



1544 Castlereagh Highway Galambine

Traffic Impact Assessment

Gooree Park Mudgee

23 September 2024

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CONTENTS

	Page
1. INTRODUCTION	1
1.1 Overview	1
1.2 Proposed Development	1
1.3 Scope of Works	2
2. CONTEXT	3
2.1 Road Network	3
3. TRAFFIC ASSESSMENT	4
3.1 Overview	4
3.1 Background Traffic Volumes	4
3.1.1 Traffic Survey Data	4
3.1.2 Traffic Growth Rate	4
3.2 Development Traffic	5
3.2.1 Overview	5
3.2.2 External Traffic Distribution	8
3.3 Assessed Traffic Volume Scenarios	8
3.4 Study Intersection Assessment Results	9
4. TRAFFIC LAYOUT REVIEW	11
4.1 Site Access	11
4.2 Car Parking Provision	11
4.3 Servicing	12
5. SUMMARY	13

Tables

Table 1.1: Overview – Existing & Proposed Development Arrangements (Changed / New)
Table 2.1: Key Roads
Table 2.2: Key Intersection
Table 3.1: Existing & Proposed Trips – Typical Daily Weekday Trips
Table 3.2: Existing & Proposed Trips – Saturday with Large Event
Table 3.3: Adopted External Traffic Distribution
Table 3.4: Study Intersection – SIDRA Results Summary
Table 4.1: Site Access Sight Distance Review

Figures

Figure 1.1: Overview – Existing & Proposed Cellar Door Facilities
Figure 2.1: Surrounding Road Network
Figure 3.1: Study Intersection – SIDRA Layout
Figure 4.1: Site Access Location

Appendices

Appendix A: Development Plans
Appendix B: Traffic Survey Data
Appendix C: Traffic Generation Calculations & Assessed Traffic Volumes
Appendix D: SIDRA Outputs
Appendix E: Swept Path Diagrams

1. INTRODUCTION

1.1 Overview

Bitzios Consulting (Bitzios) has been engaged by Gooree Park Stud Pty Ltd (applicant) to provide traffic engineering advice in relation to a proposed development at Gooree Park which is located at 1544 Castlereagh Highway, Galambine (subject site)

The subject site is formally described as Lot 17 on DP755431 and Lot 810 on DP131781 and is located within the Mid-Western Regional Council (Council) local government area.

1.2 Proposed Development

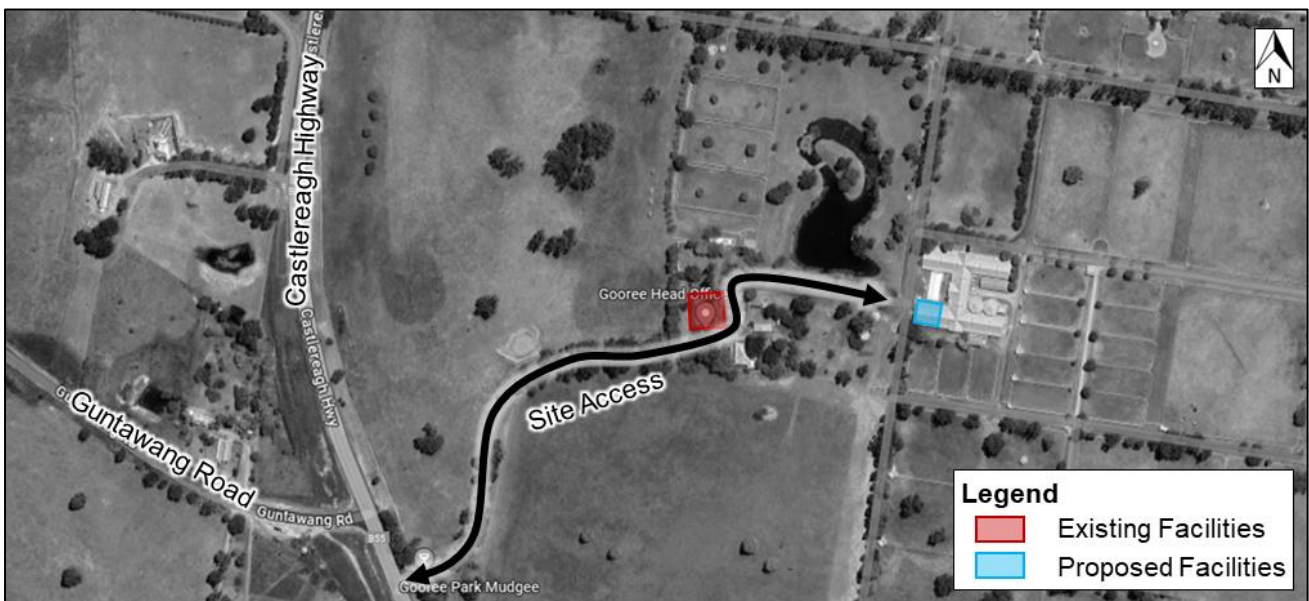
Two (2) separate applications are to be lodged with Council, seeking modification of two (2) existing approvals (from 2007 and 2016).

