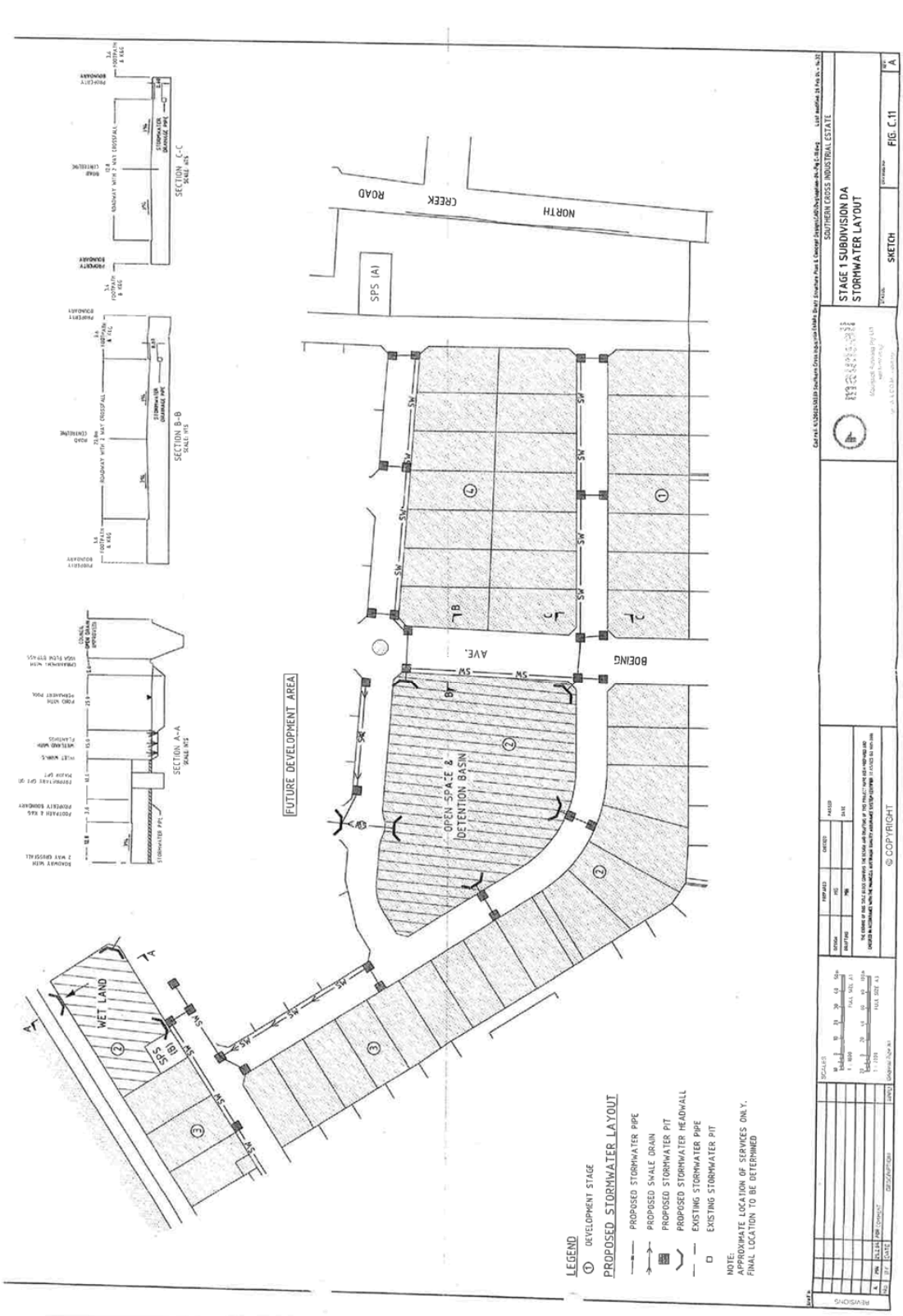
shire council

Department of Environment & Conservation's position regarding Amendment No. 95 to the Ballina Local Environmental Plan as outlined by John Allen and Kirsty Sutherland on 19 August 2005 at meeting with Ballina Shire Council's David Kitson at the Department's Office in Coffs Harbour.

1. Supports the proposed industrial rezoning (Area A) and its expansion to the north to the major east west drain (Area B) and the subsequent clearing and development of these areas for industrial purposes, subject to:
    a. The proposed *7(a) Environmental Protection* zoning (Area C) being extended to the east to include all the existing regrowth vegetation (Area D).
    b. The area in the proposed expanded 7(a) zone (Areas C & D) being rehabilitated.
2. That the proposed link road/corridor between the intersection of North Creek Road and Corks Lane and the Airport be reposition to form the boundary to the area in the expanded 7(a) zone.
3. The proposed drainage area within the existing Industrial zone (Area E) being protected by way of DCP.
4. That the proposed drainage link to facilitate the movement of wallum froglets between Area E and the Area C & D be greater than 2 metres wide or further investigated.

C:\DATAWRKS\TEMP\737933\LEP95-12-DECpostion.dec.doc


Area C
7(l)
Proposed Environmental
Protection Zoning
Area D
30 M WIDE ACCESS
ROAD
Area B
Area A
4
Proposed Industrial Zoning
Area E
DRAINAGE
ROUNDABOUT
LEGEND
AREA (Ha)
Exhibited rezonings
Council Land
Proposed Access Road
Proposed Round About
Additional areas discussed
with DEC at meeting of 19/08/05
Area A - 13.42
Area B - 1.901
Area C - 11.14
Area D - 2.308
PROPOSED INDUSTRIAL EXPANSION
LEP AMENDMENT 96
GDA


NORTH
CREEK
ROAD
SPS (A)
BOEING
AVE.
FUTURE DEVELOPMENT AREA
OPEN SPACE & DETENTION BASIN
WET LAND
SPS (B)
SECTION A-A
SECTION B-B
SECTION C-C
LEGEND
DEVELOPMENT STAGE
PROPOSED STORMWATER LAYOUT
PROPOSED STORMWATER PIPE
PROPOSED SWALE DRAIN
PROPOSED STORMWATER PIT
PROPOSED STORMWATER HEADWALL
EXISTING STORMWATER PIPE
EXISTING STORMWATER PIT
NOTE:
APPROXIMATE LOCATION OF SERVICES ONLY.
FINAL LOCATION TO BE DETERMINED
STAGE 1 SUBDIVISION DA
STORMWATER LAYOUT
SOUTHERN CROSS INDUSTRIAL ESTATE
SKETCH
FIG C.11
© COPYRIGHT

4.3 Land Clearing and Ongoing Maintenance - Council Operational Land

Delivery Program	Commercial Services
Objective	To provide information regarding land clearing and ongoing maintenance for Council's operational land

Background

Council staff have been requested to provide a report on the agreements and management of larger vacant operational land holdings within the Shire with a focus on obtaining costs for clearing and regular ongoing maintenance of a number of the parcels identified. This report responds to that request.

Key Issues

- Costs for clearing
- Agistments
- Cost / benefit

Information

Council has a number of large vacant operational land parcels in the Shire (see **attached** plans).

This report is to provide an update on current agreements concerning the land holdings and costings for clearing of identified parcels.

The parcels are identified as:

1. Lot 2 DP 1070446 - Henderson Lane, Lennox Head
2. Lot 8 DP 793980 – Southern Cross/Airport Residue land
3. Lot 4 DP 537560 – Cnr Gallans Road and Tamarind Drive
4. Lot 386 DP 755684 – residue Ballina Waste Management Centre land
5. Lot 16 DP 1204621 and Lot 6 DP 1161720 (Wollongbar Residential Estate Stage 2)
6. 54 North Creek Road, Ballina
7. Proposed Lots 2 and 3 Boeing Avenue, Ballina
8. Part Lot 18 DP 1059476 Kays Lane Alstonville

Parcels identified as numbers 1, 2, 3 and 4 are all currently under agistment agreements with tenants whereby the agistees are responsible for clearing and maintaining of the sites.

No. 5; Wollongbar Residential Estate Stage 2
Currently has a development application lodged to progress Council's residential estate with 18 serviced lots proposed. As part of the civil works for this project the land will be slashed and cleared by the contractor. It is anticipated that work on this project will commence in early 2016. To undertake clearing works any earlier may result in erosion issues that may require sediment measures be put in place.

No. 6; 54 North Creek Road, Ballina
This is the subject of a further report presented to this meeting. Council's Planning Section have advised that a Development Application would be required to undertake any clearing of the land. As such this is on hold pending the outcome of Council's other report.

No. 7; Proposed Lots 2 and 3 Boeing Avenue, Ballina
These two lots are currently on the market for sale. Quotes have been received from two parties for the clearing and regular ongoing maintenance of Proposed Lots 2 and 3 Boeing Avenue, Ballina.

The land clearing includes clearing of trees, grinding stumps, mulching and slashing of site with all mulch left on site. Indicative costs for the initial clearing works are between $20,000 and $26,000 for the initial clearing and approximately $2,200 to $2,500 for maintenance slashing every four months.

No. 8; Part Lot 18 DP 1059476 Kays Lane Alstonville
In 2013 / 2014 quotes were called from contractors to clean up the entrance of the Russellton Industrial Estate by controlling and clearing up the evident noxious and environmental weeds. The sites on both sides of Kays Lane are under Council ownership and contain mixed vegetation and appear overgrown.

Council's Natural Resource Officer advises that many of the species present are understood to be weed species although some native species do exist.

The native species are consistent with subtropical lowland rainforest species similar to that found in the "Big Scrub" region.

To clean up the weeds would involve removal of many large weed tree species along with weed vines and groundcovers. The proximity of the site to the road edge also requires traffic control for the duration of the job.

As differing sections contain varying levels of weeds a combination approach would be required that includes clearing, planting and bush regeneration. The costs are relatively high due to the cartage of weed timber and traffic control.

If a small clean up were to occur whilst leaving the large weed tree species present, the weed seed bank will quickly re-establish the weeds and the Council's resources expended would be wasted whilst still displaying a noxious weed canopy at the entrance.

The quotes were obtained in 2014 and as such are indicative only and are set out in three parts as follows:

Part 1 – Weed tree removal and traffic control as required

Part 2 – Bush regeneration and overall weed control

Part 3 – Additional infill plantings (landscaping) as required to create an attractive entrance.

The following quotes are summarized as follows:

Part 1 – Weed tree removal and traffic control

Eastern Side	Option 1	Clear trees and remove from site to Ballina Waste Management Centre	Approx. $36,000
	Option 2	Clear trees and leave on site	Approx. $18,000
Western side	Option 1	Clear trees and remove from site to Ballina Waste Management Centre (not incl tipping fees)	Approx. $21,000
	Option 2	Clear trees and leave on site	Approx. $7,700

Part 2 – Bush regeneration and overall weed control

The contractor divided the area into six zones (see attached plan) with indicative costings for each zone:

Area A	$3,400
Area B	$1,520
Area C	$4,600
Area D	$5,100
Area E	$1,520
Area F	$3,740
Area G	1,520
Total	$21,400

Part 3 - Additional infill plantings (landscaping) as required to create an attractive entrance.

Area A – Planting & wallaby guards	$8,700
Area B – Planting & wallaby guards	$14,000
Area C – Planting & wallaby guards	$13,600
Area D – Planting & wallaby guards	$24,850
Area E – Planting & wallaby guards	$3,700
Area F – Planting & wallaby guards	$24,900
Area G – Planting & wallaby guards	$16,320
Total	**$106,070**

If Council wishes to undertake the works for Kays Lane as outlined above the total cost is estimated to be in the order of $185,000.

The indicative costs noted above are only for the initial works and additional costs would be incurred for the ongoing maintenance of these areas.

Legal / Resource / Financial Implications

If Council wishes to have the abovementioned works undertaken funding will need to be allocated towards these costs. The monies would need to be sourced from the Property Development Reserve.

The latest cash flows for that reserve are as follows.

Property Development Reserve – Latest Cash Flow Review

Item	2015/16	2016/17	2017/18	2018/19
Opening Balance	**2,536,700**	**1,208,500**	**3,356,300**	**4,038,200**
Less Airport Overdraft	(724,200)	(444,800)	(173,400)	0
Revised Opening Balance	**1,812,500**	**763,700**	**3,182,900**	**4,038,200**
Cash Inflows				
Interest Earned on Reserve	63,000	30,000	84,000	101,000
Norfolk Homes Rental	150,000	154,500	159,100	163,900
ARC Rental (50%)	174,300	176,000	181,300	186,700
Sale – Alstonville Tennis Courts	0	1,500,000	0	0
Sales – ARC Residual	455,000	0	0	0
Sales – North Creek Road	150,000	2,500,000	0	0
Sales – Russellton Major Sales	0	0	1,500,000	0
Sales – Russellton	0	0	150,000	150,000
Sales – Southern Cross	740,000	250,000	250,000	250,000
Sales – WUEA Residential	630,000	3,960,000	4,370,000	0
Sub Total Inflows	**2,362,300**	**8,570,500**	**6,694,400**	**851,600**
Cash Outflows				
Operating Expenses – Holdings	362,000	268,100	276,300	284,800
Community Infrastructure Dividend	0	0	3,800,000	200,000
Airport Lease Evaluation	26,700	0	0	0
North Creek Road (54) - Development	736,000	300,000	0	0
Russellton – Development	20,000	1,800,000	0	0
89 Tamar Street Air Conditioning	15,000	0	0	0
Southern Cross – Development	28,000	0	1,600,000	0
Wigmore Arcade – Refurbishment	120,000	0	0	0
Wigmore Arcade – Roof	250,000	0	0	0
WUEA – Development	1,750,000	3,750,000	0	0
Dividend to General Fund	382,800	304,600	336,200	341,800
Sub Total Outflows	**3,690,500**	**6,422,700**	**6,012,500**	**826,600**
Closing Balance (Excl Airport O/D)	**1,208,500**	**3,356,300**	**4,038,200**	**4,063,200**
Less Airport Overdraft	(444,800)	(173,400)	0	0
Revised Balance (Incl Airport O/D)	**763,700**	**3,182,900**	**4,038,200**	**4,063,200**

Consultation

Council staff have consulted with contractors to obtain quotes and advice regarding the projects.

Options

The options relate to the projects that Council wish to see implemented or no work undertaken. The preferred options are.

1. Proposed Lots 2 and 3 Boeing Avenue – Undertake site clearing works with funds to be allocated for the initial works and a budget allocation for ongoing clearing/slashing.

   This option is recommended on a cost benefit basis as it is hoped these lots will sell and provide an economic return to Council.

2. Part Lot 18 DP 1059476 Kays Lane Alstonville – Council notes the contents of this report.

   This option is recommended due to the significant costs associated with clearing, re-establishing the site and ongoing maintenance, and the limited funds available in the Property Development Reserve. The cost benefit of clearing and maintaining these sites is difficult to justify. This situation is not uncommon for councils given the numerous land holdings in their ownership.

   This option may be preferable if Council wish to limit the budget costs for land clearing for the current financial year.

3. Council notes the contents of this report in regards to the other larger land holdings noted in this report – Generally there are agistments in place or other actions.

RECOMMENDATION

That based on the contents of this report that Council undertake site clearing works as outlined in the report for Proposed Lots 2 and 3 Boeing Avenue with funds of up to $25,000 to be allocated for the initial works and a $10,000 recurring budget allocation for ongoing clearing/slashing, with these funds sourced from the Property Development Reserve.

Attachment(s)

1. Locality Plan - Henderson Land
2. Locality Plan - Lot 8 Southern Cross/Airport Residue
3. Locality Plan - Gallans Road
4. Locality Plan - Waste Management Residue Land
5. Locality Plan - Wollongbar Residential Estate
6. Locality Plan - 54 North Creek Road
7. Locality Plan - Proposed Lots 2 & 3 Boeing Avenue
8. Locality Plan - Part Lot 18 Kays Lane


HENDERSON LN
GDA
Locality Plan - Lot 2 DP 1070446
Henderson Lane, Lennox Head
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LN
CORKS
CREEK
NORTH
EDGEWATER
COVE
TREVALLY
PL
WHITING
WAY
STINSON ST
GDA
Locality Plan - Lot 8 DP 793980
Southern Cross/Airport residue land
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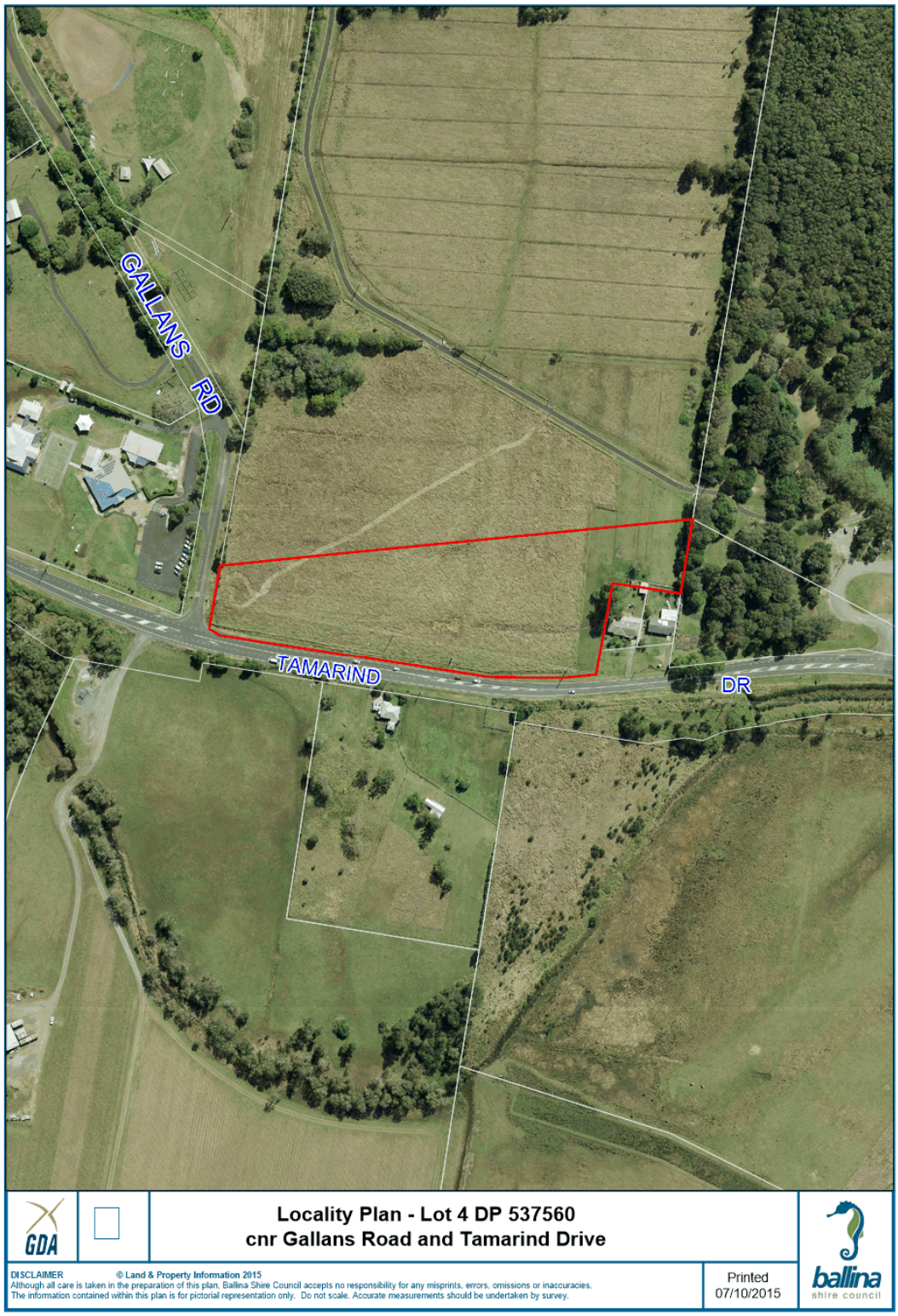
GALLANS RD
TAMARIND DR
Locality Plan - Lot 4 DP 537560
cnr Gallans Road and Tamarind Drive
GDA
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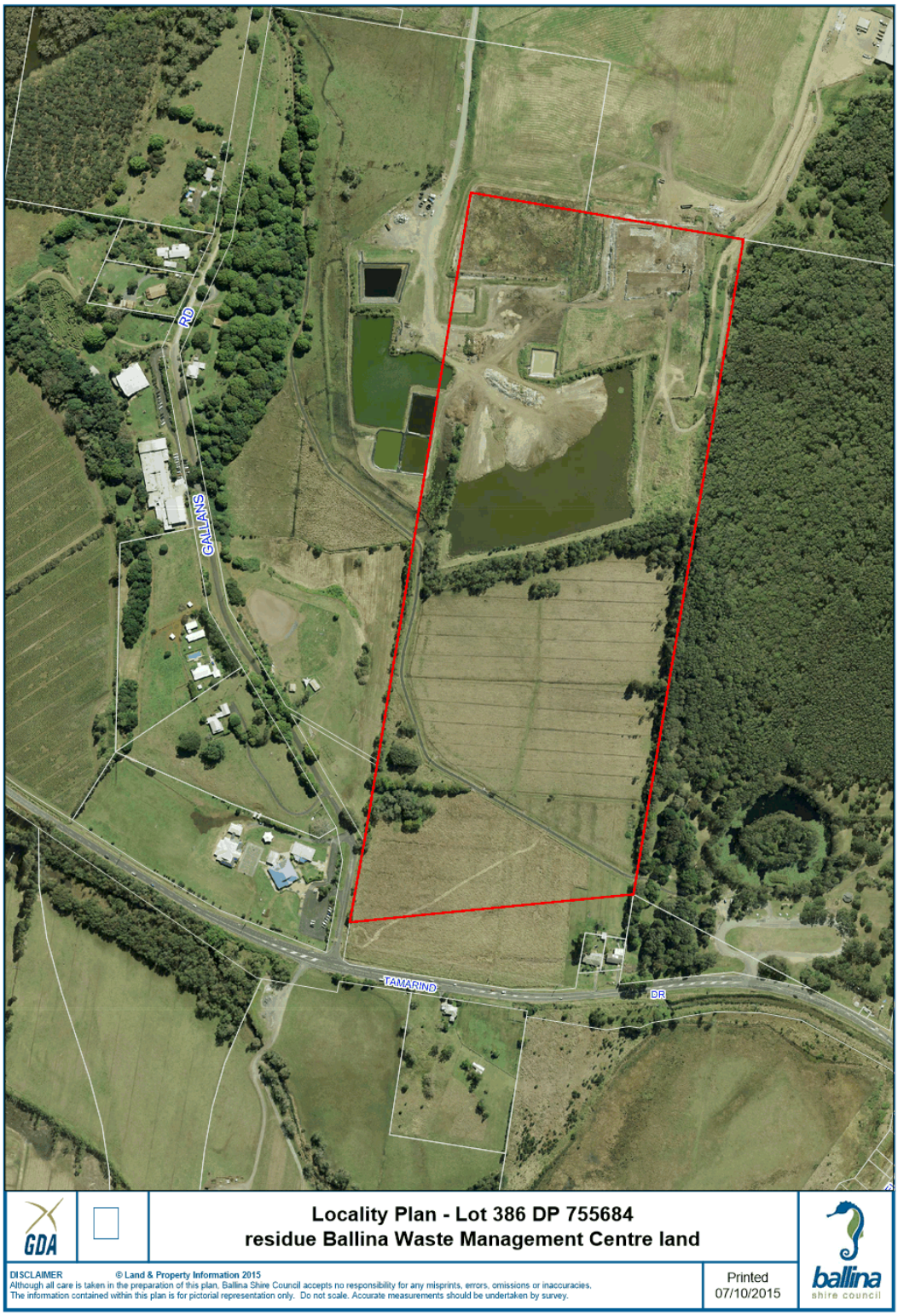
RD
GALLANS
TAMARIND
DR
GDA
Locality Plan - Lot 386 DP 755684
residue Ballina Waste Management Centre land
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PLATEAU
DR
RANGE
RD
RIFLE
GDA
Locality Plan - Lot 16 DP 1204621 & Lot 6 DP 1161720
Wollongbar Residential Estate Stage 2
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DE HAVILLAND CRES
NORTH CREEK RD
PIPER DR
GDA
Locality Plan - Lot 98 DP 1194043
54 North Creek Road, Ballina
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BOEING AVE
STINSON ST
CESSNA CRES
DE-HAVILLAND CRES
NORTH CREEK RD
GDA
Locality Plan - Proposed Lots 2 and 3
Boeing Avenue, Ballina
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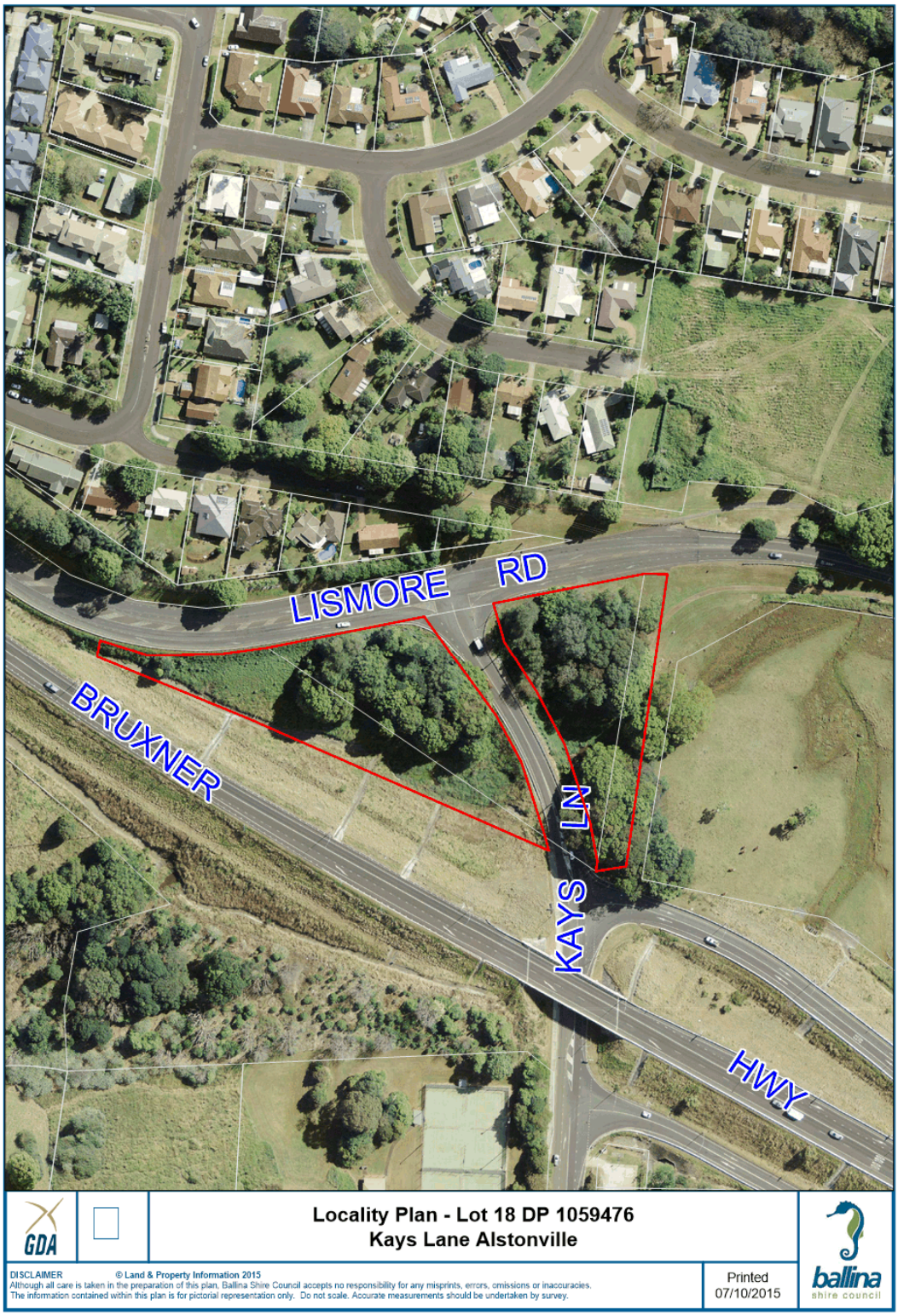
LISMORE RD
BRUXNER
KAYS LN
HWY
GDA
Locality Plan - Lot 18 DP 1059476
Kays Lane Alstonville
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4.4 54 North Creek Road, Ballina - Land Subdivision Development Proposal

Delivery Program	Commercial Services
Objective	To seek Council's concurrance to lodge a development application to create six serviced industrial lots.

Background

54 North Creek, Ballina, comprises a 1.346 hectare residue portion of land zoned “Industrial IN1” and described as Part Lot 98 DP 1194043.. Existing improvements on the site include a Council sewer pump station and an older style single storey weatherboard clad cottage. A location plan is **attached.**

A conceptual proposal to develop the site as serviced industrial lots was presented at the Commercial Services meeting held on 19 May, 2015. The resolutions arising from that meeting were:

1. *That Council approves the preparation and lodgement of a DA to undertake subdivision of Part Lot 98 DP 1194043, subject to that subdivision plan first being submitted, in draft form, for Council review and approval.*

2. *That the General Manager establishes a Sound Management Plan (SMP) for the proposed subdivision which has as it purposes the achievement of a subdivision that meets or exceeds the noise attenuation that will be required of it and does so at the least practical cost to the project. This plan to be established immediately.*

3. *That clearing of the land be undertaken as soon as possible together with removal of the house.*

4. *That Council approves an allocation of $30,000 from the Property Development Reserve to finance the cost of points 1, 2 and 3 above.*

5. *That the General Manager assess other non-commercial sites for the Men’s Shed.*

In response to those resolutions, consultants Civiltech were engaged to prepare a development application, development cost estimates and a Sound Management Plan (SMP). That work has now been completed and forms the subject of this Report.

It is noted that this Report does not address Point 5.

Key Issues

- Noise management and acoustic issues.
- Clearance of vegetation.
- Feasibility of land subdivision proposal.

Information

Civiltech have prepared a conceptual plan of subdivision that proposes to create seven lots as follows:

Lot	Lot Area (m^2)	Useable Lot Area (m^2)
A	1,250	1,160
B	1,300	1,210
C	1,350	1,260
D	1,400	1,310
E	3,400	2,960
F	1,000 (Sewer Pump Station)	1,000
G	3,400	2,850

A copy of the proposed plan of subdivision is **attached** as is the statement of environmental effects. The difference between "Lot Areas" and "Usable Lot Areas" is due to allowances for fill batters etc.

Lot E is "L" shaped in configuration whilst Lot G lacks in exposure to its street frontage, however these lots are larger and may appeal to users seeking larger sites but not concerned about exposure to passing traffic.

Civiltech have also prepared a preliminary scope of works to develop these lots and cost estimates for same that are included in a feasibility estimate **attached** hereto. Works required to develop these lots include:

a) Relocation or demolition of the existing timber cottage.

   It is proposed that this cottage be offered for sale by tender on the proviso that the successful purchaser is responsible for all costs of removing the cottage from the site.

b) Clearing of vegetation and compensatory planting.

   Consultants Melaleuca Group Pty Ltd have undertaken an ecological assessment of the site and the development proposal (see **attached**). The report notes that the majority of vegetation is proposed to be removed from the site, though some trees may be left along the boundaries to add some degree of amenity to the lots. The report also notes that the majority of vegetation has been degraded due to weed infestation; however there is about 1,200m^2 of Swamp Oak *"that is considered a degraded Endangered Ecological Community"* and recommends compensatory planting for its removal.

   The report proposes that compensatory planting take place in a SEPP 14 wetland area located to the east of the subject site. The estimated cost for this compensatory planting is $15,680 inclusive of GST based upon a formula contained in a document that has previously been accepted by Council.

c) Filling of land.

   Cutting and filling of the site is required to bring it up to the required finished fill level.

d) Connection to services.

