



EXISTING PHOTO N.T.S.



ALTERED PHOTO N.T.S.



DCC BDAQ MEM. NO # 0000761





ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with

Development Permit No.: D/85-2018

Dated: 15 November 2018

ELECTRONIC ADVERTISING DEVICE 190 BOLSOVER STREET, ROCKHAMPTON TRAFFIC ENGINEERING ASSESSMENT

2 AUGUST 2018

PREPARED FOR:









DOCUMENT CONTROL RECORD

DOCUMENT								
Report Title:		Electronic Advertising Device – 190 Bolsover Street, Rockhampton						
Client: Ap		Apex Di	Apex Digital					
Project Number:		19-029						
VER	PURPO	DSE	DATE	AUTHOR	CHECKED	APPROVED		
1	FINAL		2/08/18	GH	AAP	Adam Pekol (RPEQ: 5286)		

COPYRIGHT

This work is copyright. Apart from any use permitted under the Copyright Act 1968, no part may be produced without prior permission. Requests and inquiries concerning reproduction and rights should be directed to:

The Director Pekol Traffic and Transport GD02, 67 St Pauls Terrace Spring Hill QLD 4000

DISCLAIMER

This document is produced solely for the benefit of and use by our client in accordance with the terms and conditions of our appointment. PTT does not accept liability to third parties arising from their use of or reliance upon the contents of this report.

> ROCKHAMPTON REGIONAL COUNCIL APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with **Development Permit No.: D/85-2018 Dated: 15 November 2018**

i

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with **Development Permit No.: D/85-2018**

Dated: 15 November 2018

TABLE OF CONTENTS

1.0	INT	RODUCTION	1	
	1.1	Background	1	
	1.2	Aim	1	
	1.3	Methodology	1	
	1.4	Documents	2	
	1.5	Scope of Report	2	
2.0	EXISTING CONDITIONS			
	2.1	Site Location	3	
	2.2	Road Network	3	
	2.3	Intersection Attributes	3	
3.0	PROPOSED ELECTRONIC ADVERTISING DEVICE			
	3.1	Proposed Sign	4	
	3.2	Rockhampton Planning Scheme Requirements	4	
	3.3	Operations	5	
4.0	ROAD SAFETY ASSESSMENT			
	4.1	Approach	6	
	4.2	Average Crash Rate	7	
5.0	CONCLUSIONS AND RECOMMENDATIONS			
	5.1	Conclusions	8	
	5.2	Recommendations	8	



1.0 INTRODUCTION

ROCKHAMPTON REGIONAL COUNCIL APPROVED PLANS These plans are approved subject to the current conditions of approval associated with Development Permit No.: D/85-2018 Dated: 15 November 2018

1.1 Background

In July 2018, PTT was commissioned by Apex Digital to undertake a traffic engineering assessment for a proposed electronic advertising device located at 190 Bolsover Street, Rockhampton. The subject site is shown in Figure 1.1.



Figure 1.1: SITE LOCATION

1.2 Aim

The aim of this assessment was to evaluate the impact of the proposed electronic advertising device in terms of safety and driver distraction with respect to its location, design and operation.

1.3 Methodology

In preparing this report, a desktop assessment was conducted to determine the existing signage and traffic operations in the area as they apply to Rockhampton Regional Council's requirements.



1.4 Documents

The following documents were reviewed to produce this report:

- Rockhampton Region Planning Scheme Advertising Devices Code
- Rockhampton Regional Council's Subordinate Local Law No14 (Installation of Advertising Devices) 2011
- Department of Transport and Main Roads (TMR) Roadside Advertising Manual (2017) (RAM)

1.5 Scope of Report

This report begins by summarising the characteristics of the subject site (Chapter 2), followed by a description of the proposed electronic advertising device (Chapter 3). The crash history for the site is then discussed (Chapter 4). The report concludes with a summary of key findings (Chapter 5).

