25-27 SPENCER STREET, FIVE DOCK

PROPOSED CHILDCARE CENTRE

TRAFFIC & PARKING IMPACT ASSESSMENT

AUGUST 2015

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PROPOSED CHILDCARE CENTRE

DATE: 5 AUGUST 2015

DISCLAIMER

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1 INTRODUCTION

This report has been prepared by Hemanote Consultants on behalf of AF Family Holdings Pty Ltd to assess the traffic and parking implications of the proposed childcare centre to be located at 25-27 Spencer Street, Five Dock for 132 children between the ages of 0 to 6 years old.

This report is to be read in conjunction with the architectural plans prepared by Drew Heath Architect and submitted to Canada Bay City Council as part of a Development Application.

This report is set as follows:

- *Section 2:* Description of the existing site location and it use;
- *Section 3:* Description of existing traffic conditions near the subject site;
- *Section 4:* Description of the proposal, vehicular access and on-site parking provision, layout and circulation; and detailed traffic management measures;
- *Section 5:* Assessment of the on-street parking conditions and utilisation near the subject site; impacts on parking;
- *Section 6:* Assessment of Impacts on traffic near the subject site; and
- *Section 7:* Outlines Conclusions.

2 EXISTING SITE DESCRIPTION

➢ ***Site Location***

The subject site is located on the southern side of Spencer Street at property No. 25-27 and at its intersection with Regatta Road, within the suburb of Five Dock. The site has a frontage of approximately 23.8 metres to Spencer Street from the north and 36.6 metres to Regatta Road from the west. Refer to Figure 1 for a site locality map.

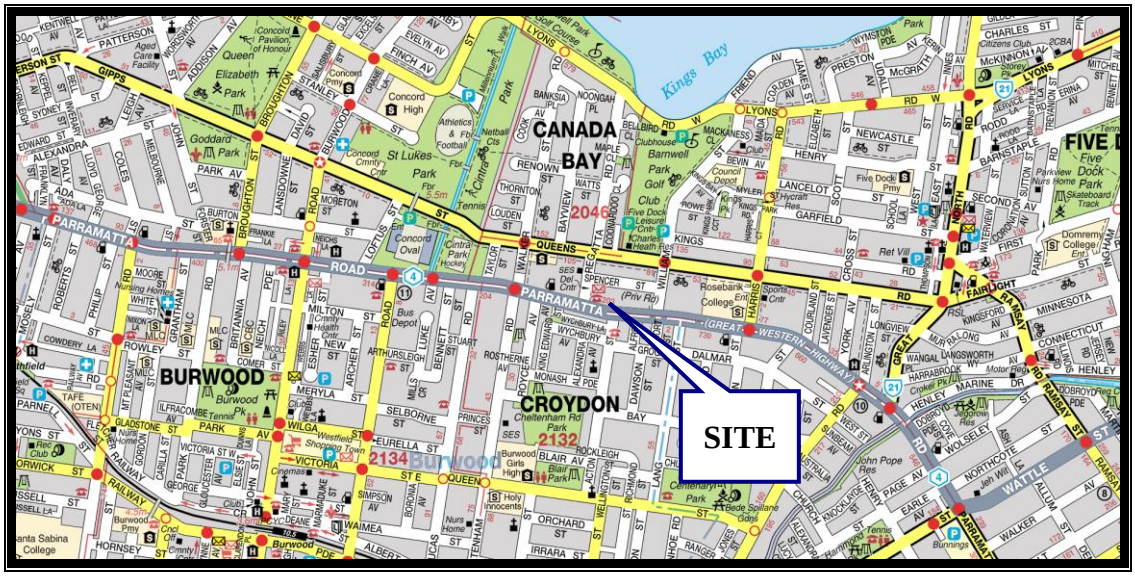


Figure 1: Site Locality Map

➢ ***Existing Site Land Use***

The subject site has an area of approximately 870m^2 and currently has a vacant multi-storey building with two basement levels for car parking. It is located in a mixed commercial and industrial area and is close proximity to Parramatta Road.

Photo 1: Site frontage to Regatta Rd at Spencer St

3 EXISTING TRAFFIC CONDITIONS

3.1 Road Network and Classification

Spencer Street is a local road running east-west between Regatta Road (local road) and William Street (local road). Regatta Road is a local road running north-south between Parramatta Road (State Road) and Queens Road (collector road). It intersects with Spencer Street at its mid length.

3.2 Road Description and Traffic Control

Spencer Street is a four-lane two-way undivided carriageway, with a width between kerbs of approximately 12 metres. These four lanes generally provide one travel lane per direction, plus a kerbside parking lane on the both sides of the street. Unrestricted parking is permitted on both sides of Spencer Street, including the frontage of the subject site.

At present, there is one on-street parking space along the frontage of the subject site in Spencer Street. The legal speed limit on Spencer Street is 50 km/h. Spencer Street forms a 'T' intersection with Regatta Road and is controlled by 'T' priority given to traffic travelling on Regatta Road.

Regatta Road is a four-lane two-way undivided carriageway, with a width between kerbs of approximately 12 metres. These four lanes generally provide one travel lane per direction, plus a kerbside parking lane on the both sides of the street. Unrestricted parking is permitted on both sides of Regatta Road, including the frontage of the subject site, with the exception of a section of '1-hour' parking along the western side of the street, near Parramatta Road.

At present, there are four (4) on-street parking spaces along the frontage of the subject site in Regatta Road. The legal speed limit on Regatta Road is 50 km/h.

Figure 2: Aerial photograph of the subject site and surrounding road network

Photo 2: Spencer Street – facing east

Photo 3: Spencer Street – facing west

Photo 4: Regatta Road – facing north

3.3 Current Traffic Flows

➢ *Traffic volume counts*

A traffic volume count was undertaken by Engdata Services at the intersection of Spencer Street / Regatta Road at the subject site on Wednesday 13 May 2015 during morning peak periods (7.00am to 10.00am) and afternoon peak periods (3.00pm to 6.00pm) considering the proposed childcare centre hours of operation and traffic peak periods. The traffic flows in the morning & afternoon peak hours are shown below and in Tables 1 and 2 on the following page and in **Appendix 'B'**.

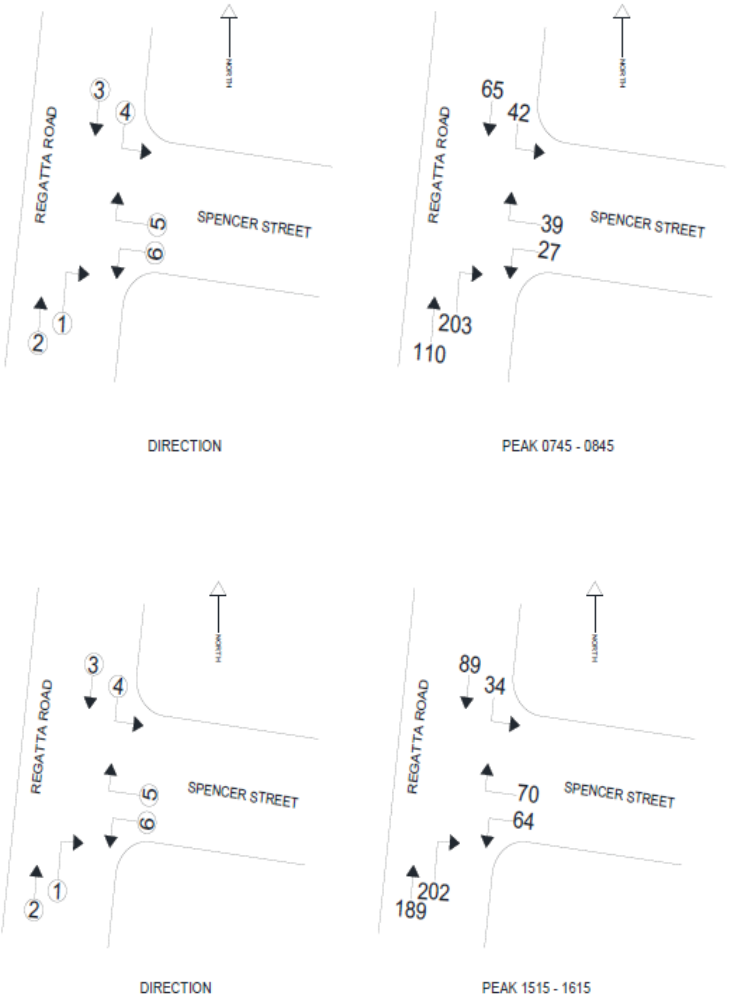


Diagram 1: Subject Intersection – Spencer Street / Regatta Road

Traffic Movement	Morning Peak Hour (Vehicles Per Hour)	Afternoon Peak Hour (Vehicles Per Hour)
	7.45am – 8.45am	3.15pm – 4.15pm
Northbound	313	391
Southbound	107	123