All six lots are to be connected to existing services located in DeHavilland Crescent or North Creek Road.

e) Acoustic Issues

The development application proposes removal of the existing acoustic earthen berm located on the site. Acoustic consultants, Tim Fitzroy and Associates, recommend the combination of a buffer zone and construction of a three metre high masonry wall along the eastern and southern boundaries of the site to act as a sound barrier and reduce potential noise issues affecting houses to the south and east.

The masonry wall could be similar to the one constructed along Ferngrove Estate's boundary to Tamarind Drive and landscaped accordingly. This is point worth considering given that North Creek Road is proposed to be future arterial road extending from North Ballina to Lennox Head.

In response to Point 2 of the Council resolution referred to above, Tim Fitzroy and Associates, have prepared a Noise Management Plan ("NMP") a copy of which is **attached**. The proposed development meets the criteria set out in the NMP.

f) Relocation of services

To improve the value of proposed Lots E and G pipework pertaining to sewer pump station located on proposed Lot F may have to be removed or relocated. Preliminary advice from Civil Services is their records indicate a number of may have to be relocated, none of which are considered to be a major impediment to the proposed development.

A power pole and cable stay for same is located on proposed Lot G's frontage to Stinson Street / Cessna Crescent. This power pole may require relocation.

Staff have prepared a feasibility estimate for the proposed subdivision which indicates an estimated development profit of $1,230,000 based on information available. A copy of the feasibility estimate is **attached**, and summarized below.

Estimated gross sale proceeds			2,255,000
Less selling costs			80,000
			2,175,000
Less			
	Estimated development costs including professional fees and contingencies (as per Civiltech estimates).	622,500	
	Estimated S.64 & S.94 development contributions	322,500	
			945,000
Estimated development profit			$1,230,000

The estimated sale prices for the lots are based upon recent sales of Council lots including:

Lot/DP	Price (excl GST)	Area	Date of Sale	$/m^2
93/1161854	$290,000	1,100m^2	11/6/2010	$264/m^2
89/1161854	$424,000	1,663m^2	22/12/2010	$254/m^2
95/1184435	$533,150	2,269m^2	4/10/2012	$235/m^2
97/1194043	$570,058	2,429m^2	2/08/2012	$235/m^2
92/1161854	$270,000	1,100m^2	10/2014	$245/m^2
Pt Lot 98 DP1194043	$910,000	3,964m^2	2/2015	$230/m^2
87/1161854	$500,000	1,995m^2	5/2015	$250/m^2
90/1161854	$275,000	1,100m^2	8/2015	$250/m^2
91/1161854	$275,000	1,100m^2	9/2015	$250/m^2

Development cost estimates can be reviewed once development consent is granted and detailed construction plans and documents are completed.

Legal / Resource / Financial Implications

Legal

The subject land is classified as operational land pursuant to the Local Government Act 1993. There is no impediment to the sale of the land as proposed.

Financial

To fund this development proposal Council has previously resolved to allocated $736,000 in 2015/16 and $300,000 in 2016/17 from the Property Development Reserve. To assist in managing the cash flows for the Property Development Reserve the $300,000 represents the estimate for development contributions with those contributions paid in 2016/17 financial year.

Please note there are minor variations in figures in this report as compared to those in the Property Development Reserve, however the overall magnitude of funds is similar, and as at this stage as these remain early estimates no further changes are recommended.

Policy

Council's Property Investment and Development Policy identifies the following Risk Determination in respect to whether we should proceed with projects.

Level of Risk	Benchmark Above 90 Day BBSW
Low	< 2%
Medium	2% to 5%
High	5% to 10%
Speculative	> 10%

Overall this project is considered to be at most, a medium risk as it is a relatively straight forward project. At present there currently is a lack of serviced industrial lots balanced against a reasonable level of enquiry for same.

This land is also very well located on North Creek Road.

Based upon the Feasibility Estimate **attached** the site is calculated to have a market value in the order of $525,000 and pre-tax development profit of $500,000, assuming a developer acquired the site and developed it.

However as Council owns the site the net development profit has been calculated by adding back in land value, acquisition costs, holding charges etc. to arrive at a forecast development profit of $1,230,000 which is well above these benchmarks.

Consultation

The development proposal will be advertised as per the development application process.

Options

1. Council proceeds to lodge a development application for the proposed subdivision of Part Lot 98 DP 1194043 as per the proposed lot layout prepared by Civiltech, and adopts the Noise Management Plan as prepared by Tim Fitzroy and Associates, both of which are contained in this Report.

   This Option is recommended as there is a lack of serviced industrial lots available for sale on the Southern Cross Industrial Estate, at present Council only has one industrial lot available for sale. It is also considered that the Noise Management Plan will adequately assist in ensuring noise levels generated by industrial development on the proposed lots are kept to an acceptable level for houses in the local vicinity.

2. Council rejects the proposal to lodge a development application for the proposed subdivision of Part Lot 98 DP 1194043 as per the proposed lot layout prepared by Civiltech, and also rejects the Noise Management Plan as prepared by Tim Fitzroy and Associates, both of which are contained in this Report.

   This Option is not recommended as there is a lack of serviced industrial lots available for sale on the Southern Cross Industrial Estate, at present Council only has one industrial lot available for sale.

RECOMMENDATIONS

1. That Council proceed to lodge a development application for the proposed subdivision of Part Lot 98 DP 1194043 as per the proposed lot layout prepared by Civiltech as attached to this report.

2. That Council supports the inclusion of the Noise Management Plan as prepared by Tim Fitzroy and Associates and as attached to this report, for inclusion in the subject development application.

Attachment(s)

1. Locality Plan
2. CivilTech Proposed Plan of Subdivision
3. CivilTech Draft Statement of Environmental Effects
4. Melaleuca Ecological Assessment
5. Tim Fitroy & Associates NIA & NMP
6. Feasibility Estimates


STINSON ST
CESSNA CRES
DE-HAVILLAND CRES
NORTH CREEK RD
PERIWINKLE PL
ABALONE PL
PIPER DR
PIPI PL
LAND CRES
GDA
Locality Plan - Lot 98 DP 1194043
54 North Creek Road, Ballina
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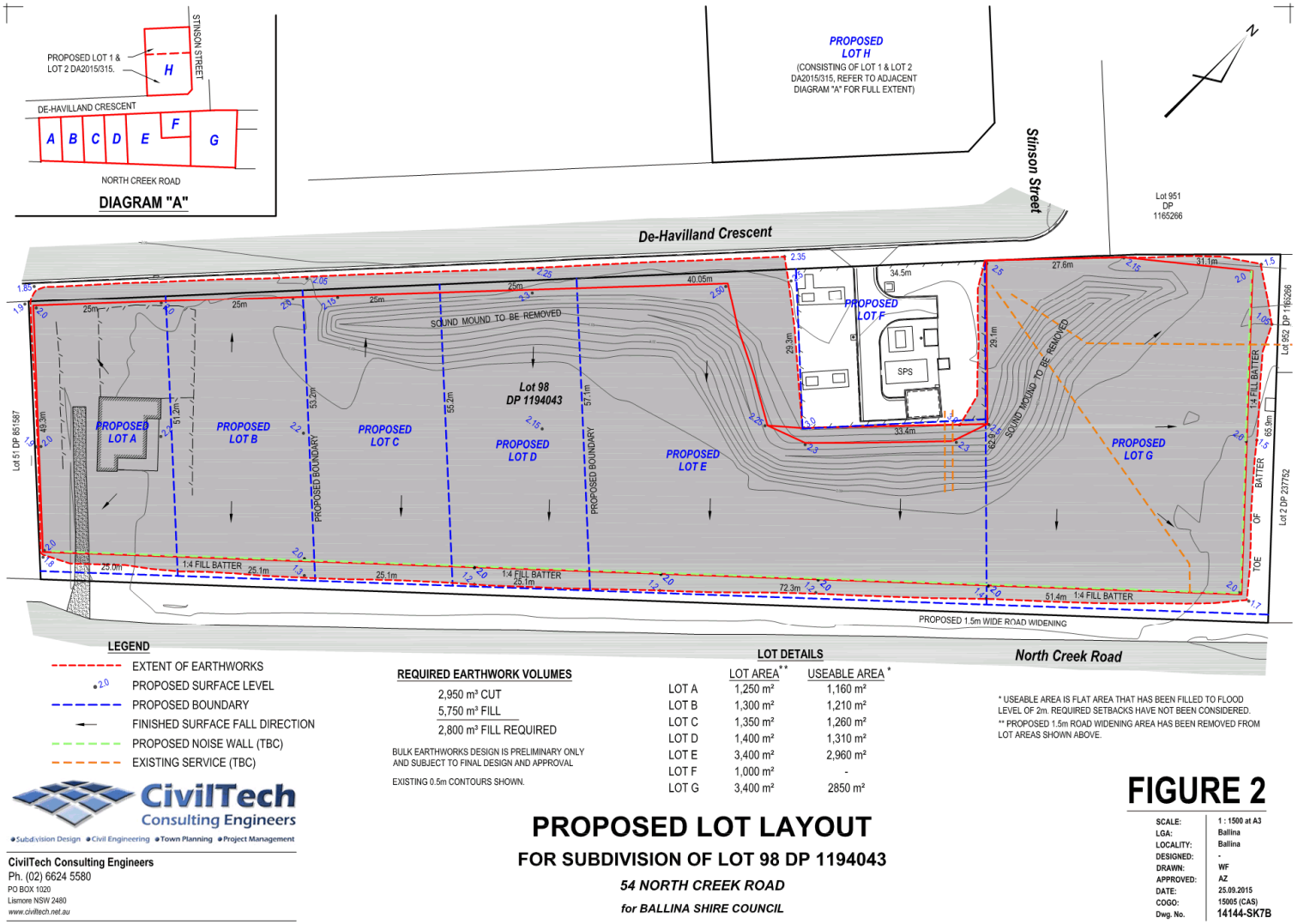
PROPOSED LOT 1 & LOT 2 DA2015/315.
STINSON STREET
DE-HAVILLAND CRESCENT
A B C D E F G H
NORTH CREEK ROAD
DIAGRAM "A"
PROPOSED LOT H
(CONSISTING OF LOT 1 & LOT 2 DA2015/315, REFER TO ADJACENT DIAGRAM "A" FOR FULL EXTENT)
Stinson Street
De-Havilland Crescent
Lot 951 DP 1165266
Lot 952 DP 1165266
Lot 51 DP 851587
Lot 2 DP 237752
PROPOSED LOT A
PROPOSED LOT B
PROPOSED LOT C
PROPOSED LOT D
PROPOSED LOT E
PROPOSED LOT F
PROPOSED LOT G
Lot 98 DP 1194043
SOUND MOUND TO BE REMOVED
PROPOSED BOUNDARY
SPS
1:4 FILL BATTER
TOE OF BATTER
PROPOSED 1.5m WIDE ROAD WIDENING
North Creek Road
LEGEND
EXTENT OF EARTHWORKS
PROPOSED SURFACE LEVEL
PROPOSED BOUNDARY
FINISHED SURFACE FALL DIRECTION
PROPOSED NOISE WALL (TBC)
EXISTING SERVICE (TBC)
REQUIRED EARTHWORK VOLUMES
2,950 m³ CUT
5,750 m³ FILL
2,800 m³ FILL REQUIRED
BULK EARTHWORKS DESIGN IS PRELIMINARY ONLY AND SUBJECT TO FINAL DESIGN AND APPROVAL
EXISTING 0.5m CONTOURS SHOWN.
LOT DETAILS
LOT A 1,250 m² 1,160 m²
LOT B 1,300 m² 1,210 m²
LOT C 1,350 m² 1,260 m²
LOT D 1,400 m² 1,310 m²
LOT E 3,400 m² 2,960 m²
LOT F 1,000 m² -
LOT G 3,400 m² 2850 m²
* USEABLE AREA IS FLAT AREA THAT HAS BEEN FILLED TO FLOOD LEVEL OF 2m. REQUIRED SETBACKS HAVE NOT BEEN CONSIDERED.
** PROPOSED 1.5m ROAD WIDENING AREA HAS BEEN REMOVED FROM LOT AREAS SHOWN ABOVE.
CivilTech Consulting Engineers
Subdivision Design Civil Engineering Town Planning Project Management
CivilTech Consulting Engineers
Ph. (02) 6624 5580
PO BOX 1020
Lismore NSW 2480
www.civiltech.net.au
PROPOSED LOT LAYOUT
FOR SUBDIVISION OF LOT 98 DP 1194043
54 NORTH CREEK ROAD
for BALLINA SHIRE COUNCIL
FIGURE 2
SCALE: 1 : 1500 at A3
LGA: Ballina
LOCALITY: Ballina
DESIGNED: -
DRAWN: WF
APPROVED: AZ
DATE: 25.09.2015
COGO: 15005 (CAS)
Dwg. No. 14144-SK7B

CivilTech
Consulting Engineers

Subdivision Design • Civil Engineering • Town Planning • Project Management

ABN 21 026 548 150
PO Box 1020
Lismore NSW 2480

Phone *6624 5580*
Email *admin@civiltech.net.au*

Statement of Environmental Effects

Proposed Industrial Subdivision
Lot 98 DP1194043
54 North Creek Road, Ballina
on behalf of Ballina Shire Council

23 September 2015

Adrian Zakaras
Town Planner, CivilTech

Ref No 14144

CivilTech Consulting Engineers

Subdivision Design · Civil Engineering · Town Planning · Project Management

DISCLAIMER

This report has been prepared for the use of the stated client and for the specific purpose described in the Introduction and is not to be used for any other purpose or by any other person or corporation. CivilTech accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this report in contravention of the terms of this disclaimer.

Due consideration has been given to site conditions and to appropriate legislation and documentation available at the time of preparation of the report. As these elements are liable to change over time, the report should be considered current at the time of preparation only.

The report relies on information supplied by the other consultants and on findings obtained using accepted survey and assessment methodology.

Conclusions to the report are professional opinions and CivilTech cannot guarantee acceptance or consent of the relevant determining/ consent authorities. Subsequent requests for further work or information may be subject to agreements and additional fees.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

APPLICATION DETAILS

Applicant:	CivilTech Consulting Engineers
Defined use:	Industrial Subdivision
Class of development:	Local
Approval sought:	Development Consent

SITE DETAILS

Site address:	54 North Creek Road, Ballina
Real property description:	Lot 98 DP1194043
Area:	1.7424 hectares
Zone/s	IN1 – General Industrial Zone
Registered Owner(s):	Ballina Shire Council

INTEGRATED DEVELOPMENT AUTHORITIES

Nil

1. Introduction

CivilTech Consulting Engineers (CivilTech) has been engaged by Ballina Shire to prepare a Statement of Environmental Effects to accompany a Development Application for the subdivision of Lot 98 DP1194043 to create eight (8) new allotments. The proposal also includes the removal of vegetation, demolition of existing structures, the filling of land, construction of a noise wall and associated civil works and landscaping.

The Existing Lot Layout including detail survey is provided in Figure 1.

The land is zoned IN1 – General Industrial under the provisions of the Ballina Local Environmental Plan (BLEP) 2012.

An assessment of the proposed development against the relevant local planning controls, State Environmental Planning Policies, and relevant legislation has been undertaken as part of this Statement of Environmental Effects, and includes an assessment against:

- Environmental Planning and Assessment Act 1979;
- State Environmental Planning Policy No. 44 – Koala Habitat Protection;
- State Environmental Planning Policy No. 55 – Remediation of Land;
- State Environmental Planning Policy No. 71 – Coastal Protection;
- Ballina Local Environmental Plan 2012; and
- Ballina Combined Development Control Plan 2012.

This Statement of Environmental Effects provides an assessment of the impacts of the proposed development on the surrounding environment, and concludes that the proposed development is appropriate.

A pre-lodgement meeting with held with Ballina Council staff on 20th August 2015. Additional discussions were also undertaken with relevant Council staff. This report has been prepared in accordance with the discussions undertaken.

It is requested that the development application be approved by Ballina Shire Council, subject to reasonable and relevant conditions of development consent.

The following information is included within this Statement of Environmental Effects:

- Appendix A – DA2015/315 Approved Lot Layout

- Appendix B – Noise Impact Assessment
- Appendix C – Assessment of Potential Contamination Issues, Acid Sulfate Soils and Ecological Impacts
- Appendix D – Ecological Assessment

2. Subject Site

The land is located at 54 North Creek Road, Ballina and is formally known as Lot 98 DP1194043, Parish of Ballina and County of Rous.

The existing lot layout showing existing cadastral boundaries is provided in Figure 1.

The land has an area of 1.7424 hectares and is zoned IN1 – General Industrial.

The land is currently occupied by a single storey dwelling and associated infrastructure located in the southern portion of the site, a sewer pump station is located in the north western portion of the site whilst a large acoustic berm is located on the site. This berm was constructed to attenuate noise from nearby industrial uses to residential dwellings to the east of the site.

The land has frontage to North Creek Road, De-Havilland Crescent and Stinson Street.

DA2015/315 was approved by Ballina Shire Council on 20 July 2015. This approval was for the subdivision of the site (see Appendix A) creating 2 industrial allotments and one residue allotment. This proposal seeks to subdivide the residue allotment.

3. Proposed Development

The proposed development comprises the subdivision of Lot 98 DP1194043 to create eight (8) new Torrens titled allotments.

The lots will consist of the following areas:

Lot Number	Area (m^2)
A	1,250
B	1,300
C	1,350
D	1,400
E	3,400
F	1,000 (Sewer Pump Station)
G	3,400
H	3,964 (2 lots approved under DA2015/315)

The proposed lot layout is provided at Figure 2.

The demolition of the existing dwelling and associated infrastructure will be undertaken along with the removal of all vegetation.

The filling of land is required to accommodate the future development of the allotments as shown on Figure 2. The land will be filled to a level of between 2.0m AHD and 2.2m AHD with batters of 1:4 to the existing levels along North Creek Road and De-Havilland Crescent. Approximately 2,800m^3 of fill is required.

The proposal also incorporates the dedication of 1.5 metres of land along the entire frontage of North Creek Road for future road widening.

As the existing acoustic berm is to be removed, a 3 metre high noise wall is proposed to be constructed along the eastern and southern boundary of the site (see Figure 2). Details of this wall are provided in the Noise Impact Assessment Provided in Appendix B. Landscaping between the proposed noise wall and North Creek Road will be undertaken. A Landscape Plan will be provided at the Construction Certificate stage.

Easements over existing services will be created where appropriate or these services will be relocated as required.

4. Environmental Planning & Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* requires that each Development Application be evaluated against the matters listed under Section 79C(1) Evaluation - Matters for Consideration - General.

The Section 79C matters for consideration are addressed in the following Sections.

4.1 Environmental Planning Instruments

The environmental planning instruments identified as being relevant to the proposed development include:

- State Environmental Planning Policy No. 44 – Koala Habitat Protection;
- State Environmental Planning Policy No. 55 – Remediation of Land;
- State Environmental Planning Policy No. 71 – Coastal Protection;
- Ballina Local Environmental Plan 2012.

4.1.1 State Environmental Planning Policy No. 44 – Koala Habitat Protection

Inspection of the site by Dr Melissa Van Zwieten did not identify any koala habitat and it is considered that SEPP 44 is not applicable and therefore a Koala Plan of Management is not considered required for the proposal.

4.1.2 State Environmental Planning Policy No. 55 – Remediation of Land

As the site has historical uses for agricultural practices (i.e sugar cane cultivation) a Contamination Assessment has been undertaken and is included in Appendix C.

This assessment also considers possible contamination from the dwelling (i.e. from lead paint).

Material used in the filling of the site will be certified to be free from contaminates.

4.1.3 State Environmental Planning Policy No. 71 – Coastal Protection

The land is located within the coastal zone and therefore SEPP 71 applies. The policy requires that the determining authority considers a range of issues when determining an application for development in the designated coastal zone. The policy sets out aims and objectives in Clause 2 of the policy and sets out matters for consideration in clause 8 of the policy.

The proposal is considered to be in accordance with SEPP 71 as:

- The proposal does not compromise public access to the foreshore as the proposal is over private land only;
- The proposal is suitable in the area as it is located on appropriately zoned land;
- Does not have a significant impact upon wildlife corridors, or marine or fish environments;
- The proposal will not have a detrimental impact upon the amenity of the foreshore as it is located some distance from the foreshore;
- The proposal will not conflict with water based activities;
- The proposal will not impact upon water quality in the area.

4.1.4 Ballina Local Environmental Plan 2012

The Ballina Local Environmental Plan 2012 (BLEP 2012) came into effect on the 4th February 2013. The site is identified under the BLEP 2012 as follows:

- Acid Sulfate Soils Map: Class 2 (Sheet ASS_006);
- Building Height Allowance Map: C 2.0m AHD (Sheet BHA_006C);
- Flood Planning Map: Flood Planning Area (Sheet FLD_006);
- Height of Buildings Map: K – 10 metres (Sheet HOB_006);
- Lot Size Map: U1 – 1,00m² (Sheet LSZ_006C);
- Land Zoning Map: IN1 – General Industrial (Sheet LZN_006C);
- Strategic Urban Growth Area Map – Land Adjoining Strategic Urban Growth Area (Sheet SGA_006C).

Relevant Clauses of the BLEP 2012 are as follows:

4.1.4.1 Clause 1.2 – Aims of plan

The proposal is in accordance with the aims and objectives of the BLEP 2012 as it has been demonstrated throughout this report that the development achieves the objectives of the IN1 zone and promotes the orderly and efficient use of land.

4.1.4.2 Clause 2.6 – Subdivision – consent requirements

Consent for the proposed subdivision of the land is sought via this application.

4.1.4.3 Clause 2.7 – Demolition requires development consent

Consent for the demolition of the existing dwelling and associated structures is sought via this application.

4.1.4.4 Land Use Table – Zone IN1 General Industrial

1 Objectives of zone

- *To provide a wide range of industrial and warehouse land uses.*
- *To encourage employment opportunities.*
- *To minimise any adverse effect of industry on other land uses.*
- *To support and protect industrial land for industrial uses.*
- *To enable non-industrial uses that are compatible with the industrial nature of the locality.*
- *To provide for the efficient use of industrial land.*
- *To encourage development that achieves the efficient use of resources such as energy and water.*
- *To ensure that development does not expose adjoining uses to hazard risks.*

The proposal is considered to be in accordance with the zone objectives as it will provide additional industrial allotments on appropriately zoned land that are capable of providing a wide range of industrial and warehouse land uses.

4.1.4.4 Clause 4.1 – Minimum subdivision lot size

The prescribed minimum allotment size for the area is 1,000m^2. As provided in the attached Subdivision Layout in Figure 2, each of the proposed allotments has an area greater than 1,000m^2.

4.1.4.5 Clause 5.5 – Development Within The Coastal Zone

The heads of consideration within this clause are effectively the same as those contained in SEPP 71. SEPP 71 has been considered above in Section 4.1.3.

4.1.4.6 Clause 7.1 – Acid Sulfate Soils

The site is identified as potentially having Class 2 Acid Sulfate Soils (Sheet ASS_006). A Preliminary Acid Sulfate Soils Assessment is provided in Appendix C.

4.1.4.7 Clause 7.2 – Earthworks

The site is required to be filled to accommodate the future development of the proposed allotments (see Figure 2). This fill will be free from contaminates and placed in accordance with relevant Australian standards. Further details will be provided at the Construction Certificate stage of the development.

4.1.4.8 Clause 7.3 – Flood Planning

The site is located within the Flood Planning Area with the minimum fill level prescribed of 2.0 metres. As shown in Figure 2, filling of the land is required to bring the allotments to a level at or above the flood planning level.

4.1.4.9 Clause 7.7 – Essential Services

The site is in an urban/industrial locality with existing connections to a reticulated water supply, a reticulated sewerage service, electricity, telecommunications and the local stormwater drainage system. The proposed development will be connected to all urban services as identified above.

4.1.4.10 Clause 7.8 – Strategic urban growth areas

The land is identified as being "Land Adjoining Strategic Urban Growth Area" and therefore consideration of clause 7.8 is required. The proposal is considered to be in accordance with this clause as the proposal is essentially an infill development of an existing industrial allotment. Appropriate mitigation measures i.e. the erection of a noise wall are proposed to minimise land use conflict between industrial uses and residential development.

4.2 Draft Environmental Planning Instruments

No draft Local Environmental Planning Instruments are applicable.

4.3 Ballina Development Control Plan 2012

4.3.1 Chapter 2 – General and Environmental Considerations

The relevant Parts of Chapter 2 of the BDCP 2012 are discussed below.

Section 3.4 – SEPP 55 is addressed above in Section 4.1.2.

Section 3.7 – Material from the demolition of the existing dwelling and associated infrastructure will be recycled where possible/appropriate with waste not able to be recycled taken to an approved landfill site for disposal. A Waste Management Plan will be prepared by the selected contractor prior to demolition works commencing.

Section 3.9 – Stormwater from any future industrial will be directed into Councils stormwater system. Further details will be provided upon application for a building on each of the proposed allotments.

Section 3.10 – Sediment and Erosion control will be established and maintained where required in accordance with the relevant requirements of the Blue Book.

Section 3.11 – Each of the proposed allotments will have all essential services, made available to them.

Section 3.19 – Access to each of the proposed allotments will be via De-Havilland Crescent. Parking and manoeuvring arrangements for each allotment will be provided at the DA stage for industrial buildings.

4.3.2 Chapter 2a – Vegetation Management

Development consent is sought for the removal of all vegetation on the land. Further details are provided in Appendix D.

4.3.3 Chapter 5 – Industrial Development

A number of elements within this chapter relate to the construction of buildings. The proposed subdivision is in accordance with this chapter as

the development seeks to encourage and promote appropriate forms of industrial development through the creation of additional allotments.

Landscaping between the proposed noise wall and North Creek Road will be undertaken. Access from North Creek Road will also be prohibited.

4.4 Planning Agreements

There are no s93F Planning Agreements currently applicable to the Site. It is not proposed to enter into any Planning Agreement as part of this Development Application.

4.5 Regulations

No other matters are prescribed under the Regulations.

4.6 Likely Environmental Impacts

4.6.1 Ecological Impacts

The proposal requires the removal of all vegetation on the subject land. A Flora and Fauna Assessment has been undertaken and is included in Appendix D. This assessment recommends some compensatory weed control be undertaken at a site nearby as a result of the removal of vegetation. This site was selected in consultation with Council.

4.6.2 Context and Setting

The proposal relates to the industrial subdivision of an appropriately zoned allotment that is located within the Southern Cross Industrial Estate. The proposal is in keeping with the character and amenity of the locality. Mitigation measures are proposed to minimise land use conflicts with adjoining residential development.

4.6.3 Access, Transport and Traffic

Access to each of the proposed allotments will be via De-Havilland Crescent with access from North Creek Road prohibited. Future development of each of the allotments will be required to consider the relevant parking and vehicle manoeuvring requirements of Councils DCP.

To facilitate the future widening of North Creek Road, 1.5 metres along the entire frontage to North Creek Road is proposed to be dedicated as road widening.

4.6.4 Heritage

The proposed development site is not within the general vicinity of a Heritage Item under BLEP 2012.

4.6.5 Cumulative Impacts

It is unlikely that approval of this application will lead to any undue cumulative impacts on the amenity of the area, the natural environmental conditions of the surrounding locality or the surrounding land uses.

4.6.6 Public Domain

As the proposal relates to an industrial subdivision, approval of the proposal will have no significant impact upon public recreation opportunities within the locality.

4.7 Suitability of the Site for the Development

It has been demonstrated throughout this report that the land is capable of accommodating the development as proposed. The site is appropriately zoned and located for industrial development. Appropriate mitigation measures are proposed to compensate vegetation removal and to mitigate any potential land use conflict.

4.8 The Public Interest

The proposal is permissible in the zone and complies with applicable planning controls. The proposal provides additional industrial land to complement the existing industrial uses within the Southern Cross Industrial area. Appropriate mitigation measures are proposed to reduce conflict between industrial and residential uses and to compensate vegetation removal.

The development complies with the matters to be considered under Section 79C of the *Environmental Planning and Assessment Act, 1979*.

There is no conflict with the public interest.

4.9 Integrated Development

According to '*s.91(1) Integrated development is development (not being complying development) that, in order for it to be carried out, requires development consent and one or more (..)*' of a number of approvals under specified legislation.

The proposed development is not considered to be Integrated Development.

5.0 Conclusion

The development as proposed is considered to be congruent with all the requirements of Section 79C (1) of the *Environmental Planning and Assessment Act 1979*, Council's requirements and any other relevant statutory requirements and is highly unlikely to have any detrimental impact on the amenity of the area.

The proposed development is:

- An orderly and economic development of the land in accordance with the Objects of the EP & A Act;
- Unlikely to have detrimental social, economic or environmental impacts;
- An appropriate land use in the locality;
- Consistent with applicable strategies and planning instruments;
- An appropriate design response to the site;
- Not likely to create any land use conflicts; and
- Not likely to adversely impact upon the amenity of the area.

Given that no significant adverse, social, economic or environmental impacts are likely to arise from the approval of this application as proposed it is considered worthy of Council's support subject to relevant and reasonable conditions.

6.0 Figures

1

2

7.0 Appendices

Appendix A – DA2015/315 Approved Lot Layout

Appendix B – Noise Impact Assessment

Appendix C – Assessment of Potential Contamination Issues, Acid Sulfate Soils and Ecological Impacts

Appendix D – Ecological Assessment

Appendix A – DA2015/315 Approved Lot Layout

Appendix B – Noise Impact Assessment

Appendix C – Assessment of Potential Contamination Issues, Acid Sulfate Soils and Ecological Impacts

Appendix D – Ecological Assessment

Melaleuca Group Pty Ltd

ABN: 63 131 799 641
118 Beacon Road
TEVEN NSW 2478

Mob: 0427 628 847
Email: melissa.vanzwieten@exemail.com.au

Date: 28th August 2015

To: The General Manager
Ballina Shire Council
PO Box 450
BALLINA NSW 2478

Attention: Paul Tsikleas

Dear Paul,

Re: Part of Lot 98 DP 1194043, 54 North Creek Rd, Ballina - Brief Ecological Assessment for Development Application.

Introduction

Melaleuca Group has been engaged by CivilTech on behalf of Council to provide independent advice in regard to the ecological aspects of the site, potential impacts from clearing and appropriate environmental compensation to accompany documentation for a Development Application at the site.

This report summaries the findings of a previous site assessment (Melaleuca Group February 2015) and the determination of appropriate compensation for vegetation removal. The subject site is estimated to be approximately 1.4 ha (refer Attachment A) and has an existing dwelling located in the southern portion of the site. A pump station is located towards the northern end of the site along with a tall noise-attenuation mound. Treed vegetation exists over the majority of the study area (see below for full description).

Melaleuca Group undertook site investigations on 23rd January 2015 and provided a brief report to Council at that time (dated 3rd February 2015). This report provides additional information to that assessment in terms of determining appropriate compensatory habitat for proposed development of the subject site. As such, additional site investigations were completed in August 2015 along with discussions with various Council staff to determine acceptable levels of compensation to vegetation clearing and the identification of a suitable site for which compensation works to occur.

Flora and Fauna Assessment

Aims

The purpose of this assessment is to:

1. Inspect and assess the structure and floristics the Study Area;
2. Assess the habitat value for threatened flora and fauna;
3. Assess the Swamp Oak community in reference to its consistency with the Swamp Oak Floodplain Endangered Ecological Community (EEC);
4. Identify and assess a suitable compensatory area; and
5. Report on the findings.

Methodology

The scope of works included:

- A review of the previous assessment;
- A search of Schedules 1, 2 and 3 of the New South Wales Threatened Species Conservation Act 1995 and of the Office of Environment and Heritage (OEH) Bionet Atlas of NSW Wildlife (Atlas) to identify threatened species, populations and ecological communities, or their habitats recorded on and within a five kilometre radius of the site;
- A search of the preliminary and final determinations made by the NSW Scientific Committee and the Threatened species profiles and priority action statements (OEH).
- A search of the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 database to identify threatened species, ecological communities, Ramsar Sites and migratory species recorded within a five kilometre radius of the site.
- Field assessment of the development site and nominated compensatory area.

