APPENDIX 7-ENERGY ASSESSMENT REPORT PREPARED BY MICHAEL HALLAHAN & ASSOCIATES

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Ref: AJ3316TIS

TRAFFIC IMPACT STATEMENT

FOR

PROPOSED 20 ADDITIONAL MOTEL UNITS

AT TATHRA HOTEL MOTEL

LOT 30 DP 606559 & LOT 31 DP 600836

BEGA STREET

TATHRA NSW

FOR

THE FROST GROUP

TABLE OF CONTENTS

1. INTRODUCTION

This report has been prepared at the request of Mr John McKee of Keeplan - Consultant Town Planner on behalf of the Frost Group.

The report represents a Traffic Impact Statement with respect to a proposed development application lodged with Bega Valley Shire Council and requested by Planning NSW.

The application is for a proposed 20 unit addition to the existing motel.

The report discusses calculated existing peak traffic flows generated by the existing hotel and motel and the proposed peak traffic flows to be generated by the proposed motel additions, in relation to the existing site access with Bega Street.

Also addressed is the motel existing and required car parking arrangements with respect to the Bega Valley Shire Council (BVSC) Development Control Plan (DCP) 7.

2. SITE DETAILS

2.1 Site Location

The motel site is described as Lot 30 DP 606559 Bega Street Tathra.

The site of the development is located on the south east corner of Tathra headland at the end of Bega Street.

The site is accessed via the sealed Bega Street fronting the site and an adjacent unnamed western sealed access roadway from the nearby newsagent / butchery and public hall area which eventually joins with Bega Street adjacent to the Tathra Street intersection.

Please refer Figure 1.

2.2 Site Description (existing)

The site contains 12 motel units. The existing hotel is on a separate adjacent allotment.

The total site (both lots) occupies approximately 0.4 Ha in area.

2.3 Adjoining Land Use

The land use of adjacent allotments consist of 3 residential allotments to the north, a cliff type Crown reserve onto the Tasman Sea to the east, an existing single residence to the south and Bega Street roadway and adjoining 30 space carpark to the west.

2.4 Site Zoning

The current zoning of the site is:

- 3A - General Business - Bega Valley Shire Council Local Environment Plan 2002.

2.5 Existing Site Access

A main driveway to the south serves the motel and bottle shop site. This access is a divided concrete layback and forms a five metre wide entry to the bottle shop and an adjacent six metre wide entrance / exit to the motel site.

A second northern access serves the hotel. Both accesses are linked by an internal two way loop road.

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Please refer to PDF attachment

Figure 1 - Location plan of site.

3. PROPOSED DEVELOPMENT

3.1 General

The proposed development will be the addition of 20 new motel units and a minor alteration to the allotment boundary between lots 30 and 31.

Please refer Figure 2.

3.2 Vehicular Access

The proposed motel additions will generally utilise the main southern 2 way existing vehicular crossing providing access to Bega Street.

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Please refer to PDF attachment

Figure 2 - Detailed plan of site showing proposed 20 Motel units.

4. EXISTING TRAFFIC CONDITIONS

4.1 General

Bega Street forms the original end section of the previously rated Snowy Mountains Highway. This highway linked Tathra via Bega, Cooma and Tumut with the Hume Highway near Wagga Wagga. The highway used to make it's way past the Tathra Hotel Motel and wind down around the eastern edges of the Tathra headland to terminate at the Tathra Wharf.

Since the 1970's we have gradually witnessed the 'demise' of this unique Tathra section of roadway, with firstly the link down to Tathra Wharf from the top of the headland being washed away in the huge seas of 1974, and later, the downgrading of the 'highway' status from Bega to Tathra to a Main Road (MR272) status. The Main Road (MR272) was then re-routed to turn north from Bega Street at Tathra Street (avoiding the hotel and headland) and continue via Tanja to Bermagui, eventually re-linking further north with the Princes Highway.

The headland section of Bega Street has therefore been reduced from highway status to a council maintained street.

Bega Street now terminates as a culdesac just north of the hotel motel site on Tathra headland. This section of Bega Street now services the hotel, 3 residential lots (2 of which remain undeveloped) and the headland.

