

Attachment C

Amended Plan of Management



PLAN OF MANAGEMENT

(Update 9 August 2019)

Prepared for

AUSTRALIAN FEDERATION OF ISLAMIC COUNCILS

932-934 Bourke Street, Zetland

Prepared for:

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Modified report 10 April 2019
Revised 9 August 2019

ENVIRECC Noise, Traffic and Parking Report ENV132 - prepared by Envirecco Pty Ltd, 10 September 2018
has been used to form the basis of this report.

TABLE OF CONTENTS

LIST OF TABLES	1
1.0 INTRODUCTION	2
1.1 PURPOSE	2
1.2 STRUCTURE OF MP	2
2.0 BACKGROUND INFORMATION	3
2.1 DAILY PRAYER TIMES	3
3.0 LEGAL AND OTHER REQUIREMENTS	4
3.1 LEGISLATION	4
3.2 GUIDELINES AND STANDARDS	4
4.0 EXISTING ENVIRONMENT	5
4.1 SENSITIVE RECEIVERS	5
4.2 BACKGROUND NOISE ENVIRONMENT	5
4.3 EXISTING TRAFFIC CONDITIONS	6
4.4 EXISTING PARKING CONDITIONS	6
4.5 ACCESS AND LOADING	6
5.0 NOISE CRITERIA, TRAFFIC AND PARKING	8
5.1 NOISE CRITERIA	8
5.2 CARPARK	8
5.3 SLEEP DISTURBANCE	9
5.2 TRAFFIC CRITERIA	9
5.3 PARKING CRITERIA	9
6.0 NOISE AND TRAFFIC/PARKING IMPACT ASSESSMENT	10
6.1 NOISE IMPACT ASSESSMENT	10
6.1.1 MOSQUE	10
6.1.2 PATRON NOISE	10
6.1.3 SLEEP DISTURBANCE	11
6.2 TRAFFIC & PARKING IMPACT ASSESSMENT	12
7.0 ENVIRONMENTAL MITIGATION MEASURES	13
8.0 COMPLIANCE MANAGEMENT	15
8.1 ROLES AND RESPONSIBILITIES	15
8.2 TRAINING	15
8.3 MONITORING AND INSPECTIONS	15
8.4 COMMUNITY NOTIFICATION	16
8.5 COMMUNICATION STRATEGY	16
8.6 COMPLAINTS MANAGEMENT	17
8.6 AUDITS	17
9.0 SECURITY	18
10.0 REVIEW AND IMPROVEMENT	17
APPENDIX A – ENVIRONMENTAL NOISE IMPACT ASSESSMENT	19
APPENDIX B – TRAFFIC AND PARKING IMPACT ASSESSMENT	64
APPENDIX C – TRAFFIC ACCESS GUIDE	88
APPENDIX D – LETTER OF SUPPORT FROM LOCAL COMMAND	91

LIST OF TABLES

Table 1:	Daily Prayer Times	4
Table 2:	Unattended Monitoring Results	5
Table 3:	Traffic Flows on Bourke and Elizabeth Street at the subject site	6
Table 4:	Project Specific Noise Criteria	8
Table 5:	Calculated Noise Impact Levels – Normal Operations	10
Table 6:	Predicted Car Park Noise Levels – 5 spaces	11
Table 7:	Mitigation Measures during normal operation	13
Table 8:	Mitigation Measures during special events	14

1.0 INTRODUCTION

1.1 PURPOSE

This Plan of Management describes how the Australian Federation of Islamic Councils (AFIC) will

- minimise and manage noise during prayer periods,
- manage traffic and parking during its operation, and
- provide behavioural and management recommendations.

This management plan has been prepared to address the requirements of the City of Sydney as part of a development application (DA), a place of public worship, at 932-934 Bourke Street Zetland.

1.2 STRUCTURE OF MANAGEMENT PLAN

This Management Plan is a stand alone report and is supported by other documents; the Noise Traffic and Parking Management Plan prepared by Envirecco, the Environmental Noise Impact Assessment prepared by Telemetrix, and the Traffic and Parking Impact Assessment prepared by Envirecco.

The review and document control processes for this document are described in section 9.

2.0 BACKGROUND INFORMATION

2.1 DAILY PRAYER TIMES

The proposed site at 932-934 Bourke Street Zetland is currently used as a place of worship with visitors to the site five times daily. The DA requests an extension of hours for worship to cater for additional prayers. The number of expected guests per visit ranges from 5–20 people (refer to Table 1 for prayer times and number of guests). It is expected that during the Eid special events (twice per calendar year) there will be just over 100 guests. The Taraweeh special event occurs as a once off event for 30 continuous days during the calendar year.

The operation times show in Table 1 cover Prayer times which need to be conducted in the prayer hall (5) times on a daily basis. During Ramadan it is generally expected that there may be up to over 20 worshipers.

The exception to this is Jumaa pray and Tarraweeh pray. During Ramadan the Tarraweeh pray will be after Isha pray may be over 100 people for each pray session. Jumaa Pray, Due to the Zetland Area as an industrial Area we have fixed time for the Jumaa Pray, starting at 13.15 hrs Ended at 13.50, 365 days a year.

We have two Eids prays, Eid Al Fitr which come after Ramadan Fasting month, Eid Al Adha will come two month and ten days after Eid Al Fitr both Eids will come ten days earlier in yearly calendar.

Table1: Daily Prayer Times

Prayer Name	Prayer during ramadan	Pray time begins	Pray time ends	Number of guests praying	Change
Fajr		6:00am	7:30am	5-20	Change to hours
Dhuhr*		11:30am	1:00pm	5-20	No change
Jumaa*		1:15am	1:50pm	Over 100*	No change
Asr		3:00pm	4:00pm	5-20	No change
Maghreb		6:30pm	7:30pm	5-20	No change
Isha		6:45pm	9:00pm	5-20	No change
Taraweeh	Yes	9:00pm	10:00pm	Over 100**	New
Eid Al Fitr	After	7:30am	8:30am	Over 100**	New
Eid Al Adha	After	7:30am	8:00am	Over 100**	New

* On Fridays Jumaa prayer replaces Dhuhr prayer and may have over 100 patrons.

**Maximum patronage is not expected to exceed 150 patrons.

Current practice sees people arriving for worship at various times for reading Qur'an prior to the commencement of the formal pray period or congregate as a groups having a general greetings. At the end of prayers all worshipers will depart the site directly after. Some may stay for personal worship or religious study.

3.0 LEGAL AND OTHER REQUIREMENTS

3.1 LEGISLATION

Legislation relevant to noise management includes:

- *Protection of the Environment Operations Act 1997 (POEO Act)*
- *Protection of the Environment Operations (Noise Control) Regulation 2008*

3.2 GUIDELINES AND STANDARDS

The following documents have been used in preparation of this management plan:

- City of Sydney General Noise Condition
- NSW EPA Industrial Noise Policy (INP) 2000
- NSW EPA Road Noise Policy (RNP) 2011
- NSW EPA Noise Guide for Local Government 2013
- Australian Standard AS 1055-1997 'Acoustics – Description and Measurement of Environmental Noise'
- Australian Standard AS 1259.2-2005 'Acoustics – Sound Level Meters'
- Roads and Maritime Services; 'Guide to Traffic Generating Developments' 2002
- City of Sydney Development Control Plan 2012
- City of Sydney Local Environment Plan 2012

4.0 EXISTING ENVIRONMENT

4.1 SENSITIVE RECEIVERS

Sensitive receivers include residential receivers to the north-east and south-east of the site. The nearest residential receiver to the proposed site is north-east of site, 930 Bourke Street Zetland. Other noise sensitive receivers are to the south-east in Nevans Lane, Zetland.

4.2 BACKGROUND NOISE ENVIRONMENT

Background noise monitoring was undertaken as part of the Noise Impact Assessment. Background noise levels for the area reflect the daily traffic volume patterns, domestic, commercial and industrial activities. Traffic noise is the dominant noise source in the area.

The detailed results of the noise monitoring are provided in Appendix A of this report. The background noise levels can be seen in Table 2.

Table 2: Unattended Noise Monitoring Results

Noise Descriptor	Time of Day*	dBA
Background Noise Levels L _{A90}	Day	48
	Evening	43
	Night	40*
Ambient Noise Levels L _{Aeq,15minute}	Day	59
	Evening	54
	Night	52*

*Day 7:am–6:00pm
Evening 6:00pm–10:00pm
Night 10:00pm–7:00am

*The mosque will only be operating between 6:00am–7:00am during the night time period.

4.3 EXISTING TRAFFIC CONDITIONS

Existing traffic conditions were assessed as part of the Traffic and Parking Impact Assessment. The results of the traffic volume/intersection counts at the intersection of Bourke Street/Elizabeth Street, undertaken on Friday 18 August 2017, between 12:00pm and 2:00pm, to coincide with the peak prayer times that occurs on Fridays 'Jumaa' between 11:30am and 1:00pm can be seen in Table 3. The operational performance of the intersection of Bourke and Elizabeth Street ranges from good with spare capacity to satisfactory. The detailed assessment of the existing traffic conditions are provided in Appendix B of this report.

Table 3: Traffic Flows on Bourke and Elizabeth Street at the subject site

Traffic movement	Vehicles per hour between 12:00-14:00 on 18.08.17	Level of Service as per RMS urban road peak hour flows
Bourke Street		
Eastbound	517	C
Westbound	617	
Elizabeth Street		
Northbound	411	B
Southbound	274	

4.4 EXISTING PARKING CONDITIONS

Existing on site and offsite parking conditions were assessed as part of the Traffic and Parking Impact Assessment.

The proposed development will require an alteration to the line markups to accommodate a total of 12 carspaces. The results of the parking utilisation study undertaken on Friday 18 August 2017 (peak hours) determined that offsite parking spaces were moderately to highly occupied. The detailed assessment of the existing parking conditions are provided in Appendix B of this report.

4.5 ACCESS AND LOADING

All traffic entering the site enter via Navin Lane and exit via Bourke Street in a one way direction as shown in Figure 1.

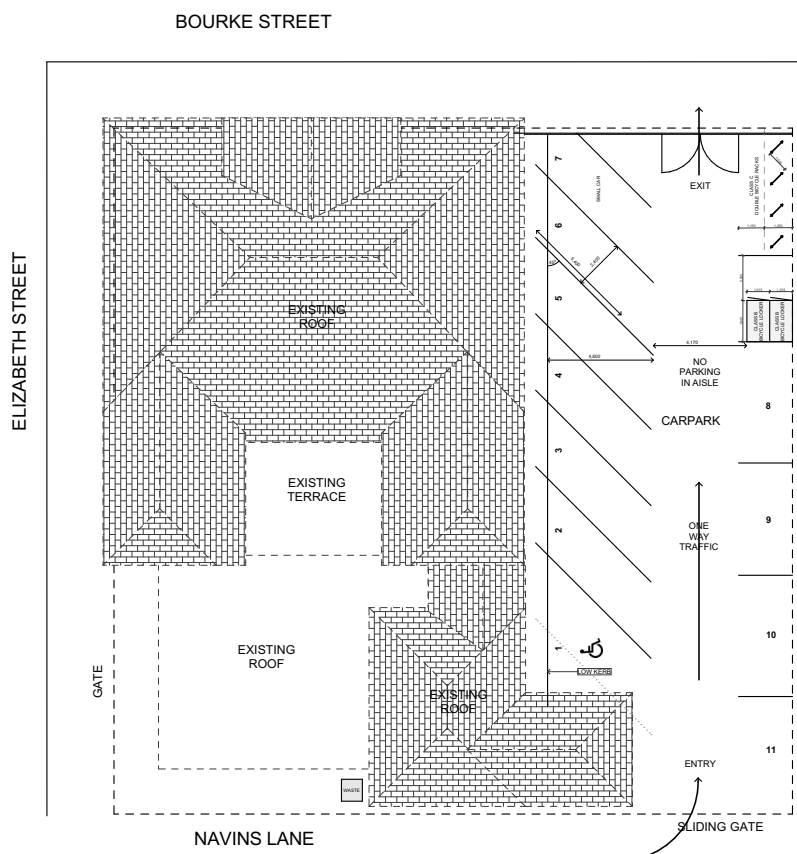


Figure 1

4.5.1 PATRONS

Worshippers to the site predominately arrive via Bus on Elizabeth Street. There is a Bus Stop opposite Navins Lane on Elizabeth Street (See Figure 1 above).

Taxi/Private vehicle drop-off/pick-up

Elizabeth and Bourke streets are well serviced by Taxis both into the city, Eastern Suburbs and Airport. Drop-off and Pick-up can be accommodated in the carpark accessed via Navins Lane or in Navins Lane. Elizabeth Street and Bourke Street frontages are No Stopping Zones and should be avoided.

As from Friday 12 April 2019 the Mosque Security Officer has been instructed to enforce a no parking restriction between the marked parking spaces to ensure accessibility to all vehicle and cycle parking spaces and to manage traffic to avoid vehicle queuing.

4.5.2 SERVICE VEHICLES

There is currently, and no future expectation, of heavy vehicle delivery on the site. Deliveries consist of stationary and small office requisites. These are accommodated with a small van or standard vehicle.

These vehicles access the site as visitors and park in the designated visitor area or park for delivery in Navins Lane.

Waste collection vehicles collect bins from in front of the Property on Elizabeth Street each Wednesday.

5.0 NOISE CRITERIA, TRAFFIC AND PARKING

5.1 NOISE CRITERIA

The project-specific noise management levels for this site have been determined in accordance with the INP and are set out in Table 4.

It must be noted that as per City of Sydney General Noise Condition, modifying factors in the NSW EPA Industrial Noise Policy are applicable for the emission of noise associated with the use of premises. That is the acceptable noise level (ANL)+5dBA during the night time period and (ANL)+15dBA for the day and evening due to duration factor (one single event in any 24 hour period) has been set to the intrusiveness criterion.

Special events include the Eid prayer (occurring in the Day Period between 7:30 and 8:30am) and the Taraweeh (occurring in the Evening Period between 8:00–9:00pm).

Jumaa prayer (occurring in the Day Period between 11.30am and 1.00pm) occurs on a weekly basis only (Fridays).

Table 4: Project Specific Noise Criteria

Noise Descriptor	Time of Day*	L _{eq(15min)} , dBA
Project Noise Levels	Day	53
	Evening	48
	Night	45

*Day 7:00am – 6:00pm
Evening 6:00pm – 10:00pm
Night 10:00pm – 7:00am

5.2 CARPARK

Carpark and driveway noise project specific levels for the day time period are $68\text{dBAL}_{\text{eq},15\text{min}}$ and $50\text{dBAL}_{\text{eq},15\text{min}}$ for the night.

5.3 SLEEP DISTURBANCE

The sleep disturbance criterion is set at $60\text{dBAL}_{1,1\text{min}}$. One or two noise events per night, with maximum internal noise levels of 65-70dBA are not likely to affect health and wellbeing significantly. A noise level of 60-65dBA outside an open bedroom window is unlikely to cause awakening reactions.

5.2 TRAFFIC CRITERIA

Good to satisfactory (A to C) level of service as per Roads and Maritime Services; 'Guide to Traffic Generating Developments' 2002.

5.3 PARKING CRITERIA

Sydney 2012 DCP and LEP requires the following:

- 1 carspace for every 10 seats; or
- 1 carspace for every 30m^2 of gross floor area of the building used for a place of worship
- 1 bicycle space for every 15 seats; or
- 1 bicycle space for every 40m^2 of gross floor area

This equates to 12 parking spaces and 9 bicycle parking spaces.

6.0 NOISE AND TRAFFIC/PARKING IMPACT ASSESSMENT

6.1 NOISE IMPACT ASSESSMENT

6.1.1 MOSQUE

Potential noise impact of the mosque on nearby receivers was calculated. The detailed results of the calculated noise impact are provided in Appendix A of this report. Noise emissions from the main prayer room during normal operations and special events will be significantly lower than the most stringent nighttime criteria at all receivers.

6.1.2 PATRON NOISE

Potential noise impact of patron noise during normal operations, from people arriving and departing the mosque, on nearby receivers was calculated. Noise impacts of 10 people arriving and departing from the mosque at one time was assessed. Modifying factor adjustment of 5dBA for the day and evening period have been applied as per the Industrial Noise Policy for 'one event in any 24 hour period.'

Table 5: Calculated Noise Impact Levels – Normal Operations

Receiver	Activity	Predicted Noise Level Overall dBA
930 Bourke Street Zetland	10 people – carpark activities	48
876 Elizabeth Street Zetland	10 people – carpark activities	40
930 Bourke Street Zetland	prayer	26
876 Elizabeth Street Zetland	prayer	38

Potential noise impact of patron noise during special events, from people arriving and departing the mosque, on nearby receivers was calculated. Noise impacts of 10 people arriving and departing from the mosque at one time was assessed. These special events include the Eid prayer (occurring in the Day Period between 7:30 and 8:30am) and the Taraweeh (occurring in the Evening Period between 9:00–10:00pm). The criteria will be met for all periods at the Elizabeth Street receiver and may be slightly exceeded for the night timeperiod only at the Bourke Street receiver.

6.1.3 SLEEP DISTURBANCE

Noise generated from the carpark was assessed based on 5 parking spaces being used at one time.

Table 6: Predicted Car Park Noise Levels – 5 spaces

Noise Descriptor	930 Bourke St	876 Elizabeth St
Car Activity	47dBA,Leq	44dBA,Leq
	60-67dBA,Lmax	55-60dBA,Lmax
Patron Voices	50-55dBA,Leq	45-50dBA,Leq
	60-70dBA,Lmax	50-60dBA,Lmax

The sleep disturbance criterion is set at 60dBAL_{1,1min}. There is a potential for the sleep disturbance criteria, nighttime period (6am–7am), to be exceeded at the Bourke Street receiver due to the assessed noise emissions from the carpark activity. However, it must be noted that one or two noise events per night, with maximum internal noise levels of 65-70dBA are not likely to affect health and wellbeing significantly as stated in the Environmental Criteria for Road Traffic Noise published by the NSW EPA. A noise level of 60-65dBA outside an open bedroom window is unlikely to cause awakening reactions.

