Ballina Shire Council

REVIEW OF ENVIRONMENTAL FACTORS (REF)

REF2016/003

Lake Ainsworth Foreshore Improvement Works

Lennox Head NSW

1. Proposal Identification & Description

1.1 Name and Location of Proposed Activity

Improvement works along the eastern and south eastern foreshore of Lake Ainsworth, Pacific Parade, Lennox Head, NSW.

1.2 Description of Location

The proposed works form part of the *Lake Ainsworth Recreational Precinct: Lennox Head Concept Plan* by Design Team Inc. (2016) provided in Appendix D and are broken down into 3 principle areas shown in Figure 1.1 referred to as:

- **Eastern Road** – Rehabilitating the road by profiling the existing pavement and constructing a footpath and landscaping the area of public reserve to create passive recreation space between the eastern shore of Lake Ainsworth and Seven Mile Beach.
- **Intersection** – Reconstruction of the 3-way Intersection between Pacific Parade, the eastern road and the southern road adjacent to the existing Lennox Head/Alstonville Surf Life Saving Club building. The new intersection will be a 2-way intersection incorporating a turn facility and will be the termination point of the existing eastern road (open to emergency vehicle and maintenance service vehicles only)
- **Southern Road** – Reconstruction of the existing road way and formalising the adjoining car parking bays between Pacific Parade and Camp Drew Road. These are future works and do not form part of the Part V consent.

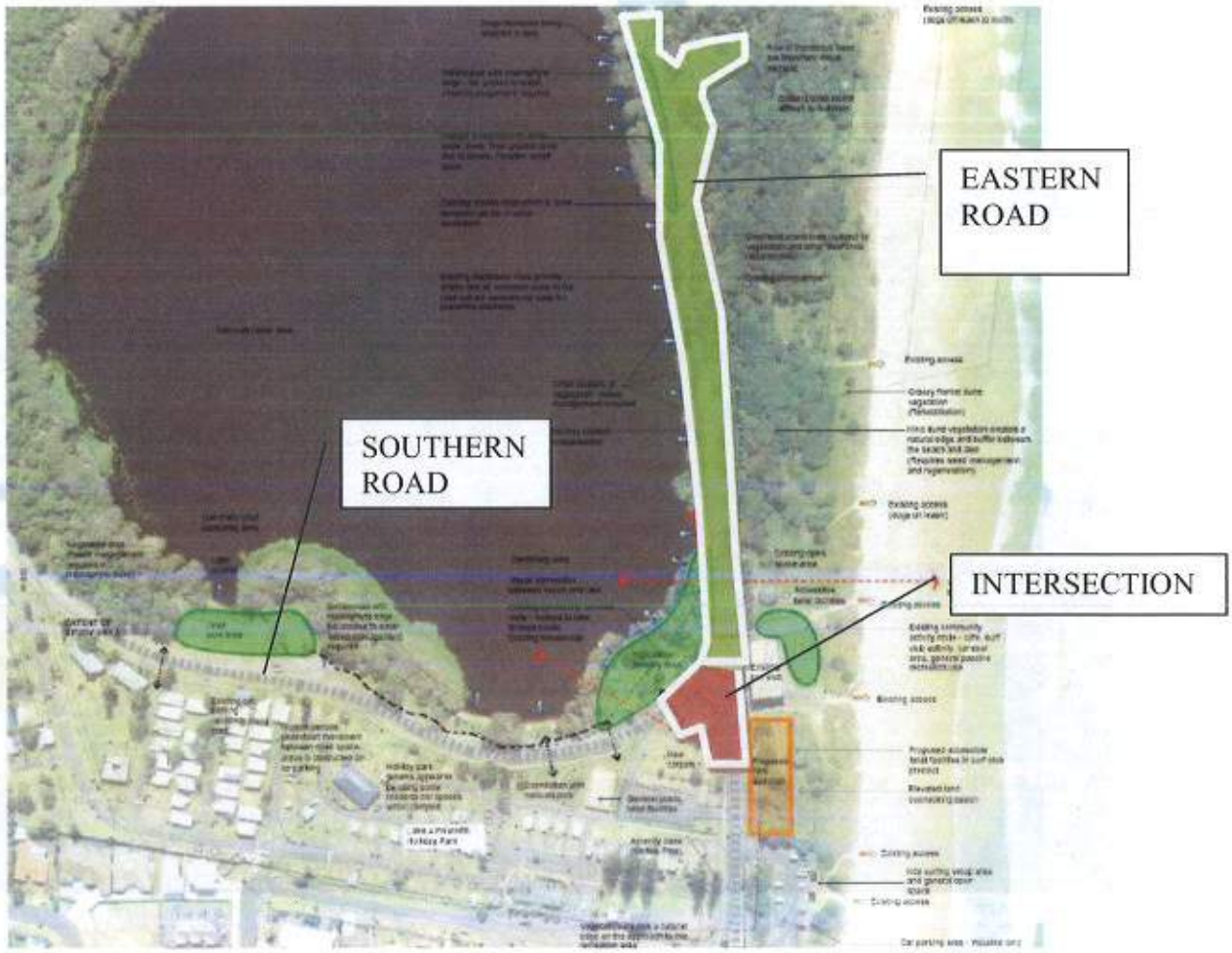


Figure 1.1 – Site Locality Plan

1.3 Council Area

Ballina Shire Council, Lennox Head

1.4 Source of Funding

Ballina Shire Council

1.5 Detailed Description of Scope of Works

The Lake Ainsworth foreshore improvement works are located within numerous land parcels of Crown Reserve for public recreation and Crown Reserve for Public Recreation and Coastal Environmental Protection. The Land Parcels are identified as Lot 7002 DP1052251, Part Lot 62 DP 755725, Lot 2 DP1115145 and Lot 3 DP1115145. The proposed works will be contained within Crown Reserve in which Ballina Shire Council is the trust manager. The lots and reserves at the subject site are shown in Drawing LHR30.056 in Appendix D.

The works proposed are shown in *Lake Ainsworth Recreational Precinct: Lennox Head Concept Plan* by Design Team Inc. (2016) provided in Appendix D. This concept plan includes the new surf club and ancillary parking provisions along Pacific Parade and Ross Street in association with the potential future redevelopment of the surf club. No approvals or funding is currently in place for the new surf club facility and the landscape concept plan for the proposed works, however the concept plan included the surf club redevelopment to ensure that surrounding landscape works is conducive to what will be an "ultimate state".

The works proposed in this Part V consent is for stage 1 of the foreshore works which includes the rehabilitation works of the Eastern Road closure and the bank stabilisation works along the eastern shore of the Lake. The works proposed are shown in Drawing **LHR30.058 Issue A** dated September 2016 (Appendix D) and described in more detail below.

Eastern Road Rehabilitation

The eastern road rehabilitation involves profiling the existing road pavement and removing concrete footpaths and kerb and gutter. The Eastern Road is currently a bitumen seal roadway approximately 7-8m wide with a turn head approximately 300m north of the surf club building. The roadway will be closed to public vehicles and the road way will replaced with a 3.0m wide concrete footpath which will provide a wearing surface for pedestrians and emergency vehicles. The surrounding landscaping of the eastern road rehabilitation will be an extension of the existing passive recreational area comprising of seating, turf, tree planting and embellishment of existing riparian vegetation. Disturbance will be restricted to a footprint contained with the limits of existing clearings which is currently grass, bitumen or hardstand surfaces. The works extend to the north gate of the Sport and Recreation Centre, east to the shoreline of Lake Ainsworth, west to the existing dune vegetation delineated by timber fence lines and south to the intersection between Pacific Parade and the southern road.

Bank Stabilisation

Sections of the Lake Ainsworth shore has experienced degradation and eroded banks predominantly from foot traffic of people using the Lake for recreational purposes. The proposed works include undertaking measures to manage foot traffic accessing the lake and protect the banks against ongoing erosion. The access points along the eastern shore are proposed to be stabilised with log revetment (or equivalent depending on availability of natural timber) which will form a natural hard edge to retain the bank where vegetation cannot be used to stabilise the banks. The log revetment will be backfilled with clean sand where banks have retreated by erosion to reinstate the original alignment of the banks. This treatment will need to periodically pull sand that retreats into the lake back up to the toe of the log revetment by mechanical excavation. The ongoing maintenance of these revetment treatments form part of this part V consent.

Stabilisation works are limited to the eastern shore of Lake Ainsworth in conjunction with the Eastern Road rehabilitation works (locations as shown in Drawings **LHR30.058 Issue A** Sept 2016).

Intersection

The intersection works involve profiling the existing road pavement and removing concrete footpaths and kerb and gutter. The current arrangement is a 3 way T intersection with Pacific Parade a through road to the Sport and Recreation Centre. The intersection will be reconstructed as a raised threshold incorporating a mini roundabout for legal U-turn of cars as the intersection will become the end of Pacific Parade. Flush medians will be used on the roundabout such that left/right turn manoeuvres of long heavy vehicles can be accommodated. Two pedestrian crossing points are incorporated into the intersection design with a north-south crossing of the southern road and an east-west crossing of Pacific Parade. The pedestrian crossing points are on raised thresholds with textured pavement to encourage traffic calming.

It should be noted that the intersection works are described above to provide context of the road closure works, however are exempt works under the State Environmental Planning Policy (Infrastructure SEPP) 2007 and do not form part of the works included in the Part 5 application. The limit of works included in this Part V application is shown in the drawings **LHR30.058 Issue A** (Appendix D).

General construction methodology

1. Establish site with necessary exclusion fencing and traffic to comply with Ballina Shire Council safe work methods.
2. Install erosion and sediment controls.
3. Undertake controlled vegetation removal
4. Profile redundant pavement and demolish redundant concrete structures.
5. Lay and compact sub-base materials.
6. Pour concrete kerbing and pathways
7. Lay and compact pavements and wearing surfaces and hard landscaping
8. Revegetation of disturbed areas
9. Installation of seating, linemarking and signage
10. Undertake ongoing maintenance of rehabilitation areas/ landscaping

1.6 Timeframe

Stage 1 includes the eastern road rehabilitation, eastern bank stabilisation and intersection works and is expected to be completed within 12-16 weeks. It is intended to undertake the exempt works independently of the works requiring Part V permit and as such the scope of the broader project is broken down in terms of exempt works and works permitted without consent.

2. Statutory Position

How Does the Activity Constitute a Part V Project?

The proposed works are either exempt development or development permitted without consent and do not require a development application and assessment under Part IV of the Environmental Planning & Assessment Act 1979.

The State Environmental Planning Policy (Infrastructure SEPP) 2007 applies to the proposed works. *Part 3 Development Controls - Division 12 Parks and other public reserves Clause 65 and 66* (extract provided below) refers to activities and works within Crown Lands which can be undertaken by Ballina Shire Council as trustee of theses lands as exempt development when implemented under a Plan of Management (PoM). These works are exempt only they do not result in an increase in stormwater runoff or erosion and does not disturb more native vegetation that necessary.

> ***65 Development permitted without consent***
>
> *(2) Development for any purpose may be carried out without consent:*
> *(d) in the case of land that is a reserve within the meaning of Part 5 of the Crown Lands Act 1989, by or on behalf of the Director-General of the Department of Lands, a trustee of the reserve or (if appointed under that Act to manage the reserve) the Ministerial Corporation constituted under that Act or an administrator, if the development is for the purposes of implementing a plan of management adopted for the land under the Act referred to above in relation to the land.*
>
> ***66 Exempt development***
>
> *(1) Development for any of the following purposes is exempt development if it is carried out by or on behalf of a public authority in connection with a public reserve or on land referred to in clause 65 (1), and if it complies with clause 20:*
> *(a) construction, maintenance and repair of:*
> *(i) walking tracks, boardwalks and raised walking paths, ramps, minor pedestrian bridges, stairways, gates, seats, barbecues, shelters and shade structures,*
> *(b) routine maintenance (including earthworks associated with playing field regrading or landscaping and maintenance of existing access roads).*
> *(2) Development of a kind referred to in subclause (1) is exempt development if it is carried out on land referred to in clause 65 (2) by or on behalf of the person specified in respect of that land in that subclause, if the development:*
> *(a) complies with clause 20, and*
> *(b) involves no greater disturbance of native vegetation than necessary, and*
> *(c) does not result in an increase in stormwater run-off or erosion, and*
> *(d) for the purposes of implementing a plan of management adopted for the land under the Act referred to in clause 65 (2) in relation to the land.*

The *Ballina Coastal Reserve Plan of Management* (BCR PoM, 2003, revised 2012) has been prepared with the primary objective of rationalising all vacant Crown lands and existing Crown Reserves into a single coastal reserve for the notified purpose of Public Recreation and Coastal Environmental Protection with the appointment of Ballina Shire Council as Reserve Trust Manager. The proposed foreshore improvement works to Lake

Ainsworth are located within crown reserves which form part of Precinct 1 – Northern end of Seven Mile Beach of *BCR PoM* (2012).

The *BCR PoM* (2012) refers to the *Lake Ainsworth Management Plan* (2002) (LAMP) as the plan of management applicable to Lake Ainsworth and its immediate surrounds. The LAMP (2002) seeks to implement and regulate actions within the Lake Ainsworth area to ensure that competing uses and processes are managed so that competing uses and processes are managed so that the quality of the Lake will be maintained and improved.

The *BCR PoM* (2012) and *LAMP* (2002 is available on Council's website at the following location: www.ballina.nsw.gov.au / Your Council / Council Documents

The proposed southern road improvement works are exempt works under the Infrastructure SEPP (2007) as they are included and consistent with the LAMP (2002). Proposed works in relation to the eastern road rehabilitation vary in some aspects from the current LAMP (2002) and are considered to be works not requiring consent and thus require a Part V permit. The applicable actionable items in the LAMP are reproduced under their respective key strategies below identifying them as either exempt or works requiring part V permit:

- Water Quality-
    - *Treatment of runoff from road/parking areas through filter swales* – The concept design incorporates permeable paving, bioretention and infiltration systems to treat runoff from impervious paved surface. Permeable paving also improves storm water runoff quality by reducing the impervious footprint of the catchment draining to Lake Ainsworth. The reduction of impervious footprint will reduce the runoff from the site. The management of algal blooms is a broader issue (and ongoing) to the storm water treatment measures being incorporated in this project which target impervious surfaces only within the footprint of the roads/footpaths proposed. MUSIC modelling of the performance of treatment systems will be undertaken at detailed design. **[Exempt]**
- Coastal Dune Stability
    - *Relocate/close the 4WD access* – This action has been completed. Refer to Traffic Management **[Exempt]**
    - *Remove and relocate the existing power line along the eastern road and locate underground* – These works are cost prohibitive within the project buget, however the proposed design have given regard to maintaining a central services corridor adjacent to the existing overhead power lines. This is to maximize the area available to revegetation and keep the option open to underground the electrical power lines at a future stage. **[Exempt]**

      No works are proposed to the existing dune or removal of dune vegetation
- Traffic Management
    - *Reconfigure the eastern road alignment and discourage motorists from entering the Sport and Recreation Centre.* – The concept plan proposes to close the eastern road and rehabilitate. Public vehicle access along Pacific Parade will terminate at the new roundabout and vehicular access will be restricted to emergency and Council service vehicles only. Whilst the intention of the LAMP (2002) was to discourage vehicles driving along the eastern foreshore to Sport and

Recreation Centre, the concept plan is not consistent with the current LAMP (2002) with regard to vehicle access. **[Part V permit required]**

- *Relocate/close the 4WD access* – This action has been completed to reduce traffic volumes and the current design maintains this arrangement. **[Exempt]**

- *Additional Parking is recommended in the eastern edge of the caravan park and parking along Ross Street be optimized by widening* – These works have been completed in 2015/2016 **[Exempt]**

- *Prohibit foreshore Parking and Provide Designated parking areas* – Additional car parking has been provided along Ross Street and within the new car park located at the north-eastern corner of the Lake Ainsworth Holiday Park. These have been constructed and provide compensation for the existing informal parking areas along the eastern road which would be lost as a result the road closure. Although closing the road requires Part 5 permit in regards to preventing public access to Sport and Recreation Centre, the removal of parking along the eastern road is consistent with the current LAMP and is exempt on the basis that compensatory parking has been provided. **[Exempt]**

- *The Lake Entrance Road road, adjacent to the surf club (intersection) at the south-east of the lake, be realigned so that the left turn and movement along the southern foreshore becomes the priority.* – The concept design of the intersection is consistent with this objective. **[Exempt]**

- *Close Part of the Southern Road between the lake and the caravan Park and create a sealed road from Ross Street, around the back of the caravan park to connect to the western road (Camp Drew Road)* – As an outcome of ongoing community consultation since the preparation of the PAMP (2002). Rerouting the western road (Camp Drew Road) off Ross Street around the caravan or through caravan park via the existing road reserve is not supported by the community. The concept plan has been prepared to reflect the current position of Council which is to maintain the connection to the western road (Camp Drew Road) via the southern road. The proposed works to the southern road maintain the current level of service and just formalize the existing car parking bays and provide permeable paving to replace the existing unsealed surface. The proposed works are considered maintenance of the road way. . **[Exempt]**

- Recreation

  - *Provide pedestrian access paths and walking tracks* – The concept plan includes footpaths, and pedestrian access throughout the public reserve which improves pedestrian safety along the eastern foreshore. **[Exempt]**

  - *Upgrade existing BBQ facilities. Replace woodfire BBQs with electric BBQs.* This action has been completed. BBQ's are to be maintained in the south-eastern corner of the lake.

