Proposed Organic Food Market in Pittwater RSL Club

Parking & Traffic Impact Assessment Report

P1827

Prepared for
Organic Food Markets

7 April 2019

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1 Introduction

1.1 Background

Greys Consulting has been engaged by Organic Food Markets to prepare a Parking and Traffic Impact Assessment (TIA) report to support developer's application for a Sunday Market located within Pittwater RSL Club. The proposed food market will replace the existing Sunday organic food market located at 35 Frenchs Forest Road, Frenchs Forest. A comprehensive traffic and parking study has been undertaken in December 2018 to determine the traffic and parking implications of the proposed development.

The subject site is shown in Figure 1.1.

Figure 1-1 Subject Site Area

Source: Google Maps

1.2 Proposed Development

Proposed development is a Sunday Organic Food Market which will be accommodating approximately 90 Stalls.

Traffic generation of the existing Sunday market in Frenchs Forest has been measured and replicated as the forecast traffic generation of the proposed food market in the future year.

The Pittwater RSL authorities have agreed with Organic Food Market owners to dedicate a section of the RSL Club open car park to the Sunday market and also provide parking for the patrons of the market within the RSL Club premises.

The proposed licensed area allocated to the Organic Food Market is depicted in Figure 1-2.

Figure 1-2 Proposed Licensed Area

The parking area shown as "Licensed Area" is dedicated to the Sunday Food Market. The proposed area includes the open area car park area. This area can be accessed from Foley Street via separate driveways.

1.2.2 Working Hours

The Sunday market is proposed to operate between 6:30am to 1:30pm with stall owners arriving after 6:30am. Trading hours will be between 8:00am and 12:30pm. Traders will leave the site by 1:30pm.

This time frame is very suitable to the locality of the site, being amongst a largely industrial land use.

1.2.3 Study Methodology

Greys Consulting proposed to undertake a holistic traffic and parking survey to:

- determine the trip generation rates (arrival and departure) at the existing Frenchs Forest Sunday Market. Trip generation rates and arrival/departure trip profiles are assumed to be similar for the proposed market at Pittwater RSL Club;
- determine parking requirements at the existing Frenchs Forest Sunday Market; given the above assumption, parking demand is anticipated to be similar;

- check parking availability at RSL Club premises during the proposed Sunday Market working hours; and
- determine the impact of new trip generation on the operation of the surrounding road network using SIDRA modelling at the following intersections:
    - Mona Vale Road/ Foley Street
    - Foley Street/Vineyard Street

1.2.4 Zoning

The site is located within the R2 Low Density Residential and B7 Business Park zones pursuant to Pittwater LEP 2014 shown in Figure 1-3. A food market development is considered wholly consistent with Section 2.8 of the Pittwater LEP 2014 (Temporary use of land).

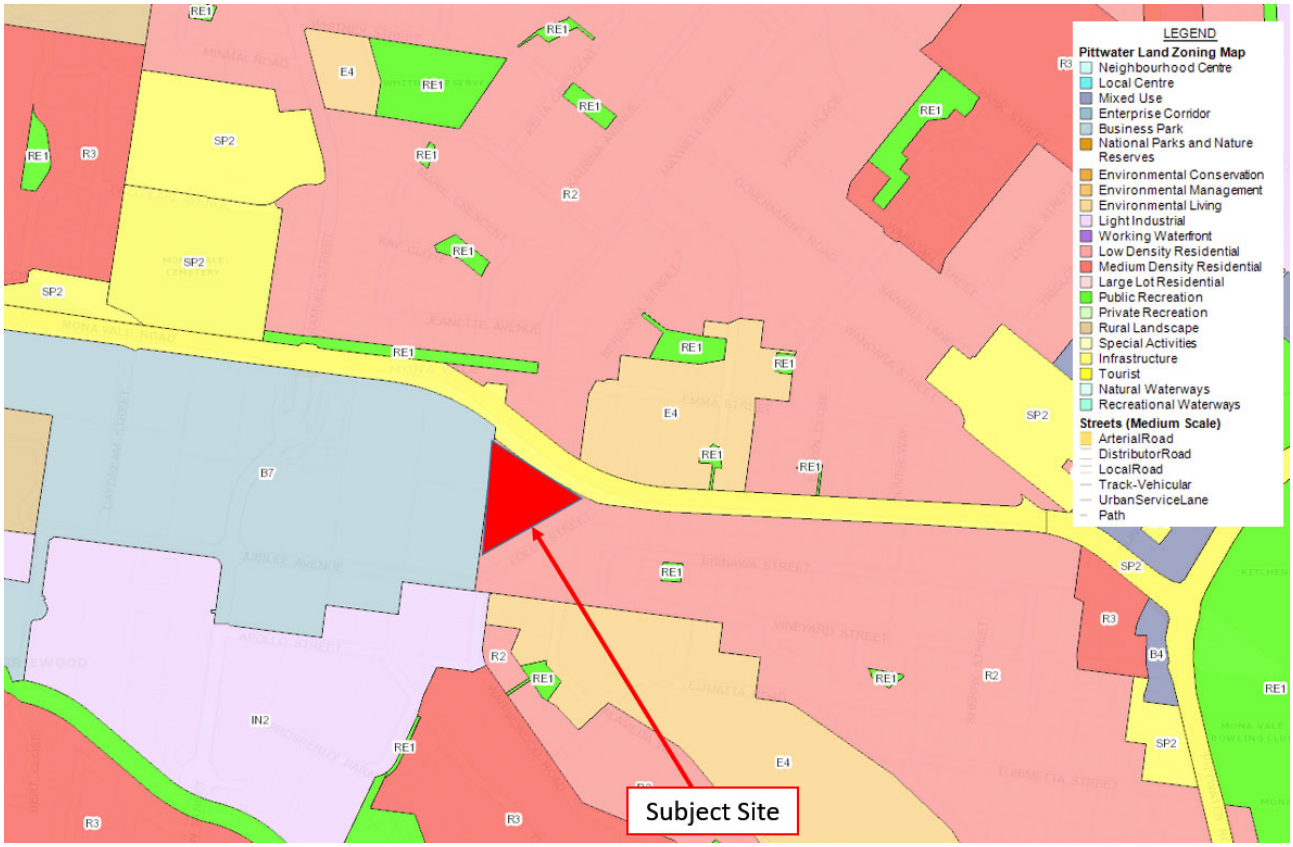


Figure 1-3 Study Area Land Use Plan

Source: services.northernbeaches.nsw.gov.au/

1.3 Scope of Work

The following works have been undertaken as part of this study:

The scope for assessment includes:

- summary of the site's traffic generation and any impacts on the surrounding intersections;
- Traffic survey at the following intersections on Sunday when market operation coincides with intersection peak hours- for Sunday (11am-1pm midday peak):
    - Mona Vale Rd/ Foley Street
    - Foley Street/Vineyard Street
- Undertake a Travel Survey at the existing Sunday Market in Frenchs Forest (as case study) to determine trip generation for a Sunday market to determine entry/exits to the market between the hours of 8am – 2pm.
- Obtain Traffic Lights signal data (IDM historical data and signal plans) from Roads and Maritime for Mona Vale Road/Foley Street intersection and analyse signal timings;

- A SIDRA intersection analysis to determine the impacts of the proposed development on the adjacent road network and intersections performance;
- assessment of the site access location and form;
- Estimate parking requirement for the proposed market within the RSL Club premises based on existing parking occupancy pattern at Frenchs Forest Sunday market through a parking occupancy survey.
- Undertake a parking occupancy survey at Pittwater RSL during market operation hours (on a Sunday 8am-2pm) to determine the spare parking capacity which can be used by market visitors- Area A and B as identified in Figure 1-2 were surveyed for parking availability and occupancy.
- assessment of the car park provisions in accordance with existing Frenchs Forest market parking requirements;
- a review of active transport amenity including pedestrian access and connectivity to surrounding footpath networks; and
- a review of public transport accessibility and facilities within proximity to the site.

1.4 Reference Documents

The following documents have been reviewed and referenced in this report:

- Guide to Traffic Generating Developments (RTA, 2002);
- Pittwater Local Environmental Plan 2014

2 Existing Conditions

2.1 Surrounding Road Network

2.1.1 Key Roads

Details of the immediate road network surrounding the proposed development site is shown in Table 2.1.

Table 2-1 Surrounding Road Network

Road Name	Jurisdiction	Hierarchy	No. Lanes	Divided	Speed Limit	Comments
Mona Vale Road	Roads and Maritime Services	Arterial Road	4	No	60km/h	*State Controlled Main Road*
Foley Street	Northern Beaches Council	Collector Road	2	No	50km/h	*Local Collector Road*
Vineyard Street	Northern Beaches Council	Collector Road	2	No	50km/h	*Local Collector Road*
Warriewood Road	Northern Beaches Council	Collector Road	2	No	50km/h	*Local Collector Road*

The existing road network surrounding the proposed development at Mona Vale consists of:

- Mona Vale Road (State Controlled Arterial Road)
- Foley Street (Local Collector Road)
- Vineyard Street (Local Collector Road)
- Warriewood Road (Local Collector Road)

The main traffic corridor in the vicinity of the subject site is Mona Vale Road which is an RMS controlled Arterial Road. This Road is under the authority of Roads and Maritime Services.