6.2 TRAFFIC & PARKING IMPACT ASSESSMENT

The results of the traffic assessment, detailed in Appendix B, states that the estimated traffic generation is considered to be low and will not alter the current level of service (RMS classification) on surrounding streets.

The results of the parking assessment, detailed in Appendix B, states that the proposed development can be easily accommodated by on site parking, the public transportation system and offsite parking opportunities.

7.0 ENVIRONMENTAL MITIGATION MEASURES

Mitigation measures are required for normal operations and special events at 932-934 Bourke Street Zetland; with the staff member responsible for its implementation and enforcement listed in Tables 7 and 8.

Table 7: Mitigation Measures during normal operation

Mitigation Measure	Responsibility
No External sound amplification equipment or loudspeakers are to be used for the purpose of announcement, broadcast and similar purpose	Administration Manager
Erection of signage in the courtyard area to ensure that no patrons associated with the mosque congregate in the courtyard or in the surrounding area	Administration Manager
Erection of signage at exit points to ensure patrons disperse in an orderly manner	Administration Manager
Erection of reflective signage in parking area to ensure patrons arrive and depart from the mosque with their vehicles in a quiet and orderly fashion	General Manager
Creation and distribution of an educational flyer to members of the congregation advising of parking and noise rules of the site	General Administrator
Limit number of patrons entering and exiting to 5 patrons per entry/exit during the night time period (morning prayer) and 10 patrons during the day and evening period	General Manager
Transport Access Guide (TAG) for site prepared and distributed via email and website - see Appendix C	Administration Manager
Modification to parking area to accommodate parking to AS/NZS 2890.1 – 2004; AS/NZS 2890.2 – 2002; AS/NZS 2890.3 – 2005; and AS/NZS 2890.6 – 2009 - see submitted Carparking Plan as prepared by DiG Building Design.	General Manager
Instruct worshippers not to use the carpark for meetings and discussion.	General Administration
Mosque security staff to manage numbers of vehicles entering Carpark at any one time to avoid queueing in Navins Lane.	Administration Manager
Mosque security staff to enforce no parking area in aisle of carpark.	Administration Manager

Table 8: Mitigation Measures during special events

Mitigation Measure	Responsibility
No external sound amplification equipment or loudspeakers are to be used for the purpose of announcement, broadcast and similar purpose	Administration Manager
Appointment of 5 staff or volunteers during special events to ensure patrons exit the premises in an orderly fashion and in small groups with appointed staff/volunteers at the exit point of the prayer hall, carpark area and carpark exit	General Manager
Staff to be trained to effectively disperse crowds and promote efficient departure from the site	General Administrator
Staff to be dressed in high visibility vests during special events	General Administrator
Certified traffic marshals in high visibility gear will be present on site to regulate traffic movements in and out of the site and to manage onsite parking	General Manager
Trial a mini bus service for pickup and dropoff of patrons	General Administrator
Creation and distribution of an educational flyer to members of the congregation prior to special events encouraging use of public transport and minibus service	General Administrator
Limit number of patrons entering and exiting to 10 patrons during the day and evening period	General Manager
Creation and distribution of an educational flyer to neighbouring properties to advise of dates/times of upcoming large events	Administration Manager
Instruct worshippers not to use the carpark for meetings and discussion.	General Administration
Mosque security staff to manage numbers of vehicles entering Carpark at any one time to avoid queueing in Navins Lane.	Administration Manager
Mosque security staff to enforce no parking area in aisle of carpark.	Administration Manager

8.0 COMPLIANCE MANAGEMENT

8.1 ROLES AND RESPONSIBILITIES

The following staff roles will be responsible for implementation of this management plan:

- Administration Manager
- General Manager
- General Administration

8.2 TRAINING

The four appointed staff members will be trained in noise management issues:

- Existence and requirements of this management plan
- Relevant legislation
- Standard operating hours
- Location of noise sensitive receivers
- Specific responsibilities to minimise impacts to receivers

8.3 MONITORING AND INSPECTIONS

During Taraweeh and Eid where the number of patrons is estimated to be 50 to just over 100 people, noise monitoring at sensitive receptors should be undertaken at the two Eid special events per calendar year and at least once during Taraweeh.

Attended noise monitoring will be undertaken at sensitive receptor locations in the following manner:

- Where no complaints have been received, noise monitoring will be undertaken at the nearest sensitive receptor
- Where complaints have been received, attended noise monitoring to be undertaken at a location representative of the complainants premises

Records shall be kept detailing the measured noise levels, monitoring location, times, subjective observations and prevailing meteorology.

8.4 COMMUNITY NOTIFICATION

Prior to the commencement of Taraweeh and Eid, the community shall be notified of these special events.

The following measures will be undertaken:

- Inform potentially noise-affected neighbours about the nature of measures in place to minimise the noise impact;
- Give notice as early as possible. Describe the activities and how long they are expected to take;
- Keep affected neighbours informed of progress;
- Appoint the General Manager as the contact person for community queries; and
- Provide 24-hour contact details through letters and site signage.

8.5 COMMUNICATION STRATEGY

Information is to be communicated in the following manner:

- **Verbal**
Communication to clients and Mosque visitors is predominantly word-of-mouth and via regular meetings.

Mosque staff or volunteers will be available during special events on site to advise and assist patrons.
- **Online**
Organisation and Mosque information is available online via the organisation's website:
Australian Federation of Islamic Councils - www.muslimaustralia.com.au

Prayer times for the Zetland Mosque are communicated online via:
<https://goprayer.com.au/place/zetland-mosque/?address=zetland&lat=-33.908&lng=151.21050000000002&distance=0.6&units=km>
- **Hardcopy Materials**
A Transport Access Guide (TAG) has been prepared (see Appendix C). This will be available via email or online request on the website.

An Educational Flyer will be prepared for members of the congregation advising of parking and noise rules as well as advising of transport options during special events. This will be distributed during regular meetings.

An Educational Flyer will be prepared for neighbours advising of dates and times of special events. This will be distributed via letterbox drop.

- **Physical**
Signage will be prepared in courtyard area advising patrons not to congregate in the courtyard or surrounding areas.

Signage will be erected in parking area to ensure patrons arrive and depart in a quiet and orderly manner.

8.5 COMPLAINTS MANAGEMENT

The General Manager shall be available during the Taraweeh and Eid and is responsible for managing and recording all calls and emails received. The General Manager will require sufficient resources to effectively manage complaints and will require access to noise monitoring personnel and access to site security and Police representatives.

Where a complainant believes that noise from the event is impacting their acoustic amenity, the General Manager will contact the monitoring personnel and inform them of the complaint. Following receipt of the complaint, the monitoring personnel will (as soon as practical):

- Undertake attended noise monitoring at the boundary of the complainant's property;
- If noise is found to exceed trigger levels, the monitoring personnel will contact the Complaints Manager and request that noise levels be reduced;
- Monitoring will continue at the complainant's location until compliance with noise limits has been confirmed; and
- Details of the measured noise levels and action taken will be recorded.

8.6 AUDITS

Internal and external audits will be undertaken to assess the effectiveness of mitigation measures, compliance with the requirements of this management plan and other relevant guidelines.

9.0 SECURITY

In recent weeks, security at the Mosque has been upgraded to ensure the safety of patrons, staff and visitors to the Mosque. This has been acknowledged by Local Command. A letter of support from local Area Command is attached as Appendix D.

10.0 REVIEW AND IMPROVEMENT

The management plan will be reviewed annually to ensure compliance with legislative requirements and its suitability and effectiveness for the project. The management plan can be reviewed and updated more frequently where significant changes in the number of patrons occurs and/or where targets are not being achieved.

APPENDIX A
ENVIRONMENTAL NOISE IMPACT ASSESSMENT



Place of Worship
932-934 Bourke Street Zetland
NSW 2017

Environmental Noise Impact
Assessment
Revised Acoustic Report

Prepared for:
Australian Federation of Islamic Councils Inc.

Prepared by:
TELEMETRIX Pty Ltd

Date:
August 2019

Project Number:
17081901J

Disclaimer

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DOCUMENT CONTROL

Project Number	17081901J
Project Name	Place of Worship 932-934 Bourke Street Zetland NSW 2017 Environmental Noise Impact Assessment
Document Reference	17081901J_R6

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	Vlado Pavasovic	Slavica Praporski		Vlado Pavasovic		22/08/2017
1	Vlado Pavasovic	Slavica Praporski		Vlado Pavasovic		23/08/2017
2	Vlado Pavasovic	Slavica Praporski		Vlado Pavasovic		5/10/2017
3	Vlado Pavasovic	Slavica Praporski		Vlado Pavasovic		23/5/2018
4	Vlado Pavasovic	Slavica Praporski		Vlado Pavasovic		4/9/2018
5	Vlado Pavasovic	Slavica Praporski		Vlado Pavasovic		17/04/2019
6	Vlado Pavasovic	Slavica Praporski		Vlado Pavasovic		9/08/2019

CONTENTS	Page
1 INTRODUCTION	6
2 SITE DESCRIPTION	6
3 PROPOSED OPERATION	10
4 EXISTING CONSTRUCTION	11
4.1 Proposed construction – Prayer Hall	11
5 NOISE CRITERIA	11
5.1 Operational Noise	11
5.2 Project Noise Criteria	16
5.3 Car Park	17
5.4 Sleep Disturbance	17
6 PREDICTED NOISE EMISSIONS–IMPACT ON ADJOINING PROPERTY AREAS	18
6.1 Mosque	18
6.2 Car park activities	22
6.3 Recommendations/noise management controls	24
7 CONCLUSION	26

Table Index

Table 1	Unattended monitoring results	15
Table 2	Short-term noise measurements	16
Table 3	Project noise trigger levels	16
Table 4	Project trigger noise level	17
Table 5	Description of vocal effort at various speech levels (A-weighted SPL in 1 m in front of the mouth)	18
Table 6	Calculated impact noise levels (10 worshipers) – 930 Bourke Street, Zetland	19
Table 7	Calculated impact noise levels (10 worshipers) – 876 Elizabeth Street, Zetland	20
Table 8	Calculation of noise during the prayer - 930 Bourke Street, Zetland	21
Table 9	Calculation of noise during the prayer - 876 Elizabeth Street, Zetland	22
Table 10	Typical car and noise levels	23

Table 11	Predicted Car Park Noise Levels at the Nearest Residences	23
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GLOSSARY

dB	Units used to measure sound pressure levels on a logarithmic scale.
dB(A)	A-weighted decibel is the most commonly used descriptor. The A-weighting is an adjustment to the raw sound level to approximate what the average human ear can hear, which is less sensitive at very low and very high frequencies.
$L_{Aeq}(T)$	Equivalent continuous A-weighted sound pressure level of a noise energy-averaged over time. When sound levels fluctuate in time, which is often the case for occupational noise, the equivalent sound level is determined over a specific time period. In this guide, the A-weighted sound level is averaged over a period of time (T) and is designated by $L_{Aeq,T}$.
$L_{Amax}(T)$	Maximum 'A'-weighted sound pressure level during a measurement period or a noise event.
$L_{A90}(T)$	The A-weighted noise level equalled or exceeded for 90% of the measurement period. This is commonly referred to as the background noise level.

1 INTRODUCTION

Telemetrix was commissioned by Australian Federation of Islamic Councils Inc. to prepare another revised acoustic report as part of additional information for Development Application No: D/2018/1138 for a place of worship at 932-934 Bourke Street, Zetland, NSW.

City of Sydney Council have reviewed the first revised acoustic report submitted, and requested additional information that relate to:

- Noise from persons leaving and entering the premises;
- Noise from the new prayer hall. All prayers will be conducted within the proposed new prayer hall, however there are issues with an increase of persons coming and going to the premises (with access from the large carpark).

The following items have been addressed and updated in this version of the report:

- The noise criteria have been updated in accordance with the NSW EPA Noise Policy for Industry (NPfI), which recently replaced the Industrial Noise Policy 2000. This is likely to provide a stricter compliance targets with the changes in calculating amenity criteria particularly for the night-time operation.
- Section 6.3 of the submitted Acoustic Report discussed the possibility of perhaps providing a large barrier in the large car park. However, as recommended by the City of Sydney Council, Telemetrix has explored the option of a smaller / less intrusive barrier to provide additional attenuation to protect the residential amenity of the adjacent property at 930 Elizabeth St.

2 SITE DESCRIPTION

The site is located at 932-934 Bourke Street, Zetland. The site location and its surroundings are shown in Figure 1. The existing site plan is shown in Figure 2.

The most sensitive noise receiver in relation to the site is the adjoining residential premise to the north-east, 930 Bourke Street, Zetland. The other noise sensitive receivers are to the south-east in Navins Lane, Zetland.

Figure 1 Site location and its surroundings



- Islamic Centre
- Nearest residential receivers

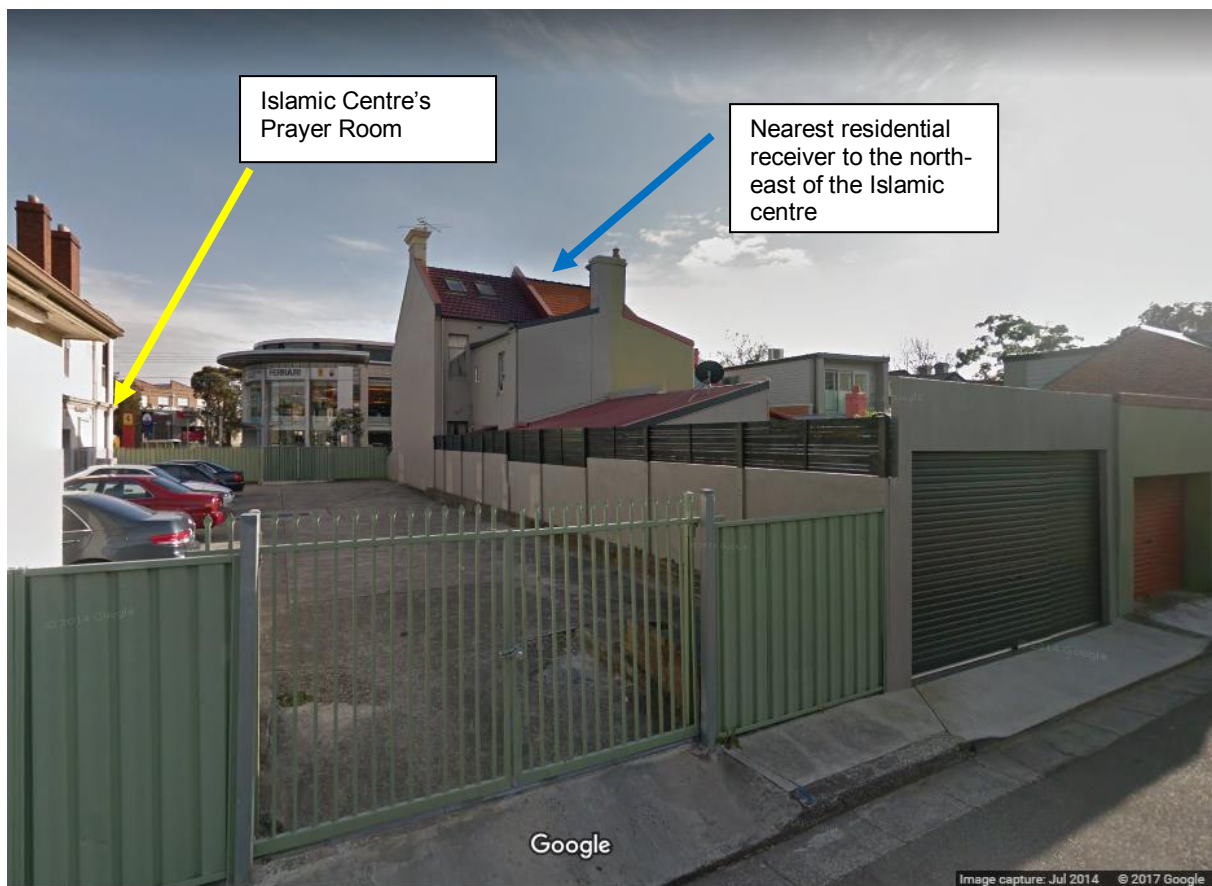
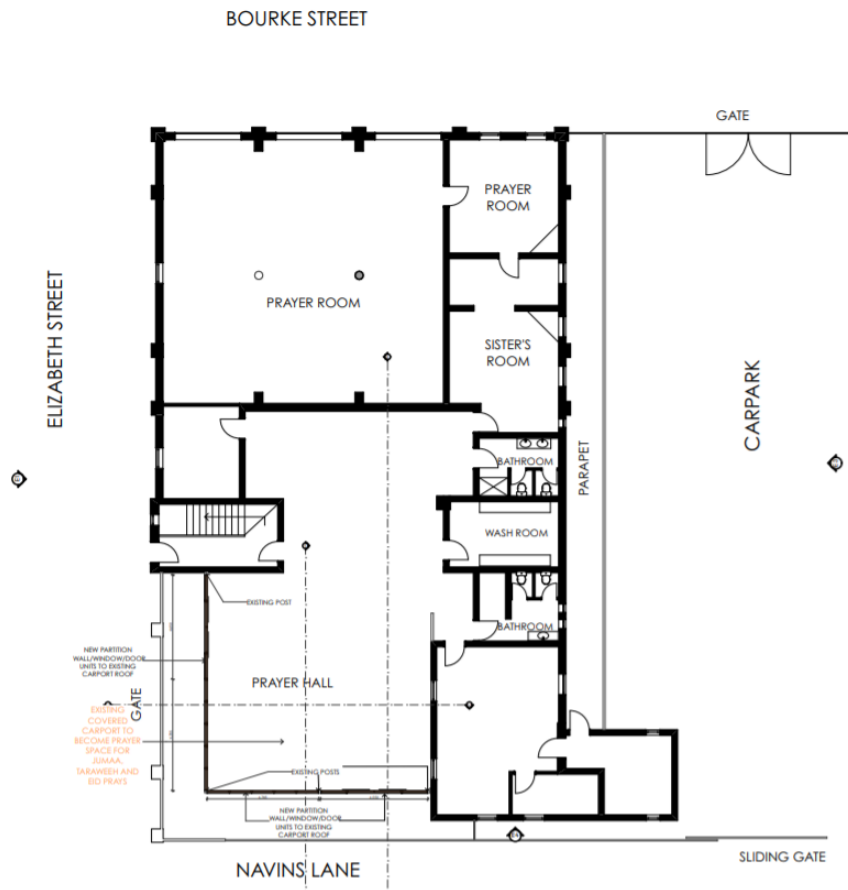


Figure 2 Site plan

Ground Floor



The existing covered carport to become prayer space for Jumaa, Taraweeh and Eid prays.