The section of Bega Street along the hotel motel frontage consists of a sealed formal roadway, with concrete kerb and guttering along the frontage (eastern side) and an earth shoulder drain and cut embankment on the western side. The road carriageway comprises a 3.0 metre wide south bound parking lane (adjacent to the kerb), a 3.2 metre wide south bound travel lane and a 3.2 metre wide north bound travel lane.

The adjacent unnamed western sealed access roadway from the nearby newsagent / butchery and public hall area is two way, kerbed and guttered on the western side and has a gravel shoulder on the eastern side. It also comprises a south bound parking lane.

From enquiries with the engineering staff of Bega Valley Shire Council (BVSC), no formal traffic count data is available for Bega Street or the unnamed access street at this location.

With respect to Reference 2, no formal data is available for theoretical traffic generated by traditional hotel activities. Therefore, an estimation of the traffic generation, based on our local observations with the hotel operations, and assessment of similar occupational activities listed in Reference 2 has been performed.

An assessment of the theoretical traffic generated by the land uses served by Bega Street north of the hotel location and the existing motel has also been performed with respect to the Reference 2 traffic generation rate data.

4.2 Existing / Theoretical traffic generated by the land uses served by Bega Street north of the hotel location.

As previously stated, Bega Street now terminates as a culdesac just north of the hotel motel site on Tathra headland. This section of Bega Street now services the hotel, 3 residential lots (2 of which remain undeveloped) and the headland. The theoretical traffic generated by the land uses served by Bega Street north of the hotel location are listed in Table 1 below.

The headland site contains a turning culdesac and small parking area for visitors to the headland. A visual traffic count of visitors to the headland from 9:00am to 10:00am on Thursday 26 July 2007 indicated 6 traffic movements each way.

With an adjustment for day of the week and seasonal variation to a peak in December (Table 3.3 Reference 2), a factor of 1.00 x 1.28 / 1.03 = 1.24 times should be applied to this figure (6 x 1.24 = 7.5 vehicle movements each way per peak hour). From our local experience having lived within 200 metres of this area for the previous 15 years, we consider that this figure is too low and would more likely be in the order of 30 vehicles / hour summer season peak flow each way (or a steady rate visiting vehicle every 2 minutes).

A theoretical figure of 9 traffic movements (each way) per residential allotment per day (Average Annual Daily Traffic - AADT) has been adopted from Reference 2, with 10 % of this figure utilised for peak hourly traffic movements.

Bega Street Present (north of the hotel)	AADT Estimated	Peak hourly Estimated
3 residential allotments (if developed)	27	3
Headland visitor (peak December)	360	30
TOTAL	387	33

Table 1 - Bega Street (north) - Existing/Theoretical Traffic Volumes (each way)

4.3 Existing Hotel and Motel Traffic Generation

The present site is occupied by a public hotel, a 12 room motel and bottle shop.

The public sections of the hotel consist of a lounge / dining area, public bar, gaming room and deck. Private accommodation is not offered on the hotel premises. A manager's residence is located on the upper floor.

The peak hourly rates for the following existing land use traffic generation, have been adopted after previous consultation with officers of the BVSC and the RTA and Reference 2 with regard to licensed clubs in the Bega Valley Shire.

With respect to the bottle shop operations, no theoretical data is available from Reference 2. Tathra village has a population of approximately 2000 persons and is served by 2 licensed clubs (each with over the counter take away liquor service), an individual bottle shop (opposite the main supermarket on the corner of Bega and Tathra Streets), and the hotel operation. Observations during evening peak times indicate approximately 1 vehicle per 5 minutes, or 12 vehicles per hour.

All figures are listed in Table 2 over:

• Licensed area	- 10 veh/hr/100 sq m x 160 sq m	=	16
• Restaurant	- 5 veh/hr/100 sq m x 336 sq m	=	17
• Residence	- 0.9 veh/hr x 1 residence	=	1
• Bottle shop	- 12 veh/hr	=	12
• Motel	- 0.4 veh/hr x 12 motel units	=	5
TOTAL	**- VEH/HR**	**=**	**51**

Table 2 - Existing Hotel & Motel Peak Traffic Volumes

From our observations, with respect to actual traffic movements during peak times, approximately 95% of patrons of the licensed area of the hotel use the public car park opposite the hotel.

