



TaylorThomsonWhitting



Parking and Traffic Report

Lakewood Residential Aged Care

Pastoral Circuit, Pemulwuy

for Allity Services

6 August 2015

151079.UT

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Table of Contents

| | Page |
|---|-----------|
| 1.0 INTRODUCTION | 4 |
| 1.1 STUDY APPROACH..... | 4 |
| 2.0 EXISTING SITE ANALYSIS | 4 |
| 2.1 THE SITE..... | 4 |
| 2.2 ROAD NETWORK..... | 4 |
| 2.3 TRAFFIC VOLUME..... | 6 |
| 2.4 PARKING FACILITIES..... | 7 |
| 2.4.1 OFF STREET PARKING | 7 |
| 2.4.2 ON STREET PARKING | 7 |
| 2.4.3 PARKING SURVEYS | 8 |
| 2.5 PUBLIC TRANSPORT | 8 |
| 2.5.1 BUS STOPS | 8 |
| 2.6 PEDESTRIAN FACILITIES | 9 |
| 2.7 BICYCLE FACILITIES..... | 9 |
| 3.0 THE PROPOSAL | 10 |
| 3.1 SITE CHARACTERISTICS | 10 |
| 3.2 HOURS OF OPERATION..... | 10 |
| 3.3 STAFFING/VISITOR NUMBERS | 10 |
| 3.4 EXTERNAL ROAD NETWORK | 10 |
| 3.5 TRAFFIC GENERATION | 10 |
| 3.6 PARKING FACILITIES..... | 12 |
| 3.6.1 MINIMUM PARKING REQUIREMENTS | 12 |
| 3.6.2 PROPOSED PARKING REQUIREMENTS | 13 |
| 3.7 VEHICLE ACCESS/EGRESS | 14 |

| | | |
|------|--------------------------------|----|
| 3.8 | DROP OFF FACILITY | 14 |
| 3.9 | LOADING DOCK AREA..... | 14 |
| 3.10 | CAR PARK LAYOUT | 15 |
| 3.11 | PEDESTRIAN FACILITIES | 15 |
| 3.12 | MOTORCYCLE FACILITIES..... | 15 |
| 3.13 | BICYCLE FACILITIES..... | 15 |
| 3.14 | EMERGENCY SERVICES ACCESS..... | 16 |
| 4.0 | CONCLUSION | 17 |

APPENDIX A: BUS ROUTES

APPENDIX B: TRAFFIC SURVEY AND SIDRA ANALYSIS

APPENDIX C: TURNING PATHS/VEHICLE EGREES

Revision Register

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1.0 INTRODUCTION

1.1 Study Approach

The purpose of this report is to provide information in terms of access, traffic and parking for the proposed Lakewood Residential Aged Care at Pemulwuy. A design plan for the proposal is shown as part of the architectural drawings.

The study has been carried out on the basis of relevant guidelines and standards such as the Roads and Maritime Services (RMS) Guide to Traffic Generating Developments, Standards Australia, Holroyd City Council Development Control Plans and State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004.

2.0 EXISTING SITE ANALYSIS

2.1 The Site

The subject site is located at Lot 310 Pastoral Circuit, Pemulwuy (DP 1111685). The site is bounded by Pastoral Circuit to the west, Greystanes Road to the east and residential properties to the north and south. Refer to **Figure 1** and **Figure 2**.

South of the site on Butu Wargun Drive is Pemulwuy Market Place shopping centre.

The site is currently a vacant block of land Zone R3 (Medium Density Residential) under Holroyd City Council Local Environmental Plan (LEP) 2013.

Pedestrian paths are located along Pastoral Circuit and Greystanes Road.

Pastoral Circuit has a posted speed limit of 50km/h, while Greystanes Road has a posted speed limit of 60km/h. The site is located in the Holroyd City Council local government area.

2.2 Road Network

The site frontage will be accessed off Pastoral Circuit. A separate exit is provided creating a one way system within the property.

Pastoral Circuit is a local road that provides access to the site via the adjoining local street network. It is two way road with one lane in each direction and also consists of a separate cul-de-sac to provide access to adjoin residential properties. There is typically unrestricted recessed kerbside parking bays available along the kerblines with a "No Parking" restriction currently along the eastern kerbline. The overall road width is typically 5.8m with recessed 3m parking bays.

West of the site, Driftway Drive (local road) provides a north/south connection through the Pemulwuy residential precinct. The road is two way and 6.8m wide with recessed parking bays (nominally 3m wide).

South of the site, Butu Wargun Drive (Local Collector Road) provides an east/west connection through the Pemulwuy residential precinct to convey traffic to the adjoining regional road network of Greystanes Road. Butu Wargun Drive is nominally two lanes in each direction. There is provisions of turning lanes and median on approach to the arterial

road network and shopping centre located on the southern kerbline between Driftway Drive and Greystanes Road.

Greystanes Road (arterial road) provides a north/south connection to the area between Great Western Highway and Merrylands Road. It is typically 2 lanes in each direction on approaching the intersection Butu Wargun Drive.

The intersection of Butu Wargun Drive and Greystanes Road is signal controlled and provides vehicle right turn and pedestrian crossing facilities on all approaches.

The intersection of Butu Wargun Drive and Driftway Drive is controlled by a dual lane roundabout.

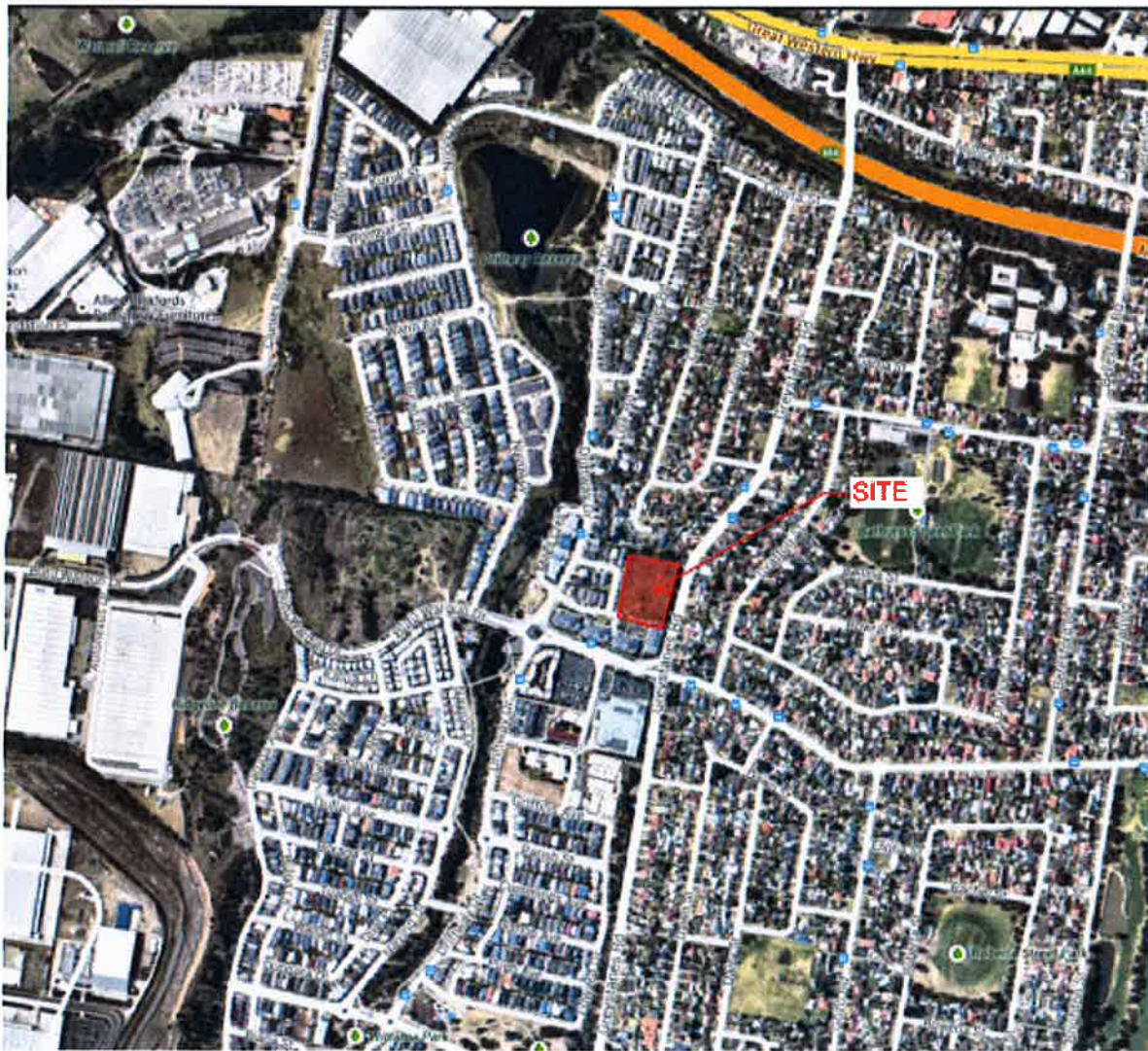


Figure 1: Locality Plan
(Source: www.nearmap.com.au)

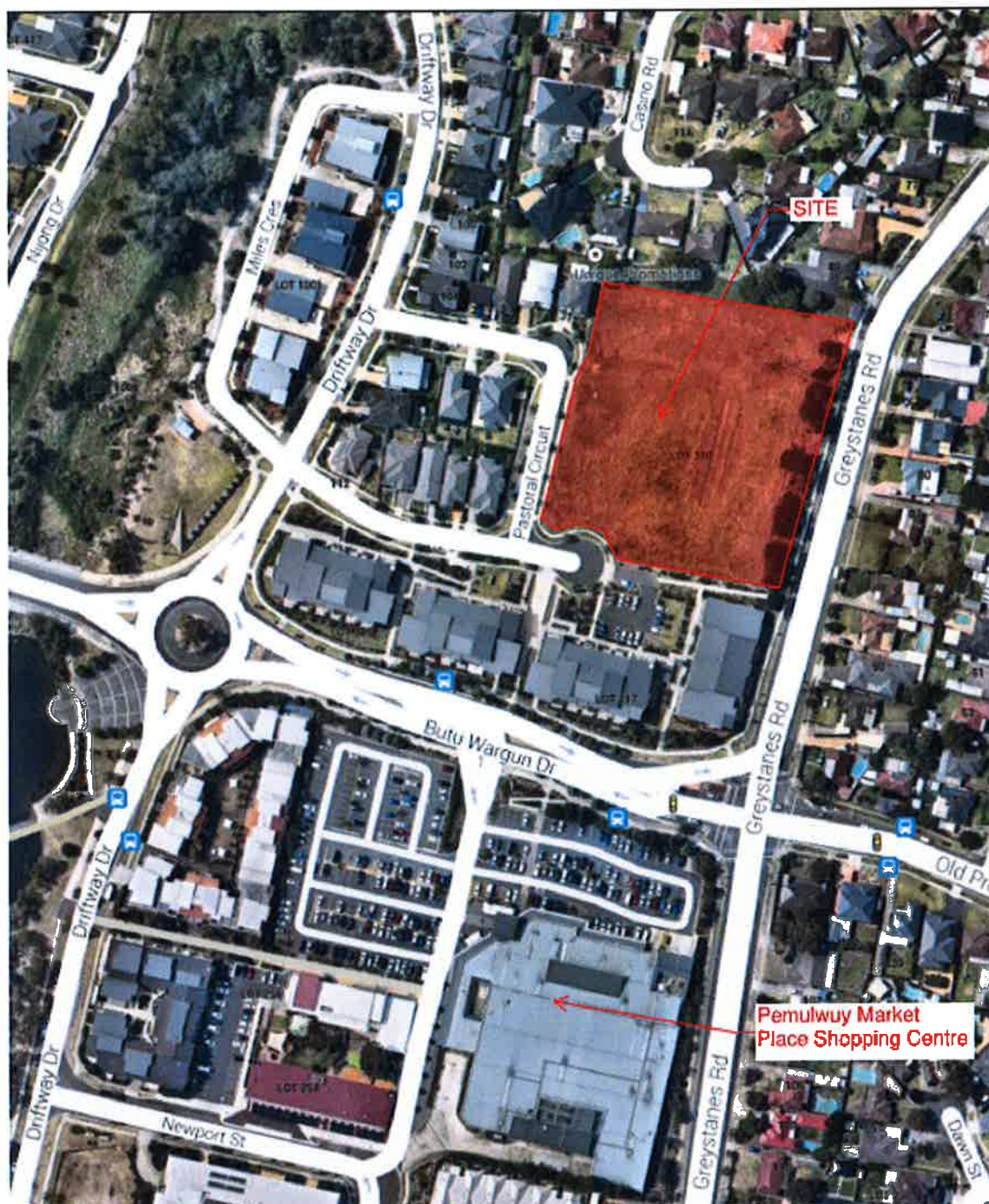


Figure 2: Site Plan
(Source: www.nearmap.com.au)

2.3 Traffic Volume

Intersection counts were undertaken at the roundabout at Butu Wargun Drive / Driftway Drive to ascertain current traffic movements at the intersection near the future development. The counts were undertaken on:

- 23 April 2015: 6.00am-8:00am (AM shift change over period)
- 23 April 2015: 2.00pm-4:00pm (PM shift change over period)

Refer to **Appendix A** for detailed information on the traffic count.

2.4 Parking Facilities

There are parking facilities located within proximity of the site as outlined below (Refer to Figure 3).

2.4.1 Off Street Parking

The site is currently a vacant block of land with no associated parking requirements or provision on site required.

2.4.2 On Street Parking

There is unrestricted kerbside parking (highlighted in green) available within Greystanes Road (nominally 60 spaces) and Pastoral Circuit (nominally 27 spaces).



Figure 3: Parking Facilities
(Source: www.nearmap.com.au)

2.4.3 Parking Surveys

Site surveys and aerial imagery sources (www.nearmap.com) have provided an indication of the parking occupancy within the property and on street. **Table 1** outlines the survey data available over the past year.

Table 1: Parking Count Survey

| Date | Pastoral Circuit (27 spaces) | Greystanes Road (60 spaces) |
|-------------------------|---------------------------------|--------------------------------|
| Friday 21 Nov 2014 | 16 | 2 |
| Sunday 27 Jul 2014 | 15 | 1 |
| Thursday 26 Jun 2014 | 8 | 1 |
| Saturday 24 May 2014 | 22 | 1 |
| Tuesday 22 Apr 2014 | 13 | 1 |
| Saturday 8 Feb 2014 | 14 | 0 |

Based on the above information average parking occupancy is in the order of 50% in Pastoral Circuit and very low occupancy on Greystanes Road.

2.5 Public Transport

The site is serviced by public transport. The following summarises the existing public transport routes within the vicinity of the site.

2.5.1 Bus Stops

Several bus stops are located on Butu Wargun Drive and Driftway Drive within approximately 200m of the site (refer **Figure 4**). The stop is serviced by routes outlined in **Table 2** with bus timetable and routes in **Appendix A**.

Table 2: Bus Services

| Route No. | Route | Approximate Service Interval |
|------------------|--------------------------|------------------------------|
| Route 800 | Fairfield to Blacktown | 15-20 mins in peak times |
| Route 809 | Merrylands to Pemulwuy | 30 mins in peak times |
| Route 810/811(X) | Merrylands to Parramatta | 10-15 mins in peak times |

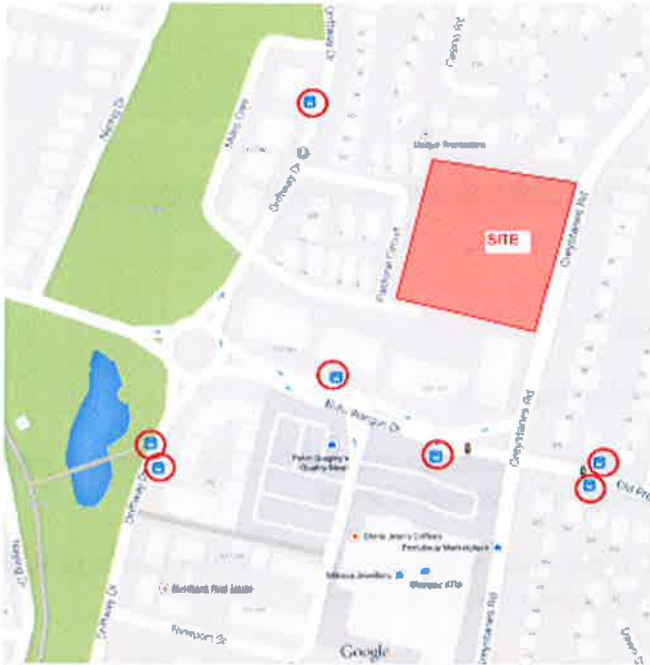


Figure 4: Bus Stop Location
(Source: www.google.com.au)

2.6 Pedestrian Facilities

Concrete footpaths are located along Pastoral Circuit and Greystanes Road, with a connection along the southern boundary line

2.7 Bicycle Facilities

There are dedicated bicycle paths in the vicinity of the site along Butu Wargun Drive and Miles Crescent as shown in Figure 5. These on road facilities form part of the cycle network.