2.1.2 Mona Vale Road

Mona Vale Road is an Arterial Road upon the RMS document Functional Classification of Roads. These classification levels are described in Table 2-2.

Mona Vale Road is a 20km stretch of road between Pacific Highway at Gordon and Pittwater Road at Mona Vale. Proposed food market gets access to Mona Vale Road via Foley Street.

2.1.3 Foley Street

Foley Street is a local collector road based upon the RMS document Functional Classification of Roads. This shorth stretch of road runs south-north and is utilised as a local collector road and provides access to Mona Vale Road. Foley Street is extended between Vineyard Street and Mona Vale Road.

Foley Street is a local collector, unclassified road which is primarily used to provide vehicular and pedestrian access to frontage of residential, recreational land uses within. It carries two traffic lanes in each direction, with restricted kerbside parking (No Stopping) on both sides of the road.

2.1.4 Vineyard Street

Vineyard Street is a local collector road based upon the RMS document Functional Classification of Roads. This road runs east-west and is utilised as a local collector road and provides access to Pittwater Road and Foley Street. Vineyard Street is extended between Pittwater Road and Foley Street.

Vineyard Street is a local collector road, which is primarily used to provide vehicular and pedestrian access to frontage of residential landuse within. It carries two traffic lanes in each direction, with unrestricted kerbside parking permitted on both sides of the road.

2.1.5 Warriewood Road

Warriewood Road is a local collector road which runs south-north. Warriewood Road is utilised as a local collector road and provides access to Pittwater Road and Mona Vale Road. Warriewood Road is extended between Pittwater Road and Vineyard Street.

Warriewood Road is a local collector road, which is primarily used to provide vehicular and pedestrian access to frontage of residential, educational and commercial landuse within. It carries two traffic lanes in each direction, with kerbside parking permitted on both sides of the road.

Table 2-2 Road Classifications

Road Classification	Description
Arterial Road	This is typically a main road carrying in excess of 15,000 vehicles per day and over 1,500 vehicles per hour in the peak period. They predominantly carry traffic from one region to another, forming principal avenues of communication for metropolitan traffic movements.
Sub-Arterial Road	This is typically a secondary road carrying between 5,000 and 20,000 vehicles per day, and over 500 to 2,000 vehicles per hour in the peak period. They predominantly carry traffic from one sub-region to another forming secondary inter-regional transport links.
Collector Road	This is typically a minor road carrying between 2,000 and 10,000 vehicles per day, and over 250 to 10,000 vehicles per hour in the peak period. They provide a link between local areas and regional roads, carrying low traffic volumes. At volumes greater than 5,000 vehicles per day, residential amenity begins to decline noticeably.
Local Road	This is typically a local street carrying less than 2,000 vehicles per day and 250 vehicles per hour in the peak period. They provide immediate access to individual houses and carry low volumes of traffic.

Source: RMS Functional Classification of Roads

2.2 Existing Traffic Controls

Key features of the existing traffic controls which apply to the road network in the vicinity of the site are:

- a 50 km/h *SPEED LIMIT* which applies to Foley Street and all other local roads in the surrounding area;
- a 60 km/h *SPEED LIMIT* which applies to Mona Vale Road;
- The intersection of Mona Vale Road/Foley Street is controlled by Traffic Lights
- The intersection of Foley Street/Vineyard Street is controlled by Stop priority sign and delineation;
- The intersections of Ponderosa Parade with Mona Vale Road and Jubilee Street are controlled by roundabouts.

2.2.1 Key Intersections

Two (2) key intersections are is in proximity to the proposed development; the intersections of:

- Mona Vale Road/ Foley Street (Signalised)
- Foley Street/ Vineyard Street (Stop Priority Controlled)

The intersections controls are shown in Figure 2.1 below and are situated within a low speed environment.

Figure 2-1 Intersections near the proposed Organic Food Market

Source: Nearmap

2.3 Public Transport

2.3.1 Bus Routes

The development has close access to bus public transport located in front of the RSL club.

Table 2-3 Public Transport Services

Route	Description	Operator	Frequency	
			Weekday Peak	Weekday Off-Peak
185	Mona Vale to Warringah Mall via Warriewood	Sydney Buses	Every 30 Minutes	Every 30 Minutes
E85	Mona Vale to City Wynyard via Warriewood	Sydney Buses	Every 15 Minutes	NA

Source: http://www.TfNSW.com.au/

Closest bus stops to the development are located within less than 1-minute walk from the proposed development and provide access to routes 185(Mona Vale to Warringah Mall) and E85 (Mona Vale to City Wynyard).

2.4 Pedestrian Infrastructure

Connected footpaths with proper access and connectivity are proposed to be provided from the proposed development to public transport services.

3 Parking Assessment

This section investigates the proposed parking provisions against the statutory requirements applicable for the subject development.

3.1 Parking Demand (Frenchs Forest Sunday Market Case Study)

A parking occupancy survey was undertaken on a typical Sunday between 8:00am and 2:00pm in the RSL Club premises to determine available parking spaces during proposed working hours. A separate parking occupancy survey was undertaken on Sunday 2 December 2018 to determine the parking demand of the existing Sunday food market in Frenchs Forest.

Parking occupancy survey results are shown below:

Figure 3-1 Frenchs Forest Organic Food Market – Sunday Parking Occupancy Survey Area

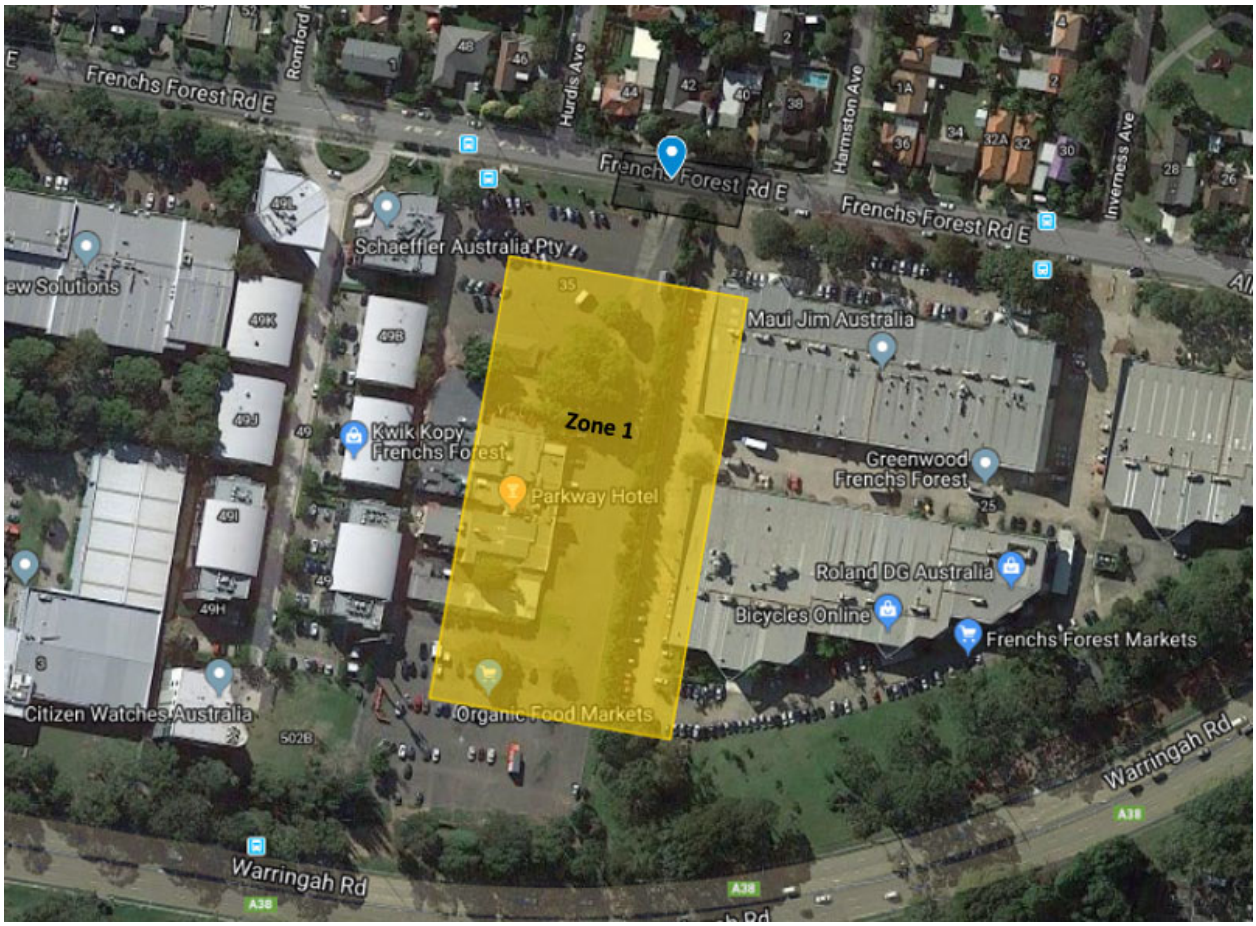


Table 3-1 Frenchs Forest Sunday Market Parking Occupancy

Client	Greys Consulting
Location	Zone 1
Date	Sun, 2nd Dec 2018 (8:00-14:00)
Description	Pittwater RSL Parking Survey

