Appendix 15

Traffic Assessment

TAR Technologies

October 2008

Warner Industrial Park
Preferrer Project Report
Concept Plan and
Project Application

Precinct 14 WEZ

Sparks Rd and Hue Hue Rd
Warnervale
February 2009

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TERRACE
TOWER
GROUP

Warner Business Park Pty Ltd
Part of the Terrace Tower Group

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Our Reference: 2008243RP3.DOC

Attention: Mr P Andrews

Dear Peter,

RE: WARNER INDUSTRIAL PARK

This letter report is in response to a request by Peter Andrews and Associates Pty Ltd (PAA) to assess the impacts on the F3, if a single lane roundabout was provided at Sparkes Road to access Precinct 14 as part of the proposed Warner Industrial Park.

Site Description

The Warner Industrial Park comprises of land owned by Warner Business Park Pty Ltd and two adjoining parcels of land, namely Lot 5 in D.P. 259531 and Lot 9 in D.P. 239704. Collectively the total area of this site is 104.2 hectares and forms part of Precinct 14 of the Wyong Employment Zone (WEZ). The majority of the site is zoned 10a Investigation with a small portion zoned 7g Wetlands under the Wyong LEP. The site is bounded by the Sydney Newcastle Freeway (F3) to the east, Sparks Road to the south, Hue Hue Road to the west and Kiar Ridge Road to the north.

Road Network

Sparks Road is a two lane semi-rural road that links Hue Hue Road and the F3 to the Pacific Highway and Toukley. The proposed intersection of Sparks Road/Precinct 14 is approximately 150 metres west of the F3, as shown on *Figure 1*.