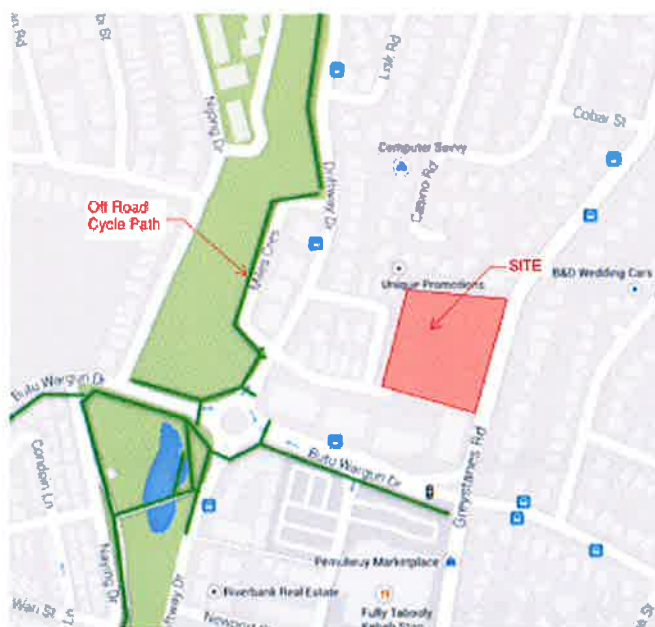


Figure 5: Bike Routes
(Source: www.rms.nsw.gov.au/roads/using-roads/bicycles/cyclewayfinder/index.html)

3.0 THE PROPOSAL

3.1 Site Characteristics

The proposal of the Lakewood Residential Care Facility is provide a facility comprising of:

- 111 RACF beds
- 19 RACF beds for dementia patients
- Administration, in house facilities and office areas
- Parking for 21 vehicles (including 1 accessible space) under the proposed new building with access from the cu-de-sac off Pastoral Circuit
- Parking for 17 vehicles (including 1 accessible space) along the site frontage with separate access and egress driveways onto Pastoral Circuit
- Parking for 1 ambulance and 1 commuter bus (coaster) along the site frontage parking area
- Loading dock facility adjacent to the underground parking area for service and waste vehicles

3.2 Hours of Operation

The facility will be operational with staff members on site 24 hours a day. There will be no set visiting hours, however the majority of visitors are anticipated to generally attend between 10am and 4pm.

3.3 Staffing/Visitor Numbers

Allity Services has outlined that the facility is anticipated to have up to **35 staff** members on site at any one time.

Shift periods will typically operate

- 7am-3pm
- 3pm-9pm
- 9pm-7am

3.4 External Road Network

The is no proposal to alter the configuration and facilities on the external road network.

3.5 Traffic Generation

The adequacy of the capacity of an intersection is judged by whether it can physically and operationally cater for the traffic using it. The performances of the intersections have been assessed using SIDRA intersection modelling software. The model provides parameters of the performance of an intersection including the degree of saturation (DoS) and the average

delay per vehicle.

Satisfactory operation of an intersection would normally continue up to 42 seconds as Average Delay/Vehicle. At this Level of Service (LoS) operating speeds are still reasonable and acceptable delays are experienced. The recommended criteria for evaluating capacity of intersections are shown in **Table 2**.

Table 2: Criteria for Evaluating Capacity of Intersection

| Level of Service | Degree of Saturation (DoS) | Average Delay (sec) |
|------------------------|----------------------------|---------------------|
| A/B: Good Operation | Less than 0.80 | Less than 28 |
| C: Satisfactory | 0.80 to 0.85 | 29-42 |
| D: Poor but manageable | 0.85 to 0.90 | 42-56 |
| E: at capacity | 0.90 to 1.0 | 57-70 |
| F: Unsatisfactory | Over 1.0 | Over 70 |

(Source: RTA Guidelines 1995)

Surveys were undertaken on the intersection of Butu Wargun Drive and Drivftway Drive at the following times to determine current and future level of service intersection operation:

- 23 April 2015: 6.00am-8:00am (AM shift change over period)
- 23 April 2015: 2.00pm-4:00pm (PM shift change over period)

Details of the survey and SIDRA results can be found in **Appendix B** and are summarised in **Table 3**.

The method used for the estimation of traffic generation is based on generic rates for aged care facilities sourced from the RMS Guide to Traffic Generating Developments. The guideline outlines that the traffic generation rates for such a facility is in the vicinity of 1-2 vehicle trips per dwelling/per day or 0.1-0.2 evening peak hour trips per dwelling. It is noted within the guideline that the rates are based on subsidised developments, while residential funded developments are often greater. In 2013 RMS issued a Technical Direction (TD 2013/04a) with updated traffic generation. Therefore the following traffic generation was adopted as per TD 2013/04a:

- Weekday daily vehicle trips = 2.1 per dwelling
- Weekday peak hour vehicle trips = 0.4 per dwelling

Note: that morning peak hour does not generally coincide with network peak hour. Therefore the survey and assessment was undertaken during the AM and PM shift change periods which is the anticipated high peak flow generated from this development.

The proposed development involves the provision of **130 dwellings (beds)** which potentially could generate some **52 vehicle trips** per hour (RMS Technical Direction). The following assumptions have been modelled:

AM Survey Period

- 70% arrivals (36 vehicles)

- 30% departures (16 vehicles)

PM Survey Period

- 30% arrivals (16 vehicles)
- 70% departures (36 vehicles)

With the main access from Greystanes Road it is assumed the approach and departure route will utilise Greystanes Road, Butu Wargun Drive, Driftway Drive and Pastoral Circuit.

Table 3: Butu Wargun Drive / Driftway Drive Intersection Analysis (Roundabout)

| Peak Survey Period | Pre Development | | | Post Development | | |
|--------------------|-------------------------|-----------------------------|--------------------------------------|-------------------------|-----------------------------|--------------------------------------|
| | Level of Service LoS | Degree of Saturation DoS | Intersection Average Delay (Seconds) | Level of Service LoS | Degree of Saturation DoS | Intersection Average Delay (Seconds) |
| AM (7am-8am) | A | 0.184 | 6.4 | A | 0.189 | 6.6 |
| PM (3pm-4pm) | A | 0.227 | 6.8 | A | 0.258 | 7.1 |

The modelling of the potential traffic generation increase post development indicates that the intersection would function at the same level as the existing Level of Service.

Pastoral Circuit provides access to the site and currently conveys local residential traffic to houses and units (including heavy vehicle waste collection). The potential peak and daily traffic flow generated from the from the development in the order of 52 vehicles per peak hour and 270 vehicles/day (based on RMS Guidelines) would have low impact on the existing local road network operation.

3.6 Parking Facilities

3.6.1 Minimum Parking Requirements

Holroyd City Council's DCP 2013 (Part A) outlines the minimum parking requirements for Residential Aged Care Facilities to refer to State Environmental Planning Policy (Housing for Seniors or People with Disability) 2004 (SEPP Seniors). This section of the report outlines the SEPP Seniors requirements in relation to parking.

Residential Aged Care Facilities (RACF)

- 1 parking space for each 10 beds in the residential care facility (or 1 parking space for each 15 beds if the facility provides care only for persons with dementia), and
- 1 parking space for each 2 persons to be employed in connection with the development and on duty at any one time, and
- 1 parking space suitable for an ambulance.

Minimum Parking requirements (RACF)

- Based on 111 RACF beds = **12 spaces**

- Based on 19 Dementia beds = **2 space**
- Anticipated employees on duty at any one time is 35 = **18 spaces**
- Ambulance = **1 space**

Accessible Parking

The Building Code Australia (BCA) outlines the number of accessible car spaces required dependent upon the building classification as outlines below:

- Residential Care Facility (Class 9c): 1 space for every 100 car spaces

Based on the BCA requirements the proposed development is to provide a minimum of **1 accessible space**.

Holroyd City Council DCP 2013 (Part A) outlines that:

Provide parking for the disabled at the rate of 2 spaces per 100 visitors or customer spaces up to 400 spaces, and 1 per 100 thereafter, or part thereof . Ensure compliance with Table D3.5 (Carparking spaces for people with a disability) of the Disability (Access to Premises — Buildings) Standards 2009 Act, and AS/NZS 2890. 6 - Off-street carparking for people with disabilities.

Based on the DCP requirements the proposed development is to provide a minimum of **2 accessible spaces**.

Therefore the development is to provide a **minimum of 2 spaces** allocated as accessible in accordance with AS2890.6 Parking Facilities: Off-street Parking for People with Disabilities.

3.6.2 Proposed Parking Requirements

The proposed development contains a 130 bed Residential Aged Care facility (including 19 dementia beds). Based on this and anticipated proposed staff of 35 at any one time, the minimum number of onsite parking to meet SEPP Seniors (as outlined in **Section 3.6.1**) is to be:

SEPP SENIORS

- 32 spaces for the Residential Aged Care Facility
- 1 ambulance space

Residential Care Facilities (RACF)

The proposal is to include 21 spaces under the proposed building (access via the cu-de-sac) to be used for employees associated with the aged care facility. A further 17 spaces will be provided on site in the at grade parking area along the site frontage to be utilised for visitors. In addition there is a proposed bus parking space to be utilised for a 22 seater bus for the facility. A total of **39 spaces** is proposed to be provided on site.

Accessible Parking

The proposal includes **2 accessible spaces** (1 space located within the at grade parking

area and 1 space within the underground car park). The space is designed in accordance with AS2890.6 Parking Facilities: Off Street Parking for People with Disabilities.

Ambulance Space

Located adjacent to the at grade parking area at the site main entry off Pastoral Circuit is 1 space designated for ambulance

Parking Summary

The above parking provisions meet the minimum requirements outlined in both the DCP and SEPP Seniors, with a layout generally in accordance with the intent of AS2890.

3.7 Vehicle Access/Egress

Vehicle access is proposed off Pastoral Circuit. The main access will be via two separate driveways (separate entry and exit) with vehicle travel in a one way clockwise direction. Installation of the driveways does not impact on any existing parking provision on Pastoral Circuit

A second driveway is proposed in the cul-de-sac of Pastoral Circuit and provides access to the underground car park and loading dock facilities. The driveway does not impact on any existing parking provision on Pastoral Circuit.

Turning path plans have been developed (Refer to **Appendix C**) for Standard Bariatric Ambulance, coaster vehicle, B99 vehicle and 8.8m Medium Rigid Vehicle (MRV), 8.0m garbage truck to review turning path manoeuvres through the site.

Council has requested that the driveways are to have a maximum splay of 1m. The turning path plans show that the exit driveway from the at grade parking area will require vehicles to utilise the some of the opposing roadway upon exit. The existing road local road environment typically has low traffic volumes and speeds. With consideration of the surround environment, while still maintaining public amenity it is considered that utilising some of the opposing roadway would be acceptable in this situation.

Sight distance review has been completed at a speed of 40km/h based on AS2890.1 Figure 3.2. At driver eye level height (1.15m above road level) and a sight distance of minimum 35m, there is some impediment at the exit driveway as result of the existing trees and the supporting protective mesh (Refer to **Appendix C**). These trees have been installed within close proximity to the kerb, resulting in the impediment. Council should consider the potential removal of the trees to improve the site visibility if required.

3.8 Drop off Facility

It is proposed to provide a drop off covered space on the site in front of the main entry. This space would be utilised by ambulance vehicles or other vehicles in an emergency situations.

Vehicles enter and exit the drop off facility in a forward direction and do not require any turning movements within the site.

3.9 Loading Dock Area

A service loading dock has been provided adjacent to the basement parking area with access off the cul-de-sac in Pastoral Circuit. The loading dock accommodate up to 8.8m

Medium Rigid Vehicle as outline in AS2890.2 and 8.0m garbage truck. (Refer to turning path drawings **Appendix C**).

This area will facilitate deliveries for in house services including cooking, laundry and waste management. It is anticipated that normal operations would include

- General food delivery twice per week
- Bread and milk daily
- Medical supplies fortnightly
- Daily courier
- Other truck operations 2 or 3 time a week (including waste collection)

3.10 Car Park Layout

The at grade car park is to be utilised for visitors to the facilities and is generally in accordance with the intent of AS2890.1 Class 3 Facility. Parking spaces are typically 2.6m-2.7m wide and 4.8m long (with overhang clearance of minimum 600mm behind each parking space). The aisle width is 6m.

The underground car park is to be utilised for staff and is generally in accordance with the intent of AS2890.1 Class 1A Facility. Parking spaces are typically 2.4m-wide and 5.5m long. The aisle width is typically 6.1m. The minimum aisle width for a Class 1A facility (AS2890.1) is 5.8m, however for to assist in manoeuvrability, where parking is opposite a vertical obstruction (such as a wall), the aisle width is to be widened by 300mm. The architectural plans show an aisle with in this location of 6.1 to meet the requirement. The remaining aisle width is 6.0m, exceeding the mini aisle width requirement for such a facility.

The turning paths plans in **Appendix C** indicate that at the entry to the underground car park requires widening to a minimum width of 6m to provide vehicle access and appropriate clearances.

3.11 Pedestrian Facilities

There is no proposal to alter the existing pedestrian access along Pastoral Circuit. Main pedestrian access will be via the main entry off Pastoral Circuit. Pedestrian internal links will be provided between the wings.

3.12 Motorcycle Facilities

Holroyd City Council DCP does not outline specific requirements for motorcycle facilities. Although motorcycle parking is not specified in the DCP, consideration could be given to the implementation of motorcycle facilities to promote alternative transport modes. If provided, each motorcycle space is to be designed to AS2890.1 and located so that parked motorcycles are not vulnerable to being struck by manoeuvring vehicles.

3.13 Bicycle Facilities

Holroyd City Council DCP does not provide bicycle parking requirements for Residential Aged Care facilities. However it does outline that for commercial facilities, bicycle parking be

provided for employees and visitors at the rate of:

- 1 space per 200 sqm GFA (Employee)
- 1 space per 750 sqm GFA (Visitor)

Consideration should be given to the provision of bicycle parking to encourage alternative sustainable transport options for workers and visitors. Employee bicycle parking should be in the form of secure facilities, while visitor bicycle parking could incorporate the use of racks to provide easier access. End of trip facilities such as showers/lockers for staff should also be considered as part of the development.

3.14 Emergency Services Access

The proposal includes the provision of emergency service access for ambulance via Pastoral Circuit. In emergency situations the ambulance can be positioned under the covered porte cochere. In addition, a designated ambulance parking space has been provided to allow longer term parking, if required, while maintaining traffic flow through the site. Turning path plans indicate the area can accommodate a Standard Bariatric Ambulance (refer to **Appendix C**).

4.0 CONCLUSION

The proposed development provides parking for 39 vehicles with 21 spaces under the proposed building (access via the cu-de-sac) to be used for employees, a further 17 spaces in the at grade parking area along the site frontage to be utilised for visitors and in addition a bus parking space to be utilised for a coaster bus for the facility. Additionally there is a designated ambulance space. Incorporated within the above is 2 accessible spaces. The parking provision meets the minimum requirements outlined in SEPP Seniors, BCA and Council DCP.