Table 1: Current traffic flows on **Regatta Road** at the subject centre (on a typical weekday)

Traffic Movement	Morning Peak Hour (Vehicles Per Hour)	Afternoon Peak Hour (Vehicles Per Hour)
	7.45am – 8.45am	3.15pm – 4.15pm
Westbound	66	134
Eastbound	246	236

Table 2: Current traffic flows on **Spencer Street** at the subject centre (on a typical weekday)

The results of the traffic volume counts undertaken determined that the traffic morning peak period on Spencer Street and Regatta Road was between 7.45am to 8.45am and the afternoon peak period was between 3.15pm to 4.15pm on a typical weekday.

The traffic flows on Spencer Street and Regatta Road are considered to be appropriate for a local road in an industrial area and are free flowing without any major queuing or delays in peak hours.

It is determined that the existing Level of Service on Spencer Street and Regatta Road are classified as level 'B', in accordance with Table 4.4 of the Roads & Maritime Services' *"Guide to Traffic Generating Developments - 2002" (attached on the next page)* with peak hour flow being less than 380 vehicles/hr per direction.

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

Table 4.4 : Urban road peak hour flows per direction (RMS Guide)

- ***Current Intersection Performance***

Average Vehicle Delay (AVD) and Level of Service (LOS) – The AVD and LOS provide a measure of the operational performance of an intersection as indicated in Table 4.2 of the Roads & Maritime Services' "*Guide to Traffic Generating Developments - 2002*" (attached below).

It has also been observed that the current operational performance of the intersection of Spencer Street / Regatta Road is at a Level of Service 'A', in accordance with Table 4.2 of the Roads & Maritime Services guide with an average delay of less than 14 seconds per vehicle.

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode

Table 4.2 : Level of Service Criteria for intersections (RMS Guide)

3.4 Existing Transportation Services

The subject site is well served by public transport services in the form of trains and buses. Burwood Railway Station is located approximately 1.9 km to the south of the subject site. Frequent bus services operate along Parramatta Road and Queens Road (i.e. bus routes 415, 436, 438, 439, 440 and 461).

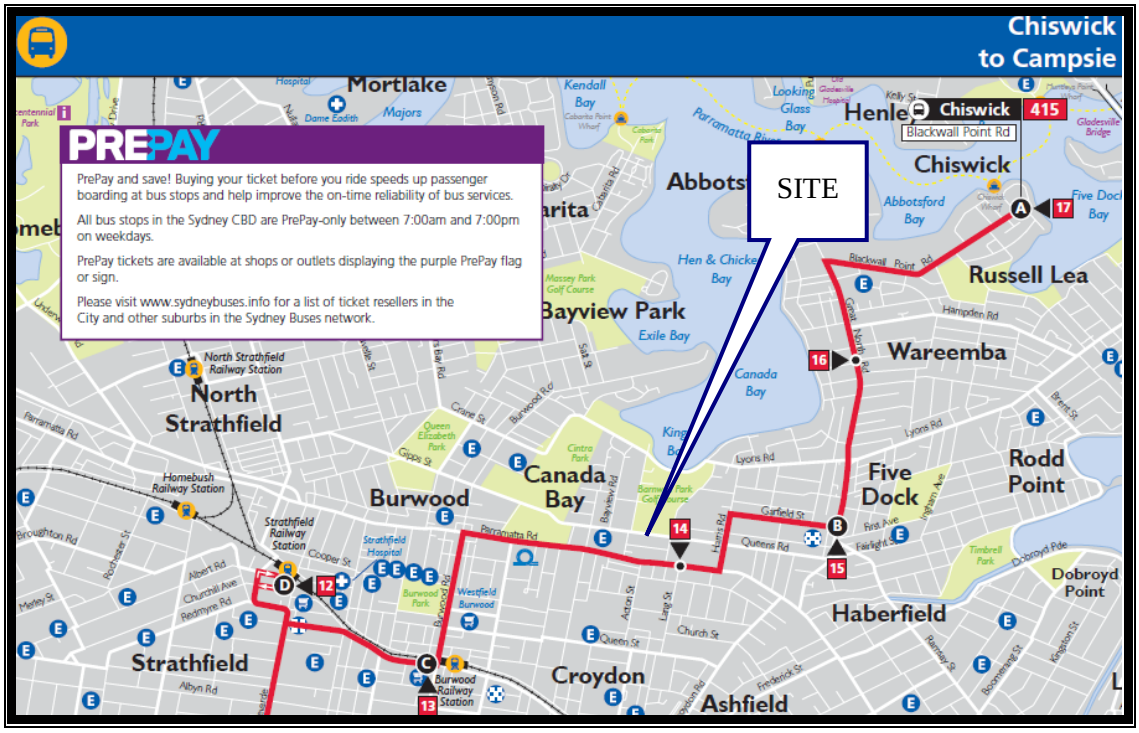


Figure 3: Bus services near the subject site

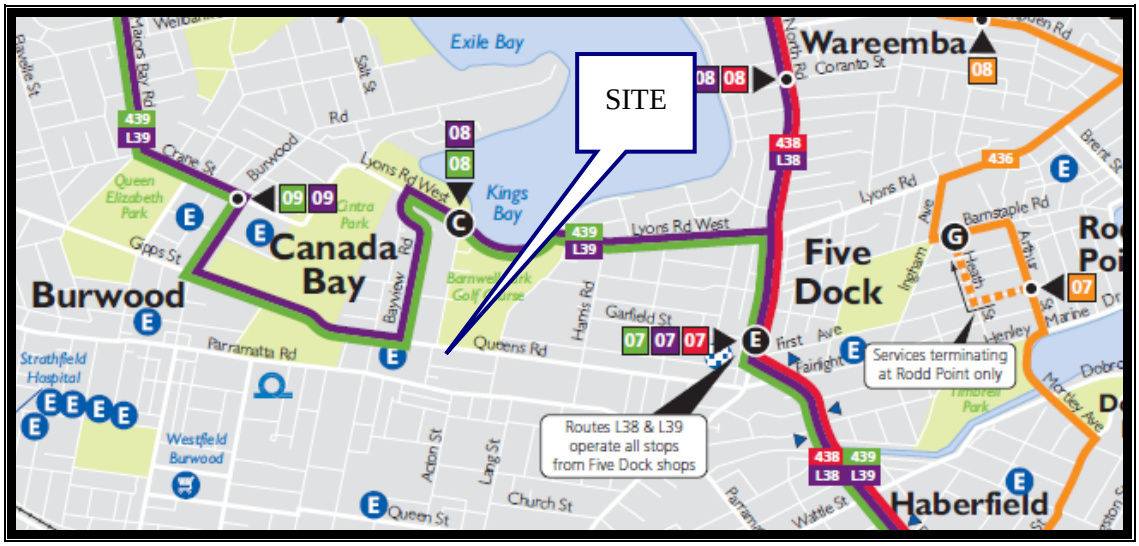


Figure 4: Bus services near the subject site

4 PROPOSED DEVELOPMENT

4.1 Description

The proposal is for the change of use of the existing multi-storey building at 25-27 Spencer Street, Five Dock to be used as a childcare centre for 132 children between the ages of 0-6 years old.