The 2007 approval was for a cellar door premises. It is now proposed to relocate the cellar door to a different location on the subject site and increase its capacity.

The 2016 approval allowed events to be held at the subject site. The number of functions to be held at the subject site are now proposed to be increased.

This traffic impact assessment report assesses the cumulative impacts of the modifications proposed as part of the two (2) separate applications.

Figure 1.1 shows the existing and proposed cellar door facilities.



Source: Google Maps

Figure 1.1: Overview – Existing & Proposed Cellar Door Facilities

Importantly, in addition to the cellar door, office, farm, and horse stud uses currently operate on the subject site. No changes to the office, farm and horse stud uses are proposed.

Table 1.1 details proposed changes to existing development arrangements and proposed new development arrangements.

Table 1.1: Overview – Existing & Proposed Development Arrangements (Changed / New)

Consideration	Existing	Proposed
Cellar Door Capacity	50 persons	85 persons
Event Capacity	Up to 400 persons	Up to 200 persons*
Event Frequency	5 per year	10 to 15 per year
Car Parking Spaces	22 spaces	45 spaces including 3 PWD spaces
Site Access	Via a driveway crossover on Castlereagh Highway, ~75m south of Guntawang Road	

**Note: Not all events are expected to be attended by 200 persons.*

It is noted that the following annual events have been held in recent years:

- Bubbly Breakfasts on Saturday mornings in February and September, from 7:00am to 10:00am – up to 24 persons
- Open Air (Shakespeare in the Vines) on one (1) Saturday or Sunday, from 3.30pm to 7.30pm – up to 400 persons
- Melbourne Cup on Melbourne Cup Day from 12:00pm to 5:00pm – up to 250 persons
- High Tea in the Stables on one (1) Saturday from 12:00pm to 5:00pm – up to 80 persons
- Wagyu BBQ on three (3) days (Saturdays or Sundays) from 12:00pm to 3:00pm.

It is proposed that all but the Shakespeare in the Vines event will continue to be held onsite.

Further details regarding the expected size and frequency of events now proposed are noted below:

- 25 to 50 person events – 4 per year
- 100 to 200 person events – 8 per year
- 200 to 250 person events – 1 per year.

1.3 Scope of Works

The following key tasks were completed as part of preparing this Traffic Impact Assessment (TIA):

- Reviewing the existing traffic and transport arrangements near the subject site
- Estimating the proposed development's traffic generation and undertaking SIDRA analysis at the Castlereagh Highway / Site Access intersection
- Reviewing the site access arrangements against Council's Development Control Plan (DCP) and Australian Standards (AS2890)
- Reviewing the car parking provisions
- Reviewing the proposed servicing and refuse collection arrangements.

2. CONTEXT

2.1 Road Network

Figure 2.1 identifies key elements of the existing road network near the proposed development.



Source: Google Maps

Figure 2.1: Surrounding Road Network

Table 2.1 provides details of the key existing roads near the proposed development.

Table 2.1: Key Roads

Road Name	Jurisdiction	Hierarchy	Cross-Section	Speed Limit
Castlereagh Highway	TfNSW	Arterial Road	2 lanes, undivided	100km/h
Guntawang Road	TfNSW	Arterial Road	2 lanes, undivided	-

Table 2.2 provides details of the key existing intersection near the proposed development.