Of the public car park patrons, approximately 50% exit the headland precinct via Bega Street and the remaining 50% via the unnamed western roadway from the carpark south past the newsagent and public hall.

It is considered that all patrons of the motel would utilise the southern main entrance onto the motel site.

The hotel is serviced by a bus, providing free return trips for hotel patrons of Tathra and the nearby village of Kalaru.

Observations indicate that a percentage of public bar patrons are also dropped off at the hotel and picked up again by car. Both these services are well patronised due to the legally prescribed blood alcohol content of vehicle drivers required to be below 0.05% in NSW and are observed to reduce the public bar (licensed area) rates as detailed above by an estimated 50%.

Additional observations indicate that a percentage of restaurant patrons utilise the hotel bus and are observed to reduce the restaurant rates as detailed above by an estimated 10%.

5. TRAFFIC GENERATION - PROPOSED 20 ADDITIONAL MOTEL UNITS

5.1 Traffic Generation

The proposed development comprises an additional 20 motel units located on allotment 30 adjacent to the existing 12 units. The evening peak vehicle flows are expected to utilise the main southern entrance adjacent to the motel site similar to that observed at present. Peak motel vehicle rates are calculated to increase by 8 vehicles / hour or a 25% increase in right turning traffic entering the site.

The proposed peak traffic volumes are listed in Table 3.

• Licensed area	- 10 veh/hr/100 sq m x 160 sq m	=	16
• Restaurant	- 5 veh/hr/100 sq m x 336 sq m	=	17
• Residence	- 0.9 veh/hr x 1 residence	=	1
• Bottle shop	- 12 veh/hr	=	12
• **Motel**	- **0.4 veh/hr x 32** motel units	=	13
TOTAL	- **VEH/HR**	=	**59**

Table 3 - Proposed Hotel & Motel Peak Traffic Volumes

6. INTERSECTION ANALYSIS

6.1 Southern (main) Intersection of Hotel - Motel site with Bega Street.

Assessment of the traffic volumes as described in sections 4 and 5 indicate that only a proportional variation of these peak figures affect this intersection. This is mainly due to the time periods that the peak hourly traffic is contributed from the various land uses. It is also considered that most of the peak usage will occur during the warmer summer holiday months of December and January.

The hotel public bar and restaurant, motel, bottle shop and residential allotment peaks will occur during early evening periods.

From observation, the headland visitor traffic volume peaks occur during daylight hours and reduce during the corresponding early evening periods to approximately 25%.

The Bega Street car park (opposite hotel) patronage has also been apportioned to the unnamed and Bega Streets as previously indicated.

It has been estimated that the following peak traffic distributions will occur at the main hotel motel intersection with Bega Street:

- Bega Street north bound

Right turning traffic into site	:	**41**	**veh /hr**
comprising:			
Hotel (bar & restaurant) patrons		16	
Motel patrons		13	
Bottle shop		12	
Through traffic	:	**16**	**veh /hr**
comprising:			
Opposite hotel public carpark		4	
Northern hotel carpark		1	
Visitors to headland		8	
Residential		3	

- Bega Street south bound

Through traffic	:	**16**	**veh /hr**
comprising:			
Opposite hotel public carpark		4	
Northern hotel carpark		1	
Visitors to headland		8	
Residential		3	

The critical points of conflict are from the right hand turn north bound lane from Bega Street into the main hotel motel southern entrance and are as indicated in Table 4.

POINT OF CONFLICT		*TURNING PEAK HOURLY*	*OPPOSING PEAK HOURLY*
Bega Street north bound Right turning traffic into site	:	**41**	**veh /hr**
Bega Street south bound Vehicles opposing	:	**16**	**veh /hr**
Bega Street north bound through traffic	:	**16**	**veh /hr**
Bega Street north bound RHT Vehicles stopping	:	**41**	**veh /hr**

*Table 4: **Proposed Development Southern Entrance / Bega Street Intersection Traffic Generated***

From an inspection of the site on 26 July 2007, the existing intersection with Bega Street has adequate site distances for the posted 50 km/hr town speed limit.