Previously, a field survey was carried out on the 23rd January 2015. The entire Study Area was traversed on a random meander basis to search for threatened flora species, assess habitat value and determine floristics for assessment of the EEC. In addition, three tree-counts/basal area plots were undertaken. Recent and historical aerials were reviewed to assess vegetation and to ascertain the extent of the Swamp Oak forest and thereby the potential distribution of the EEC. The survey was carried out by experienced field ecologists. Formal sites were located across the site to ascertain the extent of a Swamp Oak forest.

To determine if Swamp Oak Floodplain EEC is likely or actually occurs on the site, a literature review was undertaken followed by a field survey. Literature reviewed included:

NSW Scientific Committee (2011). Swamp oak floodplain forest of the NSW North Coast, Sydney Basin and South East Corner bioregions endangered ecological community listing.

NSW Department of Environment and Climate Change (2007). Swamp Oak Floodplain Forest. Identification Guidelines for Endangered Ecological Communities.

Liaison with Council staff was undertaken to confirm their interpretation of the scientific determination, assessment of previously presented information and appropriate acceptable levels of compensation.

An additional field survey was undertaken on 19th August 2015 to confirm previous findings and to assess a nearby site identified by Council staff as a suitable compensation area.

Results

Desktop and field surveys

A review of records of threatened flora and fauna species and populations known to occur within a 100km^2 area surrounding the site was undertaken. The Office of Environment and Heritage (OEH), National Parks and Wildlife Service (NPWS) Wildlife Atlas showed the following listed species under Schedules 1, 1a and 2 of the TSC Act 1995, (see Attachment B)

- 6,804 records of 26 threatened flora species; and
- 1,393 records of 68 threatened fauna species.

A search of the Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) Protected Matters Search Tool listed 68 threatened flora (20) or fauna (48) species or species habitat likely to occur or may occur within five kilometers of the site (see Attachment B). In addition, 74 migratory species may occur (Attachment B).

A review of Schedule 1 of the TSC Act indicates that there are potentially ten (10) endangered ecological communities that potentially occur in the locality and therefore could potentially occur in the vicinity of the subject site (Attachment B).

A search of the DSEWPC Protected Matters Search Tool listed two threatened ecological communities within 5 km of the site, that being *Littoral Rainforest and Coastal Vine Thickets of Eastern Australia* and *Lowland Rainforest of Subtropical Australia*.

Field survey methods utilised assessment of the vegetation and species richness was recorded. In three (3) locations, the basal area of the stand of trees was measured using a Bitterlich sampling method. A full species list is provided in Attachment D2 (Melaleuca Group February 2015). Nomenclature for plant names used in text follows the National Herbarium of New South Wales as published in the Flora of New South Wales (Harden 1990-1993).

The three (3) sites were located to represent the typical expression of vegetation at the site and to determine the extent of the Swamp Oak community on the site. One site was located in the oldest treed vegetation on the site which represented regrowth from approximately 1987. This small patch of regrowth appears to have grown from 2 or 3 trees that can be identified on a historical aerial from 1979.

The remaining sites were located in more recent regrowth from approximately 2003. Regrowth is predominantly attributed to the exclusion of cattle grazing and/or active weed management.

Site inspections undertaken in January and August 2015 did not record any threatened flora or fauna within the proposed works footprint. Further the habitat at the site is considered poor for all the listed threatened flora and fauna and as such it is considered unlikely any of these species would be utilising habitat at the site.

Swamp Oak Floodplain Forest Endangered Ecological Community

As a number of Swamp Oak trees were located on the site and further investigations undertaken in January 2015 were undertaken to allow for the assessment of these trees with respect to meeting the requirements of the Swamp Oak Floodplain EEC. These investigations were further reviewed and discussed with Council staff.

The site assessment performed in combination with reference to the literature review and the Scientific Determination for Swamp Oak Floodplain EEC offer considerable material toward assessing if the Swamp Oak forest, which occurs on the site, is consistent with the Scientific Determination.

The area of Swamp Oak forest in the southern section of the site is considered regrowth remnant and measured approximately 705m^2 in 1991. This area had expanded to approximately 1,220m^2 in 2004. Since 2004, the area appears relatively static due to invasive weeds across the site and within the community. This vegetation is considered consistent with the Scientific Determination through the following edaphic and locational attributes:

- The community occurs on grey-black clayloams and sandy loams. Soils are mapped and described by Morand (1994) within the Tyagarah (ty) soil landscapes. These soils are described as coarse- to medium grained sand to clayey sand in the top soils and clay loam, sandy to clay loam and sandy clay loams at depth with colours varying between greyish yellow to brown to black. Natural soils identified at the site are consistent with this description.
- The community occurs below 20m elevation, in the NSW North Coast, Sydney Basin or South East Corner bioregions.

The vegetation in this area is not considered completely consistent with the Scientific Determination through the following attributes:

Hydrological Criteria

The subject site is flat and low lying. It is not bordered by a major waterway but is linked via man-made drains to North Creek to the east. These drains also link low-lying lands/wetlands to the west. Development on all four borders of the site has resulted in filling. Thus the site has become generally isolated to similar natural landscapes. The natural landscape of the Study Area (and community) occurs on quaternary Estuarine Plain on the coastal floodplain. Therefore, it could be considered consistent with the scientific committee which describes "Swamp Oak on floodplains" to be "where the groundwater is saline or subsaline, on waterlogged or periodically inundated flats, drainage lines, lake margins and estuarine fringes associated with coastal floodplains. Floodplains are level landform patterns on which there may be active erosion and aggradation by channelled and overbank stream flow with an average recurrence interval of 100 years or less (adapted from Speight 1990)" (NSW Scientific Committee 2011). However, the surrounding filling of land has substantially changed the hydrology of the site. It is not anticipated the area would receive the normal flooding events to that which was once prevalent across the current Study Area and the original holdings prior to development.

Structural and Floristic Criteria

A Swamp Oak Floodplain EEC community is characterised by the occurrence of an assemblage of species in accordance with the Scientific Determination. The NSW Scientific Committee (2011) lists 45 species which are considered characteristic of the EEC, and note that "species composition of a site will be influenced by the size of the site, recent rainfall or drought conditions and by its disturbance (including fire, grazing, flooding and land clearing)" (Attachment D3, Melaleuca Group February 2015).

The site is dominated with a broad range of exotic (and predominantly highly invasive) weed species. Weed invasion is acknowledged by the Scientific Committee:

> *Very few examples of Swamp Oak Floodplain Forest remain unaffected by weeds. The causes of weed invasion include physical disturbance to the vegetation structure of the community, dumping of landfill rubbish and garden refuse, polluted runoff from urban and agricultural areas, construction of roads and other utilities, and grazing by domestic livestock.*

A review of species identified during the site inspection indicate that while 15 of the 45 listed species were identified across the site (Attachment D3, Melaleuca Group February 2015), the predominance of weed species and the biomass of these exotic species are not truly reflected by the data collected from the field work. This is further evidenced by tree counts and calculations of basal areas. In the three (3) locations these were assessed, few mature weed trees were identified. However, observations by field staff, the understorey of the forests are particularly dominated by weed species. For example, at Plot 1 not a single sapling of *C. glauca* was recorded. Rather, a dominance of *C. camphora* saplings were observed indicating that if left to natural attenuation, this forest would develop into a Camphor Laurel dominated forest (with a Lantana understorey).

Section 5A of the Environmental Planning and Assessment Act 1979

Section 5A of the EP&A Act lists the factors to be considered (the seven-part test) when determining whether a proposed development/activity is likely to have a significant effect upon threatened species, populations or ecological communities, and their habitats, therefore determining if a Species Impact Statement is required.

The vegetation at the Site is described as:

Area located to north of dwelling: Closed forest (8-12m) of Swamp Oak (*Casuarina glauca*) with dominant sub-canopy of Camphor laurel (*Cinnamomum camphora*) and Willow Bottlebrush (*Callistemon salignus*). Sparse open understorey of *C. camphora*, *Schefflera actinophylla**, *Maclura cochinchinensis,* Winter Senna (*Senna pendula var. glabrata**) and exotic grasses. Very sparse groundcover with <5% exotic Paspalum spp. and scattered seedlings of *Cupaniopsis anacardioides*, *Archontophoenix cunninghamiana* and A. *alexandrae*. (* Denotes non-native species).

Remainder of site: Regrowth scrubland (6-9m) of Swamp Oak (*Casuarina glauca*), Broad-leaved Paperbark (*Melaleuca quinquenervia*) and Blackwood (*Acacia melanoxylon*). Numerous climbing vines of Common Silkpod (*Parsonsia straminea*) and Coast Morning Glory (*Ipomoea cairica**). Sparse understorey of *A. melanoxylon*, *C. camphora*, *S. pendula var. glabrata**. Dense groundcover (0-1m)

of Setaria sp., Paspalum spp., *Hypolepis muelleri*, and *I. cairica** and Regrowth Closed forest (8-10m) of Swamp Oak (*Casuarina glauca*) and Blackwood (*Acacia melanoxylon*) with understorey dominated by Harsh Ground Fern (*Hypolepis muelleri*) and exotic Setaria sp.

The seven-part test must be applied if threatened species are observed or are likely at a site. Given the proposed works at the site will remove vegetation at the site, impacts could occur on a number of species, if present. However, the flora assessment found that the site does not represent high quality habitat for any of the threatened flora and fauna species known in the locality and as such it is considered unlikely that any of these species would be utilising habitat affected by the proposed works.

The vegetation types and species composition found at the site have been compared with the biophysical and species characteristics of Swamp Oak floodplain EEC as outlined in the NSW Scientific Committees final determination. The assessment has found that only the area located north of the dwelling meets some of the characteristics of this community. While not considered completely consistent, the precautionary principle requires adoption in this instance. A 7-part test has been undertaken taking into consideration the highly degraded nature of the vegetation, small area of the community, low viability potential, isolation of the community, lack of containment within a wildlife corridor, lack of performing a stepping stone or winter feed area.

A compensatory area has been identified nearby. This area is located within the reserve areas of the North Lakes Estate on the eastern side of North Creek Road. The area identified for receiving rehabilitation is identified as Weed Treatment Zone W8 in the Water Quality Management Plan North Lakes (Tim Fitzroy and Associates 2008). This area measures approximately 7,555m^2. Vegetation within this area borders a drain and lake area. It is understood this area is considered a high priority for action by Council due to the dominance of weed species, the proximity to the nearby SEPP 14 wetland and future plans to reconnect the waterway directly to the SEPP 14 area (current connected only during flood events through low lying swampy area).

The vegetation along the southern embankment (W8 area) consists of planted *Eucalyptus* species interspersed with a number of *C. glauca*. Similar to the vegetation on the subject site, for the majority of the area, the vegetation community is considered inconsistent of a Swamp Oak Floodplain EEC due to the range of planted native species and high dominance of weeds (including Madeira vine). However, given the location along a drain, regrowth *C. glauca*, presence of a number of consistent EEC species, connections to Swamp Oak forests to the east, fringing vegetation on the northern embankment dominated by *C. glauca*, it is considered with some intervention, the area would become more consistence with the description of the EEC. Of particular note is an island measuring approximately 700m^2 which is dominated by *C. glauca* with an understorey of Climbing Asparagus. The vegetation on this island is considered consistent with the EEC and is providing essential habitat to a range of bird (particularly duck) species. As such, this island is considered of high conservation value. The presence of the weedy understorey is of concern and control would provide immediate benefit to birds utilising the island. The entire area will benefit significantly from weed control by way of reducing the weed seed bank to allow for natural regeneration. Controlling weeds in this area (refer Attachment C) will have major benefits by reducing a major weed seed bank in the vicinity of a SEPP 14 wetland (No. 88a) located to the east. The costs of undertaking

these works are considered very reasonable given the level of benefit to the biodiversity in the broader locality (refer Attachment C3).

The potential impacts of the proposal on the Swamp Oak Floodplain EEC in relation to the 7 factors listed in s.5A (EPA Act) are examined below:

(a) In the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

This assessment of significance does not apply in this instance. There are no threatened flora or fauna species were located within the site. The action proposed is not likely to have an adverse effect on the life cycle of a threatened species (if presence) such that a viable local population of the species is likely to be placed at risk of extinction.

(b) In the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction.

This assessment of significance does not apply in this instance. There are no endangered populations, as defined in Part 2 of Schedule 1 of the TSC Act, located on or within the vicinity of the site. The action proposed is not likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction.

(c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.

It is not considered that the removal of approximately 1,200m^2 of highly degraded marginal Swamp Oak Floodplain EEC is likely to have an adverse effect such that its local occurrence is likely to be placed at risk of extinction. The proposed rehabilitation area will benefit over 7,000m^2 of similar vegetation with further local benefits of removing a major weed bank from close proximity of a SEPP 14 (No. 88a) wetland.

(d) in relation to the habitat of a threatened species, population or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and

Approximately 0.12ha of highly degraded marginal endangered ecological community will be removed within the subject site and immediate footprint of the zone of the proposal. Removal of this vegetation will be compensated by weed control on a nearby area which includes an area (approximately 0.07ha) of significant vegetation. Further, weed control in the compensation area will have larger impacts on the broader vegetation communities in the locality including a nearby SEPP 14 wetland.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

The proposal will remove a currently isolated area of habitat with compensation by way of improving an area of vegetation connected to larger areas of similar or better vegetation. Thereby, EEC vegetation and threatened species' habitat in the locality will be improved as a result of the proposed weed control works.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,

The vegetation to be removed by the proposed works is in poor condition as a result of intensive weed invasion. It is not considered to be of high importance to the long-term survival of the endangered ecological community in the locality. In addition, the proposal will improve similar vegetation at a nearby location which has increased importance due to its closer proximity to a SEPP 14 (No. 88a) wetland.

(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

No critical habitat has been designated under the TSC Act (1995) for any Threatened species known or considered likely to occur in the site. Thus, the action proposed is unlikely to have an adverse effect on critical habitat.

(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

The proposed actions are not inconsistent with the objectives and actions contained within any relevant species recovery plans and/or applicable threat abatement plans.

(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

"Clearing of native vegetation" is listed as a Key Threatening Process under the TSC Act (1995). As discussed above, the removal of a small area of highly degraded Swamp Oak forest by the proposal will be offset by weed control on a larger area of higher ecological value. As such, the clearing is unlikely to present a threat to local populations of threatened species or biodiversity values generally. Native vegetation elsewhere in the locality will be improved as a result of the proposed compensation works.

Discussion

No threatened flora or fauna species were recorded during this study. Further, the vegetation at the site is considered extremely poor for the range of known threatened species in the locality. While some vegetation at the site reflects elements of the Swamp Oak Floodplain EEC, this study considers that, in general, the vegetation within part of the subject site is inconsistent for the Swamp Oak Floodplain EEC due to:

- the low species composition and the structure of the vegetation community (dominance of weed species); and
- hydrological characteristics due to surrounding land uses.

While the Scientific Determination does not provided a definitive scientific methodology to determine if an area of forest would meet the EEC definition, given the precautionary principle, the area surrounding Plot 1 needs to be considered as borderline EEC. Given this area appears to have regrown since the 1980s and consists of native vegetation it is considered trees removed in this area requires some level of compensation.

As previously reported (Melaleuca Group February 2015), while the Scientific Determination does not detail the importance of the size of remaining patches (e.g. minimum area, minimum number of species present etc), some assessment of the viability of a patch and the importance of the patch needs to be assessed and is considered important when considering compensation (DECC 2007).

The majority of the vegetation at the subject site is considered inconsistent with the Scientific Determination of Swamp Oak Floodplain EEC. A small patch of Swamp Oak forest towards the southern end of the site which has gradually regrown since the mid-1980s could be considered a significantly degraded Swamp Oak Floodplain EEC. However, if left to natural processes, this core patch is considered unviable due to:

- extensive invasion by aggressive weed species;
- changes in hydrology due mainly to surrounding landuses (and filling);
- small area;
- isolation from other vegetation; and
- human activities on the site (illegal burning and other activities).

The subject site does not lie within a faunal corridor and given the small area of the vegetation, isolation within intensive human activities and degraded nature of the habitat, would not be providing a stepping stone or refuge area for faunal species. Further, it is considered, the patch would naturally progress to a Camphor Laurel dominated forest with a range of weed species in the understorey which would further degrade the value of the habitat. A dominance of mosquito activity was also recorded during site works and as such indicates a degraded ecosystem which contributes to a human health issue for surrounding lands.

An area located on the eastern side of North Creek Road, within the reserve areas of the North Lakes Estate has been identified as having a high priority for restoration works. This area was identified due to its high weed dominance, location on a watercourse that has some current connection to a SEPP 14 (No. 88a) wetland to the east via low lying swamp areas during flooding. In addition, it is

understood that Council propose to reconnect the watercourse to the watercourses of the SEPP 14 in the future. Thereby, weed control and improvement of habitat in the designated area is considered important due to the broader impacts on highly significant vegetation in the locality. A quote has been sourced from East Coast Bush Regeneration (Attachment C3) on the basis of weed control measures outlined in the Weed Management Plan for the W8 area (Tim Fitzroy and Associates 2008).

Summary

The proposed development at the subject site will result in the removal of the majority of vegetation across the entire area. Some trees in close proximity to boundaries may be retained, however the majority requires removal to allow the site to be filled for development purposes. Vegetation to be removed is highly degraded predominantly due to weed invasion. However, a small area (approximately 1,200m^2) currently dominated by Swamp Oak was identified in the southern section of the site. While also highly degraded and not completely consistent with the Scientific Determination, this area is considered a degraded Endangered Ecological Community. As such, compensation for its removal is required.

A suitable compensation area was located nearby. This area (7,555m^2) is located to the east of the site and while similarly degraded, offers increased ecological importance due to its proximity and connectivity to a SEPP 14 wetland located further to the east. Weed control measures across this area is considered appropriate compensation for the area of degraded EEC being removed.

This area was identified as W8 in the Water Quality Management Plan North Lakes (Tim Fitzroy and Associates) and this document was utilised to establish costs ($15,680 inclusive of GST) to complete these works. It is considered, this level of compensation is appropriately costed for the benefits that will be gained in the locality.

Should you require any additional information or wish to clarify any matter raised in this correspondence please feel free to contact the writer at any time.

Yours faithfully,
Melaleuca Group

.....
Dr. Melissa Van Zwieten
Senior Environmental Scientist

Attachments:
Attachment A: Subject Site
Attachment B: Threatened Species Search Results
Attachment C: Compensation Area Details
Attachment C1: Compensation Area and Site Photographs

Attachment C2: Weed Management Plan (from Appendix B, Water Quality Management Plan North Lakes - Tim Fitzroy and Associates 2008)
Attachment C3: Quote

References:

Department of Environment and Climate Change (DECC) (2007). Identification Guidelines for Endangered Ecological Communities Swamp Oak Floodplain Forest.

Melaleuca Group (February 2015). Letter to Council dated 3rd February 2015 Re: Part of Lot 98 DP 1194043, 54 North Creek Rd, Ballina - Subdivision Proposal: Assessment of Potential Contamination Issues, Acid Sulphate Soils and Ecological Impacts.

NSW Scientific Committee (2011) Final determination. Swamp oak floodplain forest of the NSW North Coast, Sydney Basin and South East Corner bioregions endangered ecological community listing.

Tim Fitzroy and Associates (2008) Water Quality Management Plan North Lakes. (Appendix B).

Attachment A. Subject Site

Figure A1. Subject Site (Aerial date: 2012)

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Attachment B. Threatened Species Search Results

Data from the BioNet Atlas of NSW Wildlife website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1Â°; ^^ rounded to 0.01Â°). Copyright the State of NSW through the Office of Environment and Heritage. Search criteria : Public Report of all Valid Records of Threatened (listed on TSC Act 1995) or Commonwealth listed Plants in selected area [North: -28.79 West: 153.5 East: 153.6 South: -28.89] returned a total of 6,757 records of 26 species.
Report generated on 29/01/2015 2:19 PM

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records	Info
Plantae	Flora	Apocynaceae	1176	*Ochrosia moorei*		Southern Ochrosia	E1,P	E	3	
Plantae	Flora	Cunoniaceae	10943	*^Davidsonia jerseyana*		Davidson's Plum	E1,P,2	E	2	
Plantae	Flora	Cunoniaceae	10944	*Davidsonia johnsonii*		Smooth Davidson's Plum	E1,P	E	3	
Plantae	Flora	Euphorbiaceae	8334	*^Fontainea oraria*		Coastal Fontainea	E4A,P,2	E	29	
Plantae	Flora	Fabaceae (Caesalpinioideae)	1877	*Caesalpinia bonduc*		Knicker Nut	E1,P		2	
Plantae	Flora	Fabaceae (Mimosoideae)	7757	*Archidendron hendersonii*		White Lace Flower	V,P		18	
Plantae	Flora	Flacourtiaceae	3114	*Xylosma terrae-reginae*		Queensland Xylosma	E1,P		1	
Plantae	Flora	Lauraceae	3477	*Cryptocarya foetida*		Stinking Cryptocarya	V,P	V	41	
Plantae	Flora	Lauraceae	8480	*Endiandra muelleri subsp. bracteata*		Green-leaved Rose Walnut	E1,P		1	
Plantae	Flora	Meliaceae	3682	*Owenia cepiodora*		Onion Cedar	V,P	V	4	
Plantae	Flora	Menispermaceae	3691	*Tinospora tinosporoides*		Arrow-head Vine	V,P		19	
Plantae	Flora	Myrsinaceae	11951	*Myrsine richmondensis*		Ripple-leaf Muttonwood	E1,P	E	4	

Plantae	Flora	Myrtaceae	4290	*Syzygium hodgkinsoniae*	Red Lilly Pilly	V,P	V	9	
Plantae	Flora	Myrtaceae	4292	*Syzygium moorei*	Durobby	V,P	V	5	
Plantae	Flora	Orchidaceae	6630	*^Dendrobium melaleucaphilum*	Spider orchid	E1,P,2		2	
Plantae	Flora	Orchidaceae	7077	*^Oberonia titania*	Red-flowered King of the Fairies	V,P,2		3	
Plantae	Flora	Orchidaceae	4479	*^Peristeranthus hillii*	Brown Fairy-chain Orchid	V,P,2		3	
Plantae	Flora	Orchidaceae	4480	*^Phaius australis*	Southern Swamp Orchid	E1,P,2	E	8	
Plantae	Flora	Poaceae	4776	*Arthraxon hispidus*	Hairy Jointgrass	V,P	V	6500	
Plantae	Flora	Proteaceae	5354	*Floydia praealta*	Ball Nut	V,P	V	3	
Plantae	Flora	Proteaceae	9680	*Macadamia integrifolia* *	Macadamia Nut	P	V	1	
Plantae	Flora	Proteaceae	5446	*Macadamia tetraphylla*	Rough-shelled Bush Nut	V,P	V	64	
Plantae	Flora	Psilotaceae	8164	*^^Psilotum complanatum*	Flat Fork Fern	E1,P,3		2	
Plantae	Flora	Rutaceae	6457	*Acronychia littoralis*	Scented Acronychia	E1,P	E	22	
Plantae	Flora	Rutaceae	8658	*Melicope vitiflora*	Coast Euodia	E1,P		2	
Plantae	Flora	Sapindaceae	5889	*Diploglottis campbellii*	Small-leaved Tamarind	E1,P	E	6	

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Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records	Info
Animalia	Amphibia	Myobatrachidae	3137	*Crinia tinnula*		Wallum Froglet	V,P		5	
Animalia	Amphibia	Hylidae	3166	*Litoria aurea*		Green and Golden Bell Frog	E1,P	V	1	
Animalia	Reptilia	Cheloniidae	2004	*Caretta caretta*		Loggerhead Turtle	E1,P	E	1	
Animalia	Reptilia	Cheloniidae	2007	*Chelonia mydas*		Green Turtle	V,P	V	1	
Animalia	Reptilia	Dermochelyidae	2013	*Dermochelys coriacea*		Leatherback Turtle	E1,P	E	3	
Animalia	Aves	Anseranatidae	0199	*Anseranas semipalmata*		Magpie Goose	V,P		2	
Animalia	Aves	Anatidae	0214	*Stictonetta naevosa*		Freckled Duck	V,P		2	
Animalia	Aves	Phaethontidae	0107	*Phaethon rubricauda*		Red-tailed Tropicbird	V,P		1	
Animalia	Aves	Columbidae	0025	*Ptilinopus magnificus*		Wompoo Fruit-Dove	V,P		1	
Animalia	Aves	Columbidae	0021	*Ptilinopus regina*		Rose-crowned Fruit-Dove	V,P		6	
Animalia	Aves	Columbidae	0023	*Ptilinopus superbus*		Superb Fruit-Dove	V,P		1	
Animalia	Aves	Podargidae	0314	*Podargus ocellatus*		Marbled Frogmouth	V,P		1	
Animalia	Aves	Diomedeidae	0086	*Diomedea exulans*		Wandering Albatross	E1,P	E,J	1	
Animalia	Aves	Procellariidae	0072	*Ardenna carneipes*		Flesh-footed Shearwater	V,P	J,K	11	
Animalia	Aves	Procellariidae	8684	*Pterodroma leucoptera leucoptera*		Gould's Petrel	V,P	E	1	

Animalia	Aves	Procellariidae	0955	*Pterodroma nigripennis*	Black-winged Petrel	V,P		1
Animalia	Aves	Procellariidae	0971	*Pterodroma solandri*	Providence Petrel	V,P	J	1
Animalia	Aves	Procellariidae	0067	*Puffinus assimilis*	Little Shearwater	V,P		1
Animalia	Aves	Sulidae	0105	*Sula dactylatra*	Masked Booby	V,P	J,K	2
Animalia	Aves	Ciconiidae	0183	*Ephippiorhynchus asiaticus*	Black-necked Stork	E1,P		79
Animalia	Aves	Ardeidae	0197	*Botaurus poiciloptilus*	Australasian Bittern	E1,P	E	5
Animalia	Aves	Ardeidae	0196	*Ixobrychus flavicollis*	Black Bittern	V,P		3
Animalia	Aves	Accipitridae	0218	*Circus assimilis*	Spotted Harrier	V,P		3
Animalia	Aves	Accipitridae	0223	*^Erythrotriorchis radiatus*	Red Goshawk	E4A,P,2	V	3
Animalia	Aves	Accipitridae	0225	*Hieraaetus morphnoides*	Little Eagle	V,P		16
Animalia	Aves	Accipitridae	8739	*^^Pandion cristatus*	Eastern Osprey	V,P,3		159
Animalia	Aves	Falconidae	0238	*Falco subniger*	Black Falcon	V,P		1
Animalia	Aves	Gruidae	0177	*Grus rubicunda*	Brolga	V,P		2
Animalia	Aves	Rallidae	0053	*Amaurornis moluccana*	Pale-vented Bush-hen	V,P		10
Animalia	Aves	Burhinidae	0174	*Burhinus grallarius*	Bush Stone-curlew	E1,P		7
Animalia	Aves	Burhinidae	0175	*Esacus magnirostris*	Beach Stone-curlew	E4A,P		18
Animalia	Aves	Haematopodidae	0131	*Haematopus fuliginosus*	Sooty Oystercatcher	V,P		12
Animalia	Aves	Haematopodidae	0130	*Haematopus longirostris*	Pied Oystercatcher	E1,P		188
Animalia	Aves	Charadriidae	0141	*Charadrius leschenaultii*	Greater Sand-plover	V,P	C,J,K	37
Animalia	Aves	Charadriidae	0139	*Charadrius mongolus*	Lesser Sand-plover	V,P	C,J,K	58
Animalia	Aves	Jacanidae	0171	*Irediparra gallinacea*	Comb-crested Jacana	V,P		1
Animalia	Aves	Rostratulidae	0170	*Rostratula australis*	Australian Painted Snipe	E1,P	E	1
Animalia	Aves	Scolopacidae	0166	*Calidris alba*	Sanderling	V,P	C,J,K	27

Animalia	Aves	Scolopacidae	0161	*Calidris ferruginea*	Curlew Sandpiper	E1,P	C,J,K	113
Animalia	Aves	Scolopacidae	0165	*Calidris tenuirostris*	Great Knot	V,P	C,J,K	68
Animalia	Aves	Scolopacidae	0167	*Limicola falcinellus*	Broad-billed Sandpiper	V,P	C,J,K	9
Animalia	Aves	Scolopacidae	0152	*Limosa limosa*	Black-tailed Godwit	V,P	C,J,K	18
Animalia	Aves	Scolopacidae	0160	*Xenus cinereus*	Terek Sandpiper	V,P	C,J,K	89
Animalia	Aves	Laridae	0972	*Gygis alba*	White Tern	V,P		2
Animalia	Aves	Laridae	0120	*Onychoprion fuscata*	Sooty Tern	V,P		7
Animalia	Aves	Laridae	9926	*Procelsterna cerulea*	Grey Ternlet	V,P		1
Animalia	Aves	Laridae	0117	*Sternula albifrons*	Little Tern	E1,P	C,J,K	95
Animalia	Aves	Cacatuidae	0265	*^Calyptorhynchus lathami*	Glossy Black-Cockatoo	V,P,2		3
Animalia	Aves	Psittacidae	0260	*Glossopsitta pusilla*	Little Lorikeet	V,P		1
Animalia	Aves	Tytonidae	0252	*^^Tyto longimembris*	Eastern Grass Owl	V,P,3		34
Animalia	Aves	Tytonidae	0250	*^^Tyto novaehollandiae*	Masked Owl	V,P,3		2
Animalia	Aves	Alcedinidae	0327	*Todiramphus chloris*	Collared Kingfisher	V,P		2
Animalia	Aves	Meliphagidae	0610	*Lichenostomus fasciogularis*	Mangrove Honeyeater	V,P		15
Animalia	Aves	Pomatostomidae	8388	*Pomatostomus temporalis temporalis*	Grey-crowned Babbler (eastern subspecies)	V,P		4
Animalia	Aves	Neosittidae	0549	*Daphoenositta chrysoptera*	Varied Sittella	V,P		15
Animalia	Aves	Campephagidae	0428	*Coracina lineata*	Barred Cuckoo-shrike	V,P		1
Animalia	Mammalia	Dasyuridae	1008	*Dasyurus maculatus*	Spotted-tailed Quoll	V,P	E	2
Animalia	Mammalia	Dasyuridae	1045	*Planigale maculata*	Common Planigale	V,P		7
Animalia	Mammalia	Phascolarctidae	1162	*Phascolarctos cinereus*	Koala	V,P	V	11
Animalia	Mammalia	Pteropodidae	1280	*Pteropus poliocephalus*	Grey-headed Flying-fox	V,P	V	25

Animalia	Mammalia	Molossidae	1329	*Mormopterus norfolkensis*	Eastern Freetail-bat	V,P		1	
Animalia	Mammalia	Vespertilionidae	1346	*Miniopterus australis*	Little Bentwing-bat	V,P		17	
Animalia	Mammalia	Vespertilionidae	1834	*Miniopterus schreibersii oceanensis*	Eastern Bentwing-bat	V,P		4	
Animalia	Mammalia	Vespertilionidae	1357	*Myotis macropus*	Southern Myotis	V,P		4	
Animalia	Mammalia	Vespertilionidae	1336	*Nyctophilus bifax*	Eastern Long-eared Bat	V,P		3	
Animalia	Mammalia	Vespertilionidae	1361	*Scoteanax rueppellii*	Greater Broad-nosed Bat	V,P		4	
Animalia	Mammalia	Balaenopteridae	1575	*Megaptera novaeangliae*	Humpback Whale	V,P	V	2	

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Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records	Info
Community				*Coastal Cypress Pine Forest in the New South Wales North Coast Bioregion*		Coastal Cypress Pine Forest in the New South Wales North Coast Bioregion	E3		K	
Community				*Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*		Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3	V	K	
Community				*Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*		Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3		K	
Community				*Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*		Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3	CE	K	