Table 2.2: Key Intersection

Intersection Name	Jurisdiction	Type
Castlereagh Highway / Guntawang Road	TfNSW	Priority-Controlled

3. TRAFFIC ASSESSMENT

3.1 Overview

Operational (SIDRA) analysis has been undertaken at the Castlereagh Highway / Site Access intersection (study intersection) to assess the potential development generated traffic impacts.

It is noted that development traffic volumes are expected to peak outside of road peak periods. Accordingly, a review of background (general) traffic and expected development traffic demands across the week was undertaken to determine when overall study intersection traffic volumes are expected to be highest. Based on the findings of this review, the following peak periods have been assessed:

- Weekday:
 - AM Peak: 8:00am to 9:00am (road peak)
 - PM Peak: 5:00pm to 6:00pm (road peak).
- Saturday:
 - PM Peak: 1:00pm-2:00pm (development peak).

Further details relating to how the above peak periods have been identified are included herein.

3.1 Background Traffic Volumes

3.1.1 Traffic Survey Data

Pneumatic tube traffic surveys were undertaken along Castlereagh Highway near the study intersection from Sunday 4th February 2024 to Saturday 10th February 2024. A copy of the traffic survey data is included at **Appendix B**.

The following road peak periods have been identified based on the survey results:

- Weekday (Thursday):
 - AM Peak Period: 8:00am to 9:00am
 - PM Peak Period: 5:00pm to 6:00pm.
- Saturday:
 - AM Peak Period: 11:00am to 12:00pm
 - PM Peak Period: 1:00pm to 2:00pm.

A review of the survey results indicated that the highest weekday background / Castlereagh Highway (non-development) traffic volumes were recorded on Thursday. Hence, Thursday traffic volumes have been assessed.

On the weekend, the highest Castlereagh Highway traffic volumes were recorded on Saturday. The applicant also indicated that most large events are expected to be held on Saturday. Hence, Saturday traffic volumes have been assessed.

However, a review of the Saturday survey results and expected development traffic generation indicated that total (i.e. background + development) study intersection traffic volumes during the Saturday AM road peak would be significantly lower than those of the Saturday PM road peak. Therefore, only Saturday PM road peak volumes have been assessed.

3.1.2 Traffic Growth Rate

For the purposes of the analysis detailed herein, a linear growth rate of 2.0%p.a. has been applied to estimate future background traffic volumes.

3.2 Development Traffic

3.2.1 Overview

It is noted that as pneumatic tube traffic surveys were undertaken along Castlereagh Highway, they did not identify traffic demands currently generated by the subject site. Therefore, to assess study intersection volumes, both existing and proposed development traffic volumes needed to be estimated.

The applicant indicated that larger events are expected to be weddings and held on Saturdays. Hence, why Saturday traffic volumes have been assessed in addition to weekday volumes.

We have taken a first-principles approach (i.e. based on expected development usage and operation characteristics) to estimate development traffic generation in 60-minute intervals on weekdays and on Saturdays.

3.2.1.1 Traffic Volumes – Typical Weekday

We note the following site-specific operational characteristics for a typical weekday (prior to an event) at the subject site based on information provided by the client:

- Days: Monday to Friday
- Typical Opening / Operating Times
 - Cellar Door: 10:00am to 5:00pm
 - Gooree Wine Office: 8:00am to 5:00pm
 - Farm: 8:00am to 5:00pm
 - Horse Stud: Monday to Thursday 7:00am to 4:00pm & Friday 7:00am to 1:00pm.
- Cellar Door Patrons:
 - Existing – 10 persons | Proposed – 20 persons
 - Travel Mode and Occupancy: 100% private car with an average of 2 persons per car (N.B. Some cellar door visitors are expected to arrive by mini-buses or vans with 6-8 people however)
 - Arrive: Periodically between 9:00am to 4:00pm
 - Depart: Periodically between 10:00am to 5:00pm (assumed duration of stay of 1 hour).
- Staff – Cellar Door:
 - Existing – 1 staff member | Proposed – 3 staff members
 - Travel Mode and Occupancy: 100% private car with 1 person per car
 - Arrive: Between 8:00am and 9:00am
 - Depart: Between 5:00pm and 6:00pm.
- Staff – Gooree Wine Office:
 - Existing – 5 staff members | Proposed – 5 staff members
 - Travel Mode and Occupancy: 100% private car with 1 person per car
 - Arrive: Between 8:00am and 9:00am
 - Depart: Between 5:00pm and 6:00pm.
- General Deliveries:
 - Existing – 5 deliveries | Proposed – 5 deliveries
 - Arrive and depart within the hour: 2 between 8:00am and 9:00am, 1 at between 12:00pm and 1:00pm and 2 between 5:00pm and 6:00pm.