3 PROPOSED OPERATION

The mosque would operate as a place of worship with prayers in congregation occurring five times per day with varying numbers of worshipers to attend.

Prayers will commence at 6am and continue at intervals throughout the day until about 10pm. It is generally expected that there may be up to 20 worshipers attending most prayer sessions. The exception to this is Jumaa and Taraweeh prayer sessions where there may be over 100 worshipers for each pray session.

The following operation times have been proposed to cover prayer's time which need to be conducted in the prayer hall five (5) times on daily basis and during Ramadan.

No.	Prayer Names	Pray during Ramadan	Pray time begins	Pray time ends	Estimate of guests praying
1	Fajr		6am	7:30am	5-20
2	Dhuhr		11:30am	1pm	5-20
3	Asr		3pm	4pm	5-20
4	Maghreb		6:30pm	7:30pm	5-20
5	Ishaa		6:45pm	9pm	5-20
6	Jumaa		1:15pm	1:50pm	Over 100
7	Taraweeh	Yes	9pm	10pm	Over 100
8	Eid Al Fitr		7:30am	8:30am	Over 100
9	Eid Al Adha		7:30am	8:30am	Over 100

* On Fridays Jumma prayer will replace Dhuhr prayer and will have over 100 worshipers

The proponent has advised that there is to be no P.A. system or other public notification to call worshippers to prayer. Current practice sees worshipers arriving for worship at various times prior to the commencement of the formal prayer period.

It is expected that worshipers arriving before the commencement of prayers will either use the time for reading and religious study or congregate in small groups inside the enclosed rooms.

Similarly, the advice from the proponent is that on leaving, not all worshippers will depart the site directly after the formal prayer. Some may stay for personal worship or religious study.

From an acoustic point of view the most significant parts of the operation will involve:

- The noise from prayer times, including worshipers arriving and departing;
- An assembly of worshipers in the courtyard and the car park; and

- Car park and traffic noise from vehicles entering and leaving the premises.

4 EXISTING CONSTRUCTION

The existing enclosed structure is constructed with the following:

- Double brick external masonry walls;
- Roof tiles with plasterboard internally; and
- 5 mm glazing windows

4.1 Proposed construction – Prayer Hall

Based on the information provided to us and review of architectural plans prepared by Planshop. (Drawing number: 4247 Sheet 1-11; Date: 30/01/2019), it is understood that the construction of the prayer hall is following:

External doors/walls

- Paragon aluminium fixed 5 lite transom panels with 6.38 mm clear laminated glass (top) and 6.38 mm frosted white glass (bottom);
- Doors - Horizon aluminium sliding 4 lite panels with 6.38 mm frosted white glass; and
- Paragon aluminium fixed 4 lite panels with 6.38 mm clear laminated glass.

It should be noted that the above glazing specification should incorporate airtight seals for all openable framing profile components to prevent degradation of acoustic performance. The frame will need to be sealed into the building opening using a flexible sealant.

Where acoustic seals are nominated, this will require the use of acoustic seals around the full perimeter of operable frames. These seals shall be equal to Schlegel Q-Lon manufacture. It is noted that mohair or mohair/plastic fin combination seals are not acceptable.

Roof/ceiling system

- Existing metal deck roof
- Insulation
- Plasterboard ceiling

5 NOISE CRITERIA

5.1 Operational Noise

The NSW Environment Protection Agency and local councils share responsibility for the approval and control of noise emissions from commercial and industrial premises within council boundaries.

There are no specific regulations or guidelines in the NSW EPA's Noise Policy for Industry (NPfI) or the Noise Guide for Local Government (NGLG) that cover the operation of a mosque.

Following our discussion with the City of Sydney Council and based on their feedback, general noise conditions relevant to noise breakout from the proposed new prayer hall are outlined below.

Noise breakout from the proposed new prayer hall

The impact should be assessed and relevant compliance criteria applied based upon the NSW EPA Noise Policy for Industry 2017, which recently replaced the Industrial Noise Policy 2000. This is likely to provide a stricter compliance targets with the changes in calculating amenity criteria.

Any approval for the proposed car park enclosure would be required to demonstrate compliance with the criteria below:

- a) The $L_{A10, 15 \text{ minute}}$ noise level emitted from the use must not exceed the background noise level ($L_{A90, 15 \text{ minute}}$) in any Octave Band Centre Frequency (31.5 Hz to 8 kHz inclusive) by more than 5 dB between the hours of 7 am and 12 midnight when assessed at the boundary of any affected residence.
- b) The $L_{A10, 15 \text{ minute}}$ noise level emitted from the use must not exceed the background noise level ($L_{A90, 15 \text{ minute}}$) in any Octave Band Centre Frequency (31.5 Hz to 8 kHz inclusive) between the hours of 12 midnight and 7 am when assessed at the boundary of any affected residence.
- c) Notwithstanding compliance with (a) and (b) above, noise from the use when assessed as an $L_{A10, 15 \text{ minute}}$ enters any residential use through an external to internal transmission path is not to exceed the existing internal $L_{A90, 15 \text{ minute}}$ (from external sources excluding the use) in any Octave Band Centre Frequency (31.5 Hz to 8 kHz inclusive) when assessed within a habitable room at any affected residential use between the hours of 7am and 12 midnight. Where the $L_{A10, 15 \text{ minute}}$ noise level is below the threshold of hearing, T_f at any Octave Band Centre Frequency as defined in Table 1 of International Standard ISO 226 : 2003- Normal Equal-Loudness-Level Contours then the value of T_f corresponding to that Octave Band Centre Frequency shall be used instead.
- d) Notwithstanding compliance with (a), (b) and (c) above, the noise from the use must not be audible within any habitable room in any residential use between the hours of 12 midnight and 7 am.
- e) The $L_{A10, 15 \text{ minute}}$ noise level emitted from the use must not exceed the background noise level ($L_{A90, 15 \text{ minute}}$) in any Octave Band Centre Frequency (31.5 Hz to 8 kHz inclusive) by more than 3 dB when assessed indoors at any affected commercial premises.

Note: The $L_{A10, 15 \text{ minute}}$ noise level emitted from the use is as per the definition in the Australian Standard AS1055-1997 Acoustics – Description and measurement of environmental noise. The background noise level $L_{A90, 15 \text{ minute}}$ is to be determined in the absence of noise emitted by the use and be representative of the noise sensitive receiver. Background noise monitoring must be carried out in accordance with the long-term methodology in Fact Sheet B of the NPfI unless otherwise agreed by the City's Area Planning Manager.

5.1.1 Existing Ambient Noise Environment

Several site inspections and measurements were conducted to determine current noise levels. The measurements conducted include:

- Unattended noise measurements from 9th of August 2017 to 16th of August 2017.
- Attended inspections and noise testing conducted on 9th of August and 16th of August 2017.

The measurements were done in accordance with relevant OEH guidelines and AS 1055-1997 "Acoustics – Description and Measurement of Environmental Noise". The noise logger used complies with the requirements of AS 1259.2-2005 "Acoustics – Sound Level Meters" and has current NATA calibration certification. All loggers were calibration checked at the start and end of the noise-logging interval with a Casella Cel-120 Sound Level Calibrator. There was no significant change in calibration at any of the loggers.

Measurement Locations

Figure 3 details the measurement locations.

Figure 3 Measurement locations



Unattended noise and vibration measurement location

Attended noise measurement locations

Unattended Measurements

Due to site access, a noise logger could not be placed at the nearest residential receivers.

The noise logger was located on the roof above the courtyard as shown in Figure 4. The noise logger was located close to the potentially most affected residential noise receiver at 930 Bourke Street, Zetland. The house at this property is located adjacent to the project's site boundary. The next nearest residence would be to the south-east at 876 Elizabeth Street, Zetland. This residence is 5 - 6 m from the common boundary with the project's site.

It is expected that the noise logger location selected is representative of the ambient noise in the whole of the local area, including all the potential noise receiver locations.

Figure 4 Aerial photographs of noise logger location





Ambient L_{Aeq} and the background noise levels (RBL) L_{A90} , obtained from the logger, are summarised in Table 1. The data was filtered for potentially spurious results caused by adverse weather conditions. The raw data for the unattended noise monitoring is presented in Appendix A. It should be noted that the day-time RBLs have not been impacted by neighbouring construction noise as the local traffic noise was dominating the ambient levels in the area. This was confirmed whilst attended measurements were undertaken and after the analysis of the logger recordings (wave file).

Table 1 Unattended monitoring results

Location	Day	Evening	Night
Site	48 dB(A), L_{90}	43 dB(A), L_{90}	40 dB(A), L_{90} *
	59 dB(A), L_{eq} , 15 minute	54 dB(A), L_{eq} , 15 minute	52 dB(A), L_{eq} , 15 minute*

*The applicable period of the night that was considered in the processing of the results was 6am - 7am. This is the only period that the mosque would be operating during the night period (10pm - 7am).

Attended Measurements

The attended monitoring results are summarised in Table 2.

Table 2 Short-term noise measurements

Measurement Location	Measured Noise Level, dB(A)	
	L _{eq, 15minute}	L ₉₀
Navins Lane	62	57
Site - Car park	62	56

5.2 Project Noise Criteria

The rating background noise levels were determined to be:

- daytime: 48 dB(A)
- evening: 43 dB(A)
- night-time: 40 dB(A).

The residential area is zoned R4 High Density Residential. The noise in the area is dominated by traffic noise due to main roads, and some industrial noise was audible for all assessment periods. The land zoning, the subjective assessment of the acoustic NPfI environment in the area, and the acquired background noise levels would support an urban residential land-use category with reference to Table 2.3 in the NPfI.

The amenity and intrusiveness noise levels were determined as shown in Table 3, derived as per procedures in the NPfI.

Table 3 Project noise trigger levels

Period	Intrusiveness noise level ¹ L _{eq, (15 min)} dB(A)	Amenity noise level ² L _{eq, (Period)} dB(A)
Daytime	53 L _{Aeq, 15min} (48 + 5)	58 L _{Aeq, 5min} (60 – 5 + 3)
Evening	48 L _{Aeq, 15min} (43 + 5)	48 L _{Aeq, 15min} (50 – 5 + 3)
Night-time	45 L _{Aeq, 15min} (40 + 5)	43 L _{Aeq, 15min} (45 – 5 + 3)

¹ Intrusiveness noise level is L_{Aeq, 15min} ≤ RBL + 5 (Section 2.1 of the NPfI).

² Project amenity noise level (ANL) is urban ANL (Table 2.1) minus 5 dB(A) plus 3 dB(A) to convert from a period level to a 15-minute level (dB = decibel; dB[A] = decibel [A-weighted]; RBL = rating background noise level).

The project noise trigger level is the lower (that is, the most stringent) value of the intrusiveness and amenity noise levels. Therefore, the project noise trigger levels are as presented in table below.

Table 4 Project trigger noise level

Period	Project noise trigger level, L_{eq} (15 min), dB(A)
Day	53*
Evening	48*
Night	43*

* Special events include the Eid prayer (occurring in the Day Period between 7:30 and 8:30am) and the Taraweeh (occurring in the Evening Period between 9:00 – 10:00pm). Because they are 'one event in any 24-hour period' modifying factors for the duration adjustment in C1 of the NSW EPA NPfl are applicable. Therefore, an increase in acceptable noise level at receivers of 5dB(A) for the day and evening and NILL for the night has been applied. It has been assumed that the duration of noise during these events will be between 15 minutes and 1 hour.

5.3 Car Park

The assessment of noise from vehicles associated with a development is covered by the NPfl if those vehicles are not on a public road. An example of this is vehicles using the car park or the driveway of the development.

The assessment of car park and driveway noise as a result of this use has, therefore, been carried out against the NPfl project specific noise level for day (68 dB(A) $L_{eq, 15 \text{ min}}$) as this is the time period where the car park will have the most use and for night (43 dB(A) $L_{eq, 15 \text{ min}}$) as this is the time period with the most stringent criterion. For the current assessment night refers to the early morning operations at the mosque (5 am - 7 am).

5.4 Sleep Disturbance

For activities that take place after 10pm and before 7am, there is the potential for sleep arousal to occur within nearby residential dwellings. The OEH recommends that 1-minute L_1 noise levels (effectively, the L_{max} noise level from car movements, car doors etc.) should not exceed the background level by more than 15 dB(A) when measured/computed at the outside of a bedroom window. The "sleep disturbance" criterion is only applicable to night-time operations.

Based on the measured night-time background noise levels the sleep disturbance criterion is set at 60 dB(A) $L_1, 1 \text{ min}$.

Another reference to applicable sleep disturbance criteria has been made to the document "Environmental Criteria for Road Traffic Noise" published the NSW EPA. This document has compared several sleep disturbance criteria and concluded the following:

- Maximum internal noise levels below 50 - 55 dB(A) are unlikely to cause awakening reactions,
- One or two noise events per night, with maximum internal noise levels of 65 - 70 dB(A) are not likely to affect health and wellbeing significantly.

It is generally accepted in the acoustic community that internal noise levels in conventional dwellings with the windows open are generally 10 dB(A) lower than external noise levels. Based on these NSW EPA findings, a noise level of 60 - 65 dB(A) outside an open bedroom window would be unlikely to cause awakening reactions.

6 PREDICTED NOISE EMISSIONS—IMPACT ON ADJOINING PROPERTY AREAS

6.1 Mosque

The major potential for noise impacts from the prayer times comes from worshipers arriving and departing the mosque and the amplified voice of the Imam during the sermon and the prayers. There is to be no amplified calls to prayer associated with the mosque.

To assess those potential noise impacts, expected noise levels inside and outside the mosque have been sourced from the Telemetrix database.

Patron Noise

Worshipers arriving at the mosque generally do so in an orderly and quiet manner. It is anticipated that some worshipers may also congregate briefly, in small groups, in the carpark area.

On Fridays, Jumma prayer will replace Dhuhr prayer and will have over 100 worshipers. There will be two big celebrations per year where congregations of up to 150 worshipers are expected, it is expected that there will generally be up to 10 worshipers at most of the prayer sessions. Therefore, to determine potential noise impacts from worshipers arriving and departing at the mosque, a scenario was assessed where noise source, representing a group of 10 worshipers speaking at conversation level, was located near the centre of the carpark.

Noise model has been developed for the calculation of patron's sound levels from conversations. The vocal effort used by individual crowd members has direct impact upon the amount of crowd noise generated. Adjustment were made for the maximum number of worshipers in an area.

Table 5 Description of vocal effort at various speech levels (A-weighted SPL in 1 m in front of the mouth³

Vocal effort	Speech Level dB(A)
Relaxed, normal	54
Normal, raised	60
Raised	66

³ Adapted from Table 3, "Prediction of verbal communication in noise – a review: Part 1", Applied Acoustics, vol.19 pp.439-464

Loud	72
Shouting	84
15 minutes average for one patron at 1 meter ⁴	54
15 minutes average for 10 worshipers at 1 meter ⁵	64

During the special events, Eid (2 days per year) and Taraweeh, which occurs for 30 continuous days (once per year), over 100 worshipers will visit the site. To minimise the noise impact at the nearest receivers, a scenario was assessed where the maximum number of worshipers in the carpark will be limited to 10 worshipers. This is to represent the scenario prior to, and at the completion of, the prayer.

Table 6 and Table 7 show the results of calculations of noise from the worshipers in the carpark impacting on nearest receivers. The calculation includes the acoustic barrier effects of the mosque building (where applicable).

Table 6 Calculated impact noise levels (10 worshipers) – 930 Bourke Street, Zetland

	Resultant sound level in dBA, 15 minute average
15 minutes average for 10 worshipers in the carpark at 1 meter ($L_{eq, 15 \text{ min}}$)	64
Distance attenuation from the carpark, average distance 6 m	16
Barrier attenuation due to building shielding	Direct line of sight – no attenuation
Predicted noise level from the carpark at the receiver	48

⁴ Sound pressure level for relaxed, normal conversations was used for calculations

⁵ $54 + 10 \log(10)$

Table 7 Calculated impact noise levels (10 worshipers) – 876 Elizabeth Street, Zetland

	Resultant sound level in dBA, 15 minute average
15 minutes average for 10 worshipers in the carpark at 1 meter (L_{eq} 15 min)	64
Distance attenuation from the carpark, average distance 15 m	24
Barrier attenuation due to building shielding	Direct line of sight – no attenuation
Predicted noise level from the carpark at the receiver	40

The results in Table 6 and Table 7 show that the criteria will be met for all periods at Elizabeth Street receivers and exceeded for the night-time period at Bourke Street. This can be managed by limiting the worshipers to use the carpark for a discussion area during the night-time period.

Since the large number of worshipers visiting the premise will occur only twice a year during the day-time period only, it is our view that with the noise management controls outlined in Section 6.3, the adverse impacts onto the nearest receivers are unlikely.

Noise from the Main Prayer Room

The prayer is usually delivered using amplified equipment, located inside the building, to ensure it can be heard throughout the congregation. It was assumed that there would be no speakers outside of the mosque building.

It was also assumed that the current setup has individual speakers mounted at the front of the room, near the Imam.

As per construction details outlined in Section 4.1 it was assumed that the prayer hall facades are constructed of glazing panels. Dimensions, orientation and materials of the various building elements were considered during the calculations.

Please note that although during special events (Eid - two days per year and Taraweeh - once per year) will have over 100 worshipers visiting the site, the prayer is usually delivered using amplified equipment, so Iman would be the only person speaking during the prayer session regardless of number of worshipers inside the prayer room.

Table 8 shows calculation of noise during the prayer, impacting on the receiver at 930 Bourke Street, Zetland.