When compared with the recommended traffic volumes of the RTA publication 'Road Design Guide' - Figure 4.5.12, the minimum intersection treatments would be recommended to be included at the proposed access road intersection:

- Type BAR treatment for the RHT from Bega Street.

Configurations of these BA (BAsic) type intersection treatments may be obtained from Figure 4.5.2 of Ref 1.

As described previously, the existing Bega Street lane layout consists of one north bound travel lane with limited shoulder to facilitate through northbound traffic around a right turning vehicle (as required by a type BAR intersection treatment).

From observation during peak usage times, traffic flows are well spaced and intermittent. Due to the nature of the site, it has been observed during peak times, that right turning traffic into the main entrance to the site or bottle shop, rarely has to wait for opposing traffic to pass.

As Bega Street is a no through road, through traffic drivers to the public car park or headland have been observed to be generally slowing down in this region due to their approach towards the car park, hotel and headland site about to be terminated.

Again, from observation during peak usage times, however, it has not been observed that right turning traffic has banked up and halted the progress of north bound through traffic.

An additional right hand turn peak traffic flow into the entrance of 8 veh/hr (fromthe additional 20 motel units) represents1 additional vehicle every 7 minutes or a 25% increase. Given the observed acceptable traffic flow of the intersection at present during peak usage, the posted 50 km/hr speed limit and adequate sight distances, we would expect little, if any change in the level of performance of the intersection.

6.2 Northern Intersection of hotel site with Bega Street.

It is not expected that the northern entrance / exit from the site will receive any additional traffic loads from the proposed additional motel units.

7. CAR PARKING

7.1 Proposed Additional 20 Motel Units

Table 5 indicates the required amount of motel car parking required on the motel site (lot 31) as required by Reference 3 - Bega Valley Shire Council DCP 7.

Item	Qty Units	Rate Car parks /unit	Car parks
Existing motel units	8	1	8
Proposed motel units	20	1	20
sub total			28
Employee parking	2	1	2
TOTAL	Motel required car parks		**30**

Table 5 - Proposed Motel car parking requirements

The proposed motel lot layout indicates an existing 29 car parks with an additional 23 car parks to be constructed on the motel site totalling 52 car parks in total.

8. CONCLUSIONS

Peak hourly traffic volumes have been calculated from traffic counts and general observations.

These traffic volumes have been compared to the anticipated traffic generated by the proposed additional 20 motel units as stipulated by the RTA publication "Guide To Traffic Generating Developments' (Ref 2) and entering Bega Street via the existing 6 metre wide southern entrance.

When compared with the recommended traffic volumes of the RTA publication 'Road Design Guide' - Figure 4.5.12, the minimum intersection treatment would be recommended to be included at the proposed access road intersection:

- Type BAR treatment for the RHT from Bega Street.

As described previously, the existing Bega Street lane layout consists of one north bound travel lane with limited shoulder to facilitate through northbound traffic around a right turning vehicle (as required by a type BAR intersection treatment).

However, from observation during peak usage times:

- traffic flows are well spaced and intermittent,
- right turning traffic into the main entrance to the site or bottle shop, rarely has to wait for opposing traffic to pass,
- the proposed additional 20 motel units will result in a theoretical increase in peak right turning vehicles / hour of 8 vehicles (representing 1 additional vehicle every 7 minutes or a 25% increase),
- there will be no additional opposing traffic.

Given the observed acceptable traffic flow of the intersection at present during peak usage, the posted 50 km/hr speed limit and adequate sight distances, we expect little if, any change in the level of performance of the intersection.

We therefore recommend that the existing arrangement will be satisfactory for the proposed additional development.