Side of the Street	Parking Restriction	Time Restrictions	Availble Spaces	8:00	9:00	10:00	11:00	12:00	13:00	14:00
Zone 1										
	No Restriction		202	196	197	199	197	190	143	104
	Disabled	Disabled Parking Only	1	1	1	1	1	0	1	0
	No Parking	At any time (Walkway Path)		14	18	24	16	14	10	4
Total			203	197	198	200	198	190	144	104
% Capacity				97%	98%	99%	98%	94%	71%	51%

*** 43 vehicles were parked before 8am at the markets by the stalls owners, at 2pm there were 26 still parked (not included in above data)

Since stall owners had already parked 43 vehicles before 8am in the parking area, approximately 100 vehicles (out of 144 total parked vehicles) in the parking area at 1pm (when the market is closed) are expected to be remaining market customers (10%) and Parkway Hotel patrons who come to the hotel for lunch and Sunday afternoon drinks (90%). The time window between 1pm and 2pm is a popular time in restaurants and hotels on a Sunday afternoon. Some of Parkway Hotel patrons at this time are expected to be the remaining food market customers who decided to stay for lunch or drinks. The portion of remaining market customers were not quantified during the survey.

Figure 3-2 Pittwater RSL Club – Typical Sunday Parking Occupancy Survey Area

Table 3-2 Pittwater RSL Club Parking Occupancy on a Typical Sunday

Client	Greys Consulting
Location	Zone 3
Date	Sun, 2nd Dec 2018 (8:00-14:00)
Description	Pittwater RSL Parking Survey

Side of the Street	Parking Restriction	Time Restrictions	Availble Spaces	8:00	9:00	10:00	11:00	12:00	13:00	14:00
Zone 3										
	No Restriction		106	4	4	4	4	5	9	9
No Restriction - (Close to Jubilee Ave driveway)			12	1	1	1	2	2	2	2
Total			118	5	5	5	6	7	11	11
% Capacity				4%	4%	4%	5%	6%	9%	9%

3.2 Frenchs Forest Maximum Parking Demand

Parking occupancy survey results show that there is a maximum demand of 200 parking spaces on a Sunday morning in Frenchs Forest food market. In addition, a maximum arrival rate of 230 v/hr vs. 114 v/hr departing vehicles per hour was recorded at 8:45am. Frenchs Forest market supplies 203 parking spaces which is just about sufficient for the busiest times of food market.

Complete Traffic Survey results are attached in **APPENDIX A**.

Maximum parking demand at the RSL club occurs between 12:00pm and 2:00pm on a Sunday afternoon when patrons arrive for lunch and Sunday afternoon drinks. This peak demand coincides with market close down period at 12:30 when the maximum parking demand associated with the market operation is anticipated to drop to maximum of 43 parking spaces (according to Frenchs Forest market parking occupancy survey) which essentially belong to stall owners' vehicles.

In addition, a complete parking survey has been provided by Pittwater RSL Club on a typical Sunday. (RSL Club Authorities Parking Survey-18th November 2018)

Pittwater RSL club supplies 397 parking spaces for customers of which 118 spaces are expected to be sacrificed for the food market space. Therefore, 279 remaining parking spaces must be shared between the RSL Club patrons and the food market customers. According to the above parking occupancy survey, a maximum of 200 parking spaces will be required until 12pm for the market customers and stall holders. Maximum RSL Club parking occupancy between 9am and 12pm occurs at 12pm with maximum of 99 parked vehicles (RSL Club Authorities Parking Survey,18th November 2018). As a reasonable assumption, 5% of the food market customers are expected to be from the RSL Club patrons and their trips can be considered as chain trips. Therefore, 5% trip and parking discount would be acceptable for this case. Tables below show parking demand analysis for simultaneous operation of the RSL Club and proposed food market for a typical Sunday:

Table 3-3 Pittwater RSL Club and Proposed Food Market – Typical Sunday Parking Analysis

Time	Parking Supply	RSL Club Parking Demand	Food Market Parking Demand	RSL Patrons Overlap Discount	Stall Owners Vehicles	Parking Sacrifice Scenario A	Remaining Free Parking Spaces
8am	397	0	197	5%	43	118	92
9am	397	29	198	5%	43	118	62
10am	397	39	200	5%	43	118	50
11am	397	55	198	5%	43	118	36
12pm	397	79	190	5%	43	118	20
1pm	397	196	43	0%	43	118	40

Parking analysis results for a typical Sunday show that ample parking spaces will be available. The following assumptions were made in the parking demand analysis for a typical Sunday:

- A total of 397 parking spaces will be supplied by the RSL Club;
- 118 Spaces will be sacrificed for the market area;
- Total RSL Club parking demand on a typical Sunday were adopted from parking survey undertaken by the RSL Club authorities on Sunday 18th November 2018;
- Proposed food market parking demand was assumed to be similar to parking demand recorded in Frenchs Forest organic food market on Sunday 2 December 2018;
- A 5% overlap between the patrons of the RSL Club and customers of the proposed organic food market was included in the analysis for a typical Sunday;
- Stall holders are anticipated to occupy 43 parking spaces;
- All food market customers are anticipated to leave the RSL Club premises by 1pm; and

3.3 Parking Analysis Summary and Conclusion

A holistic parking occupancy survey was undertaken by Matrix and Pittwater RSL Club authorities in the existing Frenchs Forest Sunday Food Market and proposed market area the Pittwater RSL club on a typical

Sunday to determine the parking demand profile for the RSL Club normal use and proposed organic food market in the RSL Club. Parking demand analysis results show that ample parking spaces will be available at all times for both the RSL Club and proposed organic food market customers. Therefore, it is concluded that proposed Sunday organic food market will not have negative parking impact on the surrounding local road network or the RSL Club.

Detailed parking occupancy survey data is included in **APPENDIX B**.

4 Proposed Development

4.1 Development Traffic Generation

An indication of the traffic generation potential of the development proposal is provided by reference to the existing Frenchs Forest Sunday food market driveway count survey. As an assumption, the same number of trips will be generated during Sunday midday peak hour at Mona Vale Road/Foley Street intersection.

The existing Sunday food market arrival/departure trip profile for a typical Sunday was used as a comparative study to determine the future number of trips during Sunday midday. The maximum number of arrivals were recorded at 8:45 with 205 arriving trips and maximum departure trips were recorded at 9:15 with 224 trips. The following peak hours were recorded at the Mona Vale Road/Foley Street signalised intersection during a typical Sunday midday:

- Sunday Midday Peak : 12:00 – 1300 (12:00-13:00 modelled in SIDRA)

The projected future level of traffic activity should however, be offset or discounted by the level of traffic activity which could reasonably be expected to have been generated by the previous uses of the site, to determine the nett increase in the traffic generation potential of the site as a consequence of the development proposal. As a conservative approach, no offset has been considered for the existing non-market trip generations mixed with market trip generations of Sunday.

The proposed development will result in an increase in the traffic generation of maximum 353 trips on a Sunday midday as set out below:

Table 4-1 Projected Nett Increase in Peak Hour Traffic Generation Potential

Land Use	Generation Rate	**Arrival Trips**	Departure Trips
Sunday midday Peak (12:00pm-13:00pm)	353	156	197

A traffic model using SIDRA intersection was prepared to demonstrate the impacts of the proposed development on the adjacent road network and Mona Vale Road/ Foley Street signalised intersection.

4.2 Trip Distribution

A big portion of the trip generation of the proposed food market is anticipated to be from the existing local catchment area and therefore, trip distribution should occur within the local residential area; however, many customers are still expected to arrive from the surrounding suburbs.

The estimated trip distribution is presented in Table 4-2.

Table 4-2 Trip Distribution of the Proposed Development

Location	Percentage of Sunday Arrival Trip Distribution	Percentage of Sunday Departure Trip Distribution
From/To Mona Vale Road West	20%	20%
From/To Mona Vale Road East	60%	40%
From/To Foley Street South	20%	40%*

* Heavy traffic at Foley Street will divert traffic to Ponderosa Parade to avoid long delays at Foley Street Signals.