Community	*Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions*	Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions	E3	CE	K	
Community	*Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion*	Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion	E3	CE	K	
Community	*Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion*	Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion	E3		K	
Community	*Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*	Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3		K	
Community	*Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions*	Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions	E3		K	
Community	*White Gum Moist Forest in the NSW North Coast Bioregion*	White Gum Moist Forest in the NSW North Coast Bioregion	E3		K	

Australian Government
Department of the Environment

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

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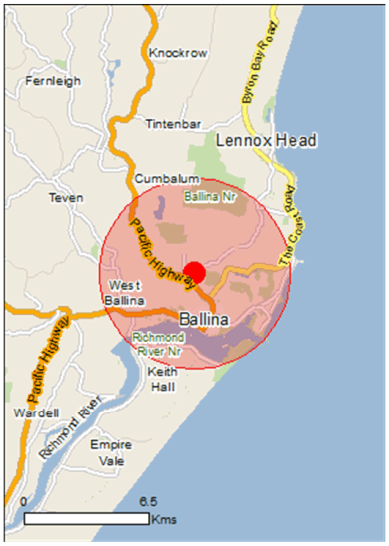

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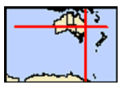
Coordinates
Buffer: 5.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	68
Listed Migratory Species:	74

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage/index.html

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	2
Commonwealth Heritage Places:	None
Listed Marine Species:	102
Whales and Other Cetaceans:	13
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	2
Regional Forest Agreements:	1
Invasive Species:	37
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities		[Resource Information]
For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.		
Name	Status	Type of Presence
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	Critically Endangered	Community likely to occur within area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community likely to occur within area

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat likely to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Roosting known to occur within area
Cyclopsitta diophthalma_coxeni Coxen's Fig-Parrot [59714]	Endangered	Species or species habitat may occur within area
Diomedea epomophora_epomophora Southern Royal Albatross [25996]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans_antipodensis Antipodean Albatross [82269]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans_exulans Tristan Albatross [82337]	Endangered	Species or species habitat may occur within area
Diomedea exulans_gibsoni Gibson's Albatross [82271]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans (sensu lato) Wandering Albatross [1073]	Vulnerable	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat known to occur within area
Fregetta grallaria_grallaria White-bellied Storm-Petrel (Tasman Sea), White-	Vulnerable	Species or species

Name	Status	Type of Presence
bellied Storm-Petrel (Australasian) [64438]		habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat may occur within area
Macronectes giganteus Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew [847]	Critically Endangered	Roosting known to occur within area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Pterodroma leucoptera leucoptera Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area
Pterodroma neglecta neglecta Kermadec Petrel (western) [64450]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Thalassarche cauta cauta Shy Albatross, Tasmanian Shy Albatross [82345]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta salvini Salvin's Albatross [82343]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta steadi White-capped Albatross [82344]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris impavida Campbell Albatross [82449]	Vulnerable	Species or species habitat may occur within area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat may occur within area
Fish		
Epinephelus daemelii Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area
Frogs		
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat may occur within area
Litoria olongburensis Wallum Sedge Frog [1821]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat likely to occur within area
Insects		
Phyllodes imperialis smithersi		
Pink Underwing Moth [86084]	Endangered	Species or species habitat may occur within area
Mammals		
Balaenoptera musculus		
Blue Whale [36]	Endangered	Species or species habitat may occur within area
Chalinolobus dwyeri		
Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland population)		
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
Eubalaena australis		
Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Megaptera novaeangliae		
Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Potorous tridactylus tridactylus		
Long-nosed Potoroo (SE mainland) [66645]	Vulnerable	Species or species habitat may occur within area
Pteropus poliocephalus		
Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area
Xeromys myoides		
Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat likely to occur within area
Other		
Thersites mitchellae		
Mitchell's Rainforest Snail [66774]	Critically Endangered	Species or species habitat likely to occur within area
Plants		
Acronychia littoralis		
Scented Acronychia [8582]	Endangered	Species or species habitat likely to occur within area
Allocasuarina defungens		
Dwarf Heath Casuarina [21924]	Endangered	Species or species habitat likely to occur within area
Arthraxon hispidus		
Hairy-joint Grass [9338]	Vulnerable	Species or species habitat known to occur within area
Baloghia marmorata		
Marbled Balogia, Jointed Baloghia [8463]	Vulnerable	Species or species habitat may occur within area
Bulbophyllum globuliforme		
Miniature Moss-orchid, Hoop Pine Orchid [6649]	Vulnerable	Species or species habitat may occur within area
Cryptocarya foetida		
Stinking Cryptocarya, Stinking Laurel [11976]	Vulnerable	Species or species habitat known to occur within area

Name	Status	Type of Presence
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area
Davidsonia jerseyana Davidson's Plum [67219]	Endangered	Species or species habitat may occur within area
Davidsonia johnsonii Smooth Davidsonia, Smooth Davidson's Plum, Small-leaved Davidson's Plum [67178]	Endangered	Species or species habitat likely to occur within area
Desmodium acanthocladum Thorny Pea [17972]	Vulnerable	Species or species habitat likely to occur within area
Diploglottis campbellii Small-leaved Tamarind [21484]	Endangered	Species or species habitat likely to occur within area
Floydia praealta Ball Nut, Possum Nut, Big Nut, Beefwood [15762]	Vulnerable	Species or species habitat likely to occur within area
Fontainea oraria Coastal Fontainea [24038]	Endangered	Species or species habitat likely to occur within area
Gossia fragrantissima Sweet Myrtle, Small-leaved Myrtle [78867]	Endangered	Species or species habitat likely to occur within area
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat likely to occur within area
Owenia cepiodora Onionwood, Bog Onion, Onion Cedar [11344]	Vulnerable	Species or species habitat likely to occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat known to occur within area
Syzygium hodgkinsoniae Smooth-bark Rose Apple, Red Lilly Pilly [3539]	Vulnerable	Species or species habitat likely to occur within area
Syzygium moorei Rose Apple, Coolamon, Robby, Durobby, Watermelon Tree, Coolamon Rose Apple [12284]	Vulnerable	Species or species habitat likely to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat known to occur within area
Sharks		
Carcharias taurus (east coast population)		
Grey Nurse Shark (east coast population) [68751]	Critically Endangered	Species or species habitat likely to occur within area
Carcharodon carcharias		
Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus		
Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Diomedea antipodensis		
Antipodean Albatross [64458]	Vulnerable*	Species or species habitat may occur within area
Diomedea dabbenena		
Tristan Albatross [66471]	Endangered*	Species or species habitat may occur within area
Diomedea epomophora (sensu stricto)		
Southern Royal Albatross [1072]	Vulnerable*	Species or species habitat may occur within area
Diomedea exulans (sensu lato)		
Wandering Albatross [1073]	Vulnerable	Species or species habitat may occur within area
Diomedea gibsoni		
Gibson's Albatross [64466]	Vulnerable*	Species or species habitat may occur within area
Macronectes giganteus		
Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli		
Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Phoebetria fusca		
Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Puffinus carneipes		
Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Species or species habitat likely to occur within area
Sterna albifrons		
Little Tern [813]		Species or species habitat may occur within area
Thalassarche cauta (sensu stricto)		
Shy Albatross, Tasmanian Shy Albatross [64697]	Vulnerable*	Species or species habitat may occur within area
Thalassarche eremita		
Chatham Albatross [64457]	Endangered	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Thalassarche impavida		
Campbell Albatross [64459]	Vulnerable*	Species or species habitat may occur within area
Thalassarche melanophris		
Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini		
Salvin's Albatross [64463]	Vulnerable*	Species or species habitat may occur within area
Thalassarche steadi		
White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Migratory Marine Species		
Balaenoptera edeni		
Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus		
Blue Whale [36]	Endangered	Species or species habitat may occur within area
Carcharodon carcharias		
Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta		
Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas		
Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea		
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding known to occur within area
Dugong dugon		
Dugong [28]		Species or species habitat may occur within area
Eretmochelys imbricata		
Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Eubalaena australis		
Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Lagenorhynchus obscurus		
Dusky Dolphin [43]		Species or species habitat may occur within area
Lamna nasus		
Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area
Manta birostris		
Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Megaptera novaeangliae		
Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Natator depressus		
Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
Orcinus orca		
Killer Whale, Orca [46]		Species or species

Name	Threatened	Type of Presence
		habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Roosting known to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]		Roosting known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Roosting known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Roosting known to occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris subminuta Long-toed Stint [861]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]		Roosting known to occur

Name	Threatened	Type of Presence within area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]		Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]		Roosting known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Roosting known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Heteroscelus brevipes Grey-tailed Tattler [59311]		Roosting known to occur within area
Heteroscelus incanus Wandering Tattler [59547]		Roosting known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area
Numenius madagascariensis Eastern Curlew [847]	Critically Endangered	Roosting known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Roosting known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land	[Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land - Director of War Service Homes
Commonwealth Land - Telstra Corporation Limited

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Roosting known to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]		Roosting known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Roosting known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Roosting known to occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris subminuta Long-toed Stint [861]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]		Roosting known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]		Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]		Roosting known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area

Name	Threatened	Type of Presence
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable*	Species or species habitat may occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered*	Species or species habitat may occur within area
Diomedea epomophora (sensu stricto) Southern Royal Albatross [1072]	Vulnerable*	Species or species habitat may occur within area
Diomedea exulans (sensu lato) Wandering Albatross [1073]	Vulnerable	Species or species habitat may occur within area
Diomedea gibsoni Gibson's Albatross [64466]	Vulnerable*	Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Roosting known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Heteroscelus brevipes Grey-tailed Tattler [59311]		Roosting known to occur within area
Heteroscelus incanus Wandering Tattler [59547]		Roosting known to occur within area
Himantopus himantopus Black-winged Stilt [870]		Roosting known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat may occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area
Macronectes giganteus Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew [847]	Critically Endangered	Roosting known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Roosting known to occur within area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Sterna albifrons Little Tern [813]		Species or species habitat may occur within area
Thalassarche cauta (sensu stricto) Shy Albatross, Tasmanian Shy Albatross [64697]	Vulnerable*	Species or species habitat may occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross [64459]	Vulnerable*	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable*	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area
Fish		
Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area
Campichthys tryoni Tryon's Pipefish [66193]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys ocellatus Orange-spotted Pipefish, Ocellated Pipefish [66203]		Species or species habitat may occur within area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys heptagonus Madura Pipefish, Reticulated Freshwater Pipefish [66229]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus kelloggi Kellogg's Seahorse, Great Seahorse [66723]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within

Name	Threatened	Type of Presence
		area
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]		Species or species habitat may occur within area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Micrognathus andersonii Anderson's Pipefish, Shortnose Pipefish [66253]		Species or species habitat may occur within area
Micrognathus brevirostris thorntail Pipefish, Thorn-tailed Pipefish [66254]		Species or species habitat may occur within area
Microphis manadensis Manado Pipefish, Manado River Pipefish [66258]		Species or species habitat may occur within area
Solegnathus dunckeri Duncker's Pipehorse [66271]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus spinosissimus Spiny Pipehorse, Australian Spiny Pipehorse [66275]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Solenostomus paegnius Rough-snout Ghost Pipefish [68425]		Species or species habitat may occur within area
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
Mammals		
Dugong dugon Dugong [28]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
Reptiles		
Astrotia stokesii Stokes' Seasnake [1122]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence
Mammals		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Delphinus delphis Common Dophin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area

Name	Status	Type of Presence
Sousa chinensis		
Indo-Pacific Humpback Dolphin [50]		Species or species habitat likely to occur within area
Stenella attenuata		
Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus		
Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str.		
Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Ballina	NSW
Richmond River	NSW

Regional Forest Agreements	[Resource Information]

Note that all areas with completed RFAs have been included.

Name	State
North East NSW RFA	New South Wales

Invasive Species	[Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis		
Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos		
Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis		
European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia		
Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata		
Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus		
House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis		
Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish		Species or species

Name	Status	Type of Presence
Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Protasparagus densiflorus Asparagus Fern, Plume Asparagus [5015]		Species or species habitat likely to occur within area
Protasparagus plumosus Climbing Asparagus-fern, Ferny Asparagus [11747]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area
Reptiles		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area

Attachment C. Compensation Area

Attachment C1. Compensation Area and Site Photographs

Plate C1. General view of vegetation along southern edge of drain

Plate C2. General view of island vegetation at eastern end of Compensation Area

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Figure C1. Subject Site and Compensation Area Locality Plan

Attachment C2: Weed Management Plan (from Appendix B, Water Quality Management Plan North Lakes - Tim Fitzroy and Associates 2008)

Weed Management Area

This weed management strategy applies to drainage lines and riparian zones within the area known as North Lakes, off North Creek Road in Ballina. The specific weed management areas are identified pictorially on Sheet 2 (Weed Management Plan). This strategy identifies significant areas of weed infestation and provides general strategies for weed treatment.

This plan should be read in conjunction with the Weed Management Plan (Sheet 2), the Revegetation Objectives and Notes Plan (Sheet 3), the Revegetation Plan (Sheet 4) and the Overall Site Strategy Plans.

Objectives

- Control all exotic and native weeds on the site that threaten the regeneration of native species or communities.
- Use weed control techniques which minimize the potential for harm to native flora and fauna, and other environmental attributes.
- Allow private garden plantings on public lands to be maintained where they do not inhibit access or threaten native flora or fauna.

Desirable Outcomes (applicable to weed management areas)

- A 50% reduction in the distribution and abundance of exotic weeds after 1 year and a 90% reduction after 5 years.
- An increase in the abundance and diversity of native species present.
- Achievement of 90% canopy cover of native species within 5 years.
- Improved resilience of native vegetation.
- Improved ability to effectively manage and maintain the riparian zones and drainage lines.
- Improved water quality.

Weeds Identified at the Site

A survey of weeds was undertaken on 29 April 2008. This involved a random meandering walk along drainage lines and throughout vegetated areas. Threatened plant species were not identified.

At the time of inspection, the following significant weeds were identified at the site:

Aquatic Weeds
Alligator weed (Alternanthera philoxeroides) - small infestations only observed on embankment edges

Embankment Weeds
Lantana (Lantana camara)
Ochna (Ochna serrulata)
Winter Senna (Senna pendula var glabrata)
Coastal Morning Glory (Ipomea cairica)
White Passionflower (Passiflora subpeltata)
Singapore daisy (Wedelia trilobata)
Passionfruit (Passiflora edulis)

Other less invasive perennial weeds were also observed. Individual treatment techniques have not been specified for these weeds. Treat with a gylphosate or metsulfuron methyl herbicide at the rates recommended by the manufacturer.

Weed Management Actions

Work Zones
Due to there being a low weed diversity, detailed actions for the individual work zones have not been developed. However, target areas for weed management are shown on Sheet 2 (Weed Management Plan).

Prior to commencement of weed control activities the following actions should be undertaken:

- Notify residents of the weed management and work program
- Remove rubbish and litter from the site
- Install information signage about the weed management program
- Install temporary fencing
- Notify residents of any proposed herbicide spraying activities

Weed Treatment

1. Undertake an initial weed treatment using the following techniques:

Alligator weed (Alternanthera philoxeroides)

- Notify Far North Coast Weeds of the location of the weed infestations
- Hand remove weed from embankments and waterway edges taking care to not break up the plant and to remove all plant nodes.
- Bag removed plants

Lantana (Lantana camara)

- Seedlings: Hand pull seedlings (with roots) or cut, scrape and paint stems with Glyphosate (1:1.5).
- Shrubs: Foliar spray or cut down and spray regrowth with Glyphosate (200ml/10L + LI 700 50ml/10L)

Ochna (Ochna serrulata)

- Stems: Cut, scrape and paint with Glyphosate (1:1.5)
- Seedlings and regrowth: Spray with Glyphosate (200ml/10L + LI 700 50ml/10L. A metsulfuron methyl herbicide can also be used (rates vary).

Winter Senna (Senna pendula var glabrata)

- Seedlings: Hand pull seedlings (with roots) or spray with Glyphosate (200ml/10L + LI 700 50 ml/10L
- Shrubs: Cut, scrape and paint with glyphosate (1:1.5)
- Trees: Stem-inject with Glyphosate (1:1.5) collect and bag seeds.
- Trees located near houses or popular public areas: Stem-inject trunk with Glyphosate (1:1.5) collect and bag seeds. Once tree stress is evident cut tree canopy and remove from site.

Coastal Morning Glory (Ipomea cairica)

- Hand remove vine canopy, roll up and bag dry. Cut-scrape and paint larger stems with Glyphosate (1:1.5).

White Passionflower (Passiflora subpeltata)

- Hand pull vine canopy, roll up and bag. Cut-scrape and paint larger stems with Glyphosate at the rate recommended by manufacturer. Spray regrowth seedlings with Glyphosate at the rate recommended by manufacturer.

Singapore daisy (Wedelia trilobata)

- Hand pull or spray with glyphosate (200ml/10L + metsulfuron methyl (1.5gms/10L + Agril 2ml/L)

Passionfruit (Passiflora edulis)

- Hand pull vine canopy, roll up and bag. Cut-scrape and paint larger stems with Glyphosate at the rate recommended by manufacturer. Spray regrowth seedlings with Glyphosate at the rate recommended by manufacturer.

Weed control techniques obtained from various sources including Big Scrub Rainforest Landcare Group.

2. Undertake followup treatments every two months (or as required to control the weed) for 1 year and then as identified by monitoring activities.

General Notes

The weed control techniques noted are appropriate for the level of infestation observed at the time of inspection. If larger outbreaks occur alternative techniques may be required.

Locate all services prior to undertaking any work.

Approvals may be required for use of chemicals near to the SEPP 14 wetland.

Where possible weed spraying activities should be undertaken during the active growing season of the particular species.

All weed control should be undertaken by experienced and qualified bushland regenerators.

Ensure chemicals are used in accordance with the government regulations and the MSD sheet and that the operator has a current Chemical Users Certificate. Some areas are located near to residences and a SEPP 14 Wetland so care should be taken to minimise chemical spray drift.

Monitoring Program

The following monitoring activities should be undertaken for a period of 5 years following completion of the initial weed control works:

1. Maintain records of weed control activities undertaken including date, weather conditions, treatment methods and frequencies.

2. Maintain a 6 monthly photographic record of each Work Zone.

3. Maintain a 6 monthly weed control observation record for each zone which identifies weeds present, approx. % of weed cover, any new weeds, % of native vegetation cover, any new native plants, any impacts from people or animals that may require action (e.g. installation of temporary fencing).

4. Undertake weed control actions if monitoring shows an increase in weed infestation size or if new weeds are identified.

Other Recommendations

Council should encourage the local community to form a Land Care Group (or similar) to assist with vegetation management and monitoring.

design team ink
landscape architecture urban design

Date: July 08

NORTH LAKES BALLINA
Vegetation Management Strategy 1 of 4
WEED MANAGEMENT STRATEGY

Weed Management Areas

design team ink
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Weed Treatment Zones/Actions

- W1 General weed treatment required to embankment edges
- W2 Remove Alligator weed
- W3 Remove Alligator weed and Coastal morning glory amongst trees
- W4 General weed treatment
- W5 Treat Singapore daisy at discharge point
- W6 General weed removal at discharge point and along embankments
- W7 Remove Oleander in drainage line
- W8 Treat weeds on southern bank (e.g. Winter senna, Lantana, Coastal morning glory, Tobacco an other perennial weeds)
- W9 Remove Singapore daisy around pipe and wall
- W10 General weed treatment to embankment
- W11 Treat weeds including Coastal morning glory, Passionfruit and perennials.

Refer to Sheet 1 for weed treatment methods

Date: July 08 Aerial photography supplied by Ballina Shire Council (2007 - not to scale)

NORTH LAKES BALLINA
Vegetation Management Strategy 2 of 4
WEED MANAGEMENT PLAN

Attachment C3: Quote

47

east coast
bushregeneration

Project Manager: Ross Faithfull **ABN: 24158704815**
48 Pine Mountain Rd,
Possum Ck,
NSW, 2479. **website eastcoastbushregeneration.com**
ph 0409157695
a/h 66872943 **email faithfullrossco@gmail.com**

August 19th 2015

Attn: Melissa Van Zwieten

Senior Ecologist

The Melaleuca Group.

Quote for ecological restoration work for Ballina Shire Council
at North Lakes Estate.

Southern boundary of North Lakes Estate
Weed treatment zone W8 as per North Lakes Storm Water Management Plan

Part A	
Primary weed control	
14 days	$5810
Total part A	**$5810**
Part B	
Follow-up weed control - spot spray weeds throughout zone	
2 days every 4 months for 2 years	$ 4980
2 days every 6 months for 3 years	$ 4890
Total part B	**$9870**

All prices include GST and herbicide

Prepared by Ross Faithfull

August 26th 2015

Noise Impact Assessment

Proposed Subdivision of
Part Lot 98 DP 1194043
Ballina

HEALTH SCIENCE ENVIROMENTAL EDUCATION
ENVIRONMENTAL AUDITOR

Noise Impact Assessment

Proposed Subdivision of
Part Lot 98 DP 1194043
Ballina

Prepared for: Ballina Shire Council
Project No: 89/2014
Version: FINAL
Date: 11 September 2015
Tim Fitzroy & Associates
ABN: 94120188829
ACN: 120188829

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1. Introduction

1.1 Background

Tim Fitzroy & Associates have been engaged by Ballina Shire Council (BSC) to:

1. undertake a Noise Impact Assessment (NIA) to accompany a development proposal to undertake subdivision of Part Lot 98 DP 119403; and
2. prepare a Noise Management Plan (NMP) for the proposed subdivision which has as its purpose the achievement of a subdivision that meets or exceeds the noise attenuation that will be required of it and does so at the least practical costs to the project.

It is important to note at the outset that a buffer (on its own) will have a limited effect on noise decay (between the industrial and residential land) resulting in a significant restriction on the types of development permissible. A combination of a buffer and noise barrier is required to mitigate noise at subdivision stage. Future noise mitigation at construction stage will be almost wholly dependent on the proposed future use, coupled with future building design, orientation, restrictions on hours of use etc.

The subject site is owned by BSC and consists of residue industrial land located at 54 North Creek Road, Ballina, described as Part Lot 98 DP 1194043 within the Southern Cross Industrial Precinct (see Site Locality Plan **Illustration 1.1**). The Southern Cross Industrial Estate is a purpose built industrial estate developed by Council on the northern outskirts of Ballina. The existing developed estate is located between the Pacific Highway and Ballina Airport and adjoins North Creek Road and Southern Cross Drive.

The property comprises an area of approximately 1.346 hectares and is zoned industrial and classified as operational land. The property is bounded by North Creek Road and De-Havilland Crescent. Erected on the property is:

- An old weatherboard house;
- A Council sewer pump station; and
- A large acoustic berm constructed in accordance with development consent conditions pertaining to subdivision of part of the Southern Cross Industrial Estate.

The balance of the property is heavily vegetated and is becoming infested with noxious plants.

Tim Fitzroy & Associates have made enquiries of Councils Environmental Health section with respect to noise complaints received from residents neighbouring the industrial estate. These enquiries did not reveal any ongoing or significant noise concerns from the adjoining residents to the Southern Cross Industrial Estate.

The proposal entails the subdivision of Lot 98 DP1194043 into four (4) industrial, removal of vegetation, filling of land, construction of noise attenuation wall and associated civil infrastructure. Dedication of 1.5 metres of land fronting North Creek Road will also be undertaken to facilitate any future upgrade to North Creek Road as shown in **Appendix A**.

This report provides details on the noise assessment carried out by *Tim Fitzroy & Associates* to establish existing noise levels in the vicinity of the subject site such that any future change in land use does not result in adverse noise impacts being created.

1.2 Purpose

The purpose of this noise assessment is to:

- Establish existing background noise levels across the subject site;
- Examine the likely impacts of the proposed development on the existing surrounding residential area in accordance with the NSW EPA Industrial Noise Policy (2000);
- Report on noise levels and provide recommendations to ensure that the proposed industrial subdivision complies as far as practicable with the intent of the NSW EPA Noise Policy.

1.3 Applicable Noise Criteria

***Protection of the Environment Operations Act 1997 (*POEO Act) and the Protection of the Environment Operations (Noise Control) Regulation 2008 (Noise Control Regulation)**

The *Protection of the Environment Operations Act 1997 (*POEO Act) and the Protection of the Environment Operations (Noise Control) Regulation 2008 (Noise Control Regulation) provide the main legal framework and basis for managing unacceptable noise.

The POEO Act:

- identifies the authority responsible for regulating noise (s. 6 of the Act)
- defines 'noise' and 'offensive noise' (Dictionary in the Act)
- provides a range of regulatory tools to manage noise, including Noise Control Notices, Prevention Notices, Noise Abatement Directions and Noise Abatement Orders.

Depending on the circumstances, the Noise Control Regulation may require an assessment of a noise's audibility, time of occurrence, duration or offensiveness. The POEO Act does not always require noise to be measured to determine whether it is offensive. However, noise measurement can help in deciding what action, if any, is necessary.

1.2.1 Offensive Noise

Depending on the type of noise under consideration, noise can be considered as offensive in three ways according to it's:

- audibility
- duration
- inherently offensive characteristics.

A range of factors need to be considered to determine whether the noise is offensive, including the following:

- the loudness of the noise, especially compared with other noise in the area
- the character of the noise
- the time and duration of the noise
- whether the noise is typical for the area
- how often the noise occurs
- the number of people affected by the noise.

1.2.2 Intrusive Noise

Noise is identified as 'intrusive' if it is noticeably louder than the background noise and considered likely to disturb or interfere with those who can hear it.

1.2.3 Sleep disturbance

Specific provisions relate to sleep disturbance and the World Health Organization recommends that a maximum level of 45 dB (A) should not be exceeded inside a bedroom. For practical purposes this is equivalent to a maximum level of 55 dB (A) outside a residence, with an open window to the bedroom (Guidelines for Community Noise WHO 1999).

1.2.4 Industrial Noise Policy

In accordance with the NSW Industrial Noise Policy (NSW EPA 2000), the assessment procedure for an industrial noise source should comprise of:

- Controlling intrusive noise impacts in the short term for surrounding residences; and
- Maintaining noise level amenity for particular land uses for residences and other land uses.

In assessing the noise impact of the proposed subdivision on the surrounding existing land use, both components must be taken into account for suburban receivers, but, in most cases, only one will become the limiting factor forming the project-specific noise level. The intrusiveness of an industrial noise source may be generally considered to be acceptable if the equivalent continuous A-weighted level of noise from the source, measured over a 15 minute period, does not exceed the background noise level by more than 5dB.Therefore, the limiting criteria for the control of intrusive noise impacts is if the $L_{Aeq,15\ minute}$ descriptor is < RBL + 5 dB.

It is generally accepted however that noise levels within an industrial estate will be higher than in either residential or commercial areas. Commonly, controls are required on noise from industrial premises because of the potential impact on adjacent residential or commercial zones in the vicinity. The recommended LAeq noise levels from industrial noise sources within an industrial zone is 70dB (A), when in use, with a recommended maximum LAeq of 75dB (A) Table 2.1 Amenity Criteria, Industrial Noise Policy (NSW EPA, 2000).

In accordance with the INP (EPA, 2000) the surrounding land use in question is considered to be of an *urban* nature. The INP describes urban noise as *"an area with an acoustical environment that is dominated by urban hum or industrial noise source, has through traffic with characteristically heavy and continuous traffic flows during peak periods, is near commercial or industrial districts or has any combination of the above.*

This area may be located in either a rural, rural-residential or residential zone, as defined on an LEP or other planning instrument and also includes mixed land-use zones such as mixed commercial and residential uses.

To limit continuing increases in noise levels, the maximum noise level within an area from industrial noise sources should not normally exceed the criteria in Table 2.1 of the NSW EPA Industrial Noise Policy. These levels represent current best practice for assessing industrial noise sources, based on research and a review of assessment practices used overseas and within Australia. In accordance with Table 2.1 (NSW EPA, 2000) the amenity criteria for a "urban receiver" is presented in **Table 1.1** below

Table 1.1 Amenity Criteria for Urban Receiver

Time Period		*Amenity Criterion Acceptable*	*Amenity Criterion Recommended Maximum*
Daytime	(7am-6pm Mon-Sat; 8am-6pm Sun)	60 dB(A)	65
Evening	(6pm-10pm)	50 dB(A)	55
Night	(remaining periods)	45 dB(A)	50

The Industrial Noise Policy (NSW EPA 2000) provides guidance on the controls and measures to manage industrial noise and the potential impacts on urban receivers.


AVE
CESSNA
STINSON
ST
Harvey Norman
APN
CRES
ARC
CRES
SWEET LIP
NORTH CREEK RD
YELLOW
PL
ABALONE
FIN
PL
PERIWINKLE
PL
PIPI
PL
DR
DE-HAVILLAND
0
0.2
kilometres
Legend
54 North Creek Road Ballina
GDA
N
W
E
S
Locality Map
54 North Creek Road Ballina
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The information contained within this plan is for pictorial representation only. Do not scale. Accurate measurements should be undertaken by survey.
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04/11/2014
ballina
shire council

1.4 Site Description

The property comprises an area of approximately 1.346 hectares and is zoned industrial and classified as operational land. The property is bounded by North Creek Road and De-Havilland Crescent. Erected on the property is:

- An old weatherboard house;
- A Council sewer pump station; and
- A large acoustic berm constructed in accordance with development consent conditions pertaining to subdivision of part of the Southern Cross Industrial Estate.

The balance of the property is heavily vegetated and is becoming infested with noxious plants.

A site locality diagram is provided in **Illustration 1.1**.

1.4.1 Topography

The relief of the majority of the site varies less than 5m AHD. The site is effectively flat (with the exception of the Acoustic mound + vegetation (to RL4.5m) and accompanying vegetation) with sandy soils.

1.4.2 Climate

The Bureau of Meteorology was referenced with respect to weather conditions during noise monitoring. Observations were taken from the Ballina Airport weather station (from Thursday 9 to Thursday 16 July 2015). Significant rain and wind greater than 5km/hr was excluded from the noise monitoring results.

1.4.3 Surrounding Land use

Surrounding land uses include the Southern Cross Industrial Estate to the north and west, to the east and south residences along North Creek Road and the North Lakes Residential Estate.

Illustration 2.1 shows the various land use types surrounding the subject site.

1.5 Proposed Development

The proposal entails the subdivision of Lot 98 DP1194043 into four (4) industrial, removal of vegetation, filling of land, construction of noise attenuation wall and associated civil infrastructure. Dedication of 1.5 metres of land fronting North Creek Road will also be undertaken to facilitate any future upgrade to North Creek Road as shown in **Appendix A**.

2. Instrumentation

2.1 Noise Monitoring Equipment

Tim Fitzroy & Associates utilised the following equipment in this Noise Impact Assessment:

- a Type 2 Rion NL21 environmental noise logger.

Calibration of the noise monitoring equipment was undertaken prior to use. To ensure no significant tonal drift occurred over the monitoring period, the calibration was checked before and after each measurement period.

2.2 Monitoring Methodology

This noise assessment establishes the existing background noise levels at a position representative of the nearest sensitive receptor. **Illustration 2.1** provides the location of the noise logging site.

The noise assessment process included the following components:

- Measurement and determination of the existing background and ambient noise levels;
- Calculation of the project specific noise criteria applying to the existing surrounding residences in accordance with the INP (NSW EPA 2000);
- Estimation of appropriate set back distances to the industrial development to preserve noise amenity; and
- Consideration of what feasible and reasonable noise mitigation measures ought to be considered where the project-specific noise levels are exceeded.

The above process provides a robust assessment of the potential noise impacts on existing residences in consideration of the proposed subdivision. Long term noise monitoring was undertaken to establish the existing background noise environment. Ambient sound pressure levels were measured generally in accordance with Australian Standard AS1055.1:1997 - 'Acoustics-Description and measurement of environmental noise - Part 1: General procedures'. A Rion NL21, a type 2 environmental noise logger was placed at a measurement location ML1 to monitor the ambient noise levels, in continuous 15 minute intervals from Thursday 9 to Thursday 16 July 2015 to gather information of background noise during the day, evening and night. The microphone was 1.35m above ground level.
.