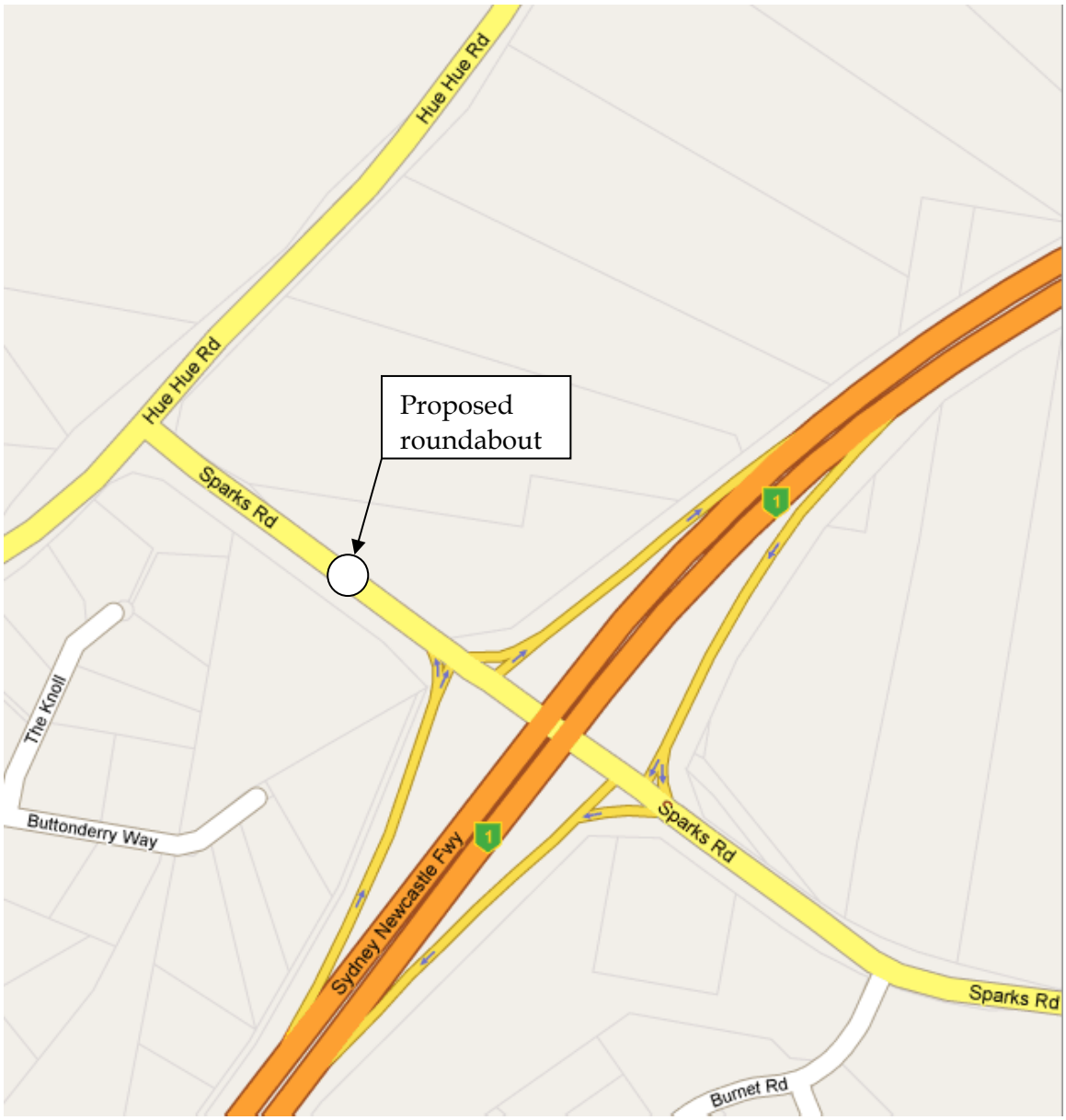


Figure 1 Locality Map

Traffic Volumes

Traffic volume data for the assessment was obtained from the Wyong Employment Zone (WEZ) Traffic Study.

As part of strategic planning for the WEZ, ARUP was commissioned by Wyong Shire Council to prepare a traffic study (November 2006) to assist with the determination of intersection layouts along Sparks Road.

The two main objectives of the WEZ Traffic Study (November 2005) were to:

- Determine the impact of the WEZ and the future Warnervale Town Centre/Greater Warnervale Area development on the adjoining state road system.
- Identify potential improvements to existing and proposed intersections on Sparks Road that would be required to cater for the anticipated traffic flows in 2018.

In order to cater for the forecast traffic flows in 2018, the WEZ Traffic Study recommends that a seagull intersection configuration for Sparks Road/Precinct 14 be provided. The assessment of a single lane roundabout was not undertaken and is the subject of this report. The 2018 traffic volumes used for the assessment are shown in *Figure 2* and *Figure 3*.

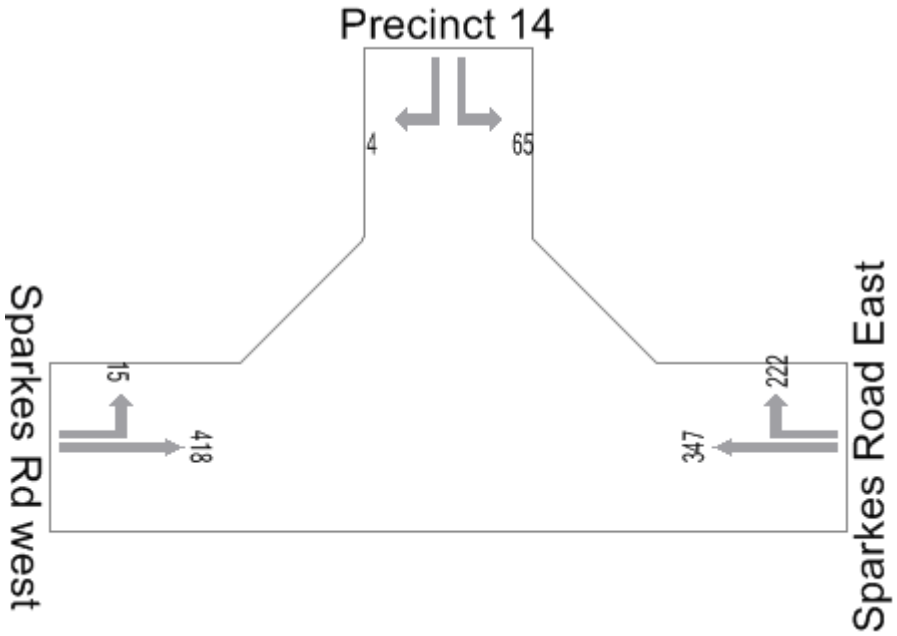


Figure 2 - 2018 Traffic Volumes (AM Peak)