Table 8 Calculation of noise during the prayer - 930 Bourke Street, Zetland

	Octave Band Centre Frequency, Hz							Overall level, dB(A)
	63	125	250	500	1k	2k	4k	
Source (Prayer in Mosque L_{eq} 15 min) – based on REDBACK model No. C0917A	76	80	87	89	90	90	85	86
R_w of 6.38 mm glazing – main prayer room facade	18	21	25	30	34	35	42	
Off-axis reduction (90°)	4	4	4	4	4	4	4	
Shielding from the existing building	12	12	12	12	12	12	12	
Distance attenuation – 16 m	24	24	24	24	24	24	24	
Predicted noise level at the receiver	18	19	22	19	16	15	3	26
Measured background night-time noise level between 5-7 am	30	33	35	33	32	30	25	40

Table 9 shows calculation of noise during the prayer, impacting on the receiver at 876 Elizabeth Street, Zetland.

Table 9 Calculation of noise during the prayer - 876 Elizabeth Street, Zetland

	Octave Band Centre Frequency, Hz							Overall level, dB(A)
	63	125	250	500	1k	2k	4k	
Source L _w (Prayer in Mosque L _{eq} 15 min) - based on REDBACK speaker system model No. C0917A	76	80	87	89	90	90	85	86
R _w of 6.38 mm glazing – main prayer room facade	18	21	25	30	34	35	42	
Proposed solid boundary wall*	10+	10+	10+	10+	10+	10+	10+	
Distance attenuation – 8 m	18	18	18	18	18	18	18	
Predicted noise level at the receiver	30	31	34	31	28	27	15	38
Measured background night-time noise level between 5-7 am	30	33	35	33	32	30	25	40

* It has been assumed that the proposed solid boundary wall on the southern side with direct view to Elizabeth street residence, will extend to the same height as the main prayer room façade wall. The top component of the proposed boundary wall could be constructed of a transparent material to satisfy the lighting requirements.

The results above indicate that, under the assessed conditions, the noise emissions from the assessed operation of the mosque will meet the night-time noise criterion at all receivers.

6.2 Car park activities

The worst case for noise generation from the car park would be close to the beginning or end of the prayers when the largest number of worshipers is likely to be using the car park.

Noise in car parks typically comes from people walking to and from cars, doors opening and closing, etc., as well as vehicles moving at slow speeds. Each noise event is characterised by a brief peak which, when averaged out over a 15-minute period has a relatively low L_{eq}. The impact of each noise event on any single receiver is also variable depending upon the location of individual cars within a car park and as they move in and out. In addition to this, worshipers arriving or departing a mosque would normally be expected to do so in a relatively quiet and orderly fashion.

Typical noise levels from car parks have been sourced from the Telemetrix technical database and noise from the car park has been modelled in accordance with *Recommendations for the calculation of sound emissions of parking areas, motorcar centers*

and bus stations as well as of multi-storey car parks and underground car parks 6th Edition (Bavarian Landesamt für Umwelt 2007).

Table 10 details typical car and patron noise levels measured at 10 meters. A “Normal” vehicle can be described as “a vehicle being driven in a sensible manner.” Voices consist of general laughter and raised conversation.

Table 10 Typical car and noise levels

Noise Source	Typical Noise Levels	
	L_{eq}	L_{max}
“Normal car” at 10 m	50 dB(A) for 5 vehicles	60 - 67 dB(A)
Voices at 10 m	50 - 55 dB(A)	60 - 70 dB(A)

Car activity noise on this site will consist of cars braking, doors slamming and accelerating away from a stationary position, as well as general noise from worshipers talking within the car parking area.

The predicted noise associated with the existing car-parking activities for 5 parking spaces has been summarised in Table 11.

Table 11 Predicted Car Park Noise Levels at the Nearest Residences

Noise source	930 Bourke Street	876 Elizabeth Street
Car activity	47 dB(A), L_{eq} 60 - 67 dB(A), L_{max}	44 dB(A), L_{eq} 55 - 60 dB(A), L_{max}
Patron voices	50 - 55 dB(A), L_{eq} 60 - 70 dB(A) L_{max}	45 - 50 dB(A), L_{eq} 50 - 60 dB(A) L_{max}

The results in Table 11 show that there is a potential to exceed the sleep disturbance criterion (6 am – 7 am) at Bourke Street receiver due to the assessed noise emissions from the carpark activity. It is unlikely that the predicted exceedance of the sleep disturbance criteria at Bourke Street receiver will have a significant impact. This conclusion is based on the document “Environmental Criteria for Road Traffic Noise” published by the NSW EPA, which states that: ‘maximum internal noise levels below 50 – 55 dB(A) are unlikely to cause awakening reactions, and one or two noise events per night, with maximum internal noise levels of 65 – 70 dB(A) are not likely to affect health and wellbeing significantly.

It is generally accepted in the acoustic community that internal noise levels in conventional dwellings with the windows open are generally 10 dB(A) lower than external noise levels. Based on this, the predicted maximum internal noise levels at the nearest receiver at Bourke Street is 50-60 dB(A). In accordance with the NSW EPA findings, a noise level of 60-70 dB(A) outside an open bedroom window would be unlikely to cause awakening reactions or affect health and wellbeing significantly.

6.3 Recommendations/noise management controls

The results show that some operational aspects of the mosque (worshippers gathering in the courtyard area and car park activities) have a potential to exceed the criteria during the night time only (6 am – 7 am). It should be noted that the only Fajr prayer will commence from 6 am with low number of worshippers visiting the site during the prayer, estimate of 5 - 20 worshippers. All other prayers will occur during the day and evening periods including special events (Eid - two days per year and Taraweeh - once per year) where there will be over 100 worshippers visiting the site.

In order to minimise the noise impact onto nearest surrounding receivers and potentially meet the night-time project criteria the following noise control measures should be considered and incorporated:

- Installation of a noise barrier on the north-eastern boundary. It is worth noting that the level of attenuation of all outdoor barriers is affected by a variety of factors including end diffraction, angle of diffraction, line of sight from a source to a receiver, wind direction, humidity and temperature. The expected reduction would be 12 - 15 dB(A). The height of the barrier would need to extend such that it blocks the direct line of sight between the receiver and the carpark. Considering the nearest residential properties are double storey buildings, the barrier would need to extend close to the roof level;

In general, the following materials could be used for noise barriers:

- Steel (painted, galvanized, stainless)
- Aluminium
- Polycarbonate or acrylic sheets
- Concrete, brick or glass fibre reinforced concrete (GRC)
- Proprietary-made acoustic panels

It is recommended that advice for non-acoustical considerations of barrier design such as structural integrity etc, should be sought from other experts.

- As a management tool in discussion with the Mosque Coordinator, one option is for the carpark to remain closed till 8 am to minimise the noise impact to nearest sensitive receivers;
- Signs to be posted on the wall of the carpark and in the prayers hall to remind the worshippers to respect the amenity of the nearest residential receivers.
- Manage the worshippers to use only the enclosed rooms for discussions and meetings with fully closed doors. Instruct the worshippers not to use the carpark for meetings and discussions. Considering that the proposed new plan limits the outside courtyard, it is likely that even during the pray times with large congregations, most worshippers will occupy the enclosed rooms; and

- Limit the number of worshipers entering and exiting to 5 worshipers per entry/exit for the night-time only (6 am - 7 am).

Considering that the project criteria is exceeded only during the night-time period when the expected number of worshipers is very low (estimated 5 - 20) it is our view that the physical noise barrier might not be the most feasible mitigation measure if we take into account the height requirements for the barrier and also the visual aspect. It is our opinion that with the noise management controls outlined below, the adverse impacts onto the nearest receivers are unlikely.

Community consultation

Community consultation is essential particularly during the Jumaa, Eid and Taraweeh 'prayer events'.

The following measures are recommended during the 'prayer events':

- Inform potentially noise-affected neighbours about the nature of measures in place to minimise the noise impact;
- Give notice as early as possible. Describe the activities and how long they are expected to take;
- Keep affected neighbours informed of progress;
- Appoint a principal contact person for community queries;
- Provide 24-hour contact details through letters and site signage; and
- Record complaints and follow a complaint response procedure suitable to the scale of events.

Planning/General

- Education on noise management responsibilities will be provided for staff;
- All personnel should be aware of the noise control measures;
- Worshipers arriving or departing a mosque with their vehicles would normally be expected to do so in a relatively quiet and orderly fashion;
- Management personnel will use their best endeavours to ensure that worshipers disperse in an orderly manner and that no worshipers associated with the mosque congregate in the courtyard or in the surrounding area during the evening and night periods;
- Management personnel will be responsible for ensuring that to their best endeavours no disturbance occurs or emanates from the mosque which would be likely to cause a nuisance to adjoining occupiers or cause detriment to the amenity of the neighbourhood;
- Manage the worshiper to use only the enclosed rooms for discussions and meetings with fully closed doors;

- Instruct the worshipers not to use the carpark for meetings and discussions;
- Limiting the number of worshipers entering and exiting to 5 worshipers per entry/exit for the night time only (6 am – 7 am); and
- No external sound amplification equipment or loud speakers are to be used for the purpose of announcement, broadcast, and similar purpose.

Complaints and Response

Complaints handling procedure should be set by the facility management. The procedure should include the following minimum information:

- Time, day and date of complaint being received and relevant information about the reason for the complaint, including the time, day and date the complainant was disturbed by noise.
- Contact details for the complainant, including full name and contact details.
- Details of when and how the complaint was addressed, including any operational, procedural or engineering measures introduced to reduce noise emissions.
- Details of follow-up with the complainant, including date, day and time of any meetings, phone calls, etc. A record of the complainant's response to the follow-up should be kept.

7 CONCLUSION

Telemetrix was commissioned by Australian Federation of Islamic Councils Inc. to prepare another revised acoustic report as part of additional information for Development Application No: D/2018/1138 for a place of worship at 932-934 Bourke Street, Zetland, NSW.

City of Sydney Council have reviewed the first revised acoustic report submitted, and requested additional information that relate to:

- Noise from persons leaving and entering the premises;
- Noise from the new prayer hall. All prayers will be conducted within the proposed new prayer hall, however there are issues with an increase of persons coming and going to the premises (with access from the large carpark).

The following items have been addressed and updated in this version of the report:

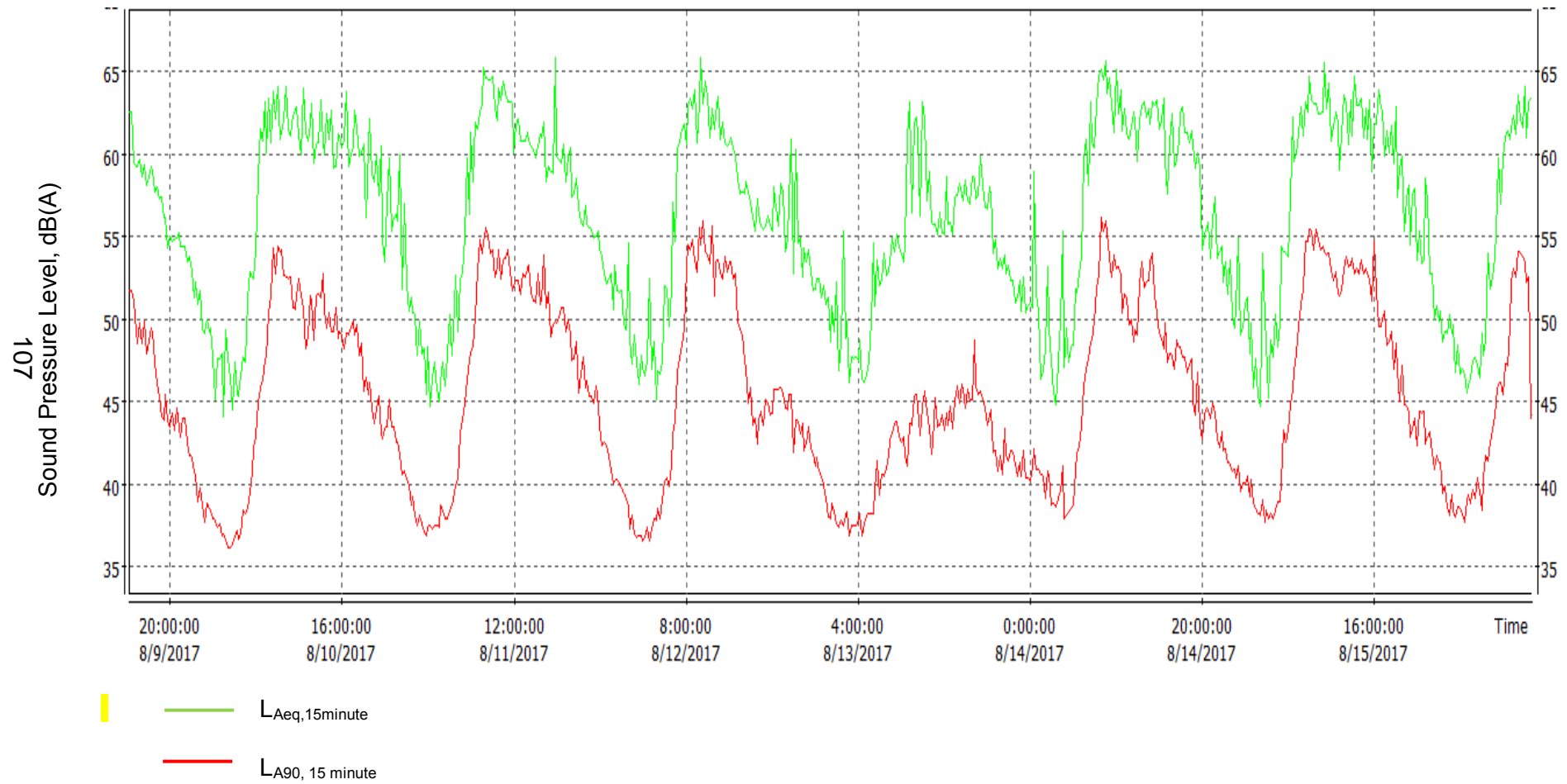
- The noise criteria have been updated in accordance with the NSW EPA Noise Policy for Industry (NPfI), which recently replaced the Industrial Noise Policy 2000. This is likely to provide a stricter compliance targets with the changes in calculating amenity criteria particularly for the night-time operation.

- Section 6.3 of the submitted Acoustic Report discussed the possibility of perhaps providing a large barrier in the large car park. However, as recommended by the City of Sydney Council, Telemetrix has explored the option of a smaller / less intrusive barrier to provide additional attenuation to protect the residential amenity of the adjacent property at 930 Elizabeth St.

Recommendations and noise management controls have been proposed in order to minimise adverse impacts.

Appendix A

Raw Data – Unattended Monitoring



17081901J_R6

No.	Date & time	LA90 [dB]	LAeq [dB]
1	8/9/2017 15:28:56	52	63
2	8/9/2017 15:43:56	51	59
3	8/9/2017 15:58:56	49	59
4	8/9/2017 16:13:56	49	59
5	8/9/2017 16:28:56	50	60
6	8/9/2017 16:43:56	49	59
7	8/9/2017 16:58:56	50	59
8	8/9/2017 17:13:56	48	58
9	8/9/2017 17:28:56	49	59
10	8/9/2017 17:43:56	50	59
11	8/9/2017 17:58:56	49	59
12	8/9/2017 18:13:56	47	58
13	8/9/2017 18:28:56	46	58
14	8/9/2017 18:43:56	45	57
15	8/9/2017 18:58:56	44	57
16	8/9/2017 19:13:56	44	56
17	8/9/2017 19:28:56	45	56
18	8/9/2017 19:43:56	44	54
19	8/9/2017 19:58:56	44	55
20	8/9/2017 20:13:56	44	55
21	8/9/2017 20:28:56	43	55
22	8/9/2017 20:43:56	45	55
23	8/9/2017 20:58:56	44	55
24	8/9/2017 21:13:56	43	54
25	8/9/2017 21:28:56	44	54
26	8/9/2017 21:43:56	44	54
27	8/9/2017 21:58:56	43	54
28	8/9/2017 22:13:56	42	54
29	8/9/2017 22:28:56	42	53
30	8/9/2017 22:43:56	41	51
31	8/9/2017 22:58:56	41	52
32	8/9/2017 23:13:56	39	51
33	8/9/2017 23:28:56	40	52
34	8/9/2017 23:43:56	39	49
35	8/9/2017 23:58:56	38	49
36	8/10/2017 0:13:56	39	50
37	8/10/2017 0:28:56	39	49
38	8/10/2017 0:43:56	38	50
39	8/10/2017 0:58:56	38	48
40	8/10/2017 1:13:56	38	45
41	8/10/2017 1:28:56	37	48
42	8/10/2017 1:43:56	38	48
43	8/10/2017 1:58:56	37	48
44	8/10/2017 2:13:56	37	44
45	8/10/2017 2:28:56	37	49
46	8/10/2017 2:43:56	36	48

No.	Date & time	LA90 [dB]	LAeq [dB]
47	8/10/2017 2:58:56	36	47
48	8/10/2017 3:13:56	36	45
49	8/10/2017 3:28:56	37	47
50	8/10/2017 3:43:56	37	46
51	8/10/2017 3:58:56	37	45
52	8/10/2017 4:13:56	37	47
53	8/10/2017 4:28:56	38	48
54	8/10/2017 4:43:56	38	47
55	8/10/2017 4:58:56	39	51
56	8/10/2017 5:13:56	40	53
57	8/10/2017 5:28:56	41	53
58	8/10/2017 5:43:56	42	52
59	8/10/2017 5:58:56	43	54
60	8/10/2017 6:13:56	45	59
61	8/10/2017 6:28:56	46	62
62	8/10/2017 6:43:56	46	61
63	8/10/2017 6:58:56	48	63
64	8/10/2017 7:13:56	48	60
65	8/10/2017 7:28:56	50	63
66	8/10/2017 7:43:56	51	61
67	8/10/2017 7:58:56	54	64
68	8/10/2017 8:13:56	53	62
69	8/10/2017 8:28:56	54	64
70	8/10/2017 8:43:56	54	61
71	8/10/2017 8:58:56	54	61
72	8/10/2017 9:13:56	53	62
73	8/10/2017 9:28:56	53	64
74	8/10/2017 9:43:56	52	62
75	8/10/2017 9:58:56	53	61
76	8/10/2017 10:13:56	51	62
77	8/10/2017 10:28:56	51	63
78	8/10/2017 10:43:56	51	63
79	8/10/2017 10:58:56	52	61
80	8/10/2017 11:13:56	51	60
81	8/10/2017 11:28:56	51	64
82	8/10/2017 11:43:56	48	61
83	8/10/2017 11:58:56	49	61
84	8/10/2017 12:13:56	51	62
85	8/10/2017 12:28:56	51	63
86	8/10/2017 12:43:56	49	59
87	8/10/2017 12:58:56	51	61
88	8/10/2017 13:13:56	52	61
89	8/10/2017 13:28:56	51	63
90	8/10/2017 13:43:56	53	61
91	8/10/2017 13:58:56	51	60
92	8/10/2017 14:13:56	50	62