The proposed development would consist of the following elements:

1. Childcare centre accommodating 132 children:
    - 36 children between the ages of 0 to 2 years old (9 staff members);
    - 30 children between the ages of 2 to 3 years old (4 staff members); and
    - 66 children between the ages of 3 to 5 years old (7 staff members).
2. Thirty-four (34) off-street car parking spaces over two basement levels for staff and visitor parking, including 4 accessible parking spaces and bicycle parking areas, in addition to a loading bay / emergency vehicle parking on ground level.

There will be a maximum of twenty-one (21) staff members including one director at any given time. The proposed hours of operation of the centre will be from 6.30am to 6.30pm on weekdays only.

Refer to ***Appendix 'A'*** for the proposed development plans.

4.2 Vehicular & Pedestrian Access

The vehicular access to and from the subject site will be via two separate driveway crossings. Entry to the site will be from a new driveway crossing to be constructed in Regatta Road, while exit from the site will be via the existing driveway crossing in Spencer Street (which will be reduced in size to provide an additional on-street car parking space to compensate the loss of one space as a result of the new entry driveway in Regatta Road). Therefore, there is no net loss in on-street parking as a result of the proposed vehicular access points. The entry and exit driveway crossing are to be signposted and line marked to clearly indicate their intended use.

The entry driveway in Regatta Road has a clear width of 3.5 metres, which is adequate in accordance with AS2890.1 and provides vehicular access into the site. Please refer to the vehicle swept path diagram in Appendix 'A' which clearly indicated that a vehicle (with 300mm clearance on either size of the vehicle is shown) can enter the site and does not interfere with the existing column. However, this may require modification/relocation of an existing storm water pit on Regatta Road.

All vehicular access to be located and constructed in accordance with the requirements of AS 2890.1:2004, where adequate sight distance is provided and vehicles are to enter and exit the site in a forward direction. Separate pedestrian access is also provided at the front of the site from Regatta Road.

4.3 On-site Parking Provision

Canada Bay City Council's Development Control Plan requires off-street parking for childcare centres to be provided at a rate of 1 car space for every 4 licensed places.

The proposed childcare centre is to have a maximum of 132 children at any given time and on-site car parking is to be provided as shown in Table 3 below:

Age Group	**0-2 years**	**2-3 years**	**3-5 years**	**Total**
Number of children	36	30	66	132
Number of Staff	9	4	7	20 + director
Total off-street parking required				**33**
Off-street parking provided (34 spaces + loading bay)				**35**
Compliance				**Yes**

Table 3: on-site parking provision

The proposed development provides a total of thirty-four (34) off-street car parking spaces over two basement levels for staff and visitor parking, including 4 accessible parking spaces and bicycle parking areas, in addition to a loading bay / emergency vehicle parking on ground level.

Therefore, the on-site parking provided is adequate and in accordance with Council's requirements.

It should be noted that convenient on-street parking opportunities are available on both sides of Regatta Road and Spencer Street (including the frontage of the subject site) and does not affect the amenity of the adjacent area.

4.4 On-site Parking Layout and Circulation

The layout of the existing on-site car parking areas and manoeuvring arrangements has been designed to enhance vehicular access and safety.

All vehicles will enter and exit the site in forward direction through the provision of adequate aisle width to turn around when required. It should be noted that the majority of staff members normally arrive at the centre before the children and leave the centre at the closing time after the children have been picked-up by their parents/care takers. Therefore, all car parking spaces allocated to staff will be located in the lower basement level, in order to minimise the number of traffic movements to that level.

AS2890.1-2004 Parking facilities Part 1: Off-street car parking requires a minimum parking space width of 2.4 meters for staff (class 1A) and 2.5 metres for visitors (class 2), with a minimum length of 5.4 meters. The existing off-street car parking spaces complies with these width and length requirements.

Clause 2.4.2 of AS2890.1-2004 requires a minimum aisle width of 5.8 metres for two-way aisles, adjacent to 90^{o} angle parking. The existing aisles have a minimum width of 6 metres, which is adequate for two-way traffic and manoeuvring into and out of parking spaces.

The accessible car parking spaces for people with a disability have a width of 2.4 metres, in addition to an adjacent 2.4 metres wide shared/no parking area, which is adequate in accordance with AS2890.6:2009. It should be noted that this space shall comprise a firm plane surface with a fall not exceeding 1:40 in any direction (i.e. 2.5%) or 1:33 if the surface is a bituminous seal and the parking space is out of doors.

A loading/service bay as well as an emergency vehicle parking bay is located on ground level and does not interfere with the drive through area.

Circulation of vehicles to and from the basement car park levels will be through the existing ramp. The ramp provides for two-way traffic where a traffic signal system is currently in place at either end of the ramp (providing one-way traffic movement at any one time), to ensure safe manoeuvring between the ground and basement levels.

A holding bay is proposed to be line marked in front of the traffic light signal on ground level, to regulate turning movements while other vehicles are waiting for the green light to proceed. A 'Stop' sign will also be installed at each holding bay, in addition to traffic convex mirrors if required.

A green light priority will be given to vehicles entering the basement level, in order to avoid any queuing of vehicles on the street. It should also be noted that the ground level have sufficient space within the site boundaries to accommodate up to three (3) vehicles (between the entry driveway and the existing ramp to the basement). This will further ensure that queuing of vehicles, if it is to occur, it would take place within the site boundaries and not on the street. It should be noted that drop-off and pick-up of children is not to take place in the drive through area on ground level.

Each basement level will also provide up to three (3) holding bays at the red-green signal, as shown on the basement plans. Refer to **Appendix 'C'** for vehicle swept path diagrams and traffic management arrangements**.**

4.5 Detailed Traffic Management measures

The original traffic management system for the existing building was installed by 'AGD Intelligent Detection Systems'. Following discussions with AGD, it is proposed to modify the current traffic management system in place to a two mode system. Refer to **Appendix 'C'** for a layout plan of the traffic management arrangements**.**

The programmable logic controller would be programmed to select between modes automatically, dependant on time and date.

The first is normal operating hours, which entails the roller door to be up during normal operating hours. The second is outside normal operating hours. The roller door is closed and only open the building security system and outside normal hours program.

The modification required to the hardware:

- Installation of a queuing loop as shown on the marked up drawing in Appendix C.
- New stop line and "stop here on red" sign as shown on the marked up drawing.
- Stop line loop as shown on the marked up drawing.
- AGD 206 radar located in ramp as shown on marked up drawing.
- Reprogramming of the programmable logic controller.

Normal operating hours

Default position

- Green display for entering vehicles, allowing vehicles to enter.
- Red display for exiting vehicles.

When the induction loop in basement one detects that a vehicle has stopped on the loop, the system initiates the vehicle exit sequence.

Exit sequence

- The entrance display changes to red.

- If the radar does not detect any vehicles and the entrance loop detector has been activated for a present time the exit display changes to green for a set time.
- If a second vehicle passes over the exit loop during the green display is extended for 5 more seconds.
- This extension can continue for 45 seconds unless the queuing detector calls for the entrance cycle.

In the event that a vehicle has stopped at the ground level car park stop line, and the system is in the exit cycle, the system goes to the entrance “on demand” cycle.

Entrance “on demand” cycle

- The system will allow one more extension of the exit green before going to the entrance cycle.
- Basement one display changes to red.
- If the radar does not detect a vehicle in the ramp, and the loop in basement one has not been activated after a set time, the display for the car park entrance changes to green.
- The display remains green until there is a demand from the basement one loop.