It has been estimated that the proposed development has the potential to increase up to 52 peak hour vehicular trips. Modelling of the nearby intersections of Butu Wargun Drive/Driftway Drive indicates that the intersection would function at the same level to the existing level of service post development.

The development provides a delivery loading area located off the Cul-de-sac off Pastoral Circuit suitable for up to 8.8m Medium Rigid Vehicles and 8.0m garbage truck which can arrive and depart in a forward direction.

Adequate turning path within the site are provided subject to the widening of the basement car park entry width as noted on the architectural plans.

The onsite parking layout is generally in accordance with the intent of AS2890.1 and AS2890.6. Consideration needs to be given to the potential removal of the existing trees along the kerb line to provides improved visibility from the site exit driveway from the at grade parking area.

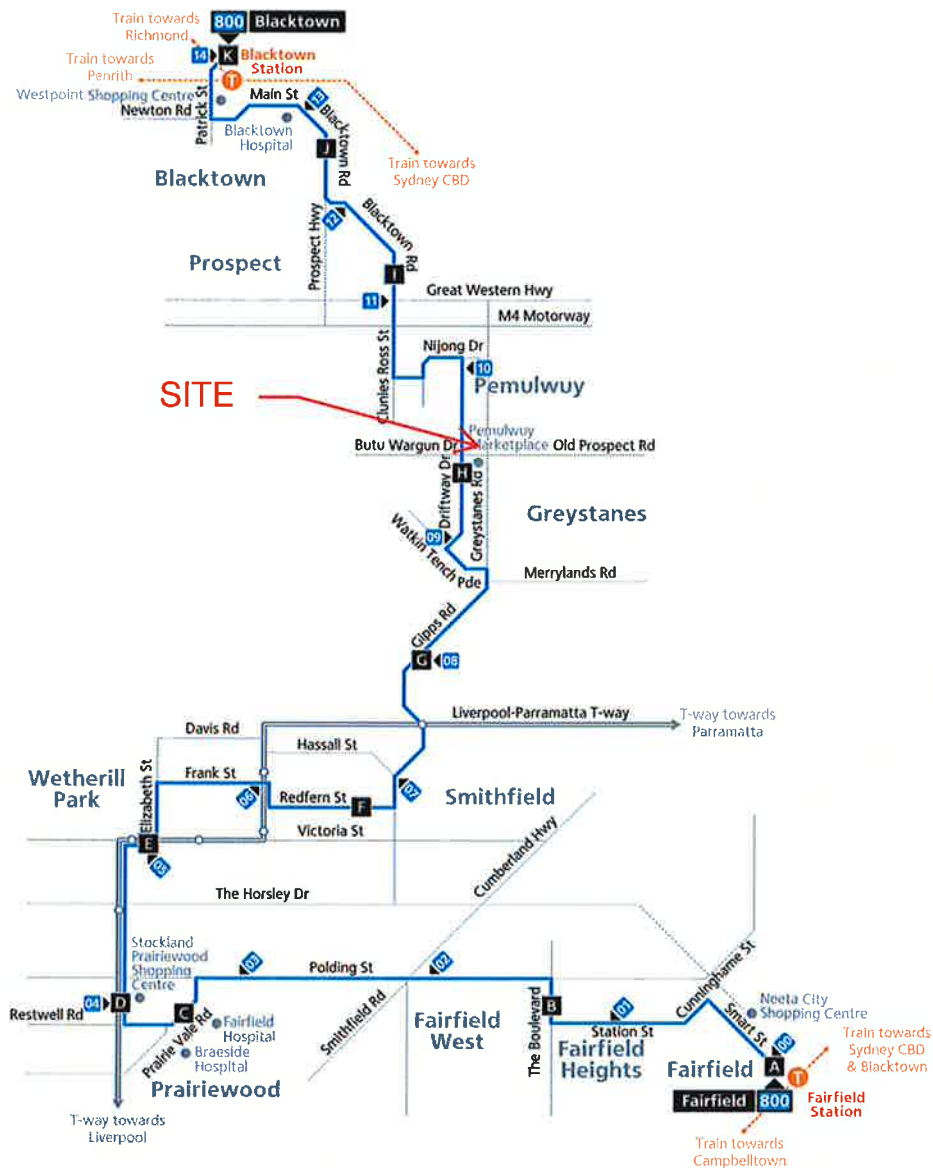
The development is positioned within close proximity of local bus service providing peak services frequencies typically 10-20 minutes.

Bicycle (including end of trip facilities) and motorcycle parking should be considered as part of proposal to encourage alternative sustainable transport options.

Pedestrian access is maintained throughout the site with the introduction of formalise pedestrian walkways to key areas.

In traffic and transport engineering terms, the proposed development is acceptable and supportable and will have no adverse impact on the road system and parking conditions for the general operational activities of the site.

APPENDIX A: BUS ROUTES

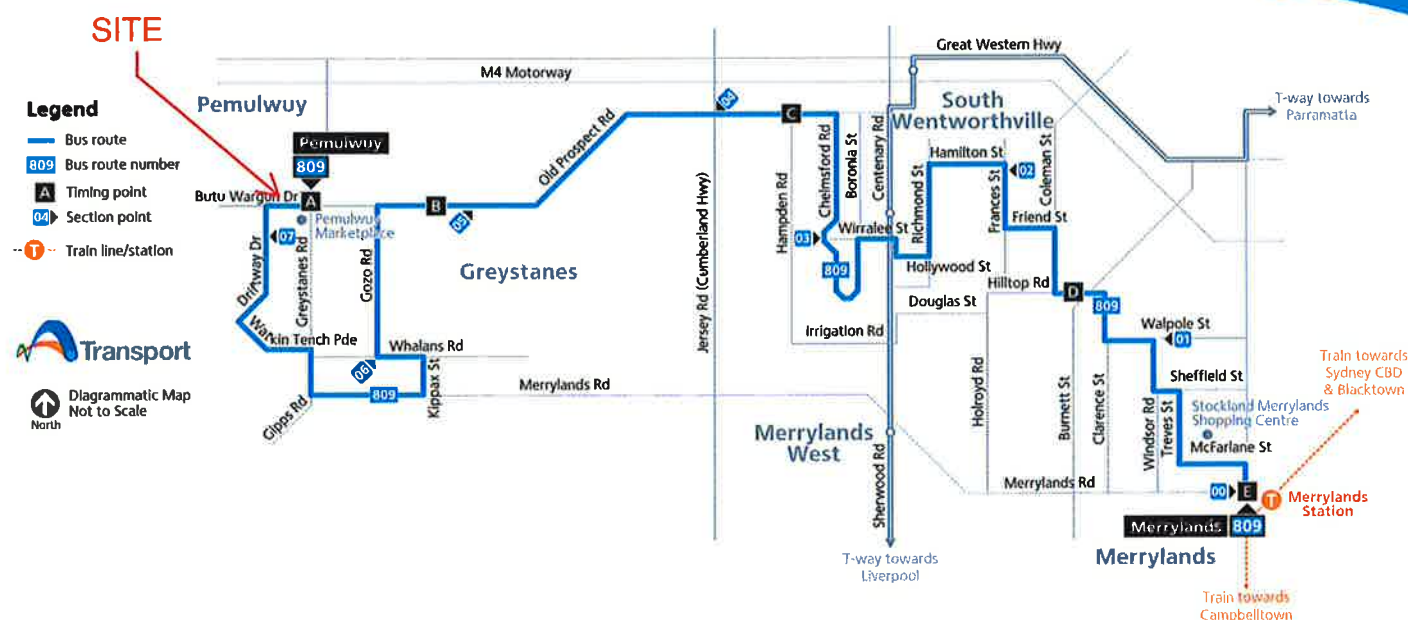


Legend

-  Bus route
-  Bus route number
-  Timing point
-  Section point
-  Train line/station

 Diagrammatic Map
Not to Scale

 Transport



Fare Sections

Bus routes are broken into sections, so you only pay for the distance you travel. MyBus tickets are based on these sections.

For information on tickets and fares, visit transportnsw.info or call 131 500.

Section Points for services shown in this timetable are located at:

Route 809

Section Point Number

Location:

- 00 Merrylands Interchange
- 01 Walpole Street & Windsor Road
- 02 Hamilton Street & Frances Street
- 03 Chelmsford Road & Wirrallee Street
- 04 Old Prospect Road & Ringrose Avenue
- 05 Old Prospect Road at Golf Course
- 06 Whalans Road & Gozo Road
- 07 Driftway Drive & Cummings Avenue

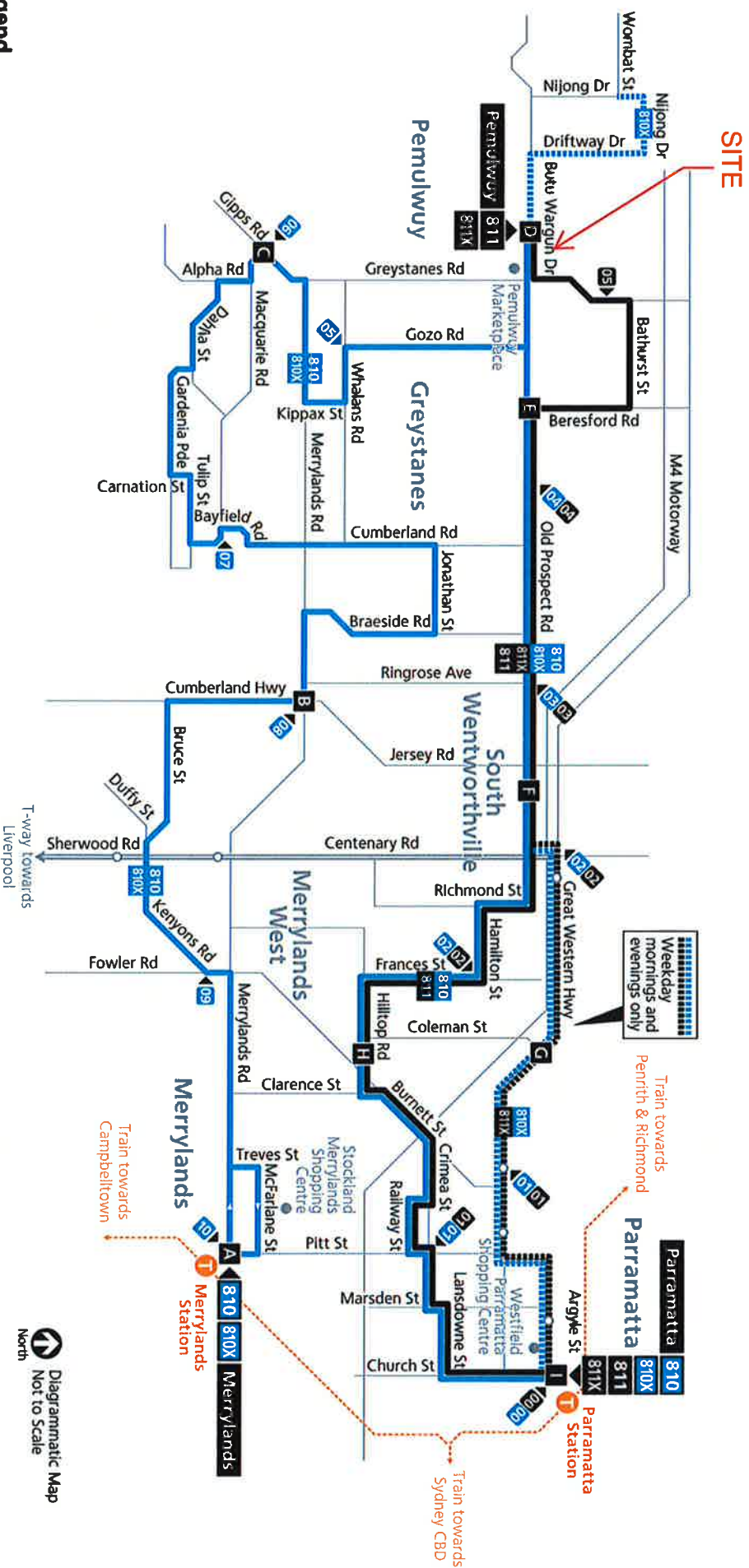
Timing Points

- A Pemulwuy Marketplace Butu Wargun Drive
- B Old Prospect Road & Beresford Road
- C Old Prospect Road & Hampden Road
- D Hilltop Shops Hilltop Road
- E Merrylands Interchange

Explanation of definitions and symbols

- S School diversion on school days only.
- T Bus operates on Saturday only.

A Thinking point **--T--** Train line/station



APPENDIX B: TRAFFIC SURVEY AND SIDRA ANALYSIS

Lakewood Residential Aged Care Facility SIDRA Analysis

Table of Contents

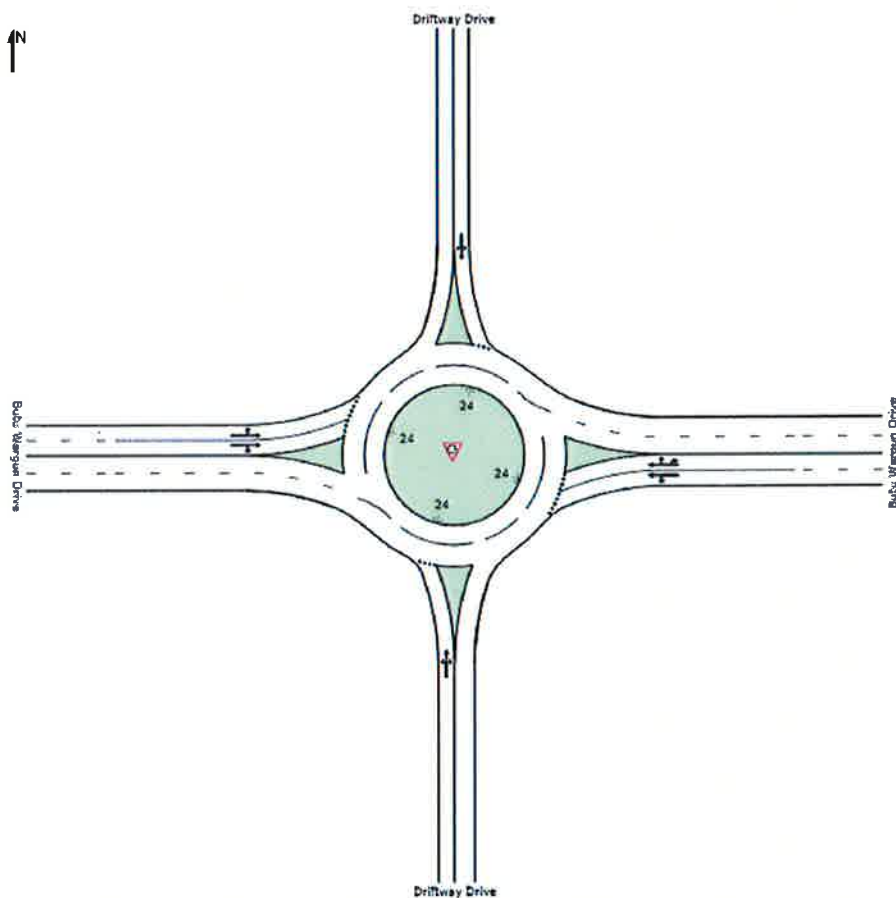
| | Page |
|---|----------|
| 1.0 BUTU WARGUN DRIVE AND DRIFTWAY DRIVE ROUNDABOUT..... | 2 |
| 1.1 LAYOUT | 2 |
| 2.0 EXISTING PRE DEVELOPMENT TRAFFIC ANALYSIS: AM | 3 |
| 2.1 EXISTING VOLUMES..... | 3 |
| 2.2 LANE SUMMARY | 3 |
| 3.0 EXISTING PRE DEVELOPMENT TRAFFIC ANALYSIS: PM | 4 |
| 3.1 EXISTING VOLUMES..... | 4 |
| 3.2 LANE SUMMARY | 4 |
| 4.0 POST DEVELOPMENT TRAFFIC ANALYSIS: AM..... | 5 |
| 4.1 PROPOSED VOLUMES | 5 |
| 4.2 LANE SUMMARY | 5 |
| 5.0 POST DEVELOPMENT TRAFFIC ANALYSIS: PM..... | 6 |
| 5.1 PROPOSED VOLUMES | 6 |
| 5.2 LANE SUMMARY | 6 |