No.	Date & time	LA90 [dB]	LAeq [dB]
93	8/10/2017 14:28:56	50	61
94	8/10/2017 14:43:56	49	63
95	8/10/2017 14:58:56	49	59
96	8/10/2017 15:13:56	51	59
97	8/10/2017 15:28:56	49	61
98	8/10/2017 15:43:56	49	61
99	8/10/2017 15:58:56	49	60
100	8/10/2017 16:13:56	48	61
101	8/10/2017 16:28:56	49	64
102	8/10/2017 16:43:56	49	59
103	8/10/2017 16:58:56	50	60
104	8/10/2017 17:13:56	50	61
105	8/10/2017 17:28:56	49	63
106	8/10/2017 17:43:56	50	62
107	8/10/2017 17:58:56	48	60
108	8/10/2017 18:13:56	49	60
109	8/10/2017 18:28:56	46	61
110	8/10/2017 18:43:56	47	56
111	8/10/2017 18:58:56	45	61
112	8/10/2017 19:13:56	46	62
113	8/10/2017 19:28:56	45	59
114	8/10/2017 19:43:56	44	58
115	8/10/2017 19:58:56	45	60
116	8/10/2017 20:13:56	45	58
117	8/10/2017 20:28:56	43	61
118	8/10/2017 20:43:56	43	55
119	8/10/2017 20:58:56	43	54
120	8/10/2017 21:13:56	44	57
121	8/10/2017 21:28:56	45	60
122	8/10/2017 21:43:56	44	55
123	8/10/2017 21:58:56	44	56
124	8/10/2017 22:13:56	43	56
125	8/10/2017 22:28:56	43	56
126	8/10/2017 22:43:56	42	60
127	8/10/2017 22:58:56	41	52
128	8/10/2017 23:13:56	41	57
129	8/10/2017 23:28:56	40	52
130	8/10/2017 23:43:56	40	51
131	8/10/2017 23:58:56	39	51
132	8/11/2017 0:13:56	39	50
133	8/11/2017 0:28:56	38	50
134	8/11/2017 0:43:56	38	48
135	8/11/2017 0:58:56	38	50
136	8/11/2017 1:13:56	38	48
137	8/11/2017 1:28:56	37	48
138	8/11/2017 1:43:56	37	45

No.	Date & time	LA90 [dB]	LAeq [dB]
185	8/11/2017 13:28:56	53	61
186	8/11/2017 13:43:56	53	61
187	8/11/2017 13:58:56	52	61
188	8/11/2017 14:13:56	51	60
189	8/11/2017 14:28:56	51	60
190	8/11/2017 14:43:56	53	61
191	8/11/2017 14:58:56	51	61
192	8/11/2017 15:13:56	51	61
193	8/11/2017 15:28:56	54	62
194	8/11/2017 15:43:56	51	58
195	8/11/2017 15:58:56	52	59
196	8/11/2017 16:13:56	49	59
197	8/11/2017 16:28:56	50	59
198	8/11/2017 16:43:56	50	66
199	8/11/2017 16:58:56	50	60
200	8/11/2017 17:13:56	50	60
201	8/11/2017 17:28:56	51	59
202	8/11/2017 17:43:56	51	61
203	8/11/2017 17:58:56	49	58
204	8/11/2017 18:13:56	50	60
205	8/11/2017 18:28:56	49	60
206	8/11/2017 18:43:56	48	57
207	8/11/2017 18:58:56	48	58
208	8/11/2017 19:13:56	49	59
209	8/11/2017 19:28:56	46	57
210	8/11/2017 19:43:56	47	56
211	8/11/2017 19:58:56	48	56
212	8/11/2017 20:13:56	46	57
213	8/11/2017 20:28:56	46	56
214	8/11/2017 20:43:56	45	56
215	8/11/2017 20:58:56	45	55
216	8/11/2017 21:13:56	45	55
217	8/11/2017 21:28:56	46	55
218	8/11/2017 21:43:56	45	55
219	8/11/2017 21:58:56	44	54
220	8/11/2017 22:13:56	42	54
221	8/11/2017 22:28:56	43	53
222	8/11/2017 22:43:56	42	52
223	8/11/2017 22:58:56	42	52
224	8/11/2017 23:13:56	41	53
225	8/11/2017 23:28:56	40	51
226	8/11/2017 23:43:56	40	53
227	8/11/2017 23:58:56	40	52
228	8/12/2017 0:13:56	40	52
229	8/12/2017 0:28:56	40	52
230	8/12/2017 0:43:56	40	50

No.	Date & time	LA90 [dB]	LAeq [dB]
231	8/12/2017 0:58:56	39	49
232	8/12/2017 1:13:56	39	55
233	8/12/2017 1:28:56	37	49
234	8/12/2017 1:43:56	38	47
235	8/12/2017 1:58:56	37	49
236	8/12/2017 2:13:56	37	47
237	8/12/2017 2:28:56	37	46
238	8/12/2017 2:43:56	37	48
239	8/12/2017 2:58:56	37	47
240	8/12/2017 3:13:56	37	47
241	8/12/2017 3:28:56	37	48
242	8/12/2017 3:43:56	37	52
243	8/12/2017 3:58:56	37	47
244	8/12/2017 4:13:56	38	49
245	8/12/2017 4:28:56	38	45
246	8/12/2017 4:43:56	39	47
247	8/12/2017 4:58:56	38	47
248	8/12/2017 5:13:56	39	47
249	8/12/2017 5:28:56	40	52
250	8/12/2017 5:43:56	40	52
251	8/12/2017 5:58:56	40	50
252	8/12/2017 6:13:56	41	52
253	8/12/2017 6:28:56	43	57
254	8/12/2017 6:43:56	44	55
255	8/12/2017 6:58:56	47	60
256	8/12/2017 7:13:56	48	61
257	8/12/2017 7:28:56	48	62
258	8/12/2017 7:43:56	50	62
259	8/12/2017 7:58:56	53	61
260	8/12/2017 8:13:56	55	63
261	8/12/2017 8:28:56	54	63
262	8/12/2017 8:43:56	55	63
263	8/12/2017 8:58:56	54	64
264	8/12/2017 9:13:56	53	61
265	8/12/2017 9:28:56	56	63
266	8/12/2017 9:43:56	55	66
267	8/12/2017 9:58:56	56	63
268	8/12/2017 10:13:56	54	64
269	8/12/2017 10:28:56	54	64
270	8/12/2017 10:43:56	53	61
271	8/12/2017 10:58:56	56	63
272	8/12/2017 11:13:56	51	62
273	8/12/2017 11:28:56	54	62
274	8/12/2017 11:43:56	54	64
275	8/12/2017 11:58:56	53	61
276	8/12/2017 12:13:56	52	62

No.	Date & time	LA90 [dB]	LAeq [dB]
277	8/12/2017 12:28:56	54	61
278	8/12/2017 12:43:56	53	61
279	8/12/2017 12:58:56	54	61
280	8/12/2017 13:13:56	54	61
281	8/12/2017 13:28:56	52	60
282	8/12/2017 13:43:56	53	60
283	8/12/2017 13:58:56	50	59
284	8/12/2017 14:13:56	50	58
285	8/12/2017 14:28:56	49	58
286	8/12/2017 14:43:56	48	58
287	8/12/2017 14:58:56	47	58
288	8/12/2017 15:13:56	45	58
289	8/12/2017 15:28:56	46	57
290	8/12/2017 15:43:56	44	56
291	8/12/2017 15:58:56	44	55
292	8/12/2017 16:13:56	43	57
293	8/12/2017 16:28:56	44	56
294	8/12/2017 16:43:56	44	56
295	8/12/2017 16:58:56	44	55
296	8/12/2017 17:13:56	45	56
297	8/12/2017 17:28:56	45	56
298	8/12/2017 17:43:56	44	56
299	8/12/2017 17:58:56	44	55
300	8/12/2017 18:13:56	46	58
301	8/12/2017 18:28:56	46	57
302	8/12/2017 18:43:56	46	56
303	8/12/2017 18:58:56	46	58
304	8/12/2017 19:13:56	46	58
305	8/12/2017 19:28:56	45	54
306	8/12/2017 19:43:56	45	55
307	8/12/2017 19:58:56	45	57
308	8/12/2017 20:13:56	45	61
309	8/12/2017 20:28:56	42	53
310	8/12/2017 20:43:56	44	60
311	8/12/2017 20:58:56	44	55
312	8/12/2017 21:13:56	43	55
313	8/12/2017 21:28:56	44	53
314	8/12/2017 21:43:56	42	54
315	8/12/2017 21:58:56	43	54
316	8/12/2017 22:13:56	44	54
317	8/12/2017 22:28:56	42	53
318	8/12/2017 22:43:56	42	52
319	8/12/2017 22:58:56	41	52
320	8/12/2017 23:13:56	42	52
321	8/12/2017 23:28:56	41	52
322	8/12/2017 23:43:56	41	51

No.	Date & time	LA90 [dB]	LAeq [dB]
323	8/12/2017 23:58:56	40	52
324	8/13/2017 0:13:56	39	51
325	8/13/2017 0:28:56	38	51
326	8/13/2017 0:43:56	38	49
327	8/13/2017 0:58:56	39	51
328	8/13/2017 1:13:56	38	49
329	8/13/2017 1:28:56	38	52
330	8/13/2017 1:43:56	37	47
331	8/13/2017 1:58:56	38	49
332	8/13/2017 2:13:56	38	55
333	8/13/2017 2:28:56	38	49
334	8/13/2017 2:43:56	38	50
335	8/13/2017 2:58:56	37	46
336	8/13/2017 3:13:56	38	48
337	8/13/2017 3:28:56	38	48
338	8/13/2017 3:43:56	38	48
339	8/13/2017 3:58:56	38	48
340	8/13/2017 4:13:56	38	49
341	8/13/2017 4:28:56	37	46
342	8/13/2017 4:43:56	38	46
343	8/13/2017 4:58:56	38	47
344	8/13/2017 5:13:56	38	48
345	8/13/2017 5:28:56	38	50
346	8/13/2017 5:43:56	38	55
347	8/13/2017 5:58:56	40	51
348	8/13/2017 6:13:56	41	54
349	8/13/2017 6:28:56	39	52
350	8/13/2017 6:43:56	41	52
351	8/13/2017 6:58:56	41	54
352	8/13/2017 7:13:56	41	53
353	8/13/2017 7:28:56	42	53
354	8/13/2017 7:43:56	43	54
355	8/13/2017 7:58:56	43	55
356	8/13/2017 8:13:56	44	54
357	8/13/2017 8:28:56	44	55
358	8/13/2017 8:43:56	43	54
359	8/13/2017 8:58:56	43	54
360	8/13/2017 9:13:56	43	54
361	8/13/2017 9:28:56	42	55
362	8/13/2017 9:43:56	41	61
363	8/13/2017 9:58:56	44	63
364	8/13/2017 10:13:56	44	57
365	8/13/2017 10:28:56	45	62
366	8/13/2017 10:43:56	45	62
367	8/13/2017 10:58:56	45	61
368	8/13/2017 11:13:56	43	56

No.	Date & time	LA90 [dB]	LAeq [dB]
369	8/13/2017 11:28:56	45	63
370	8/13/2017 11:43:56	46	62
371	8/13/2017 11:58:56	44	57
372	8/13/2017 12:13:56	43	59
373	8/13/2017 12:28:56	42	56
374	8/13/2017 12:43:56	43	56
375	8/13/2017 12:58:56	45	56
376	8/13/2017 13:13:56	44	55
377	8/13/2017 13:28:56	44	57
378	8/13/2017 13:43:56	44	55
379	8/13/2017 13:58:56	43	55
380	8/13/2017 14:13:56	44	59
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382	8/13/2017 14:43:56	45	56
383	8/13/2017 14:58:56	43	55
384	8/13/2017 15:13:56	45	57
385	8/13/2017 15:28:56	46	58
386	8/13/2017 15:43:56	45	58
387	8/13/2017 15:58:56	46	58
388	8/13/2017 16:13:56	46	57
389	8/13/2017 16:28:56	45	58
390	8/13/2017 16:43:56	46	57
391	8/13/2017 16:58:56	45	57
392	8/13/2017 17:13:56	45	59
393	8/13/2017 17:28:56	49	59
394	8/13/2017 17:43:56	46	57
395	8/13/2017 17:58:56	45	58
396	8/13/2017 18:13:56	46	60
397	8/13/2017 18:28:56	45	58
398	8/13/2017 18:43:56	45	57
399	8/13/2017 18:58:56	44	57
400	8/13/2017 19:13:56	44	58
401	8/13/2017 19:28:56	45	58
402	8/13/2017 19:43:56	42	54
403	8/13/2017 19:58:56	42	55
404	8/13/2017 20:13:56	41	53
405	8/13/2017 20:28:56	42	54
406	8/13/2017 20:43:56	41	53
407	8/13/2017 20:58:56	43	54
408	8/13/2017 21:13:56	42	53
409	8/13/2017 21:28:56	41	53
410	8/13/2017 21:43:56	42	52
411	8/13/2017 21:58:56	42	52
412	8/13/2017 22:13:56	41	51
413	8/13/2017 22:28:56	41	51
414	8/13/2017 22:43:56	41	52

No.	Date & time	LA90 [dB]	LAeq [dB]
415	8/13/2017 22:58:56	41	51
416	8/13/2017 23:13:56	42	53
417	8/13/2017 23:28:56	40	50
418	8/13/2017 23:43:56	40	51
419	8/13/2017 23:58:56	40	51
420	8/14/2017 0:13:56	41	51
421	8/14/2017 0:28:56	42	59
422	8/14/2017 0:43:56	41	52
423	8/14/2017 0:58:56	41	51
424	8/14/2017 1:13:56	41	46
425	8/14/2017 1:28:56	41	47
426	8/14/2017 1:43:56	39	48
427	8/14/2017 1:58:56	41	53
428	8/14/2017 2:13:56	41	50
429	8/14/2017 2:28:56	39	48
430	8/14/2017 2:43:56	39	46
431	8/14/2017 2:58:56	39	45
432	8/14/2017 3:13:56	39	47
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434	8/14/2017 3:43:56	41	55
435	8/14/2017 3:58:56	38	47
436	8/14/2017 4:13:56	38	50
437	8/14/2017 4:28:56	38	47
438	8/14/2017 4:43:56	39	48
439	8/14/2017 4:58:56	39	48
440	8/14/2017 5:13:56	41	52
441	8/14/2017 5:28:56	42	52
442	8/14/2017 5:43:56	42	53
443	8/14/2017 5:58:56	44	54
444	8/14/2017 6:13:56	46	60
445	8/14/2017 6:28:56	47	61
446	8/14/2017 6:43:56	48	58
447	8/14/2017 6:58:56	49	63
448	8/14/2017 7:13:56	49	61
449	8/14/2017 7:28:56	50	60
450	8/14/2017 7:43:56	52	63
451	8/14/2017 7:58:56	53	65
452	8/14/2017 8:13:56	56	65
453	8/14/2017 8:28:56	55	65
454	8/14/2017 8:43:56	56	66
455	8/14/2017 8:58:56	55	64
456	8/14/2017 9:13:56	54	65
457	8/14/2017 9:28:56	53	63
458	8/14/2017 9:43:56	54	61
459	8/14/2017 9:58:56	53	65
460	8/14/2017 10:13:56	53	62

No.	Date & time	LA90 [dB]	LAeq [dB]
461	8/14/2017 10:28:56	53	64
462	8/14/2017 10:43:56	50	61
463	8/14/2017 10:58:56	52	63
464	8/14/2017 11:13:56	51	61
465	8/14/2017 11:28:56	50	61
466	8/14/2017 11:43:56	50	62
467	8/14/2017 11:58:56	49	63
468	8/14/2017 12:13:56	49	62
469	8/14/2017 12:28:56	49	60
470	8/14/2017 12:43:56	52	62
471	8/14/2017 12:58:56	54	63
472	8/14/2017 13:13:56	52	63
473	8/14/2017 13:28:56	52	62
474	8/14/2017 13:43:56	52	63
475	8/14/2017 13:58:56	54	62
476	8/14/2017 14:13:56	54	63
477	8/14/2017 14:28:56	51	63
478	8/14/2017 14:43:56	50	63
479	8/14/2017 14:58:56	49	62
480	8/14/2017 15:13:56	49	62
481	8/14/2017 15:28:56	48	63
482	8/14/2017 15:43:56	50	60
483	8/14/2017 15:58:56	47	58
484	8/14/2017 16:13:56	48	61
485	8/14/2017 16:28:56	48	62
486	8/14/2017 16:43:56	47	59
487	8/14/2017 16:58:56	49	60
488	8/14/2017 17:13:56	48	61
489	8/14/2017 17:28:56	48	62
490	8/14/2017 17:43:56	48	63
491	8/14/2017 17:58:56	48	61
492	8/14/2017 18:13:56	47	61
493	8/14/2017 18:28:56	47	61
494	8/14/2017 18:43:56	48	61
495	8/14/2017 18:58:56	45	61
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497	8/14/2017 19:28:56	47	60
498	8/14/2017 19:43:56	44	59
499	8/14/2017 19:58:56	43	54
500	8/14/2017 20:13:56	44	55
501	8/14/2017 20:28:56	45	56
502	8/14/2017 20:43:56	45	56
503	8/14/2017 20:58:56	44	54
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536	8/15/2017 5:13:56	40	54
537	8/15/2017 5:28:56	43	54
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539	8/15/2017 5:58:56	43	54
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590	8/15/2017 18:43:56	47	57
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592	8/15/2017 19:13:56	47	60
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594	8/15/2017 19:43:56	45	57
595	8/15/2017 19:58:56	44	58
596	8/15/2017 20:13:56	43	55
597	8/15/2017 20:28:56	43	58
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651	8/16/2017 9:58:56	53	63
652	8/16/2017 10:13:56	44	63
653	8/16/2017 10:28:56	45	63