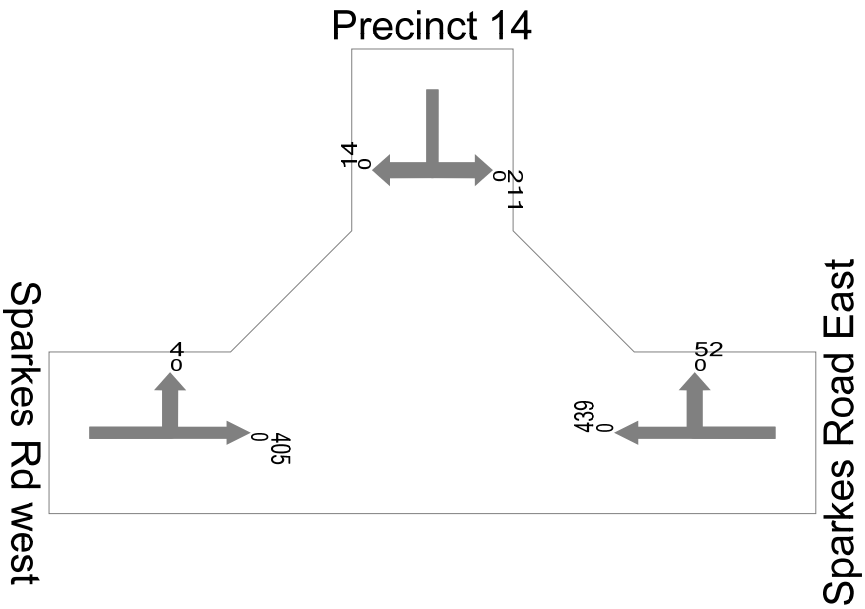


Figure 3 - 2018 Traffic Volumes (PM Peak)

Analysis Method

The queue lengths from the roundabout are considered to be the main parameter that would affect traffic at the F3 offload ramps. The analysis was undertaken using SIDRA a computer analytical program which assess the performance of a roundabout under varying traffic flow conditions, with output in terms of queue length, delays and Level of Service.

Results

The results of the SIDRA analysis are summarised in *Table 1* and *Table 2* for the AM and PM peaks respectively.

Table 1

AM PEAK Movement Summary

Sparkes Road/Precinct 14, Warnervale
Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Sparkes Road East										
5	T	347	0.0	0.344	6.7	LOS A	22	0.05	0.55	50.3
6	R	222	0.0	0.344	11.1	LOS B	22	0.05	0.69	46.3
Approach		**569**	**0.0**	**0.344**	**8.4**	**LOS A**	**22**	**0.05**	**0.60**	**48.6**
Precinct 14										
7	L	65	0.0	0.072	7.0	LOS A	3	0.48	0.58	49.0
9	R	4	0.0	0.071	12.8	LOS B	3	0.48	0.71	44.6
Approach		**69**	**0.0**	**0.072**	**7.3**	**LOS A**	**3**	**0.48**	**0.59**	**48.7**
Sparkes Rd west										
10	L	15	0.0	0.375	6.5	LOS A	17	0.40	0.56	49.5
11	T	418	0.0	0.373	5.5	LOS A	17	0.40	0.50	50.4
Approach		**433**	**0.0**	**0.373**	**5.5**	**LOS A**	**17**	**0.40**	**0.50**	**50.3**
All Vehicles		**1071**	**0.0**	**0.375**	**7.2**	**LOS A**	**22**	**0.22**	**0.56**	**49.3**

Table 2

PM PEAK Movement Summary

Sparkes Road/Precinct 14, Warnervale

Roundabout

Vehicle Movements

Mov ID	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (m)	Prop. Queued	Eff. Stop Rate	Aver Speed (km/h)
Sparkes Road East										
5	T	462	0.0	0.332	6.8	LOS A	21	0.11	0.54	50.0
6	R	55	0.0	0.331	11.2	LOS B	21	0.11	0.66	46.1
Approach		**517**	**0.0**	**0.332**	**7.3**	**LOS A**	**21**	**0.11**	**0.55**	**49.5**
Precinct 14										
7	L	222	0.0	0.243	7.4	LOS A	11	0.51	0.64	48.8
9	R	15	0.0	0.242	13.2	LOS B	11	0.51	0.76	44.5
Approach		**237**	**0.0**	**0.243**	**7.7**	**LOS A**	**11**	**0.51**	**0.65**	**48.5**
Sparkes Rd west										
10	L	4	0.0	0.308	5.5	LOS A	14	0.17	0.46	51.1
11	T	426	0.0	0.304	4.6	LOS A	14	0.17	0.40	52.2
Approach		**430**	**0.0**	**0.304**	**4.6**	**LOS A**	**14**	**0.17**	**0.40**	**52.2**
All Vehicles		**1184**	**0.0**	**0.332**	**6.4**	**LOS A**	**21**	**0.21**	**0.51**	**50.2**

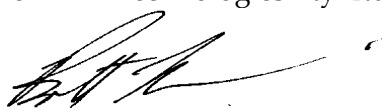
Table 1 and *Table 2* show that the Sparkes Road maximum queue extent is approximately 22 metres east of Precinct 14 access, which is still 130 metres from the F3 off ramp, and is considered acceptable.

Conclusion

The analysis of a roundabout in Sparkes Road at Precinct 14 for the proposed Warner Industrial Site shows that queues would be unlikely to interfere with the F3/Sparkes Road off load ramp.

We trust that the above information is clear and satisfactory. Should you require any further information or clarification please do not hesitate to contact me on 0419 338 081.

Yours sincerely,
for TAR Technologies Pty Ltd



Brett Morrison MEngSc (*UNSW*), AITPM, ACEA
Director