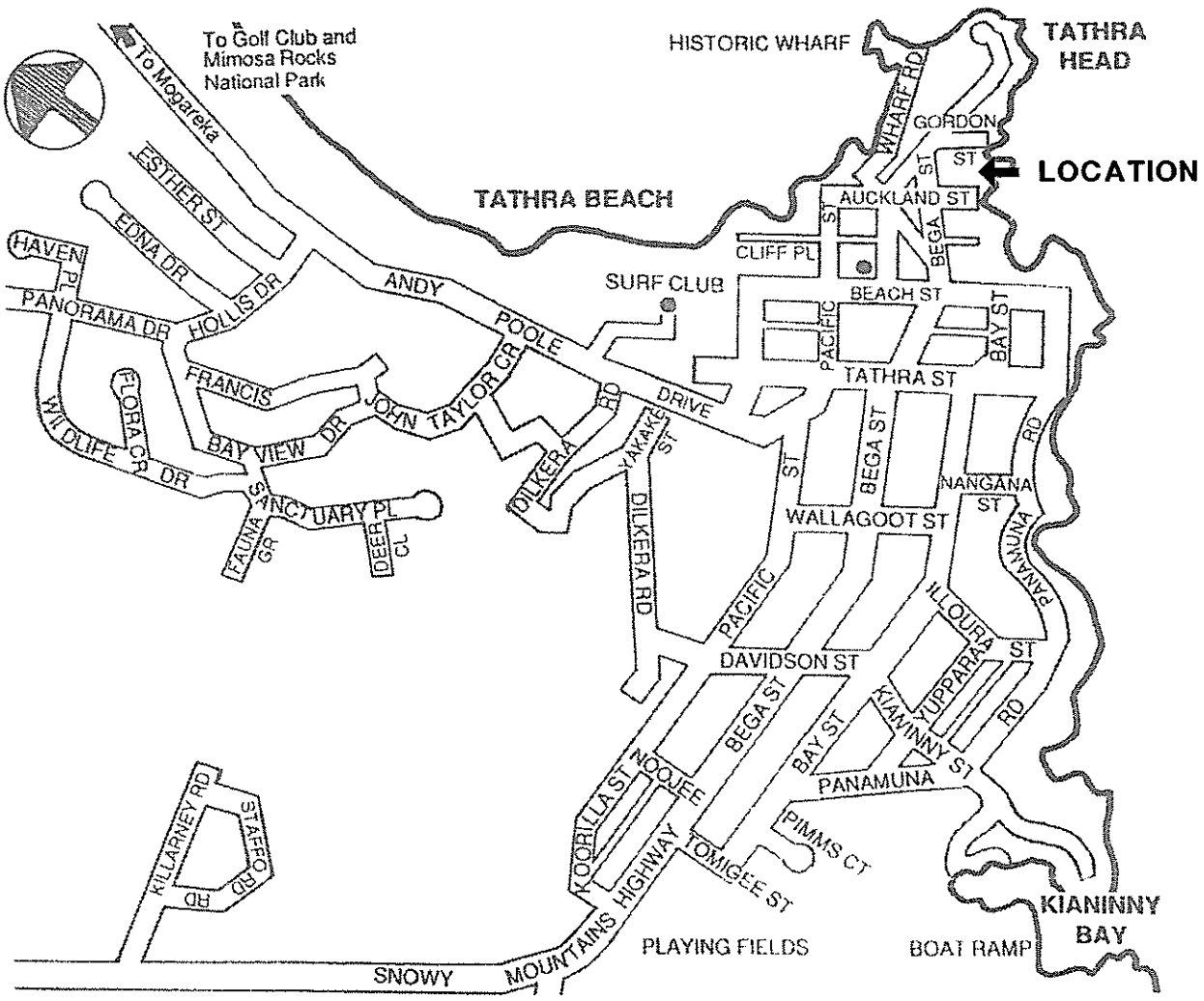
APPENDIX A

References:

1. RTA Publication - 'Road Design Guide'.

2. RTA Publication - `Guide To Traffic Generating Developments' December 1993 Issue 2.

3. BVSC - DCP 7



LOCALITY PLAN
NOT TO SCALE

Figure 1 - Location plan of site.

Andrew Marshman & Assoc Pty Ltd
Ref: AJ3316TTS

Date	Issue / Amendments	Eng.	No.