APPENDIX B
TRAFFIC AND PARKING IMPACT ASSESSMENT

ENVIRECCO



Traffic and Parking Assessment

932-934 Bourke St Zetland



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Report Number:

ENV131

DOCUMENT CONTROL

Version Number	Date of Release	Comments	Page Number(s)
1	10 th September 2018	Original	N/A

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TABLE OF CONTENTS

LIST OF TABLES.....	3
LIST OF FIGURES	3
1.0 INTRODUCTION.....	4
1.1 Limitations	4
2.0 BACKGROUND INFORMATION	6
2.1 SITE LOCATION AND SURROUNDING LAND USE.....	6
2.2 ROAD NETWORK AND CLASSIFICATION.....	7
2.3 ROAD DESCRIPTION AND TRAFFIC CONTROL	8
2.3.1 BOURKE STREET	8
2.3.2 ELIZABETH STREET	8
2.3.3 NAVINS LANE.....	8
3.0 LEGAL AND OTHER REQUIREMENTS	9
3.1 LEGISLATION, GUIDELINES AND STANDARDS.....	9
4.0 EXISTING ENVIRONMENT	10
4.1 VEHICULAR & PEDESTRIAN ACCESS.....	10
4.2 OF-SITE PARKING	10
4.3 ON-SITE PARKING.....	10
4.2 TRAFFIC	11
4.3 TRANSPORTATION SERVICES	13
5.0 TRAFFIC AND PARKING CRITERIA.....	14
5.1 TRAFFIC CRITERIA.....	14
5.2 PARKING CRITERIA.....	14
6.0 TRAFFIC/PARKING IMPACT ASSESSMENT	15
6.1 TRAFFIC IMPACT.....	15
6.2 PARKING IMPACT	15
6.1.1 ON-SITE PARKING.....	15
6.1.2 OFF-STREET PARKING.....	16
6.2 SPECIAL EVENTS	16
7.0 DISCUSSION	17
8.0 RECOMMENDATIONS	18
APPENDIX A – FLOOR PLANS	19
APPENDIX B – TRAFFIC VOLUME COUNTS	20

LIST OF TABLES

Table 1: Traffic Counts at the corner of Bourke and Elizabeth Street Zetland - 18.08.2017.....	12
Table 2: Urban road peak hour flows per direction	12

LIST OF FIGURES

Figure 1: Site Location – 932-934 Bourke Street Zetland.....	6
Figure 2: Site area calculation	6
Figure 3: Site location and roads	7
Figure 4: Traffic Volume Counts – 18 th August 2017	21
Figure 5: Time Period and Traffic Volume Counts – 18 th August 2017.....	22
Figure 6: Changes in Traffic Volume Counts over time– 18 th August 2017	23

1.0 INTRODUCTION

This report has been prepared for the Australian Federation of Islamic Councils to assess traffic and parking issues with the proposed development application, a place of public worship at 932-934 Bourke Street Zetland. The site was granted consent by South Sydney Council in 1990 to be used as a place of public worship.

The proposed development will include:

- an existing two-storey building with a prayer room having a floor area of 350 square metres
- administrative offices and associated amenities on the first floor
- Existing on-site car parking area for a total of 10 parking spaces (3 for staff and 7 for visitors)
- A proposed bicycle storage facility for 9 bicycles

Expected maximum patronage:

- Normal daily prayers between 5 to 20 patrons
- Friday afternoon main weekly prayers (between 12:30pm – 1:30pm) over 100 patrons
- Special event ‘Taraweeh prayers’ during the month of Ramadan (one month in the year) 100 - 150 patrons
- Special Event ‘Eid’ (twice per year) 100 - 150 patrons.

1.1 LIMITATIONS

This report and the associated services performed by Envirecco Pty Ltd are in accordance with the scope of services set out in the contract between Envirecco P/L and the Client. The scope of services was defined by the requests of the Client.

In preparing this report, Envirecco P/L has relied upon, and presumed accurate, certain information (or absence thereof) provided by government authorities, the Client and others identified herein. Except as otherwise stated in the report, Envirecco P/L has not attempted to verify the accuracy or completeness of any such information.

No warranty, undertaking, or guarantee, whether expressed or implied, is made with respect to the data reported or to the findings, observations, conclusions and recommendations expressed in this report. Furthermore, such data, findings, observations, conclusions and recommendations are based solely upon existence at the time of the investigation. The passage of time, manifestation of latent conditions or impacts of future events (e.g. changes in legislation, scientific knowledge, land uses, etc) may require further investigation at the site with subsequent data analysis and re-evaluation of the findings, observations, conclusions and recommendations expressed in this report.

This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the provisions of the agreement between Envirecco P/L and the Client. Envirecco P/L accepts no liability or responsibility whatsoever and expressly disclaims any responsibility for or in respect of any use of or reliance upon this report by any third party or parties. It is the responsibility of the Client to accept if the Client so chooses any recommendations contained within and implement them in an appropriate, suitable and timely manner.

2.0 BACKGROUND INFORMATION

2.1 SITE LOCATION AND SURROUNDING LAND USE

The site is located at 932-934 Bourke Street Zetland and is bounded by Bourke Street to the north, McPherson Lane to the south and Elizabeth Street to the west of the site (see Figure 1). The site is surrounded by a mixture of commercial and residential properties. The site has an area of approximately 912 square metres (Figure 2).¹ The site is currently occupied with a two storey building with an off-street car parking area.



Figure 1: Site Location – 932-934 Bourke Street Zetland²

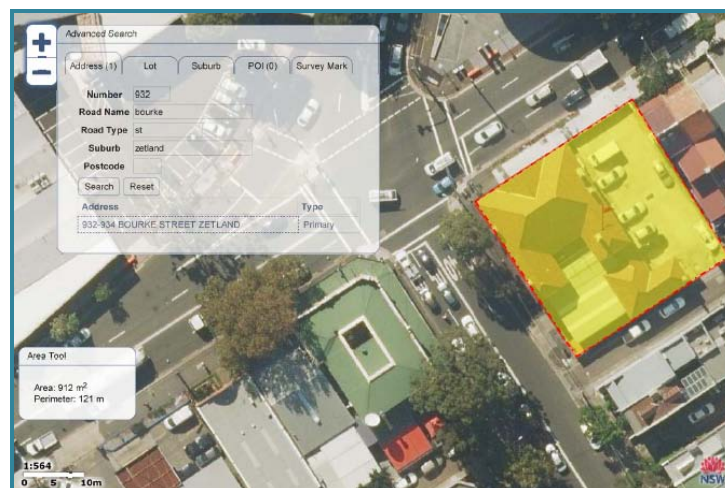


Figure 2: Site area calculation

¹ Calculated using the area tool in SIX Maps. NSW Department of Finance and Services Spatial Information eXchange

² Google Maps 2018

2.2 ROAD NETWORK AND CLASSIFICATION

Bourke Street is a collector road that runs northeast and south west between Botany Road (state road) and Campbell Street (local road). It intersects with local roads including Elizabeth Street (collector road) at the site boundary. Elizabeth street runs north and south and intersects with Navins Lane at the rear of the site. Navins Lane runs parallel with Bourke Street. Navins Lane provides vehicular access to the rear of the site. See Figure 3.

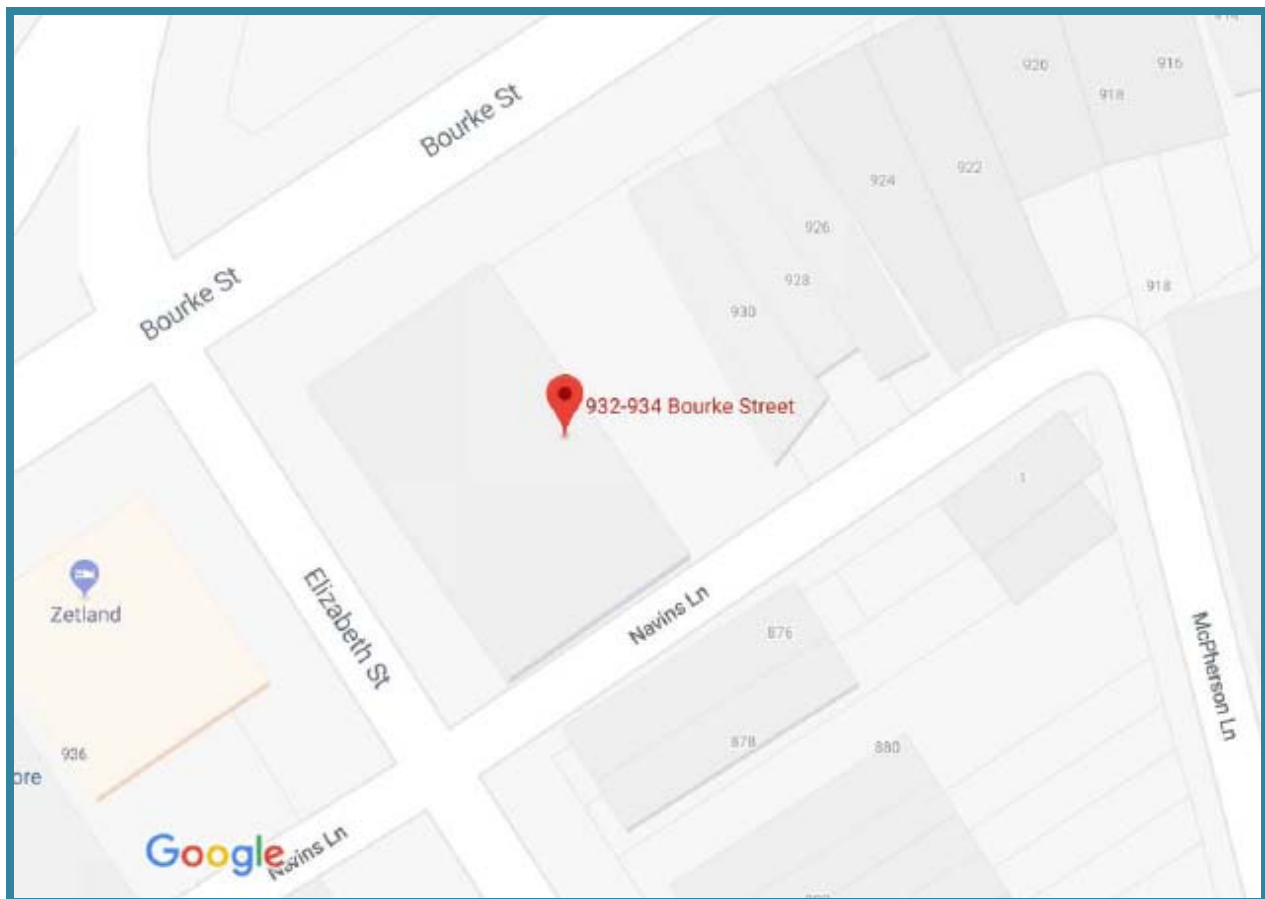


Figure 3: Site location and roads

2.3 ROAD DESCRIPTION AND TRAFFIC CONTROL

2.3.1 *BOURKE STREET*

Bourke Street is a four lane, two-way undivided road with a width between kerbs of approximately 13 metres. These four lanes provide two travel lanes per direction. 'No Stopping' restrictions apply on both sides of the street and along the frontage of the subject site/ On-street parking is permitted in sections on both sides of the street further east of the site and outside of the signposted 'No Stopping 3:00pm -7:00pm Mon-Fri' restrictions. The legal speed limit on Bourke Street is 60km/h. The intersection of Bourke Street with Elizabeth Street is controlled by traffic signals, where 'No Right Turn' restrictions apply for westbound traffic along Bourke Street.

2.3.2 *ELIZABETH STREET*

Elizabeth Street is a four lane, two way undivided road, with a width between kerbs of approximately 10 metres. These four lanes generally provide two travel lanes per direction. 'No Stopping' restrictions apply on both sides of the street outside of the subject site. Restricted '2P 8:00am – 6:00pm Permit Holders Excepted' restrictions apply further south of the subject site along both sides of Elizabeth Street. The legal speed limit on Elizabeth Street, north of Bourke Street is 50km/h and south of Bourke Street is 40km/h. The intersection of Elizabeth Street with Bourke Street is controlled by traffic signals, where 'No Right Turn' restrictions apply to northbound traffic along Elizabeth Street.

2.3.3 *NAVINS LANE*

Navins Lane is a two way undivided laneway with a width between kerbs of approximately 4.5 metres. On-street parking in the laneway is not feasible due to the narrow carriageway. The laneway provides vehicular access to the rear of adjoining properties, including the subject site. The legal speed limit on Navins Lane is 50km/h. The intersection of Navins Lane with Elizabeth Street has 'Give Way' controls, with priority given to traffic travelling along Elizabeth Street.

3.0 LEGAL AND OTHER REQUIREMENTS

3.1 LEGISLATION, GUIDELINES AND STANDARDS

The following documents have been used in preparation of this management plan:

- *City of Sydney Local Environment Plan 2012*
- City of Sydney Development Control Plan 2012
- Roads and Maritime Services; 'Guide to Traffic Generating Developments' 2002

4.0 EXISTING ENVIRONMENT

4.1 VEHICULAR & PEDESTRIAN ACCESS

Vehicular access to and from the site is from Navins Lane. All vehicular access is to be located in accordance with AS2890.1:2004, where adequate sight distance is provided. A separate pedestrian access to the site will be provided from Elizabeth Street. This segregates pedestrian and vehicular movements to improve safety on the site.

4.2 OF/-SITE PARKING

The site is located in a mixed residential and commercial area. There are 'No Stopping' restrictions on both sides of Bourke Street. Restricted parking is available on Bourke Street in close proximity to the site, signposted as 'No Stopping 3pm-7pm Mon-Fri.'

There are 'No Stopping' restrictions on both sides of Elizabeth Street. Restricted parking is available on Elizabeth Street in close proximity to the site, signposted as '2P 8am – 6pm Permit Holders Excepted.' Unrestricted parking is available on the northern side of Elizabeth Street. 'No Parking' restrictions apply to the southern area of Elizabeth Street. Parking is not feasible in the rear laneway due to its narrow carriageway.

4.3 ON-SITE PARKING

Australian Standard AS2890.1:2004 Parking Facilities Part 1: Off-street car parking requires a minimum car parking space width of 2.4 metres and a minimum length of 5.4 metres. The proposed off-street car parking spaces have a width of 2.4 metres and a length of 5.4 metres each, which is in accordance with the standards.

Car parking spaces adjacent to walls or obstructions have been made wider than the minimum width, to accommodate full door opening in accordance with Clause 2.4.4(d) of AS2890.1:2004.

AS2890.1:2004 requires a minimum aisle width of 5.8 metres for two-way aisles. The existing traffic aisle has a width of 6.1 metres, which is in accordance with the standards. The on-site

parking area provides adequate aisle width, for vehicles to manoeuvre into and out of the 90 degree parking spaces and exit the site in a forward direction.

The existing on-site parking layout, vehicle manoeuvring and circulation arrangement are adequate. Vehicles can enter and exit the site in a forward direction.

4.2 TRAFFIC

A search of the Traffic Volume Viewer (TVV) from the NSW Roads and Maritime Services near the site identified station 02309 O’riordan Street Alexandria in close proximity to the site. The traffic volume counter is located 100m north of Johnson Street on O’riordan Street and approximately 500m³ south west of the site. O’riordan street connects to Bourke Street and Botany Road. The TVV was used to analyse if there was a significant increase in traffic volumes from the 18/8/2017 at the time of the traffic counts to date. A comparison of 2017 traffic volumes and 2018 traffic volumes shows comparable traffic volumes with no increase in northbound or southbound volumes. Therefore the data supplied by ROAR data is comparable to current traffic levels at the site and adequate for this study.

The traffic volume/intersection counts were undertaken by ROAR Data Pty Ltd at the intersection of Bourke Street and Elizabeth Street at the site on Friday 18th August 2017, between 12:00pm and 2:00pm, due to the proposed peak hours of use of the proposed development. The traffic flows can be seen in Table 1.

³ Rough estimation using visual observation and the distance tool in SIX Maps. NSW Department of Finance and Services Spatial Information eXchange

Table 1: Traffic Counts at the corner of Bourke and Elizabeth Street Zetland - 18.08.2017

Traffic movement	Vehicles per hour between 12:00-14:00 on the18.08.17	Level of Service as per RMS urban road peak hour flows
Bourke Street		
Eastbound	517	C
Westbound	617	
Elizabeth Street		
Northbound	411	B
Southbound	274	

Based on the RMS Guide to Traffic Generating Developments, the level of service for Bourke Street is C and for Elizabeth Street is B. The urban road peak hour flows per direction, to classify the level of service, can be seen in Table 2 from the RMS. The level of service is considered good to satisfactory with the average delay between 28 to 42 seconds per vehicle.

Table 2: Urban road peak hour flows per direction⁴

Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

Note

Level of service criteria for intersections:

- A = good operation
- B = good with acceptable delays and spare capacity
- C = Satisfactory
- D = operating near capacity
- E = at capacity

Average delay per vehicle:

- A = <14 seconds/vehicle
- B = 15-28 seconds/vehicle
- C = 29-42 seconds/vehicle
- D = 43-56 seconds/vehicle
- E = 57-70 seconds/vehicle

⁴ RMS Guide to Traffic Generating Developments 2002. RTA Version 2.2

4.3 TRANSPORTATION SERVICES

The site is well serviced with public transportation services and is located in close proximity to Green Square railway station and the bus service on Elizabeth Street (bus route 343).

5.0 TRAFFIC AND PARKING CRITERIA

5.1 TRAFFIC CRITERIA

Good to satisfactory (A to C) level of service as per Roads and Maritime Services; 'Guide to Traffic Generating Developments' 2002.

5.2 PARKING CRITERIA

Sydney LEP 2012, in part 7, division 1, requires that places of public worship provide the following number of car spaces (whichever provides the greater number of spaces):

- 1 space for every 10 seats; or
- 1 space for every 30 square metres of the gross floor area of the building used for those purposes

Sydney DCP 2012 requires the following:

- 1 bicycle space for every 15 seats; or
- 1 bicycle space for every 40 square metres of gross floor area

This equates to 12 parking spaces and 9 bicycle spaces.