ROCKHAMPTON REGIONAL COUNCIL APPROVED PLANS These plans are approved subject to the current conditions of approval associated with Development Permit No.: D/85-2018 Dated: 15 November 2018

P:\2018-19\19-029 190 BOLSOVER STREET ROCKHAMPTON SIGN\OUTPUTS\19-029 TRAFFIC REPORT FINAL V3.DOCX



2.0 EXISTING CONDITIONS

2.1 Site Location

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with **Development Permit No.: D/85-2018 Dated: 15 November 2018**

The subject site, described as Lot 1 on RP604875 at 190 Bolsover Street, Rockhampton, is in a Principal Centre zone. The site is bounded by:

- Denham Street to the north
- Bolsover Street to the east
- a commerical building to the south
- Bolsover Lane to the west

2.2 Road Network

Bolsover Street is under the jurisdiction of Rockhampton Regional Council. It has one lane in each direction with a posted speed limit of 50 km/h in the vicinity of the site. Denham Street is also under the jurisdiction of Rockhampton Regional Council. It has one lane in each direction with a posted speed limit of 30 km/h in vicinity of the site. The proposed advertising device will be located to face northbound and southbound traffic on Bolsover Street.

2.3 Intersection Attributes

Table 2.1 outlines the attributes for Bolsover Street / Denham Street signalised intersection. Traffic volume data was obtained from the Department of Transport and Main Roads (TMR) for the intersection, as Council was unable to provide data for the intersection. We were advised that on average, the intersection carries about 4,000 vehicles per day.

ATTRIBUTE	BOLSOVER STREET	DENHAM STREET	
Road Hierarchy	Urban Sub-arterial	Major Urban Collector	
Directionality	Two-way	Two-way	
Number of Lanes	2	2	
Speed Limit (Km/h)	50	30	
Jurisdiction	Council	Council	

Table 2.1:ROAD ATTRIBUTES



3.0 PROPOSED ELECTRONIC ADVERTISING DEVICE

3.1 Proposed Sign

The proposed static electronic advertising device is proposed a single-sided billboard dimensioned at 9m x 3m (27m²). The proposed electronic advertising device will be located as indicated in Figure 3.1.

Image: Contract of the contract of the

Figure 3.1: ADVERTISING LOCATION

3.2 Rockhampton Planning Scheme Requirements

The Rockhampton Planning Scheme Advertising Devices Code outlines the following performance outcomes with respect to traffic safety:

The advertising device is designed and sited in a manner that:

- (a) results in a size that does not adversely impact on:
 - (ii) the safety of a road or footpath
- (e) does not impede vehicle of pedestrian movements or reduce safety levels
- (f) does not resemble traffic or road signs

The proposed device will be located on top a building and as such will not impede vehicle or pedestrian movements. The impact of the proposed device on traffic safety is discussed in Section

ROCKHAMPTON REGIONAL COUNCIL APPROVED PLANS These plans are approved subject to the current conditions of approval associated with

Development Permit No.: D/85-2018

Dated: 15 November 2018



4. It is recommended that the sign not display advertisments which resemble traffic or road signs, as discussed in Section 3.3.

3.3 Operations

3.3.1 Timing

The proposed sign should display one static advertisement at a time (ie no split screens) to reduce driver comprehension time with a maximum scroll time of 0.5 seconds between advertisements. This will limit driver distraction time.

3.3.2 Brightness

Council sets out maximum luminance level of 500 cd/m^2 for a device located in a principle zone such as the proposed device. This luminance level is not specified as a day or night time level. It is recommended that this luminance is maintained during night time. It is recommended that the maximum levels as per Section 3.6.11 of TMR's RAM for electronic billboards are maintained during the daytime and dawn/dusk:

Daytime:	6,000 cd/m ²
Dawn/Dusk:	600 cd/m ²

3.3.3 Reflectance

The sign should be oriented at least five degrees from right angles with the driver's line of sight to prevent glare from low sunlight reflections.

3.3.4 Dwell Time

The proposed sign should display one static advertisement at a time (ie no split screens) to reduce driver comprehension time and should be displayed for a minimum amount of time (dwell time). As Council does not outline minimum dwell times for electronic signs, it is recommended that the minimum dwell times as per TMR's RAM are maintained. Consistent with section 3.6.1.1 of TMR's RAM, the minimum dwell time for a device visible from a State controlled road with a speed limit less than 80 km/h) is 10 seconds. Therefore, it is recommended that a minimum dwell time of 10 seconds is maintained.