Revision Register

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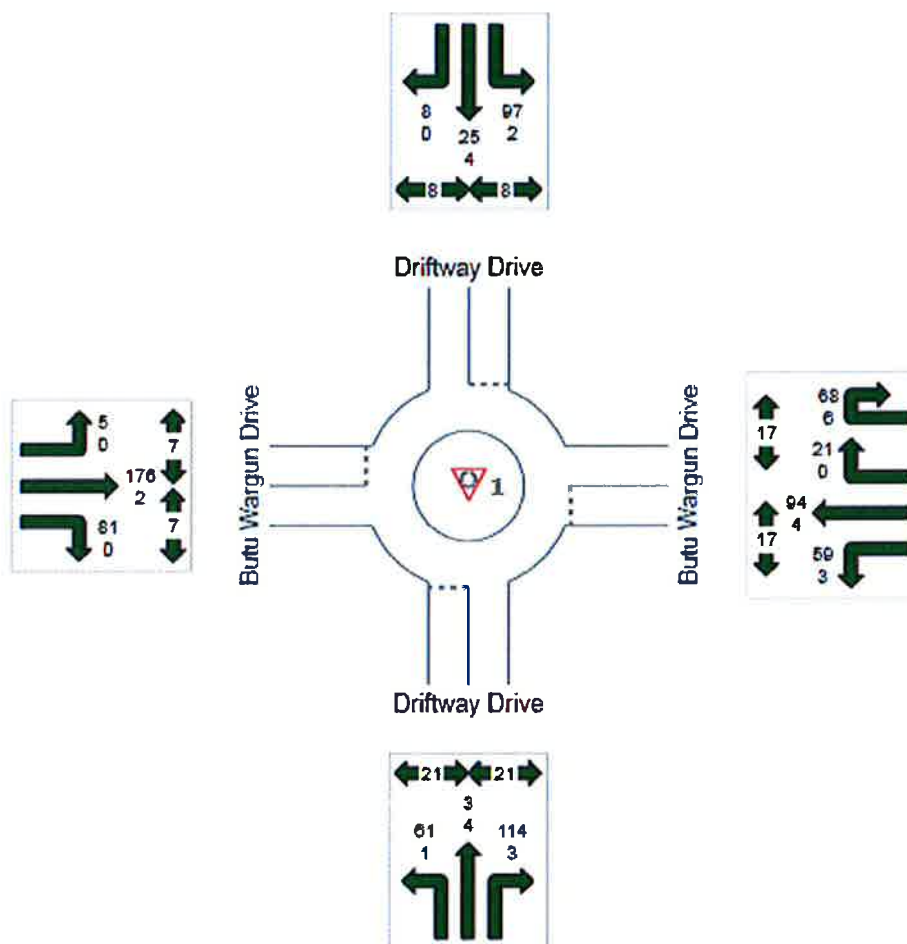
1.0 BUTU WARGUN DRIVE AND DRIFTWAY DRIVE ROUNDABOUT

1.1 Layout



2.0 EXISTING PRE DEVELOPMENT TRAFFIC ANALYSIS: AM

2.1 Existing Volumes



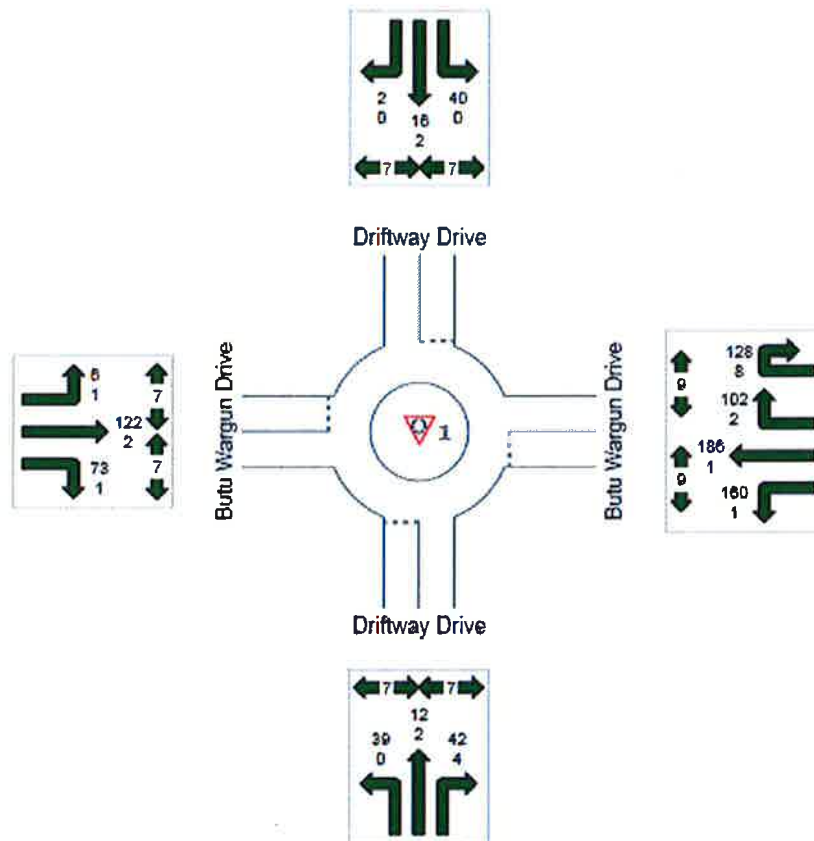
2.2 Lane Summary

| Lane Use and Performance | | | | | | | | | | | | | |
|--------------------------------|--------------|---------|---------|-----------|------------|---------------|------------------|-------------------|------|-------------|-------------|-----------|--------------|
| | Demand Flows | | Cap. | Deg. Satn | Lane Util. | Average Delay | Level of Service | 95% Back of Queue | | Lane Config | Lane Length | Cap. Adj. | Prob. Block. |
| | Total | HV | | | | | | Veh | Dist | | | | |
| | veh/h | % veh/h | % veh/h | v/c | % | sec | | | m | | m | % | % |
| South: Driftway Drive | | | | | | | | | | | | | |
| Lane 1 ^d | 196 | 4.3 | 1063 | 0.184 | 100 | 6.6 | LOS A | 0.8 | 6.1 | Full | 145 | 0.0 | 0.0 |
| Approach | 196 | 4.3 | | 0.184 | | 6.6 | LOS A | 0.8 | 6.1 | | | | |
| East: Butu Wargun Drive | | | | | | | | | | | | | |
| Lane 1 ^d | 140 | 4.4 | 1320 | 0.106 | 100 | 4.4 | LOS A | 0.5 | 3.6 | Full | 190 | 0.0 | 0.0 |
| Lane 2 | 129 | 5.8 | 1212 | 0.106 | 100 | 9.8 | LOS A | 0.5 | 3.6 | Full | 190 | 0.0 | 0.0 |
| Approach | 268 | 5.1 | | 0.106 | | 7.0 | LOS A | 0.5 | 3.6 | | | | |
| North: Driftway Drive | | | | | | | | | | | | | |
| Lane 1 ^d | 143 | 4.4 | 844 | 0.170 | 100 | 5.1 | LOS A | 0.8 | 5.5 | Full | 50 | 0.0 | 0.0 |
| Approach | 143 | 4.4 | | 0.170 | | 5.1 | LOS A | 0.8 | 5.5 | | | | |
| West: Butu Wargun Drive | | | | | | | | | | | | | |
| Lane 1 ^d | 146 | 1.1 | 1283 | 0.114 | 100 | 4.8 | LOS A | 0.6 | 4.0 | Full | 180 | 0.0 | 0.0 |
| Lane 2 | 132 | 0.4 | 1162 | 0.114 | 100 | 8.2 | LOS A | 0.6 | 3.9 | Full | 180 | 0.0 | 0.0 |
| Approach | 278 | 0.8 | | 0.114 | | 6.4 | LOS A | 0.6 | 4.0 | | | | |
| Intersection | 885 | 3.4 | | 0.184 | | 6.4 | LOS A | 0.8 | 6.1 | | | | |

^d Dominant lane on roundabout approach

3.0 EXISTING PRE DEVELOPMENT TRAFFIC ANALYSIS: PM

3.1 Existing Volumes



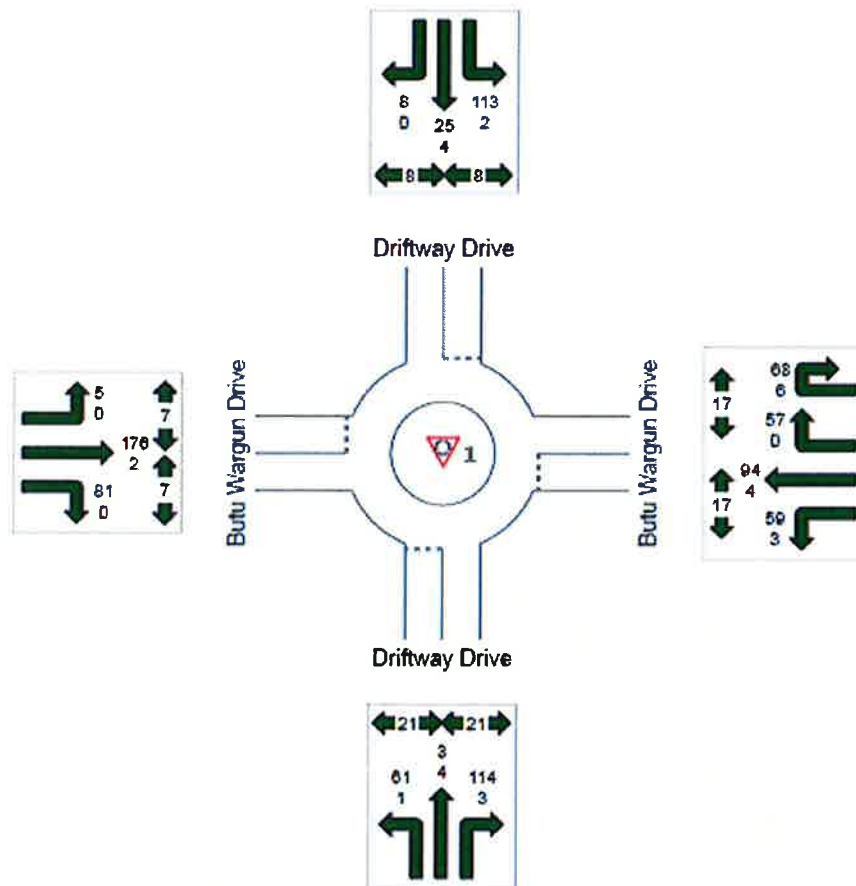
3.2 Lane Summary

| Lane Use and Performance | | | | | | | | | | | | | |
|--------------------------------|--------------|---------|------|-----------|------------|---------------|------------------|-------------------|------|-------------|-------------|-----------|--------------|
| | Demand Flows | | Cap. | Deg. Satn | Lane Util. | Average Delay | Level of Service | 95% Back of Queue | | Lane Config | Lane Length | Cap. Adj. | Prob. Block. |
| | Total | HV | | | | | | Veh | Dist | | | | |
| | veh/h | % veh/h | | v/c | % | sec | | | m | | m | % | % |
| South: Driftway Drive | | | | | | | | | | | | | |
| Lane 1 ^d | 104 | 6.1 | 905 | 0.115 | 100 | 6.7 | LOS A | 0.5 | 3.6 | Full | 145 | 0.0 | 0.0 |
| Approach | 104 | 6.1 | | 0.115 | | 6.7 | LOS A | 0.5 | 3.6 | | | | |
| East: Butu Wargun Drive | | | | | | | | | | | | | |
| Lane 1 ^d | 327 | 0.6 | 1440 | 0.227 | 100 | 4.3 | LOS A | 1.2 | 8.8 | Full | 190 | 0.0 | 0.0 |
| Lane 2 | 291 | 3.7 | 1281 | 0.227 | 100 | 9.9 | LOS A | 1.2 | 8.9 | Full | 190 | 0.0 | 0.0 |
| Approach | 619 | 2.0 | | 0.227 | | 6.9 | LOS A | 1.2 | 8.9 | | | | |
| North: Driftway Drive | | | | | | | | | | | | | |
| Lane 1 ^d | 63 | 3.3 | 888 | 0.071 | 100 | 4.5 | LOS A | 0.3 | 2.2 | Full | 50 | 0.0 | 0.0 |
| Approach | 63 | 3.3 | | 0.071 | | 4.5 | LOS A | 0.3 | 2.2 | | | | |
| West: Butu Wargun Drive | | | | | | | | | | | | | |
| Lane 1 ^d | 114 | 2.4 | 1204 | 0.095 | 100 | 5.1 | LOS A | 0.5 | 3.4 | Full | 180 | 0.0 | 0.0 |
| Lane 2 | 102 | 1.4 | 1077 | 0.095 | 100 | 9.2 | LOS A | 0.5 | 3.3 | Full | 180 | 0.0 | 0.0 |
| Approach | 216 | 2.0 | | 0.095 | | 7.1 | LOS A | 0.5 | 3.4 | | | | |
| Intersection | 1002 | 2.5 | | 0.227 | | 6.8 | LOS A | 1.2 | 8.9 | | | | |

^d Dominant lane on roundabout approach

4.0 POST DEVELOPMENT TRAFFIC ANALYSIS: AM

4.1 Proposed Volumes



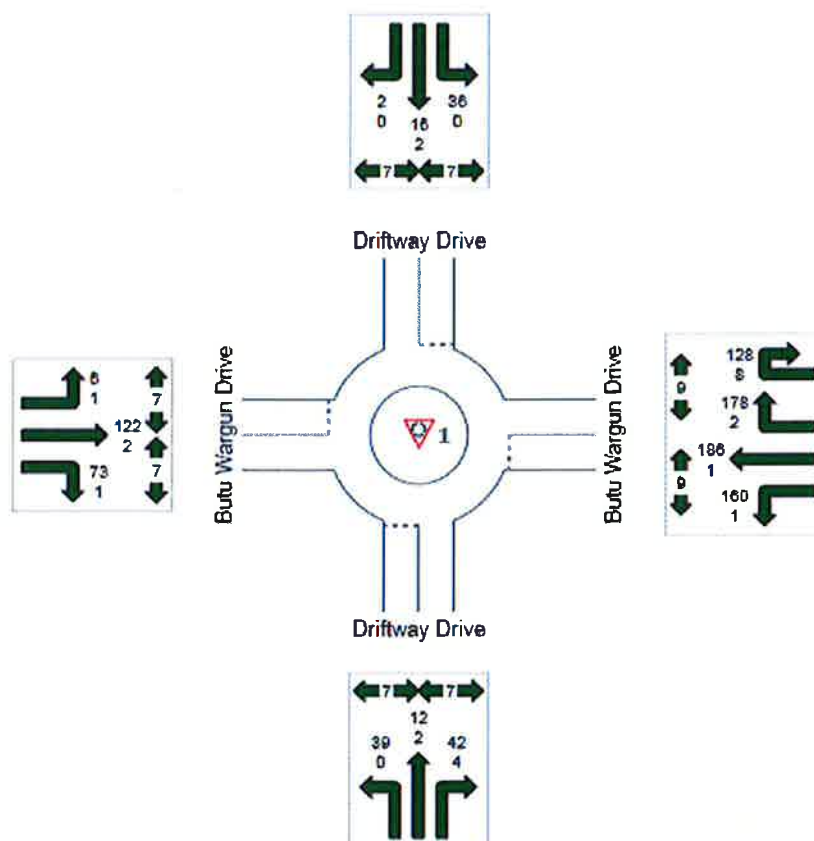
4.2 Lane Summary

| Lane Use and Performance | | | | | | | | | | | | | |
|--------------------------------|--------------|-----|-------|-----------|------------|---------------|------------------|-------------------|------|-------------|-------------|-----------|--------------|
| | Demand Flows | | Cap. | Deg. Satn | Lane Util. | Average Delay | Level of Service | 95% Back of Queue | | Lane Config | Lane Length | Cap. Adj. | Prob. Block. |
| | Total | HV | | | | | | Veh | Dist | | m | % | % |
| | veh/h | % | veh/h | v/c | % | sec | | | m | | | | |
| South: Driftway Drive | | | | | | | | | | | | | |
| Lane 1 ^d | 196 | 4.3 | 1035 | 0.189 | 100 | 6.8 | LOS A | 0.9 | 6.2 | Full | 145 | 0.0 | 0.0 |
| Approach | 196 | 4.3 | | 0.189 | | 6.8 | LOS A | 0.9 | 6.2 | | | | |
| East: Butu Wargun Drive | | | | | | | | | | | | | |
| Lane 1 ^d | 159 | 4.4 | 1324 | 0.120 | 100 | 4.4 | LOS A | 0.6 | 4.2 | Full | 190 | 0.0 | 0.0 |
| Lane 2 | 147 | 4.5 | 1222 | 0.120 | 100 | 10.4 | LOS A | 0.6 | 4.1 | Full | 190 | 0.0 | 0.0 |
| Approach | 306 | 4.5 | | 0.120 | | 7.3 | LOS A | 0.6 | 4.2 | | | | |
| North: Driftway Drive | | | | | | | | | | | | | |
| Lane 1 ^d | 160 | 3.9 | 845 | 0.189 | 100 | 5.1 | LOS A | 0.9 | 6.3 | Full | 50 | 0.0 | 0.0 |
| Approach | 160 | 3.9 | | 0.189 | | 5.1 | LOS A | 0.9 | 6.3 | | | | |
| West: Butu Wargun Drive | | | | | | | | | | | | | |
| Lane 1 ^d | 146 | 1.1 | 1254 | 0.117 | 100 | 5.0 | LOS A | 0.6 | 4.1 | Full | 180 | 0.0 | 0.0 |
| Lane 2 | 132 | 0.4 | 1128 | 0.117 | 100 | 8.4 | LOS A | 0.6 | 4.0 | Full | 180 | 0.0 | 0.0 |
| Approach | 278 | 0.8 | | 0.117 | | 6.6 | LOS A | 0.6 | 4.1 | | | | |
| Intersection | 940 | 3.2 | | 0.189 | | 6.6 | LOS A | 0.9 | 6.3 | | | | |

