Ardill Payne & PARTNERS

ENGINEERS PLANNERS SURVEYORS ENVIRONMENTAL PROJECT MANAGEMENT

TRAFFIC IMPACT ASSESSMENT

Ballina Ocean Pool

for:

Ballina Ocean Pool Committee

March 2018

Revision 1

BALLINA
45 River Street
PO Box 20
BALLINA NSW 2478
02 6686 3280

GUNNEDAH
Germane House
285 Conadilly Street
GUNNEDAH NSW 2380
02 6742 9955

Document Control Sheet

Filename:	8596 Ballina Ocean Pool TIA				
Job No.:	8596				
Job Captain:	Tony Cromack				
Author:	Daniel Wagner				
Client:	Ballina Ocean Pool Committee				
File/Pathname	\\fp01\DATA\01 Jobs\8500-8599\8596 Traffic Study - Ballina Ocean Pool\01 Administration\02 Reports\8596-Ballina-Ocean-Pool-TIA.docx				
Revision No:	Date:	Checked By		Issued By	
		Name	Signed	Name	Signed
0 (DRAFT)	11.05.18	T. Cromack		T. Cromack	
1	16.05.18	T. Cromack		T. Cromack	
2					

Revision No:	Description
0	Original Issue
1	Issue for Approval
2	

Table of Contents

List of Tables

1. Introduction

Ardill Payne & Partners (APP) has been commissioned by Ballina Ocean Pool Committee, to carry out a Traffic Impact Assessment for the proposed Ballina Ocean Pool.

The proposal involves the construction of a new 50m x 25m ocean pool on the rock shelf between Shelly Beach and Lighthouse Beach.

A Locality Plan and Site Plan is provided in **Attachment 1**.

This report provides details regarding the current traffic volumes along the surrounding road network, the level of service provided by these roads, and the impact the proposed ocean pool will have on these surrounding roads.

1.1 Consultation

Ballina Shire Council (for traffic volume data) and Ballina Ocean Pool Committee have been consulted during the preparation of this Traffic Impact Assessment.

2. Existing Conditions

The roads that will be affected by the proposed ocean pool are primarily Shelly Beach Road, Suvla Street and Compton Drive.

The existing carparks that will be utilised are primarily the carparks to the north and south of the Shelly Beach Surf Club, the Lighthouse Lookout carpark. To a lesser extent, the small carpark approx. 150m north of the Shelly Beach Surf Club and on-street parking in Shelly Beach Road will also be used.

2.1 The Site

The proposed ocean pool is to be located on the rock shelf between the Shelly Beach and Lighthouse Beach. North of the proposed location is a small (roughly 13m x 5m) existing ocean pool.

Access to the ocean pool would be from the shared path linking Lighthouse Beach to Shelly Beach, or directly from nearby Shelly Beach.

2.2 Adjoining and Surrounding Land Uses

The adjacent and adjoining land uses compromise of:

- Carparks to the north (Shelly Beach Surf Club) and south (Ballina Lighthouse Lookout)
- Public reserve, shared path and Suvla Street to the west
- Pacific Ocean to the east

2.3 Compton Drive

Compton Drive, between its intersections with Cedar Crescent and Beach Road, is a two lane two-way road with a 6-7m wide bitumen seal, kerb and gutter both sides, and central barrier lines. Roadside parking is not permitted.

The road has a 50 km/h speed limit and is in good condition. The section past the Surf Club building is steep and narrow.

2.4 Intersection Compton Drive / Suvla Street / Beach Road

The intersection of Beach Road with Compton Drive (south)/Suvla Street (north) is a T-intersection. Access to and egress from the Lighthouse Lookout carpark comes off the intersection. The intersection has regulatory signs, pavement markings and concrete traffic islands to control traffic at the intersection. Priority is given to Compton Drive/Suvla Street, with Give Way signs regulating the flow in Beach Road.

The intersection is situated on the crest of a hill and the road is poorly aligned. Sight distances, particularly to and from the south, are inadequate. The traffic at the intersection can be busy during peak times with vehicles turning into and out of the lookout carpark.

2.5 Suvla Street

Suvla Street, between its intersections with Beach Road and Shelly Beach Road, is a two lane two-way road with a 6-7m wide bitumen seal, grassed verges both sides, and central barrier lines. Generally, roadside parking is not permitted.