In the event of a vehicle queuing to enter the car park:

- If the queuing loop is activated and the stop line loop is activated together, the exit cycle is terminated and the entrance cycle is commenced.
- Entrance cycle is held until the queuing loop is deactivated.

<u>Outside normal operating hours</u>

Default display

- Green display for entering vehicles, allowing vehicle to enter.
- Red display for exiting vehicles.

Exit sequence

- Vehicle stops in the basement one holding bay.
- Loop detector is activated.
- Entrance display changes to red.
- Both displays are on held on red for a set time, allowing any vehicles in the ramp to complete their journey.
- The basement one display changes to green for a set time, allowing vehicles to exit the carpark.
- The basement one display changes back to red.
- Both displays remain red for a set time allowing the vehicle to complete their journey.
- The system returns to the default display.

Entrance sequence

- Vehicles enter when the system is in the default display.

Therefore, the car parking layout and circulation are considered to be adequate in accordance with AS2890.1 – 2004 and AS2890.6 - 2009 and appropriate for vehicles during entering and exiting the site.

5 ON-STREET PARKING PROVISION

5.1 Existing Parking Controls

The subject site is located in a mixed commercial and industrial area. Unrestricted parking is permitted on both sides of Regatta Road and Spencer Street.

5.2 Parking Utilisation Survey

A parking survey was carried out by Hemanote Consultants in Regatta Road and Spencer Street near the subject site, on a typical weekday in order to determine the availability of on-street parking spaces and the current utilisation levels nearby the subject site.

The parking survey was undertaken at 30 minute intervals on Wednesday 13 May 2015, during morning (7.00am to 10.00am) and afternoon (3.00pm to 6.00pm) peak periods, considering the proposed hours of operation of the childcare centre and traffic peak periods.

The parking survey considered on-street parking spaces at the following locations:

1. Regatta Rd, both sides (26 parking spaces).

2. Spencer Street, both sides (24 parking spaces).

5.2.1 Results of Parking Utilisation Survey

The summary of the parking survey results are listed in Table 4 below:

Location		Morning period	Afternoon period
1	Regatta Rd, both sides (26 parking spaces).	69% (8 vacant spaces)	58% (11 vacant spaces)
		Low to medium	Low to medium
2	Spencer Street, both sides (24 parking spaces).	75% (6 vacant spaces)	67% (8 vacant spaces)
		Low to medium	medium

Table 4: Summary of on-street parking survey results

Key:

Average Parking utilisation %
Parking turnover rate

On-street parking spaces surveyed in the vicinity of the subject site were generally moderately utilised throughout the survey periods. These parking spaces also had a low to medium turnover rate. Therefore there are available on-street parking opportunities in the vicinity of the subject site.

5.3 Impacts of Proposed Development on Parking

The proposed development provides adequate on-site long-term parking for staff and short-term parking for visitors/parents. It should be noted that the process of dropping-off and picking-up a child takes an average of between 7 to 10 minutes.

It should also be noted that the drop-off of children in the morning period is usually evenly spread from 6:30 am to 9:30am, due to the fact that parents/care takers will be dropping-off their children early on their way to the city and mid-morning for parents/care takers working in the inner west and finally just before or after the morning school drop-off.

The pick-up of children in the afternoon period is also evenly spread from 3:00 to 6.30pm, as parents/care takers will be picking-up their children just before or after the afternoon school pick-up, followed by parents/caretakers working locally and finally parents/care takers travelling from the city.

Therefore, the proposed development is considered to have provided adequate parking and will have no major impact on parking.

6 EXTERNAL TRAFFIC IMPACT

An indication of the potential traffic generation of the proposed development is provided by the *RMS Guide to Traffic Generating Development - 2002*.

The Guide specifies the following traffic generation rates for long-day care centres:

- 0.8 peak period vehicle trips per child between 7.00am and 9.00am; and
- 0.7 peak period vehicle trips per child between 4.00pm and 6.00pm.

Therefore, the proposed development site for 132 children has an estimated traffic generation as shown on the following table:

Type of developments on site	Peak hour vehicle trips	
	AM Peak Period	PM Peak Period
Child Care Centre accommodating 132 children	53	46

It should be noted that the rate used by the RMS Guide is based on surveys of child care centres, where it was determined that the mean proportion of children transported to the centre by car was 93% for long-day care centres. It should also be noted that the process of dropping-off and picking-up a child takes an average of between 7 to 10 minutes

It can be assumed that the traffic generated by the proposed childcare centre will be 50/50 split between Parramatta Road and Queens Road.

The estimated peak period traffic generation is considered to be of low impact on existing flows on Regatta Road and Spencer Street and surrounding road network. The traffic generated by the operation of the proposed childcare centre will not alter the current levels of service and additional traffic generated can be readily accommodated within the road network.

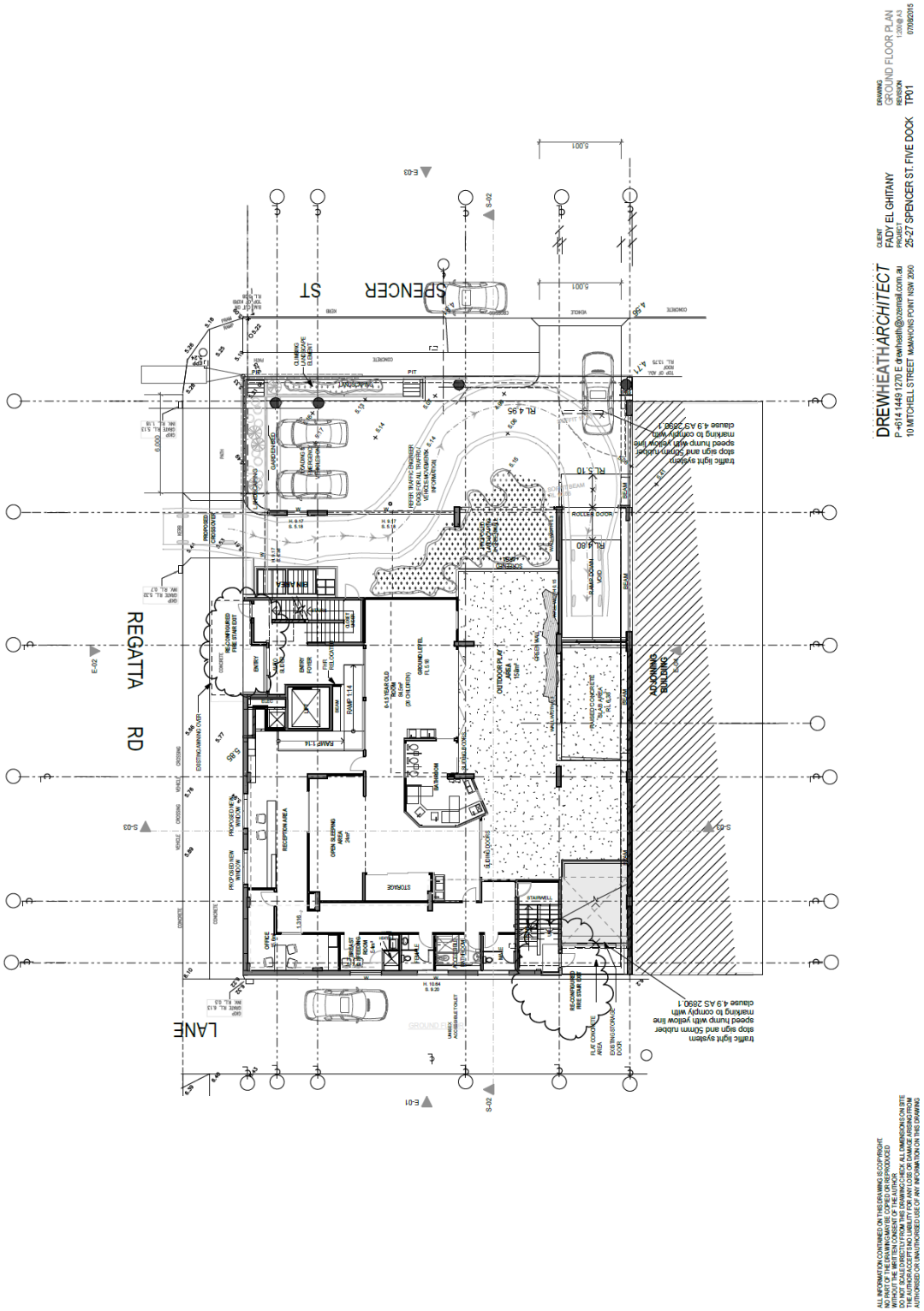
The potential increase in the number of vehicle movements in and about Regatta Road and Spencer Street will remain well within the Environmental capacity of the street, with no adverse impacts on the amenity of the area.