  - *The provision of a launch ramp and pontoon.* A beach wheelchair is currently kept at the Lennox Head surf club building which is available for public use. The concept plan incorporates a wheelchair ramp into the lake and wheelchair compliant path ways up to the ramp. No Pontoon is proposed as part of the works. **[Exempt]**

- Ecology
    - *Management of terrestrial weeds and native planting around the lake's margin and coastal dunes.* The concept plan for the eastern foreshore works proposes to extend the existing riparian vegetation currently restricted by the edge of the eastern road. This area is to be made available for the local land care group to enhance the existing overbank vegetation. **[Exempt]**
- Planning and Development – N/A
- Erosion and Sedimentation
    - *Restricting vehicular and pedestrian movements to specific areas to minimize damage to riparian vegetation and in doing so minimizing erosion*. – Refer to Traffic Management.
- Education – N/A
- Water Level and Flooding
    - *Placement of new recreation facilities beyond levels likely to be inundated for prolonged periods* – This has been a consideration for the civil design of path ways and new recreation facilities. Where feasible facilities will be positioned above the 1999 high water level (RL 3.3). Below this level, flood compatible materials are to be used for new facilities **[Exempt]**
- Aboriginal Heritage - NA

Broadly speaking the southern road improvement and the intersection works in their entire scope are exempt. The only works in the project requiring Part 5 permit is in relation to the eastern road rehabilitation.

3. Consultation

Since the LAMP (2002) came into action, the *Lake Ainsworth Crown Reserve Master Plan* was prepared in 2005 by Connell Wagner for the foreshore improvement of Lake Ainsworth. This master plan document was the first iteration of plans to close the eastern road to public vehicular access and varies from the LAMP (2002) whereby it:

a) Supports the closure of the eastern road (apart from emergency/maintenance provisions)

b) Rehabilitates the existing road with a shared path suitable for emergency access provisions to the NSW Sport and Recreational Centre and maintenance access from Council

c) Provides for a new road through the middle of the caravan park (through the existing road reserve) connecting Ross Street to Camp Drewe Road (the western road).

Further to this in 2014, Complete Urban Pty Ltd was engaged by Ballina Shire Council to prepare a master plan of the Provision for Design of the Lennox Head Surf Club and Surrounding Precinct. It is important to acknowledge that the 2014 mater plan incorporated redevelopment of the surf club building where as the 2005 master plan looked only at the open space foreshore improvements to the Crown Reserve.

Council considered a stage 1 report of the 2014 master plan, as prepared by Complete Urban Pty. Ltd. at the Facilities Committee meeting held on 19 June 2014. The Committee subsequently recommended as follows:

Item 4D: That Council authorises for public exhibition the Complete Urban report and recommendations including:

A. Precinct Plan: That the strategic direction for the renewal and upgrade of the Lennox Head Surf Club, be the demolition of the current facility and construction of a new facility on the site to the south of the current facility.

B. Eastern road Options: Council support option to redesign the Eastern road as an access only road as per Option 2 of the Complete Urban concept plans for the eastern road.

At the 26 June 2014 Ordinary meeting Council then resolved (Item 4.1 Community Consultation options) to support the Facilities Committee recommendations, with the following addition.

Include within the public exhibition material, the preferred road layout for the Lake Ainsworth Precinct (including the eastern road) as per the endorsed 2005 Lake Ainsworth Master Plan.

In summary there were essentially three broad options for treatment of vehicular access in the Lake Ainsworth Foreshore (Crown Reserve) included in the exhibition/community consultation:

1. Eastern road closure (except to emergency vehicles) with through traffic to the western road (Camp Drew Road) via the southern road (source: option 1 of 2014 master plan)

2. Eastern road reconstruction to allow public vehicle access to Sport and Recreation Centre only (no parking provisions) along the eastern road with through traffic to the western road (Camp Drew Road) maintained via the southern road (source: option 2 of 2014 master plan) and

3. Eastern road closure (except to emergency vehicles) with through traffic to the western road (Camp Drew Road) from Ross Street through the Lake Ainsworth Caravan Park. The southern road is then a no through road (parking provisions only) (source: 2005 master plan)

The *Lake Ainsworth Crown Reserve Master Plan (Connell Wagner, 2005)* and the *Provision for Design of the Lennox Head Surf Club and Surrounding Precinct* (Complete Urban, 2014) documents can be viewed on Council's website at the following location:

www.ballina.nsw.gov.au / Your Council / Council Documents

The consultation process included Council's standard forms of community consultation such as media releases, information on the Council website, advertising, Ward Committees etc. Other activities included direct correspondence to key stakeholders including Crown Lands and NSW Sport and Recreation, along with staff attending a meeting of the Lennox Head Residents Association (LHRA) on 3 November 2014. The LHRA also set up stalls outside the Lennox Head IGA store and at Lake Ainsworth itself on the morning of 8 November 2014, with staff in attendance, to help distribute the exhibition material and respond to resident questions. As a result of this process Council has received a total of 65 written submissions

The consultation process has given rise to an array of responses from individuals, families and community / special interest groups. Five main themes have been identified as part of the submission process and they are summarised as follows:

3.1. Eastern road

That Council should either:

a. Support the closure of the Eastern road entirely (with emergency/maintenance provisions). Those in support of this strongly support the Council endorsed Lake Ainsworth Master Plan from 2005:

or

b. Maintain access along the eastern road for the entire community and not limit it solely for the use of the NSW Lake Ainsworth Sport and Recreational Centre.

Whether or not the eastern road should be closed or not is an issue that invoked strong opinions through the community consultation process, whether supportive or not supportive of the closure. Of the 65 written submissions 55 made direct reference to the eastern road with 33 calling for the complete closure of the road (allowing access for emergency and maintenance vehicles only).

The majority of the 33 responses that supported the closure of the eastern road, including the Ballina Environment Society (BES) and the LHRA have strongly indicated that Council is obligated to adopt the endorsed Lake Ainsworth Master Plan, 2005 (Road Option Two). This option not only recommended the eastern road closure but also a new road through the existing road reserve (through the middle of the caravan park) joining Ross Street in the south through to Camp Drewe Road in the north. That road reserve is shown in Drawing LHR30.056 in Appendix D.

The remaining 22 respondents that referred directly to the eastern road were opposed to the closure of the road. Some of the reasons and concerns raised in those 22 submissions included:

- Loss of amenity and reduced access to a unique community asset
- The potential for greater conflict between beach goers and dog walkers with the need to take dogs on leashes to the approved off leash area located at 7 Mile Beach
- The potential for more conflict between dog walkers and people picnicking or accessing the eastern foreshore of the Lake
- Greater potential for faecal pollution with dogs in and around the lake surrounds
- The removal and reduction of car parking facilities (despite additional ones being proposed) through the road closure
- Lack of direct access to the eastern side of the Lake by families with young children including some elderly folk needing to walk much further with a lack of car parking in the vicinity
- The general concentration of people and visitors at the south eastern corner of the precinct
- Increased concerns with safety, traffic congestion and pedestrians in and around the south eastern corner
- Increased interaction of people with and without dogs in the south eastern corner
- Greater future car parking pressure with increased popularity and improved surf club facilities
- Future concerns with spill over parking into local streets
- Concern that closure of the road is based on a lack of evidence to support the environmental view that the road has a direct impact on the water quality and health of the Lake.

Also irrespective of support given to the closure of the road, or not, it was clear that limiting access solely for access to the NSW Sport and Recreational Centre was not supported by the majority of the respondents.

3.2. Environment

Maximising improvements to the health of the Lake should be considered the number one priority. Of the 65 submissions 32 made direct reference, or suggestions in relation to maintaining or improving the health of Lake Ainsworth. There are those who are of the view that the only way to ensure the Lake remains healthy is through the complete closure of the eastern road. The Ballina Environment Society for example has stated that "maximising the health of the lake is through complete road removal such that the riparian zone can be repaired". Those in the community who would prefer to see the road left open to all of the community either hold the view that:

- The eastern road has had no detrimental impact on the Lake and there is no evidence to suggest the alternate view or
- Those who believe there are alternative ways to secure the health of the Lake without necessarily closing the road entirely.

3.3. Car Parking

Concerns raised over the lack of adequate parking, particularly by people who are not supportive of the eastern road closure. There were 19 submissions that made reference or raised concerns with the proposed and future car parking initiatives, with some questioning the number of car parks required to offset the actual loss of car parking through the closure of the eastern road. Those most concerned with the current status of car parking, including the proposed car parking arrangements, were those generally not supportive of the road closure citing safety concerns, increased traffic congestion, lack of direct access to the designated off leash area and overall concern with a decrease in access opportunity for families in particular on the eastern foreshore.

3.4. Recreational Facilities and Boardwalk

Whilst there were a few submissions that were in support of unobtrusive exercise stations, the vast majority of submissions did not support the recreational facilities proposed, which included the children's play area and boardwalk. The common feedback received was that Council should "keep the area as natural as possible".

3.5. Off Leash Dog Walkers

There were 13 submissions received on this issue with a number of people also raising this concern to Council staff at the information sessions conducted in Lennox Head.

The inability to directly access the designated off leash dog area conveniently, via the existing car park provisions on the eastern side of the Lake was opposed. In raising this issue most were also concerned that the south eastern area would become very congested with the potential for greater conflict to occur between dog walkers and non-dog walkers.

After the community consultation had been completed, at the 18 December 2014 Ordinary meeting Council then resolved (Item 11.1 Lake Ainsworth – South Eastern Precinct - consultation):

That the eastern road be closed and the area be converted to public open space to improve the amenity of the area and to reduce erosion and stormwater runoff entering the Lake.

4 Specialist Studies and Licensing

4.1 Specialist Studies

Not applicable

4.2 Licenses and Permits

NSW Fisheries permit will be required prior to undertaking the bank stabilisation works.

5 Strategic Stage

5.1 Relationship to Planning and Environmental Background

As previously addressed in Section 2, the southern road improvement and intersection works are exempt in accordance with State Environmental Planning Policy (Infrastructure) 2007 by virtue they are in accordance with a plan of management. The eastern road works are permitted without consent. The applicable clauses in the Infrastructure SEPP (2007) are extracted and provided below:

Division 17 Roads and Traffic; Subdivision 1 Road Infrastructure Facilities

94 Development permitted without consent—general

(1) Development for the purpose of a road or road infrastructure facilities may be carried out by or on behalf of a public authority without consent on any land. However, such development may be carried out without consent on land reserved under the National Parks and Wildlife Act 1974 only if the development:

(a) is authorised by or under the National Parks and Wildlife Act 1974, or

(b) is, or is the subject of, an existing interest within the meaning of section 39 of that Act, or

(c) is on land to which that Act applies over which an easement has been granted and is not contrary to the terms or nature of the easement.

*(2) In this clause and clause 96, a reference to development for the purpose of **road infrastructure facilities** includes a reference to development for any of the following purposes if the development is in connection with a road or road infrastructure facilities:*

(c) alterations or additions to an existing road (such as widening, duplication or reconstruction of lanes, changing the alignment or strengthening of the road),

(d) environmental management works, if the works are in or adjacent to a road corridor.

The concept plan proposes terminate Pacific Parade at the intersection with all traffic diverted along the southern road to Camp Drew Road. The existing road north of the intersection will be rehabilitated from a 7-8m wide seal to a 3m wide pathway which will remain open for emergency and maintenance vehicles only however its principal function is a footpath. These works would be considered an "alteration to an existing road" and clause 94 (2(c)) above applies to these works. The rehabilitation of the redundant road is considered to be "environmental management" works and clause 94(2(d)) above applies.

Division 25 Waterway or foreshore management activities

128 Definitions

In this Division:

***coastal lake** has the same meaning as in State Environmental Planning Policy No 71—Coastal Protection. [Lake Ainsworth is listed in Shedule 1 Coastal Lakes in the policy]*

***waterway or foreshore management activities** means:*

(a) riparian corridor and bank management, including erosion control, bank stabilisation, resnagging, weed management, revegetation and the creation of foreshore access ways,

129 Development permitted without consent

(1) Despite clause 129A, development for the purpose of waterway or foreshore management activities may be carried out by or on behalf of a public authority without consent on any land.

(1A) To avoid doubt, subclause (1) does not permit the subdivision of any land.
(2) In this clause, a reference to development for the purpose of waterway or foreshore management activities includes a reference to development for any of the following purposes if the development is in connection with waterway or foreshore management activities:
(b) routine maintenance works,
(d) environmental management works.

Lake Ainsworth is listed as a Coastal Lake in *Schedule 1* of *Coastal Lakes in the State Environmental Planning Policy No. 71 – Coastal Protection*. Therefore division 25 above applies to all works within the lake and riparian corridor. The works proposed generally involve removing existing road pavement and realigning a new pathway further to the east to create a wider corridor available for riparian vegetation to regenerate. In addition, bank stabilisation works will be incorporating either log revetment or revelation to eroded banks in the lake. These works comprise of routine maintenance and environmental management works and are separate from the eastern road rehabilitation work.

The proposed works are being carried out by Ballina Shire Council and falls within the provisions of the above clauses of the Infrastructure SEPP 2007.

5.2 Traffic and parking

The eastern road is not a dedicated road reserve however currently provides public vehicular access on a bitumen road to the Sport and Recreation Centre and provides direct road side parking to eastern side of Lake Ainsworth. Historically 4WD access to seven mile beach was via the eastern road also, however Ballina Council have redirected 4WD access to the Western Road. As such the only through traffic aside from accessing roadside parking that will be redirected along the southern road and western road is approximately 30-40 vehicles of which 5-10 are heavy rigid vehicles. These additional traffic volumes are minimal and well within capacity of the existing road network. No traffic counts were undertaken for purposes of preparation of the concept plan submitted for Part V assessment because traffic assessment with regards to impacts from the eastern road closure has been extensively addressed in the *Lake Ainsworth Crown Reserve Master Plan* (2005).

The Sport and Recreation Centre would be impacted by the eastern road closure as the existing main entrance would no longer be in service, however there is an existing secondary entrance to the western road (Camp Drew Road). The western road is located within a dedicated road reserve and the existing secondary access is a legal access to Council's road network. It is important to note that access via the eastern road to Sport and Recreation Centre has historically been cut off by flooding during high lake levels, in which cases access was dependant on the secondary access via the western road as it provides a higher level of flood immunity. Emergency access is being maintained to the Sport and Recreation Centre via the eastern corridor.

Adequate provision has been made to the turn path requirements of heavy vehicles performing left/right manoeuvres at the new intersection. In additional turn path analysis shows the existing secondary access to Sport and Recreation Centre via the western road can accommodate left/right manoeuvres within the existing road formation (Refer to Appendix D).

Closing the eastern road will result in a loss of 68 informal car parking spaces along the eastern road (based on Complete Urban 2014 master plan). The new car park (completed September 2015) located on the eastern edge of the Lake Ainsworth Holiday Park (between the holiday park and Pacific Parade) has achieved an addition of 31 spaces. The construction of the new car parking bays along Ross Street (completed June 2016) has created an additional 39 spaces. A total of 70 spaces has been achieved which will offset the loss of informal car parking spaces when the eastern road is closed.

6 Concept Stage

6.1 Objectives of the Activity

The principle objective of the proposed activity is to improve the recreational and environmental value of Lake Ainsworth and its surrounding lands.