- **Function Deliveries:**
 - Existing – 0 deliveries | Proposed – 2 deliveries
 - Arrive and depart within the hour: 1 between 9:00am and 10:00am and 1 between 10:00am and 11:00am.
- **Farm Trips:**
 - Existing – 5 vehicles entering and exiting | Proposed – 5 vehicles entering and exiting
 - Arrive: Periodically between 8:00am and 3:00pm
 - Depart: Periodically between 11:00am and 6:00pm.
- **Horse Stud Trips:**
 - Existing – 10 vehicles entering and exiting | Proposed – 10 vehicles entering and exiting
 - Arrive: Periodically between 8:00am and 4:00pm
 - Depart: Periodically between 8:00am and 4:00pm.

Table 3.1 summarises the estimated number of trips on a typical weekday based on existing and proposed operations.

Table 3.1: Existing & Proposed Trips – Typical Daily Weekday Trips

Persons / Vehicles	Existing	Proposed
Cellar Door Guests	10 trips (5 in, 5 out)	20 trips (10 in, 10 out)
Staff – Cellar Door	2 trips (1 in, 1 out)	6 trips (3 in, 3 out)
Staff – Gooree Wine Office	10 trips (5 in, 5 out)	10 trips (5 in, 5 out)
General Deliveries ¹	10 trips (5 in, 5 out)	10 trips (5 in, 5 out)
Function Deliveries	0 trips	4 trips (2 in, 2 out)
Farm Trips	10 trips (5 in, 5 out)	10 trips (5 in, 5 out)
Horse Stud Trips	20 trips (10 in, 10 out – 5 in trips occur before 8:00am)	20 trips (10 in, 10 out – 5 in trips occur before 8:00am)
Total	62 trips (31 in, 31 out)	80 trips (40 in, 40 out)

¹ Wine freight, miscellaneous, water, waste collection.

It is important to note that the above volumes are estimated daily traffic volumes. Traffic volumes during single hours of the day are expected to be much lower.

Detailed calculations and tables identifying expected traffic movements across the day are included at **Appendix B**.

3.2.1.2 Traffic Volumes – Saturday with Large Event

Subject site traffic volumes in this scenario have been estimated assuming a large 200-person event is being held on a long weekend, when cellar door patronage is higher than usual. Given the infrequency of large events and long-weekends, it is unlikely that such circumstances will arise. Further, our “existing” scenario traffic volume estimates assume that no function is being held onsite.

Accordingly, our traffic assessment is considered conservative.

We note the following site-specific operational characteristics for a Saturday when a large event is being held at the subject site, based on information provided by the client:

- Day: Saturday
- Number of guests: 200 persons (maximum expected)