^d Dominant lane on roundabout approach

5.0 POST DEVELOPMENT TRAFFIC ANALYSIS: PM

5.1 Proposed Volumes



5.2 Lane Summary

| Lane Use and Performance | | | | | | | | | | | | |
|--------------------------------|--------------|---------|-------|-----------|-----------------|---------------|------------------|-------------------|------|-------------|-------------|-----------|
| | Demand Flows | | Cap. | Deg. Satn | Lane Util. | Average Delay | Level of Service | 95% Back of Queue | | Lane Config | Lane Length | Cap. Adj. |
| | Total | HV | | | | | | Veh | Dist | | | Prob. |
| | veh/h | % veh/h | veh/h | v/c | % | sec | | | m | | m | Block. |
| South: Driftway Drive | | | | | | | | | | | | |
| Lane 1 ^d | 104 | 6.1 | 865 | 0.121 | 100 | 7.0 | LOS A | 0.5 | 3.7 | Full | 145 | 0.0 |
| Approach | 104 | 6.1 | | 0.121 | | 7.0 | LOS A | 0.5 | 3.7 | | | 0.0 |
| East: Butu Wargun Drive | | | | | | | | | | | | |
| Lane 1 ^d | 366 | 0.6 | 1444 | 0.254 | 98 ⁵ | 4.3 | LOS A | 1.4 | 10.2 | Full | 190 | 0.0 |
| Lane 2 | 333 | 3.2 | 1290 | 0.258 | 100 | 10.5 | LOS A | 1.5 | 10.5 | Full | 190 | 0.0 |
| Approach | 699 | 1.8 | | 0.258 | | 7.2 | LOS A | 1.5 | 10.5 | | | |
| North: Driftway Drive | | | | | | | | | | | | |
| Lane 1 ^d | 59 | 3.6 | 884 | 0.067 | 100 | 4.5 | LOS A | 0.3 | 2.1 | Full | 50 | 0.0 |
| Approach | 59 | 3.6 | | 0.067 | | 4.5 | LOS A | 0.3 | 2.1 | | | |
| West: Butu Wargun Drive | | | | | | | | | | | | |
| Lane 1 ^d | 115 | 2.4 | 1142 | 0.100 | 100 | 5.5 | LOS A | 0.5 | 3.7 | Full | 180 | 0.0 |
| Lane 2 | 101 | 1.4 | 1008 | 0.100 | 100 | 9.7 | LOS A | 0.5 | 3.6 | Full | 180 | 0.0 |
| Approach | 216 | 2.0 | | 0.100 | | 7.5 | LOS A | 0.5 | 3.7 | | | |
| Intersection | 1078 | 2.3 | | 0.258 | | 7.1 | LOS A | 1.5 | 10.5 | | | |

^d Dominant lane on roundabout approach

JORAY ENTERPRISES PTY LTD

ABN 80 061 513933

1 AJAX PLACE, BLACKTOWN, NSW 2148

Telephone and Fax (02) 9624 5472 / 9674 7120 / S.C.42 342636

COUNT:

JE15-212s

LOCATION:

BUTU WARGUN DR / DRIFTWAY DR
PEMULWUY

CLIENT:

TAYLOR THOMSON WHITTING

DATE:

THURSDAY 23RD APRIL 2015

WEATHER:

OVERCAST

LIGHTS

| | NORTH | | | EAST | | | SOUTH | | | WEST | | | |
|-------------|-------------|----|----|----------------|-----|----|-------------|---|-----|----------------|-----|-----|-------|
| | Driftway Dr | | | Butu Wargun Dr | | | Driftway Dr | | | Butu Wargun Dr | | | |
| TIME | L | I | R | L | I | R | L | I | R | L | I | R | TOTAL |
| 0600 - 0615 | 7 | 2 | 0 | 17 | 11 | 1 | 4 | 1 | 11 | 0 | 22 | 6 | 87 |
| 0615 - 0630 | 13 | 2 | 0 | 7 | 7 | 2 | 6 | 1 | 14 | 0 | 24 | 7 | 85 |
| 0630 - 0645 | 17 | 5 | 1 | 2 | 13 | 2 | 7 | 0 | 21 | 0 | 26 | 18 | 114 |
| 0645 - 0700 | 23 | 2 | 2 | 6 | 20 | 4 | 12 | 4 | 23 | 0 | 31 | 14 | 146 |
| 0700 - 0715 | 24 | 6 | 3 | 10 | 24 | 2 | 18 | 1 | 12 | 0 | 28 | 10 | 147 |
| 0715 - 0730 | 29 | 6 | 2 | 16 | 23 | 8 | 19 | 1 | 27 | 0 | 48 | 26 | 216 |
| 0730 - 0745 | 26 | 5 | 1 | 17 | 27 | 8 | 12 | 1 | 38 | 1 | 49 | 28 | 238 |
| 0745 - 0800 | 18 | 8 | 2 | 16 | 20 | 3 | 12 | 0 | 37 | 4 | 51 | 17 | 211 |
| TOTAL | 157 | 36 | 11 | 91 | 145 | 30 | 90 | 9 | 183 | 5 | 279 | 126 | 1244 |

| PEAK | NORTH | | | EAST | | | SOUTH | | | WEST | | | |
|-------------|-------------|----|---|----------------|----|----|-------------|---|-----|----------------|-----|----|-------|
| HOURL | Driftway Dr | | | Butu Wargun Dr | | | Driftway Dr | | | Butu Wargun Dr | | | TOTAL |
| | L | I | R | L | I | R | L | I | R | L | I | R | |
| 0600 - 0700 | 60 | 11 | 3 | 32 | 51 | 9 | 29 | 6 | 69 | 0 | 103 | 45 | 432 |
| 0615 - 0715 | 77 | 15 | 6 | 25 | 64 | 10 | 43 | 6 | 70 | 0 | 109 | 49 | 492 |
| 0630 - 0730 | 93 | 19 | 8 | 34 | 80 | 16 | 56 | 6 | 83 | 0 | 133 | 68 | 623 |
| 0645 - 0745 | 102 | 19 | 8 | 49 | 94 | 22 | 61 | 7 | 100 | 1 | 156 | 78 | 747 |
| 0700 - 0800 | 97 | 25 | 8 | 59 | 94 | 21 | 61 | 3 | 114 | 5 | 176 | 81 | 812 |

COUNT: JE15-212s

LOCATION: BUTU WARGUN DR / DRIFTWAY DR
PEMULWUY

CLIENT: TAYLOR THOMSON WHITTING

DATE: THURSDAY 23RD APRIL 2015 WEATHER: OVERCAST

HEAVIES

| | NORTH | | | EAST | | | SOUTH | | | WEST | | | TOTAL | |
|-------------|-------------|---|---|----------------|---|---|-------------|---|---|----------------|---|---|-------|----|
| | Driftway Dr | | | Butu Wargun Dr | | | Driftway Dr | | | Butu Wargun Dr | | | | |
| | L | I | R | L | I | R | U | L | I | R | L | I | | R |
| TIME | | | | | | | | | | | | | | |
| 0600 - 0615 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | | 0 | 1 | 0 | 0 | 0 | 3 |
| 0615 - 0630 | 2 | 1 | 1 | 2 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 10 |
| 0630 - 0645 | 1 | 0 | 0 | 0 | 2 | 0 | 4 | 0 | 0 | 2 | 1 | 0 | 0 | 10 |
| 0645 - 0700 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 8 |
| 0700 - 0715 | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 8 |
| 0715 - 0730 | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 8 |
| 0730 - 0745 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 1 | 0 | 0 | 7 |
| 0745 - 0800 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 6 |
| TOTAL | 6 | 6 | 1 | 6 | 8 | 1 | 15 | 1 | 8 | 4 | 0 | 4 | 0 | 60 |

| PEAK HOUR | NORTH | | | EAST | | | SOUTH | | | WEST | | | TOTAL | | |
|--------------|-------------|---|---|----------------|---|---|-------------|---|---|----------------|---|---|-------|---|----|
| | Driftway Dr | | | Butu Wargun Dr | | | Driftway Dr | | | Butu Wargun Dr | | | | | |
| | L | I | R | L | I | R | U | L | I | R | L | I | | R | |
| 0600 - 0700 | 4 | 2 | 1 | 3 | 4 | 1 | 9 | | 0 | 4 | 1 | 0 | 2 | 0 | 31 |
| 0615 - 0715 | 4 | 3 | 1 | 4 | 5 | 0 | 10 | | 1 | 4 | 2 | 0 | 2 | 0 | 36 |
| 0630 - 0730 | 3 | 3 | 0 | 3 | 5 | 0 | 9 | | 1 | 5 | 3 | 0 | 2 | 0 | 34 |
| 0645 - 0745 | 2 | 4 | 0 | 3 | 3 | 0 | 8 | | 1 | 4 | 3 | 0 | 3 | 0 | 31 |
| 0700 - 0800 | 2 | 4 | 0 | 3 | 4 | 0 | 6 | | 1 | 4 | 3 | 0 | 2 | 0 | 29 |

COUNT: JE15-212s

LOCATION: BUTU WARGUN DR / DRIFTWAY DR
PEMULWUY

CLIENT: TAYLOR THOMSON WHITTING

DATE: THURSDAY 23RD APRIL 2015 WEATHER: OVERCAST

COMBINED

| | NORTH | | | EAST | | | SOUTH | | | WEST | | | TOTAL | |
|-------------|----------------|----|----|----------------|-----|----|----------------|----|----|----------------|---|-----|-------|------|
| | Butu Wargun Dr | | | Butu Wargun Dr | | | Butu Wargun Dr | | | Butu Wargun Dr | | | | |
| | L | T | R | L | T | R | U | L | T | R | L | T | | R |
| TIME | | | | | | | | | | | | | | |
| 0600 - 0615 | 7 | 2 | 0 | 17 | 11 | 2 | 6 | 4 | 2 | 11 | 0 | 22 | 6 | 90 |
| 0615 - 0630 | 15 | 3 | 1 | 9 | 9 | 2 | 3 | 6 | 1 | 14 | 0 | 25 | 7 | 95 |
| 0630 - 0645 | 18 | 5 | 1 | 2 | 15 | 2 | 6 | 7 | 2 | 22 | 0 | 26 | 18 | 124 |
| 0645 - 0700 | 24 | 3 | 2 | 7 | 20 | 4 | 8 | 12 | 5 | 23 | 0 | 32 | 14 | 154 |
| 0700 - 0715 | 24 | 7 | 3 | 11 | 25 | 2 | 11 | 19 | 2 | 13 | 0 | 28 | 10 | 155 |
| 0715 - 0730 | 30 | 7 | 2 | 17 | 25 | 8 | 11 | 19 | 2 | 28 | 0 | 49 | 26 | 224 |
| 0730 - 0745 | 26 | 6 | 1 | 17 | 27 | 8 | 28 | 12 | 2 | 39 | 1 | 50 | 28 | 245 |
| 0745 - 0800 | 19 | 9 | 2 | 17 | 21 | 3 | 24 | 12 | 1 | 37 | 4 | 51 | 17 | 217 |
| TOTAL | 163 | 42 | 12 | 97 | 153 | 31 | 97 | 91 | 17 | 187 | 5 | 283 | 126 | 1304 |

| PEAK HOUR | NORTH | | | | EAST | | | | SOUTH | | | | WEST | | | | TOTAL |
|--------------|-------|----|---|----|----------------|----|----|----|-------------|----|-----|---|----------------|-----|----|-----|-------|
| | | | | | Butu Wargun Dr | | | | Driftway Dr | | | | Butu Wargun Dr | | | | |
| | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R | | |
| 0600 - 0700 | 64 | 13 | 4 | 23 | 35 | 55 | 10 | 23 | 29 | 10 | 70 | 0 | 0 | 105 | 45 | 463 | |
| 0615 - 0715 | 81 | 18 | 7 | 28 | 29 | 69 | 10 | 28 | 44 | 10 | 72 | 0 | 0 | 111 | 49 | 528 | |
| 0630 - 0730 | 96 | 22 | 8 | 36 | 37 | 8 | 16 | 36 | 57 | 11 | 86 | 0 | 0 | 135 | 68 | 580 | |
| 0645 - 0745 | 104 | 23 | 8 | 58 | 52 | 97 | 22 | 58 | 62 | 11 | 103 | 1 | 1 | 159 | 78 | 778 | |
| 0700 - 0800 | 99 | 29 | 8 | 74 | 62 | 98 | 21 | 74 | 62 | 7 | 117 | 5 | 5 | 178 | 81 | 841 | |

COUNT: JE15-212s

LOCATION: BUTU WARGUN DR / DRIFTWAY DR
PEMULWUY

CLIENT: TAYLOR THOMSON WHITTING

DATE: THURSDAY 23RD APRIL 2015 **WEATHER:** OVERCAST

PEDESTRIANS

| | NORTH | EAST | SOUTH | WEST | |
|-------------|--------------------|-----------------------|--------------------|-----------------------|-------|
| TIME | <i>Driftway Dr</i> | <i>Butu Wargun Dr</i> | <i>Driftway Dr</i> | <i>Butu Wargun Dr</i> | TOTAL |
| 0600 - 0615 | 0 | 0 | 0 | 1 | 1 |
| 0615 - 0630 | 2 | 2 | 0 | 1 | 5 |
| 0630 - 0645 | 1 | 0 | 5 | 0 | 6 |
| 0645 - 0700 | 0 | 6 | 0 | 1 | 7 |
| 0700 - 0715 | 2 | 1 | 3 | 2 | 8 |
| 0715 - 0730 | 3 | 4 | 5 | 1 | 13 |
| 0730 - 0745 | 1 | 5 | 4 | 2 | 12 |
| 0745 - 0800 | 2 | 7 | 9 | 2 | 20 |
| TOTAL | 11 | 25 | 26 | 10 | 72 |

| PEAK | NORTH | EAST | SOUTH | WEST | |
|-------------|--------------------|-----------------------|--------------------|-----------------------|-------|
| HOUR | <i>Driftway Dr</i> | <i>Butu Wargun Dr</i> | <i>Driftway Dr</i> | <i>Butu Wargun Dr</i> | TOTAL |
| 0600 - 0700 | 3 | 8 | 5 | 3 | 19 |
| 0615 - 0715 | 5 | 9 | 8 | 4 | 26 |
| 0630 - 0730 | 6 | 11 | 13 | 4 | 34 |
| 0645 - 0745 | 6 | 16 | 12 | 6 | 40 |
| 0700 - 0800 | 8 | 17 | 21 | 7 | 53 |

