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REPORT ON
TRAFFIC IMPACT FOR
THE LEGITIMISATION
OF EXISTING SHORT
TERM & TENT SITES
KIOLOA BEACH
HOLIDAY PARK
KIOLOA

P. J. Milton
For and on behalf of
Pacific Engineering & Management.

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INTRODUCTION

Mr Tony Van Bergen requested Pacific Engineering & Management review road access and traffic impacts associated with an application to Council to legitimise 23 existing short term sites (providing a total of 240 short term sites) and 93 existing tent sites (providing a total of 143 camp sites) which have been in use for several years.

This report has been prepared in accordance with the NSW Department of Planning Director General's Requirements for the Environmental Assessment of the Project, Key Issue 3, Traffic & Access in Attachment 1, dated 15th August 2006.

This report considers all internal park traffic, and the intersection of the park access road with Murramarang Road and identifies any need for intersection or access road upgrading to ameliorate traffic inefficiency and safety impacts.

Reference has been made to the RTA Guide To Traffic Generating Developments (version 2.2) and Shoalhaven City Council's DCP 18 Car Parking and DCP 100 Engineering Design Specification.

1.0 DESCRIPTION OF SITE

Kioloa Beach Holiday Park is located between the Pacific Ocean and Murramarang Road at Kioloa.

The site is identified as Lot 128 DP 40869, 635 Murramarang Road, Kioloa, NSW, and has been developed as a Tourist Park containing 240 short term sites, 143 camp sites and 3 dwellings. (These figures include the sites for which approval is sought).

Access is directly from Murramarang Rd. This road is the major access from Bawley Point and only sealed road to the village of Kioloa plus a second holiday park at Merry Beach.

The existing access is shown on the attached drawing and includes an 8500 mm wide two way sealed road in good condition that intersects with the sealed Murramarang Road (9600 mm wide) and leads to the reception office where boom gates are installed. Inside the park, access roads reduce to 6000 mm two lane sealed and 3500 mm single lane gravel.

Parking of a vehicle occurs at each cabin/site with additional vehicle parking located outside the boom gates in a sealed carpark. Disabled parking is provided within the park near the visitor carpark and at an ablution block.

2.0 TRAFFIC GENERATION & PARKING REQUIREMENTS

The holiday park consists of the following traffic generation sites:

240 short term sites (caravans & cabins)
143 campsites
3 dwellings
386 total

Council's DCP18 Car Parking requires a caravan park to provide for the following vehicles:

1 space per caravan site
1 space per 10 long term sites &
1 space per 20 short term sites for visitors

The Park includes 240 short term sites, 143 camp sites and no long term sites.

This is assessed as follows:

1 vehicle space per short term site, campsite and dwelling provided on each site, or 386 vehicle spaces. These spaces are provided within or very near to each site.

1 space per 20 short term sites for visitors which is equivalent to 12 vehicle spaces
1 space per dwelling for visitors or 3 vehicle spaces

Total requirement under Council's Car Parking Guidelines (DCP 18), 398 vehicle spaces

The Local Government (Manufactured Homes Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulations clauses 96 to 98 have the following requirements:

1 vehicle per short term site, campsite and dwelling or 386 vehicle spaces. These spaces are provided within or very near to each site.

1 space per 20 short term sites for visitors or 12 vehicle spaces
1 space per 40 camp site or 4 spaces
1 space per 100 sites for disabled persons or 4 spaces (included in the above figures)

Typical parking requirement is 402 vehicle spaces for the development, including a visitor parking requirement of 16 spaces.

Parking is provided as follows (one space per cabin/site unless noted otherwise):

Cabins 1 to 14: Parking adjacent or near to cabin
Cabin 15: One space in visitor carpark.
Cabin 16: NA
Cabins 17 to 20: Parking adjacent or near to cabin
Cabins 21 to 22: Parking adjacent or near to cabin
Cabin 23: NA
Cabins 24 to 26: Parking adjacent or near to cabin

Cabin 27: NA

Cabin 28: Parking at front (minimum 2 cars)

Cabins 28 to 31: Parking adjacent or near to cabin

Cabins 40 to 48: Parking adjacent or near to cabin

Manager's Residence: Parking at front (minimum 2 cars).

Residence: Parking at front (minimum 2 cars).

Tent & Caravan Sites: Parking on site.

Visitor Parking: 18 spaces.

Disabled Driver Spaces: 4 (note these are not included in above). They are shown on the drawing attached.

From the above, it is noted that the required parking spaces are provided.

3.0 REGULATORY & PUBLISHED TRAFFIC ASSESSMENTS

3.1 PEAK VEHICLE MOVEMENTS TO & FROM THE PARK

Peak vehicle movements to & from the park are considered to occur on peak change over days in school holidays when the occupiers of sites pack up and leave and new occupiers arrive.

As Murramarang Road to the south is an unsealed track that traverses a National Park, all peak movements are assumed to enter the park from the north, and similarly, to turn north on leaving the park.

From Park records of vehicle entry and exit, the busiest day of 2/1/07 was selected for analysis. The data is attached to this report and is summarised as follows:

HOUR	ENTRY	EXIT
8 to 9	10	19
9 to 10	12	40
10 to 11	16	55
11 to 12	24	56
12 to 13	39	29
13 to 14	37	20
14 to 15	33	17
15 to 16	38	19
16 to 17	48	27
17 to 18	44	22
18 to 19	32	12

The maximum entry vehicles per hour is 48 at 1600 to 1700 hours, and the maximum exit vehicles is 56 at 1100 to 1200 hours.