The road has a 50 km/h speed limit and is in good condition. The road feels narrow in places due to the steep bank on the western side and the guardrail on the ocean side.

2.6 Intersection Suvla Street / Shelly Beach Road

The intersection of Shelly Beach Road with Suvla Street is a T-intersection. Priority is given to the movement between Suvla Street (south) and Shelly Beach Road. Stop signs regulate the flow from Suvla Street (west). The intersection has regulatory signs and pavement markings to control traffic at the intersection.

Sight distances, particularly to and from the south, are poor. Vegetation at the intersection obscures sight distances. The road camber and grade in Shelly Beach Road obscures some pavement markings.

2.7 Shelly Beach Road

Shelly Beach Road is a two lane two-way road with a 7-12m wide bitumen seal and mostly with kerb and gutter both sides. At its northern end, the road makes a sharp 90° turn to the west and continues until it intersects at a T-intersection with The Coast Road.

Kerbside parking is permitted for almost the full length of the kerbed section. The Shelly Beach Surf Club and carparks are located at the southern end. Two other small carparks are located off the eastern side. Residential properties front the western side of the road for all but the last 300m (south).

The road has a 50 km/h speed limit, is generally straight and in good condition, and mostly has center and edge line marking.

2.8 Public Transport

Ballina Bus Lines operates Route 669 along Suvla Street and Shelly Beach Road. School bus services also use the road network.

2.9 Pedestrians

Pedestrian volumes along some parts of the route are particularly high, especially during peak periods. Noted areas are in the vicinity of the two Surf Clubs, along Shelly Beach (particularly near the Belle General Café), and on the shared path.

2.10 Crash History

Based on data obtained from the Transport for NSW Centre for Road Safety website, crash rates along the roads in question for the period 2012 to 2016 are relatively low.

Only three crashes were recorded in the vicinity of the site:

- one at the 90^0 bend in Shelly Beach Road north of the site (vehicle ran off road at bend – non casualty)
- one on Lighthouse Road near the Lighthouse Beach Surf Club (vehicle off road – non casualty), and
- one on Grandview Street (serious injury to pedestrian).

The Grandview Street accident is sufficiently removed from the site for it not to be associated with beach activities.

3. Traffic Assessment

Traffic generation is usually determined in accordance with the RMS *"Guide to Traffic Generating Developments"*, 2002. In this instance, the RMS guide does not have specific traffic generation data relating to beach use or ocean pools. Therefore, we have reviewed various other data sources from other respected authorities and undertaken a traffic assessment for the site.

3.1 Existing Traffic Counts

Traffic counts have been obtained from Ballina Shire Council in a period from February to March 2018. Some older data has also been collected.

Table 1: Existing Traffic Volume Data

Station	Road	Location	Date	AADT	Weekday Peak Hour (AM or PM)
15015	Shelly Beach Road	100m N of Shelly Beach Surf Club	Feb 2018 – Mar 2018	1471	187 (AM)
13815	Lighthouse Parade	At Surf Club entrance	Dec 2007 – Jan 2008*	4318	545 (AM)*
14376	Compton Drive	50m E of Fenwick Drive	Mar 2012	2797	308 (PM)
14067	Shelly Beach Road	Just N of road to Black Head	Sept – Oct 2009	1377	149 (AM)

** school or public holidays*

3.2 Existing Traffic Generation

Existing traffic generation for the site of the pool is considered to be negligible. Current users of this area are generally spill over from the beach, recreational walkers passing through, or fishermen.

3.3 Traffic Generation

The proposed development involves the construction of a new 50m x 25m ocean pool. The additional shoreline being utilised is in the order of 50m, and the approx. pool area is 1250m^2.

City of Gold Coast *'Planning Scheme Policy No. 19 – Policy for Infrastructure (Transport Network Developer Contributions)'*, provides the following related traffic generation rate:

Table 2: Traffic Generation Rates – Gold Coast Planning Scheme Policy 19

Land Use	Vehicle Trips per Day	Assessment Unit
Swimming Pool	0.1	per m^2 Total Use Area

From Table 2, for a total use area of 1250m^2, the additional traffic generated is 125 vpd.