COUNT: JE15-212s

LOCATION: BUTU WARGUN DR / DRIFTWAY DR
PEMULWUY

CLIENT: TAYLOR THOMSON WHITTING

DATE: THURSDAY 23RD APRIL 2015 WEATHER: OVERCAST

PEAK HOUR 700 - 800

VEHICLES

| | NORTH | | | EAST | | | SOUTH | | | WEST | | | |
|---------|--------------------|----|---|-----------------------|----|----|--------------------|----|---|-----------------------|---|-----|-------|
| | <i>Driftway Dr</i> | | | <i>Butu Wargun Dr</i> | | | <i>Driftway Dr</i> | | | <i>Butu Wargun Dr</i> | | | |
| | L | T | R | L | T | R | L | T | R | L | T | R | TOTAL |
| Lights | 97 | 25 | 8 | 59 | 94 | 21 | 68 | 61 | 3 | 114 | 5 | 176 | 81 |
| Heavies | 2 | 4 | 0 | 3 | 4 | 0 | 6 | 1 | 4 | 3 | 0 | 2 | 0 |
| TOTAL | 99 | 29 | 8 | 62 | 98 | 21 | 74 | 62 | 7 | 117 | 5 | 178 | 81 |

PEDESTRIANS

| | NORTH | | EAST | | SOUTH | | WEST | | |
|-------|--------------------|--|-----------------------|--|--------------------|--|-----------------------|--|----|
| | <i>Driftway Dr</i> | | <i>Butu Wargun Dr</i> | | <i>Driftway Dr</i> | | <i>Butu Wargun Dr</i> | | |
| TOTAL | 8 | | 17 | | 21 | | 7 | | 53 |

JORAY ENTERPRISES PTY LTD

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1 AJAX PLACE, BLACKTOWN, NSW 2148

Telephone and Fax (02) 9624 5472 / 9674 7120 / S.C.42 342636

COUNT:

JE15-213s

LOCATION:

BUTU WARGUN DR / DRIFTWAY DR
PEMULWUY

CLIENT:

TAYLOR THOMSON WHITTING

DATE:

THURSDAY 23RD APRIL 2015

WEATHER: OVERCAST

LIGHTS

| | NORTH | | | | EAST | | | | SOUTH | | | | WEST | | | | |
|-------------|-------------|----|---|--|----------------|-----|-----|-----|-------------|----|-----|--|----------------|-----|-----|--|-------|
| | Driftway Dr | | | | Butu Wargun Dr | | | | Driftway Dr | | | | Butu Wargun Dr | | | | |
| TIME | L | T | R | | L | T | R | U | L | T | R | | L | T | R | | TOTAL |
| 1400 - 1415 | 17 | 0 | 0 | | 23 | 20 | 18 | 48 | 3 | 0 | 8 | | 0 | 34 | 17 | | 188 |
| 1415 - 1430 | 12 | 2 | 0 | | 21 | 27 | 15 | 27 | 4 | 1 | 12 | | 1 | 42 | 20 | | 184 |
| 1430 - 1445 | 13 | 5 | 0 | | 24 | 26 | 11 | 32 | 9 | 1 | 13 | | 0 | 24 | 11 | | 169 |
| 1445 - 1500 | 18 | 2 | 0 | | 23 | 21 | 10 | 19 | 2 | 0 | 27 | | 1 | 32 | 15 | | 170 |
| 1500 - 1515 | 7 | 4 | 0 | | 43 | 35 | 32 | 36 | 9 | 4 | 12 | | 2 | 31 | 17 | | 232 |
| 1515 - 1530 | 12 | 6 | 0 | | 54 | 53 | 17 | 33 | 7 | 5 | 13 | | 1 | 28 | 18 | | 247 |
| 1530 - 1545 | 4 | 3 | 2 | | 33 | 57 | 21 | 20 | 13 | 2 | 9 | | 1 | 30 | 22 | | 217 |
| 1545 - 1600 | 17 | 3 | 0 | | 30 | 41 | 32 | 40 | 10 | 1 | 8 | | 2 | 33 | 16 | | 233 |
| TOTAL | 100 | 25 | 2 | | 251 | 280 | 156 | 255 | 57 | 14 | 102 | | 8 | 254 | 136 | | 1640 |

| PEAK | NORTH | | | | EAST | | | | SOUTH | | | | WEST | | | | |
|-------------|-------------|----|---|--|----------------|-----|-----|-----|-------------|----|----|--|----------------|-----|----|--|-------|
| HOUR | Driftway Dr | | | | Butu Wargun Dr | | | | Driftway Dr | | | | Butu Wargun Dr | | | | TOTAL |
| | L | T | R | | L | T | R | U | L | T | R | | L | T | R | | |
| 1400 - 1500 | 60 | 9 | 0 | | 91 | 94 | 54 | 126 | 18 | 2 | 60 | | 2 | 132 | 63 | | 711 |
| 1415 - 1515 | 50 | 13 | 0 | | 111 | 109 | 68 | 114 | 24 | 6 | 64 | | 4 | 129 | 63 | | 755 |
| 1430 - 1530 | 50 | 17 | 0 | | 144 | 135 | 70 | 120 | 27 | 10 | 65 | | 4 | 115 | 61 | | 818 |
| 1445 - 1545 | 41 | 15 | 2 | | 153 | 166 | 80 | 108 | 31 | 11 | 61 | | 5 | 121 | 72 | | 866 |
| 1500 - 1600 | 40 | 16 | 2 | | 160 | 186 | 102 | 129 | 39 | 12 | 42 | | 6 | 122 | 73 | | 929 |

COUNT: JE15-213s

LOCATION: BUTU WARGUN DR / DRIFTWAY DR
PEMULWUY

CLIENT: TAYLOR THOMSON WHITTING

DATE: THURSDAY 23RD APRIL 2015 WEATHER: OVERCAST

HEAVIES

| | NORTH | | | | EAST | | | | SOUTH | | | | WEST | | | | TOTAL |
|-------------|----------------|---|---|---|----------------|---|---|----|-------------|---|---|---|----------------|---|---|---|-------|
| | Butu Wargun Dr | | | | Butu Wargun Dr | | | | Driftway Dr | | | | Butu Wargun Dr | | | | |
| | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R | | |
| TIME | Driftway Dr | | | | Butu Wargun Dr | | | | Driftway Dr | | | | Butu Wargun Dr | | | | |
| 1400 - 1415 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1415 - 1430 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 |
| 1430 - 1445 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 |
| 1445 - 1500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1500 - 1515 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 |
| 1515 - 1530 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1530 - 1545 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 8 |
| 1545 - 1600 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 4 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 11 |
| TOTAL | 1 | 3 | 0 | 0 | 4 | 1 | 2 | 10 | 0 | 5 | 5 | 5 | 1 | 2 | 1 | | 35 |

| PEAK HOUR | NORTH | | | | EAST | | | | SOUTH | | | | WEST | | | | TOTAL |
|--------------|----------------|---|---|---|----------------|---|---|---|----------------|---|---|---|----------------|---|---|----|-------|
| | | | | | | | | | | | | | | | | | |
| | Butu Wargun Dr | | | | Butu Wargun Dr | | | | Butu Wargun Dr | | | | Butu Wargun Dr | | | | |
| | L | T | R | U | L | T | R | U | L | T | R | U | L | T | R | U | |
| 1400 - 1500 | 1 | 1 | 0 | 0 | 3 | 0 | 0 | 2 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 1415 - 1515 | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 13 | |
| 1430 - 1530 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 11 | |
| 1445 - 1545 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 5 | 0 | 2 | 3 | 3 | 1 | 0 | 1 | 15 | |
| 1500 - 1600 | 0 | 2 | 0 | 0 | 1 | 1 | 2 | 8 | 0 | 2 | 4 | | 1 | 2 | 1 | 24 | |

COUNT: JE15-213s

LOCATION: BUTU WARGUN DR / DRIFTWAY DR
PEMULWUY

CLIENT: TAYLOR THOMSON WHITTING

DATE: THURSDAY 23RD APRIL 2015 **WEATHER:** OVERCAST

COMBINED

| | NORTH | | | EAST | | | | SOUTH | | | WEST | | | TOTAL |
|-------------|-------------|----|---|----------------|-----|-----|-----|-------------|----|-----|----------------|-----|-----|-------|
| | Driftway Dr | | | Butu Wargun Dr | | | | Driftway Dr | | | Butu Wargun Dr | | | |
| | L | T | R | L | T | R | U | L | T | R | L | T | R | |
| TIME | | | | | | | | | | | | | | |
| 1400 - 1415 | 17 | 0 | 0 | 24 | 20 | 18 | 48 | 3 | 1 | 8 | 0 | 34 | 17 | 190 |
| 1415 - 1430 | 12 | 2 | 0 | 22 | 27 | 15 | 28 | 4 | 1 | 13 | 1 | 42 | 20 | 187 |
| 1430 - 1445 | 14 | 6 | 0 | 25 | 26 | 11 | 32 | 9 | 2 | 13 | 0 | 24 | 11 | 173 |
| 1445 - 1500 | 18 | 2 | 0 | 23 | 21 | 10 | 20 | 2 | 1 | 27 | 1 | 32 | 15 | 172 |
| 1500 - 1515 | 7 | 5 | 0 | 43 | 35 | 32 | 37 | 9 | 5 | 13 | 2 | 31 | 17 | 236 |
| 1515 - 1530 | 12 | 6 | 0 | 54 | 53 | 17 | 34 | 7 | 5 | 13 | 1 | 28 | 18 | 248 |
| 1530 - 1545 | 4 | 3 | 2 | 34 | 57 | 22 | 22 | 13 | 2 | 11 | 2 | 30 | 23 | 225 |
| 1545 - 1600 | 17 | 4 | 0 | 30 | 42 | 33 | 44 | 10 | 2 | 9 | 2 | 35 | 16 | 244 |
| TOTAL | 101 | 28 | 2 | 255 | 281 | 158 | 265 | 57 | 19 | 107 | 9 | 256 | 137 | 1675 |

| PEAK HOUR | NORTH | | | | EAST | | | | SOUTH | | | | WEST | | | | TOTAL |
|--------------|-------------|----|---|--|----------------|-----|-----|-----|-------------|----|----|--|----------------|-----|----|-----|-------|
| | Driftway Dr | | | | Butu Wargun Dr | | | | Driftway Dr | | | | Butu Wargun Dr | | | | |
| | L | T | R | | L | T | R | U | L | T | R | | L | T | R | | |
| 1400 - 1500 | 61 | 10 | 0 | | 94 | 94 | 54 | 128 | 18 | 5 | 61 | | 2 | 132 | 63 | 722 | |
| 1415 - 1515 | 51 | 15 | 0 | | 113 | 109 | 68 | 117 | 24 | 9 | 66 | | 4 | 129 | 63 | 768 | |
| 1430 - 1530 | 51 | 19 | 0 | | 145 | 135 | 70 | 123 | 27 | 13 | 66 | | 4 | 115 | 61 | 829 | |
| 1445 - 1545 | 41 | 16 | 2 | | 154 | 166 | 81 | 113 | 31 | 13 | 64 | | 6 | 121 | 73 | 881 | |
| 1500 - 1600 | 40 | 18 | 2 | | 161 | 187 | 104 | 137 | 39 | 14 | 46 | | 7 | 124 | 74 | 953 | |

COUNT: JE15-213s

LOCATION: BUTU WARGUN DR / DRIFTWAY DR
PEMULWUY

CLIENT: TAYLOR THOMSON WHITTING

DATE: THURSDAY 23RD APRIL 2015 **WEATHER:** OVERCAST

PEDESTRIANS

| | NORTH | EAST | SOUTH | WEST | |
|-------------|-------------|----------------|-------------|----------------|-------|
| TIME | Driftway Dr | Butu Wargun Dr | Driftway Dr | Butu Wargun Dr | TOTAL |
| 1400 - 1415 | 0 | 2 | 0 | 0 | 2 |
| 1415 - 1430 | 0 | 1 | 0 | 0 | 1 |
| 1430 - 1445 | 0 | 1 | 1 | 0 | 2 |
| 1445 - 1500 | 0 | 0 | 2 | 0 | 2 |
| 1500 - 1515 | 2 | 1 | 5 | 3 | 11 |
| 1515 - 1530 | 3 | 2 | 1 | 0 | 6 |
| 1530 - 1545 | 0 | 4 | 1 | 3 | 8 |
| 1545 - 1600 | 2 | 2 | 0 | 1 | 5 |
| TOTAL | 7 | 13 | 10 | 7 | 37 |

| PEAK | NORTH | EAST | SOUTH | WEST | |
|-------------|-------------|----------------|-------------|----------------|-------|
| HOUR | Driftway Dr | Butu Wargun Dr | Driftway Dr | Butu Wargun Dr | TOTAL |
| 1400 - 1500 | 0 | 4 | 3 | 0 | 7 |
| 1415 - 1515 | 2 | 3 | 8 | 3 | 16 |
| 1430 - 1530 | 5 | 4 | 9 | 3 | 21 |
| 1445 - 1545 | 5 | 7 | 9 | 6 | 27 |
| 1500 - 1600 | 7 | 9 | 7 | 7 | 30 |

COUNT: JE15-213S

LOCATION: BUTU WARGUN DR / DRIFTWAY DR
PEMULWUY

CLIENT: TAYLOR THOMSON WHITTING

DATE: THURSDAY 23RD APRIL 2015

WEATHER: OVERCAST

PEAK HOUR 1500 - 1600

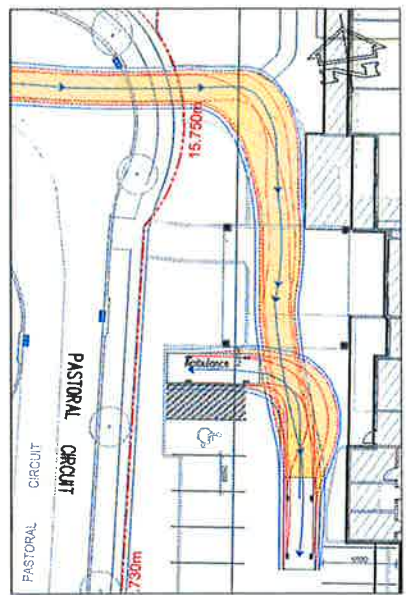
VEHICLES

| NORTH | | | | EAST | | | | SOUTH | | | | WEST | | | |
|-------------|----|----|---|----------------|-----|-----|-----|-------------|----|----|--|----------------|-----|----|-------|
| Driftway Dr | | | | Butu Wargun Dr | | | | Driftway Dr | | | | Butu Wargun Dr | | | |
| L | T | R | | L | T | R | U | L | T | R | | L | T | R | TOTAL |
| Lights | 40 | 16 | 2 | 160 | 186 | 102 | 129 | 39 | 12 | 42 | | 6 | 122 | 73 | 929 |
| Heavies | 0 | 2 | 0 | 1 | 1 | 2 | 8 | 0 | 2 | 4 | | 1 | 2 | 1 | 24 |
| TOTAL | 40 | 18 | 2 | 161 | 187 | 104 | 137 | 39 | 14 | 46 | | 7 | 124 | 74 | 953 |