- **Typical Opening / Operating Times**
 - Cellar Door: 10:00am to 5:00pm
 - Gooree Staff – Function: 12:00pm to 11:30pm
 - Farm: 8:00am to 5:00pm
 - Horse Stud: 4:00am to 1:00pm
 - Event: 3:00pm to 11:30pm.
- **Cellar Door Patrons:**
 - Existing – 20 persons | Proposed – 50 persons
 - Travel Mode and Occupancy: 100% private car with an average of 2 persons per car
 - Arrive: Periodically between 9:00am to 4:00pm
 - Depart: Periodically between 10:00am to 5:00pm (assumed duration of stay of 1 hour).
- **Staff – Cellar Door:**
 - Existing – 2 staff members | Proposed – 2 staff members
 - Travel Mode and Occupancy: 100% private car with 1 person per car
 - Arrive: Between 8:00am and 9:00am
 - Depart: Between 5:00pm and 6:00pm.
- **Event (Wedding) Patrons:**
 - Existing – 0 persons | Proposed – 200 persons
 - Travel Mode and Occupancy: 30% private car with 3 persons per car and 70% mini-bus with 12 persons per mini-bus
 - Arrive: Between 1:00pm and 3:00pm
 - Depart: Between 11:00pm and 1:00am.
- **Gooree Staff - Function:**
 - Existing – 0 staff members | Proposed – 2 staff members
 - Travel Mode and Occupancy: 100% private car with 1 person per car
 - Arrive: Between 12:00pm and one at 2:00pm
 - Depart: Between 11:00pm and 1:00am.
- **Casual Staff - Function:**
 - Existing – 0 staff members | Proposed – 10 staff members
 - Travel Mode and Occupancy: 100% private car with 1 person per car
 - Arrive: Between 10:00am and 3:00pm
 - Depart: Between 8:00pm and 1:00am.
- **Function Deliveries:**
 - Existing – 0 deliveries | Proposed – 3 deliveries
 - Arrive and depart within the hour: 1 between 10:00am and 11:00am, 1 between 11:00am and 12:00pm, and 1 between 12:00pm and 1:00pm.
- **Farm Trips:**
 - Existing – 5 vehicles entering and exiting | Proposed – 5 vehicles entering and exiting
 - Arrive: Periodically between 8:00am and 3:00pm
 - Depart: Periodically between 11:00am and 6:00pm.
- **Horse Stud Trips:**
 - Existing – 10 vehicles entering and exiting | Proposed – 10 vehicles entering and exiting
 - Arrive: Periodically between 4:00am and 1:00pm (5 trips between 8:00am and 1:00pm)
 - Depart: Periodically between 8:00am and 2:00pm.

Table 3.2 summarises the estimated number of trips on a Saturday held based on existing and proposed (assuming a large event is being held) operations.

Table 3.2: Existing & Proposed Trips – Saturday with Large Event

Persons / Vehicles	Existing	Proposed
Cellar Door Guests	20 trips (10 in, 10 out)	50 trips (25 in, 25 out)
Staff – Cellar Door	4 trips (2 in, 2 out)	4 trips (2 in, 2 out)
Event (Wedding) Patrons	0 trips	88 trips (44 in, 44 out)
Gooree Staff – Function	0 trips	4 trips (2 in, 2 out)
Casual Staff – Function	0 trips	20 trips (10 in, 10 out)
Function Deliveries	0 trips	6 trips (3 in, 3 out)
Farm Trips	10 trips (5 in, 5 out)	10 trips (5 in, 5 out)
Horse Stud Trips	20 trips (10 in, 10 out – 5 in trips occur before 8:00am)	20 trips (10 in, 10 out – 5 in trips occur before 8:00am)
Total	54 trips (27 in, 27 out)	202 trips (101 in, 101 out)

It is important to note that the above volumes are estimated daily traffic volumes. Traffic volumes during single hours of the day are expected to be much lower.

Detailed calculations and tables identifying expected traffic movements across the day are included at **Appendix B**.

3.2.2 External Traffic Distribution

Table 3.3 identifies the assessed external development traffic distribution which was identified considering development / trip attractors and generators surrounding the subject site.

Table 3.3: Adopted External Traffic Distribution

Direction	Proportion
North	25%
South	75%
Total	100%

3.3 Assessed Traffic Volume Scenarios

For the purposes of the traffic assessment, we have assumed the following:

- Development Year of Opening: 2025
- 10-years Post-Development Opening: 2035.

Traffic volumes have been derived and assessed for the following scenarios:

- **2024 Survey:** 2024 surveyed traffic volumes
- **2025 Background (BG):** 2024 survey volumes factored up by 2.0% per annum to 2025
- **2025 Background + Development (BG+DEV):** 2025 Background volumes + Development traffic volumes
- **2035 Background (BG):** 2024 survey volumes factored up by 2.0% per annum to 2035
- **2035 With Development (BG+DEV):** 2035 Background volumes + Development traffic volumes.