The works proposed are shown in *Lake Ainsworth Recreational Precinct: Lennox Head Concept Plan* by Design Team Inc. (2016) provided in Appendix D. The concept plan includes the new surf club redevelopment and ancillary parking provisions along Pacific Parade and Ross Street as shown in the 2014 master plan by Complete Urban. This was undertaken to ensure that landscape works will be conducive to what will be as an "ultimate state" with flexibility to be progressively implemented. No approvals or funding is currently in place for the new surf club facility so the following future works are excluded from this Part V consent:

- New Surf club facility and the surrounding landscape works on the eastern side of Pacific Parade (south of the intersection)
- New on street and off street parking facilities along Pacific Parade and Ross Street (south of intersection)
- Demolition of the existing toilet block at the northern end of the eastern road rehabilitation (existing dog walking access and parking). This will be retained. A separate application will be made prior to the demolition of this facility.
- Southern road works and shoreline improvement works to southern shore Lake Ainsworth

6.2 Options Considered and Preferred Option

The decision to close the eastern road was passed by Council motion following a consultation process of three broad options for public vehicle access around the lake (refer to section 3 – Consultation). The concept plan of the Lake Ainsworth Recreation Precinct works was undertaken in direct consultation with elected Councillors during two briefing sessions prior to Council adopting the Concept Plan by resolution at the 24 March 2016 general meeting (Item 11.1 Lake Ainsworth South Eastern Precinct Upgrade – Concept Plan)

7 Assessment Stage

7.1 Description of the Affected Environment

The eastern road rehabilitation component of Lake Ainsworth foreshore improvement works are located within numerous land parcels of Crown Reserve for public recreation and Crown Reserve for Public Recreation and Coastal Environmental Protection. The Land Parcels are identified as Part Lot 62 DP 755725, Lot 2 DP1115145 and Lot 3 DP1115145. The proposed works will be contained within Crown Reserve in which Ballina Shire Council is the trust manager.

7.2 Environment Impacts of the Proposed Activity

Environmental impacts of the proposed works will be minimal as the works generally consists of environmental improvement. 1 small tuckeroo, 1 small sheaoak and 8 melaleuca trees are required to be removed such that the new pathway can be aligned further to the east than the existing roadway. Refer to Appendix D for photos of the trees to be removed. The small tuckeroo and sheaoak have little value and require no offsetting. The melaleuca trees whilst are mature, have low value due to their proximity to the existing high voltage overhead electrical cables. They have experienced continuous aggressive pruning by essential energy which has resulted in substantial degradation of the stems. They are currently stand alone trees with no structured vegetation surrounding them. Bush regeneration encompassing these trees is not feasible due to services within their vicinity and the constant requirement to prune for overhead electricity cables. The easterly shift of the pathway will facilitate the widening of existing riparian vegetation and an additional area of 300 square metres will be available for regeneration of fully structured vegetative communities along the lake banks. The impact of the tree removal will temporary with the long term ecological benefit being realised with the regeneration. It is proposed to offset the removal of the existing melaleuca trees by 5 to 1 (minimum 40 trees) which will be planted into the area allocated for riparian rehabilitation.

The proposed foreshore improvement works include bank stabilisation of the lake where erosion has taken place. These works are independent of the road rehabilitation works and may be undertaken separately from the road rehabilitation works. The bank stabilisation is generally two applications being:

1. Vegetative – Embellishment of existing pockets of vegetation to achieve bank stability and generally in locations where foot traffic is to be discouraged.

2. Timber/log revetment – Generally in locations in ingress/egress to the Lake water which experience high foot traffic such that vegetation cannot be established and exposed sand sediments are susceptible to erosion. More problematic along steeper section of banks in the south eastern part of the lake. Revetment is to comprise of keying in a hardwood log along the stream bank. This is to provide a natural hard edge to achieve a 'step up' the bank and a halt point against bank migration caused by erosion. The implementation will be when suitable hardwood logs become available through the course to Council operations.

The effect of exposing soil and removing vegetation is only temporary during the vegetative establishment period. Erosion and sediment controls are to be in place for the duration of construction to mitigate the effects of disturbance until vegetation establishment can provide permanent erosion protection.

7.3 Main Outcomes of the Proposed Activity

Improved value of the lake riparian corridor is achieved by removing the existing road pavement and making extra area available for passive recreation and regeneration of riparian vegetation.

7.4 Passive Surveillance

Closing the eastern road to public vehicles will mean the passive surveillance by vehicles would no long occur with the exception of that undertaken by police patrolling. Emergency access will be maintained open such that police can still undertake routine surveillance if required by driving along the access pathway. Whilst there is a reduction in surveillance by vehicles, it is expected that the additional open space and absence of vehicles will increase recreational use and foot traffic which will provide a degree of passive surveillance.

There is currently a surveillance camera installed at the existing surf club building which captures both pedestrian and vehicle movements in and around the vicinity of the surf club. This is one of a number of surveillance cameras around the shire which is managed for Council by contract security providers. The footage is view live and recorded and can be made available to police to investigate incidents retrospectively. No additional cameras are proposed as part of the road closure project; however movements along the eastern road adjacent to the surf club will be captured within the reach of the existing camera

7.5 Summary of Beneficial Outcomes

- Improved pedestrian safety and reduced vehicular/pedestrian conflict
- Improved public amenity and recreational value
- Improved ecological value

7.6 Consideration of Environmental Factors

This REF has considered the following environmental factors

- **VEGETATION:** The removal of vegetation which consists of removing 8 mature trees. The existing trees conflict with overhead electrical cables. By removing the trees, the new pathway can be aligned along the service corridor which will make additional area available for regeneration of riparian vegetation along the lake. This will provide a long term ecological benefit. No threatened species or ecological communities are affected by the vegetation clearing.
- **SOIL:** The proposed remedial works will involve removing the bitumen seal and pavement aggregates and temporarily exposes the subgrade. The area of disturbance will generally be limited to the over bank regions with the only works to bank being stabilisation and remediating existing erosion problems. The natural soil which will be exposed is sand which has a very low runoff potential. Once established the new vegetation and log revetment will provide necessary long term stabilisation. As such only temporary mitigation measures are required including:

- Installation of silt fencing along the downslope edge of the rehabilitation zone in case of runoff. The silt fencing is a sediment trapping point in the event of unavoidable erosion during construction
- Banks stabilisation works to use a floating boom in the lake encompassing the limit of disturbance for the installation of log revetment.
- Staging of works – limiting the length of bank stabilising works to short sections reduces the exposed area and habitat disruption.

- **AIR**: Noise, fumes and dust during construction. Mitigation measures include working times to be limited to 7.00am to 6.00pm between Mondays and Fridays and 8.00am to 1.00pm on Saturday with no noisy work on Sundays and Public Holidays. The pavement material is to be removed by a profiler which reduces the exposure time and dust generated compared with an excavator. Refer Construction Management Plan Appendix E
- **WASTE**: The profiled pavement is permissible for reuse on Council rural roads. All remaining waste materials are to be disposed of at Councils waste facility.
- **FUEL:** Chemical and fuel spills will be mitigated by not storing on site.
- **IMPORTED MATERIAL:** The materials to be imported are concrete, topsoil for landscaping purposes only in recreational areas to establish grass cover and filter media used in bioretention swales. These are safe and compatible with the environment and intended use.
- **HERITAGE:** Aboriginal Heritage has been considered and no known heritage sites exist in the proposed work site, refer Appendix C.
- **THREATENED SPECIES:** Threatened species were considered and a report generated EPBC web page (refer Appendix B) and it provided a list of the following located in the area of the proposed works.
  - Threatened Ecological Communities: 0
  - Threatened Species: 60
  - Migratory Species: 47

  No threatened species or ecological communities are affected by the tree removal.

7.7 NSW and Commonwealth Legislation Outcomes

Not applicable

8 Conclusions

8.1 Summary of Outcomes

The outcomes from these works are that the south eastern foreshore of the Lake Ainsworth public reserve will be improved. The works involve reconstruction and improvement to southern road and parking, the reconstruction of the intersection and rehabilitation of the eastern road. The eastern road will be converted into passive recreational area incorporating open space and enhancing the riparian vegetation along the eastern foreshore. Provisions are included to treat stormwater runoff from paved surfaces.

8.2 Environmental Assessment and EPBC Referral

Not applicable

8.3 Impacts, Proposed Mitigation Measures and Further Analysis

- Impacts expected during construction are short term caused by vegetation clearing and machinery activities. Potential scouring and erosion. Noise, vibration, dust, and fuel spills.
- Erosion of disturbed areas during construction. Mitigation measures are to be implemented during and after construction in accordance with the "blue book". These are to include silt fencing and floating booms.
- Noise and dust during construction. Mitigation measures include working times to be limited to 7.00am to 6.00pm between Mondays and Fridays and 8.00am to 1.00pm on Saturday with no noisy work on Sundays and Public Holidays. Dust will be controlled using a water truck if required.
- Chemical and fuel spills will be mitigated by not storing any chemicals and fuel on site. The use of chemicals will be used in accordance with Council Codes of Practice.
- Traffic Control is to be implemented in accordance with the Traffic Control at Work Sites manual (RTA, 2010)

8.4 Implementation of Safeguards and Mitigation Measures

- At the commencement of the project a Job Package is produced and included are the sediment and erosion plans. Also contained in the package is a copy of the Traffic Control Plan, Review of Environmental Factors, the conditions to be implemented and a copy of the environmental Management Plan Checklist. At the commencement of the Project a preconstruction meeting is undertaken and the plans, including the sediment and erosion control plans, are discussed. The sediment and erosion control measures are to be undertaken at the commencement of work.

8.5 Implementation Procedures Table (Attached)

- Refer to the Environmental Management Plan Checklist and the Construction Management Plan CMP in Appendix E

9 Certification

This Review of Environmental Factors provides a true and fair review of the proposed activity in relation to its likely effects on the environment. It addresses possible matters affecting or likely to affect the environment as a result of the proposed activity.

I am satisfied that, subject to the inclusion of mitigation measures and ongoing maintenance the proposed works on the foreshore of Lake Ainsworth will not have an adverse impact on the environment.

Peter Brown

Design Engineer

22 September 2016

John Truman

Group Manager - Civil Services

22 September 2016

APPENDIX A – Consideration of Environmental Factors

APPENDIX B - EPBC Act Protected Matters Report

APPENDIX C - AHIMS Search Results

APPENDIX D – Concept Plan, Photographs, maps, and site plans, etc.

APPENDIX E - Environmental Management Plan Check List, Construction Management Plan

APPENDIX F - State Environmental Planning Policy (Infrastructure) 2007 Extracts

APPENDIX A

CONSIDERATION OF ENVIRONMENTAL FACTORS

Notes for completing this section:
Tick appropriate 'Impacts' as follows;
(NA) Not Applicable, (-ve) Negative Impact, (NIL) No Impact, (+ve) Positive Impact.

Provide comments for each factor in support of the opinion circled in the Impacts column, to the degree of detail appropriate to the proposal and its interaction with the environment.

	FACTOR (NSW LEGISLATION)	IMPACTS	
a	Any environmental impact on a community? Comments: During construction there may be adverse environmental impact including dust, vibration, noise and possible erosion. These are expected to be only during construction and will be mitigated by limiting working hours, implementing sediment and erosion control measures, regeneration of riparian vegetation and landscaping of the road rehabilitation site.	NA -VE NIL +VE	☐ ☐ ☐ ☒
b	Any transformation of a locality? Comments: The footprint of the eastern road will be transformed from a bitumen seal road to a footpath and public recreational open space.	NA -VE NIL +VE	☐ ☐ ☐ ☒
c	Any environmental impact on the ecosystems of the locality? Comments: Short term impact with the vegetation removal, however regeneration of riparian vegetation will provide long term ecological benefit	NA -VE NIL +VE	☐ ☐ ☐ ☒
d	Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality? Comments: Aesthetics improved and recreational value improved	NA -VE NIL +VE	☐ ☐ ☐ ☒
e	Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations? Comments: No known sites exist within footprint of the construction	NA -VE NIL +VE	☒ ☐ ☐ ☐

f	Any impact on the habitat of any protected fauna (within the meaning of the National Parks and Wildlife Act, 1974)? Comments: Nil	NA -VE NIL +VE	☒ ☐ ☐ ☐
g	Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air? Comments: Nil	NA -VE NIL +VE	☐ ☐ ☒ ☐
h	Any long-term effects on the environment? Comments: Regeneration of native vegetation will provide long term benefit.	NA -VE NIL +VE	☐ ☐ ☐ ☒
i	Any degradation of the quality of the environment? Comments: Minimal degradation of is expected due to tree removal and some disturbance required to undertake the works. Mitigation measures ensure potential degradation is minimal and tree removal is offset 5 to 1 such long term benefit.	NA -VE NIL +VE	☐ ☒ ☐ ☐
j	Any risk to the safety of the environment? Comments: During construction there maybe the possibility of safety to the environment due to erosion of disturbed soils. Mitigation measures will be implemented to minimise any effect.	NA -VE NIL +VE	☐ ☒ ☐ ☐
k	Any reduction in the range of beneficial uses of the environment? Comments: Access to the Sport and Recreational Centre will no longer be available via the eastern road. Emergency access will be retained, however a legal access exists to Camp Drew Road	NA -VE NIL +VE	☐ ☒ ☐ ☐
l	Any pollution of the environment? Comments: Possible pollution to the environment may occur during construction due to mobilisation of sediments during pavement profiling. Mitigation measures are to be implemented to minimise any pollution The proposed improvement works will have a reduction in impervious area and incorporates bio filtration measures to improve the stormwater runoff quality from the pavement surfaces being reconstructed. This will provide long term benefit.	NA -VE NIL +VE	☐ ☒ ☐ ☐
m	Any environmental problems associated with the disposal of	NA	☐

	waste? Comments: All milled pavement material will be transported off site and used on Council's unsealed roads program. Remaining waste material found will be disposed of at the Councils land fill site located in the Southern Cross Industrial Estate	-VE NIL +VE	☐ ☒ ☐
n	Any increased demands on resources, natural or otherwise which are, or are likely to become in short supply? Comments: No additional demands on resources is anticipated	NA -VE NIL +VE	☐ ☐ ☒ ☐
o	Any cumulative environmental effect with other existing or likely future activities? Comments: Long term ecological benefit. Long term stormwater quality benefit.	NA -VE NIL +VE	☐ ☐ ☐ ☒

FACTOR (COMMONWEALTH LEGISLATION)		IMPACTS	
a	Any environmental impact on a World Heritage property? Comments: None located in the area	NA -VE NIL +VE	☒ ☐ ☐ ☐
b	Any environmental impact on wetlands of international importance? Comments: None located in the area	NA -VE NIL +VE	☒ ☐ ☐ ☐
c	Any environmental impact on Commonwealth listed threatened species or ecological communities? Comments: Nil	NA -VE NIL +VE	☐ ☐ ☒ ☐
d	Any environmental impact on Commonwealth listed migratory species? Comments: Minimal impacts in short term. Improved habitat in long term.	NA -VE NIL +VE	☐ ☐ ☒ ☐
e	Does any part of the proposal involve a nuclear action? Comments: Not applicable	Yes No	☐ ☒
f	Any environmental impact on a Commonwealth marine area? Comments: Not applicable.	NA -VE NIL +VE	☒ ☐ ☐ ☐
g	Any direct or indirect effect on Commonwealth land? Comments: Crown land only	NA -VE NIL +VE	☒ ☐ ☐ ☐

APPENDIX B – EPBC Act Protected Matters Report and Ecological Report by Blackwood

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.