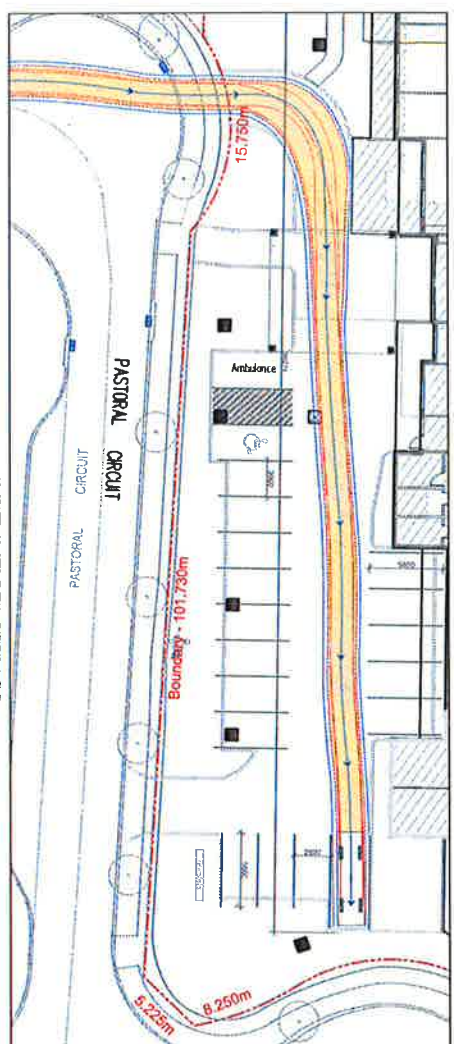
PEDESTRIANS

| | NORTH | | EAST | | SOUTH | | WEST | | |
|-------|-------------|--|----------------|--|-------------|--|----------------|--|-------|
| | Driftway Dr | | Butu Wargun Dr | | Driftway Dr | | Butu Wargun Dr | | TOTAL |
| TOTAL | 7 | | 9 | | 7 | | 7 | | 30 |

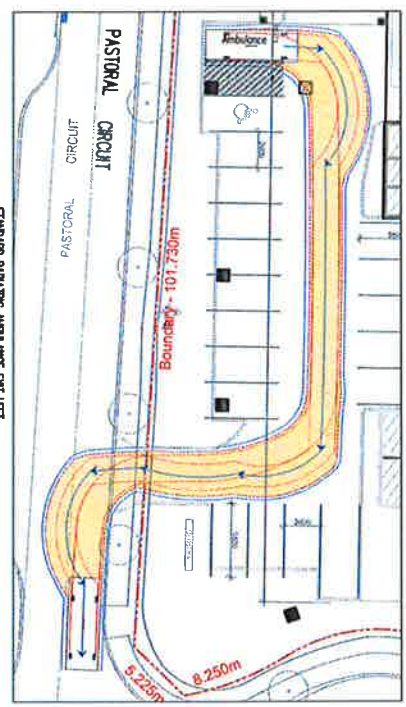
APPENDIX C: TURNING PATHS/VEHICLE EGREES



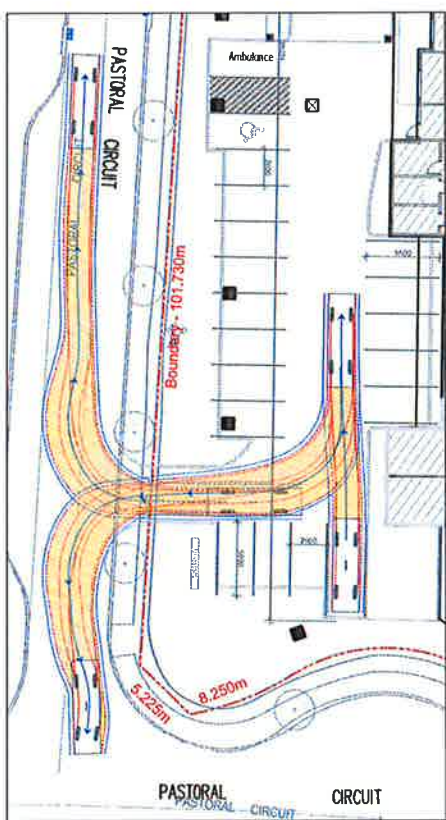
STANDED BUILDING ENTRANCE ENTRY & PARKING
SCALE 1:200



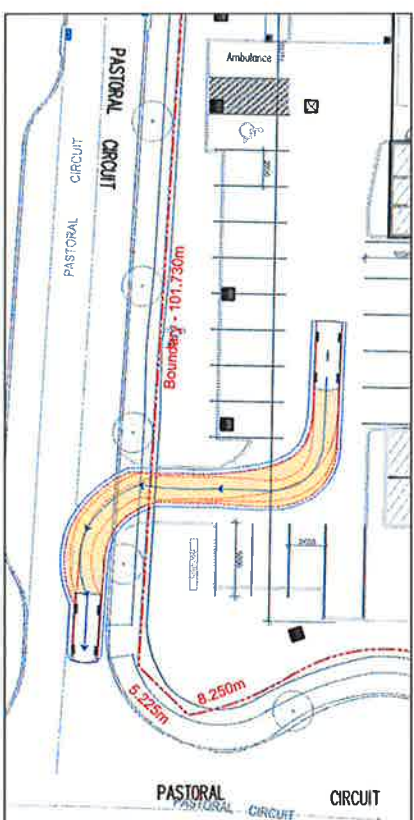
22 SEVER COASTER ENTRY, PARKING & EXIT
SCALE 1:200



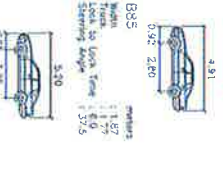
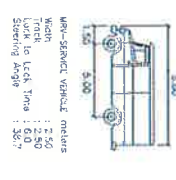
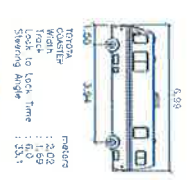
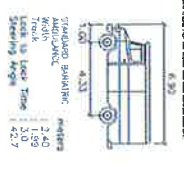
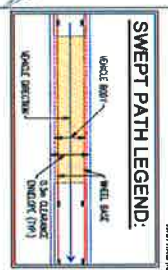
STANDED BUILDING ENTRANCE ENTRY LEFT
SCALE 1:200



22 SEVER COASTER ENTRY RIGHT / LEFT
SCALE 1:200



889 EXIT
SCALE 1:200

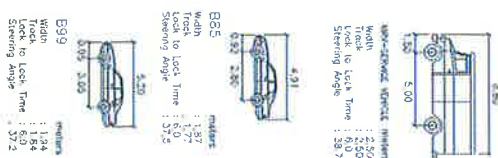
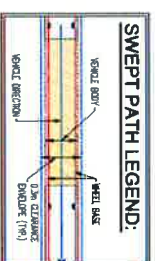
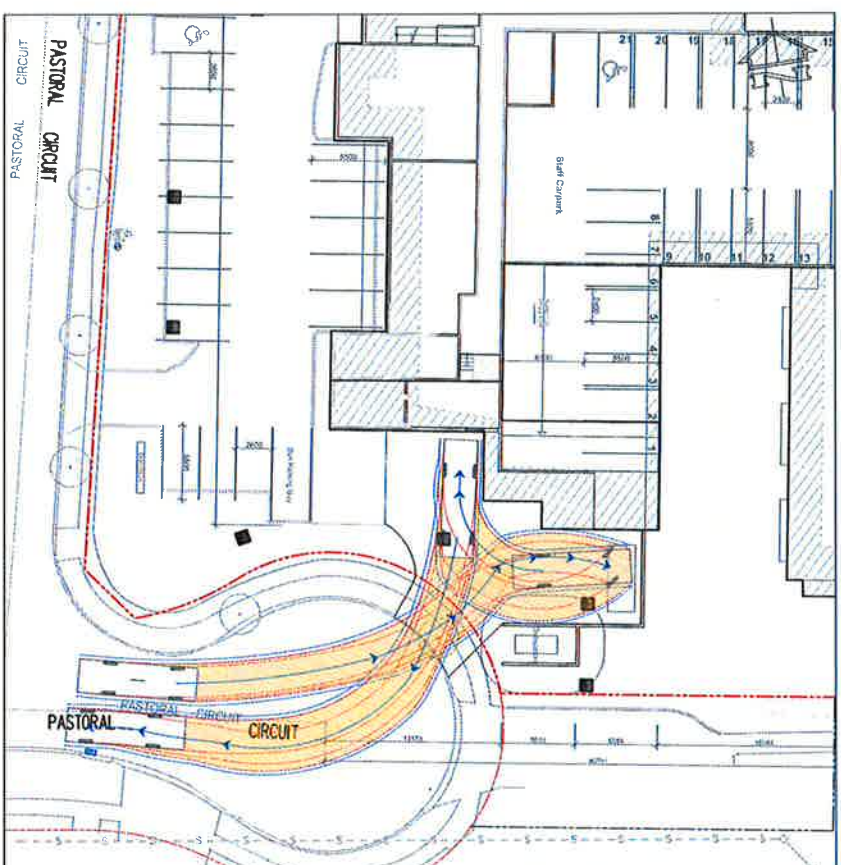
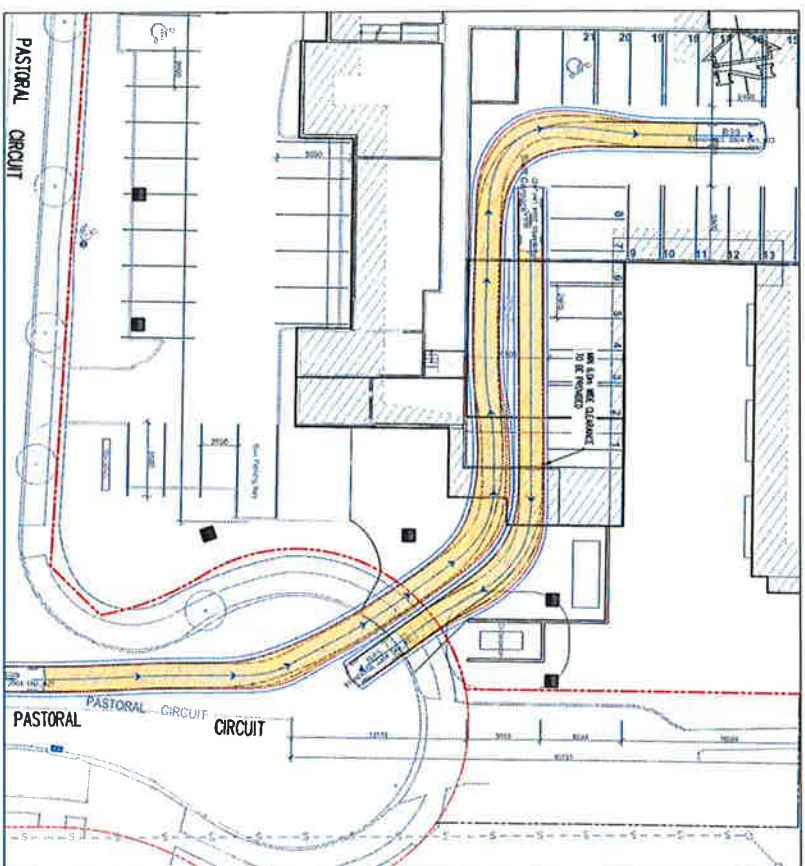


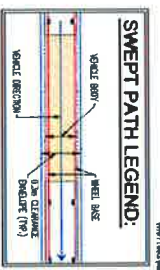
PRELIMINARY

TURNING PATH FOR
CAR PARK

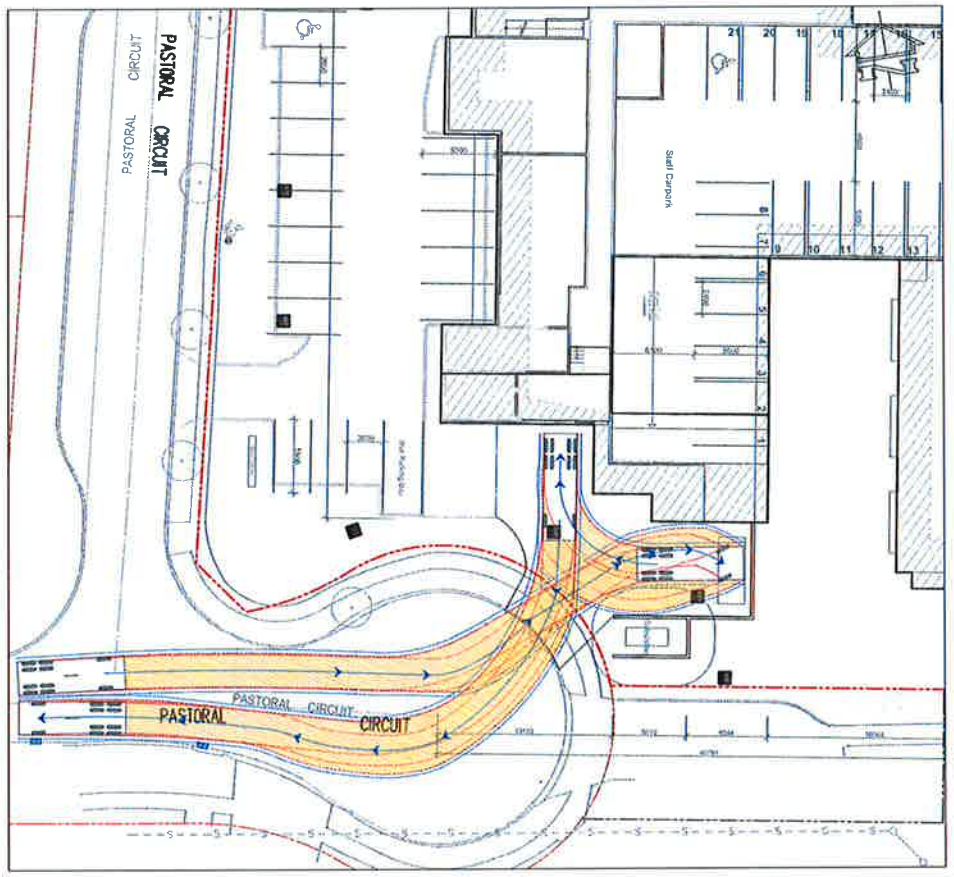
| Rev | Description | Rev | Date | Rev | Description | Rev | Date |
|-----|------------------|-----|----------|-----|------------------|-----|----------|
| 1 | Issue for Review | 2 | 22/10/18 | 3 | Issue for Review | 4 | 22/10/18 |
| 5 | Issue for Review | 6 | 22/10/18 | 7 | Issue for Review | 8 | 22/10/18 |
| 9 | Issue for Review | 10 | 22/10/18 | 11 | Issue for Review | 12 | 22/10/18 |
| 13 | Issue for Review | 14 | 22/10/18 | 15 | Issue for Review | 16 | 22/10/18 |
| 17 | Issue for Review | 18 | 22/10/18 | 19 | Issue for Review | 20 | 22/10/18 |
| 21 | Issue for Review | 22 | 22/10/18 | 23 | Issue for Review | 24 | 22/10/18 |
| 25 | Issue for Review | 26 | 22/10/18 | 27 | Issue for Review | 28 | 22/10/18 |
| 29 | Issue for Review | 30 | 22/10/18 | 31 | Issue for Review | 32 | 22/10/18 |
| 33 | Issue for Review | 34 | 22/10/18 | 35 | Issue for Review | 36 | 22/10/18 |
| 37 | Issue for Review | 38 | 22/10/18 | 39 | Issue for Review | 40 | 22/10/18 |
| 41 | Issue for Review | 42 | 22/10/18 | 43 | Issue for Review | 44 | 22/10/18 |
| 45 | Issue for Review | 46 | 22/10/18 | 47 | Issue for Review | 48 | 22/10/18 |
| 49 | Issue for Review | 50 | 22/10/18 | 51 | Issue for Review | 52 | 22/10/18 |
| 53 | Issue for Review | 54 | 22/10/18 | 55 | Issue for Review | 56 | 22/10/18 |
| 57 | Issue for Review | 58 | 22/10/18 | 59 | Issue for Review | 60 | 22/10/18 |
| 61 | Issue for Review | 62 | 22/10/18 | 63 | Issue for Review | 64 | 22/10/18 |
| 65 | Issue for Review | 66 | 22/10/18 | 67 | Issue for Review | 68 | 22/10/18 |
| 69 | Issue for Review | 70 | 22/10/18 | 71 | Issue for Review | 72 | 22/10/18 |
| 73 | Issue for Review | 74 | 22/10/18 | 75 | Issue for Review | 76 | 22/10/18 |
| 77 | Issue for Review | 78 | 22/10/18 | 79 | Issue for Review | 80 | 22/10/18 |
| 81 | Issue for Review | 82 | 22/10/18 | 83 | Issue for Review | 84 | 22/10/18 |
| 85 | Issue for Review | 86 | 22/10/18 | 87 | Issue for Review | 88 | 22/10/18 |
| 89 | Issue for Review | 90 | 22/10/18 | 91 | Issue for Review | 92 | 22/10/18 |
| 93 | Issue for Review | 94 | 22/10/18 | 95 | Issue for Review | 96 | 22/10/18 |
| 97 | Issue for Review | 98 | 22/10/18 | 99 | Issue for Review | 100 | 22/10/18 |