Figures identifying traffic volume calculations and assessed traffic volumes are included in **Appendix B**.

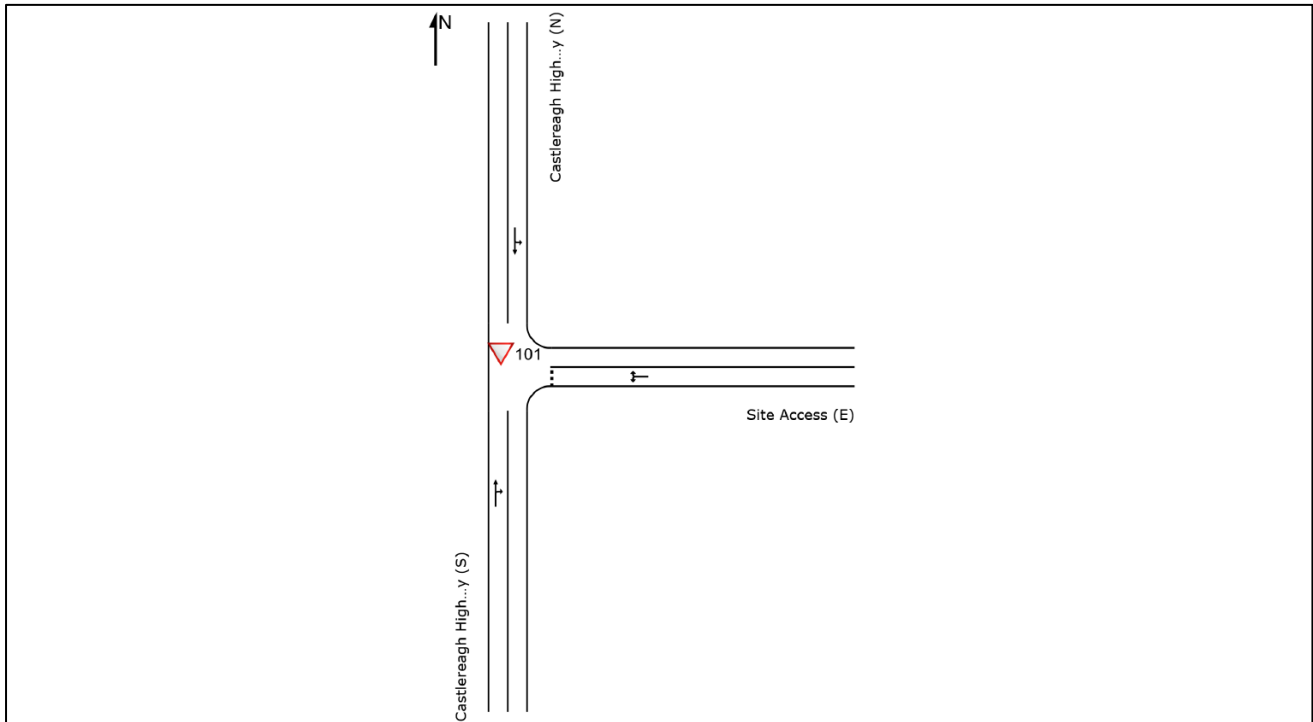
3.4 Study Intersection Assessment Results

Figure 3.1 illustrates the study intersection configuration assessed in SIDRA.

It is noted that the size of the Castlereagh Highway’s southbound carriageway shoulder near the site access meets the requirements for a rural Basic Left-Turn treatment (BAL), as identified in Austroads *Guide to Road Design Part 4a* (AGRD4a) (2023).

In addition, the northbound left turn lane provided for the Castlereagh Highway / Guntawang Road intersection could be used by motorists to manoeuvre around those waiting to turn right into the subject site.

Essentially, both left and right turn treatments are provided at the site access, increasing site access.



Source: SIDRA

Figure 3.1: Study Intersection – SIDRA Layout

The analysis results are summarised in Table 3.4 with detailed outputs included at **Appendix C**.