4.3 SIDRA Intersection Analysis

An analysis of the following intersection north of the proposed development was conducted using SIDRA Intersection software to determine the impacts of the proposed development on the local road network:

- Mona Vale Road/ Foley Street

Intersection Count survey were undertaken on Sunday 2nd December 2018 between 11:00am-1:00pm. SCATS signal historical IDM data and associated signal plans for the intersection of Mona Vale Road and Foley Street were obtained from Roads and Maritime Services for a typical Sunday outside of school holidays.

The purpose of this analysis was to determine the impact of the proposed development traffic on the surrounding road network particularly on Mona Vale Road /Foley Street signalised intersection performance during Sunday midday.

According to the trip distribution assumptions, the intersection of Mona Vale Road and Foley Street is anticipated to be impacted more than other surrounding intersections.

The SIDRA model was calibrated using 95%ile observed back of queue length data on Mona Vale Road.

Using existing traffic volumes obtained through surveys, the trip generations for new vehicle trips and estimated trip distributions, the analysis was conducted for Sunday midday intersection peak (12:30pm – 1:00pm) for both the existing (2018) and future (with development) scenarios.

No discount was applied to Sunday midday peak and the same number of trips as in Frenchs Forest trip survey were applied to Sunday midday SIDRA model in "with development" scenario. A total of 353 new trips will be used for the Sunday midday "with development" scenario SIDRA analysis.

4.3.1 Existing Operations (2018)

A SIDRA model was prepared and calibrated to observed back of queue length for the east and west approaches of the intersection. Results of the existing operations of the intersection during Sunday midday peak traffic period is summarised inTable 4-3.

Table 4-3 Sunday Midday Peak Existing 2018 SIDRA Results Summary

Intersection	Level of Service	Average Delay (sec/veh)	Degree of Saturation (v/c) Worst Lane
Mona Vale Road East(T)	A	14	0.374
Mona Vale Road East (L)	A	13.5	0.374
Mona Vale Road West (T)	A	10.3	0.653
Mona Vale Road West (R)	E	69	0.295
Foley Street	E	65	0.519

Key points include:

- The intersection performs at an acceptable Level of Service B; and
- Highest delay occurs at Mona Vale Road eastbound right turn bay (69 sec).

4.3.2 Future Operations (with Development) – No Signal Changes

Results of the projected future operation of the intersection during Sunday midday peak traffic periods are summarised in **Error! Reference source not found.**Table 4-4 . A comparison of both ‘without development’ and ‘with development’ is also shown in **Error! Reference source not found.**Table 4-6. It must be noted that no changes to signal timing has been anticipated to demonstrate the outcomes of the worst case scenario. SCATS system is anticipated to extend Foley Street signals to maximum green time duration during Sunday midday peak to avoid substantial queuing at this leg.

An alternative analysis with optimised signal timing is undertaken in section 4.3.3.

Table 4-4 Sunday Midday Peak Future with Development SIDRA Results Summary

Intersection	Level of Service	Average Delay (sec/veh)	Degree of Saturation (v/c) Worst Lane
Mona Vale Road East(T)	A	14.5	0.437
Mona Vale Road East (L)	A	14	0.437
Mona Vale Road West (T)	A	10.3	0.653
Mona Vale Road West (R)	F	70.6	0.523
Foley Street	F	168.7	1.293

Key points include:

- The intersection performance will deteriorate (LoS C);
- Long queues will be expected at Foley Street; and
- Leaving traffic will most likely use

4.3.3 Future Operations (with Development) – Signal Optimisation

SIDRA analysis for the "with development" scenario was undertaken using optimised signal timing to determine more realistic delay times for the side road by stretching the green time to the maximum level for the side road. This analysis is only undertaken for the Sunday midday peak scenario. A maximum green time of 33 seconds was observed at Foley Street during the Sunday midday peak. Therefore, Phase C (Foley Street) was slightly stretched by 10 seconds. The results were enhanced as following:

Table 4-5 Sunday Midday Peak with Development SIDRA Results Summary (Optimised Signals)

Intersection	Level of Service	Average Delay (sec/veh)	Degree of Saturation (v/c) Worst Lane
Mona Vale Road East(T)	B	18.3	0.471
Mona Vale Road East (L)	B	17.6	0.471
Mona Vale Road West (T)	A	13.5	0.729
Mona Vale Road West (R)	F	72.6	0.523
Foley Street	E	65.8	0.814

Key points include:

- The intersection performance will remain (LoS B);
- Long queues at Foley Street (170m) will reduce to 60m; and
- The intersection will perform at an acceptable level during the Sunday midday peak hour.

Table 4-6 Sunday Midday Peak Future with Development SIDRA Results Summary Comparison

Intersection	Without Development			With Development (optimised)		
	Level of Service	Average Delay	Worst Leg Degree of Saturation	Level of Service	Average Delay	Worst Leg Degree of Saturation
Mona Vale Road / Foley Street	B	15.8	0.653	B	22.4	0.814

Based on the SIDRA analysis, it is obvious that the proposed organic food market development traffic generation and impacts to the surrounding road network can be adequately catered for by the existing intersection configurations and will have inconsequential impacts on Mona Vale Road and Foley Street existing queues and delay time during the weekday AM and midday Sunday peak hours.

Traffic surveys undertaken of the abovementioned intersection are provided in **APPENDIX A**.

Detailed SIDRA outputs for each intersection are provided in **APPENDIX C**. IDM historical signal data and relevant TCS plans are attached in **APPENDIX D**.

5 Summary and Conclusions

Greys was engaged by Organic Food Market to perform a traffic impact and parking assessment in support of a development application for a proposed Sunday Organic Food Market at the existing Pittwater RSL Club in Mona Vale. The premises are located at 82 Mona Vale Road, Mona Vale.

The proposed development was assessed in accordance with the existing Sunday Organic Food Market in Frenchs Forest traffic and parking requirements. Existing Frenchs Forest Sunday Market was chosen as an acceptable case study to determine parking demand and trip generation rates anticipated for the proposed food market. The assessment outcomes are as follows:

- An investigation of the available public transport was undertaken revealing excellent public transport access to/from the proposed development;
- A site visit was undertaken by Greys Consulting Traffic Engineer on Sunday 02/12/2018 during the midday peak hours;
- An additional trip generation of 353 vhp trips are projected during Sunday midday peak hour;
- A SIDRA intersection assessment was undertaken at the intersection of Mona Vale Road/Foley Street. SIDRA analysis results show that development of the proposed Organic Food Market will have negligible impacts on the intersection and surrounding road network performance. The impacts will be short and acceptable due to flexibility of SCATS signals which can allocate sufficient green time (maximum green) to busier legs (side roads) during peak times;
- As part of this report, a parking assessment was also undertaken. The RSL Club supplies 397 off-street parking spaces for the patrons. A holistic parking demand analysis was undertaken for a Sunday. The analysis outcomes show that ample parking spaces will be available at all times for the RSL Club patrons and the proposed food market customers;
- concrete connected footpath to Mona Vale Road footpath is provided for convenient and safe pedestrian access and connectivity; and
- The proposed Organic Food Market development is acceptable in terms of traffic and parking matters and will not negatively impact the surrounding road network safety and amenity;

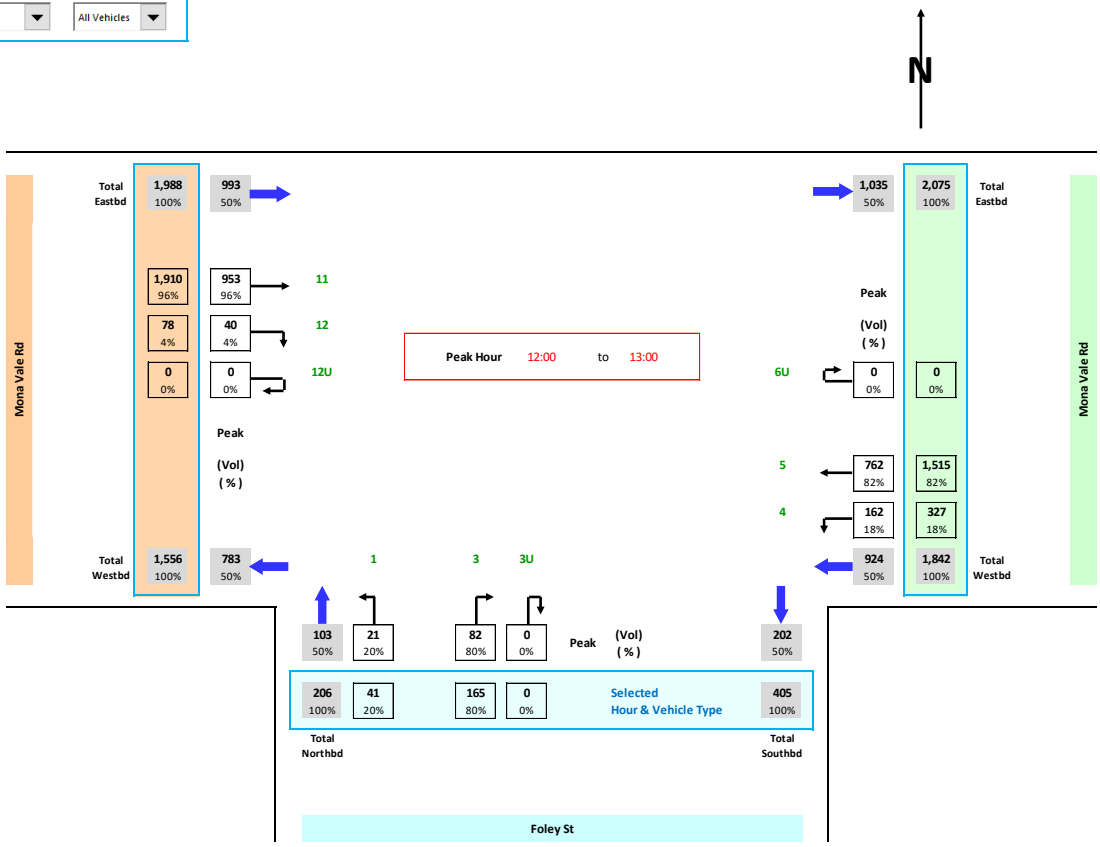
Appendix A – Intersections Survey Data

Job No. : N4668
Client : Greys Consulting
Suburb : Pittwater RSL Market
Location : 2. Mona Vale Rd / Foley St