PROJECT
PROPOSED ADDITIONAL MOTEL UNITS
TATHRA HOTEL MOTEL
BEGA STREET, TATHRA

TITLE
LOCATION PLAN

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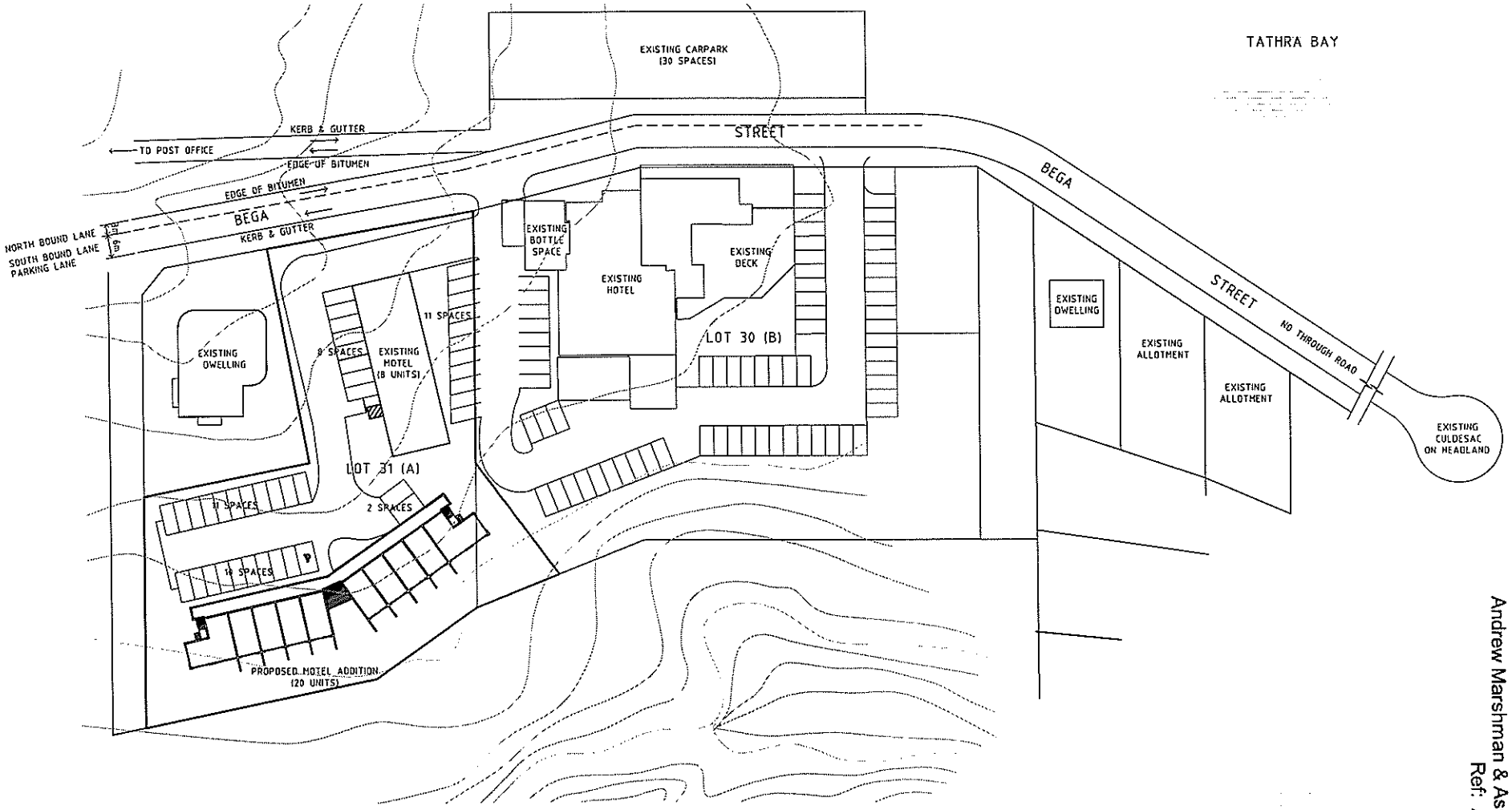
Scale NTS	**Design** -	**Job. No.** AJ3316 Sheet C2



SITE PLAN
NOT TO SCALE

Figure 2 - Detailed plan of site showing proposed 20 Motel units.

Andrew Marshman & Assoc Pty Ltd
Ref: AJ3316TIS

Date	Issue / Amendments	Eng.	No.

PROJECT
PROPOSED ADDITIONAL MOTEL UNITS
TATHRA HOTEL MOTEL
BEGA STREET, TATHRA

TITLE
SITE PLAN

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