6.0 TRAFFIC/PARKING IMPACT ASSESSMENT

6.1 TRAFFIC IMPACT

There is no traffic generation rate for places of worship under the *RMS Guide to Traffic Generating Development*. The majority of patrons visiting the site will be from neighbouring businesses and will unlikely travel by car. The majority of visitors will be walking or using the local bus network. Patrons tend to use car-pooling with other family members, friends or work colleagues. It is estimated that approximately 15 – 20 vehicle trips will be made during Friday afternoon prayers and significantly lower during other prayer times. The estimated traffic generation is considered to be low and will not alter the current level of service on any of the surrounding streets. The traffic generated by the use of the site can be readily accommodated by the adjacent road network and remains well within the traffic capacity of those streets, with no adverse traffic impacts to the area.

6.2 PARKING IMPACT

6.1.1 ON-SITE PARKING

The approximate area of the prayer rooms on the ground floor totals 350m².⁵ Therefore, 12 car spaces and 9 bicycle parking spaces are needed. The parking area for visitors (directly adjoining the mosque) onsite is approximately 25 metres. Based on AS2890.1:2004 minimum car parking space width of 2.4 metres; a total of 7 car parking spaces can be allocated against the wall adjoining the mosque at 45 degrees (refer to Appendix A for floor plans).

The entire length of the parking area is approximately 30 metres. An additional 4 car spaces can be allocated on the boundary on the far side of the car park.

Therefore, a total of 11 car spaces can be accommodated in the car parking area.

Council's requirements for off street parking are a total of 12 car spaces. With the addition of 4

⁵ Calculated using the area tool in SIX Maps. NSW Department of Finance and Services Spatial Information. Using floor plans as a guide

car spaces within on the northern side and modifications to the layout to meet Australian Standards a total of 11 car spaces can be provided. Given that the on-site parking was noted to be moderate, the site is considered adequate for off street parking compliance.

6.1.2 OFF-STREET PARKING

A parking survey was carried out by Hemanote Consultants on both sides of Bourke Street and Elizabeth Street in a weekday (Friday), in order to determine the current parking utilization levels of on-street parking spaces nearby the site. The parking utilisation survey was undertaken at 30 minute intervals on Friday 18th August 2017, between 12:00pm and 2:00pm; during the peak hours of use of the site. The parking survey determined that on-street parking spaces were moderately to highly occupied in general, with some available parking opportunities around the site. A comparison of 2017 traffic volumes and 2018 traffic volumes shows comparable traffic volumes. Therefore the information supplied by Hemanote Consultants is comparable to current levels at the site and adequate for this study.

6.2 SPECIAL EVENTS

The parking demand during special events can be accommodated by the off-street parking, regular public transportation service and on-street parking in nearby streets, if required. The twice yearly special event, 'Eid' occurs between 7:30am – 8:30am. It is expected that off-site parking will be considerably less occupied than what was observed during the parking utilisation study undertaken by Hemanote Consultants due to the early morning occurrence. Furthermore, the 'Taraweeh' special event that occurs in the month of Ramadan is expected to occur between 9pm to 10pm, out of peak periods with expected low occupancy of off-site parking spaces.

7.0 DISCUSSION

The traffic and parking impact of the site reveals no adverse impacts to the area and parking provisions meet Council requirements. Furthermore, traffic generating from the development will be minimal. Management of special events will alleviate any parking or traffic concerns to the area.

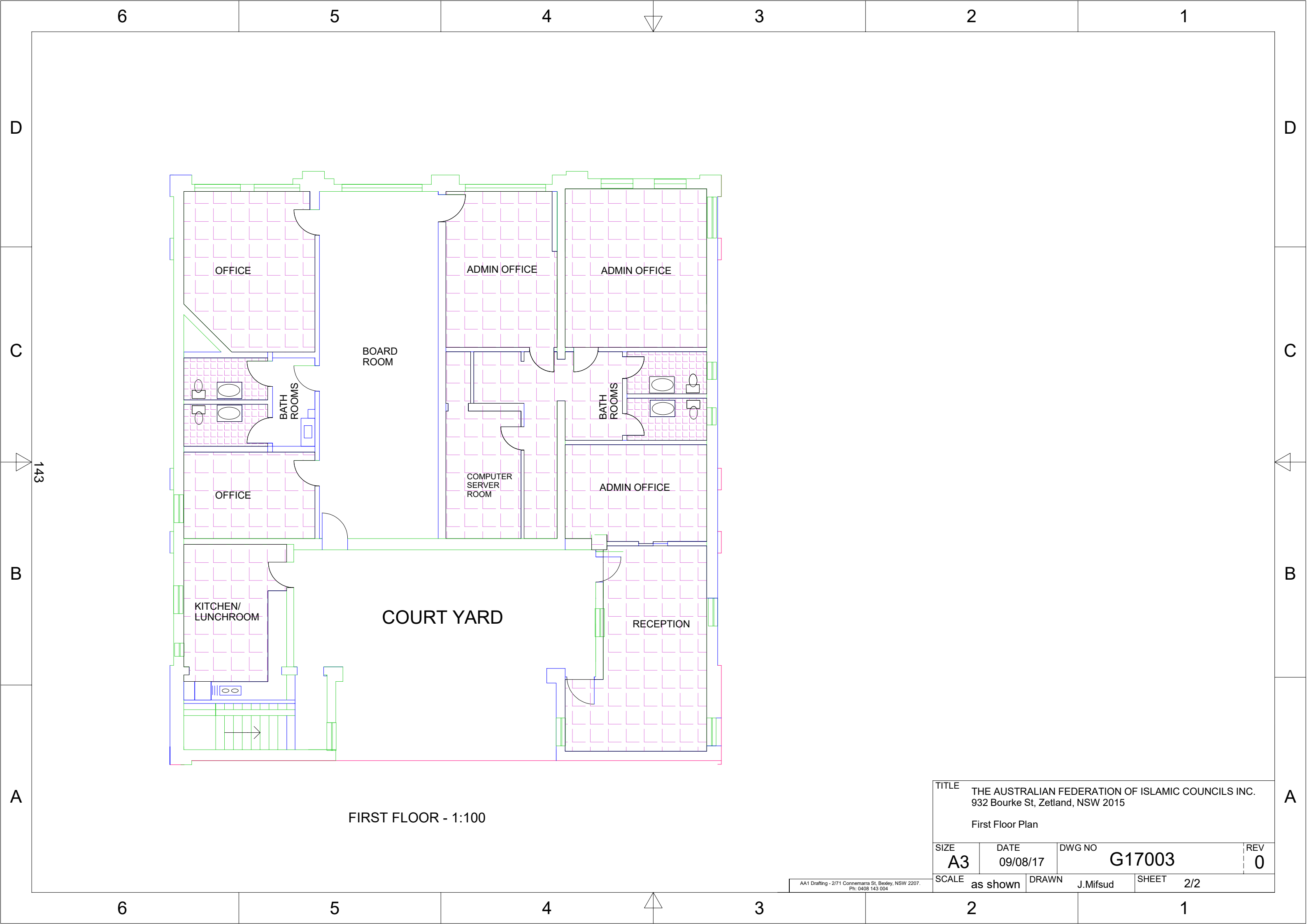
8.0 RECOMMENDATIONS

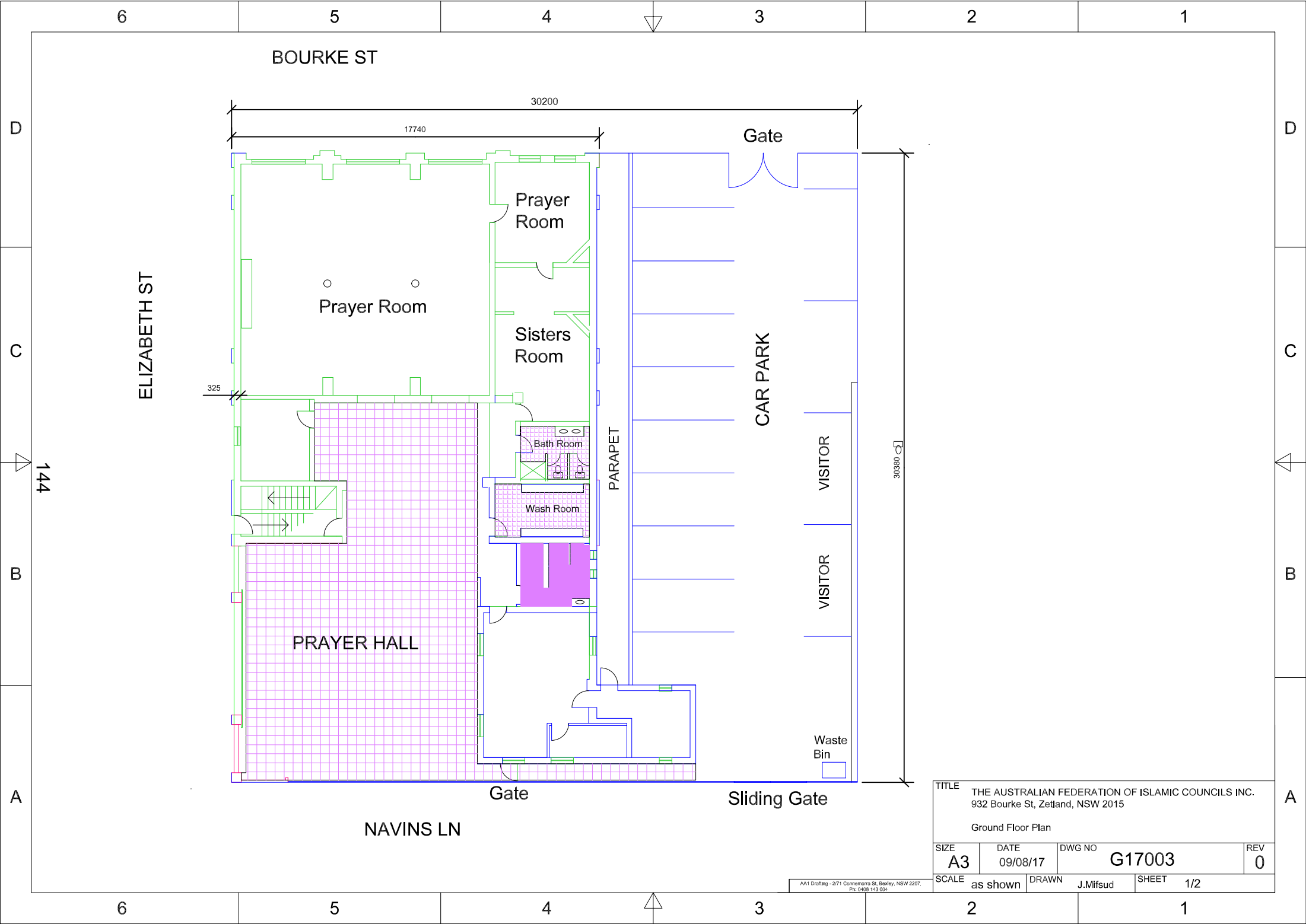
It is recommended that the parking line markups against the mosque wall be altered to 2.4 metres in width AT A 45 degree angle to allow for 7 spaces. Furthermore, the length of car parking spaces against the boundary wall should be 5.4 metres, to allow for 4 additional spaces.

Two to three staff members should patrol the site and surrounds in High Visibility gear, during special events. These staff members should control movements of vehicles and ensure no vehicles are illegally parked or obstructing driveways.

It is recommended that educational flyers be provided to patrons advising of safe parking and traffic practices during special events. Furthermore, investigation into implementing a mini bus service to elderly member of their community for special events.

APPENDIX A – FLOOR PLANS





TITLE			
THE AUSTRALIAN FEDERATION OF ISLAMIC COUNCILS INC. 932 Bourke St, Zetland, NSW 2015			
Ground Floor Plan			
SIZE	DATE	DWG NO	REV
A3	09/08/17	G17003	0
SCALE	as shown	DRAWN	SHEET
		J.Mifsud	1/2

AA1 Drafting - 2/71 Connemara St, Bealey, NSW 2207.
Ph: 0408 143 004

APPENDIX B – TRAFFIC VOLUME COUNTS

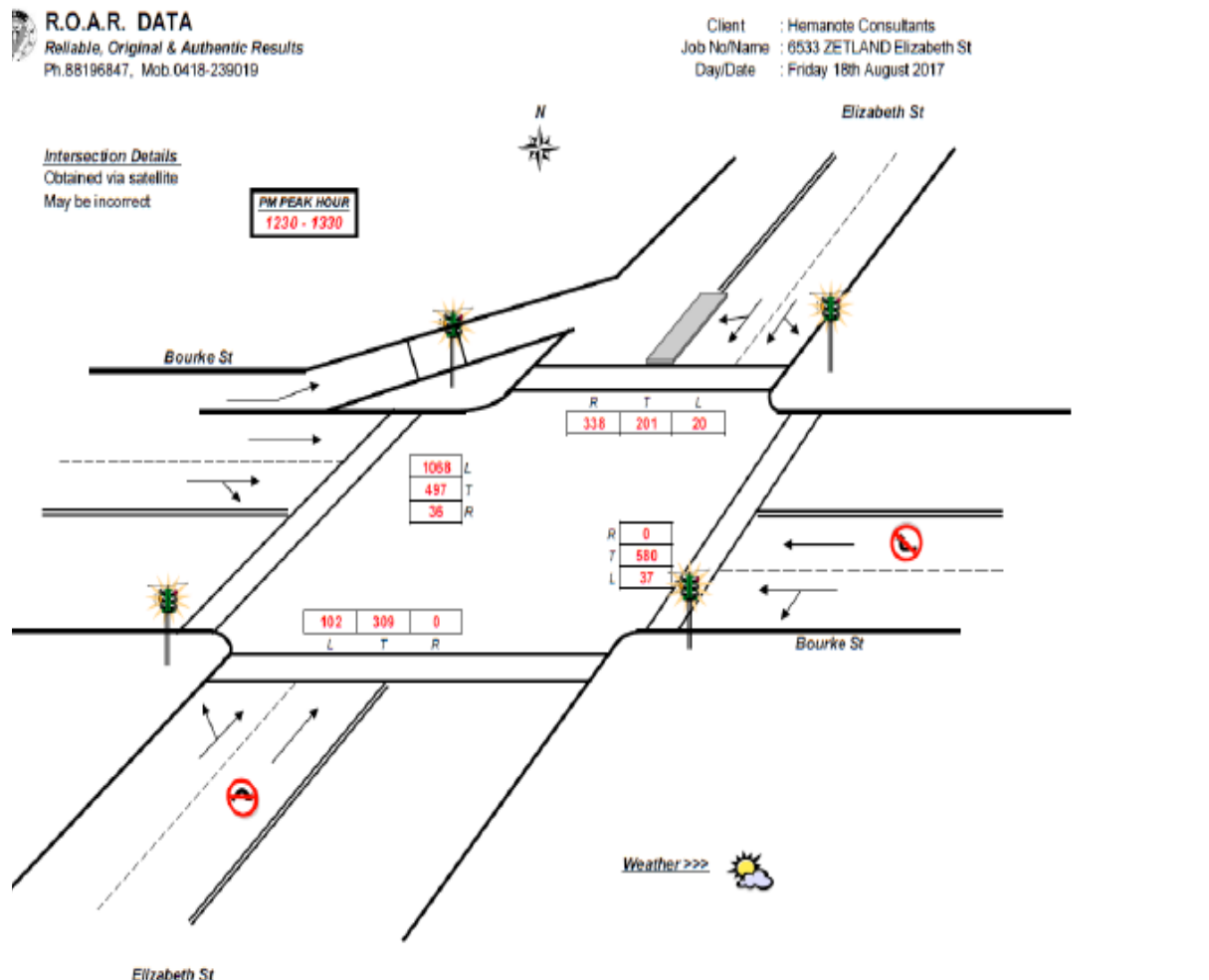


Figure 4: Traffic Volume Counts – 18th August 2017
(source: Hemanote Consultants - R.O.A.R DATA)

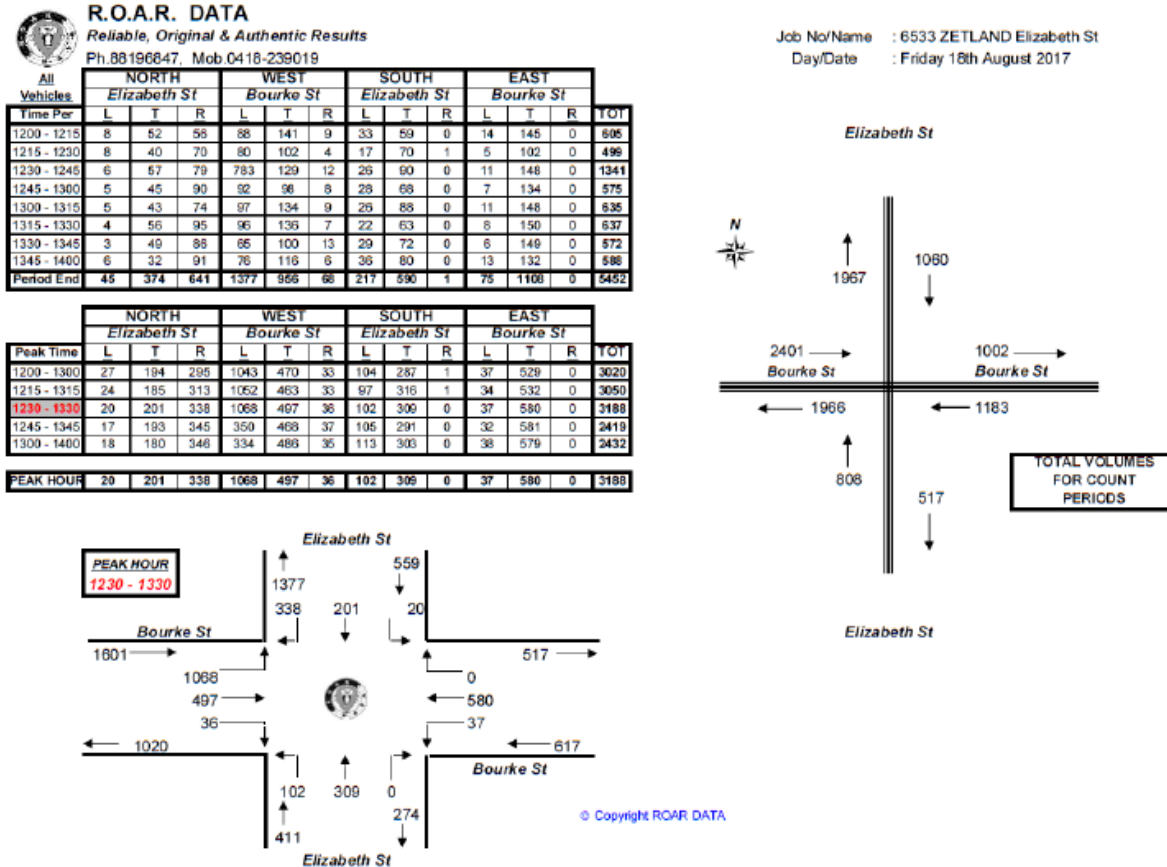


Figure 5: Time Period and Traffic Volume Counts – 18th August 2017
(source: Hemanote Consultants - R.O.A.R DATA)