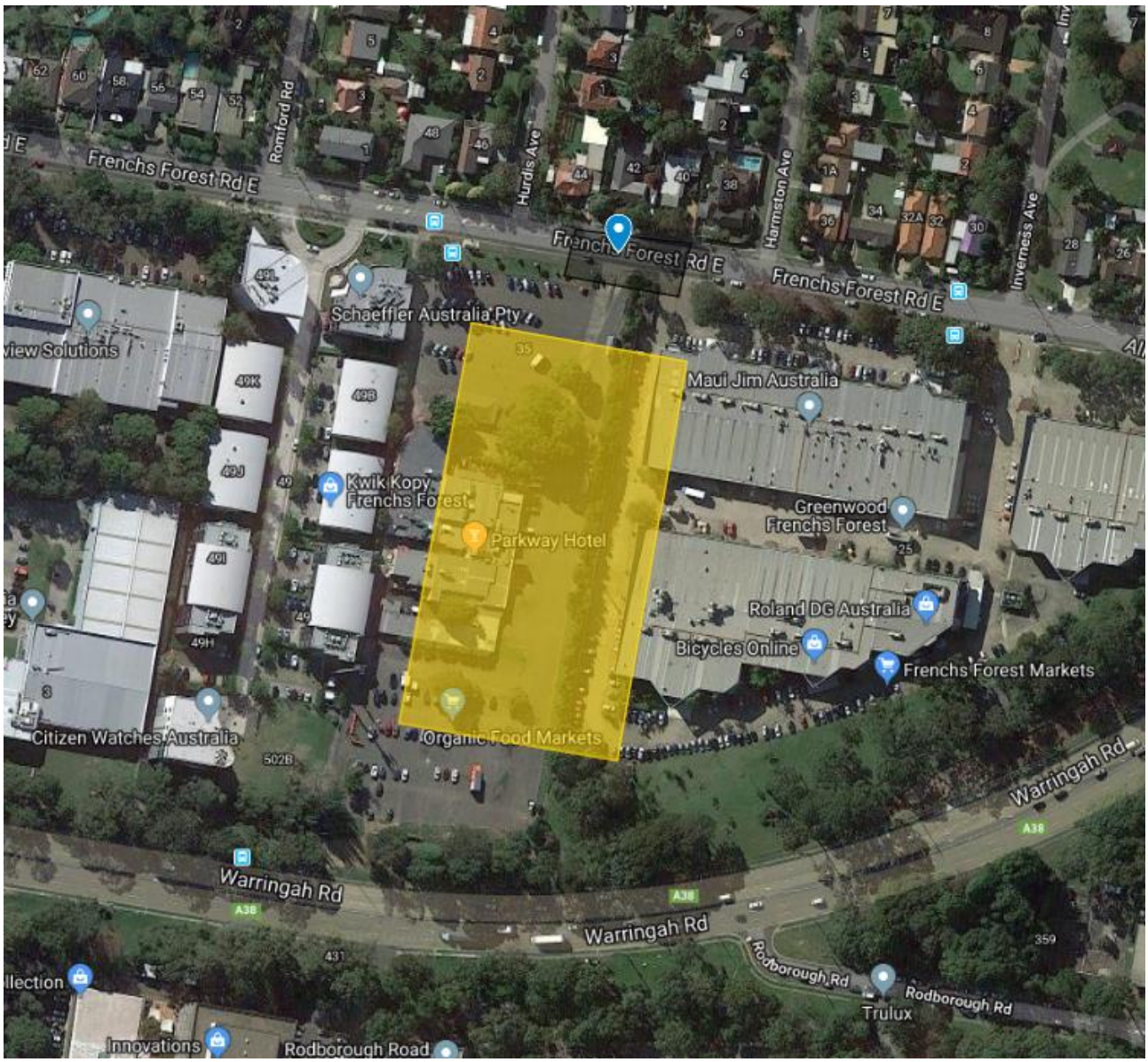
Day/Date : Sun, 2nd Dec 2018
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram

MATRIX Traffic and Transport Data

Hour Starting: Total
Vehicle Type: All Vehicles



Appendix B – Parking Occupancy Survey



Client	Greys Consulting
Location	Zone 1
Date	Sun, 2nd Dec 2018 (8:00-14:00)
Description	Pittwater RSL Parking Survey

MATRIX Traffic and Transport Data

Side of the Street	Parking Restriction	Time Restrictions	Availble Spaces	8:00	9:00	10:00	11:00	12:00	13:00	14:00
Zone 1										
	No Restriction		202	196	197	199	197	190	143	104
	Disabled	Disabled Parking Only	1	1	1	1	1	0	1	0
	No Parking	At any time (Walkway Path)		14	18	24	16	14	10	4
Total			203	197	198	200	198	190	144	104
% Capacity				97%	98%	99%	98%	94%	71%	51%

*** 43 vehicles were parked before 8am at the markets by the stalls owners, at 2pm there were 26 still parked (not included in above data)

Client	Greys Consulting
Location	Zone 2
Date	Sun, 2nd Dec 2018 (8:00-14:00)
Description	Pittwater RSL Parking Survey

Side of the Street	Parking Restriction	Time Restrictions	Availble Spaces	8:00	9:00	10:00	11:00	12:00	13:00	14:00
Zone 2										
Grand										
	No Restriction		32	6	6	8	10	19	23	29
Level 1										
	No Restriction		29	5	6	8	9	20	29	29
	Reserved Parking	Club President	1	0	0	1	1	1	1	1
	Reserved Parking	Vice President	1	0	0	0	0	0	0	0
	Reserved Parking	CEO	1	0	1	1	1	1	1	1
	Reserved Parking	Sub Branch	1	0	0	0	0	0	0	0
	Reserved Parking	Sub Branch President	1	0	0	0	0	0	0	0
Level 2										
	No Restriction		51	0	2	4	7	18	29	33
	Disabled		2	0	0	1	0	1	1	1
	Reserved Parking	Sub Branch	2	0	0	0	0	0	0	0
Open Car park Outside Building										
	No Restriction		32	1	1	3	5	7	13	18
Total			**153**	**12**	**16**	**26**	**33**	**67**	**97**	**112**
% Capacity				**8%**	**10%**	**17%**	**22%**	**44%**	**63%**	**73%**

Client Greys Consulting
Location Zone 3
Date Sun, 2nd Dec 2018 (8:00-14:00)
Description Pittwater RSL Parking Survey

Side of the Street	Parking Restriction	Time Restrictions	Availble Spaces	8:00	9:00	10:00	11:00	12:00	13:00	14:00
Zone 3										
	No Restriction		106	4	4	4	4	5	9	9
No Restriction - (Close to Jubilee Ave driveway)			12	1	1	1	2	2	2	2
Total			118	5	5	5	6	7	11	11
% Capacity				4%	4%	4%	5%	6%	9%	9%

Client Greys Consulting
Location Zone 2
Date Wed, 5th December 2018
Description Pittwater RSL Club Parking Survey

Side of the Street	Parking Restriction	Time Restrictions	Availble Spaces	8:00	9:00	10:00	11:00	12:00	13:00	14:00
Pittwater RSL Club - Off Street										
Ground Floor										
	No Restriction		32	3	6	6	9	10	13	15
Level 1										
	No Restriction		29	2	1	3	14	22	26	26
	Reserved Parking	For club president	1	0	0	0	0	0	0	0
	Reserved Parking	For club vice president	1	0	0	0	0	0	0	0
	Reserved Parking	For club CEO	1	1	1	0	0	0	0	0
	Reserved Parking	For subbranch	1	0	0	0	0	0	0	0
	Reserved Parking	For subbranch president	1	0	0	0	0	0	0	0
Level 2										
	No Restriction		51	1	1	3	6	11	14	15
	Disabled Parking		2	0	0	0	1	1	1	1
	Reserved Parking	For Subbranch	2	0	0	0	0	0	0	0
Open Car Park Outside										
	No Restriction		32	0	2	2	3	4	4	4
	Total		153	7	11	14	33	48	58	61
	% Capacity			5%	7%	9%	22%	31%	38%	40%