0 40m

SCALE: 1:2000 (A4)
DRAWN: azaCAD
SOURCE: SIX
DATE: AUGUST 2015
REFERENCE: 22-173-A

Illustration 2.1: Noise Monitoring Location

Noise Impact Assessment & Noise Management Plan to support Development Application for Proposed Subdivision of Part Lot 98 DP1194043 Ballina

3. Noise Assessment

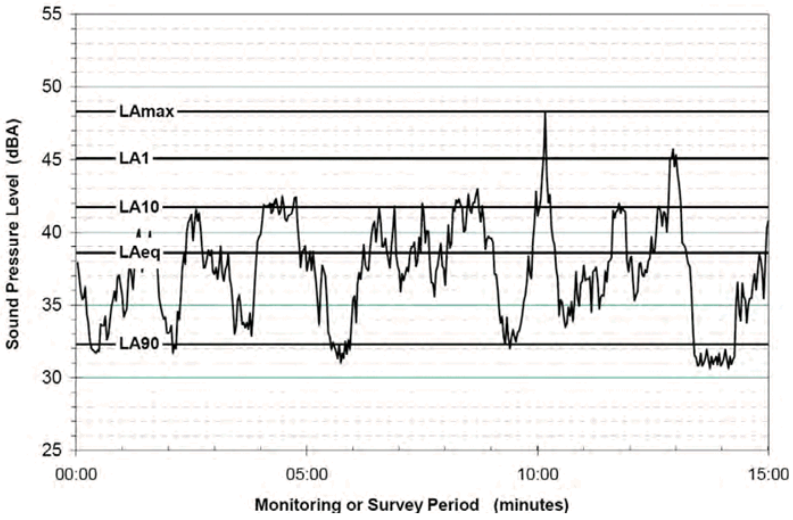
3.1 Acoustical Terms

This report makes reference to a number of different acoustical terms, in particular the L_{Aeq}, L_{Amax}, L_{A10} and L_{A90} descriptors. Each descriptor is briefly explained below.

- The L_{Aeq} is essentially the average sound level. It is defined as the steady sound level that contains the same amount of acoustical energy at a given time; varying sound over a defined measurement period.
- The L_{Amax} noise level is the maximum A-weighted noise level.
- The L_{A10} is the A-weighted sound pressure level exceeded 10% of a given measurement period and is utilised normally to characterise typical maximum noise levels.
- The L_{A90} noise level is the A-weighted sound pressure level exceeded 90% of a given measurement period and is representative of the average minimum background sound level (in the absence of the source under consideration), or simply the "background" level.

A graphical display of typical noise indices and the relationship between each noise descriptor is provided below in Figure 3.1.

Figure 3.1 Graphical Display of Typical Noise Indices



3.2 NSW EPA Industrial Noise Policy

3.2.1 Background Noise ML1

The primary noise observed while on site during the daytime emanated from bird calls, and occasional vehicular movements along North Creek Road and the distant hum of concrete batching processes in Simmons Street, south east of the subject site. Site photographs are provided in **Appendix B**.

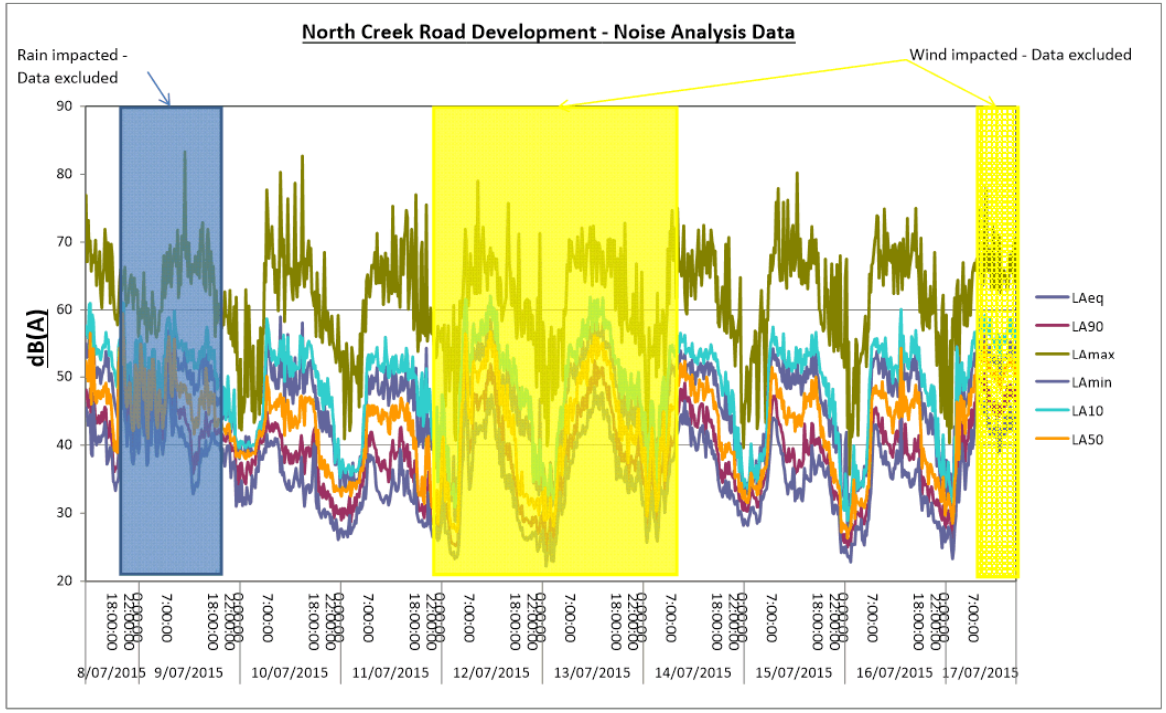
A summary of the results obtained from analysis of data from the background day, evening and night time noise monitoring is provided below in **Table 3.1**. Full copies of the raw data for the monitoring site can be found in **Appendix C.**

Table 3.1 Background Sound Pressure Levels

Period	$L_{Aeq(period)}$*	RBL*	Amenity Criteria	RBL+5 dB	Project Specific Noise Criteria (PSNC) = lowest of column (4) and (5)
(1)	(2)	(3)	(4)	(5)	
Day	*51*	*37*	*55-60*	*42*	***42***
Evening	*44*	*32*	*45-50*	*37*	***37***
Night	*45*	*29*	*40-45*	*34*	***34***

As can be seen from the above table, the project specific noise criteria are determined by the intrusive noise criteria. The Rating Background Levels reflect a location subject to an urban environment which dissipates in the evening and night. The ambient and background noise levels measured at ML1 over the monitoring period are presented in **Figure 3.2**.

Figure 3.2 **Ambient and Background Noise Levels at Measurement Location ML1**



3.2.2 Long Term Unattended Monitoring Results

As can be seen from the above table, the project specific noise criteria determined by the intrusive noise criteria rather than the equivalent average sound level or amenity criteria.

The variation between L_{aeq} and L_{90} is likely to reflect intermittent road traffic impacts along North Creek Road and potentially intermittent noise activities from the Southern Cross Industrial Estate. The noise reflects in some part the effectiveness of the existing sound mound to absorb noise from the adjacent industrial precinct.

The background noise levels are determined by the quietest 10 percentile reading over the monitoring period. Hence the RBL for the sites is quite moderate given the proximity to the adjoining industrial area of the surrounding area and the resultant project specific noise criteria (PSNC) is driven by the background noise levels rather than the equivalent average noise levels. This method seeks to preserve the intrusive impacts of any future development.

Typical background noise levels at the closest unrelated residential property were established in a previous *Noise Impact Assessment Proposed Fabrication Plant Lot 87, DP 1118585 Cessna Crescent* (Tim Fitzroy & Associates August 2009) and Project Specific Noise Criteria (in accordance with the INP) were calculated.

The PSNC are as follows:

1. Daytime (7am – 6pm) is 43dB;
2. Evening (6pm -10pm) is 48 dB; and
3. Nightime (10pm -7am) is 45 dB.

Note: Whilst the 2009 background noise monitoring provided a similar Daytime PSNC to the 2015 logged data the 2009 Evening PSNC (48 dB); and the Night-time (45 dB) were relatively higher. This affects the distance attenuation (buffer) for evening and night-time).

4. Discussion

4.1 Likely Noise Generation from a Future Industrial Area

This noise assessment relates to a proposed subdivision to allow for industrial development on the subject site. Typical noise generation by industrial development must therefore be assumed. The estimated noise levels for the development will provide guidance to Council on potential noise emissions, but are not definitive. Subdivision layout, building design, at source mitigation, shielding and the times and duration of activities will all impact on the ultimate noise levels produced. Each of these factors cannot yet be defined given the current stage in the planning process.

It is generally accepted however that noise levels within an industrial estate will be higher than in either residential or commercial areas. Commonly, controls are required on noise from industrial premises because of the potential impact on adjacent residential or commercial zones in the vicinity.

The recommended L_{Aeq} noise levels from industrial noise sources within an industrial zone is 70dB (A), when in use as referenced from Table 2.1 of the Industrial Noise Policy (NSW EPA, 2000).

4.2 Impact of Development in Relation Surrounding Land Uses

Typical background noise levels at the closest unrelated residential property were established and Project Specific Noise Criteria (in accordance with the INP) were calculated. In order to achieve the PSNC at the closest affected residential properties appropriate mitigation measures may be required. Mitigation measures may include establishing setback distances/buffers, noise wall/mounds, limiting operating hours and/or ensuring that noisy industry and activities are located at the maximum distance possible from sensitive receivers. The allocation of appropriate distance attenuation buffers often afford the most economic mitigation measure where the PSNC are exceeded.

As noted in **Table 3.1** the PSNC for:

4. Daytime (7am – 6pm) is 42dB;
5. Evening (6pm -10pm) is 37 dB; and
6. Nightime (10pm -7am) is 34 dB.

A review of aerial photography and site assessment has confirmed the nearest affected (unrelated) dwellings to the subject site planning are located along North Creek Road and within the North Lakes Residential development to the south.

Given that typical noise generation from industrial sites is of the order of 70 dB (A), the following reductions in average sound pressure levels are required between the proposed industrial development and dwellings:

Time Period	Buffer Required (m)	Location
Daytime (7am – 6pm)	27	R1 76 North Creek Road
Evening (6pm -10pm)	44	R1 76 North Creek Road
Nightime (10pm -7am)	60	R1 76 North Creek Road

Sound pressure levels reduce logarithmically by 6 dB every double of distance away from the noise source. To achieve the daytime PSNC at the nearest affected residence (by distance attenuation alone) a noise reduction of 28 dB (70-42) a set back distance in the order of 27 metres is required.

During the evening period, the PSNC (37 dBA) is somewhat less than the daytime levels therefore requiring a greater setback distance to achieve the PSNC if industry is likely to operate between the hours of 6pm to 10pm. Given no other form of mitigation measures are provided, a noise reduction of 33 dB (70-37) setback distances in the order of 44m are required in order to achieve the evening time PSNC.

The Night time (10pm-7am) PSNC is further reduced (34 dBA) requiring a reduction of 36 dB (70-34). Given no other form of mitigation measures are provided, setback distances in the order of 60m are required in order to achieve the night time PSNC.

4.2.2 Existing Noise Mound

A 108m long, 3m high by 10.5m to 1.5m wide (tapering from base to top) acoustic mound has been installed within a nominated landscape buffer between the Southern Cross Industrial Estate and residences along North Creek Road (see **Appendix D**). The acoustic mound was installed in 2009 to protect adjoining residences from noise associated with the ARC Fabrication Plant at Lot 87, DP 1118585 Cessna Crescent, Ballina and other industrial activities within the precinct.

4.2.3 Relocation of Noise Mound

As discussed the installation of the mound was required to satisfy conditions associated with the operation of the ARC and to provide noise mitigation to future industrial development in the locale.

The relocation of the noise mound to the southern and eastern side of Part Lot 98 DP 1194043 has the potential to allow development of the subject site for industrial purposes (see Proposed Subdivision Pan **Appendix A**). The replacement of the existing noise mound with an appropriately specified noise wall, could achieve a similar level of noise mitigation with a significantly smaller footprint whilst maximising the development potential of the subject site.

For acoustical purposes, any material may be used for a barrier between a noise source and a noise receiver as long as it has a TL of at least 10 dB (A) greater than the desired noise reduction. This ensures that the only noise path to be considered in the acoustical design of a noise barrier is the diffracted noise path, i.e. the path over (or around) the barrier.

For example, if a noise barrier is designed to reduce the noise level at a receiver by 8 dB (A), the TL of the barrier must be at least 18 dB (A). The transmitted noise may then be ignored, because the diffracted noise is at least 10 dB (A) greater and hence the noise propagation path must be over the barrier.

Table 4.1 gives approximate TL values for some common materials, tested for typical A-weighted traffic noise frequency spectra.

Table 4.1 Transmission Loss Values of Barrier Materials

Material	Thickness mm	Surface Density kg/m^2	Transmission Loss * (TL) dB
Polycarbonate	8-12	10-14	30-33
Acrylic [Poly-Methyl-Meta- Acrylate (PMMA)]	15	18	32
Concrete Block 200x200x400 light weight	200	151	34
Dense concrete	100	244	40
Light concrete	150	244	39
Light concrete	100	161	36
Brick	150	288	40
Steel, 18 ga	1.27	9.8	25
Steel, 20 ga	0.95	7.3	22
Steel, 22 ga	0.79	6.1	20
Steel, 24 ga	0.64	4.9	18
Aluminium Sheet	1.59	4.4	23
Aluminium Sheet	3.18	8.8	25
Aluminium Sheet	6.35	17.1	27
Wood	25	18	21
Plywood	13	8.3	20
Plywood	25	16.1	23
Absorptive panels with polyester film backed by metal sheet	50-125	20-30	30-47

* Values assuming no openings or gaps in the barriers

In terms of noise reduction, the maximum value that can be achieved theoretically is 20 dB (A) for thin screens (walls) and 23 dB (A) for berms. A material that has a TL of 33

dB (A) or greater would therefore always be adequate for a noise barrier in any situation.

Small adjustments in surface density to reach a preferred material gauge or a preferred construction thickness do not greatly affect the TL. A material surface density of a minimum of 10 kg/m^2 is required. .

Options for noise reduction to achieve a 15B (A) noise reduction in lieu of the existing noise mound include a 3m high noise wall consisting of any of the following products:

- steel (1.27mm thick; 9.8 kg/m^2 surface density);
- aluminium (minimum 3.18mm thick; 8.8 kg/m^2 surface density);
- brick (minimum 150mm thick; 288 kg/m^2 surface density);
- concrete (minimum 100mm thick; 288 kg/m^2 surface density);
- acrylic (15mm thick; 18 kg/m^2 surface density);
- polycarbonate (8-12mm thick; 10-14 kg/m^2 surface density); or
- Absorptive panels with polyester film backed by metal sheet (50-125mm thick; 20-30 kg/m^2 surface density).

5. Recommendations and Conclusions

5.1 Recommendations

The following recommendations should be considered by Council in the determination of the development application for the proposed subdivision to minimise noise impacts on existing residential type development adjoining the subject site:

1. A noise wall (to a minimum height of 3m designed to achieve a 15B (A) noise reduction) is to be constructed along the southern and eastern boundaries of the subject site;
2. Adoption of Noise Management Plan (see **Appendix E**);
3. Encourage the adoption of best management practice and best available technology in the development and operation of activities within the proposed subdivision; and
4. Apply appropriate at source controls on individual industrial operations through the imposition of noise mitigation and management conditions at development application stage.

Provided that the above recommendations are followed, it is the considered opinion of *Tim Fitzroy & Associates* that the proposed subdivision of the subject site for industrial development will not adversely impact on existing or future surrounding residents.

5.2 Conclusions

Following assessment of the current and projected noise impacts of the proposed industrial subdivision in accordance with the requirements of the NSW Industrial Noise Policy (NSW EPA, 2000) it is our view that noise impacts on the nearest affected residences in the vicinity of the proposed subdivision will be minimal provided that the aforementioned recommendations are adhered to.

References

NSW EPA, 2000 NSW Industrial Noise Policy, 2000, Environmental Protection Authority, Sydney

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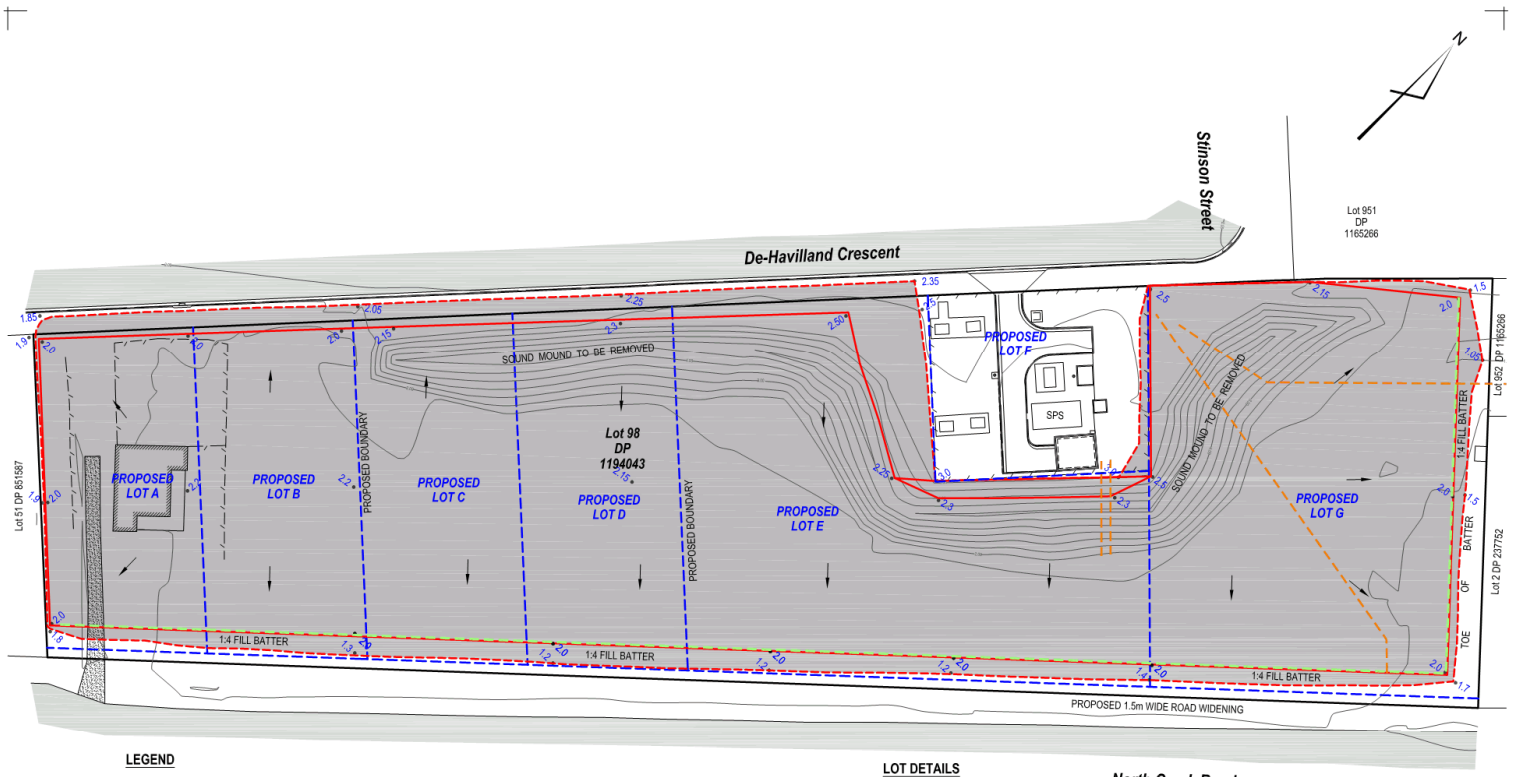
A Subdivsion Proposal



LEGEND

- EXTENT OF EARTHWORKS
- 2.0 PROPOSED SURFACE LEVEL
- PROPOSED BOUNDARY
- FINISHED SURFACE FALL DIRECTION
- PROPOSED NOISE WALL (TBC)
- EXISTING SERVICE (TBC)

REQUIRED EARTHWORK VOLUMES

2,950 m³ CUT
5,750 m³ FILL
2,800 m³ FILL REQUIRED

BULK EARTHWORKS DESIGN IS PRELIMINARY ONLY AND SUBJECT TO FINAL DESIGN AND APPROVAL

EXISTING 0.5m CONTOURS SHOWN.

LOT DETAILS

	LOT AREA**	USEABLE AREA*
LOT A	1,250 m²	1,250 m²
LOT B	1,300 m²	1,300 m²
LOT C	1,350 m²	1,350 m²
LOT D	1,400 m²	1,400 m²
LOT E	3,400 m²	2,960 m²
LOT F	1,000 m²	-
LOT G	3,400 m²	2850 m²

* USEABLE AREA IS FLAT AREA THAT HAS BEEN FILLED TO FLOOD LEVEL OF 2m. REQUIRED SETBACKS HAVE NOT BEEN CONSIDERED.
** PROPOSED 1.5m ROAD WIDENING AREA HAS BEEN REMOVED FROM LOT AREAS SHOWN ABOVE.

FILL OPTION 4.2

FOR LOT 98 DP 1194043

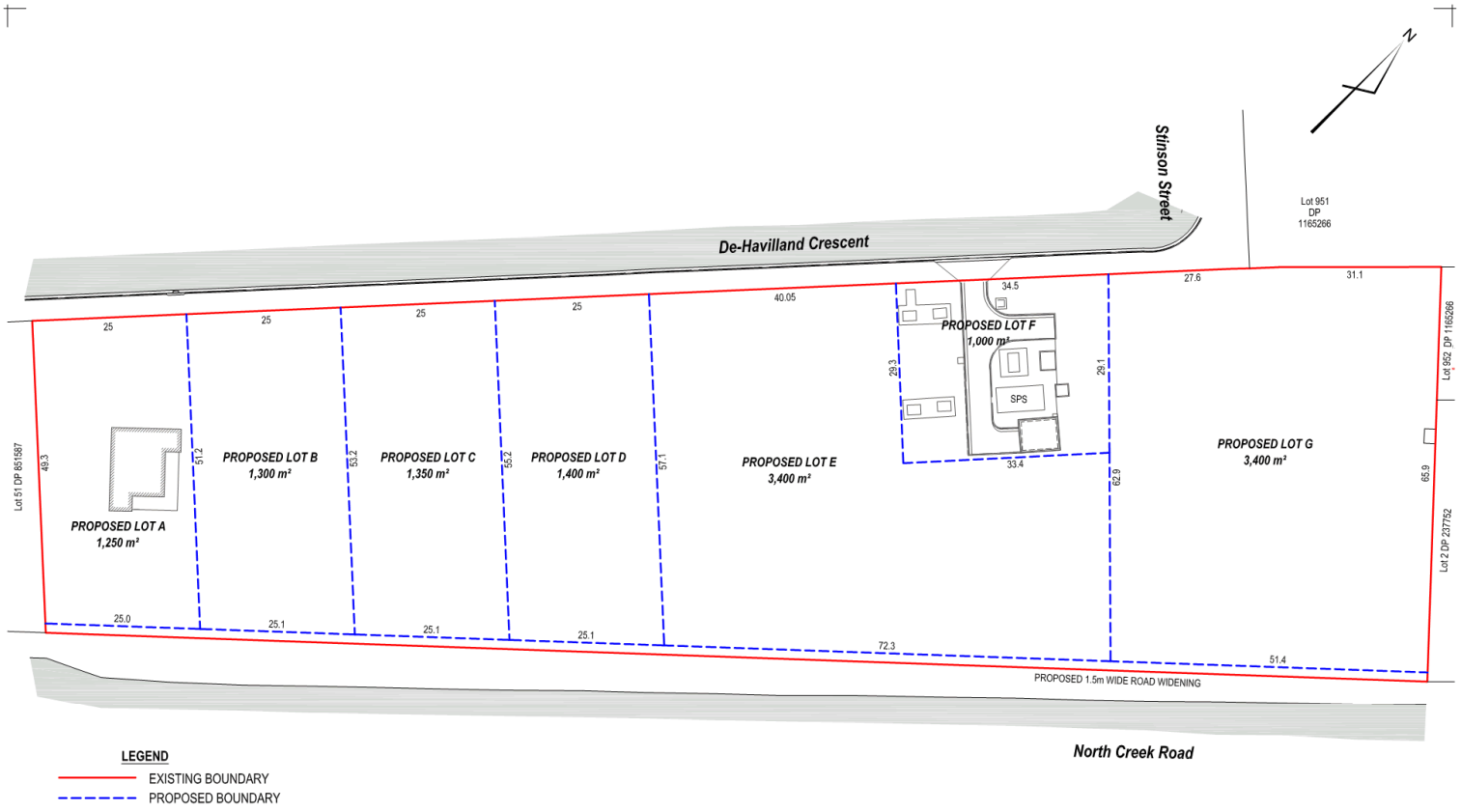
54 NORTH CREEK ROAD

for BALLINA SHIRE COUNCIL

CivilTech Consulting Engineers
Subdivision Design · Civil Engineering · Town Planning · Project Management

CivilTech Consulting Engineers
Ph. (02) 6624 5580
PO BOX 1020
Lismore NSW 2480
www.civiltech.net.au

SCALE:	1 : 1500 at A3
LGA:	Ballina
LOCALITY:	Ballina
DESIGNED:	-
DRAWN:	WF
APPROVED:	AZ
DATE:	03.09.2015
COGO:	15005 (CAS)
Dwg. No.	14144-SK7A



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Ph. (02) 6624 5580
PO BOX 1020
Lismore NSW 2480
www.civiltech.net.au

PROPOSED SUBDIVISION

OF LOT 98 DP 1194043

54 NORTH CREEK ROAD

for BALLINA SHIRE COUNCIL

LOT LAYOUT, AREAS AND DIMENSIONS ARE SUBJECT TO COUNCIL APPROVAL, SURVEY AND PLAN REGISTRATION.

SCALE:	1 : 1500 at A3
LGA:	Ballina
LOCALITY:	Ballina
DESIGNED:	-
DRAWN:	WF
APPROVED:	AZ
DATE:	03.09.2015
COGO:	15005 (CAS)
Dwg. No.	14144-SK8A

B Site Photographs

Photo A **Subject Site Looking North**

Photo B **Subject Site Looking east**

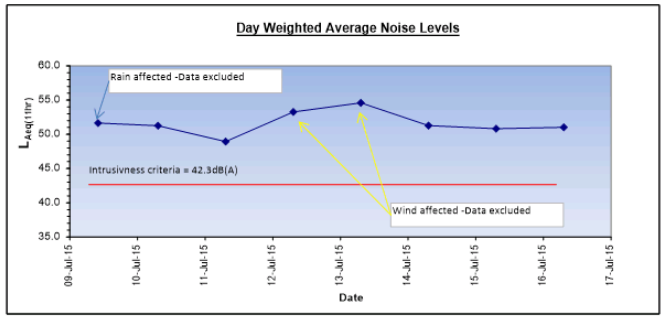
Photo C **Adjacent property 76 North Creek Road**

Photo D **Neighbouring Residence to the south "North Lakes"**

C Noise Data

Day Period	7am to 6pm		
amenity criteria	65-70	dB(A)	Urban industrial interface
Intrusiveness criteria (RBL+ 5)	42.3	dB(A)	

Day	Date	$L_{Aeq(day)}$	ABL	RBL
Thursday	9/07/2015	51.6	37.6	
Friday	10/07/2015	51.3	37.3	
Saturday	11/07/2015	48.9	34.6	
Sunday	12/07/2015	53.3	34.2	
Monday	13/07/2015	54.6	41.6	37.3
Tuesday	14/07/2015	51.3	39.1	
Wednesday	15/07/2015	50.8	36.1	
Thursday	16/07/2015	51.0	37.9	



no.	Date	time	$L_{Aeq(15\ minute)}$	$L_{A90(15minute)}$	$L_{A90(15min)}$ assending order	$10^{((L_{Aeq(15\ minute)}/10))}$	period sums	hrly sums	hrly Laeq
1	9/07/2015	7:15	55.1	48.9	35.8	323594			
2	9/07/2015	7:30	50.5	45.7	36.5	112202			
3	9/07/2015	7:45	51.9	44.5	37.1	154882			
4	9/07/2015	8:00	52.7	45.3	37.6	186209		776886	54.1
5	9/07/2015	8:15	57.2	51.8	37.9	524807			
6	9/07/2015	8:30	54.4	47.8	38.6	275423			
7	9/07/2015	8:45	52.5	45.1	38.9	177828			
8	9/07/2015	9:00	52.9	45	39.9	194984		1173043	55.9
9	9/07/2015	9:15	51	45.1	41	125893			
10	9/07/2015	9:30	51.1	43.9	41.1	128825			
11	9/07/2015	9:45	51.4	45.3	41.2	138038			
12	9/07/2015	10:00	52	44.7	41.3	158489		551245	52.6
13	9/07/2015	10:15	50.9	44.5	41.3	123027			
14	9/07/2015	10:30	51.8	45.6	41.5	151356			
15	9/07/2015	10:45	54.7	44.2	41.5	295121			
16	9/07/2015	11:00	52.2	43.4	42.1	165959		735463	53.9
17	9/07/2015	11:15	50.4	43	42.2	109648			
18	9/07/2015	11:30	49.7	43	42.2	93325			
19	9/07/2015	11:45	50.6	42.2	42.3	114815			
20	9/07/2015	12:00	51	42.1	43	125893		443681	51.7
21	9/07/2015	12:15	48.9	39.9	43	77625			
22	9/07/2015	12:30	50.1	37.9	43	102329			
23	9/07/2015	12:45	50.6	35.8	43.1	114815			
24	9/07/2015	13:00	47.4	36.5	43.4	54954		349723	50.7
25	9/07/2015	13:15	48.5	38.6	43.5	70795			
26	9/07/2015	13:30	48.9	38.9	43.5	77625			
27	9/07/2015	13:45	48	37.1	43.5	63096			
28	9/07/2015	14:00	48.5	37.6	43.9	70795		282310	49.7

29	9/07/2015	14:15	50.7	41.3	43.9	117490			
30	9/07/2015	14:30	51.9	41	44.2	154882			
31	9/07/2015	14:45	51.8	42.3	44.5	151356			
32	9/07/2015	15:00	53	41.5	44.5	199526		623254	53.2
33	9/07/2015	15:15	49	41.1	44.7	79433			
34	9/07/2015	15:30	49.5	41.2	44.8	89125			
35	9/07/2015	15:45	52.8	44.8	45	190546			
36	9/07/2015	16:00	53.4	43	45.1	218776		577880	52.8
37	9/07/2015	16:15	53.2	42.2	45.1	208930			
38	9/07/2015	16:30	49.4	41.3	45.3	87096			
39	9/07/2015	16:45	50.2	43.1	45.3	104713			
40	9/07/2015	17:00	51.7	43.5	45.6	147911		548650	52.6
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3	10/07/2015	7:45	49.5	42	37.3	89125			
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5	10/07/2015	8:15	49.2	43.3	37.4	83176			
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	12/07/2015	14:15	48.2	39.7	47	66069			
	12/07/2015	14:30	50.3	44.3	47.1	107152			
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							9349392		
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8	13/07/2015	9:00	51.4	44.2	42.3	138038		720013	53.8
9	13/07/2015	9:15	54	46.2	42.9	251189			
10	13/07/2015	9:30	55.3	47	44.2	338844			
11	13/07/2015	9:45	52.6	45.2	44.5	181970			
12	13/07/2015	10:00	53.5	45.5	44.7	223872		995875	
13	13/07/2015	10:15	54.3	47.3	44.8	269153			
14	13/07/2015	10:30	53.5	45.4	45.1	223872			
15	13/07/2015	10:45	55.8	49	45.2	380189			
16	13/07/2015	11:00	55.9	49.6	45.4	389045		1262260	55.0
17	13/07/2015	11:15	57.5	47.7	45.5	562341			
18	13/07/2015	11:30	56.7	49.9	45.5	467735			
19	13/07/2015	11:45	53.7	48.2	46	234423			
20	13/07/2015	12:00	57.2	49	46.2	524807		1789307	56.5
21	13/07/2015	12:15	58	52.4	46.3	630957			
22	13/07/2015	12:30	58	51.6	46.6	630957			
23	13/07/2015	12:45	54	48.7	47	251189			
24	13/07/2015	13:00	58	51.4	47.3	630957		2144061	57.3
25	13/07/2015	13:15	55.9	49.8	47.7	389045			
26	13/07/2015	13:30	56.7	50	47.8	467735			
27	13/07/2015	13:45	56.4	50.8	48.2	436516			
28	13/07/2015	14:00	56.1	51.4	48.6	407380		1700676	56.3
29	13/07/2015	14:15	58.1	51.3	48.7	645654			
30	13/07/2015	14:30	54.3	48.9	48.9	269153			
31	13/07/2015	14:45	54.4	49.1	49	275423			
32	13/07/2015	15:00	55.3	49	49	338844		1529075	55.8
33	13/07/2015	15:15	54.4	47.8	49	275423			
34	13/07/2015	15:30	55.1	46.6	49.1	323594			
35	13/07/2015	15:45	54.8	48.6	49.6	301995			
36	13/07/2015	16:00	54.5	46	49.8	281838		1182850	54.7
37	13/07/2015	16:15	52.1	45.5	49.9	162181			
	13/07/2015	16:30	53.1	44.7	50	204174			
	13/07/2015	16:45	51.3	44.5	50.8	134896			
	13/07/2015	17:00	51.5	42.2	51.3	141254		642505	52.1