3.3.5 Display Content

Consistent with good roadside advertising practice, it is recommended that the displayed images:

- are directly and easily interpreted as to convey the required advertising message quickly
- do not give instructions to "stop" or similar
- do not imitate traffic control devices
- will not go blank between advertisements
- minimise emotional content that may affect emotional pigsese plans are approved subject to the

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

 These plans are approved subject to the current conditions of approval associated with

 Development Permit No.: D/85-2018

 Dated: 15 November 2018



4.0 ROAD SAFETY ASSESSMENT

4.1 Approach

ROCKHAMPTON REGIONAL COUNCIL APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with **Development Permit No.: D/85-2018 Dated: 15 November 2018**

A review of the proposed device with respect to crash history has been undertaken in accordance with TMR's RAM.

TMR's RAM states that further restrictions will apply to sections of road with a crash rate higher than the critical crash rate and to intersections with a high Killed or Seriously Injured (KSI) rate in the last five years.

The most recent available crash data provided by TMR for the past five years (2012-2016) was analysed to determine the crash rate for the Bolsover Street / Denham Street signal-controlled intersection. The analysis was conducted for 100m either side of the intersection, with the results shown in Figure 4.1. There were two crashes reported within a 100m radius of the proposed device. However, one of these crashes occurred in a location from which the proposed sign would not be visible and it is not associated with the intersection. Therefore, it has been disregarded in this analysis.

Figure 4.1: CRASH LOCATIONS AND SEVERITY (2012-2016)





The RAM states that a KSI of three or more in the past five years is considered high. The intersection has recorded no hospitilisations and no fatalities over the past five years. Therefore the section of road proximite to the site has a low KSI rate of zero.

4.2 Average Crash Rate

The Bolsover Street / Denham Street intersection was analysed using the approach detailed by Jurewicz and Bennett (2008)¹ to calculate the crash rate, as shown in Table 4.1. Traffic volumes were obtained from TMR as outlined in Section 2.3. The results of this analysis show the crash rate of the proposed site to be below the Queensland average.

Table 4.1:CRASH RATE

SITE	NUMBER OF CRASHES (2012-2016)	AADT (vpd)	CRASH RATE (crashes/10M VE)
Bolsover Street / Denham Street	1	4,000	1.37
Queensland Average (Urban Signalised)	1.89		

ROCKHAMPTON REGIONAL COUNCIL APPROVED PLANS These plans are approved subject to the current conditions of approval associated with Development Permit No.: D/85-2018 Dated: 15 November 2018

Jurewicz, C and Bennett, P (2008), "Casualty Crash Rates for Australian Jurisdictions", Australasian Road Safety Research, Policing and Education Conference, Adelaide, South Australia



ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

5.0 CONCLUSIONS AND RECOMMENDATIONS

These plans are approved subject to the current conditions of approval associated with **Development Permit No.: D/85-2018**Dated: 15 November 2018

5.1 Conclusions

We have undertaken a review of the proposed electronic device located at 190 Bolsover Street, Rockhampton. The impact of the sign has been assessed in terms of traffic safety and driver distraction. The main points to note are:

- the sign will be located to face northbound and southbound traffic on Bolsover Street
- the sign is located adjacent to the Bolsover Street / Denham Street intersection
- the proposed device will not obstruct traffic
- the Bolsover Street / Denham Street intersection has a low KSI rate of zero
- the Bolsover Street / Denham Street intersection has a crash rate below the Queensland average

5.2 Recommendations

It is recommended that:

- the sign display one static image at a time
- the displayed images are easily interpreted
- the displayed images cannot be confused with any traffic signs or devices
- the displayed images do not direct traffic to 'stop' or similar

The location of the proposed sign complies with Council requirements as is will not obstruct traffic and is not expected to reduce traffic safety proximate to the site. The proposed sign has a low KSI rate and below average crash rate. Therefore, it is not expected to pose an unacceptable risk to traffic safety and operations, provided the above recommendations are taken into account.