Further, we have assumed that the ocean pool will generate traffic similarly to the way in which a beach or park generates traffic. The following traffic generation rates have been taken from the Institute of Transportation Engineers (ITE) "*Trip Generation Manual*" from the USA:

Table 3: Traffic Generation Rates – ITE

Land Use	Vehicle Trip Rate	Peak Hour and in/out Ratio	
		AM (in/out)	PM (in/out)
Park: Beach, Ocean or Bay	600 trips/1000 ft (305m) shoreline; 60 trips/acre (4047m^2)	-	11% (4:6)

Values taken from ITE Table 1 Trip Generation Rate Summary (Weekday)

From Table 3, for an additional shoreline length of 50m, the additional traffic generated is 98 vpd. For a total use area of 1250m^2, the additional traffic generated is 19 vpd

It is anticipated that a high percentage of pool users will be people already using nearby Shelly Beach, or locals within walking distance. Other users will be passing foot or cycle traffic. Therefore, for the purposes of this assessment we will assume approx. 50% of users will be additional vehicular traffic, and adopt an increase in traffic of 60 vpd.

Note that the RMS defines a trip as a one-way vehicular movement from one point to another excluding the return journey. Therefore, a return trip to/from a land use is counted as two trips.

3.4 Trip Distribution & Modal Split

Data is not available to determine the distribution of trips to and from the site. It is estimated that 50% will come from the north and 50% from the south.

Most vehicle trips would be by private car. A high percentage of users would walk or cycle to the site.

4. Impacts of Proposed Development

The impact of the additional traffic generated by the proposed ocean pool on the surrounding streets and intersections has generally been assessed in accordance with the RMS' *'Guide to Traffic Generating Developments'*, 2002 (RMS Guide).

4.1 Impact on Traffic Efficiency

To aid interpretation of the impacts on traffic flows, the RMS Guide provides acceptable ranges of peak vehicle flows for various levels of service (LOS) experienced on the road. The intention is to at least maintain the existing LOS for the streets adjacent to the site.

Mid-block road capacity LOS are defined by the RMS for urban areas and are shown in **Table 4**, with the highest LOS being Level A and service deteriorating to Level E.

Table 4: RMS Traffic Levels of Service

Level of Service	One Lane (vph)
A	200
B	380
C	600
D	900
E	1400

The following performance standards are recommended:

Weekday Peak Hour Flows

Major Roads: Level of service C

Minor Roads: Level of service C (desirable)

Recreational Peak Hours (weekends)

Major Roads: Level of service D

Minor Roads: Level of service D (desirable).

From **Table 1**, approx. existing peak traffic movements (one way) are:

- Compton Drive 154 vph
- Shelly Beach Road (2018) 94 vph

Therefore, the current level of service on Compton Drive and Shelly Beach Road is LOS A. Additional traffic movements of up to 3 vph (one way) will not alter the LOS on any of these streets.

4.2 Impact on Intersections

The additional flows generated by the proposal increase the traffic flows by approx. 6 vph. Therefore, the additional flows do not warrant detailed analysis of any intersections.

4.3 Impacts on Amenity

The slight increase in traffic during peak periods will have a negligible effect on the amenity of nearby residents.

4.4 Impact on Traffic Safety

Additional peak hour traffic movements of 6 vph are unlikely to raise any adverse safety issues for local transport and users of the local and regional road network.

From the data obtained from the Transport for NSW Centre for Road Safety website, accident rates in the area are extremely low.

The ocean pool will have very little impact on traffic safety as the type of vehicles accessing this facility will not differ from vehicles already passing the site. During construction, an appropriate Traffic Management Plan shall be implemented.

See also Section 4.6 below for potential safety impact on pedestrians and cyclists.

4.5 Impact on Public Transport

The proposed new ocean pool will place little demand for additional public transport.

4.6 Impact on Pedestrians and Cyclists

The proposed new ocean pool will have some impact on the users of the adjacent shared path.

There will be additional pedestrian and cycle traffic accessing the pool, along with people stopping on the path to observe the pool. There will also be additional pedestrian traffic crossing the path to access the pool from nearby car parks. A high percentage of these will be small children. Through traffic on the path, in particular cyclists, may be inconvenienced.

Consideration should be given to providing off-path areas for access, bike parking and viewing.