	13/07/2015	17:15	48.6	42.3	51.4	72444			
	13/07/2015	17:30	48.6	39.4	51.4	72444			
38	13/07/2015	17:45	48.5	41.4	51.6	70795			
39	13/07/2015	18:00	48.8	41.8	52.4	75858		291540	48.6
							12687499		
1	14/07/2015	7:15	51.4	40.5	36.1	138038			
2	14/07/2015	7:30	50.1	41.5	38.6	102329			
3	14/07/2015	7:45	51.1	45.1	39.1	128825			
4	14/07/2015	8:00	53.2	44.6	39.9	208930		578122	51.6
5	14/07/2015	8:15	51.3	44.9	40.5	134896			
6	14/07/2015	8:30	52.3	46.6	40.6	169824			
7	14/07/2015	8:45	54	48.2	41.5	251189			
8	14/07/2015	9:00	52.8	48.1	41.5	190546		746455	52.7
9	14/07/2015	9:15	53	46.5	41.6	199526			
10	14/07/2015	9:30	52.7	47.6	42.6	186209			
11	14/07/2015	9:45	53.5	49.1	42.6	223872			
12	14/07/2015	10:00	50.6	46.5	42.8	114815		724422	52.6
13	14/07/2015	10:15	51.5	47	42.8	141254			
14	14/07/2015	10:30	51.8	46.4	42.8	151356			
15	14/07/2015	10:45	51.8	47	43.1	151356			
16	14/07/2015	11:00	52.1	46.1	43.3	162181		606147	51.8
17	14/07/2015	11:15	49.7	43.1	43.4	93325			
18	14/07/2015	11:30	52.5	45.8	43.4	177828			
19	14/07/2015	11:45	50.1	44.6	43.7	102329			
20	14/07/2015	12:00	50.6	44.4	43.7	114815		488298	50.9
21	14/07/2015	12:15	48.9	42.8	43.8	77625			
22	14/07/2015	12:30	50.7	42.8	44.4	117490			
23	14/07/2015	12:45	50.1	42.6	44.6	102329			
24	14/07/2015	13:00	51.5	43.8	44.6	141254		438698	50.4
25	14/07/2015	13:15	51.1	45.5	44.9	128825			
	14/07/2015	13:30	52	45.8	45	158489			
	14/07/2015	13:45	50.7	46.1	45.1	117490			
	14/07/2015	14:00	51.6	46	45.5	144544		549348	51.4
	14/07/2015	14:15	49.7	43.4	45.6	93325			
	14/07/2015	14:30	50.8	43.3	45.8	120226			
	14/07/2015	14:45	51.9	41.5	45.8	154882			
	14/07/2015	15:00	51.7	45.6	46	147911		516344	51.1
	14/07/2015	15:15	52.2	45	46.1	165959			
	14/07/2015	15:30	50.3	43.7	46.1	107152			
	14/07/2015	15:45	50.8	43.4	46.4	120226			
	14/07/2015	16:00	52	43.7	46.5	158489		551826	51.4
	14/07/2015	16:15	51.1	42.6	46.5	128825			
	14/07/2015	16:30	51.4	42.8	46.6	138038			
	14/07/2015	16:45	48.9	40.6	47	77625			
	14/07/2015	17:00	50.9	41.6	47	123027		467515	50.7
	14/07/2015	17:15	48.7	39.9	47.6	74131			
	14/07/2015	17:30	48.9	39.1	48.1	77625			
26	14/07/2015	17:45	47.1	38.6	48.2	51286			

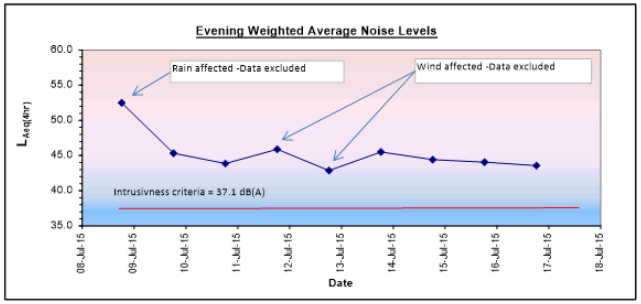
27	14/07/2015	18:00	45.6	36.1	49.1	36308		239350	47.8
							5906526		
1	15/07/2015	7:15	52.5	47.2	35.8	177828			
2	15/07/2015	7:30	53.4	46.3	36.1	218776			
3	15/07/2015	7:45	51.7	44.2	36.2	147911			
4	15/07/2015	8:00	52.5	43.6	36.8	177828		722343	52.6
5	15/07/2015	8:15	51.5	43	36.8	141254			
6	15/07/2015	8:30	50.7	43	37	117490			
7	15/07/2015	8:45	51.2	42.1	37.1	131826			
8	15/07/2015	9:00	49.3	41.7	37.5	85114		475683	50.8
9	15/07/2015	9:15	52.9	40.7	37.6	194984			
10	15/07/2015	9:30	49.2	39.1	37.6	83176			
11	15/07/2015	9:45	48.6	38.1	37.8	72444			
12	15/07/2015	10:00	48.3	37.5	37.9	67608		418213	50.2
13	15/07/2015	10:15	52.5	37.6	38.1	177828			
14	15/07/2015	10:30	51.6	39.5	38.2	144544			
15	15/07/2015	10:45	48.3	37.6	38.4	67608			
16	15/07/2015	11:00	48.3	38.4	38.6	67608		457589	50.6
17	15/07/2015	11:15	49.7	38.2	38.7	93325			
18	15/07/2015	11:30	50.5	39.5	38.9	112202			
19	15/07/2015	11:45	49	38.7	39	79433			
20	15/07/2015	12:00	48.9	35.8	39	77625		362585	49.6
21	15/07/2015	12:15	49.6	36.2	39.1	91201			
22	15/07/2015	12:30	53.9	36.1	39.5	245471			
23	15/07/2015	12:45	49.1	36.8	39.5	81283			
24	15/07/2015	13:00	49.8	37.8	39.6	95499		513454	51.1
25	15/07/2015	13:15	50.2	37	40	104713			
26	15/07/2015	13:30	47.4	36.8	40	54954			
27	15/07/2015	13:45	48.1	37.1	40.2	64565			
28	15/07/2015	14:00	50	37.9	40.2	100000		324232	49.1
29	15/07/2015	14:15	50.8	43.1	40.7	120226			
30	15/07/2015	14:30	49.2	39	40.7	83176			
31	15/07/2015	14:45	51.5	40.7	40.7	141254			
32	15/07/2015	15:00	49.8	38.9	40.9	95499		440156	50.4
33	15/07/2015	15:15	51.1	38.6	41.1	128825			
34	15/07/2015	15:30	50.5	39	41.7	112202			
35	15/07/2015	15:45	50.5	40	42.1	112202			
36	15/07/2015	16:00	53.8	43.2	43	239883		593112	51.7
37	15/07/2015	16:15	52.2	43	43	165959			
38	15/07/2015	16:30	50.1	40.2	43	102329			
39	15/07/2015	16:45	52.4	40	43.1	173780			
40	15/07/2015	17:00	53.6	40.7	43.2	229087		671155	52.2
41	15/07/2015	17:15	50.5	40.9	43.6	112202			
42	15/07/2015	17:30	50	40.2	44.2	100000			
43	15/07/2015	17:45	48.4	41.1	46.3	69183			
44	15/07/2015	18:00	46.9	39.6	47.2	48978		330363	49.2
							5308884		
1	16/07/2015	7:15	52.7	45.5	35.5	186209			

2	16/07/2015	7:30	53.9	44.5	37.8	245471		
3	16/07/2015	7:45	52.5	44.6	37.8	177828		
4	16/07/2015	8:00	50.5	42.7	37.9	112202	721709	52.6
5	16/07/2015	8:15	52	42.9	38.1	158489		
6	16/07/2015	8:30	51.3	41.8	38.1	134896		
7	16/07/2015	8:45	53	44	38.1	199526		
8	16/07/2015	9:00	49.9	40.2	38.2	97724	590636	51.7
9	16/07/2015	9:15	50.7	41.4	38.6	117490		
10	16/07/2015	9:30	53.4	42	38.6	218776		
11	16/07/2015	9:45	50.4	40.5	38.7	109648		
12	16/07/2015	10:00	50.2	40.3	38.8	104713	550627	51.4
13	16/07/2015	10:15	47.7	40	38.8	58884		
14	16/07/2015	10:30	50.8	40.1	38.8	120226		
15	16/07/2015	10:45	49.8	38.8	39.1	95499		
16	16/07/2015	11:00	47.4	38.8	39.5	54954	329564	49.2
17	16/07/2015	11:15	47.2	38.2	39.8	52481		
18	16/07/2015	11:30	48.1	40.1	40	64565		
19	16/07/2015	11:45	49.7	40.1	40.1	93325		
20	16/07/2015	12:00	49.5	41.8	40.1	89125	299497	48.7
21	16/07/2015	12:15	49.3	42.1	40.1	85114		
22	16/07/2015	12:30	47.1	40.9	40.1	51286		
23	16/07/2015	12:45	47.4	40.4	40.2	54954		
24	16/07/2015	13:00	52.6	41.6	40.3	181970	373324	49.7
25	16/07/2015	13:15	56.5	51.2	40.4	446684		
26	16/07/2015	13:30	48.2	38.1	40.5	66069		
27	16/07/2015	13:45	53	40.9	40.9	199526		
28	16/07/2015	14:00	49.6	38.8	40.9	91201	803480	53.0
29	16/07/2015	14:15	49.7	43.1	40.9	93325		
30	16/07/2015	14:30	50.5	40.1	41.4	112202		
31	16/07/2015	14:45	50.5	38.6	41.4	112202		
32	16/07/2015	15:00	47.9	38.6	41.6	61660	379389	49.8
33	16/07/2015	15:15	49.9	37.8	41.8	97724		
34	16/07/2015	15:30	49.8	38.1	41.8	95499		
35	16/07/2015	15:45	52	38.1	42	158489		
36	16/07/2015	16:00	52.7	38.7	42.1	186209	537921	51.3
37	16/07/2015	16:15	51	37.9	42.7	125893		
38	16/07/2015	16:30	51	40.9	42.9	125893		
39	16/07/2015	16:45	54.8	39.5	43.1	301995		
40	16/07/2015	17:00	49.7	39.1	44	93325	647106	52.1
41	16/07/2015	17:15	50	39.8	44.5	100000		
42	16/07/2015	17:30	50.7	41.4	44.6	117490		
43	16/07/2015	17:45	47.4	37.8	45.5	54954		
44	16/07/2015	18:00	47.7	35.5	51.2	58884	331328	49.2
						5564580		
1	17/07/2015	7:15	54.1	48.5	44.2	257040		
2	17/07/2015	7:30	54.5	50.3	44.2	281838		
3	17/07/2015	7:45	55.5	50	44.4	354813		
4	17/07/2015	8:00	55.6	50	44.6	363078	1256769	55.0

5	17/07/2015	8:15	54.1	49.5	44.9	257040		
6	17/07/2015	8:30	53.7	48.9	45.1	234423		
7	17/07/2015	8:45	54.4	49.6	45.2	275423		
8	17/07/2015	9:00	53.7	47.9	45.2	234423	1001308	54.0
9	17/07/2015	9:15	56.4	50.8	45.4	436516		
10	17/07/2015	9:30	55.4	48.8	45.7	346737		
11	17/07/2015	9:45	53.3	46.2	46	213796		
12	17/07/2015	10:00	53.8	48.4	46	239883	1236932	54.9
13	17/07/2015	10:15	53.4	46.8	46.2	218776		
14	17/07/2015	10:30	54.7	46.8	46.2	295121		
15	17/07/2015	10:45	52.2	45.1	46.2	165959		
16	17/07/2015	11:00	53.2	45.2	46.3	208930	888785	53.5
17	17/07/2015	11:15	53.2	45.7	46.5	208930		
18	17/07/2015	11:30	52.1	46.3	46.8	162181		
19	17/07/2015	11:45	51.7	44.4	46.8	147911		
20	17/07/2015	12:00	53.3	46.2	47	213796	732818	52.6
21	17/07/2015	12:15	52.5	44.2	47	177828		
22	17/07/2015	12:30	51.3	44.2	47.7	134896		
23	17/07/2015	12:45	52.7	46	47.8	186209		
24	17/07/2015	13:00	50.2	44.6	47.9	104713	603646	51.8
25	17/07/2015	13:15	52.1	45.4	48.1	162181		
26	17/07/2015	13:30	52.7	44.9	48.2	186209		
27	17/07/2015	13:45	52.8	45.2	48.4	190546		
28	17/07/2015	14:00	52.7	47.7	48.5	186209	725145	52.6
29	17/07/2015	14:15	52.7	46	48.7	186209		
30	17/07/2015	14:30	53.5	48.7	48.8	223872		
31	17/07/2015	14:45	53.6	46.2	48.8	229087		
32	17/07/2015	15:00	54.2	48.2	48.9	263027	902194	53.5
33	17/07/2015	15:15	55.3	48.8	49.5	338844		
34	17/07/2015	15:30	54.5	47	49.6	281838		
35	17/07/2015	15:45	53.4	47	50	218776		
36	17/07/2015	16:00	54.5	47.8	50	281838	1121297	54.5
37	17/07/2015	16:15	53.7	48.1	50.3	234423		
38	17/07/2015	16:30	53.2	46.5	50.8	208930		
						8912247		

Evening Period	6pm to 10pm		
amenity criteria	55-60	dB(A)	Urban industrial interface
Intrusiveness criteria (RBL+ 5)	37.1	dB(A)	

Day	Date	$L_{Aeq(evening)}$	ABL	RBL
Tuesday Evening	8/07/2015	52.5	36.8	
Wednesday Evening	9/07/2015	45.3	39.7	
Thursday Evening	10/07/2015	43.9	31.4	
Friday Evening	11/07/2015	45.9	28.9	
Saturday Evening	12/07/2015	42.9	28.5	32.1
Sunday Evening	13/07/2015	45.5	36.0	
Monday Evening	14/07/2015	44.4	33.8	
Tuesday Evening	15/07/2015	44.1	32.7	
Wednesday Evening	16/07/2015	43.6	31.2	



no.	Date	time	$L_{Aeq(15\ minute)}$	$L_{A90(15minute)}$	$L_{A90(15min)}$ assending order	$10^{((L_{Aeq(15\ minute)}/10))}$	period sums	hrly sums	hrly Laeq	Rain Effected?
1	8/07/2015	18:15	45.5	36.8	36.6	35481				no
2	8/07/2015	18:30	44.7	36.6	36.8	29512				no
3	8/07/2015	18:45	44	37	37	25119				no
4	8/07/2015	19:00	51.8	38.3	38.3	151356		241468	47.8	no
5	8/07/2015	19:15	54.5	52.3	41.9	281838				no
6	8/07/2015	19:30	53.4	48.2	42.6	218776				no
7	8/07/2015	19:45	52.2	48	45.1	165959				no
8	8/07/2015	20:00	59.4	56.5	45.1	870964		1537537	55.8	no
9	8/07/2015	20:15	57	51.1	46.2	501187				no
10	8/07/2015	20:30	50.2	46.2	46.4	104713				no
11	8/07/2015	20:45	47.5	45.1	46.6	56234				no
12	8/07/2015	21:00	47.6	42.6	48	57544		719678	52.6	no
13	8/07/2015	21:15	49.4	45.1	48.2	87096				no
14	8/07/2015	21:30	49.9	46.6	51.1	97724				no
15	8/07/2015	21:45	50.2	46.4	52.3	104713				no
16	8/07/2015	22:00	47.2	41.9	56.5	52481		342014	49.3	no
							2840697			
1	9/07/2015	18:15	47	41.8	39.1	50119				no
2	9/07/2015	18:30	45.8	41.6	39.7	38019				no
3	9/07/2015	18:45	46.8	42.3	40.5	47863				no
4	9/07/2015	19:00	46.1	42.3	40.6	40738		176739	46.5	no
5	9/07/2015	19:15	46.9	41.7	40.7	48978				no
6	9/07/2015	19:30	45.4	41.7	40.7	34674				no
7	9/07/2015	19:45	43.8	41.5	41.4	23988				no
8	9/07/2015	20:00	45.4	40.7	41.5	34674		142314	45.5	no
9	9/07/2015	20:15	45.8	40.7	41.6	38019				no
10	9/07/2015	20:30	43.9	40.5	41.7	24547				no
11	9/07/2015	20:45	44.2	41.4	41.7	26303				no
12	9/07/2015	21:00	46.5	41.7	41.7	44668		133537	45.2	no

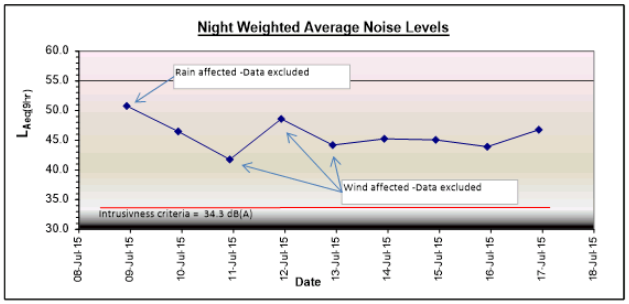
13	9/07/2015	21:15	44.9	41.8	41.8	30903				no
14	9/07/2015	21:30	43.8	40.6	41.8	23988				no
15	9/07/2015	21:45	41.9	39.1	42.3	15488				no
16	9/07/2015	22:00	43.4	39.7	42.3	21878		92257	43.6	no
							544846			
	10/07/2015	18:15	46.9	33.3	30.9	48978				no
	10/07/2015	18:30	46.1	36.7	31.4	40738				no
	10/07/2015	18:45	44.1	32.8	32.1	25704				no
	10/07/2015	19:00	42.5	32.7	32.2	17783		133203	45.2	no
	10/07/2015	19:15	44.9	33.8	32.3	30903				no
	10/07/2015	19:30	42	32.3	32.3	15849				no
	10/07/2015	19:45	42.4	34.3	32.5	17378				no
	10/07/2015	20:00	45.9	33.4	32.7	38905		103034	44.1	no
	10/07/2015	20:15	43.5	32.3	32.7	22387				no
	10/07/2015	20:30	41.9	32.1	32.8	15488				no
	10/07/2015	20:45	44.9	33.2	33.2	30903				no
	10/07/2015	21:00	43.3	32.5	33.3	21380		90158	43.5	no
	10/07/2015	21:15	41.3	32.7	33.4	13490				no
	10/07/2015	21:30	42.8	30.9	33.8	19055				no
	10/07/2015	21:45	42.7	32.2	34.3	18621				no
	10/07/2015	22:00	40.8	31.4	36.7	12023		63188	42.0	no
							389583			
	11/07/2015	18:15	39.8	31.6	28.5	9550				no
	11/07/2015	18:30	41.2	30.3	28.9	13183				no
	11/07/2015	18:45	40.4	30.4	29	10965				no
	11/07/2015	19:00	48.2	30.4	29.3	66069		99767	44.0	no
	11/07/2015	19:15	50	31.3	29.8	100000				no
	11/07/2015	19:30	39.6	30	30	9120				no
	11/07/2015	19:45	41.9	29.3	30.3	15488				no
	11/07/2015	20:00	42.3	31	30.4	16982		141591	45.5	no
	11/07/2015	20:15	54.4	31.2	30.4	275423				no
	11/07/2015	20:30	41.2	31.3	31	13183				no
	11/07/2015	20:45	43.8	36.1	31.2	23988				no
	11/07/2015	21:00	43.6	32.6	31.3	22909		335502	49.2	no
	11/07/2015	21:15	41.7	29.8	31.3	14791				no
	11/07/2015	21:30	39.4	29	31.6	8710				no
	11/07/2015	21:45	39.7	28.5	32.6	9333				no
	11/07/2015	22:00	40.1	28.9	36.1	10233		43066	40.3	no
							619926			
1	12/07/2015	18:15	48.4	30.6	28.1	69183				no
2	12/07/2015	18:30	41.8	29.9	28.5	15136				no
3	12/07/2015	18:45	41.5	30.1	28.6	14125				no
4	12/07/2015	19:00	43.6	31.1	28.7	22909		121353	44.8	no
5	12/07/2015	19:15	43.6	28.9	28.7	22909				no
6	12/07/2015	19:30	41.4	28.7	28.8	13804				no
7	12/07/2015	19:45	43	29.1	28.9	19953				no
8	12/07/2015	20:00	44.2	29.3	28.9	26303		82968	43.2	no
9	12/07/2015	20:15	43.7	29	29	23442				no

10	12/07/2015	20:30	41.7	28.9	29.1	14791				no
11	12/07/2015	20:45	40.9	28.5	29.3	12303				no
12	12/07/2015	21:00	43.1	28.7	29.4	20417		70953	42.5	no
13	12/07/2015	21:15	40.7	28.1	29.9	11749				no
14	12/07/2015	21:30	40.3	29.4	30.1	10715				no
15	12/07/2015	21:45	34.4	28.6	30.6	2754				no
16	12/07/2015	22:00	39.8	28.8	31.1	9550		34768	39.4	no
							310042			
1	13/07/2015	18:15	44.5	38	35	28184				no
2	13/07/2015	18:30	49.5	40.2	36	89125				no
3	13/07/2015	18:45	43.7	37.6	36.2	23442				no
4	13/07/2015	19:00	47.6	38.7	37.3	57544		198295	47.0	no
5	13/07/2015	19:15	44.3	37.6	37.6	26915				no
6	13/07/2015	19:30	47.1	37.8	37.6	51286				no
7	13/07/2015	19:45	46.6	39	37.6	45709				no
8	13/07/2015	20:00	44.9	37.8	37.6	30903		154813	45.9	no
9	13/07/2015	20:15	42.3	35	37.7	16982				no
10	13/07/2015	20:30	43.8	36	37.8	23988				no
11	13/07/2015	20:45	44.9	37.6	37.8	30903				no
12	13/07/2015	21:00	46.6	38.4	38	45709		117583	44.7	no
13	13/07/2015	21:15	43.8	37.6	38.4	23988				no
14	13/07/2015	21:30	43	37.3	38.7	19953				no
15	13/07/2015	21:45	45.5	37.7	39	35481				no
16	13/07/2015	22:00	42.7	36.2	40.2	18621		98043	43.9	no
							568734			
1	14/07/2015	18:15	45.5	35.2	33.3	35481				no
2	14/07/2015	18:30	45.2	36.3	33.8	33113				no
3	14/07/2015	18:45	44.5	34.5	34.5	28184				no
4	14/07/2015	19:00	43.9	35.9	35.2	24547		121325	44.8	no
5	14/07/2015	19:15	43.8	35.2	35.2	23988				no
6	14/07/2015	19:30	49.3	37.3	35.2	85114				no
7	14/07/2015	19:45	43.7	36	35.6	23442				no
8	14/07/2015	20:00	45	35.8	35.8	31623		164167	46.1	no
9	14/07/2015	20:15	46.2	37.5	35.8	41687				no
10	14/07/2015	20:30	42.2	35.8	35.8	16596				no
11	14/07/2015	20:45	41.8	35.8	35.9	15136				no
12	14/07/2015	21:00	44.3	35.6	36	26915		100334	44.0	no
13	14/07/2015	21:15	43.5	35.2	36.2	22387				no
14	14/07/2015	21:30	42.2	36.2	36.3	16596				no
15	14/07/2015	21:45	37	33.3	37.3	5012				no
16	14/07/2015	22:00	40.8	33.8	37.5	12023		56018	41.5	no
							441844			
1	15/07/2015	18:15	46.1	38.9	32	40738				no
2	15/07/2015	18:30	46.2	39.7	32.7	41687				no
3	15/07/2015	18:45	45.2	38.8	33	33113				no
4	15/07/2015	19:00	44.4	37.7	33.2	27542		143080	45.5	no
5	15/07/2015	19:15	46.5	37.7	33.2	44668				no
6	15/07/2015	19:30	44.3	37.3	33.9	26915				no

7	15/07/2015	19:45	44	38.2	34.2	25119				no
8	15/07/2015	20:00	44.3	38.8	36.4	26915		123618	44.9	no
9	15/07/2015	20:15	41.3	36.4	37.3	13490				no
10	15/07/2015	20:30	43.1	34.2	37.7	20417				no
11	15/07/2015	20:45	43.5	33.9	37.7	22387				no
12	15/07/2015	21:00	44	33.2	38.2	25119		81413	43.1	no
13	15/07/2015	21:15	39.7	32	38.8	9333				no
14	15/07/2015	21:30	43.9	33.2	38.8	24547				no
15	15/07/2015	21:45	38.9	33	38.9	7762				no
16	15/07/2015	22:00	42.6	32.7	39.7	18197		59839	41.7	no
							407950			
1	16/07/2015	18:15	43.8	32.8	31.1	23988				no
2	16/07/2015	18:30	45.5	35.3	31.2	35481				no
3	16/07/2015	18:45	46.1	34.8	31.5	40738				no
4	16/07/2015	19:00	45.5	34.1	31.6	35481		135689	45.3	no
5	16/07/2015	19:15	43.3	34.2	31.6	21380				no
6	16/07/2015	19:30	43.7	34.2	32	23442				no
7	16/07/2015	19:45	41.7	31.6	32.8	14791				no
8	16/07/2015	20:00	42.7	32.9	32.9	18621		78234	42.9	no
9	16/07/2015	20:15	44.6	33.5	33.1	28840				no
10	16/07/2015	20:30	44.4	33.9	33.5	27542				no
11	16/07/2015	20:45	41.6	33.1	33.9	14454				no
12	16/07/2015	21:00	43.9	31.5	34.1	24547		95384	43.8	no
13	16/07/2015	21:15	44	31.6	34.2	25119				no
14	16/07/2015	21:30	40.5	31.2	34.2	11220				no
15	16/07/2015	21:45	36.9	32	34.8	4898				no
16	16/07/2015	22:00	41.2	31.1	35.3	13183		54419	41.3	no
							363726			

Night Period	10pm to 7am		
amenity criteria	50-55	dB(A)	Urban industrial interface
Intrusiveness criteria (RBL+ 5)	34.3	dB(A)	

Night	Date	$L_{aeq(night)}$	ABL	RBL
Wednesday Night	8/07/2015	50.8	40.2	
Thursday Night	9/07/2015	46.5	34.3	
Friday night	10/07/2015	41.8	29.3	
Saturday Night	11/07/2015	48.6	25.4	
Sunday Night	12/07/2015	44.2	26.0	29.3
Monday Night	13/07/2015	45.3	28.6	
Tuesday Night	14/07/2015	45.1	30.4	
Wednesday Night	15/07/2015	43.9	25.7	
Thursday Night	16/07/2015	46.8	27.3	



no.	Date	time	$L_{Aeq(15\ minute)}$	$L_{A90(15minute)}$	$L_{A90(15min)}$ assending order	$10^{((L_{Aeq(15\ minute)}/10))}$	period sums	hrly sums	hrly Laeq
1	8/07/2015	22:15	46.2	40.4	39.5	41687			
2	8/07/2015	22:30	44.9	39.5	39.5	30903			
3	8/07/2015	22:45	45.9	41.1	40.2	38905			
4	8/07/2015	23:00	52.7	47.9	40.4	186209		297703	48.7
5	8/07/2015	23:15	52.1	46.5	40.5	162181			
6	8/07/2015	23:30	45.4	42.6	40.8	34674			
7	8/07/2015	23:45	43.5	41	41	22387			
8	9/07/2015	0:00	51.4	42.6	41.1	138038		357280	49.5
9	9/07/2015	0:15	55.1	54	41.5	323594			
10	9/07/2015	0:30	53.5	51.2	42.3	223872			
11	9/07/2015	0:45	49.8	46.6	42.3	95499			
12	9/07/2015	1:00	48.8	44.1	42.6	75858		718823	52.5
13	9/07/2015	1:15	52.1	47.9	42.6	162181			
14	9/07/2015	1:30	46.4	43.8	42.8	43652			
15	9/07/2015	1:45	42.7	40.2	42.9	18621			
16	9/07/2015	2:00	42.5	39.5	43	17783		242236	47.8
17	9/07/2015	2:15	50.8	44.8	43.6	120226			
18	9/07/2015	2:30	49	45.7	43.8	79433			
19	9/07/2015	2:45	46.3	42.9	44.1	42658			
20	9/07/2015	3:00	52.9	51.7	44.8	194984		437302	50.4
21	9/07/2015	3:15	52.8	51.3	45.4	190546			
22	9/07/2015	3:30	51.2	47.5	45.7	131826			
23	9/07/2015	3:45	46.6	43.6	46	45709			
24	9/07/2015	4:00	44.4	41.5	46.5	27542		395623	50.0
25	9/07/2015	4:15	43.8	40.5	46.6	23988			
26	9/07/2015	4:30	49.1	45.4	47.5	81283			
27	9/07/2015	4:45	48.9	46	47.9	77625			
28	9/07/2015	5:00	46.3	43	47.9	42658		225554	47.5
29	9/07/2015	5:15	46.7	42.3	48.8	46774			