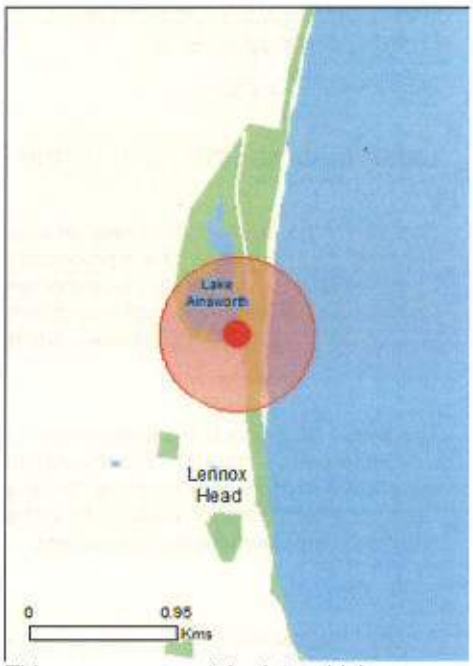
Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

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

Report created: 09/06/16 14:40:04

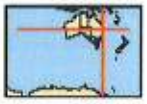
Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat
Acknowledgements



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

Coordinates
Buffer: 0.5Km



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:	None
Listed Threatened Species:	60
Listed Migratory Species:	47

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

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:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	73
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:	None
Regional Forest Agreements:	1
Invasive Species:	37
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

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
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Species or species habitat may occur within area
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	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
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-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica menzbieri Bar-tailed Godwit (menzbieri), Northern Siberian Bar-tailed Godwit [86432]	Critically 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

Name	Status	Type of Presence
		habitat may occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat 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 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 impavida Campbell Albatross, Campbell Black-browed 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
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 olongburensis Wallum Sedge Frog [1821]	Vulnerable	Species or species habitat known to 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

Name	Status	Type of Presence
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
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat may 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 likely to occur within area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat may occur within area
Other		
Thersites mitchellae Mitchell's Rainforest Snail [66774]	Critically Endangered	Species or species habitat known 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
Cryptocarya foetida Stinking Cryptocarya, Stinking Laurel [11976]	Vulnerable	Species or species habitat may occur within area
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
Fontainea oraria Coastal Fontainea [24038]	Endangered	Species or species habitat likely to occur

Name	Status	Type of Presence
		within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area
Randia moorei Spiny Gardenia [10577]	Endangered	Species or species habitat likely to occur within area
Syzygium hodgkinsoniae Smooth-bark Rose Apple, Red Lilly Pilly [3539]	Vulnerable	Species or species habitat likely to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat 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 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 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

Name	Threatened	Type of Presence
		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
Thalassarche impavida Campbell Albatross, Campbell Black-browed 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	Species or species habitat 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

Name	Threatened	Type of Presence
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 alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat known to 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 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		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
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 likely to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may 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 likely to occur within area

Name	Threatened	Type of Presence
Migratory Wetlands Species		
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
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

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		
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
Cuculus saturatus Oriental Cuckoo, Himalayan Cuckoo [710]		Species or species habitat may occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	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]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species

Name	Threatened	Type of Presence
		habitat 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]	Critically Endangered	Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat 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
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 likely to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to 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
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely 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

Name	Threatened	Type of Presence
		area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed 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
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely 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

Name	Threatened	Type of Presence
		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 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

Name	Threatened	Type of Presence
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within 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	Species or species habitat 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

Name	Status	Type of Presence
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
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

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

Name	Status	Type of Presence
		within area
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

Name	Status	Type of Presence
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species 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

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

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.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-28.785 153.593

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Parks and Wildlife Commission NT, Northern Territory Government
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Atherton and Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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APPENDIX C – AHIMS Web Services (AWS) Search Results

Environment, Climate Change & Water

National Parks and Wildlife Act 1974 Fact sheet 2

Providing certainty for the protection of Aboriginal heritage through due diligence

Recent amendments to the Aboriginal heritage provisions contained in the *National Parks and Wildlife Act 1974* (NPW Act) introduced two new types of offences for harming Aboriginal objects.

The first is the offence of harming or desecrating an Aboriginal object which a person knows is an Aboriginal object. This is the most serious offence, and has higher penalties.

The second offence is that of harming an Aboriginal object, whether or not the person knows it is an Aboriginal object. This is a strict liability offence, and is committed even if the harm was unintentional. The common law defence of honest and reasonable mistake of fact applies to strict liability offences

Anyone who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution for the strict liability offence if they later unintentionally harm an object.

Fact sheet 1 outlines when due diligence is not required. There is a range of exemptions and low impact activities for which due diligence is not required.

The Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (the Code) explains and provides practical guidance about what due diligence means (www.environment.nsw.gov.au/legislation/NPWamendmentAct2010).

The Code provides practical steps which individuals and organisations who own, manage or use land need to take in order to:

- identify whether or not Aboriginal objects are, or are likely to be, present in an area
- determine whether or not their activities are likely to harm Aboriginal objects
- determine whether an Aboriginal Heritage Impact Permit (AHIP) is required.

There are many benefits in having a due diligence process for assessing potential harm to Aboriginal objects. These include:

- providing certainty to land managers and developers about appropriate measures they can take
- encouraging a precautionary approach
- more effective conservation of Aboriginal cultural heritage
- providing a defence against prosecution.

Due diligence obliges people whose actions may affect Aboriginal cultural heritage to take reasonable steps (precautions) to consider if Aboriginal objects may be present and avoid harm to that heritage. If harm cannot be avoided they are required to apply for an AHIP.

Take precautions

Check the Code before any land use to determine what precautions are needed to address Aboriginal cultural heritage issues. The code explains when due diligence is not required or can be met when you follow planning assessment processes. Exemptions and other defences are also outlined in fact sheet 1.

Steps in the due diligence process are:

- searching the Aboriginal Heritage Information Management System (AHIMS)
- checking for landscape features which may indicate the presence of Aboriginal objects
- strategies to avoid harming Aboriginal objects
- desktop assessment and visual inspection to confirm the presence of Aboriginal objects.

Fact sheet 3 summarises the penalties for harming or desecrating Aboriginal objects and declared Aboriginal Places.

Codes of practice for specific activities

Due diligence may also be exercised by complying with industry-specific codes of practice as adopted under the National Parks and Wildlife Regulation 2009 (NPW Regulation). These codes provide due diligence guidance for specific activities or industries. Codes which have been adopted by the Regulation (as at October 2010) are the:

- Plantations and Reafforestation Code, which is the Appendix to the Plantations and Reafforestation (Code) Regulation 2001 as in force on 15 June 2010 (www.dpi.nsw.gov.au/agriculture/resources/private-forestry)
- Private Native Forestry Code of Practice, approved by the Minister for Climate Change and the Environment and published in the Gazette on 8 February 2008 (www.environment.nsw.gov.au/pnf/index.htm)
- NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects published by the NSW Minerals Council Ltd and dated 13 September 2010
- Aboriginal Objects Due Diligence Code for Plantation Officers Administering the Plantations and Reafforestation (Code) Regulation 2001, published by the Department of Industry and Investment and dated 13 September 2010
- Operational Guidelines for Aboriginal Cultural Heritage Management, published by Forests NSW and dated 13 September 2010.

If an activity is subject to an industry-specific code that has been adopted by the NPW Regulation, follow that code instead of the general requirements of the Code.

Individuals can use these codes or any other due diligence process which meets the standards of these codes, such as an environmental impact assessment.

Further information

Further information on Aboriginal cultural heritage regulation can be found at www.environment.nsw.gov.au/licences/achregulation.htm, or contact DECCW's Environment Line on 131555 or by email at info@environment.nsw.gov.au.

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Office of Environment & Heritage

AHIMS Web Services (AWS)
Search Result

Purchase Order/Reference : Lake A

Client Service ID : 229324

Ballina Shire Council

po box 450
ballina New South Wales 2478

Attention: Peter Brown

Email: peterjb@ballina.nsw.gov.au

Date: 09 June 2016

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 557575 - 557930, Northings : 6815605 - 6816050 with a Buffer of 50 meters, conducted by Peter Brown on 09 June 2016.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.

A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

APPENDIX D – Photographs, Maps and Drawings

ballina shire council

LAKE AINSWORTH FORESHORE IMPROVEMENT WORKS
EASTERN ROAD REHABILITATION

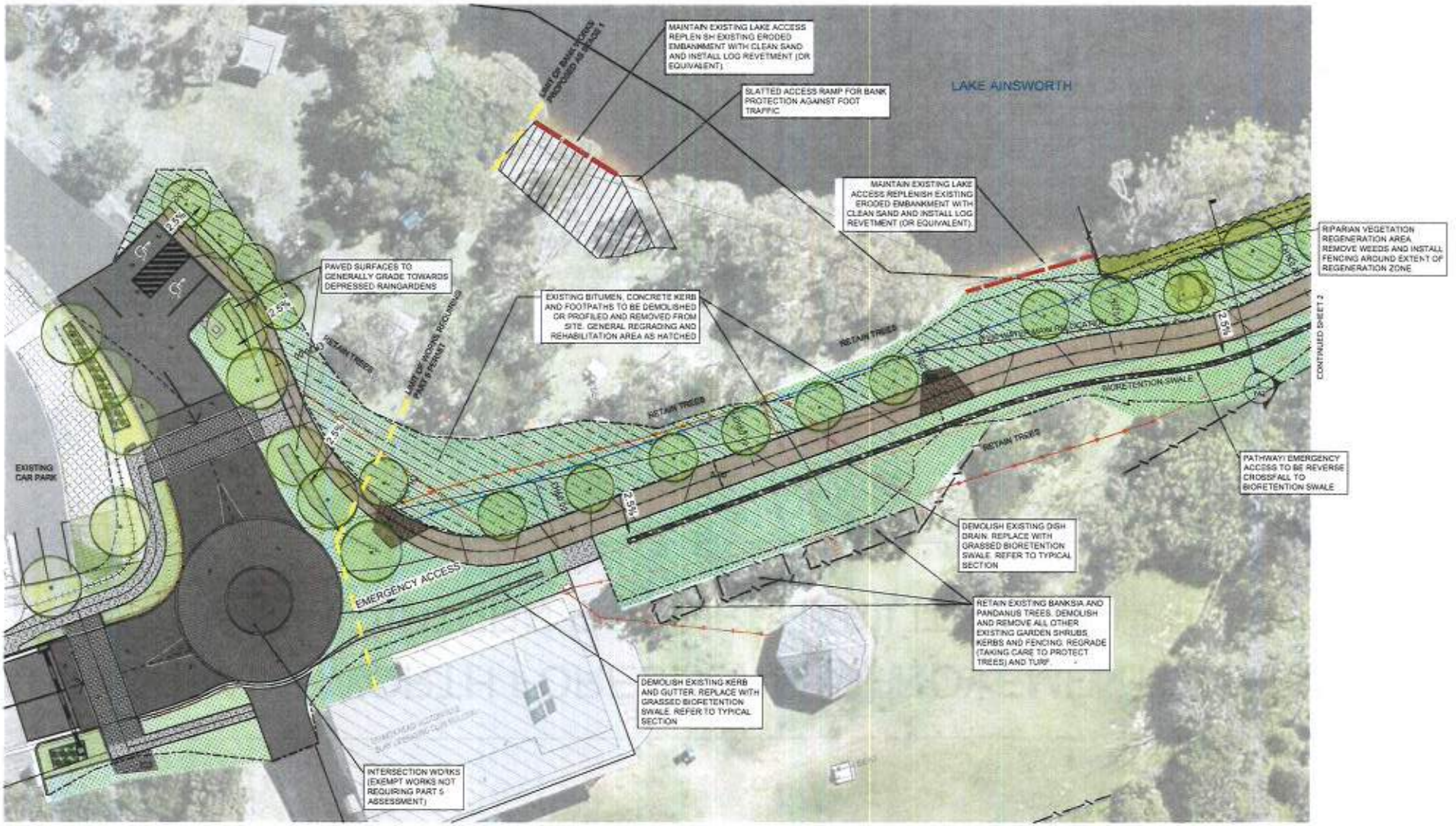
DRAWING No: LHR30.058

SEPTEMBER 2016

LOCALITY PLAN

DRAWING REGISTER

DRAWING	SHEET	ISSUE	DATE	TITLE
LHR30.058/EA	1 OF 4	A	21/9/2016	EASTERN FORESHORE PLAN AND LONGSECTION (CH0 TO CH120)
LHR30.058/EA	2 OF 4	A	21/9/2016	EASTERN FORESHORE PLAN AND LONGSECTION (CH120 TO CH240)
LHR30.058/EA	3 OF 4	A	21/9/2016	EASTERN FORESHORE PLAN AND LONGSECTION (CH240 TO CH360)
LHR30.058/EA	4 OF 4	A	21/9/2016	EASTERN FORESHORE PLAN AND LONGSECTION (CH360 TO CH440)



LEGEND

- LANDSCAPING - TURF
- RIPARIAN VEGETATION REHABILITATION AREA
- PAVEMENT REHAB AND REGRADING
- BIORETENTION
- TREE (EXISTING RETAIN)
- TREE (EXISTING REMOVE)
- TREE (NEW)
- BITUMEN (NEW)
- COLOURED CONCRETE PATH
- COBBLE GRANITE (GREY)
- COBBLE GRANITE (BLACK)
- BENCH SEAT

- TELSTRA FIBRE OPTIC CABLE
- TELSTRA CABLE
- UNDER GROUND ELECTRICITY
- OVER HEAD ELECTRICITY
- SEWER (GRAVITY)
- SEWER RISING MAIN (EXISTING)
- STORMWATER PIPE (EX)
- STORMWATER PIPE (NEW)
- FENCE (NEW)
- FENCE (EXISTING)
- EXISTING EDGE OF BITUMEN
- SIGN
- STOP VALVE
- HYDRANT
- TELSTRA PIT
- POWER POLE
- STAY POLE
- STN/GIN
- SSM/PM
- WATER MAIN (NEW)
- WATER MAIN (EXISTING)
- FK 4.95 FINISHED SURFACE RL
- 5.0 DESIGN CONTOUR (0.1m INC.)
- FK - FLUSH KERB
- K&G - KERB AND GUTTER
- DISH - DISH DRAIN
- TK - TOP OF KERB
- FS FINISHED SURFACE

No.	Date	By	Change	X'd
A	21/9/16	PJB	ISSUED FOR PART V ASSESSMENT	

Amendments

ballina shire council

SURVEY	BSC	DESIGNED	PJB
DATE	21/9/2016	DRAWN	PJB
F.B.	L.B.	CHECKED	
DATUM	AHD	APPROVED	
DRAWING	LHR 30_058 STAGE 1 LAKE A FORESHORE dwg		

SHEET 1 OF 4

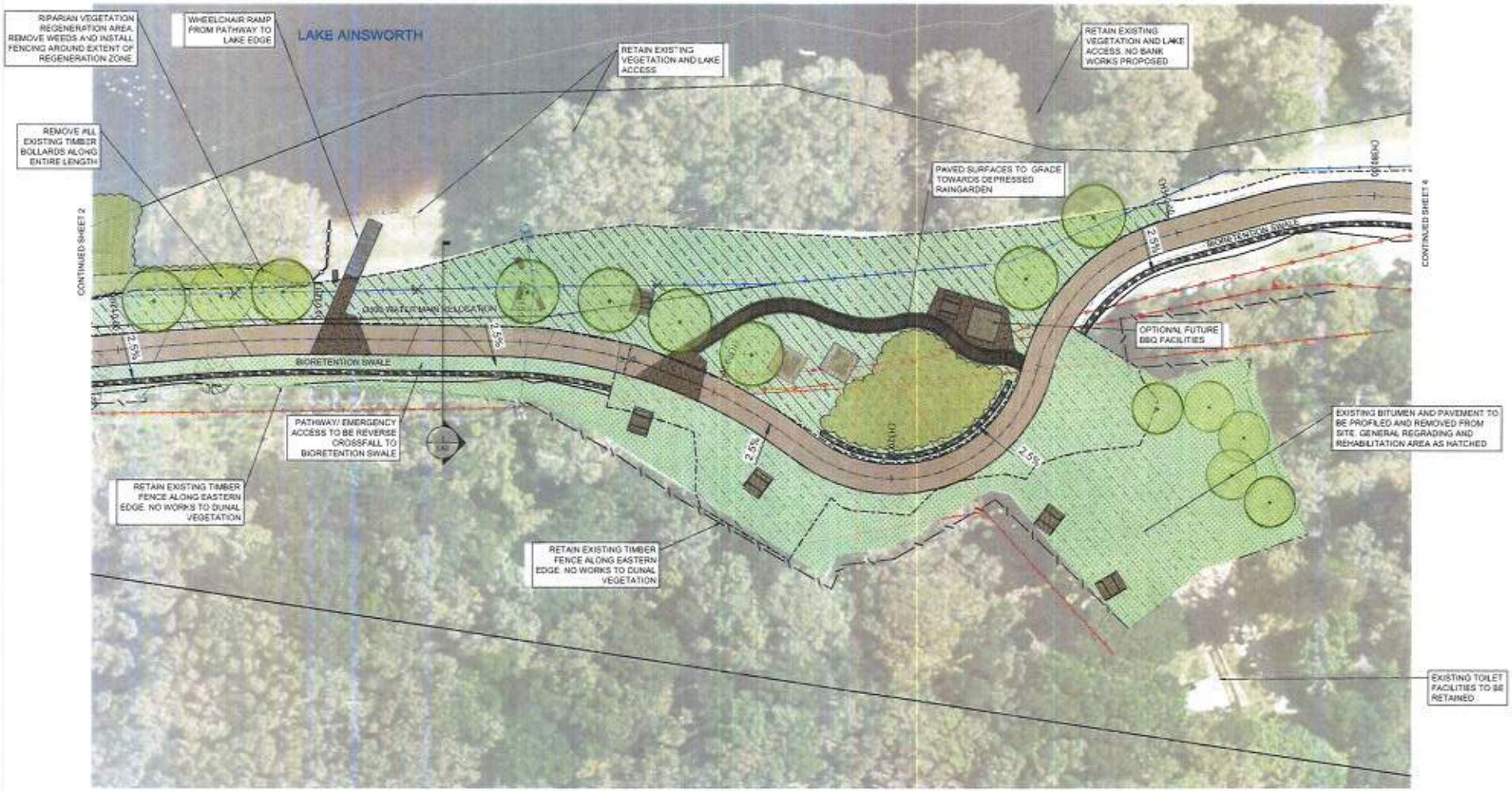
BALLINA SHIRE COUNCIL

LAKE AINSWORTH FORESHORE WORKS STAGE 1 - EASTERN FORESHORE PLAN AND LONGSECTION (CH0 TO CH120)