Client Greys Consulting
Location Zone 3
Date Wed, 5th December 2018
Description Pittwater RSL Club Parking Survey

Side of the Street	Parking Restriction	Time Restrictions	Availble Spaces	8:00	9:00	10:00	11:00	12:00	13:00	14:00
Pittwater RSL Club - Off Street										
Area B										
	No Restriction		106	4	4	10	10	17	17	18
No Restriction - (Close to Jubilee Ave driveway)			12	0	0	1	3	2	2	2
	Total		118	4	4	11	13	19	19	20
	% Capacity			3%	3%	9%	11%	16%	16%	17%

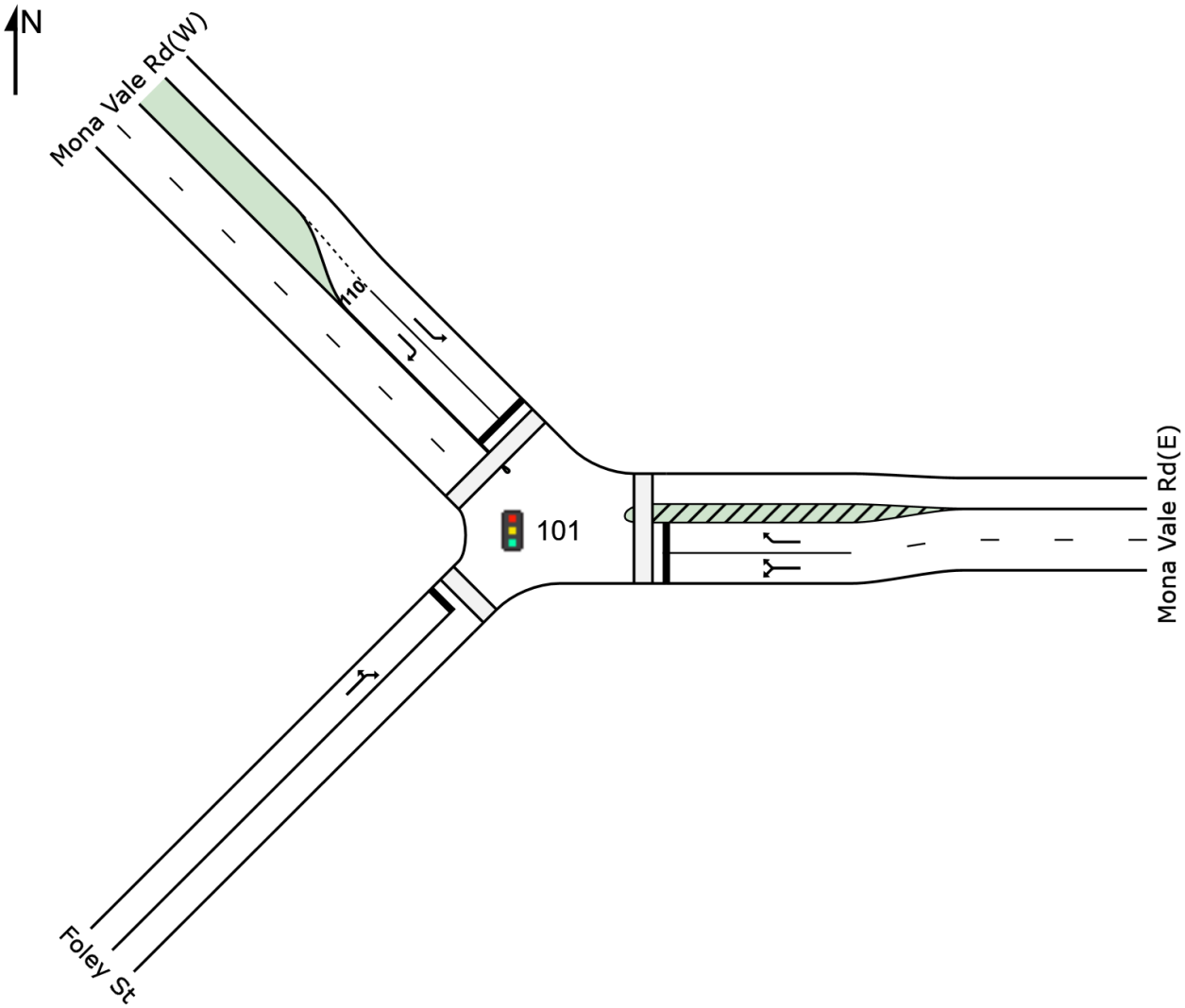
Pittwater RSL Club Authorities - Parking Occupancy Survey					
Sunday, 18th November 2018					
	Lower Carpark	Upper Car Park	Multi-Storey Car Park	Occupied	Avaiable
Available	**184**	**100**	**113**	**397**	
9am	7	13	9	29	368
10am	7	18	14	39	358
11am	14	22	19	55	342
12pm	9	35	35	79	318
1pm	26	95	75	196	201
Wednesday, 21st November 2018					
	Lower Carpark	Upper Car Park	Multi-Storey Car Park	Occupied	Avaiable
Available	**184**	**100**	**113**	**397**	
9am	11	21	15	47	350
10am	29	35	41	105	292
11am	35	43	49	127	270
12pm	39	51	64	154	243
1pm	20	46	73	139	258

Appendix C – SIDRA Analysis Results

SITE LAYOUT

Site: 101 [Mona Vale Rd/Foley St AM Peak Wed]

Mona Vale Rd/Foley St
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 101 [Mona Vale Rd/Foley St Midday Peak Sun]

Mona Vale Rd/Foley St
Signals - Fixed Time Isolated Cycle Time = 130 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Mona Vale Rd(E)											
4a	L1	171	1.9	0.374	14.0	LOS A	12.4	87.5	0.44	0.71	43.6
6a	R1	802	1.0	0.374	13.5	LOS A	12.7	90.0	0.45	0.71	47.3
Approach		973	1.2	0.374	13.6	LOS A	12.7	90.0	0.45	0.71	46.8
NorthWest: Mona Vale Rd(W)											
27a	L1	1003	0.8	0.653	10.3	LOS A	25.3	178.3	0.44	0.73	49.3
29	R2	42	0.0	0.295	69.0	LOS E	2.6	18.4	0.98	0.74	21.5
Approach		1045	0.8	0.653	12.7	LOS A	25.3	178.3	0.47	0.73	47.6
SouthWest: Foley St											
30	L2	22	0.0	0.519	65.6	LOS E	6.7	47.5	0.99	0.79	22.4
32a	R1	86	2.4	0.519	64.8	LOS E	6.7	47.5	0.99	0.79	23.3
Approach		108	1.9	0.519	65.0	LOS E	6.7	47.5	0.99	0.79	23.2
All Vehicles		2126	1.0	0.653	15.8	LOS B	25.3	178.3	0.49	0.73	45.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	1	59.1	LOS E	0.0	0.0	0.95	0.95
P7	NorthWest Full Crossing	1	59.1	LOS E	0.0	0.0	0.95	0.95
P8	SouthWest Full Crossing	4	8.1	LOS A	0.0	0.0	0.35	0.35
All Pedestrians		6	25.1	LOS C			0.55	0.55

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Mona Vale Rd/Foley St Midday Peak Sun - With Market]

Mona Vale Rd/Foley St
Signals - Fixed Time Isolated Cycle Time = 130 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Mona Vale Rd(E)											
4a	L1	269	37.9	0.437	14.5	LOS A	12.9	106.5	0.45	0.72	40.4
6a	R1	802	1.0	0.437	14.0	LOS A	15.9	112.0	0.48	0.72	47.0
Approach		1072	10.3	0.437	14.1	LOS A	15.9	112.0	0.47	0.72	45.6
NorthWest: Mona Vale Rd(W)											
27a	L1	1003	0.8	0.653	10.3	LOS A	25.3	178.3	0.44	0.73	49.3
29	R2	75	0.0	0.523	70.6	LOS F	4.8	33.4	1.00	0.77	21.2
Approach		1078	0.8	0.653	14.5	LOS B	25.3	178.3	0.48	0.74	46.3
SouthWest: Foley St											
30	L2	63	0.0	1.091	168.7	LOS F	26.0	183.5	1.00	1.27	11.1
32a	R1	169	1.2	1.091	167.9	LOS F	26.0	183.5	1.00	1.27	11.7
Approach		233	0.9	1.091	168.2	LOS F	26.0	183.5	1.00	1.27	11.6
All Vehicles		2382	5.1	1.091	29.3	LOS C	26.0	183.5	0.53	0.78	37.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	1	59.1	LOS E	0.0	0.0	0.95	0.95
P7	NorthWest Full Crossing	1	59.1	LOS E	0.0	0.0	0.95	0.95
P8	SouthWest Full Crossing	4	8.1	LOS A	0.0	0.0	0.35	0.35
All Pedestrians		6	25.1	LOS C			0.55	0.55