7 CONCLUSION

It can be concluded from the traffic and parking impact assessment that the proposed childcare centre will have no major impacts on existing traffic or parking conditions:

- The traffic flows on Regatta Road and Spencer Street are considered to be appropriate for local roads in a mixed commercial and industrial area, with free flowing traffic without any queuing or delay in peak hours.
- The external impact of the traffic generated by the proposal is considered to be satisfactory and will not result in an unacceptable peak hour traffic generation.
- The potential increase in the number of vehicle movements in and about Regatta Road and Spencer Street will remain well within the Environmental capacity of the street, with no adverse impacts on the amenity of the area.
- The level of on-site car parking provision is considered to be adequate and in accordance with Council's requirements.
- The on-site car parking layout is adequate in accordance with Australian Standards AS2890.1:2004 and AS2890.6:2009.
- The proposed development will have no major impact on parking.
- Vehicular access to and from the subject site and proposed modifications to the traffic management system within the site are considered to be adequate and will prevent the queuing of vehicles on street.
- The subject site has good access to public transport services.

Appendix A – Proposed Development Plans


SPENCER ST
REGATTA RD
LANE
ADJOINING BUILDING
traffic light system
stop sign and 50mm rubber speed hump with yellow line marking to comply with clause 4.9 AS 2890.1
DREWHEATHARCHITECT
P +61 4 1449 1270 E drewhealth@ozemail.com.au
10 MITCHELL STREET MIAMIONG POINT NSW 2080
CLIENT
FADY EL GHITANY
PROJECT
25-27 SPENCER ST, FIVE DOCK