5. Parking Assessment

The assessment of parking requirements is in accordance with:

AS/NZS2890.1-2004 *'Parking Facilities – Part 1: Off-street Car Parking'*

RMS *'Guide to Traffic Generating Developments'*, 2002.

5.1 Parking Rates

The RMS guide and the Ballina DCP do not have any data for parking requirements for beaches or ocean pools.

The City of Gold Coast '*Planning Scheme 2003, Part 7: Codes, Division 3: Constraint Codes, Chapter 4: Car Parking, Access and Transport Integration'*, specifies in 'Table to AS16.1' the following parking rate for swimming pools (classified as outdoor sport and recreation):

- 15 spaces, plus one (1) space per 100m^2 of total use area.

The Tweed Shire Council '*Development Control Plan, Section A2 – Site Access and Parking Code'* specifies the following rate for water recreation structures:

- 1 space / 60m^2 of water surface.

The North Sydney '*Development Control Plan 2013, Section 10: Car Parking and Transport'* specifies the following rate for recreation facilities:

- 1 space / 100m^2.

5.2 Existing Parking

There are approx. 106 spaces in existing sealed carparks in the vicinity of the proposed ocean pool:

- the carpark to the north of the Shelly Beach Surf Club (27 spaces)
- the carpark to the south of the Shelly Beach Surf Club (45 spaces)
- the Lighthouse Lookout carpark (22 spaces), and
- to a lesser extent, the small carpark approx. 150m north of the Shelly Beach Surf Club (12 spaces).

On-street parking in Shelly Beach Road will also be used.

These carparks will be shared with other users, notably beach users and members of the Shelly Beach Surf Club. South of the Shelly Beach Surf Club, and adjoining the carpark, is an existing (closed) commercial building that has previously been used as a café/restaurant. It is possible that this building could be reopened as a café/restaurant in the future.

There is also some bicycle parking available at both the Shelly Beach and Lighthouse Beach Surf Clubs (source: *'Ballina Shire Council Cycleways and Shared Paths'* information brochure, Dec. 2014).

A parking survey was carried out during 3 March to 18 March 2018. The survey included the four carparks listed above, plus the Lighthouse Beach Surf Club carpark, and on-street parking in Shelly Beach Road. The survey involved recording hourly, between 7:00am and 5:00pm, the number of parked cars at each location.

Table 5: Existing Parking Occupancy

Occupancy	Lighthouse Lookout Carpark	Shelly Beach Café Carpark	Shelly Beach Surf Club Carpark	Shelly Beach Mid Carpark
Capacity	22	45	27	12
Peak	22	33	25	6
Average	12	10	13	2
Median	12	5	8	0
Average (%)	54.5%	22.2%	48.1%	16.7%

Based on the data collected we make the following comments and observations:

- the Shelly Beach Surf Club is the Branch Office which takes in Surf Clubs from the border to Yamba. It is purely an administrative centre at this time. There is no café facility at this club
- the Shelly Beach café is currently closed
- no events were being held at Shelly Beach during the parking survey
- Nippers were in progress on Sunday 4 March at the Lighthouse Beach Surf Club. This appeared to have little to no impact on parking demand at the Shelly Beach car parks
- parking demand is greater on weekends and on fine days
- parking demand is low when the beach is closed
- peak period varies, but generally falls between 11:00am and 2:00pm
- parking demand along Shelly Beach Road is high (probably mainly due to the popular Belle General Café).

5.3 Parking Demand

The proposed development involves the construction of a new 50m x 25m ocean pool. The additional shoreline being utilised is in the order of 50m, and the approx. pool area is 1250m^2.

Based on the parking rates in Section 5.1, the calculated demand is approx. 20 spaces. With the Shelly Beach Café currently closed, this demand can be easily accommodated in the existing

available parking areas. It is however considered that the bulk of the pool users will also be beach users, so the demand would be less than that calculated above.

If the café were to be reopened, then parking demand will increase. Based on an estimated floor area of the café of 150m^2, and a parking rate of 15 spaces per 100m^2 GFA (*Ballina DCP 2012, Chapter 2: General and Environmental Considerations, Part 3.19: Car Parking and Access)* the parking demand of the café would be in the order of 23 spaces.