Scale 1:200

Plan No. LHR30.058/EA

A1



LEGEND

- LANDSCAPING - TURF
- RIPARIAN VEGETATION REHABILITATION AREA
- PAVEMENT REHAB AND REGRADING
- BIORETENTION
- TREE (EXISTING RETAIN)
- TREE (EXISTING REMOVE)
- TREE (NEW)
- BITUMEN (NEW)
- COLOURED CONCRETE PATH
- COBBLE GRANITE (GREY)
- COBBLE GRANITE (BLACK)
- BENCH SEAT

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- TELSTRA CABLE
- UNDER GROUND ELECTRICITY
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- SEWER (GRAVITY)
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- EXISTING EDGE OF BITUMEN
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- STOP VALVE
- HYDRANT
- TELSTRA PIT
- POWER POLE
- STAY POLE
- STN/GIN
- SSM/PM
- WATER MAIN (NEW)
- WATER MAIN (EXISTING)
- FK 4.95 FINISHED SURFACE RL
- DESIGN CONTOUR (0.1m INC.)
- FK - FLUSH KERB
- K&G - KERB AND GUTTER
- DISH - DISH DRAIN
- TK - TOP OF KERB
- FS FINISHED SURFACE

No.	Date	By	Change	X'd
A	21/9/16	PJB	ISSUED FOR PART V ASSESSMENT	

Amendments

ballina shire council

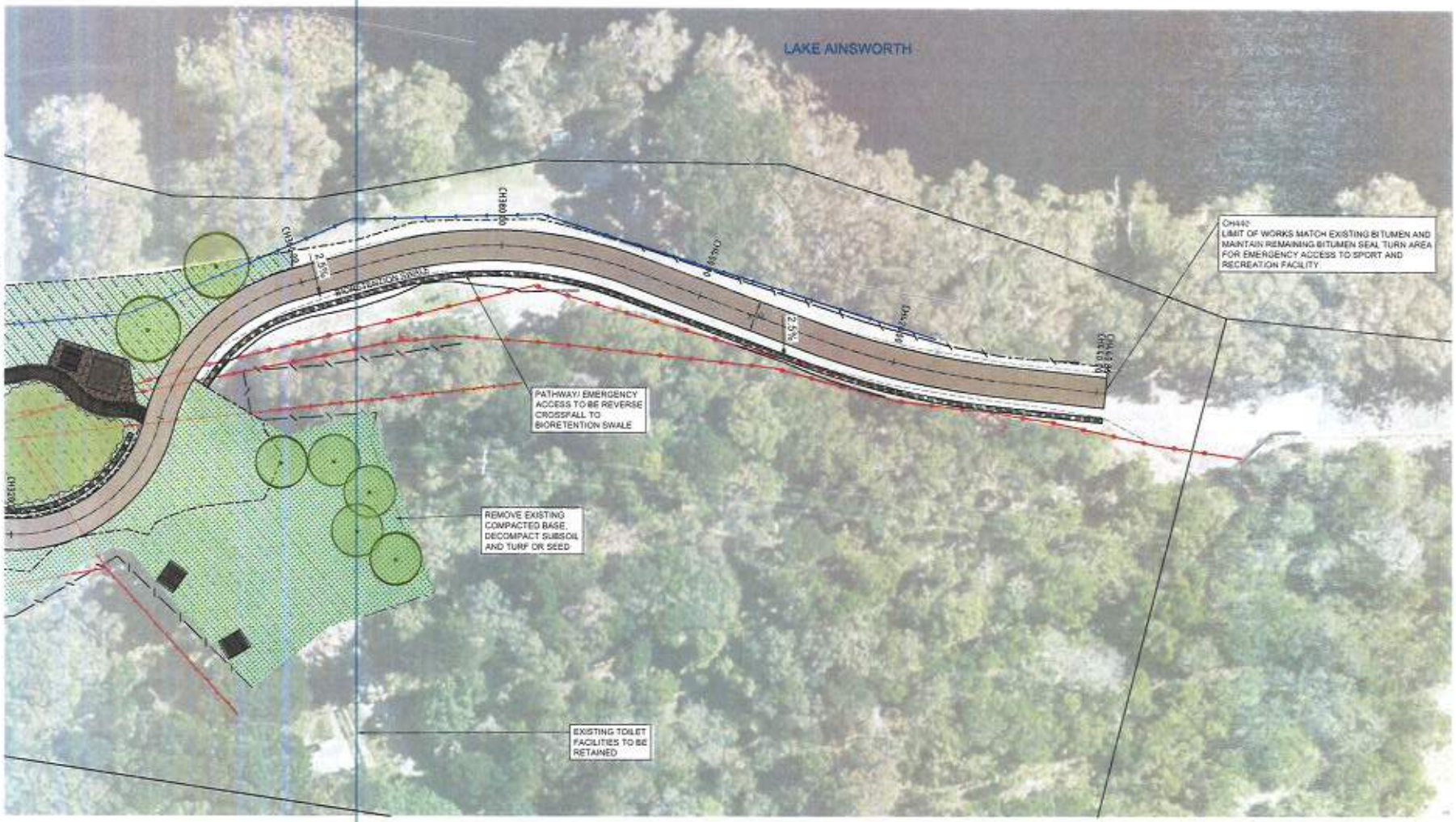
SURVEY	BSC	DESIGNED	PJB
DATE	21/9/2016	DRAWN	PJB
F.B.	L.E.	CHECKED	
DATUM	AHD	APPROVED	
DRAWING	LHR 30_058 STAGE 1 LAKE A FORESHORE.dwg		

SHEET 3 OF 4

BALLINA SHIRE COUNCIL

LAKE AINSWORTH FORESHORE WORKS
STAGE 1 - EASTERN FORESHORE
PLAN AND LONGSECTION (CH240 TO CH360)

Scale 1:200 | Plan No. LHR30.058/EA | A1



LEGEND

- LANDSCAPING - TURF
- RIPARIAN VEGETATION REHABILITATION AREA
- PAVEMENT REHAB AND REGRADING
- BIORETENTION
- TREE (EXISTING RETAIN)
- TREE (EXISTING REMOVE)
- TREE (NEW)
- BITUMEN (NEW)
- COLOURED CONCRETE PATH
- COBBLE GRANITE (GREY)
- COBBLE GRANITE (BLACK)
- BENCH SEAT

- TELSTRA FIBRE OPTIC CABLE
- TELSTRA CABLE
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- STORMWATER PIPE (EX)
- STORMWATER PIPE (NEW)
- FENCE (NEW)
- FENCE (EXISTING)
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- WATER MAIN (NEW)
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- FK 4.95 FINISHED SURFACE RL
- DESIGN CONTOUR (0.1m INC.)
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No.	Date	By	Change	X'd
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Amendments

ballina shire council

SURVEY	BSC	DESIGNED	PJB
DATE	21/9/2016	DRAWN	PJB
F.B.	L.B.	CHECKED	
DATUM	AHD	APPROVED	
DRAWING	LHR 30_058 STAGE 1 LAKE A FORESHORE.dwg		

SHEET 4 OF 4

BALLINA SHIRE COUNCIL

LAKE AINSWORTH FORESHORE WORKS
STAGE 1 - EASTERN FORESHORE
PLAN AND LONGSECTION (CH360 TO CH440)

Scale 1:200 | Plan No. LHR30.058/EA | A1

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landscape architecture urban design

PLAN SET

15/245/01	Site Analysis
15/245/02	Opportunities and Broad Design Principles
15/245/03	Concept Plan Sheet 1
15/245/04	Concept Plan Sheet 2
15/245/05	Typical Sections
15/245/06	Concept Plan Pathway Options

DOCUMENT PURPOSE

This concept plan has been prepared as a summary of the design intent for future redevelopment of the eastern and southern recreational areas of Lake Ainsworth. It incorporates recommendations from earlier master planning for The Lake precinct by Hassell in 2005 and Complete Urban Pty Ltd in 2014 as well as concept planning for the surf club by Complete Urban in 2015. This has been combined with feedback received from Council staff an Councilors in various minutes and meetings. The concept plan sketches represent the design post construction of the new surf club. This concept plan is intended to guide the preparation of detailed designs by Council staff for the upgrading of the study area following closure of the eastern access road.

LAKE AINSWORTH
RECREATION PRECINCT LENNOX HEAD
CONCEPT PLAN

16 March 2016
Prepared for Ballina Shire Council

www.designteamink.com
PO Box 1473 Ballina NSW 2478 | M 0428 259 286 | E sheryn@designteamink.com | ABN 474 05963844

Acknowledgements: Aerial Photography and Survey provided by Ballina Shire Council

KEY ISSUES IDENTIFIED BY SITE ANALYSIS

LAKE BIODIVERSITY / WATER QUALITY
The Lake Precinct contains a diversity of good quality vegetation, but in high use areas the vegetation is degraded and contains weeds. Embankment erosion and runoff from hard surfaces flows to the Lake.

EROSION CONTROL AND ACCESS
There is evidence of erosion around tree roots as well as on high use grass areas. Areas which contain a steep grade to access the water appear to have a more highly eroded profile. Access to the Lake occurs in many locations including in areas which have previously been subject to vegetation regeneration.

SHADE AND AMENITY
Closure of the eastern access road to vehicular traffic provides opportunities to consolidate and enlarge passive open space areas which are presently small, fragmented and with poor pedestrian connectivity. The existing shaded areas are well utilised.

RATIONALISATION OF CARPARKING
During peak holiday seasons or events, carparking is congested and occurs in a random and inefficient manner. The car parking is poorly defined and often on a steep grade.

URBAN AMENITY AND CONNECTIVITY WITH SURF CLUB
The park areas around the surf club are disconnected from the lake. The urban amenity in this area is old and weathered in appearance and there is limited natural shade.

RECREATIONAL OPPORTUNITY, DIVERSITY AND ADAPTABILITY
The lake and beach are exquisite natural assets which attract people to the precinct. The open space areas need to provide adaptable areas for a diversity of recreational and passive uses such as swimming, boating, surf club events, and functions.

LEGEND

- Pedestrian access to the Lake
- Pedestrian access to the beach
- Existing recreation activity node
- Predominant pedestrian connections or desire lines
- Predominant vehicle traffic routes (assumes closure of the eastern road)
- Important visual connection or view
- Major overhead power line
- Surveyed 1999 high water level (3.2 AHD)

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0 10 20 30 40 metres (1:1000)

LAKE AINSWORTH
RECREATION PRECINCT: LENNOX HEAD
SITE ANALYSIS

Acknowledgements: Aerial Photography and Survey provided by Ballina Shire Council

OBJECTIVES

- Maximise opportunities to improve the quality and quantity of stormwater entering the Lake and the general environmental quality of the Lake.
- Consider the future relocation of the surf club to a new position south of the existing facility and the interactions with public open space in this area.
- Achieve a design solution which addresses the significance of the Lake Ainsworth precinct to the local (and regional) community in a way which promotes the natural assets and passive recreational opportunities of the precinct.
- Support low-key, passive recreation in a robust and predominantly natural setting.

OPPORTUNITIES AND KEY DESIGN PRINCIPLES

Eastern Lake Precinct

Improve and controll access to the Lake (from Complete Urban 2014)
Protect existing environmental features (from Complete Urban 2014)
Retain the existing overhead powerline services
Support bicycle use
Provide public outdoor showers at the major beach access points
Support informal passive recreation in a shaded and casual natural setting
Improve water quality (from Complete Urban 2014)
Maintain and enhance the 'naturalness' of the precinct
Consolidate lake and beach access points

Central Lake Precinct

In the long term, consolidate the open space areas north of the surf club to connect 'lake-side' with 'beach-side'
Provide public outdoor showers at the major beach access points
Provide picnic and BBQ facilities that support passive recreational use
Keep dogs away from the Lake, but provide good dog washing areas at the beach access point
Support bicycle use
Provide an adaptable open space area which can be used for outdoor functions or carnivals
Improve shade and amenity on the beach-side open space
Provide for safe and uninhibited pedestrian movement between the beach and Lake and also between the Lake and surf club
Maximise opportunities for vehicles to turn on Pacific Parade to reduce potential vehicle movements on the southern lake road
Maximise car parking opportunities but not too the detriment of pedestrian convenience or visual amenity
Include measures to slow vehicular traffic on Pacific Parade (from Complete Urban 2014)
Improve water quality (from Complete Urban 2014)
Protect existing environmental features (from Complete Urban 2014)

Southern Lake Precinct

Provide green open space (from Complete Urban 2014)
Provide new picnic and BBQ areas (from Complete Urban 2014)
Maximise car parking opportunities but not too the detriment of pedestrian convenience or visual amenity
Maintain provision for the launching of water and sail craft
Provide improved access to the lake front and water where there are existing flat grades
Maintain and enhance the 'naturalness' of the precinct
Improve water quality (from Complete Urban 2014)
Protect existing environmental features (from Complete Urban 2014)

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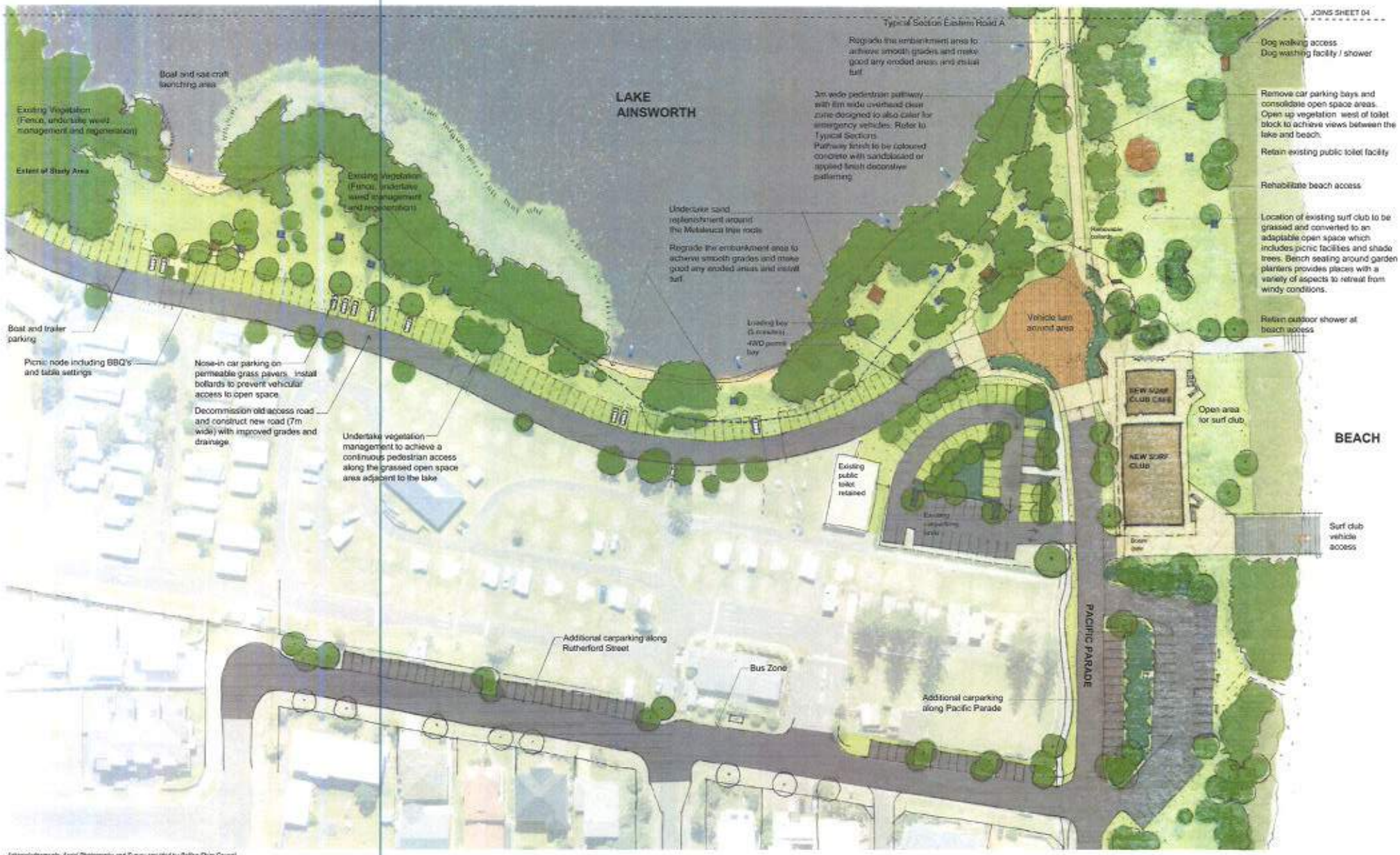
0 10 20 30 40 metres (1:1000)