DRAWING
GROUND FLOOR PLAN
DRAWING NUMBER
TP01
07/08/2015
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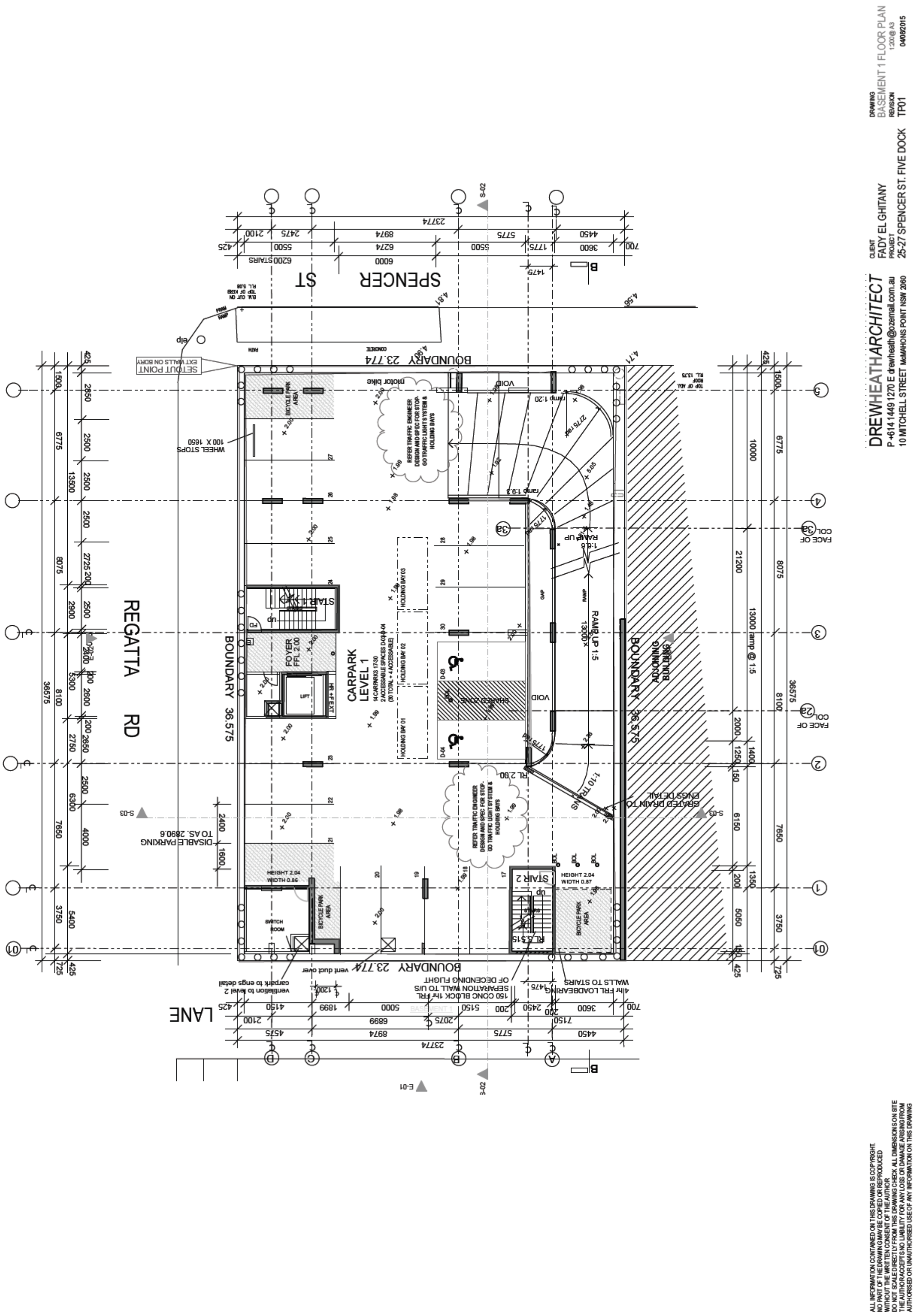
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BASEMENT 1 FLOOR PLAN
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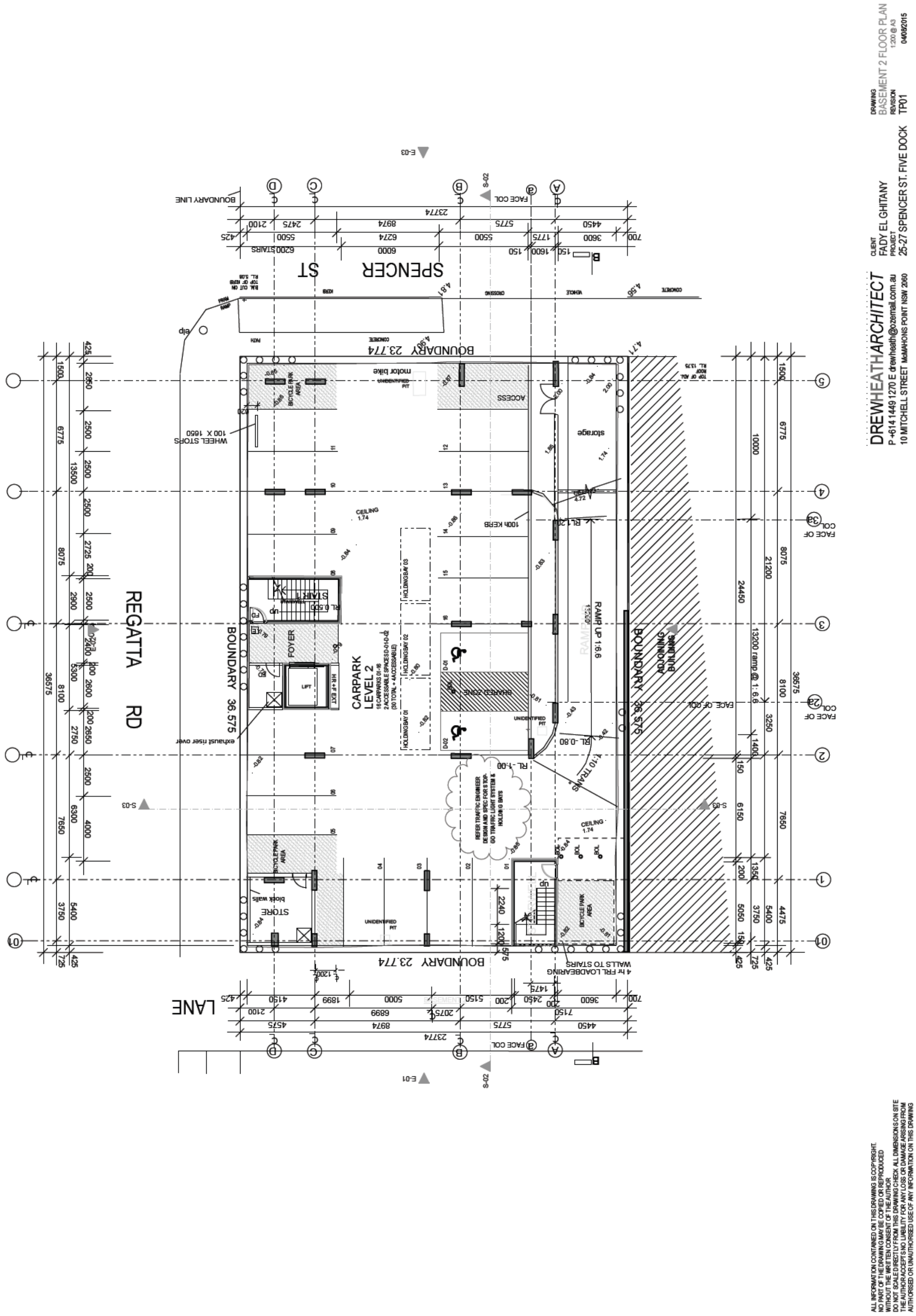
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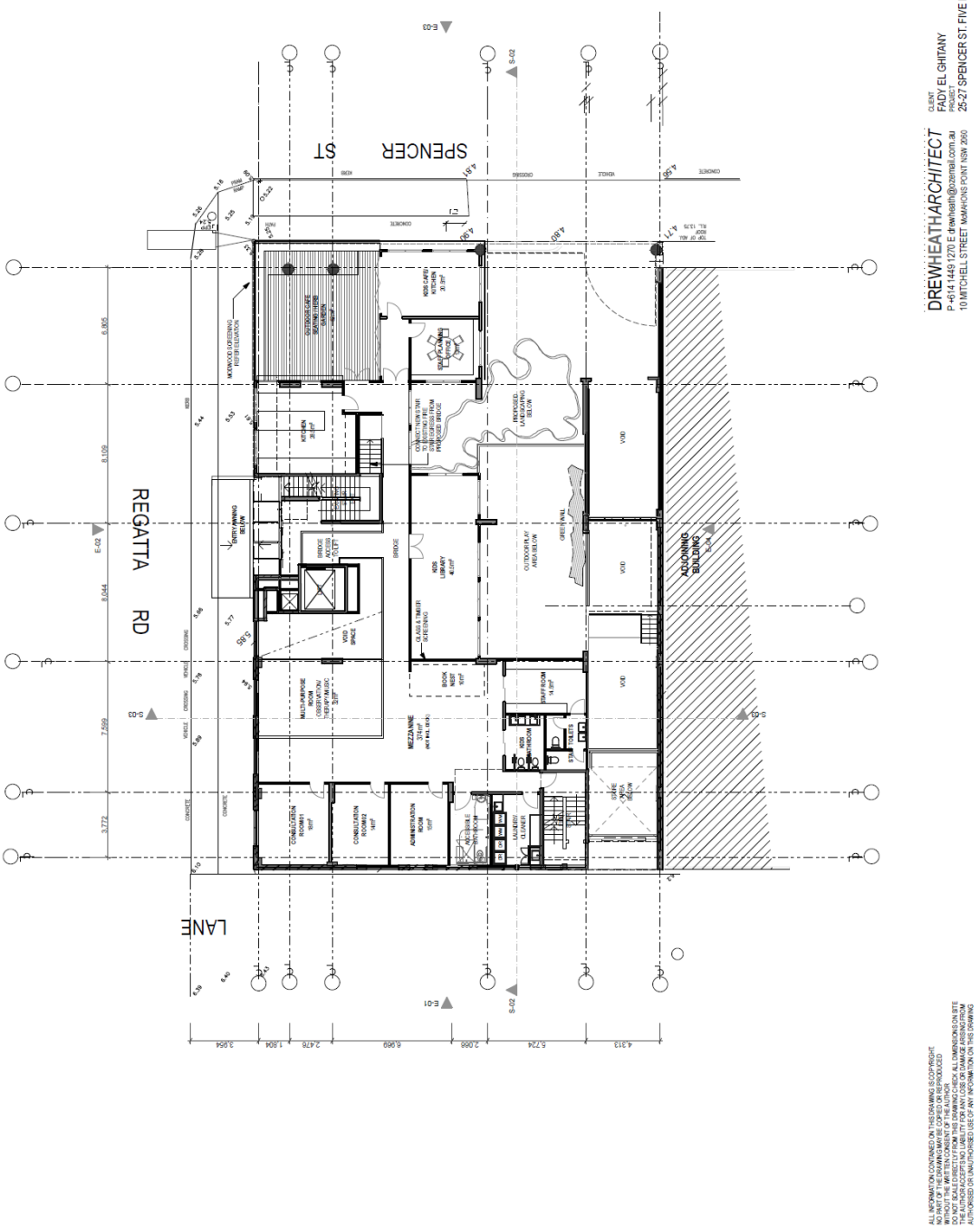
25-27 SPENCER ST, FIVE DOCK
BASEMENT 2 FLOOR PLAN
TP01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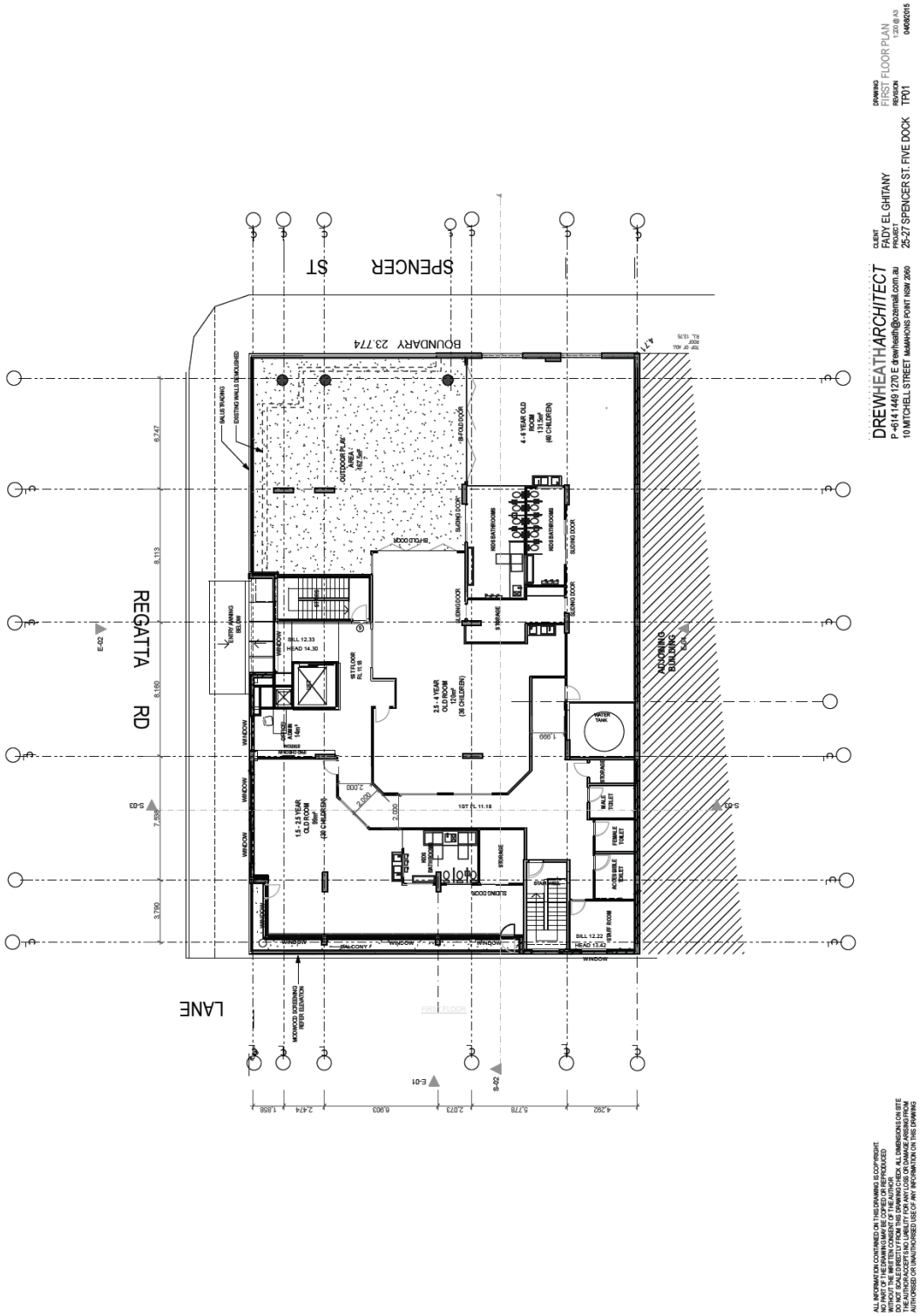
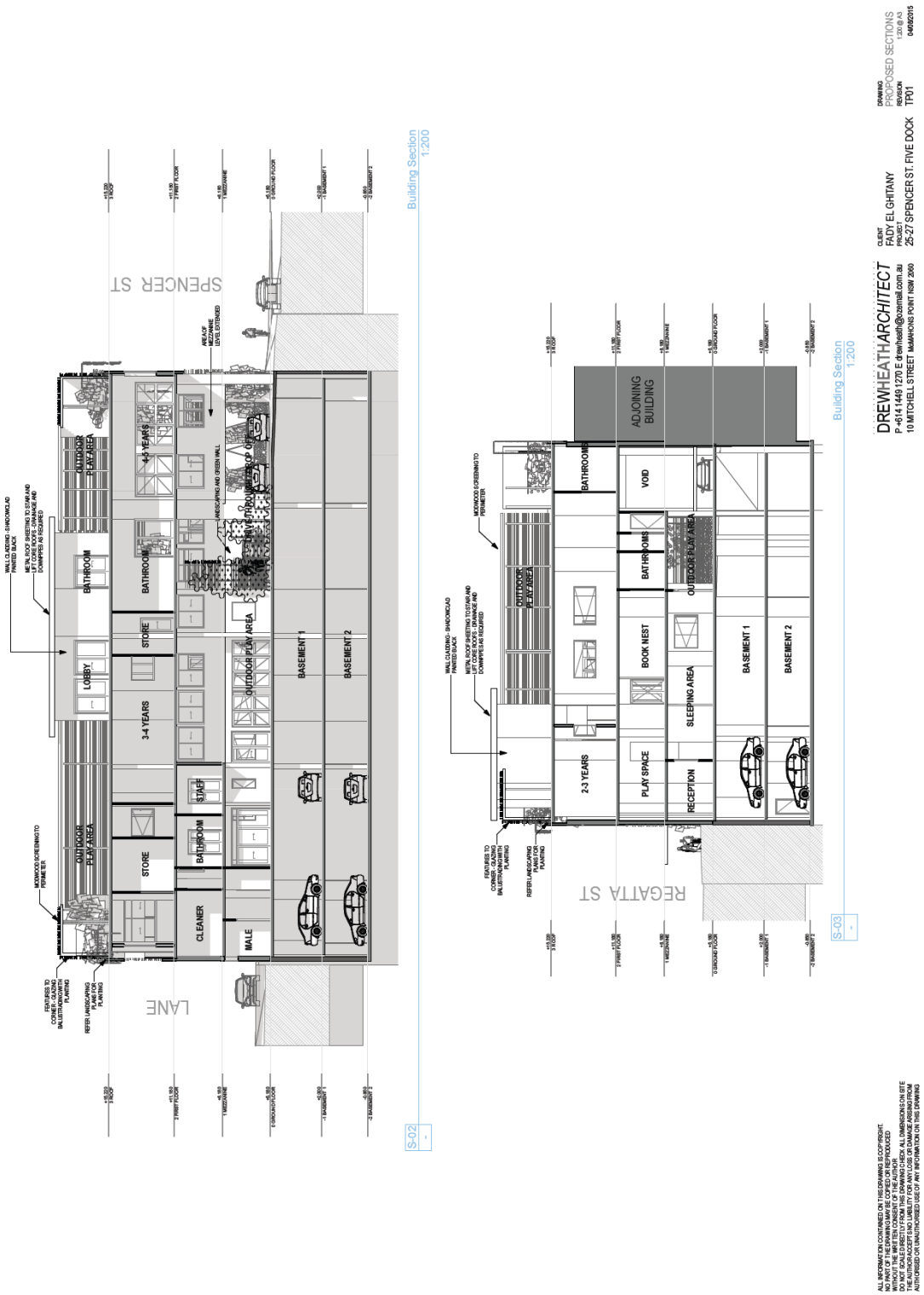
LANE
ADJOINING BUILDING
DREWHEATHARCHITECT
P+61414491270 E drewheath@ozemail.com.au
10 MITCHELL STREET McMAHONS POINT NSW 2060
CLIENT FADY EL GHITANY
PROJECT 25-27 SPENCER ST. FIVE DOCK
DRAWING MEZZANINE FLOOR PLAN
REVISION TP01
1:200 @ A3
04/08/2015