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Mona Vale Rd/Foley St Midday Peak Sun - With Market - Optimised]

Mona Vale Rd/Foley St
Signals - Actuated Isolated Cycle Time = 130 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Mona Vale Rd(E)											
4a	L1	269	37.9	0.471	18.3	LOS B	15.1	124.8	0.51	0.74	38.1
6a	R1	802	1.0	0.471	17.6	LOS B	18.3	129.2	0.54	0.74	44.8
Approach		1072	10.3	0.471	17.8	LOS B	18.3	129.2	0.53	0.74	43.3
NorthWest: Mona Vale Rd(W)											
27a	L1	1003	0.8	0.729	13.5	LOS A	31.4	221.4	0.54	0.77	47.1
29	R2	75	0.0	0.523	72.6	LOS F	4.8	33.4	0.98	0.76	20.9
Approach		1078	0.8	0.729	17.6	LOS B	31.4	221.4	0.57	0.77	44.4
SouthWest: Foley St											
30	L2	63	0.0	0.814	66.4	LOS E	14.6	103.0	1.00	0.83	22.2
32a	R1	169	1.2	0.814	65.6	LOS E	14.6	103.0	1.00	0.83	23.2
Approach		233	0.9	0.814	65.8	LOS E	14.6	103.0	1.00	0.83	22.9
All Vehicles		2382	5.1	0.814	22.4	LOS B	31.4	221.4	0.60	0.76	41.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	1	55.4	LOS E	0.0	0.0	0.92	0.92
P7	NorthWest Full Crossing	1	56.3	LOS E	0.0	0.0	0.93	0.93
P8	SouthWest Full Crossing	4	10.4	LOS B	0.0	0.0	0.40	0.40
All Pedestrians		6	25.6	LOS C			0.58	0.58

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

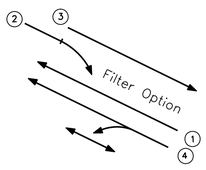
Appendix D – IDM Historical Signal Data and TCS Plan

DRAWN BY CADD
DO NOT AMEND MANUALLY

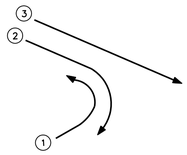
DATE IN SERVICE : 27/02/09

R T A

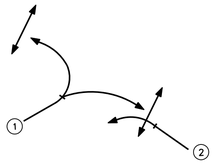
0162.366.VV.3945



A Phase

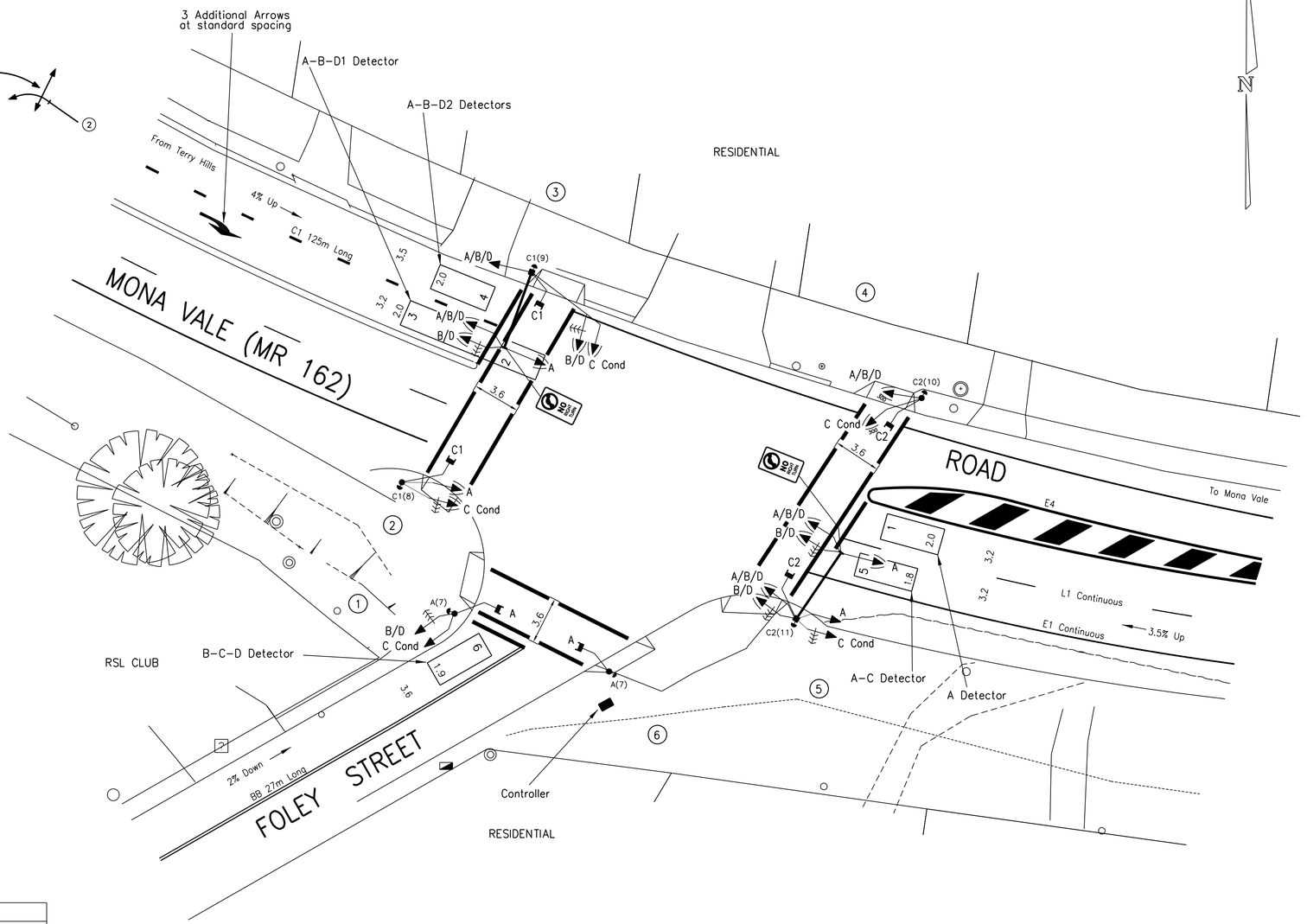


B & D Phase
(Z+ Introduces D Phase)



C Phase

MOVEMENTS



DETECTOR SPECIFICATION

Detector		Specifications				
A	FN	A(L)	A(E1)			
	SG/PS	$\overline{A}$	A			
	DS	–	–			
A–B–D1 Depart. & Approach	FN	B(PR)	D(PR)			
	SG/PS	A	A			
	DS	Z–	Z–.Z+			
A–B–D1 Approach	FN	A(L).B(L)	D(L)	B(L)	D(L)	
	SG/PS	A/B/D	$\overline{A/B/D}$	$\overline{B/D}$	$\overline{B/D}$	
	DS	Z–	Z–.Z+	$\overline{Z-}$	$\overline{Z-}$.Z+	
cont. A–B–D1 Approach	FN	A(E2)			B(E2)	D(E2)
	SG/PS	A			B	D
	DS	Z–.A–B–D1(PR).$\overline{B(NEXT)}$.$\overline{D(NEXT)}$			$\overline{D(NEXT)}$	$\overline{B(NEXT)}$
A–B–D2	FN	A(L)	A(E3)		B(E3)	
	SG/PS	$\overline{A/B/D}$	A		B	
	DS	$\overline{B.D}$	$\overline{B(NEXT)}$.$\overline{D(NEXT)}$		$\overline{A(NEXT)}$.$\overline{D(NEXT)}$	
cont. A–B–D2	FN	D(E3)				
	SG/PS	D				
	DS	$\overline{A(NEXT)}$.$\overline{B(NEXT)}$				
A–C	FN	A(PR)	C(E2)		A(E4)	
	SG/PS	$\overline{A}$	C		A	
	DS	–	[$\overline{A(NEXT)}$+A(PB)].A–C(PR)		–	
B–C–D	FN	C(PR)	B(E1)		C(E1)	D(E1)
	SG/PS	$\overline{C}$	B		C	D
	DS	–	$\overline{C(NEXT)}$.$\overline{D(NEXT)}$.B–C–D(PR)		–	$\overline{B(NEXT)}$.$\overline{C(NEXT)}$.$\overline{B–C–D(PR)}$
A P.B.	FN	A(PB)	B(L)			
	SG/PS	$\overline{A(WALK)}$	A.$\overline{A(WALK)}$			
	DS	–	$\overline{C}$			
C1 P.B.	FN	C1(PB)	A(L)			
	SG/PS	$\overline{C1(WALK)}$	C.$\overline{C1(WALK)}$			
	DS	–	–			
C2 P.B.	FN	C2(PB)	A(L)			
	SG/PS	$\overline{C2(WALK)}$	C.$\overline{C2(WALK)}$			
	DS	–	–			

POSTS

POST	TYPE	LENGTH	REMARKS
1	2	4.1	EXISTING
2	2	4.1	EXISTING
3	9	–	EX 6m OUTREACH
4	2	4.1	EXISTING
5	9	–	EX 6m OUTREACH
6	2	3.2	EXISTING

SPECIAL SIGNAL GROUP DISPLAY SEQUENCE

SIGNAL GROUP	TABLE TYPE	REMARKS
A/B/D	3	–
B/D (RT)	81	Timed R.A. protection for 'A' pedestrian. Z– filter option.
B/D (LT)	76	Timed R.A. protection for 'C1' pedestrian. △
C Cond	74	Timed R.A. protection for 'C2' pedestrian. #
C Cond (LT)	78	Timed R.A. protection for 'A' pedestrian.