It is noted that this report is for the purpose of legitimising 23 short term and 93 long term sites that already exist in the Park.

These represent 30% of the total of all sites plus 3 dwellings.

3.2 MURRAMARANG ROAD TRAFFIC

Murramarang Road services the township of Kioloa and the Merry Beach Caravan Park, and then continues unsealed into Murramarang National Park.

Council has advised that traffic counts from April 2002 recorded 954 vehicles per day on Murramarang Road. The location of the count was at O'Brien St, and just north of the park.

Assuming 50% travel in each direction, the peak vehicles in each direction are 477 vehicles per day. The dates of the count were not provided, however the NSW School Holidays in 2002 were the 12th to the 28th, so it is assumed that these figures represent a holiday period. This would also appear a reasonable assumption in terms of the physical data collection as higher vehicle flows would be of greater interest than lower vehicle flows.

Assuming the peak hourly flow is 10% of the peak daily flow (as for dwelling houses, RTA Guide to Traffic Generating Developments), the flow in each direction is 48.

Factoring at 7% pa to 2007, the figure becomes 67 peak vehicles per hour.

3.3 TRAFFIC SUMMARY

The determined total peak hourly vehicles travelling south on Murramarang Rd is 67 and occurs between the hours of 1600 to 1700. It is the total of traffic to the village, Merry Beach Caravan Park and the National Park.

The determined total peak hourly vehicles travelling north on Murramarang Rd is 67 and occurs between the hours of 1100 to 1200. It is the total of traffic from the village, Merry Beach Caravan Park and the National Park.

Design peak hourly flows are as follows:

DIRECTION	ROAD TRAFFIC	TURNING TO/FROM PARK
Southbound	67	48 (entering park)
Northbound	67	56 (exiting park)

4.0 INTERSECTION DESIGN

4.1 GENERAL

The posted speed limit for Murramarang Road is 50 kph, however a design speed of 60 kph will be adopted.

It is considered that this is a reasonable estimation of the design speed.

4.2 INTERSECTION DESIGN REQUIREMENTS

Section D1.27 of Council's Engineering Design Specification (DCP 100) specifies that intersections with existing main and local roads are to conform to the layouts shown in figures D1.13 and D1.14 of the specification.

Having regard to the turning movements associated with this proposal as outlined in section 4.3 and the warrants for turning movements depicted in Figure.D1.13 – Rural Intersection Treatments, the entrance to the proposed site is required to be equivalent to a Type A intersection.

These are drawn on the attached plan of the site.

Sight distances for Murramarang Road are required to be 180 m (Table D1.17 of Council's DCP100).

The Holiday Park entrance is located on a straight stretch of level road and provides adequate sight distances in both directions.

The entry would be required to accept cars towing caravans plus delivery and garbage collection vehicles, etc, with appropriate radii. The design turning circles are shown on the attached drawing.

5.0 EXISTING INTERSECTION

The existing intersection is detailed on the attached plan of the site.

The following is noted with respect to the existing intersection:

1. The road is kerb & guttered opposite the park entrance.
2. Opposite the entry is a shop/general store where people park regularly.
3. The existing verge at the front of the park is restricted with respect to parking either side of the entry. Outside this zone, it is well grassed and in a good state of repair.
4. The existing arrangement had adequately handled the peak traffic for several years.
5. The posted speed on the road is 50 kph.
6. The park entry is effectively in an urban area.
7. The existing road drainage is an open table drain that connects with other open drains that lead to creeks.
8. During peak periods, it was observed that parking occurs along the site frontage to Murramarang Road. This is not considered unusual for summer school holidays as the site is located across the road from the local general store and local recreational facilities, and given that the general public gain access to the beach in this location.

Murramarang Road is sufficiently wide to accommodate this parking.

The parked vehicles appear to be generally associated with people attending the general store, recreation facilities and beach rather than attending the park,

9. The shape of the existing concrete access is very similar to the design turning circles and major reconstruction is not considered required. Some minor asphaltic concrete patching may be utilised where vehicle wheels leave the hardstand and cause potholes in the shoulder.

10. The sight distances are adequate.

11. Council's Traffic Engineer, Mr Brett Williams has advised that no accidents have occurred at the Park access intersection in the last 5 years.

12. As shown on the attached drawing, the existing entrance to the site conforms to a Type A intersection as detailed in section 5.2 of this report.

6.0 INTERNAL ROADS

6.1 INTERNAL ROADS

Internal access is via looped two way 6000 mm wide sealed roads serving all camping sites and the majority of cabin sites plus a one way 3500 mm wide cabin access track servicing 8 cabins.

These are shown on the attached drawing.

Adequate manoeuvring and passing room is available.

These are considered adequate for the park.

The main access to the park off Murramarang Road is sealed and 8500 mm wide.

7.0 CONCLUSIONS & RECOMMENDATIONS

It is considered that the existing intersection is adequate for existing and future peak hourly traffic as detailed above.

The existing intersection and roadway is working satisfactorily under peak loading, and any additional treatment to the intersection is not required.

The existing on site parking complies with relevant state and local government parking requirements and is considered sufficient for the development.