SPENCER ST
BOUNDARY 23.774
REGATTA RD
LANE
ADJOINING BUILDING
DREWHEATHARCHITECT
FIRST FLOOR PLAN
25-27 SPENCER ST, FIVE DOCK
TP01
04/08/2015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LANE
OUTDOOR PLAY AREA
LOBBY
BATHROOM
STORE
3-4 YEARS
STAFF
CLEANER
MALE
BASEMENT 1
BASEMENT 2
S-02
Building Section
1:200
REGATTA ST
ADJOINING BUILDING
VOID
BATHROOMS
BOOK NEST
SLEEPING AREA
PLAY SPACE
RECEPTION
2-3 YEARS
S-03
DREWHEATHARCHITECT
P +61 414491270 E drewheath@ozemail.com.au
10 MITCHELL STREET McMAHONS POINT NSW 2060
CLIENT
RADY EL GHITANY
PROJECT
25-27 SPENCER ST, FIVE DOCK
DRAWING
PROPOSED SECTIONS
1200 @ A3
REVISION
TP01
04/08/2015

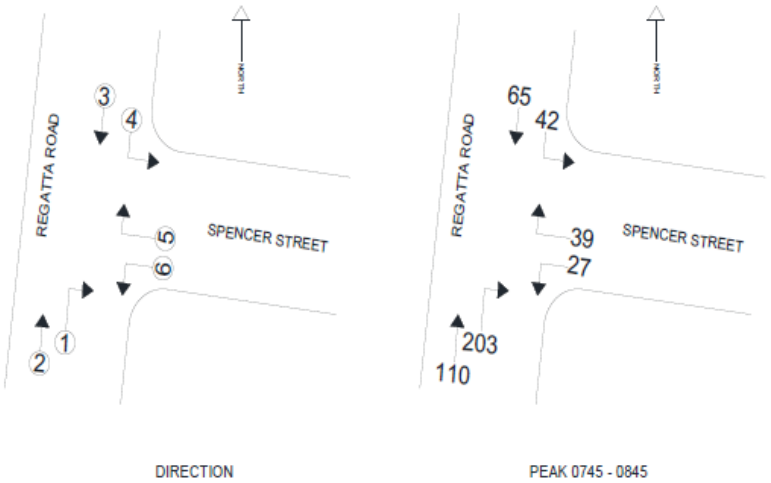
Appendix B – Traffic Volume Counts

engdata@iinet.net.au mob.0412625680

Traffic Count - Spencer St/Regatta Rd Five Dock
Wednesday 13.05.15
Ref: 1018

Direction	NORTH		SOUTH		WEST		
Location	*Regatta Rd*		*Regatta Rd*		*Spencer St*		
Time Per	1	2	3	4	5	6	TOTAL
0700 - 0715	29	14	8	8	3	5	67
0715 - 0730	27	15	14	18	0	10	84
0730 - 0745	25	25	17	10	2	4	83
0745 - 0800	59	32	20	9	14	11	145
0800 - 0815	44	20	17	8	6	3	98
0815 - 0830	47	29	15	12	12	9	124
0830 - 0845	53	29	13	13	7	4	119
0845 - 0900	43	23	26	11	7	15	125
0900 - 0915	20	30	31	6	3	15	105
0915 - 0930	26	23	34	14	9	9	115
0930 - 0945	24	27	20	11	2	7	91
0945 - 1000	22	27	32	10	9	12	112
total	419	294	247	130	74	104	1268

PEAK HOUR
0745 - 0845

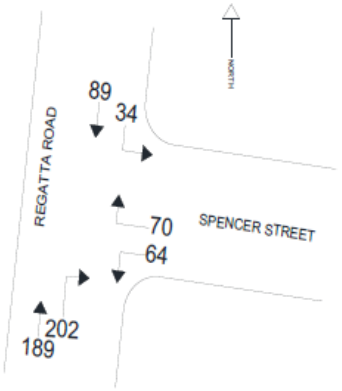


DIRECTION PEAK 0745 - 0845

Direction	NORTH		SOUTH		WEST		
Location	*Regatta Rd*		*Regatta Rd*		*Spencer St*		
Time Per	1	2	3	4	5	6	TOTAL
1500 - 1515	27	30	21	11	18	10	117
1515 - 1530	40	48	31	7	13	12	151
1530 - 1545	68	56	21	9	27	18	199
1545 - 1600	46	43	20	7	8	22	146
1600 - 1615	48	42	17	11	22	12	152
1615 - 1630	50	43	24	4	11	11	143
1630 - 1645	64	40	23	11	16	10	164
1645 - 1700	31	38	24	4	11	5	113
1700 - 1715	38	44	26	18	21	7	154
1715 - 1730	31	38	19	8	9	9	114
1730 - 1745	52	29	20	7	29	8	145
1745 - 1800	50	36	15	4	6	11	122
total	545	487	261	101	191	135	1720

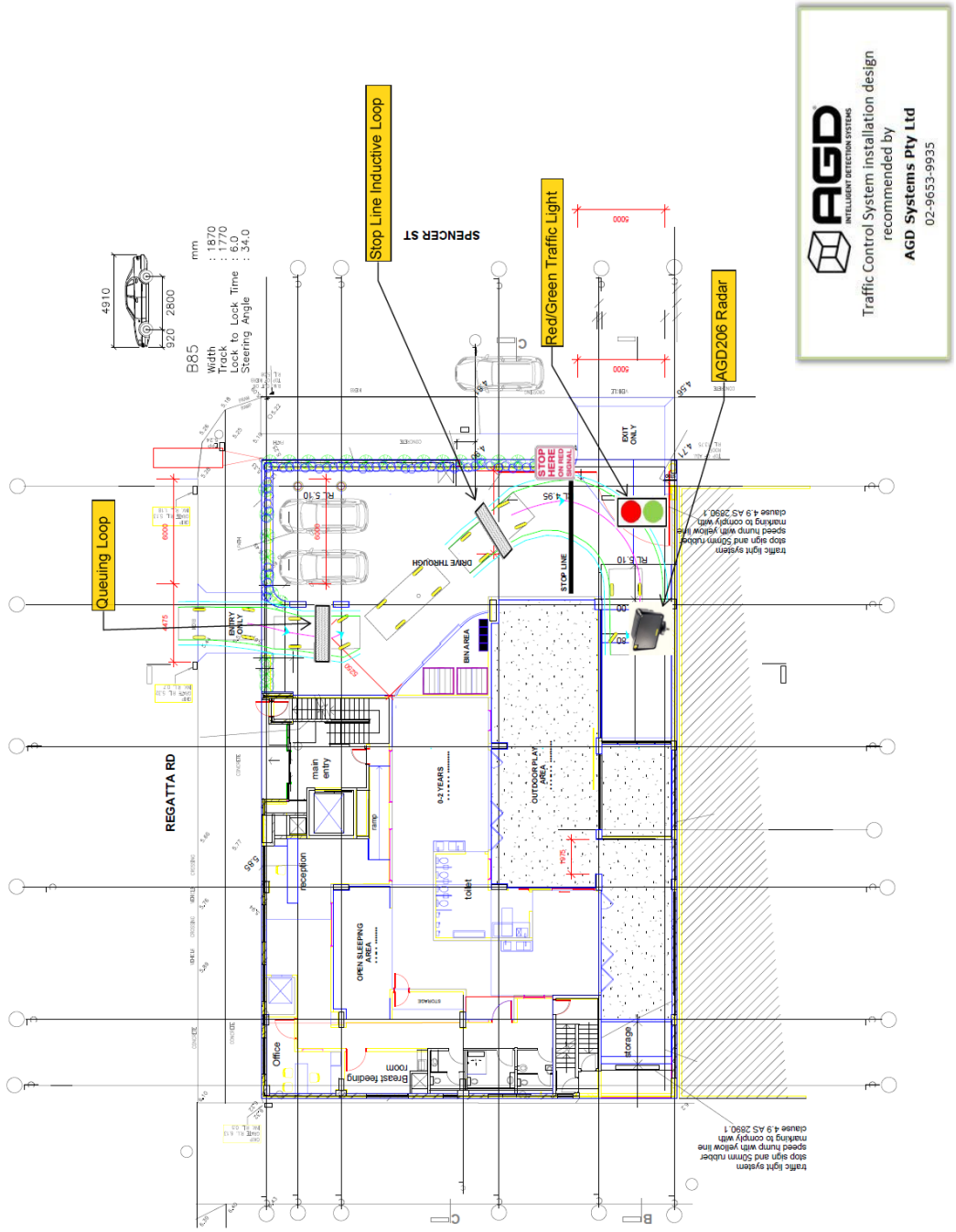
PEAK HOUR
1515 - 1615

DIRECTION



PEAK 1515 - 1615

Appendix C – Vehicle Swept Path & Traffic Access Management


Stop Line Inductive Loop
Red/Green Traffic Light
AGD206 Radar
Queuing Loop
SPENCER ST
REGATTA RD
AGD
INTELLIGENT DETECTION SYSTEMS
Traffic Control System installation design
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