It is considered that available parking is still adequate to cater for both the proposed ocean pool and the possible reopening of the café. Overflow parking is available in Shelly Beach Road. A proper assessment of the parking demand of the café should be undertaken with any new development application.

Sufficient suitable bicycle parking should be available in the area to cater for the Shelly Beach Surf Club, the Lighthouse Lookout, the beach, and the ocean pool. The proponent should provide a small number of formal bicycle racks near the access point to the ocean pool.

5.4 Access and Circulation

The existing carparks are considered adequate for access and circulation. No change to the existing arrangements is proposed.

5.5 Service and Emergency Vehicles

There is adequate space for service or emergency vehicles to access the existing carparks.

6. Conclusions and Recommendations

An assessment of a variety of traffic issues associated with the development has been undertaken by Ardill Payne & Partners. This assessment examines what impact the increased traffic movements associated with the proposed Ballina Ocean Pool will have on the local traffic flows and road network.

6.1 Conclusions

The issues addressed in this report and the associated conclusions are summarised below:

- **Traffic Efficiency** – traffic movements will not alter the 'level of service' currently experienced on local roads, nor impose any major social or physical detriment upon the local residents and road users.
- **Intersections** – the additional flows generated by the proposal do not exceed the capacity of existing intersections.
- **Traffic Amenity** – the slight increase in traffic during peak periods will have a negligible effect on the amenity of nearby residents.
- **Traffic Safety** – traffic movements generated by the development are unlikely to raise any adverse safety issues for local transport and users of the local and regional road network. The ocean pool will have very little impact on traffic safety as the type of vehicles accessing this facility will not differ from vehicles already passing the site.
- **Public Transport** – the proposal raises no demand for the provision of additional public transport.
- **Pedestrians and Cyclists** – the proposed new ocean pool will have some impact on the users of the adjacent shared path. There will be additional pedestrian and cycle traffic accessing and crossing the existing shared path. Through traffic on the path, in particular cyclists, may be inconvenienced. The proponent should provide a small number of formal bicycle racks near the access point to the ocean pool.
- **Parking** – the calculated demand is approx. 20 spaces. This demand can be easily accommodated in the existing available parking areas. It is however considered that the bulk of the pool users will also be beach users, so the demand would be less than that calculated above. Overflow parking is available in Shelly Beach Road.

In view of the above it is assessed that the safety and efficiency of the local road network will not be unduly affected by the slight increase in the number of vehicle movements that will be generated by the proposed development.

6.2 Recommendations

It is recommended that the proponent implement the following as their contribution to improve amenity and safety in relation to the traffic impacts of the application:

1. Provide adequate off-path areas near the pool for access, bike parking and viewing.
2. Provide a small number of formal bicycle racks near the access point to the ocean pool.
3. During construction, implement an appropriate Traffic Management Plan.

7. Scope of Engagement

This report has been prepared by Ardill Payne & Partners (APP) at the request of the Ballina Ocean Pool Committee for the purpose of a Traffic Impact Assessment for the proposed Ballina Ocean Pool, and is not to be used for any other purpose or by any other person or corporation.

This report has been prepared from the information provided to us and from other information obtained as a result of enquiries made by us. APP accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

APP declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately it is recommended that you consult with APP before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