Table 3.4: Study Intersection – SIDRA Results Summary

Year	Peak	Scenario	Total Vehicles	Degree of Saturation (DOS)	Critical Delay (s)	95 th %ile Queue (m)
2025	Weekday AM	BG	325	0.11	8	0.5
	Weekday PM		324	0.11	8	0.2
	Saturday PM		216	0.06	8	0.1
	Weekday AM	BG+DEV	340	0.11	8	0.9
	Weekday PM		336	0.11	8	0.5
	Saturday PM		255	0.07	8	0.9
2035	Weekday AM	BG	386	0.13	8	0.5
	Weekday PM		384	0.13	8	0.2
	Saturday PM		256	0.08	8	0.1
	Weekday AM	BG+DEV	401	0.13	8	1.0
	Weekday PM		396	0.13	8	0.5
	Saturday PM		295	0.08	8	1.0

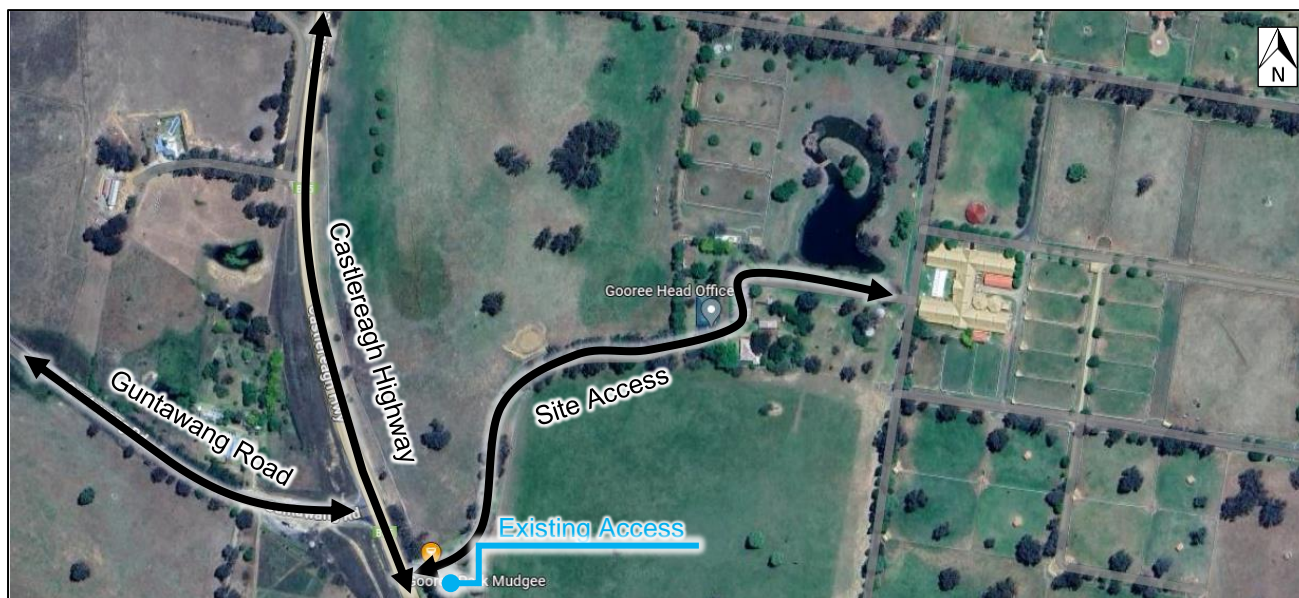
The results for each scenario indicate that the study intersection will perform well within typically adopted performance thresholds for a priority-controlled intersection (DOS < 0.80 and critical delay < 57 seconds). Development traffic will have negligible impact on intersection performance. Accordingly, no upgrades are warranted.

4. TRAFFIC LAYOUT REVIEW

4.1 Site Access

Vehicular access to the subject site is currently provided via a driveway crossover on the Castlereagh Highway, approximately 75m south of Guntawang Road. The access is also intended to support the proposed development.

Figure 4.1 identifies the access location.



Source: Google Maps

Figure 4.1: Site Access Location

Sight distances at the access have been reviewed against AS2890.1 as summarised in Table 4.1.

Table 4.1: Site Access Sight Distance Review

Speed Environment	Direction	Required Sight Distance	Available Sight Distance	Compliant
100km/h	North	160m	>160m	Yes
	South		>160m	Yes

As indicated above, sight distances at the access are expected to comply with AS2890.1 requirements.