LAKE AINSWORTH
RECREATION PRECINCT: LENNOX HEAD
OPPORTUNITIES AND BROAD DESIGN PRINCIPLES



Acknowledgements: Aerial Photography and Survey provided by Ballina Shire Council

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Prepared by design team ink: landscape architecture + urban design

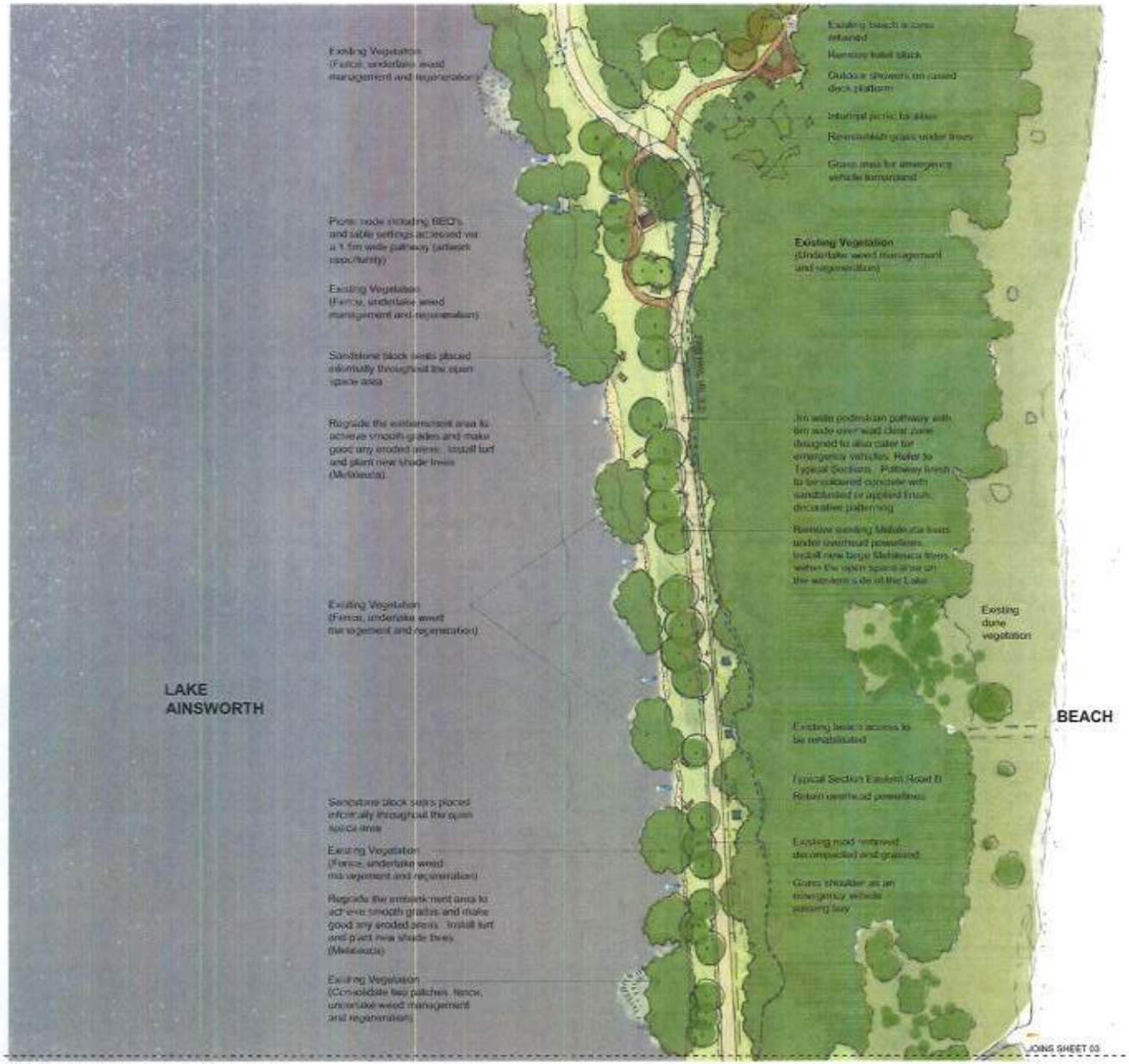
0 5 10 15 20 metres (1:500)

Sheet 03 of 06

LAKE AINSWORTH
RECREATION PRECINCT: LENNOX HEAD
CONCEPT PLAN SKETCH SOUTH

LEGEND

- Pedestrian access to the Lake
- Pedestrian access to the beach
- Existing vegetation to be rehabilitated
- Pedestrian pathway and emergency vehicle access (only)
- Tree to be removed
- Surveyed 1999 high water level (3.2 AHD)



Acknowledgements: Aerial Photography and Survey provided by Ballina Shire Council

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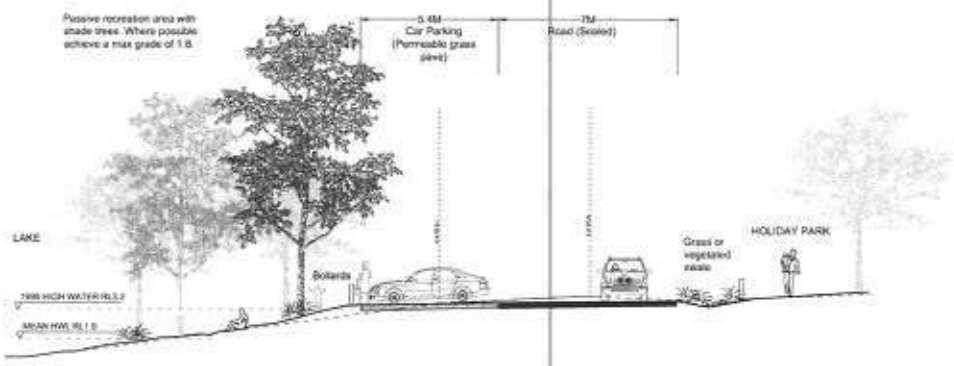
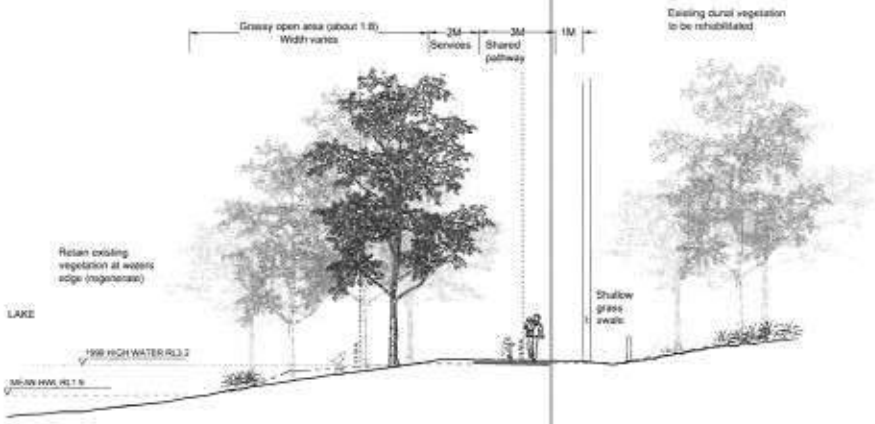
0 5 10 15 20 metres (1:500)

LAKE AINSWORTH
RECREATION PRECINCT: LENNOX HEAD
CONCEPT PLAN SKETCH NORTH



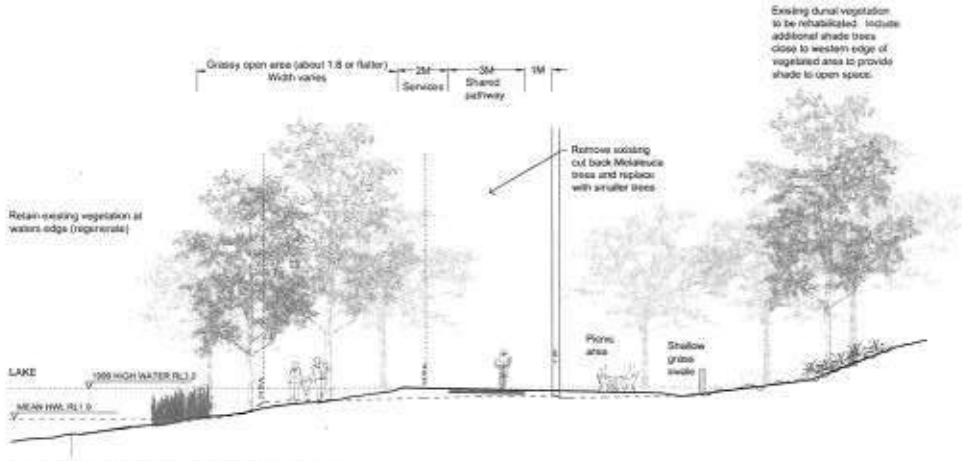
TYPICAL SECTION - SOUTHERN ROAD TREATMENT

1:100



TYPICAL SECTION - EASTERN ROAD A

1:100



TYPICAL SECTION - EASTERN ROAD B

1:100

LAKE AINSWORTH
RECREATION PRECINCT: LENNOX HEAD
CONCEPT PLAN TYPICAL SECTIONS

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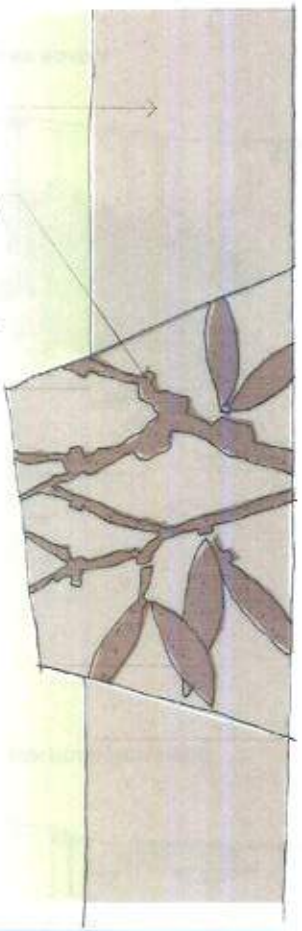
OPTION 1: COLOURED CONCRETE WITH SANDBLASTED PATTERNS

Plain coloured concrete pathway 3m wide

Path "pop-out" at lake beach access point with sandblasted decorative pattern based upon natural features of the Lake environment such as Melaleuca leaves, seeds, roots and bark, Banksia pods, macrophytes etc.

Angled expansion joints



Photographic example of sandblasting: Image of Cardwell Foreshore Redevelopment

BENEFITS AND ISSUES

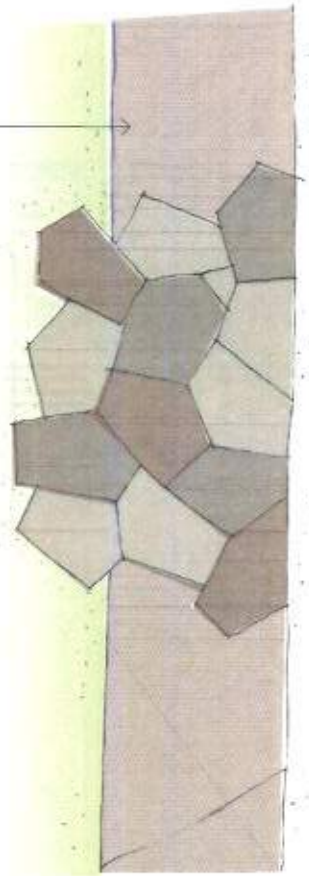
- Materials available locally
- Draws upon local themes
- Durable and low maintenance
- Suitable for vehicle loads
- Cost effective
- May be difficult to match pavement colour if part of it is required to be removed. It can be removed in panels between joints) to minimise colouration variances.

OPTION 2: COLOURED CONCRETE WITH APPLIED FINISH PATTERNS

Plain coloured concrete pathway 3m wide

Path "pop-out" at lake beach access point with applied finish in an irregular pattern. This pattern reflects the irregularity and eclectic forms in the landscape and as proposed around the future surf club.

Angled expansion joints



BENEFITS AND ISSUES

- Materials available locally
- Durable and low maintenance
- Suitable for vehicle loads
- Cost effective
- Irregular pavement arrangement is in keeping with the proposed theme for the new surf club precinct

Photographic example of a similar treatment (by others)

LAKE AINSWORTH
RECREATION PRECINCT: LENNOX HEAD
CONCEPT PLAN: PATHWAY OPTIONS

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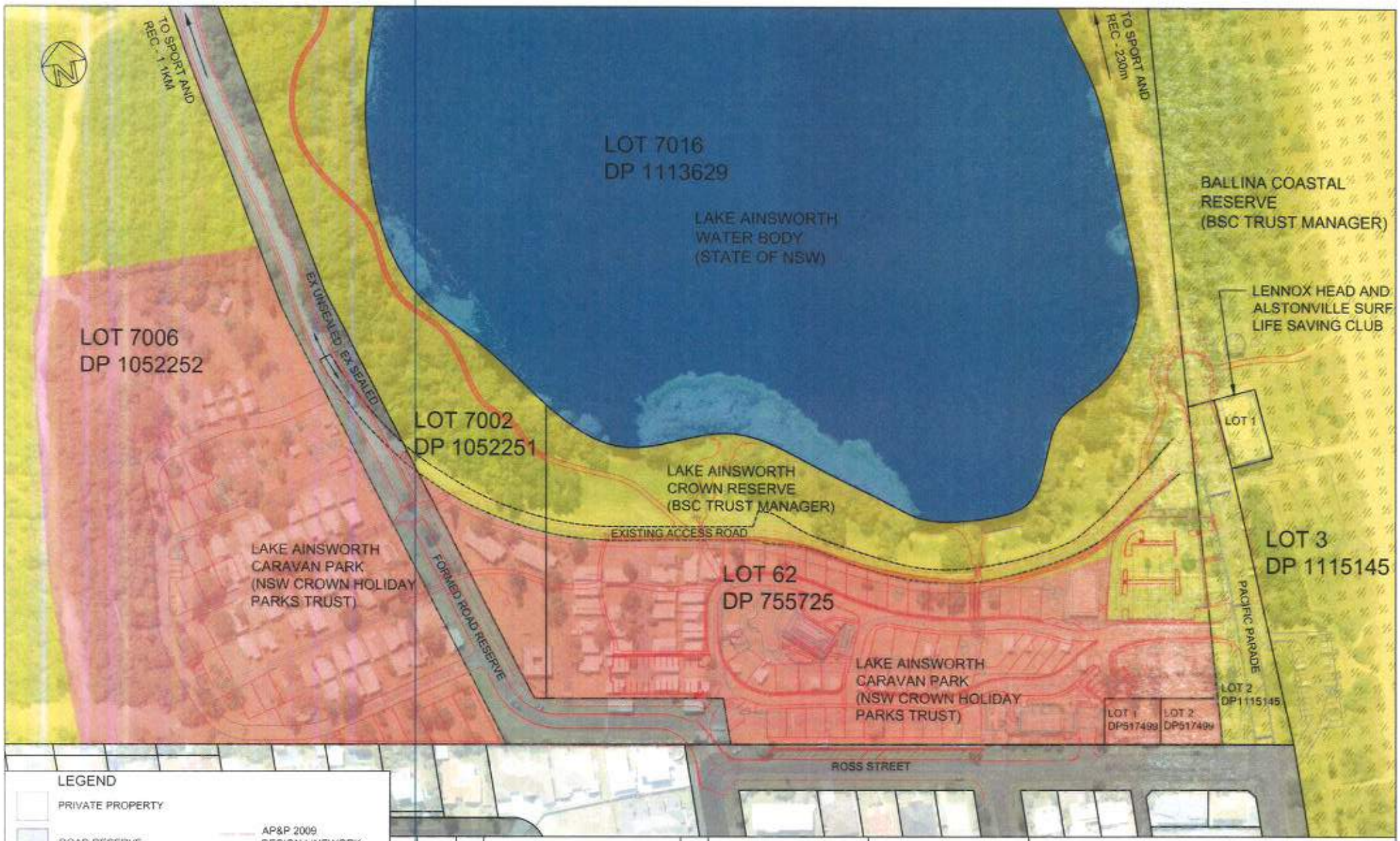


LEGEND

- PRIVATE PROPERTY
- ROAD RESERVE
- AP&P 2009 DESIGN LINEWORK
- CROWN RESERVE FOR PUBLIC RECREATION (BSC TRUST MANAGER)
- CROWN RESERVE (NSW CROWN HOLIDAY PARKS TRUST)
- CROWN RESERVE FOR PUBLIC RECREATION AND COASTAL ENV. PROTECTION (BSC TRUST MANAGER)
- CROWN RESERVE - LAKE AINSWORTH FOR ACCESS AND PUBLIC REQUIREMENTS AND OTHER (STATE OF NSW)