R.O.A.R DATA

Reliable, Original & Authentic Results
Ph.88 196847, Mob.0418-239019

Job No/Name : 6533 ZETLAND Elizabeth St
Day/Date : Friday 18th August 2017

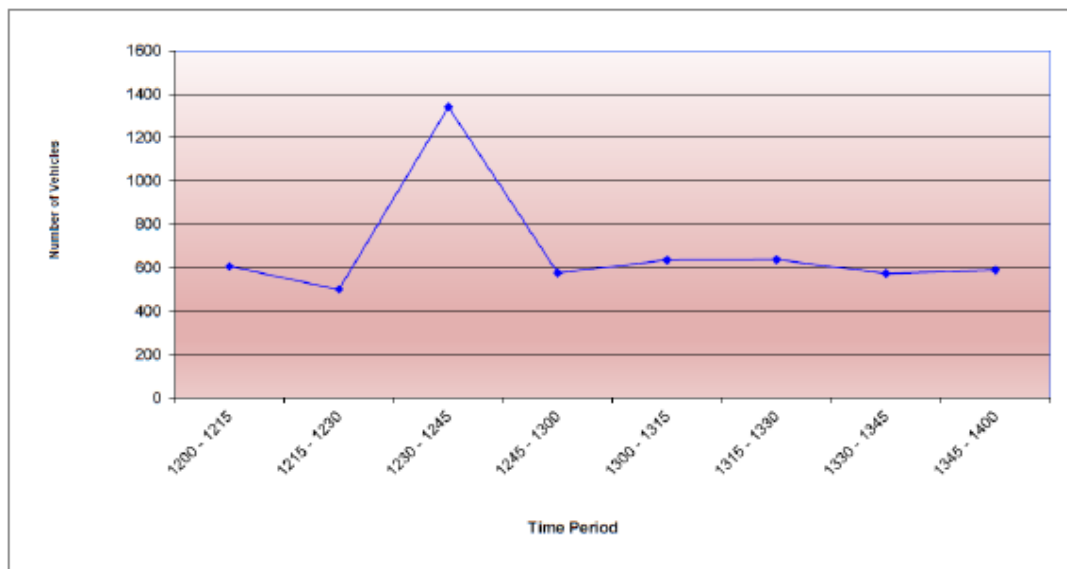


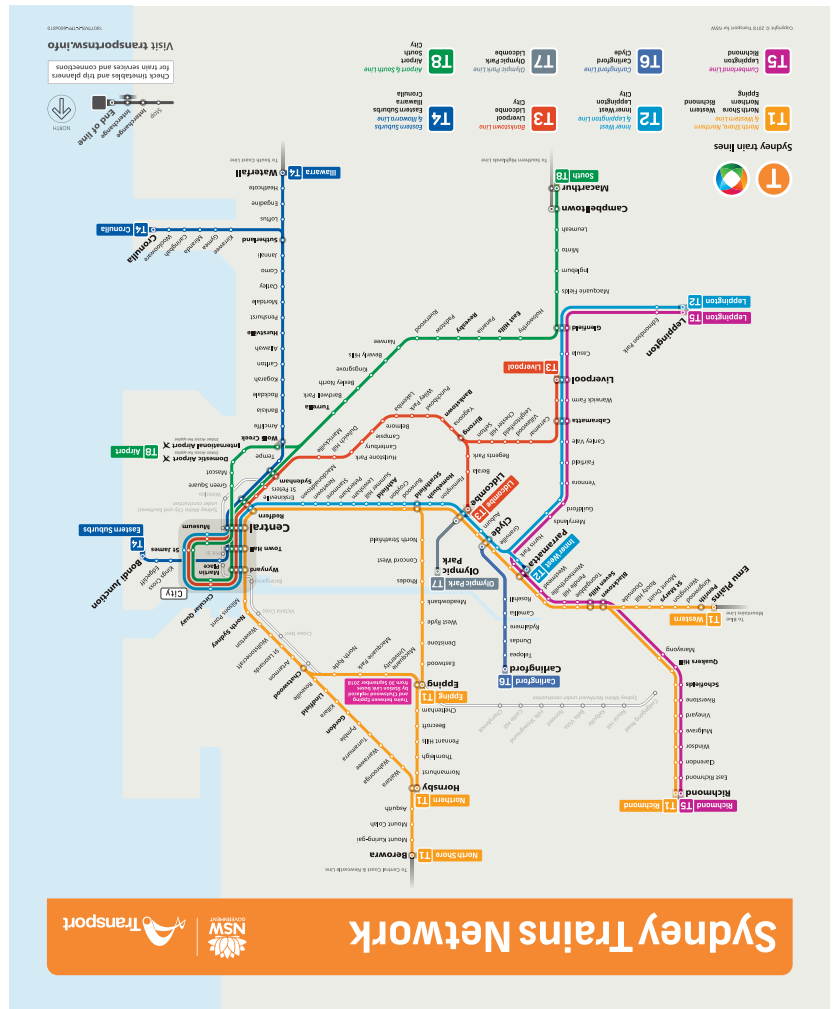
Figure 6: Changes in Traffic Volume Counts over time– 18th August 2017
(source: Hemanote Consultants - R.O.A.R DATA)

ENVIRECCO ENVIRONMENTAL SERVICES

Acoustic (Noise) and Vibration
Indoor Air Quality
Indoor Environmental Quality (indoor noise and lighting)
Odour and Ambient Air Quality
Traffic and Parking
Occupational Hygiene
HVAC Hygiene
Electro Magnetic Field (EMF)
Airborne and Surface Mould
Waste Classifications

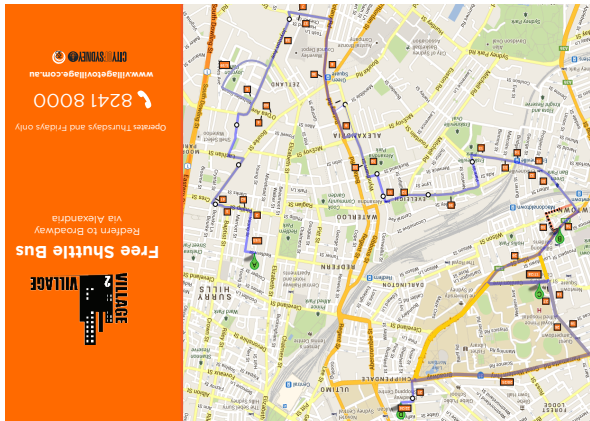
Envirecco Pty Ltd
Suite 164, Shop 6, 197-205 Church Street Parramatta NSW 2150
admin@envirecco.com.au | www.envirecco.com.au
Ph: 02 9430 6874
ACN: 616 330 422 | ABN: 20 616 330 422

APPENDIX C
TRAFFIC ACCESS GUIDE
(This document is also provide seperately)



A copy of the Train Network Map can be downloaded at: www.airportlink.com.au/documents/network-map.pdf
 A copy of the Shuttle Bus Brochure can be downloaded at: <https://accesssydney.org.au/village-to-village-free-shuttle-services/>
 See overleaf for comprehensive map of access options to the Zetland Mosque.

Return to Redfern		Outward to Broadway	
Stop	Time	Stop	Time
Redfern	07:00	Redfern	07:00
St James	07:05	St James	07:05
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St James	07:15	St James	07:15
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Free Shuttle Bus

Your guide to getting to Zetland Mosque

B Bus

Route 304 is available from to and from City Circular Key and Roseberry, stopping on Bourke Street near Powell St and on O'Dea Avenue and is only a short walk to the mosque.

Route 343 runs from north Sydney and East Gardens and stops directly across the street from the mosque on Elizabeth Street. Route 370 runs from Leichhardt via Newtown and from Coogee via Randwick stopping at Green Square Station, and is only a short walk to the mosque.

For more information, visit www.transportnsw.info or call 131 500.

T Train

Green Square Station (T8 services) is accessed via O'Riordan St or Botany Road and is a 10-minute walk to the mosque. The station is wheelchair accessible. Please see map overleaf to view the Sydney Train Network.

For more information, visit www.transportnsw.info or call 131 500.

Walking

It is possible to walk to the mosque from Sydney City, directly down Elizabeth Street. The walk is mostly flat, however distances and personal safety should be taken into account when planning your journey.

Cycling

Bicycle racks are provided in the mosque parking area. Please see map overleaf which includes suggested cycling routes. City to Green Square cycling route is now complete. The 2.4km separated cycleway links Zetland, Waterloo, Alexandria and Redfern with central. A copy of the Sydney Cycleways map can be downloaded at: www.sydneycycleways.net/map/

Taxi

A taxi rank is located at Green Square Station. Taxi's also frequent Bourke street on a regular basis. Bookings are recommended. For bookings, including wheelchair accessible taxi's, call Taxi's Combined on 133 300.

P Parking

Parking is available at the rear of the Mosque, accessed via Navins Lane and exited onto Bourke Street. The parking area includes Disabled parking and bicycle parking.

Community Transport

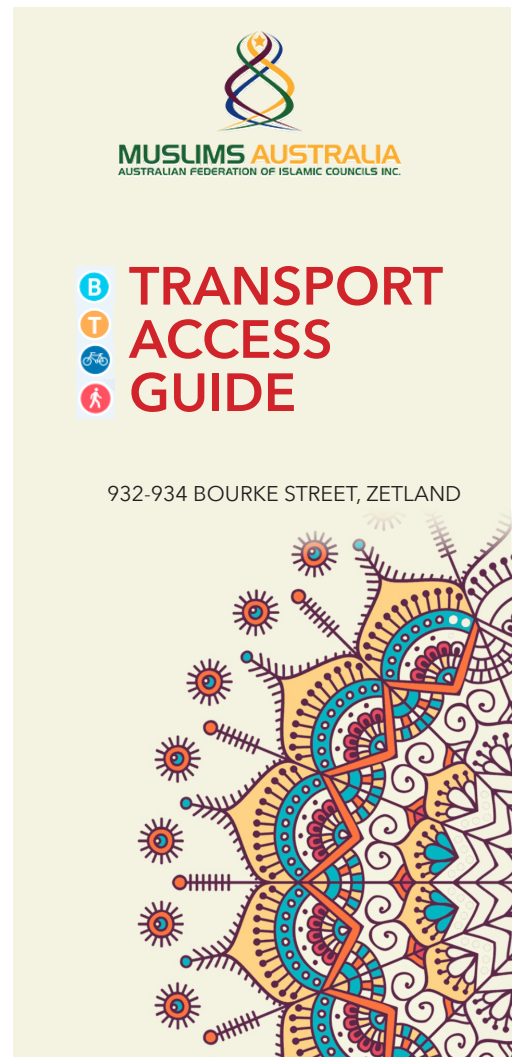
The Village 2 Village is a free bus service, operating on Thursdays and Fridays between Redfern, Camperdown and Glebe. The bus stops at Green Square Station and on Elizabeth Street rear Bourke Street.

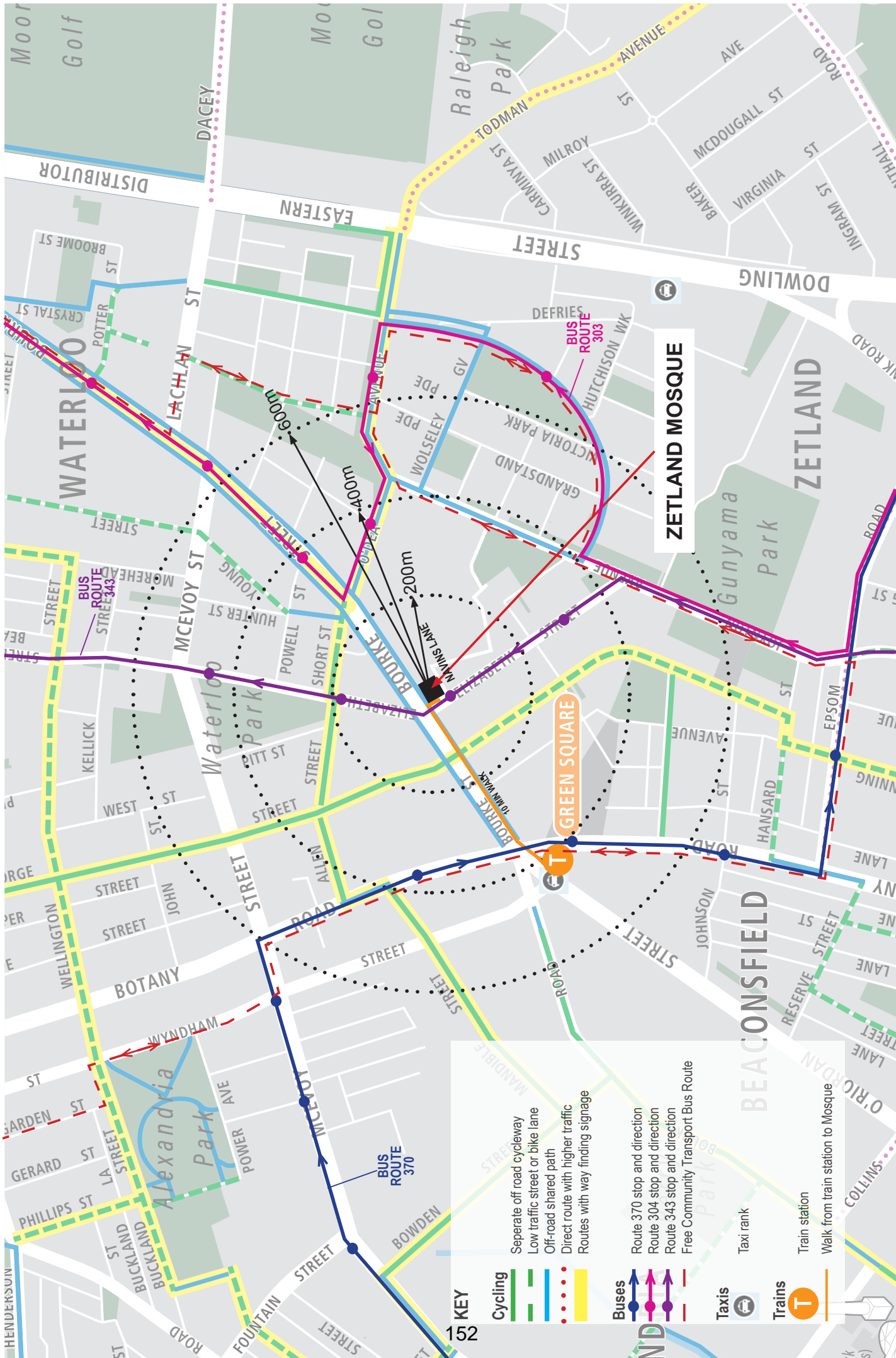
For more information call 02 8241 8000 or visit www.villagetovillagesydney.wordpress.com

There are many ways to conveniently and quickly access Zetland Mosque. Pedestrian access is provided from Elizabeth Street, with a passenger pick up and set down areas available in Navins lane and in the parking area. Please note that the Elizabeth and Bourke Street frontages are No Stopping Zones, please avoid use of this area.

Should there be any changes to travel and parking options for special events, notification will be provided via our website, www.goprayer.com.au/place/zetland-mosque/ please also consult this website for prayer times and event information, to properly plan your transportation.

Due to the limited availability of parking, Zetland Mosque supports public transport use. Get your daily physical activity as part of your journey.





ZETLAND MOSQUE

GREEN SQUARE

KEY

Cycling

- Separate off road cycleway
- Low traffic street or bike lane
- Off-road shared path
- Direct route with higher traffic
- Routes with way finding signage

Buses

- Route 370 stop and direction
- Route 304 stop and direction
- Route 343 stop and direction
- Free Community Transport Bus Route

Taxis

- Taxi rank

Trains

- Train station
- Walk from train station to Mosque

APPENDIX D
LETTER OF SUPPORT FROM LOCAL POLICE
COMMAND

Program Manager
Safer Communities Fund Round 4
Department of Industry, Innovation and Science
GPO Box 2013
CANBERRA ACT 2601

4 April 2019



NSW Police Force

Dear Sir/Madam,

Re: Support for Safer Communities Fund: Round 4 at Australian Federation of Islamic Councils / Zetland Mosque

As your property at 932 Bourke Street, Zetland comes under our area that is Redfern Police Area Command. We support your Mosque's endeavour to provide additional security measures to ensure a safe environment for the attendees.

We believe by upgrading the perimeter fencing and with the provision of additional CCTV camera, access controls and better PA system, these works will provide additional security to create a safer environment for your mosque community.

Yours faithfully,

Andrew Holland
Superintendent
Redfern Police Area Commander

REDFERN POLICE AREA COMMAND

Tower 1 11 Lawson Street Redfern NSW 2016

T 02 8303 5199 EN 55199 F 02 8303 5111 EN 55111 W www.police.nsw.gov.au

TTY 02 9211 3776 for the hearing and speech impaired AWA 47 408 611 150

TRIPLE ZERO (000)

Emergency only

POLICE ASSISTANCE LINE (131 444)

For non emergencies

CRIME STOPPERS (1800 333 000)

Report crime anonymously