30	9/07/2015	5:30	45.3	40.8	49.9	33884			
31	9/07/2015	5:45	50	42.3	50	100000			
32	9/07/2015	6:00	48	42.8	51.2	63096		243754	47.8
33	9/07/2015	6:15	53.9	48.8	51.3	245471			
34	9/07/2015	6:30	54.6	49.9	51.7	288403			
35	9/07/2015	6:45	55.6	50	54	363078			
36	9/07/2015	7:00	57	54.2	54.2	501187		1398139	55.4
							4316414		
1	9/07/2015	22:15	42.8	39.2	33.9	19055			
2	9/07/2015	22:30	45.4	39.6	34.1	34674			
3	9/07/2015	22:45	40.7	39.1	34.3	11749			
4	9/07/2015	23:00	40	34.1	34.6	10000		75477	42.8
5	9/07/2015	23:15	38.7	35.7	35.2	7413			
6	9/07/2015	23:30	39.5	36.9	35.6	8913			
7	9/07/2015	23:45	38	33.9	35.7	6310			
8	10/07/2015	0:00	39.8	37.3	35.9	9550		32185	39.1
9	10/07/2015	0:15	39	37.4	36.5	7943			
10	10/07/2015	0:30	38.9	35.9	36.5	7762			
11	10/07/2015	0:45	38.8	35.2	36.6	7586			
12	10/07/2015	1:00	38.3	34.6	36.9	6761		30052	38.8
13	10/07/2015	1:15	41.3	34.3	37.1	13490			
14	10/07/2015	1:30	39.2	36.6	37.3	8318			
15	10/07/2015	1:45	39.1	37.5	37.4	8128			
16	10/07/2015	2:00	41.2	36.5	37.5	13183		43118	40.3
17	10/07/2015	2:15	39.1	36.5	37.6	8128			
18	10/07/2015	2:30	39.6	35.6	37.7	9120			
19	10/07/2015	2:45	38.9	37.9	37.9	7762			
20	10/07/2015	3:00	39	37.6	38.9	7943		32954	39.2
21	10/07/2015	3:15	38.9	37.7	39	7762			
22	10/07/2015	3:30	38.8	37.1	39.1	7586			
23	10/07/2015	3:45	39.8	38.9	39.2	9550			
24	10/07/2015	4:00	40.8	39.3	39.3	12023		36921	39.7
25	10/07/2015	4:15	41.8	39	39.6	15136			
26	10/07/2015	4:30	42.1	41.3	40.3	16218			
27	10/07/2015	4:45	43.4	40.6	40.5	21878			
28	10/07/2015	5:00	41.4	40.3	40.5	13804		67035	42.2
29	10/07/2015	5:15	43.2	40.5	40.6	20893			
30	10/07/2015	5:30	44.3	40.5	41.3	26915			
31	10/07/2015	5:45	48.1	41.8	41.6	64565			
32	10/07/2015	6:00	48.4	41.6	41.8	69183		181557	46.6
33	10/07/2015	6:15	56.1	44.9	42	407380			
34	10/07/2015	6:30	54.7	43.4	42.6	295121			
35	10/07/2015	6:45	53.1	42.6	43.4	204174			
36	10/07/2015	7:00	52.9	42	44.9	194984		1101659	54.4
							1600959		
1	10/07/2015	22:15	39.9	29.3	28.7	9772			
2	10/07/2015	22:30	37.1	30.2	29	5129			
3	10/07/2015	22:45	37.1	31.1	29.3	5129			

4	10/07/2015	23:00	38.4	30.1	29.3	6918		26948	38.3
5	10/07/2015	23:15	40	29.9	29.7	10000			
6	10/07/2015	23:30	37.5	30.3	29.8	5623			
7	10/07/2015	23:45	33.5	30.6	29.9	2239			
8	11/07/2015	0:00	37.5	29	30	5623		23486	37.7
9	11/07/2015	0:15	37.6	30.7	30.1	5754			
10	11/07/2015	0:30	35.8	29.3	30.2	3802			
11	11/07/2015	0:45	34.1	30.7	30.3	2570			
12	11/07/2015	1:00	33.7	30.4	30.3	2344		14471	35.6
13	11/07/2015	1:15	36.2	30	30.4	4169			
14	11/07/2015	1:30	35.2	29.7	30.6	3311			
15	11/07/2015	1:45	35.3	31.2	30.7	3388			
16	11/07/2015	2:00	34.9	32.5	30.7	3090		13959	35.4
17	11/07/2015	2:15	33	28.7	30.9	1995			
18	11/07/2015	2:30	34.7	29.8	31.1	2951			
19	11/07/2015	2:45	37.4	31.1	31.1	5495			
20	11/07/2015	3:00	35	30.3	31.2	3162		13604	35.3
21	11/07/2015	3:15	34.9	32.3	32.3	3090			
22	11/07/2015	3:30	34.1	30.9	32.4	2570			
23	11/07/2015	3:45	34.9	32.8	32.5	3090			
24	11/07/2015	4:00	35	32.8	32.8	3162		11913	34.7
25	11/07/2015	4:15	35.2	32.4	32.8	3311			
26	11/07/2015	4:30	38.3	34	33.9	6761			
27	11/07/2015	4:45	36.8	34.8	34	4786			
28	11/07/2015	5:00	39	33.9	34.8	7943		22802	37.6
29	11/07/2015	5:15	41.2	35.2	35.2	13183			
30	11/07/2015	5:30	42.7	36.6	35.3	18621			
31	11/07/2015	5:45	41.6	35.3	36.6	14454			
32	11/07/2015	6:00	46.5	36.8	36.8	44668		90926	43.6
33	11/07/2015	6:15	50.1	41.4	39.9	102329			
34	11/07/2015	6:30	49.5	41	41	89125			
35	11/07/2015	6:45	47.5	39.9	41.4	56234			
36	11/07/2015	7:00	48.8	41.9	41.9	75858		323546	49.1
							541655		
1	11/07/2015	22:15	36.6	29.3	25.2	4571			
2	11/07/2015	22:30	37.1	28.5	25.3	5129			
3	11/07/2015	22:45	40.8	29.7	25.4	12023			
4	11/07/2015	23:00	37.5	27.2	25.5	5623		27346	38.3
5	11/07/2015	23:15	40	28.1	25.5	10000			
6	11/07/2015	23:30	38.5	29.6	25.7	7079			
7	11/07/2015	23:45	39.8	31.1	25.9	9550			
8	12/07/2015	0:00	43.5	36.2	26.1	22387		49017	40.9
9	12/07/2015	0:15	43.3	37.5	27.2	21380			
10	12/07/2015	0:30	41.7	32.9	27.5	14791			
11	12/07/2015	0:45	34	29.1	28.1	2512			
12	12/07/2015	1:00	35	29.6	28.5	3162		41845	40.2
13	12/07/2015	1:15	37.5	31.4	29	5623			
14	12/07/2015	1:30	36.9	29.7	29.1	4898			

15	12/07/2015	1:45	31.7	27.5	29.3	1479			
16	12/07/2015	2:00	32.1	26.1	29.6	1622		13622	35.3
17	12/07/2015	2:15	31.8	25.7	29.6	1514			
18	12/07/2015	2:30	34.6	25.5	29.7	2884			
19	12/07/2015	2:45	38.4	25.5	29.7	6918			
20	12/07/2015	3:00	28.9	25.4	31.1	776		12092	34.8
21	12/07/2015	3:15	28.8	25.2	31.4	759			
22	12/07/2015	3:30	35.2	25.3	32.9	3311			
23	12/07/2015	3:45	29.6	25.9	33.7	912			
24	12/07/2015	4:00	37.1	29	36.2	5129		10111	34.0
25	12/07/2015	4:15	44	33.7	37.5	25119			
26	12/07/2015	4:30	46.6	39.1	38.9	45709			
27	12/07/2015	4:45	48.3	41.4	39.1	67608			
28	12/07/2015	5:00	50.8	41.4	39.6	120226		258662	48.1
29	12/07/2015	5:15	55.3	47.8	40.5	338844			
30	12/07/2015	5:30	58.8	51.2	41.3	758578			
31	12/07/2015	5:45	58.3	50.6	41.4	676083			
32	12/07/2015	6:00	51.9	46.1	41.4	154882		1928386	56.8
33	12/07/2015	6:15	47.9	41.3	46.1	61660			
34	12/07/2015	6:30	47.4	38.9	47.8	54954			
35	12/07/2015	6:45	50	40.5	50.6	100000			
36	12/07/2015	7:00	47	39.6	51.2	50119		266732	48.2
							2607813		
1	12/07/2015	22:15	35.5	29.5	24.4	3548			
2	12/07/2015	22:30	33.5	28.9	25.3	2239			
3	12/07/2015	22:45	37.9	27	26	6166			
4	12/07/2015	23:00	32.7	27.4	26.3	1862		13815	35.4
5	12/07/2015	23:15	46.7	27.2	26.4	46774			
6	12/07/2015	23:30	34.7	29.6	26.7	2951			
7	12/07/2015	23:45	33.2	29.1	27	2089			
8	13/07/2015	0:00	36.4	30.2	27.1	4365		56179	41.5
9	13/07/2015	0:15	36.6	26.4	27.2	4571			
10	13/07/2015	0:30	33.7	29.3	27.3	2344			
11	13/07/2015	0:45	32.7	24.4	27.4	1862			
12	13/07/2015	1:00	30.2	26	27.6	1047		9824	33.9
13	13/07/2015	1:15	30.3	26.7	28.2	1072			
14	13/07/2015	1:30	33	27.3	28.9	1995			
15	13/07/2015	1:45	37.4	29.5	29.1	5495			
16	13/07/2015	2:00	36.4	26.3	29.3	4365		12927	35.1
17	13/07/2015	2:15	31.1	28.2	29.5	1288			
18	13/07/2015	2:30	32.5	25.3	29.5	1778			
19	13/07/2015	2:45	34.6	27.6	29.6	2884			
20	13/07/2015	3:00	32.5	27.1	29.8	1778		7729	32.9
21	13/07/2015	3:15	36.1	29.8	30.2	4074			
22	13/07/2015	3:30	38.1	31.8	31.8	6457			
23	13/07/2015	3:45	40.3	33.8	32.5	10715			
24	13/07/2015	4:00	41.2	35.9	33.8	13183		34428	39.3
25	13/07/2015	4:15	42.1	35.8	34.4	16218			

26	13/07/2015	4:30	39.9	32.5	34.5	9772			
27	13/07/2015	4:45	39.8	34.5	35.7	9550			
28	13/07/2015	5:00	43.2	34.4	35.8	20893		56433	41.5
29	13/07/2015	5:15	44	35.7	35.9	25119			
30	13/07/2015	5:30	48.1	41.6	37.6	64565			
31	13/07/2015	5:45	47.6	38.8	38.8	57544			
32	13/07/2015	6:00	48	37.6	39.5	63096		210324	47.2
33	13/07/2015	6:15	51.6	40.6	40.4	144544			
34	13/07/2015	6:30	52	41.5	40.6	158489			
35	13/07/2015	6:45	50.9	40.4	41.5	123027			
36	13/07/2015	7:00	50.6	39.5	41.6	114815		540876	51.3
							942536		
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2	13/07/2015	22:30	46.3	39.2	28.6	42658			
3	13/07/2015	22:45	47.4	41.5	28.6	54954			
4	13/07/2015	23:00	43.6	38.5	29.5	22909		158540	46.0
5	13/07/2015	23:15	43	38.5	30.4	19953			
6	13/07/2015	23:30	43.7	36.4	30.6	23442			
7	13/07/2015	23:45	39.3	34.3	30.9	8511			
8	14/07/2015	0:00	41.2	34.6	31.9	13183		65089	42.1
9	14/07/2015	0:15	41.7	35.3	32.1	14791			
10	14/07/2015	0:30	37.1	31.9	32.6	5129			
11	14/07/2015	0:45	30	27.6	33.5	1000			
12	14/07/2015	1:00	31.8	29.5	33.8	1514		22433	37.5
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14	14/07/2015	1:30	39.6	33.5	34.6	9120			
15	14/07/2015	1:45	42.8	35.7	35.2	19055			
16	14/07/2015	2:00	43.6	38.7	35.3	22909		59793	41.7
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22	14/07/2015	3:30	36.1	30.4	36.4	4074			
23	14/07/2015	3:45	41.8	33.8	36.9	15136			
24	14/07/2015	4:00	42.6	36.9	37.5	18197		49996	41.0
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28	14/07/2015	5:00	36.9	32.6	38.5	4898		101424	44.0
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30	14/07/2015	5:30	43.7	35.3	39.2	23442			
31	14/07/2015	5:45	47.5	37.5	39.7	56234			
32	14/07/2015	6:00	47.4	37.5	39.9	54954		147513	45.7
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35	14/07/2015	6:45	51.7	39.9	41.3	147911			
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2	14/07/2015	22:30	40.6	33.4	30.3	11482		
3	14/07/2015	22:45	38.4	31.8	30.4	6918		
4	14/07/2015	23:00	40.2	32.5	30.4	10471	36634	39.6
5	14/07/2015	23:15	35.3	31.9	30.6	3388		
6	14/07/2015	23:30	33.5	30.6	30.9	2239		
7	14/07/2015	23:45	32.4	30.4	30.9	1738		
8	15/07/2015	0:00	34	31.7	31.1	2512	9877	33.9
9	15/07/2015	0:15	32.8	30.4	31.6	1905		
10	15/07/2015	0:30	33.9	30.3	31.7	2455		
11	15/07/2015	0:45	34.5	30.3	31.8	2818		
12	15/07/2015	1:00	32.6	31.1	31.9	1820	8998	33.5
13	15/07/2015	1:15	34.5	32.2	32	2818		
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15	15/07/2015	1:45	37.9	33.5	32.2	6166		
16	15/07/2015	2:00	34.5	32.6	32.3	2818	18564	36.7
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18	15/07/2015	2:30	35.3	32.1	32.5	3388		
19	15/07/2015	2:45	37.7	32.3	32.6	5888		
20	15/07/2015	3:00	33.1	30.9	33.4	2042	14786	35.7
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22	15/07/2015	3:30	36.7	30.9	33.5	4677		
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27	15/07/2015	4:45	38.3	35.2	35.2	6761		
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17	16/07/2015	2:15	31	27.5	28.7	1259			
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19	16/07/2015	2:45	34.7	30.2	29.4	2951			
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							886551		
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7	16/07/2015	23:45	31.1	27.8	29	1288			
8	17/07/2015	0:00	37.8	28.7	29.2	6026		21855	37.4
9	17/07/2015	0:15	32.7	28.5	29.6	1862			
10	17/07/2015	0:30	35.4	30.4	29.6	3467			
11	17/07/2015	0:45	32.2	29.6	30.1	1660			
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18	17/07/2015	2:30	50.1	36.9	34.3	102329			
19	17/07/2015	2:45	49.4	41.3	36.9	87096			
20	17/07/2015	3:00	39.2	34.3	37.6	8318		206061	47.1
21	17/07/2015	3:15	47.8	38.6	38.6	60256			

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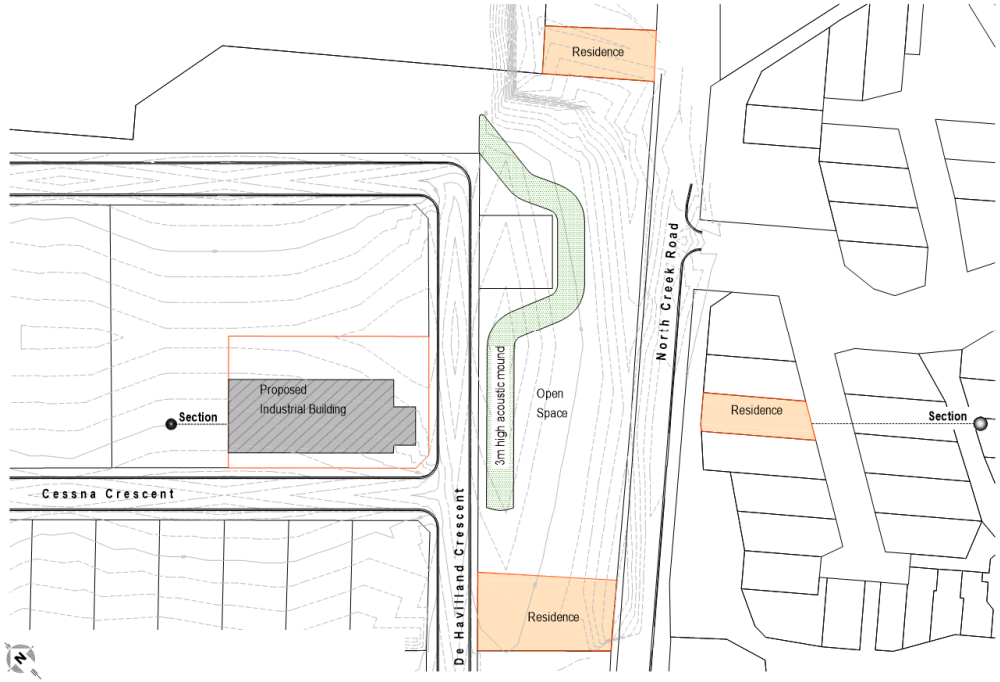
23	17/07/2015	3:45	48.6	43.3	40.3	72444			
24	17/07/2015	4:00	45.4	39.8	40.6	34674		244998	47.9
25	17/07/2015	4:15	47.8	42.9	40.9	60256			
26	17/07/2015	4:30	45.7	37.6	41.3	37154			
27	17/07/2015	4:45	46.1	40.3	41.5	40738			
28	17/07/2015	5:00	46.5	40.6	42.3	44668		182816	46.6
29	17/07/2015	5:15	47.1	40.9	42.9	51286			
30	17/07/2015	5:30	49.9	43.7	42.9	97724			
31	17/07/2015	5:45	47.8	41.5	43.3	60256			
32	17/07/2015	6:00	50.6	45.2	43.3	114815		324081	49.1
33	17/07/2015	6:15	52.1	42.9	43.7	162181			
34	17/07/2015	6:30	51.7	43.3	45.2	147911			
35	17/07/2015	6:45	53.6	46.2	45.6	229087			
36	17/07/2015	7:00	51.5	45.6	46.2	141254		680432	52.3
							1716179		

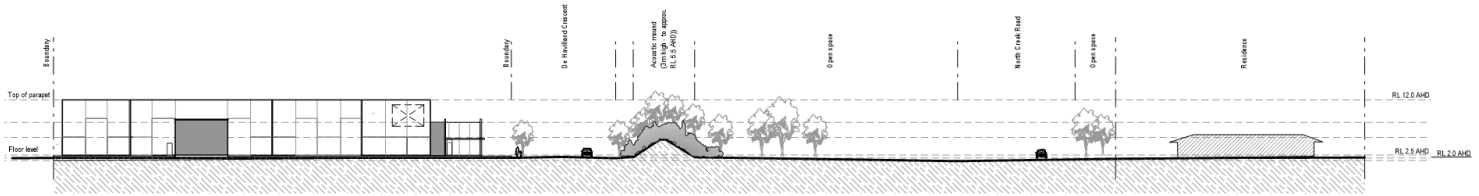
D Existing Noise Mound



Location of Acoustic Mound Relative to Proposed Industrial Building and Nearby Residences

Plan Scale 1:1500 at A3

Mound location and contours obtained from drawings by GeoLINK



Illustrative Section from Proposed Industrial Building to Acoustic Mound and Residence

Levels are approximate only

PLAN SCALE:	Refer to plan
DRAWN:	DTI
BASE SOURCE:	Archimages/azaCAD
DATE:	27.08.10
REFERENCE:	

Illustration 3.1:
Proposed Acoustic Measures

Acoustic Assessment • Ballina Shire Council • Lot 87 in DP 1118585 • Cessna Crescent, Ballina

E Noise Management Plan

Noise Management Plan

Proposed Subdivision of
Part Lot 98 DP 1194043
Ballina

HEALTH SCIENCE ENVIROMENTAL EDUCATION
ENVIRONMENTAL AUDITOR

Noise Management Plan

Proposed Subdivision of
Part Lot 98 DP 1194043
Ballina

Prepared for: Ballina Shire Council

Version: FINAL
Project No: 89/2014
Date: 11 September 2015
Tim Fitzroy & Associates
ABN: 94120188829
ACN: 120188829

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fitzroy & associates
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Appendices

1. Introduction

1.1 Preamble

This document is a Noise Management Plan (NMP) specific to the construction and operation of future industrial activities at Part Lot 98 DP 119403 North Creek Road, Ballina (see Site Locality diagram provided in **Illustration 1.1)**. This Noise Management Plan has been prepared by Tim Fitzroy & Associates for Ballina Shire Council.

The NMP:

- Provides direction on the selection and implementation of appropriate noise control and monitoring techniques during its operational life, and
- Reflects the requirements of the Noise Impact Assessment (Tim Fitzroy & Associates 17 August 2015) as well as Ballina Shire Council's commitments to high standard environmental performance.

In order to ensure that the site operates with the least noise impact, the NMP addresses the construction and operations associated with the future industrial activities to minimise noise impacts on the nearest affected dwellings. This NMP includes:

a) identification of nearby residences and other sensitive land uses;
b) an assessment of expected noise impacts;
c) an examination of all feasible and reasonable management practices that will be implemented to minimise noise impacts; and
j) the name and qualifications of person who prepared the report.

1.2 Proposed Development

The proposal entails the subdivision of Lot 98 DP1194043 into four (4) industrial, removal of vegetation, filling of land, construction of noise attenuation wall and associated civil infrastructure. Dedication of 1.5 metres of land fronting North Creek Road will also be undertaken to facilitate any future upgrade to North Creek Road as shown in **Appendix A**.

1.3 Objectives

The objectives of this NMP in relation are to:

- *Minimise noise generated by industrial and ancillary activities associated with the subject site; and*
- *Contain noise emissions to within the Project Specific Noise Criteria.*


AVE
CESSNA
STINSON
ST
Harvey Norman
APN
CRES
ARC
CRES
SWEET LIP
NORTH CREEK RD
YELLOW
ABALONE PL
DR
DE-HAVILLAND
PERIWINKLE PL
FIN
PIPI PL
Legend
54 North Creek Road Ballina
0
0.2
kilometres
GDA
N
W
E
S
Locality Map
54 North Creek Road Ballina
DISCLAIMER © Land & Property Information 2014
Although all care is taken in the preparation of this plan, Ballina Shire Council accepts no responsibility for any misprints, errors, omissions or inaccuracies.
The information contained within this plan is for pictorial representation only. Do not scale. Accurate measurements should be undertaken by survey.
Printed
04/11/2014
ballina
shire council

2. Site Description

2.1 Location

The property comprises an area of approximately 1.346 hectares and is zoned industrial and classified as operational land. The property is bounded by North Creek Road and De-Havilland Crescent. Erected on the property is:

- An old weatherboard house;
- A Council sewer pump station; and
- A large acoustic berm constructed in accordance with development consent conditions pertaining to subdivision of part of the Southern Cross Industrial Estate.

The balance of the property is heavily vegetated and is becoming infested with noxious plants.

The relief of the majority of the site varies less than 5m AHD. The site is effectively flat (with the exception of the Acoustic mound + vegetation (to RL4.5m) and accompanying vegetation) with sandy soils.

Surrounding land uses include the Southern Cross Industrial Estate to the north and west, to the east and south residences along North Creek Road and the North Lakes Residential Estate.

Illustration 2.1 shows the various land use types surrounding the subject site.

0 40m

SCALE: 1:2000 (A4)
DRAWN: azaCAD
SOURCE: SIX
DATE: AUGUST 2015
REFERENCE: 22-173-A

Illustration 2.1: Noise Monitoring Location

Noise Impact Assessment & Noise Management Plan to support Development Application for Proposed Subdivision of Part Lot 98 DP1194043 Ballina

3. Legislative Requirements and Noise Criteria

3.1 Noise Management Principles

Ballina Shire Council is committed to ethical and legal obligations regarding environmental and occupational noise. This includes control of occupational and environmental noise particularly where any activities may negatively impact on the environment, staff, sub-contractors', other workers and members of the public.

Ballina Shire Council noise management protection systems are primarily aimed at controlling the following:

- Construction and Operational noise.

Compliance processes are driven by future operators/owners of the subject site/s, through:

- An effective Noise Management Plan (NMP) to control the planning and implementation of noise protection measures;
- Identification of statutory requirements, compliance limits and adverse environmental issues which could affect any undertaking;
- Integrating work activities and environmental protection measures to minimise potential for risks and comply with specific protection requirements;
- Implementation of best practice measures that form the basis of awareness and compliance programs for owners/operators and the workforce;
- Routine monitoring and refinement of the noise management program; and
- Continuous improvement for environmental protection outcomes.

3.2 Legislative Requirements

Applicable legislative requirements listed within **Table 3.1**. All activities carried out on the site/s must comply with the relevant provisions of all legislation relating to the operation of the Wedding Venue Facility.

Table 3.1 Relevant Legislation

Legislation
Environmental Planning and Assessment Act 1979 (EP&A Act)
Protection of the Environment Operations Act 1997 (POEO Act).

3.2.1 Other Guidelines/Standards

Other guidelines and Standards that apply to the subject site/s are listed below in **Table 3.2**.

Table 3.2 Relevant Standards and Guidelines

Standard or Guideline
NSW EPA Industrial Noise Policy (2000).
Noise Guide for Local Government (DECCW 2010)

This Noise Management Plan has been prepared to satisfy the relevant procedures, safeguards and mitigation measures identified in the NIA.

3.3 Applicable Noise Criteria

***Protection of the Environment Operations Act 1997 (*POEO Act) and the Protection of the Environment Operations (Noise Control) Regulation 2008 (Noise Control Regulation)**

The *Protection of the Environment Operations Act 1997 (*POEO Act) and the Protection of the Environment Operations (Noise Control) Regulation 2008 (Noise Control Regulation) provide the main legal framework and basis for managing unacceptable noise.

The POEO Act:

- identifies the authority responsible for regulating noise (s. 6 of the Act)
- defines 'noise' and 'offensive noise' (Dictionary in the Act)
- provides a range of regulatory tools to manage noise, including Noise Control Notices, Prevention Notices, Noise Abatement Directions and Noise Abatement Orders.

Depending on the circumstances, the Noise Control Regulation may require an assessment of a noise's audibility, time of occurrence, duration or offensiveness.
The POEO Act does not always require noise to be measured to determine whether it is offensive. However, noise measurement can help in deciding what action, if any, is necessary.

3.4.1 Offensive Noise

Depending on the type of noise under consideration, noise can be considered as offensive in three ways according to it's:

- audibility
- duration
- inherently offensive characteristics.

Given the nature of the noise complaints, namely dogs barking, it will be necessary for Council to consider a range of factors to determine whether the noise is offensive, including the following:

- the loudness of the noise, especially compared with other noise in the area
- the character of the noise
- the time and duration of the noise

- whether the noise is typical for the area
- how often the noise occurs
- the number of people affected by the noise.

3.4.2 Intrusive Noise

Noise is identified as 'intrusive' if it is noticeably louder than the background noise and considered likely to disturb or interfere with those who can hear it. It is our understanding that BSC does not have a policy about what they consider constitutes intrusive noise from specified activities in particular situations or locations.

As a guide the Industrial Noise Policy (NSW EPA 2000) states that the intrusiveness of an industrial noise source may be generally considered to be acceptable if the equivalent continuous A-weighted level of noise from the source, measured over a 15 minute period, does not exceed the background noise level by more than 5dB. Therefore, the limiting criteria for the control of intrusive noise impacts is if the $L_{Aeq,15\ minute}$ descriptor is < RBL + 5 dB.

3.4.3 Sleep disturbance

Specific provisions relate to sleep disturbance and the World Health Organization recommends that a maximum level of 45 dB (A) should not be exceeded inside a bedroom. For practical purposes this is equivalent to a maximum level of 55 dB (A) outside a residence, with an open window to the bedroom (Guidelines for Community Noise WHO 1999).

3.4.4 Industrial Noise Policy

In accordance with the NSW Industrial Noise Policy (NSW EPA 2000), future business/es at the subject site/s would be classified as an industrial/commercial noise source. The assessment procedure for an industrial noise source should comprise of:

- Controlling intrusive noise impacts in the short term for surrounding residences; and
- Maintaining noise level amenity for particular land uses for residences and other land uses.

4. Noise Management Plan

4.1 Introduction

This Noise Management Plan relates to a portion of the Southern Cross industrial precinct located at Part Lot 98 DP 1194043, 54 North Creek Road Ballina.

Typical noise generation by industrial development has therefore been assumed. The estimated noise levels for the development will provide guidance to Council on potential noise emissions, but are not definitive. Subdivision layout, building design, at source mitigation, shielding and the times and duration of activities will all impact on the ultimate noise levels produced. Each of these factors cannot yet be defined given the current stage in the planning process.

The Noise Impact Assessment (TFA 17 August 2015) found that the predicted noise level from the noise source exceeds the project specific noise levels, and therefore mitigation measures that will be required to reduce noise levels to meet the project-specific noise levels.

The degree of noise impact quantifies the extent of mitigation required, and points to an appropriate mix of noise control measures to be adopted as a mitigation strategy.
Given the nature of the subject development (a proposed industrial subdivision with no specific operations identified) this NMP focuses on achieving the desired environmental outcomes however with the exception of a proposed 3m high noise wall on the southern and eastern boundary of the site, there is no prescribed management or mitigation strategy to achieve the project-specific noise levels. In this way, BSC is given maximum flexibility in controlling noise.

The sections below provide guidance on what additional mitigation and management measures might be appropriate for particular types of future industrial development at the subject site associated with specific noise problems.

4.2 Typical Noise Sources from Industrial Sites

Typical noise sources on industrial sites include:

- engines
- exhausts
- fans
- transport of materials, such as on conveyors and trucks
- milling and stamping (metal works)
- sawing and debarking (wood mills)
- processors such as crushing and separating
- pumps and compressors
- whistles and alarms
- material dumping and scraping
- electrical transformers and switching equipment.

The choice of noise control measures depends on both the degree of mitigation required and the undesirable characteristics of the noise source that need to be controlled. The actual measures chosen will also depend on site factors, such as the ability of the site to accommodate particular engineering measures relative to other measures and their site costs.

A set of noise-control measures is listed below.

4.3 Avoiding co-location of incompatible uses

During the planning of future development on the subdivided allotment the following strategies are to be employed to minimise noise impacts on the neighbouring residential area:

- maximize the spatial separation between noisy activities and residential areas
- using intervening structures such as buildings to act as barriers. Buildings used as barriers should incorporate noise quietening principles into their building design to ensure appropriate internal conditions.
- incorporating appropriate building design to minimise noise impacts, for example:
    - including acoustic design principles when planning landscaping
    - using construction techniques that have good attention to sealing air gaps around doors and windows exposed to noise; using solid core doors; and using thicker window glass or double glazing.

It is also important that there be a mechanism for providing information on existing noise impacts from approved facilities to members of the public seeking to move into areas, in order to avoid unrealistic expectations of noise amenity in affected areas.

4.4 Controlling the transmission of noise

4.3.1 Noise Barrier

It is proposed to install a noise wall (to a minimum height of 3m designed to achieve a 15B (A) noise reduction) along the southern and eastern boundaries of the subject site (see **Appendix A**).

The noise wall may consist of any of the following products:

- steel (1.27mm thick; 9.8 kg/m^2 surface density);
- aluminium (minimum 3.18mm thick; 8.8 kg/m^2 surface density);
- brick (minimum 150mm thick; 288 kg/m^2 surface density);
- concrete (minimum 100mm thick; 288 kg/m^2 surface density);
- acrylic (15mm thick; 18 kg/m^2 surface density);
- polycarbonate (8-12mm thick; 10-14 kg/m^2 surface density); or
- Absorptive panels with polyester film backed by metal sheet (50-125mm thick; 20-30 kg/m^2 surface density).

The size and location of openings under or through the barrier must be kept to a minimum. The effect of a continuous gap of approximately 50 mm at the base of the noise barrier will degrade the performance of the barrier by approximately 1 dB(A).

4.5 Construction Noise

The construction process uses a variety of equipment which has the potential to cause off-site noise impact. Appropriate work place operational noise limits must also be met to ensure workers are not exposed to damaging levels of noise. Noise emissions from the construction works can be managed to some extent through effective programming of the works such that those activities emitting the highest noise levels are undertaken during periods when they will be least obtrusive to sensitive receivers in the area.

Management strategies included within this NMP include:

- selection of suitable equipment;
- fitting of silencers and mufflers to all plant and machinery;
- adoption of suitable hours of construction; and
- appropriate operation and maintenance of machinery.

To minimise the potential for any noise impacts, the following mitigation measures will be implemented to protect nearby residents:

- Provide a letter to residences within the area informing them of the proposed construction works (including program) and expected levels of noise and vibration;
- Where possible, noise emitting construction activities, such as excavating and compacting, should be undertaken during periods of least sensitivity;
- Where possible, reversing alarms on plant and equipment used on site should be replaced with broadband alarms (squawkers);
- Care should be taken not to drop materials from a height either into or out of trucks, or onto surfaces, and the surfaces on to which the materials are being moved should be covered by some noise absorbing material (e.g. rubber matting);
- Set up a noise and vibration complaints register (available to the general community) and manage complaints accordingly;
- Construction operations shall be restricted to the following times:

  Monday to Friday 7:00 am to 6:00 pm

  Saturdays 8:00am to 1:00pm

- Construction noise is to be limited as follows:

  a) For construction periods of four (4) weeks and under, the L 10 noise level measured over a period of not less than fifteen (15) minutes when the construction site is in operation must not exceed the background level by more than 20 d8(A).

  b) For construction periods greater than four (4) weeks and not exceeding twenty-six (26) weeks, the L 10 noise level measured over a period of not less than fifteen (15) minutes when the construction site is in operation must not exceed the background level by more than 10 d8(A).