No.	Date	By	Change	X'd
A	28/1/15	PJB	ISSUED FOR DISCUSSION	

Amendments

SURVEY	APP	DESIGNED	
DATE	28/1/2015	DRAWN	PJB
F.B.	L.B.	CHECKED	MW/JF
DATUM	AHD	APPROVED	
DRAWING	LHR 30_056 LAKE AINS OVERVIEW.DWG		

Sheet 1 Of 1 Sheets

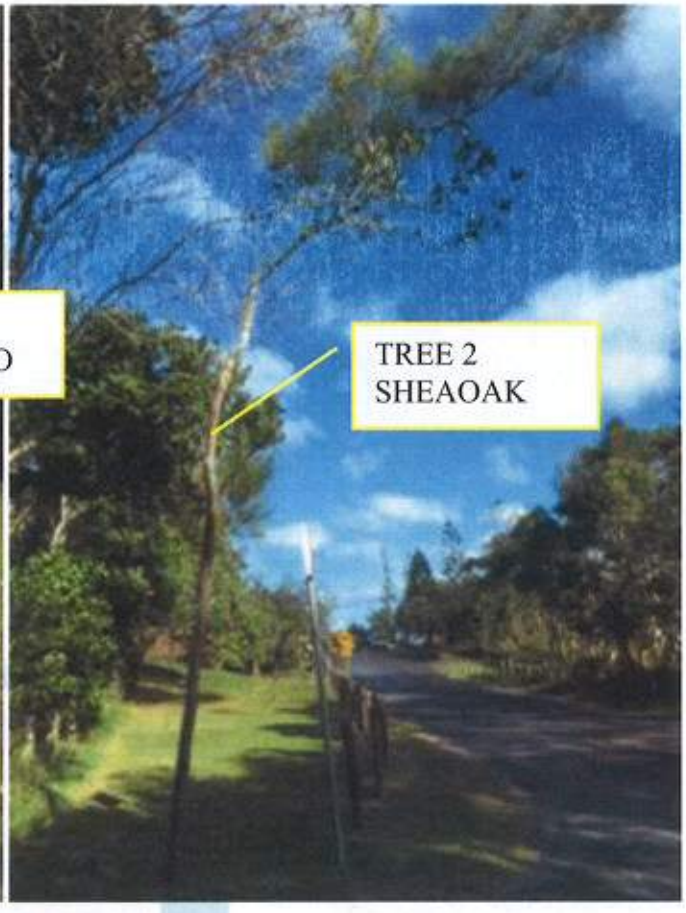
BALLINA SHIRE COUNCIL

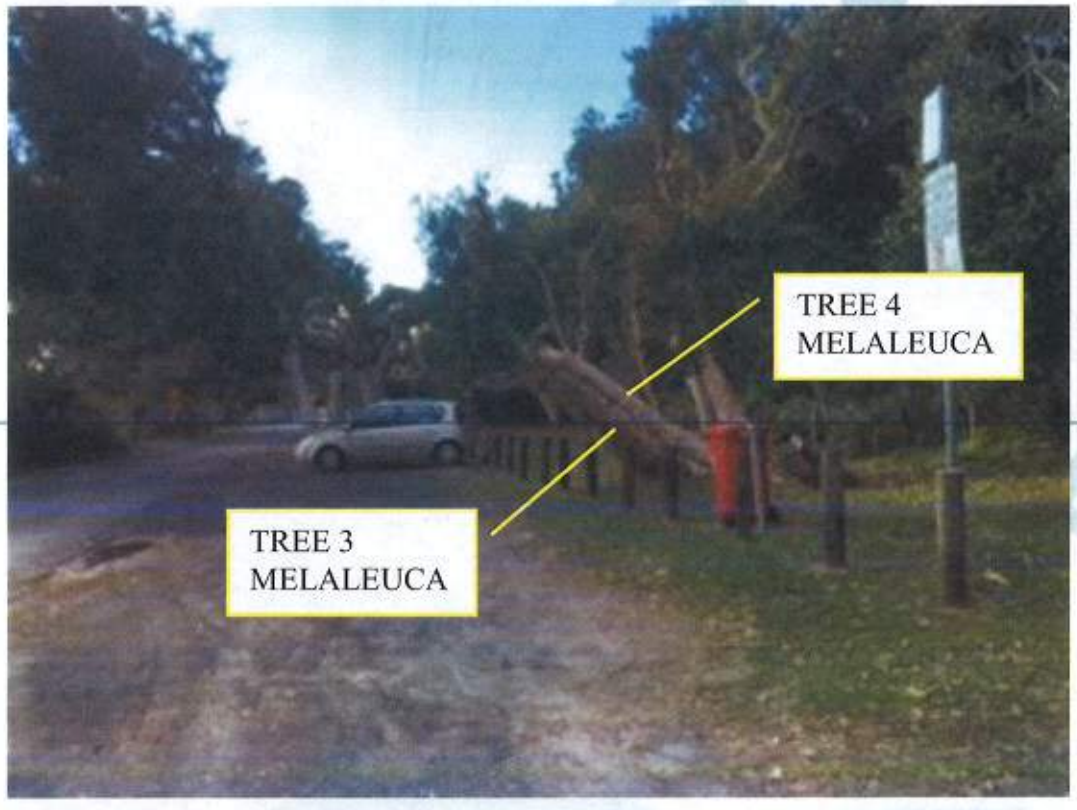
LAKE AINSWORTH REMEDIATION WORKS
OVERVIEW PLAN OF ROAD RESERVE
AND CROWN LANDS

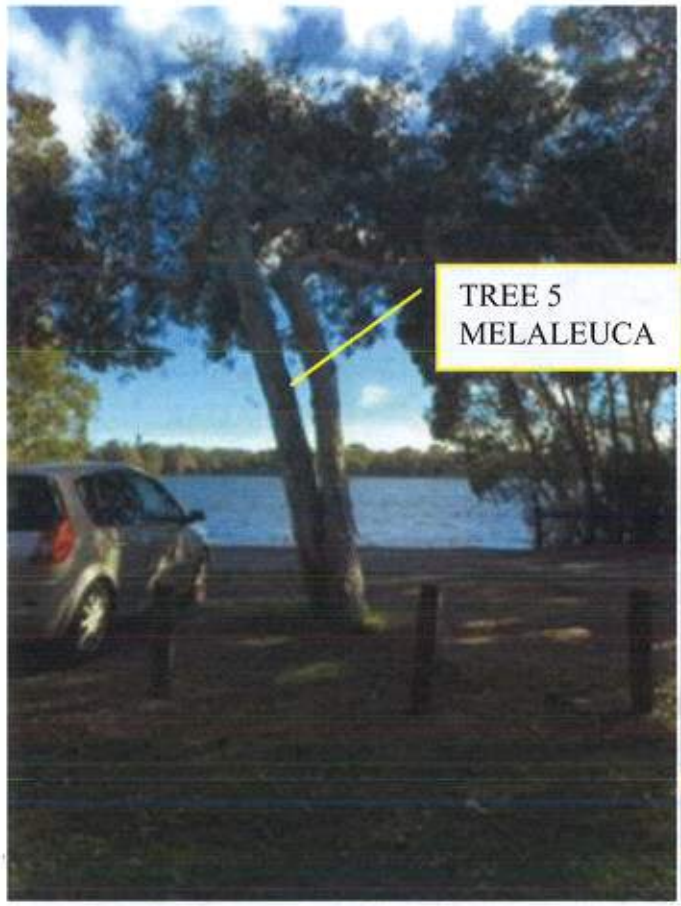
Scale 1:1,500

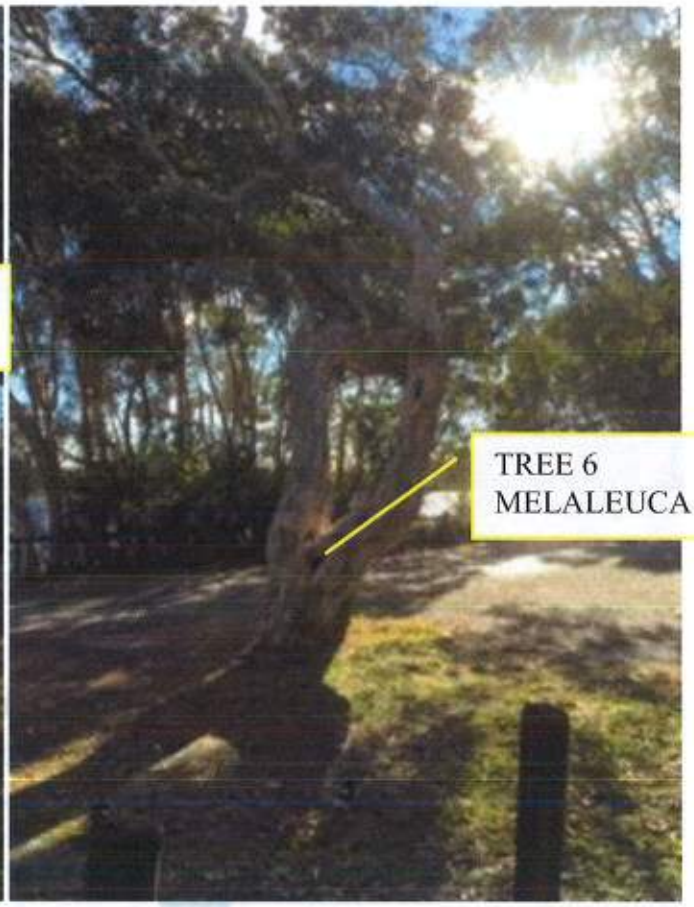
Plan No. LHR 30.056 A3

PHOTOS of TREE REMOVAL



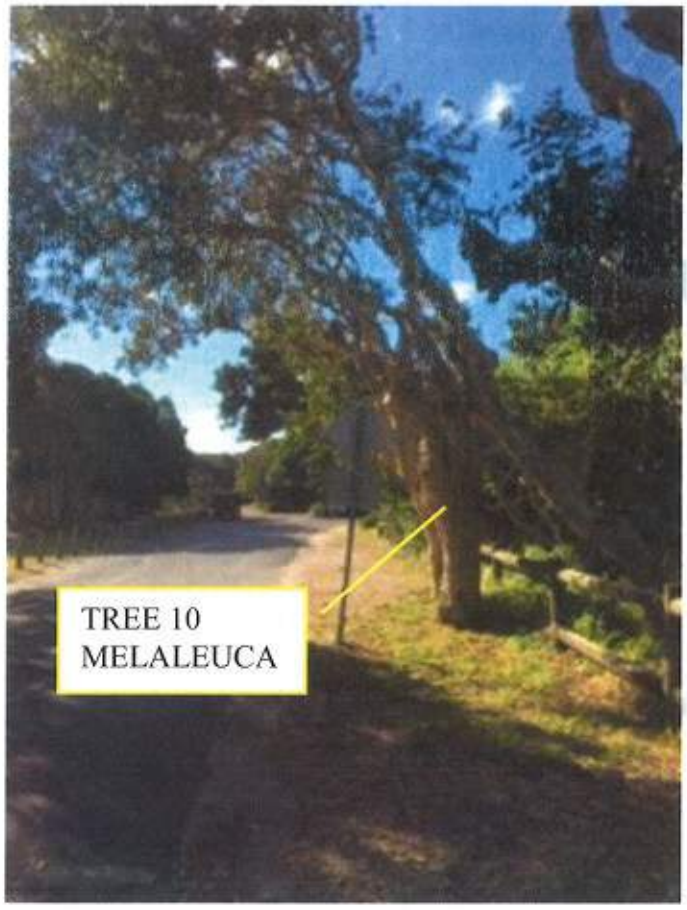



TREE 5
MELALEUCA


TREE 6
MELALEUCA

TREE 7
MELALEUCA

TREE 9
MELALEUCA
TREE 8
MELALEUCA


TREE 10
MELALEUCA

Appendix E

Environmental Management Plan Checklist

Job Location: _____

Environmental Plan _____ Compliance Checklist

Tick Box if applicable	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	All Items Clear	Checked by Initials	Time	Date	Comments
☐ Silt Fencing Item Location _____	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐				
	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐				
☐ Hay Bales Item Location _____	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐				
	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐				
☐ Floating Surface Boom Item Location _____	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐				
	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐				
☐ Sediment Ponds Item Location _____	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐				
	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐				
☐ Enviro-bags Item Location _____	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐				
	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐				
☐ Bunding Stock Item Location _____	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐				
	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐				
☐ Other Item Location _____	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐ am	☐				
	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐ pm	☐				

Legend: **P** - Pre construction, **C** - Construction, **A** - After construction,
BSC - Ballina Shire Council, **EWM** - Engineering Works Manager,
CE - Construction Engineer, **TL** - Team Leader, **F** - Foreman
REF – Review of Environmental Factors (GHD, Aug 2011)

Item	Action Strategy	Reference Document	Timing	Position Responsible	Verification (name, date & signature)
Aboriginal and Indigenous Heritage					
	Management of unknown cultural heritage finds (i.e. What to do when cultural material is uncovered): 1. Stop work immediately 2. Contact Jali Local Aboriginal Land Council & DECCW Office 3. In case of uncovering human remains contact Jali Local Aboriginal Land Council, DECCW & Police (Steps 2 & 3 can be done through Council's Cultural Development Officer Ms Kate Gahan, Ph 6686 1284)	DECCW due diligence guidelines	Immediately any cultural material is uncovered (C)	TL/F	
Flora and Fauna					
	No go zones are generally already delineated with timber fences, however site establishment is to identify and give due regard to vegetation to be retained along the lake foreshore and dunal system.	REF	P / C	CE / F	
Soils and Water					
	Installation of silt fencing and other erosion and sedimentation controls in accordance with the Blue Book (NSW Government), for sediment containment from excavation areas and soil stockpiles. Install floating boom when undertaking bank stabilisation works.	REF	C	F	
	Minimising vehicle movements over exposed or unconsolidated soils.	REF	C	F	
	Minimising the area of disturbance including delineation of access, construction and storage areas.	REF	C	F	
	Maintain silt filters until the proposed activity route has been revegetated, stabilised and is no longer prone to erosion.	REF	C / A	F	
	Avoid undertaking works during high lake levels	REF	C	F	

Item	Action Strategy	Reference Document	Timing	Position Responsible	Verification (name, date & signature)
Traffic					
	All traffic control during construction to be in accordance with the 'Traffic Control at Work Sites' manual by RTA/RMS	REF	P	CE/TL	
	Consult with Council's traffic engineers for any works in local road corridor.	REF	P	CE/TL	
	Use signage to explain the temporary disruption to normal traffic movements and car parking to inform the community of the project and seek their understanding of the temporary disruption.	REF	C	CE/TL	
	Ensure that safety fencing and signage used in the construction corridor to either prohibit pedestrian access to certain work areas and / or allow safe access around work areas. Maintain these safety measures over weekends and holiday periods.	REF	C	F	
	Monitor the performance of the local road network during construction and implement required actions in response to that performance	REF	C	CE / TL	
Noise					
	Work would be undertaken between 7.00 am and 6.00 pm Monday to Friday and 8.00 am to 1.00pm on Saturday unless varied by Council, in consultation with residences. No work would be undertaken on Sundays or public holidays.	REF	C	F	
	Construction equipment would be maintained to manufacturer's requirements to ensure efficient operation. When not in use, machinery would be turned off where possible.	REF	C	F	
	Noise muffling equipment would be used on noise generating equipment and machinery where practical.	REF	C	F	
	As part of jobs-site induction on-site, training in awareness of noise related issues at noise sensitive sties would be undertaken.	REF	C	F	
	All combustion engine plant, such as generators, compressors and welders should be checked to ensure they produce minimal noise with particular attention to residential grade exhaust silencers.	REF	C	F	
	Vehicles should be kept properly serviced and fitted with appropriate mufflers. The use of exhaust brakes should be eliminated, where practicable.	REF	C	F	
	Where practical, all vehicular movements to and from the construction site must be made only during normal working hours.	REF	C	F	
	Where practical, machines should be operated at low speed or power and should be switched off when not being used rather than left idling for prolonged periods.	REF	C	F	
	Machines found to produce excessive noise compared to industry best practice should be removed from the site or stood down until repairs or modifications can be made.	REF	C	F	
	Schedule the noisiest activities during least sensitive periods of the day where possible.	REF	C	F	
	Aim to minimise movements of equipment and mobile plant during noise sensitive periods such as early mornings.	REF	C	F	

Item	Action Strategy	Reference Document	Timing	Position Responsible	Verification (name, date & signature)
	Where possible, without interference to safe and efficient operation, engine exhaust and noise emitting components should be orientated away from the lake.	REF	C	F	
Air Quality					
	Machinery is to be maintained to manufacturers' requirements to minimise exhaust emissions.	REF	C	F	
	Turning vehicles and machinery off when not in use.	REF	C	F	
	Minimising the area of exposed soils where possible.	REF	C	F	
	Ceasing work or increase water spraying if considerable visible dust is generated and windblown in the direction of nearby sensitive receptors.	REF	C	F	
	Delineating area of disturbance to limit the potential for dust generation.	REF	C	F	
	Minimising vehicle movements over exposed areas or unsealed surfaces.	REF	C	F	
	Use water cart to suppress dust during dry periods	REF	C	F	
Waste					
	Undertaking a daily site clean-up and managing waste in accordance with the waste reduction hierarchy of avoidance, reduce, re-use and recycle.	REF	C	F	
	Any green waste would be mulched and removed from site or if appropriate stockpiled temporarily and then used in soil stabilisation and rehabilitation of disturbed areas.	REF	C	F	
	Any green waste containing weeds would be stockpiled separately and disposed of at a licensed waste management facility.	REF	C	F	
	A portable toilet would be provided on site and would be emptied as appropriate by a licensed contractor.	REF	C	F	
	Material will be disposed of at a licensed waste management facility.	REF	C	F	

Division 12 – Parks and other public reserves
64 Definition
In this Division:

"public reserve" has the same meaning as it has in the *Local Government Act 1993*, but does not include a Crown reserve that is dedicated or reserved for a public cemetery.