P.B. on post 5 extends R.A. protection subject to timer.
△ P.B. on post 3 extends R.A. protection subject to timer.

NOTES

1. This site is SCATS linked.
2. All push buttons are audio tactile.
3. Special STOP sign (R1–4) placed on post 1.

A ORIGINAL ISSUE

Issue B: As directed by Mr H. Campara Network Operations, Amended: Drawing to reflect adaptive engineering. K.I 01/08/08

ISSUE C: NEW SITE WAE KERB RETURN ON S/W CORNER SMALLER CNJ 01/09

PUBLIC UTILITY LEGEND	
HYDRANT	□
STOP VALVE	▲
GAS VALVE	#
SEWER MANHOLE	⊗
TELECOM PIT	▨
ELECT LIGHT POLE	☾
POWER POLE	○
STAY POLE	⊘
TELEPHONE BOX	T
TELECOM PILLAR	◍

REFERENCE PLANS	
SYMBOLS/ABBS.	VD003–6
STD POSIT	VD001–5
DET SCHED EXP	VD018–10
PRES. DETECT	VC005–17
SSG DIS. SEQ.	VD018–8
SURVEYOR : Pittwater CL	
DATE : 2004	

U.B.D. Ref. Map 138 E4
I.S.G. CO-ORDS E: 327 169 N: 1 272 075

DESIGNED JS
CHECKED AM
AM SITE CHECKED
RW RECOMMENDED

DESIGN APPROVAL
APPROVED
ROSS NETTLE
POSITION DIRECTOR
DATE 28/04/08
DESIGN PREPARED BY
TRANSPORT AND TRAFFIC PLANNING ASSOCIATES

RTA ACCEPTANCE
RECOMMENDED
POSITION ACTING TEAM LEADER NETWORK OPERATIONS
DATE 19/05/08
ACCEPTED
POSITION ROAD NETWORK MANAGER
DATE 30/05/08

Roads and Traffic Authority, N.S.W
PITTWATER COUNCIL AREA
TRAFFIC SIGNALS AT THE INTERSECTION OF MONA VALE ROAD AND FOLEY STREET
MONA VALE
DESIGN LAYOUT TCS No 3945

EXISTING ☒ PROPOSED ☐
CADD FILE: VV3945_1C.dgn
SCALE 5 0 (1:200) 5 10
ISSUE C
FILE 366 TS 123
SUPERSEDES SHEET/ISSUE 1B
REGN. 0162.366.VV.3945
SHEET 1

1. TCS3945: MONA VALE RD/FOLEY ST , MONA VALE

Report: Periodic statistics for site 3945

15 minute intervals
From 10:00:00 AM to 2:00:00 PM, on 25 November 2018

Period: 10:00:00 AM to 10:15:00 AM

Data	Freq.	Min	Max	Avg	Total
A phase	9	57	133	86	776
B phase	2	12	15	13	27
C phase	7	12	16	13	97
Nominal CL	7	83	109	93	
Active CL	9	83	109	94	
IP1	1				

Period: 10:15:00 AM to 10:30:00 AM

Data	Freq.	Min	Max	Avg	Total
A phase	8	39	201	95	761
B phase	3	12	14	13	39
C phase	7	12	21	14	100
Nominal CL	9	87	117	101	
Active CL	9	87	117	101	
IP1	4				
IP2	1				
IP3	2				

Period: 10:30:00 AM to 10:45:00 AM

Data	Freq.	Min	Max	Avg	Total
A phase	9	30	171	75	682
B phase	3	15	22	18	55
C phase	8	12	36	20	163
Nominal CL	3	107	115	111	
Active CL	7	77	117	103	
IP1	1				
Ped 2	1				

Period: 10:45:00 AM to 11:00:00 AM

Data	Freq.	Min	Max	Avg	Total
A phase	9	46	169	81	731
B phase	5	12	19	14	73
C phase	6	12	22	16	96
Nominal CL	7	86	121	107	
Active CL	8	86	121	108	
IP1	2				
IP2	1				
Ped 2	1				

Period: 11:00:00 AM to 11:15:00 AM

Data	Freq.	Min	Max	Avg	Total
A phase	9	28	118	78	709
B phase	4	13	17	14	57
C phase	7	12	26	19	134
Nominal CL	3	124	140	131	
Active CL	7	90	147	121	
IP1	1				

Ped 1	3				

Period: 11:15:00 AM to 11:30:00 AM

Data	Freq.	Min	Max	Avg	Total
A phase	8	13	125	83	666
B phase	5	12	27	19	95
C phase	7	12	25	19	139
Active CL	3	130	155	140	
IP1	1				
Ped 2	1				

Period: 11:30:00 AM to 11:45:00 AM

Data	Freq.	Min	Max	Avg	Total
A phase	8	22	103	83	671
B phase	7	14	20	15	111
C phase	8	12	22	14	118
Nominal CL	5	119	126	122	
Active CL	6	119	132	124	
IP1	1				
Ped 2	1				

Period: 11:45:00 AM to 12:00:00 PM

Data	Freq.	Min	Max	Avg	Total
A phase	7	86	116	102	719
B phase	5	13	21	16	83
C phase	6	3	28	16	98
Nominal CL	6	118	140	128	
Active CL	8	118	140	128	
IP1	1				

Period: 12:00:00 PM to 12:15:00 PM

Data	Freq.	Min	Max	Avg	Total
A phase	8	22	122	84	676
B phase	5	11	21	16	81
C phase	7	14	27	20	143
Nominal CL	3	133	138	136	
Active CL	6	132	179	144	
IP1	1				
Ped 2	1				

Period: 12:15:00 PM to 12:30:00 PM

Data	Freq.	Min	Max	Avg	Total
A phase	7	76	120	100	704
B phase	6	14	19	16	96
C phase	6	14	20	16	100
Nominal CL	4	127	140	136	
Active CL	5	127	155	139	
IP1	2				
IP2	1				

Period: 12:30:00 PM to 12:45:00 PM

Data	Freq.	Min	Max	Avg	Total
A phase	8	14	129	89	716
B phase	5	12	22	15	75

C phase	6	13	33	18	109
Nominal CL	1	134	134	134	
Active CL	6	134	144	140	
IP1	1				

Period: 12:45:00 PM to 1:00:00 PM

Data	Freq.	Min	Max	Avg	Total
A phase	7	92	147	108	762
B phase	4	11	20	16	64
C phase	4	15	20	18	74
Nominal CL	4	128	140	134	
Active CL	6	125	140	132	
IP1	1				

Period: 1:00:00 PM to 1:15:00 PM

Data	Freq.	Min	Max	Avg	Total
A phase	8	49	136	91	732
B phase	4	1	18	11	45
C phase	6	16	33	20	123
Nominal CL	5	115	121	118	
Active CL	7	115	122	118	
IP1	2				
IP2	1				
Ped 3	1				

Period: 1:15:00 PM to 1:30:00 PM

Data	Freq.	Min	Max	Avg	Total
A phase	10	4	125	65	652
B phase	6	12	25	16	101
C phase	8	15	24	18	147
Nominal CL	4	92	118	106	
Active CL	6	92	157	122	
IP1	1				

Period: 1:30:00 PM to 1:45:00 PM

Data	Freq.	Min	Max	Avg	Total
A phase	8	23	116	90	723
B phase	5	12	22	16	80
C phase	5	14	26	19	97
Nominal CL	5	120	130	124	
Active CL	7	119	130	124	
IP1	1				

Period: 1:45:00 PM to 2:00:00 PM

Data	Freq.	Min	Max	Avg	Total
A phase	9	52	98	77	693
B phase	4	13	28	17	71
C phase	7	13	31	19	136
Nominal CL	6	83	119	104	
Active CL	9	83	119	106	
IP1	1				
Ped 3	1				

Period: 2:00:00 PM to 2:15:00 PM

Data	Freq.	Min	Max	Avg	Total