8. Attachments

Attachment 1	Locality and Site Plans

ATTACHMENT 1

Attachment 1: Locality and Site Plans

Project:
Ballina Ocean Pool

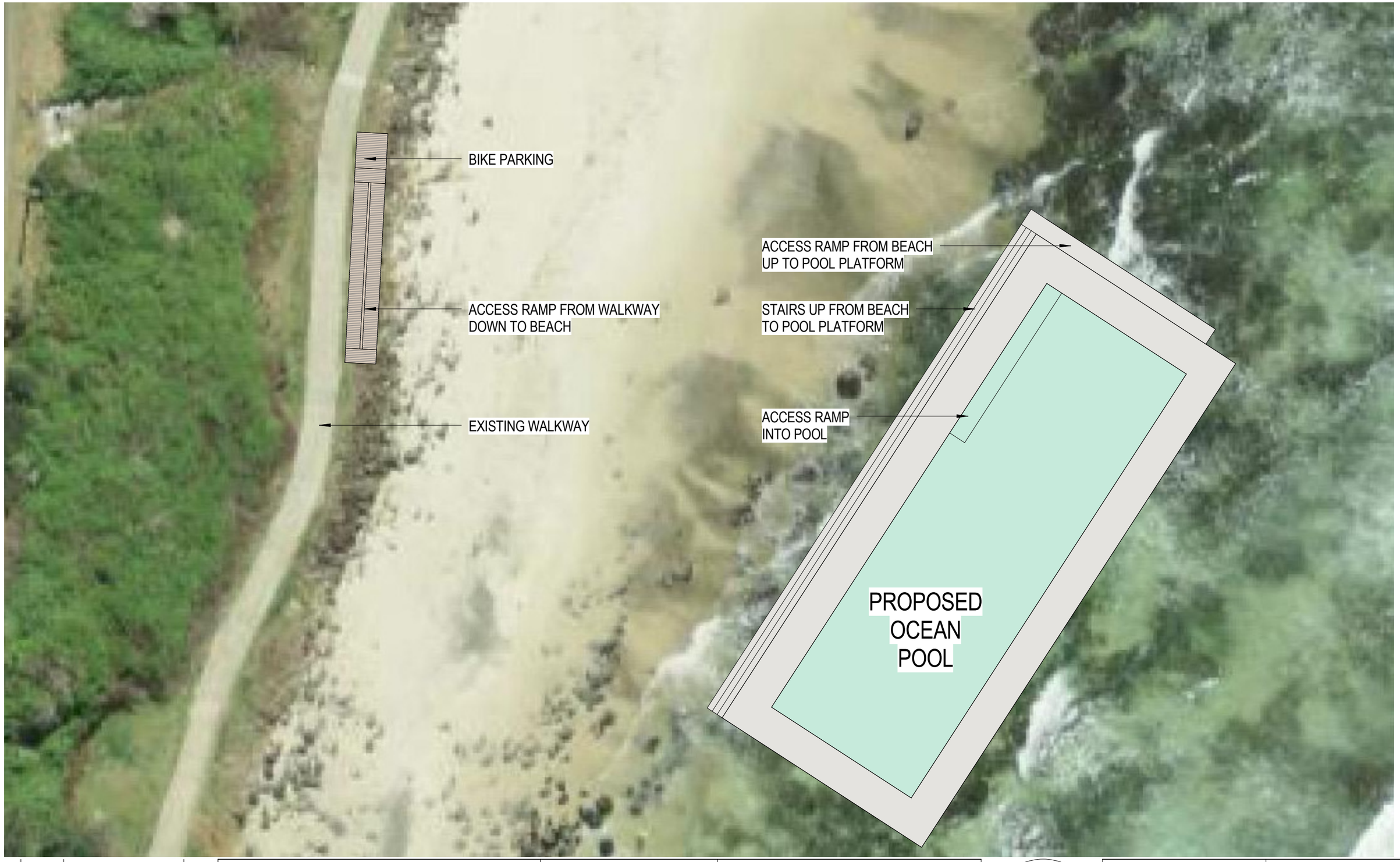
Client: Ocean Pool Committee

Title:
Locality Plan

Do not scale drawing. Use written dimensions only

ARDILL PAYNE
& Partners
ENGINEERS PLANNERS SURVEYORS
ENVIRONMENTAL PROJECT MANAGEMENT
BALLINA 45 River Street Ph. 02 6686 3280
GUNNEDAH 285 Conadilly Street Ph. 02 6742 9955
A.B.N. 51 808 558 977 e-mail: info@ardillpayne.com.au

Designed	-	Scale	Not to Scale
Drawn	DW	Datum	-
Checked	TC	File Name	8596-Ocean-Pool-Locality.dwg
Approved	TC	Date	3/04/2018
Job No.	8596	Dwg No.	SK01
		Issue	A



rev.	date	details	by

PROPOSED OCEAN POOL

project BALLINA

SITE PLAN

sheet

caw
building design services
p / 02 6686 2328 m / 0421 056 524 e / cawbds@bigpond.com

north

date:	MAR 2018
scale:	1 : 300
drawn:	CAW

SK01

sheet no. revision

28/03/2018 8:46:30 PM

Original Sheet Size A3 - 297 x 420mm