65 Development permitted without consent

(1) Development for any purpose may be carried out without consent:

(a) on land reserved under the *National Parks and Wildlife Act 1974*, if the development is for a use authorised under that Act, or

(b) on land declared under the *Marine Parks Act 1997* to be a marine park if the development is for a use authorised under that Act, or

(c) on land declared under the *Fisheries Management Act 1994* to be an aquatic reserve if the development is for a use authorised under that Act.

(2) Development for any purpose may be carried out without consent:

(a) on Trust lands within the meaning of the *Centennial Park and Moore Park Trust Act 1983*, by or on behalf of the Centennial Park and Moore Park Trust, or

(b) on trust lands within the meaning of the *Parramatta Park Trust Act 2001*, by or on behalf of the Parramatta Park Trust, or

(c) (Repealed)

(d) in the case of land that is a reserve within the meaning of Part 5 of the *Crown Lands Act 1989*, by or on behalf of the Director-General of the Department of Lands, a trustee of the reserve or (if appointed under that Act to manage the reserve) the Ministerial Corporation constituted under that Act or an administrator,

if the development is for the purposes of implementing a plan of management adopted for the land under the Act referred to above in relation to the land.

(3) Development for any of the following purposes may be carried out by or on behalf of a council without consent on a public reserve under the control of or vested in the council:

(a) roads, cycleways, single storey car parks, ticketing facilities and viewing platforms,

(b) outdoor recreational facilities, including playing fields, but not including grandstands,

(c) information facilities such as visitors' centres and information boards,

(d) lighting, if light spill and artificial sky glow is minimised in accordance with *AS/NZS 1158: 2007, Lighting for Roads and Public Spaces*,

(e) landscaping, including irrigation schemes (whether they use recycled or other water),

(f) amenity facilities,

(g) maintenance depots,

(h) environmental management works.

66 Exempt development

(1) Development for any of the following purposes is exempt development if it is carried out by or on behalf of a public authority in connection with a public reserve or on land referred to in clause 65 (1), and if it complies with clause 20:

(a) construction, maintenance and repair of:

(i) walking tracks, boardwalks and raised walking paths, ramps, minor pedestrian bridges, stairways, gates, seats, barbecues, shelters and shade structures,

(ii) viewing platforms with an area not exceeding 100m 2, or

(iii) sporting facilities, including goal posts, sight screens and fences, if the visual impact of the development on surrounding land uses is minimal, or

(iv) play equipment where adequate safety provisions (including soft landing surfaces) are provided, but only if any structure is at least 1.2m away from any

fence,

(b) routine maintenance (including earthworks associated with playing field regrading or landscaping and maintenance of existing access roads).

(2) Development of a kind referred to in subclause (1) is exempt development if it is carried out on land referred to in clause 65 (2) by or on behalf of the person specified in respect of that land in that subclause, if the development:

(a) complies with clause 20, and

(b) involves no greater disturbance of native vegetation than necessary, and

(c) does not result in an increase in stormwater run-off or erosion, and

(d) for the purposes of implementing a plan of management adopted for the land under the Act referred to in clause 65 (2) in relation to the land.

Subdivision 1 Road infrastructure facilities

93 Definitions

In this Division:

AS 1428.2 means AS:1428.2—1992, *Design for access and mobility—Enhanced and additional requirements—Buildings and facilities*.

classified road has the same meaning as it has in the Standard Instrument.

Note.

The Standard Instrument defines ***classified road*** (by reference to the *Roads Act 1993*) to mean any of the following:

(a) a main road,
(b) a highway,
(c) a freeway,
(d) a controlled access road,
(e) a secondary road,
(f) a tourist road,
(g) a tollway,
(h) a transitway,
(i) a State work.

See the *Roads Act 1993* for the meanings of the terms listed above.

Disability Standards means *Disability Standards for Accessible Public Transport 2002* made under the *Disability Discrimination Act 1992* of the Commonwealth.

prescribed zone means any of the following land use zones or a land use zone that is equivalent to any of those zones:

(a) B4 Mixed Use,
(b) B6 Enterprise Corridor,
(b1) B8 Metropolitan Centre,
(c) IN1 General Industrial,
(d) IN2 Light Industrial,
(e) IN3 Heavy Industrial,
(f) SP1 Special Activities,
(g) SP2 Infrastructure.

public road means:

(a) any road that is opened or dedicated as a public road, whether under the *Roads Act 1993* or any other Act or law, and
(b) any road that is declared to be a public road for the purposes of the *Roads Act 1993*.

road corridor means:

(a) land that is used for the purposes of a road or road infrastructure facilities and owned or managed by a public authority, or
(b) any land in respect of which the Minister has granted approval under Part 3A or Part 5.1 or (before its repeal) Division 4 of Part 5 of the Act, or consent under Part 4 of the Act, for the carrying out of development for the purpose of a road or road infrastructure facilities.

road infrastructure facilities includes:

(a) tunnels, ventilation shafts, emergency accessways, vehicle or pedestrian bridges, causeways, road-ferries, retaining walls, toll plazas, toll booths, security systems, bus lanes, transit lanes, transitways, transitway stations, rest areas and road related areas (within the meaning of the *Road Transport (General) Act 2005*), and
(a1) associated public transport facilities for roads used to convey passengers by means of regular bus services within the meaning of the *Passenger Transport Act 1990*, and
(a2) bus layovers that are integrated or associated with roads (whether or not the roads are used to convey passengers by means of regular bus services within the meaning of the *Passenger Transport Act 1990*), and
(b) traffic control facilities (as defined by the *Transport Administration Act 1988*), RTA road safety training facilities and safety works.

RTA means the Roads and Traffic Authority constituted under the *Transport Administration Act 1988*.

STA means the State Transit Authority of New South Wales constituted under the *Transport Administration Act 1988*.

94 Development permitted without consent—general

(1) Development for the purpose of a road or road infrastructure facilities may be carried out by or on behalf of a public authority without consent on any land. However, such development may be carried out without consent on land reserved under the *National Parks and Wildlife Act 1974* only if the development:
(a) is authorised by or under the *National Parks and Wildlife Act 1974*, or
(b) is, or is the subject of, an existing interest within the meaning of section 39 of that Act, or
(c) is on land to which that Act applies over which an easement has been granted and is not contrary to the terms or nature of the easement.
(2) In this clause and clause 96, a reference to development for the purpose of ***road infrastructure facilities*** includes a reference to development for any of the following purposes if the development is in connection with a road or road infrastructure facilities:
(a) construction works (whether or not in a heritage conservation area), including:
(i) temporary buildings or facilities for the management of construction, if they are in or adjacent to a road corridor, and
(ii) creation of embankments, and
(iii) extraction of extractive materials and stockpiling of those materials, if:
(A) the extraction and stockpiling are ancillary to road construction, or
(B) the materials are used solely for road construction and the extraction and stockpiling take place in or adjacent to a road corridor, and
(iv) temporary crushing or concrete batching plants, if they are used solely for road construction and are on or adjacent to a road corridor, and
(v) temporary roads that are used solely during road construction,
(b) emergency works, or routine maintenance works, carried out on an existing public road or on land that is adjacent to such a road (including on land to which *State Environmental Planning Policy No 14—Coastal Wetlands* or *State Environmental Planning Policy No 26—Littoral Rainforests* applies but, if they are on such land, only if any adverse effect on the land is restricted to the minimum possible to allow the works to be carried out),

(c) alterations or additions to an existing road (such as widening, duplication or reconstruction of lanes, changing the alignment or strengthening of the road),
(d) environmental management works, if the works are in or adjacent to a road corridor.

95 Development permitted without consent—particular roads or road projects

Development for the purpose of any of the following roads or road projects (as described in Schedule 2) may be carried out by or on behalf of a public authority without consent:
(a) the Eastern Distributor,
(b) the Cross City Tunnel,
(c) the Lane Cove Tunnel,
(d) the Tugun Bypass,
(e) the Liverpool—Parramatta Transitway,
(f) the North-West Sydney Transitway Network.

96 Development permitted with consent

(1) Development for the purpose of a road or road infrastructure facilities (other than development referred to in clause 94 (1) or 95) may be carried out by any person with consent on land within a special area within the meaning of the *Water NSW Act 2014*.
(2) Development for any of the following purposes may be carried out by any person with consent on land in a prescribed zone:
(a) transitway parking stations,
(b) bus depots,
(c) permanent road maintenance depots and associated infrastructure (such as garages, fuel sheds, tool houses, storage yards and workers' amenities).

97 Exempt development

(1) Development for any of the following purposes is exempt development if it is carried out by or on behalf of a public authority in connection with a road or road infrastructure facilities and complies with clause 20:
(a) construction, maintenance or repair of bus stops or bus shelters (but not including any commercial advertising on them) in an area serviced by STA buses, if the stops or shelters:
(i) are consistent with the *Bus Stop Style Guide* (State Transit Authority, 1999), and
(ii) comply with the development standards, and other requirements, relating to bus stops and shelters in a relevant development control plan, and
(iii) any associated kerb construction, access paths and ramps, lighting and signage complies with AS:1428.2 and the Disability Standards,
(b) construction, maintenance or repair of bus stops or shelters (but not including any commercial advertising on them) outside an area serviced by STA buses, if:
(i) they have a height above the footpath of not more than 3.2m, and
(ii) they have only non-reflective finishes, and
(iii) they do not obstruct the line of sight of vehicular traffic or pedestrian traffic, and
(iv) they comply with the development standards, and other requirements, relating to bus stops and shelters in a relevant development control plan, and
(v) any associated kerb construction, access paths and ramps, lighting and signage complies with AS:1428.2 and the Disability Standards,
(c) erection, installation, maintenance, reconstruction, repair or replacement of any of the following, and any associated landscaping works:
(i) security fencing with a height above ground level (existing) of not more than 3.2m,
(ii) safety barriers or systems, including Jersey barriers,
(iii) directional, safety or other advisory signs relating to road works or the use of existing road infrastructure facilities,

(iv) pedestrian and cyclist facilities (such as footpaths, street lighting, kerb adjustments and ramps, pedestrian fences, refuges, holding rails, and bollards),
(v) slope stability works that are required for safety reasons and minor road safety improvements,
(vi) minor road pavement or shoulder work (such as patching, grading, re-sheeting, sealing and re-sealing),
(vii) street furniture (such as seats, bins and directional signs) and any associated kerb construction, access paths and ramps, lighting and signage that complies with AS:1428.2 and the Disability Standards,
(viii) removal from or addition to existing traffic lights of items such as signal displays, loops or buttons,
(ix) roadside facilities and rest areas, if the development does not involve the installation of toilets and involves no greater disturbance to the ground or vegetation than necessary,
(x) street lighting, if any replacement involves the replacement of existing materials with similar materials only and if the lighting minimises light spill and artificial sky glow in accordance with AS/NZS 1158:2007, *Lighting for Roads and Public Spaces*,
(xi) pavement and road surface markings (such as bus lane markings), lane delineators, electric pavement lights, detection loops and traffic counters,
(xii) kerb and guttering,
(xiii) culverts, drains and other works to improve the quality or control of stormwater runoff,
(d) repair or replacement of lighting, mechanical systems, electrical equipment or air monitoring equipment, replacement of screening of overhead bridges and removal of graffiti or debris,
(e) emergency works to protect a road or road infrastructure facilities, the environment or the public, but only if they involve no greater disturbance to soil or vegetation than necessary,
(f) upgrading or maintenance of landscaping, or vegetation management (such as weed spraying, slashing and pruning), that:
(i) does not involve construction works, and
(ii) involves the replacement (if any) of existing materials with similar materials only,
(g) installation, replacement or maintenance of temporary structures (such as temporary bus stops, bus shelters or signs) that are associated with alternative transport arrangements necessit

Division 25 – Waterway or foreshore management activities
128 Definitions
In this Division:

"coastal lake" has the same meaning as in *State Environmental Planning Policy No 71--Coastal Protection*.

"Coastal Panel" means the NSW Coastal Panel established under Part 2A of the *Coastal Protection Act 1979*.

"coastal protection works" has the same meaning as in the *Coastal Protection Act 1979*.

"coastal zone management plan" has the same meaning as in the *Coastal Protection Act 1979*.

"waterway or foreshore management activities" means:

(a) riparian corridor and bank management, including erosion control, bank stabilisation, resnagging, weed management, revegetation and the creation of foreshore access ways, and
(b) instream management or dredging to rehabilitate aquatic habitat or to maintain or restore environmental flows or tidal flows for ecological purposes, and
(c) coastal management and beach nourishment, including erosion control, dune or foreshore stabilisation works, headland management, weed management, revegetation activities and foreshore access ways, and
(d) coastal protection works, and

(e) salt interception schemes to improve water quality in surface freshwater systems, and
(f) installation or upgrade of waterway gauging stations for water accounting purposes.

129 Development permitted without consent

(1) Despite clause 129A, development for the purpose of waterway or foreshore management activities may be carried out by or on behalf of a public authority without consent on any land.

(1A) To avoid doubt, subclause (1) does not permit the subdivision of any land.

(2) In this clause, a reference to development for the purpose of waterway or foreshore management activities includes a reference to development for any of the following purposes if the development is in connection with waterway or foreshore management activities:

(a) construction works,

(b) routine maintenance works,

(c) emergency works, including works required as a result of flooding, storms or coastal erosion, Temporary coastal protection works within the meaning of the *Coastal Protection Act 1979* are excluded from the operation of the EP&A; Act and therefore are not development to which this clause applies.

(d) environmental management works.

(2A) The following provisions apply in relation to the carrying out of new coastal protection works by or on behalf of a public authority on the open coast or entrance to a coastal lake:

(a) if a coastal zone management plan is in force in relation to the land on which the development is to be carried out--the public authority (or person carrying out the works on behalf of the public authority) must consider the provisions of that plan before carrying out the development,

(b) if a coastal zone management plan is not in force in relation to the land on which the development is to be carried out--the public authority (or person carrying out the works on behalf of the public authority) must:

(i) notify the Coastal Panel before carrying out the development, and

(ii) take into consideration any response received from the Coastal Panel within 21 days of the notification.

(2B) For the purposes of subclause (2A):**"new coastal protection works"** means coastal protection works other than:

(a) the placement of sand (including for beach nourishment) or sandbags, or

(b) the replacement, repair or maintenance of any such works.

(3) Development for the purpose of temporary works for or associated with drought relief may be carried out by or on behalf of a public authority without consent, but only if the development is:

(a) carried out on land publicly identified by the Minister for Primary Industries as being in drought, and

(b) removed, and the area rehabilitated, within 4 months after the date on which the area is no longer so identified.

Areas of NSW that are in drought are identified on the website of the Department of Primary Industries.

129A Development with consent

(1) Development for the purposes of a sea wall or beach nourishment may be carried out by any person with consent on the open coast or entrance to a coastal lake.

(2) If a coastal zone management plan does not apply to the land on which any such development is to be carried out, the Coastal Panel has the function of determining a development application for development to which this clause applies.

(3) Before determining a development application for development to which this clause applies, the consent authority must take the following matters into consideration:

(a) the provisions of any coastal zone management plan applying to the land,

(b) the matters set out in clause 8 of *State Environmental Planning Policy No 71--Coastal Protection*,

(c) any guidelines for assessing and managing the impacts of coastal protection works that are issued by the Director-General for the purposes of this clause and published in the Gazette.