| | | | | | | | |
|-----|------------------|-----|----------|-----|------------------|-----|----------|
| Rev | Description | Rev | Date | Rev | Description | Rev | Date |
| 1 | Issue for Review | 2 | 22/10/18 | 3 | Issue for Review | 4 | 22/10/18 |
| 5 | Issue for Review | 6 | 22/10/18 | 7 | Issue for Review | 8 | 22/10/18 |
| 9 | Issue for Review | 10 | 22/10/18 | 11 | Issue for Review | 12 | 22/10/18 |
| 13 | Issue for Review | 14 | 22/10/18 | 15 | Issue for Review | 16 | 22/10/18 |
| 17 | Issue for Review | 18 | 22/10/18 | 19 | Issue for Review | 20 | 22/10/18 |
| 21 | Issue for Review | 22 | 22/10/18 | 23 | Issue for Review | 24 | 22/10/18 |
| 25 | Issue for Review | 26 | 22/10/18 | 27 | Issue for Review | 28 | 22/10/18 |
| 29 | Issue for Review | 30 | 22/10/18 | 31 | Issue for Review | 32 | 22/10/18 |
| 33 | Issue for Review | 34 | 22/10/18 | 35 | Issue for Review | 36 | 22/10/18 |
| 37 | Issue for Review | 38 | 22/10/18 | 39 | Issue for Review | 40 | 22/10/18 |
| 41 | Issue for Review | 42 | 22/10/18 | 43 | Issue for Review | 44 | 22/10/18 |
| 45 | Issue for Review | 46 | 22/10/18 | 47 | Issue for Review | 48 | 22/10/18 |
| 49 | Issue for Review | 50 | 22/10/18 | 51 | Issue for Review | 52 | 22/10/18 |
| 53 | Issue for Review | 54 | 22/10/18 | 55 | Issue for Review | 56 | 22/10/18 |
| 57 | Issue for Review | 58 | 22/10/18 | 59 | Issue for Review | 60 | 22/10/18 |
| 61 | Issue for Review | 62 | 22/10/18 | 63 | Issue for Review | 64 | 22/10/18 |
| 65 | Issue for Review | 66 | 22/10/18 | 67 | Issue for Review | 68 | 22/10/18 |
| 69 | Issue for Review | 70 | 22/10/18 | 71 | Issue for Review | 72 | 22/10/18 |
| 73 | Issue for Review | 74 | 22/10/18 | 75 | Issue for Review | 76 | 22/10/18 |
| 77 | Issue for Review | 78 | 22/10/18 | 79 | Issue for Review | 80 | 22/10/18 |
| 81 | Issue for Review | 82 | 22/10/18 | 83 | Issue for Review | 84 | 22/10/18 |
| 85 | Issue for Review | 86 | 22/10/18 | 87 | Issue for Review | 88 | 22/10/18 |
| 89 | Issue for Review | 90 | 22/10/18 | 91 | Issue for Review | 92 | 22/10/18 |
| 93 | Issue for Review | 94 | 22/10/18 | 95 | Issue for Review | 96 | 22/10/18 |
| 97 | Issue for Review | 98 | 22/10/18 | 99 | Issue for Review | 100 | 22/10/18 |





| | |
|-------------------|-----------------|
| Vehicle | Holroyd Council |
| Width | 2.50 meters |
| Wheelbase | 2.54 meters |
| Turn to Lock Time | 2.04 seconds |
| Steering Angle | 36.5 degrees |



CARSPACE TRUCK LOADING BAY ENTRY & EXIT (SW)
SCALE 1:200

| Item | Description | Qty | Unit | Value |
|------|-----------------------|-----|----------------|-------|
| 1 | Excavate and backfill | 1 | m ³ | 1.00 |
| 2 | Excavate and backfill | 1 | m ³ | 1.00 |
| 3 | Excavate and backfill | 1 | m ³ | 1.00 |
| 4 | Excavate and backfill | 1 | m ³ | 1.00 |
| 5 | Excavate and backfill | 1 | m ³ | 1.00 |
| 6 | Excavate and backfill | 1 | m ³ | 1.00 |
| 7 | Excavate and backfill | 1 | m ³ | 1.00 |
| 8 | Excavate and backfill | 1 | m ³ | 1.00 |
| 9 | Excavate and backfill | 1 | m ³ | 1.00 |
| 10 | Excavate and backfill | 1 | m ³ | 1.00 |
| 11 | Excavate and backfill | 1 | m ³ | 1.00 |
| 12 | Excavate and backfill | 1 | m ³ | 1.00 |
| 13 | Excavate and backfill | 1 | m ³ | 1.00 |
| 14 | Excavate and backfill | 1 | m ³ | 1.00 |
| 15 | Excavate and backfill | 1 | m ³ | 1.00 |
| 16 | Excavate and backfill | 1 | m ³ | 1.00 |
| 17 | Excavate and backfill | 1 | m ³ | 1.00 |
| 18 | Excavate and backfill | 1 | m ³ | 1.00 |
| 19 | Excavate and backfill | 1 | m ³ | 1.00 |
| 20 | Excavate and backfill | 1 | m ³ | 1.00 |
| 21 | Excavate and backfill | 1 | m ³ | 1.00 |
| 22 | Excavate and backfill | 1 | m ³ | 1.00 |
| 23 | Excavate and backfill | 1 | m ³ | 1.00 |
| 24 | Excavate and backfill | 1 | m ³ | 1.00 |
| 25 | Excavate and backfill | 1 | m ³ | 1.00 |
| 26 | Excavate and backfill | 1 | m ³ | 1.00 |
| 27 | Excavate and backfill | 1 | m ³ | 1.00 |
| 28 | Excavate and backfill | 1 | m ³ | 1.00 |
| 29 | Excavate and backfill | 1 | m ³ | 1.00 |
| 30 | Excavate and backfill | 1 | m ³ | 1.00 |
| 31 | Excavate and backfill | 1 | m ³ | 1.00 |
| 32 | Excavate and backfill | 1 | m ³ | 1.00 |
| 33 | Excavate and backfill | 1 | m ³ | 1.00 |
| 34 | Excavate and backfill | 1 | m ³ | 1.00 |
| 35 | Excavate and backfill | 1 | m ³ | 1.00 |
| 36 | Excavate and backfill | 1 | m ³ | 1.00 |
| 37 | Excavate and backfill | 1 | m ³ | 1.00 |
| 38 | Excavate and backfill | 1 | m ³ | 1.00 |
| 39 | Excavate and backfill | 1 | m ³ | 1.00 |
| 40 | Excavate and backfill | 1 | m ³ | 1.00 |
| 41 | Excavate and backfill | 1 | m ³ | 1.00 |
| 42 | Excavate and backfill | 1 | m ³ | 1.00 |
| 43 | Excavate and backfill | 1 | m ³ | 1.00 |
| 44 | Excavate and backfill | 1 | m ³ | 1.00 |
| 45 | Excavate and backfill | 1 | m ³ | 1.00 |
| 46 | Excavate and backfill | 1 | m ³ | 1.00 |
| 47 | Excavate and backfill | 1 | m ³ | 1.00 |
| 48 | Excavate and backfill | 1 | m ³ | 1.00 |
| 49 | Excavate and backfill | 1 | m ³ | 1.00 |
| 50 | Excavate and backfill | 1 | m ³ | 1.00 |
| 51 | Excavate and backfill | 1 | m ³ | 1.00 |
| 52 | Excavate and backfill | 1 | m ³ | 1.00 |
| 53 | Excavate and backfill | 1 | m ³ | 1.00 |
| 54 | Excavate and backfill | 1 | m ³ | 1.00 |
| 55 | Excavate and backfill | 1 | m ³ | 1.00 |
| 56 | Excavate and backfill | 1 | m ³ | 1.00 |
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| 60 | Excavate and backfill | 1 | m ³ | 1.00 |
| 61 | Excavate and backfill | 1 | m ³ | 1.00 |
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| 65 | Excavate and backfill | 1 | m ³ | 1.00 |
| 66 | Excavate and backfill | 1 | m ³ | 1.00 |
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| 77 | Excavate and backfill | 1 | m ³ | 1.00 |
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| 81 | Excavate and backfill | 1 | m ³ | 1.00 |
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| 83 | Excavate and backfill | 1 | m ³ | 1.00 |
| 84 | Excavate and backfill | 1 | m ³ | 1.00 |
| 85 | Excavate and backfill | 1 | m ³ | 1.00 |
| 86 | Excavate and backfill | 1 | m ³ | 1.00 |
| 87 | Excavate and backfill | 1 | m ³ | 1.00 |
| 88 | Excavate and backfill | 1 | m ³ | 1.00 |
| 89 | Excavate and backfill | 1 | m ³ | 1.00 |
| 90 | Excavate and backfill | 1 | m ³ | 1.00 |
| 91 | Excavate and backfill | 1 | m ³ | 1.00 |
| 92 | Excavate and backfill | 1 | m ³ | 1.00 |
| 93 | Excavate and backfill | 1 | m ³ | 1.00 |
| 94 | Excavate and backfill | 1 | m ³ | 1.00 |
| 95 | Excavate and backfill | 1 | m ³ | 1.00 |
| 96 | Excavate and backfill | 1 | m ³ | 1.00 |
| 97 | Excavate and backfill | 1 | m ³ | 1.00 |
| 98 | Excavate and backfill | 1 | m ³ | 1.00 |
| 99 | Excavate and backfill | 1 | m ³ | 1.00 |
| 100 | Excavate and backfill | 1 | m ³ | 1.00 |

CALDER FLOWER
12, 140 WENTWORTH STREET, CHERRIDALE NSW

Taylor Thomson Whiting
Consulting Engineers
40 DUNDAS STREET, SYDNEY NSW 2008
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www.taylor-thomson-whiting.com.au

Project
ALLIANCE PEARLWY
11 PASTORAL CIRCUIT
PEARLWY 2145 NSW
MAIN WORKS

Turned Engineer
TURNING PATH FOR
LOADING DOCK

PRELIMINARY

Scale: A1
Date: 15/10/19
Drawing No: SKC 13
Revision: P6

| Task | Participants | Exp | Dist | Time | Exp | Dist | Time | Exp | Dist | Time |
|-----------------------------|--------------|-----|--------|------|-----|------|------|-----|------|------|
| 1. OAT for identification | 52 | 50 | 0.0011 | | | | | | | |
| 2. OAT for identification | 52 | 50 | 0.0011 | | | | | | | |
| 3. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 4. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 5. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 6. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 7. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 8. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 9. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 10. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 11. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 12. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 13. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 14. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 15. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 16. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 17. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 18. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 19. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 20. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 21. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 22. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 23. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 24. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 25. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 26. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 27. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 28. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 29. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 30. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 31. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 32. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 33. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 34. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 35. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 36. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 37. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 38. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 39. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 40. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 41. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 42. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 43. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 44. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 45. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 46. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 47. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 48. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 49. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 50. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 51. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 52. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 53. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 54. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 55. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 56. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 57. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 58. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 59. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 60. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 61. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 62. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 63. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 64. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 65. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 66. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 67. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 68. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 69. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 70. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 71. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 72. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 73. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 74. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 75. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 76. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 77. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 78. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 79. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 80. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 81. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 82. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 83. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 84. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 85. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 86. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 87. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 88. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 89. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 90. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 91. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 92. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 93. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 94. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 95. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 96. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 97. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 98. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 99. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |
| 100. OAT for identification | 52 | 49 | 0.0011 | | | | | | | |

CALDER FLOWER
12 140 MYRTLE STREET, CHIPPENDALE NSW

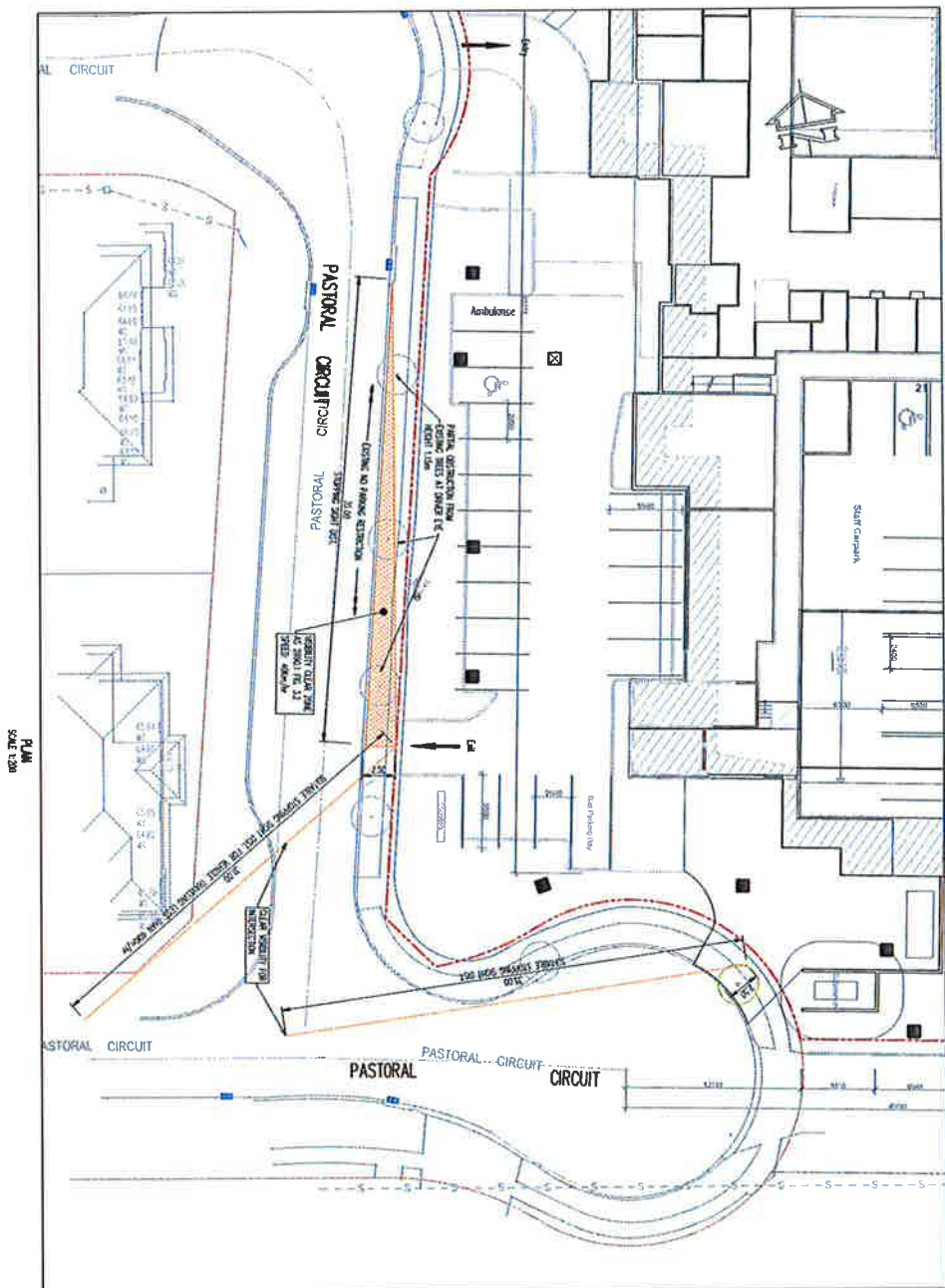


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ALITY PEMULWY
11 PASTORAL CIRCUIT
PEMULWY 2145 NSW
MAIN WORKS

VISIBILITY CHECK

PRELIMINARY



PLAN
SCALE 1:200

| Year: A) | Cost | Revenue |
|----------|------|---------|
| 1,200 | 20 | |