- There will be no external phone or alarm system operational;
- All machinery is to be operated and maintained in accordance with manufacturer's specifications and recommendations
- Extensive periods of continuous operation of noisy machinery will be avoided;

- Silencers or High Efficiency (residential class) mufflers will be fitted to all plant and machinery used;
- The construction contractor will minimise noise output through appropriate use of equipment and through regular maintenance to ensure equipment efficiencies; and
- All equipment used on site will have evidence of compliance with recommended noise levels outlined in *AS2436-1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites*.

Monitoring and Reporting

Any noise complaints from neighbouring residents regarding will be reported immediately to the Construction Site Manager for action.

4.6 Operational Noise

Without the benefit of a specific development activity a generic set of noise-control measures for the operation of industrial activities is therefore recommended to be implemented where practicable:

- all plant and equipment should be maintained in good working order. Poorly maintained equipment has the potential to result in increased noise emissions;
- plant should be selected with the potential acoustic impacts in mind with a focus on selecting the quietest available plant;
- scheduling the use of noisy equipment at the least-sensitive time of day.
- siting noisy equipment behind structures that act as barriers, or at the greatest distance from the noise-sensitive area; or orienting the equipment so that noise emissions are directed away from any sensitive areas, to achieve the maximum attenuation of noise.
- where there are several noisy pieces of equipment, scheduling operations so they are used separately rather than concurrently keeping equipment well maintained.
- employing 'quiet' practices when operating equipment: for example, positioning idling trucks in appropriate areas.
- running staff-education programs on the effects of noise and the use of quiet work practices.
- adjusting reversing alarms on heavy equipment to make them 'smarter', by limiting acoustic range to the immediate danger area
- using equipment with efficient muffler design
- using quieter engines, such as electric instead of internal combustion
- damping or lining metal trays or bins

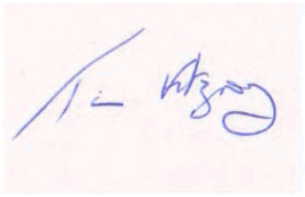
Monitoring and Reporting

- Noise level monitoring to determine compliance with the daytime Project Specific Noise Criteria of 42 dB (A) $L_{Aeq\ (15\ minute)}$ at the nearest affected residence will be undertaken by a suitably qualified person within 3 months after normal operations commence.
- The results of this assessment will be forwarded to the Ballina Shire Council within 30 days of the report being prepared.

4.7 Noise Complaints Management

4.7.1 Inquiries and Complaints

All enquiries and complaints with respect to noise impacts from the future construction and operation of the subject site will be administered by Council's Regulatory Services Group in accordance with the requirements of the Protection of the Environment Operations Act 1997. Any additional requirements would add a layer of bureaucracy and cost to the future occupiers that would be unnecessary and cumbersome.

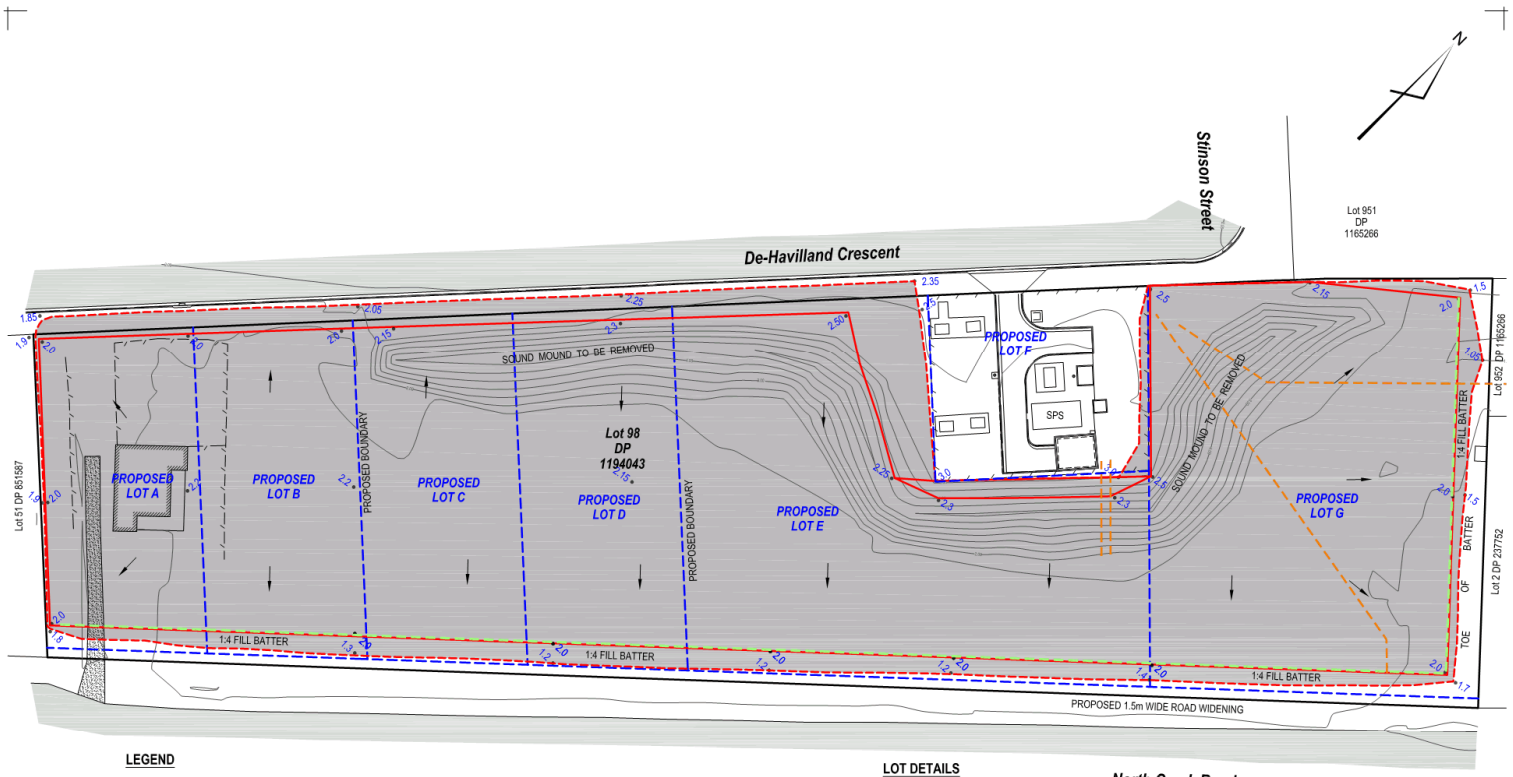


Tim Fitzroy

B.App. Sc. Env. Health. University of Western Sydney

Copyright and Usage

A Proposed Subdivision



LEGEND

- EXTENT OF EARTHWORKS
- 2.0 PROPOSED SURFACE LEVEL
- PROPOSED BOUNDARY
- FINISHED SURFACE FALL DIRECTION
- PROPOSED NOISE WALL (TBC)
- EXISTING SERVICE (TBC)

REQUIRED EARTHWORK VOLUMES

2,950 m³ CUT
5,750 m³ FILL
2,800 m³ FILL REQUIRED

BULK EARTHWORKS DESIGN IS PRELIMINARY ONLY AND SUBJECT TO FINAL DESIGN AND APPROVAL

EXISTING 0.5m CONTOURS SHOWN.

LOT DETAILS

	LOT AREA**	USEABLE AREA*
LOT A	1,250 m²	1,250 m²
LOT B	1,300 m²	1,300 m²
LOT C	1,350 m²	1,350 m²
LOT D	1,400 m²	1,400 m²
LOT E	3,400 m²	2,960 m²
LOT F	1,000 m²	-
LOT G	3,400 m²	2850 m²

* USEABLE AREA IS FLAT AREA THAT HAS BEEN FILLED TO FLOOD LEVEL OF 2m. REQUIRED SETBACKS HAVE NOT BEEN CONSIDERED.
** PROPOSED 1.5m ROAD WIDENING AREA HAS BEEN REMOVED FROM LOT AREAS SHOWN ABOVE.

FILL OPTION 4.2

FOR LOT 98 DP 1194043

54 NORTH CREEK ROAD

for BALLINA SHIRE COUNCIL

CivilTech Consulting Engineers
Subdivision Design · Civil Engineering · Town Planning · Project Management

CivilTech Consulting Engineers
Ph. (02) 6624 5580
PO BOX 1020
Lismore NSW 2480
www.civiltech.net.au

SCALE:	1 : 1500 at A3
LGA:	Ballina
LOCALITY:	Ballina
DESIGNED:	-
DRAWN:	WF
APPROVED:	AZ
DATE:	03.09.2015
COGO:	15005 (CAS)
Dwg. No.	14144-SK7A

54 North Creek Road North Ballina - Feasibility Estimates.xlsx 09/10/2015

54 NORTH CREEK ROAD, NORTH BALLINA
INDUSTRIAL LAND SUBDIVISION FEASIBILTY ESTIMATES

1 Gross Realisation

Lot	Lot Area m2	Useable Lot Area m2	Sale Price $/m2	Sale Price Ex GST		
A	1,250	1,160	$250	$290,000		
B	1,300	1,210	$250	$302,500		
C	1,350	1,260	$250	$315,000		
D	1,400	1,310	$250	$327,500		
E	3,400	2,960	$200	$592,000		
G	3,400	2,850	$150	$427,500		
		10,750	$210			$2,254,500

2 Less Selling Costs

Agents commissions & marketing @say		3.00%	$67,635	
Legals on sale at $2,000 per lot			$12,000	
				$79,635
3 Net Realisation				$2,174,865
4 Development Profit & Risk	@	30.00%		$501,892
				$1,672,973

5 Less Estimated Development Costs Ex GST

Demolition & removal of house; say			$20,000	
Site establishment, geotech etc			$60,000	
Cut to fill	2,950 m3 @	$10 /m3	$29,500	
Import fill	2,800 m3 @	$30 /m3	$84,000	
Acoustic barrier/noise wall	825 m2 @	$250 /m2	$206,250	
Services				
Water	6 @	$2,000 /lot	$12,000	
Sewer	6 @	$3,000 /lot	$18,000	
Elec. & Comms	6 @	$4,000 /lot	$24,000	
Tree removal			$20,000	
Compensatory planting			$15,000	
			$488,750	
Professional fees; detailed design, supervision, survey etc. say			$30,000	
			$518,750	
Contingency @ say	20.00%		$103,750	
			$622,500	
Council Contributions	10,750 m2 @	$30 /m2	$322,500	
			$945,000	
Interest on Development Costs	24 months @	5.00%	$94,500	
				$1,039,500
				$633,473
Less Acqusistion Costs				
Stamp Duty & Legals @		5.00%		$30,165
				$603,308
Interest on acquisition	36 months @	5.00%		$78,692
				$524,615

6 Indicative Residual Land Value **Say** **$525,000**

Notes

1. Estimates exclude stormwater treatment & detention
2. Noise wall $/m2 rate to be confirmed
3. Estimates exclude driveway crossovers
4. Estimates exclude relocation of existing services
5. Estimates are subject to detailed design and BSC approval
6. Consultants fee estimates are subject to gaining formal proposals.
7. S.64 & S.94 developer contributions are estimates only
8. Estimates excludes upgrades to existing services (assumed connection points at front of lot)
9. Existing De-Havilland Crescent road structure and stormwater system are assumed to be adequate.
10. Estimates excludes upgrades to North Creek Road such as road widening, kerb & gutter, stormwater drainage and footpath.

4.5 Policy (Review) - Entrepreneurial Property Activities and Financial Reserve

Delivery Program	Commercial Services
Objective	To consider the review of the Entrepreneurial Property Activities and Financial Reserve Policy

Background

All of Council's existing policies are progressively being reviewed to ensure they reflect contemporary practices and legislative requirements. The purpose of this report is to review the Entrepreneurial Property Activities and Financial Reserve Policy.

Council first adopted this policy in February 2006 and it was last reviewed in 2011.

Key Issues

- Whether the policy meets the requirements of Council and current legislation
- Proposed changes

Information

This review of this Policy identified numerous changes as the structure of the reserves outlined in the existing Policy has changed since the Policy was last reviewed.

This being the case the current Policy and the reviewed / amended Policy are included as attachments to this report.

The purpose of the Policy is and has been to confirm that Council will retain internally restricted property related reserves that are generated from Council's commercial activities, with funds from those activities to assist the provision of community infrastructure.

The existing Policy (attachment one) refers to three internal reserves; being the Industrial Land, Commercial Opportunities and Community Infrastructure Reserves.

Since this policy was last reviewed the Commercial Opportunities Reserve has been exhausted and the property reserves have now been split between the Property Development Reserve (which finances the commercial property and land development activities) and the Community Infrastructure Reserve (which finances the delivery of community infrastructure).

The second attachment to this report is the updated Policy that now reflects the current reserves.

Legal / Resource / Financial Implications

Nil

Consultation

It is recommended that Council adopt the Policy as presented, however the document will also be exhibited for public comment. If any submissions are received they can be reported back to Council however there will not be a need for any further report if there is no public comment.

Options

On behalf it is considered that the updated Policy has merit in that it clarifies how property development revenues are internally retained by Council and the policy also provides some history of the various activities that have been funded by Council's commercial activities.

Council may accept or amend the proposed changes to the Policy. The changes recommended are significant, but they now reflect current practices.

It is also recommended that if no submissions are received from the exhibition process, the Policy be adopted with no further actions required.

RECOMMENDATIONS

1. That Council adopts the updated and renamed Property Reserves Policy, as attached to this report.

2. That Council place this Policy on exhibition for public comment, with any submissions received to be resubmitted back to Council. If no submissions are received then no further action is required.

Attachment(s)

1. Policy - E04 Entrepreneurial Property Activities and Financial Reserve Adopted 280711
2. Policy (Review) - Property Reserves

POLICY NAME:	**ENTREPRENEURIAL PROPERTY ACTIVITIES AND FINANCIAL RESERVE**
POLICY REF:	**E04**
MEETING ADOPTED:	**28 July 2011** **Resolution No. 280711/24**
POLICY HISTORY:	**230206/065**

TABLE OF CONTENTS

OBJECTIVE

To provide guidelines for the management of Council's Entrepreneurial Property Activities and Financial Reserve that has been created and funded through Council's long term entrepreneurial activities in respect to land and property development.

BACKGROUND

Council, through a long history of pro-active land and property development, has managed to raise a significant amount of funds which have been set-aside in an internal reserve to assist with funding both further entrepreneurial activities and community infrastructure. The funds from these activities have been used to finance major community assets such as Angels Beach Drive, Prospect Bridge, Lennox Head by-pass, Northern Rivers Community Gallery, the Ballina Community Services Centre and the Lennox Head Community Centre.

The retention of this reserve is critical to the on-going financial viability of the Council as Council does not generate adequate revenue from its traditional income sources such as rates, fees and charges to satisfy the community demand for new and replacement infrastructure.

Therefore it is important that the funds held in this reserve are carefully managed within a clear set of guidelines. This policy provides those guidelines.

This policy was formerly the L01 - Land Development Reserve Management Policy.

DEFINITIONS

Entrepreneurial Property Activities and Financial Reserve	Council holds a number of smaller property related reserves, however this reserve refers to the funding generated from Council's industrial, residential and commercial land development activities

SCOPE OF POLICY

This policy applies to:
- Council employees
- Councillors
- Committees of Council

RELATED DOCUMENTATION

Related documents, policies and legislation:
- Local Government Act
- Council's Operational Plan

POLICY

1. Council will retain an internal reserve titled "Entrepreneurial Property Activities" the purpose of which will be to finance land and property development activities, to assist in financing community infrastructure and to provide a contingency for any unforeseen financial shocks that may impact on Council's financial situation.

   Prior to accessing the land development reserve to finance a budget shock all operating budgets and operations will be assessed with a view to totally or partially offsetting the budget shock.

2. Council will aim to retain a minimum balance of $1 million in this reserve to protect against unforeseen financial shocks.

3. This reserve will be segmented into three sub-categories being:

   a) Industrial Land

   The purpose of this portion of the reserve is to finance the on-going operation and development of Council industrial land with the shire. Proceeds and expenses associated with industrial land development will be transferred to and from this sub-category of the reserve.

   This section of the reserve will aim to pay a dividend to Council, based on 50% of net profits on any land release. The payment of any dividend is determined after consideration is given by Council as to whether adequate funds are retained to ensure that Council's future industrial land activities can be financed.

   Any dividend paid will take the form of a transfer to the Community Infrastructure portion of this reserve, as per sub-category c.

   b) Commercial Opportunities

   The purpose of this portion of the reserve is to finance commercial development opportunities as they arise. Any commercial development should be the subject of a detailed financial analysis before funds are expended on that development.

   This section of the reserve will pay a dividend to Council, based on 50% of net profits or 50% of any net income stream (after depreciation). The payment of any dividend is determined after consideration is given by Council as to whether adequate funds are retained to ensure further commercial activities can be financed, as opportunities arise.

   Any dividend paid will take the form of a transfer to the community infrastructure portion of this reserve, as per sub-category c.

   c) Sub-category c) Community Infrastructure

   This section of the reserve will finance community infrastructure projects as determined by the Council. The financing may be either by a direct cash contribution or by using the interest generated on the reserve to finance loan principal and interest repayments. The method of financing will be a matter for Council to determine.

REVIEW

This policy is to be reviewed every four years.

POLICY NAME:	**(REVIEW) PROPERTY RESERVES**
POLICY REF:	**E04**
MEETING ADOPTED:	**28 July 2011 Resolution No. 280711/24**
POLICY HISTORY:	**230206/065**

TABLE OF CONTENTS

OBJECTIVE

To provide guidelines for the financial management of the Council's internal reserve(s) that have been funded through Council's long term entrepreneurial activities in respect to land and property development activities.

BACKGROUND

Council, through a long history of pro-active land and property development, has managed to raise a significant amount of funds to assist with financing further entrepreneurial activities and the delivery of community infrastructure. Examples of major community assets that have been funded through these revenues include the construction of Angels Beach Drive, Prospect Bridge, Lennox Head by-pass, Northern Rivers Community Gallery, the Ballina Community Services Centre, the Lennox Head Community Centre, the Ballina Surf Club and on-going main street improvements in Ballina, Alstonville and Wardell.

The generation of funds from these sources and the retention of these funds in internal reserves is critical to the on-going financial viability of the Council as Council does not generate adequate revenue from its traditional income sources such as rates, fees and charges to satisfy the community demand for new and replacement infrastructure.

Therefore it is important that the funds generated are held in reserve for future projects and those funds are carefully managed within a clear set of guidelines. This policy provides those guidelines.

This policy was formerly the L01 - Land Development Reserve Management Policy and then the Entrepreneurial Property Activities and Financial Reserve.

DEFINITIONS

Internally Restricted	This refers to Council being able to resolve that certain surplus cash funds can be retained in reserves at Council's own discretion. This is distinct from Externally Restricted where surplus cash funds are required to be held in reserve (eg. domestic waste, water, wastewater etc).
Reserve	The setting aside of cash funds for a future defined purpose (eg. employee leave entitlements, plant purchases etc)
Commercial property and land development activities	Activities of a commercial nature that are designed to supplement Council's income streams through the generational of additional income and profits.

SCOPE OF POLICY

This policy applies to:
- Council employees
- Councillors

RELATED DOCUMENTATION

Related documents, policies and legislation:
- Council's Delivery Program and Operational Plan
- Property Investment and Development Policy

POLICY

Council will retain internally restricted reserves referred to as the Property Reserves, which will be segmented into two categories; being the Property Development Reserve and the Community Infrastructure Reserve, as outlined below.

a) Property Development Reserve

The purpose of this Reserve is to finance the on-going operation and development of Council's commercial property and land development activities. The initial proceeds and expenses associated with the commercial property and land development activities will be initially transferred to and from this reserve.

This reserve will aim to pay regular dividends to Council to fund community infrastructure. The dividends will be transferred to the Community Infrastructure Reserve as per point b) below.

The payment of any dividend will be determined after consideration is given by Council as to whether adequate funds are retained in the Property Development Reserve to ensure that on-going and future commercial property and land development activities can be financed. This reserve also assists to provide a contingency for any unforeseen financial shocks that may impact on Council's financial situation or any opportunities that may arise, both from a commercial perspective, and also from an infrastructure delivery perspective (eg. grants needing matching funding).

Prior to accessing the Property Development Reserve to finance a budget shock all operating budgets and operations will be assessed with a view to totally or partially offsetting the budget shock. Council will aim to retain a minimum balance of $2.5 million in this reserve to protect against unforeseen financial shocks and to ensure there is adequate working capital to finance commercial property and land development projects.

Any commercial project must be the subject of a financial analysis before Council funds are expended on that development, as per Council's Property Investment and Development Policy

b) Community Infrastructure

The purpose of this portion of the reserve is to finance community infrastructure projects as determined by the Council. The financing may be either by a direct cash contribution or by using the interest generated on the reserve to finance loan principal and interest repayments. The method of financing will be a matter for Council to determine.

REVIEW

This policy is to be reviewed every four years.

4.6 Shop 4 Wigmore Arcade Complex - Leasing Proposal

Delivery Program	Commercial Services
Objective	Shop 4 Wigmore Arcade Complex - Leasing Proposal

Background

Council staff have been progressing negotiations with a prospective new tenant for shop 4 in the Wigmore Arcade Complex.

A confidential report included later in this agenda deals with the actual lease details.

Key Issues

- Lease terms and conditions

Information

Negotiations have now concluded with a prospective tenant for Shop 4 Wigmore Arcade. Specific details are contained in a confidential report also included in this agenda. A leasing plan is included as attachment one to this report.

Legal / Resource / Financial Implications

- If Council resolves to lease Shop 4 this will leave Shop 8 as the only current vacancy within the Arcade.

Consultation

Negotiations have been conducted with prospective tenants on an ongoing basis.

Options

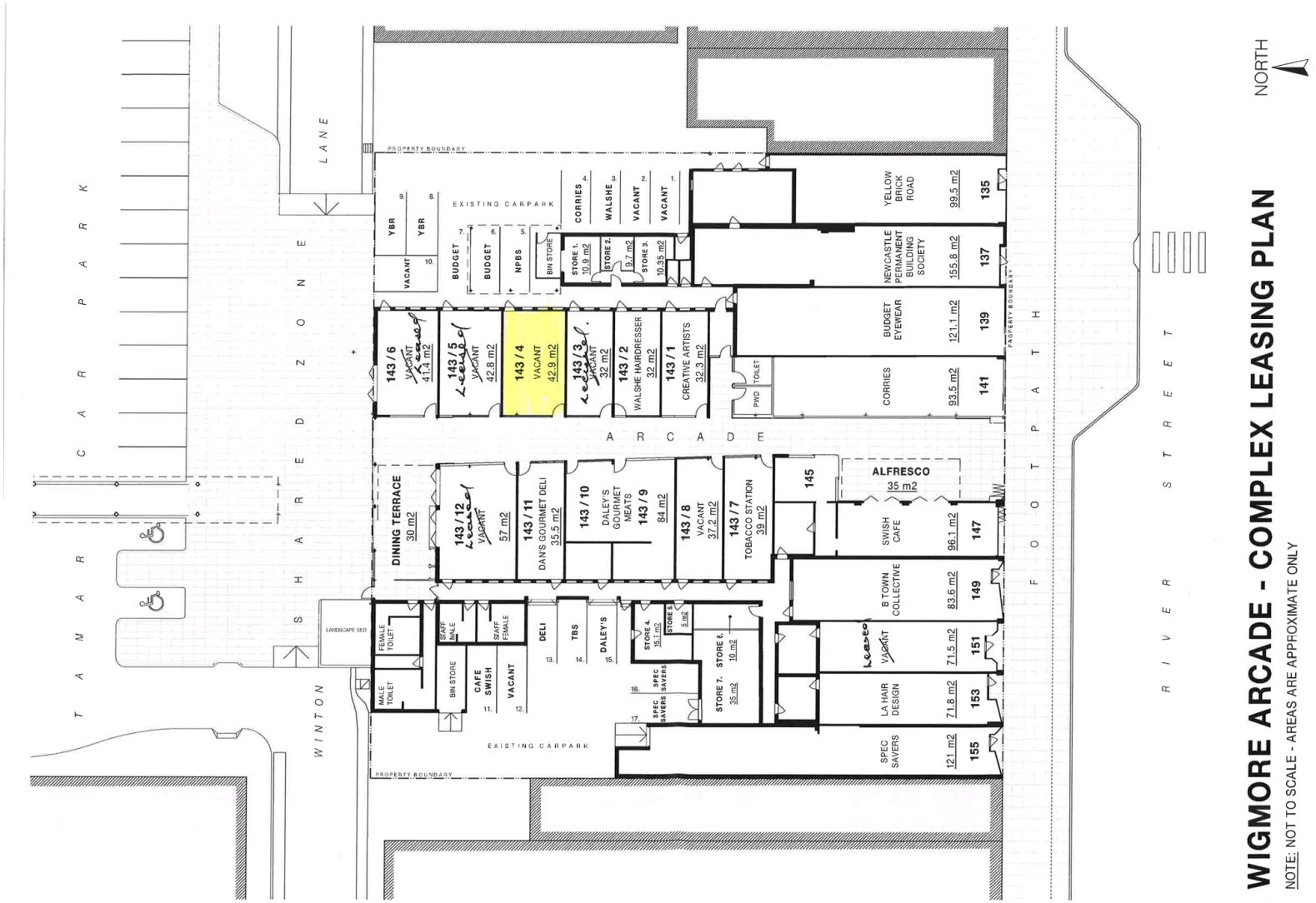
This report is for information only.

RECOMMENDATION

That Council notes the contents of this report in respect to the lease negotiations for shop 4 Wigmore Arcade complex.

Attachment(s)

1. Leasing plan


WIGMORE ARCADE - COMPLEX LEASING PLAN
NOTE: NOT TO SCALE - AREAS ARE APPROXIMATE ONLY
NORTH
TAMAR STREET
CAR PARK
LANE
SHARED ZONE
WINTON
ARCADE
FOOTPATH
RIVER STREET
PROPERTY BOUNDARY
EXISTING CARPARK
DINING TERRACE 30 m2
LANDSCAPE BED
FEMALE TOILET
MALE TOILET
STAFF MALE
STAFF FEMALE
BIN STORE
CAFE SWISH
VACANT
DELI
TBS
DALEY'S
STORE 4. 15.7 m2
STORE 5. 5 m2
SPEC SAVERS
STORE 7. 35 m2
STORE 6. 10 m2
YBR
VACANT
BUDGET
NPBS
BIN STORE
STORE 1. 10.9 m2
STORE 2. 9.7 m2
STORE 3. 10.45 m2
CORRIES
WALSHE
VACANT
143 / 6 VACANT 41.4 m2
143 / 5 VACANT 42.8 m2
143 / 4 VACANT 42.9 m2
143 / 3 VACANT 32 m2
143 / 2 WALSHE HAIRDRESSER 32 m2
143 / 1 CREATIVE ARTISTS 32.3 m2
143 / 12 VACANT 57 m2
143 / 11 DAN'S GOURMET DELI 35.5 m2
143 / 10 DALEY'S GOURMET MEATS
143 / 9 84 m2
143 / 8 VACANT 37.2 m2
143 / 7 TOBACCO STATION 39 m2
145
ALFRESCO 35 m2
PWD
TOILET
YELLOW BRICK ROAD 99.5 m2 135
NEWCASTLE PERMANENT BUILDING SOCIETY 155.8 m2 137
BUDGET EYEWEAR 121.1 m2 139
CORRIES 93.5 m2 141
SWISH CAFE 96.1 m2 147
B TOWN COLLECTIVE 83.6 m2 149
Lease VACANT 71.5 m2 151
LA HAIR DESIGN 71.8 m2 153
SPEC SAVERS 121 m2 155

4.7 Norfolk Homes - 67 Piper Drive, Ballina

Delivery Program	Commercial Services
Objective	To provide an overview of the leasing proposal for Norfolk Homes at 67 Piper Drive, Ballina

Background

Norfolk Manufactured Homes Pty Ltd ("Norfolk") has occupied a 1.598 hectare site located at No. 67 Piper Drive, Ballina for approximately ten years. The initial five lease commenced on 1 October, 2005. A lease option was subsequently varied and exercised and the current a lease agreement that commenced on 1 January 2011 will expire on 31 December 2015.

Norfolk operate a successful business on the site manufacturing relocatable homes that are sold locally and throughout the eastern states of Australia.

The purpose of this report is to provide an overview of the confidential report included later in this agenda which deals with the actual lease details.

Key Issues

- Lease terms and conditions

Information

Council have been negotiating with Norfolk regarding a new lease over 67 Piper Drive, Ballina as their current lease expires on 31 December 2015. Lease terms and conditions have been negotiated in principle for a new lease with specific details contained in a confidential report also included in this agenda.

Legal / Resource / Financial Implications

Lease terms and conditions will be in accordance with the relevant guidelines and legislation.

Consultation

Council staff have been negotiating with the current tenants.

Options

This report is for information only.

RECOMMENDATION

That Council notes the contents of this report in respect to the lease negotiations with Norfolk Manufactured Homes Pty Ltd.

Attachment(s)

1. Locality Plan


PIPER DR
CESSNA CRES
GDA
Locality Plan - Lot 94 DP 1161854
67 Piper Drive, Ballina
DISCLAIMER
© Land & Property Information 2015
Although all care is taken in the preparation of this plan, Ballina Shire Council accepts no responsibility for any misprints, errors, omissions or inaccuracies.
The information contained within this plan is for pictorial representation only. Do not scale. Accurate measurements should be undertaken by survey.
Printed
07/10/2015
ballina
shire council

5. Confidential Session

In accordance with Section 9 (2A) of the Local Government Act 1993, the General Manager is of the opinion that the matters included in the Confidential Business Paper, and detailed below are likely to be considered when the meeting is closed to the public.

Section 10A(4) of the Local Government Act, 1993 provides that members of the public are allowed to make representations to or at a meeting, before any part of the meeting is closed to the public, as to whether that part of the meeting should be closed.

A brief summary of each of the reports recommended for consideration in confidential session follows:

5.1 Shop 4 Wigmore Arcade Complex - Leasing Terms

Refer to Item 4.6 of this agenda.

5.2 Norfolk Homes - 67 Piper Drive, Ballina Leasing Proposal

Refer to Item 4.7 of this agenda.

RECOMMENDATION

That Council moves into committee of the whole with the meeting closed to the public, to consider the following items in accordance with Section 10A (2) of the Local Government Act 1993.

5.1 Shop 4 Wigmore Arcade Complex - Leasing Terms

Reason for Confidentiality

This report is **CONFIDENTIAL** in accordance with Section 10A(2)(d) of the Local Government Act 1993. which permits the meeting to be closed to the public for business relating to the following:-

d) commercial information of a confidential nature that would, if disclosed:

(i) prejudice the commercial position of the person who supplied it, or
(ii) confer a commercial advantage on a competitor of the council, or
(iii) reveal a trade secret

and in accordance with 10D(2)(c), on balance, the discussion of the matter in an open meeting is not considered to be in the public interest due to the on-going commercial negotiations and the release of any information could prejudice those negotiations.

5.2 Norfolk Homes - 67 Piper Drive, Ballina Leasing Proposal

Reason for Confidentiality

This report is **CONFIDENTIAL** in accordance with Section 10A(2)(c) of the Local Government Act 1993. which permits the meeting to be closed to the public for business relating to the following:-

c) information that would, if disclosed, confer a commercial advantage on a person with whom the council is conducting (or proposes to conduct) business

and in accordance with 10D(2)(c), on balance, the discussion of the matter in an open meeting is not considered to be in the public interest due to the ongoing commercial negotiations and the release of any information could prejudice those negotiations.