Considering the above and the results of the SIDRA analysis (see Section 3.4) and the service vehicle swept path diagrams (see Section 4.3), no changes to the existing access arrangements are deemed necessary to support the proposed development.

4.2 Car Parking Provision

A total of 44 car parking spaces, including three (3) PWD spaces are to be provided as part of the development. A bus bay is also to be provided.

Further details regarding the 44 car parking spaces are included below:

- 6 spaces are existing and will support the Gooree Wine office use
- 16 spaces are existing and will support the functions use
- 22 spaces will be new and will support the cellar door and / or functions use

A review of the proposed cellar door and function car parking provision has been undertaken based on our first principles traffic generation estimates which indicates that:

- Less than five (5) car parking spaces are likely to be required to meet typical weekday (no events etc.) demands
- Approximately 40 car parking spaces may be required if a 200-person event is being held on Saturday.

Noting the above, the proposed car parking supply (i.e. 45 spaces) is expected to be more than sufficient to accommodate parking demands associated with typical day-to-day operations. However, car parking demands may exceed supply when large events (likely those attended by 100 to 200 persons) are being held.

Given less than 10 events each year are expected to be attended by 100 to 200 persons, providing formal car parking to accommodate associated demands is considered unnecessary. Particularly given we understand there is more than sufficient space on site that is relatively level to accommodate any overflow car parking demands.

In summary, the proposed formal car parking provision is considered acceptable from a traffic engineering perspective.

4.3 Servicing

The applicant has indicated that the proposed development is expected generate the need for servicing by up to refuse collection vehicle (RCV) sized vehicles. However, most servicing is expected to be completed by smaller vehicles such as small rigid vehicles (SRVs) and B99 cars (Vans).

Further, the proposed development is only expected to result in the occasional need for one (1) additional refuse collection per week.

It is understood that the development is currently serviced by RCVs, Medium Rigid Vehicle (MRVs) and smaller vehicles.

Swept path diagrams demonstrating service vehicle (i.e. RCV) manoeuvring at the site access is provided at **Appendix D**.

In summary, larger vehicles will not be required to service the subject site because of the proposed development, and the frequency of servicing by larger vehicles is not expected to significantly increase.

5. SUMMARY

Key findings are summarised below:

- SIDRA analysis completed at the Castlereagh Highway / Site Access intersection (study intersection) indicates that it will operate acceptably in all assessed scenarios. Development traffic will have negligible impact on intersection performance. Accordingly, no upgrades are warranted
- No changes to the access arrangement are proposed as part of the proposed development. Nor are they considered necessary given the results of the SIDRA analysis.
- The proposed formal car parking provision is considered acceptable from a traffic engineering perspective
- The development is not expected to significantly affect existing servicing arrangements. Swept path diagrams have been prepared which demonstrate that service vehicles can suitably enter and exit the subject site.

Based on the findings of this report, we are of the view that there are no traffic engineering related matters to preclude approval of this development application subject to reasonable and relevant conditions.

Appendix A: Development Plans

CASTLEREAGH

LOT 17
DP 755431

Boundary

Existing Internal Bitumen Roads

Existing Farm
Horse Barns

593m

Existing Farm
Horse Barn

Existing
Dam

547m

Proposed
Cellar Door

Proposed
Cellar Door
Accessible Toilet

Proposed Office
6 Car Parks
1 Accessible

Bus Parking

Rubble
Drain

3 Existing
Stormwater
Drainage Tanks

Proposed
15 Cellar Door
Car Parking Spaces

Existing
Septic

Proposed
7 Car Parks
1 Accessible

Existing
16 Car Parks
1 Accessible

Existing
Homestead

Existing Cellar
Door Entrance

CUDGEGONG

RIVER

HIGHWAY

B	SEPT 2024	G.D.	STORMWATER TANKS ADDED
A	JAN 2024	G.D.	ISSUED FOR APPROVAL

REV	DATE	BY	DESCRIPTION
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Giselle Denley
Drafting Services

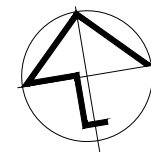
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Mudgee NSW 2850

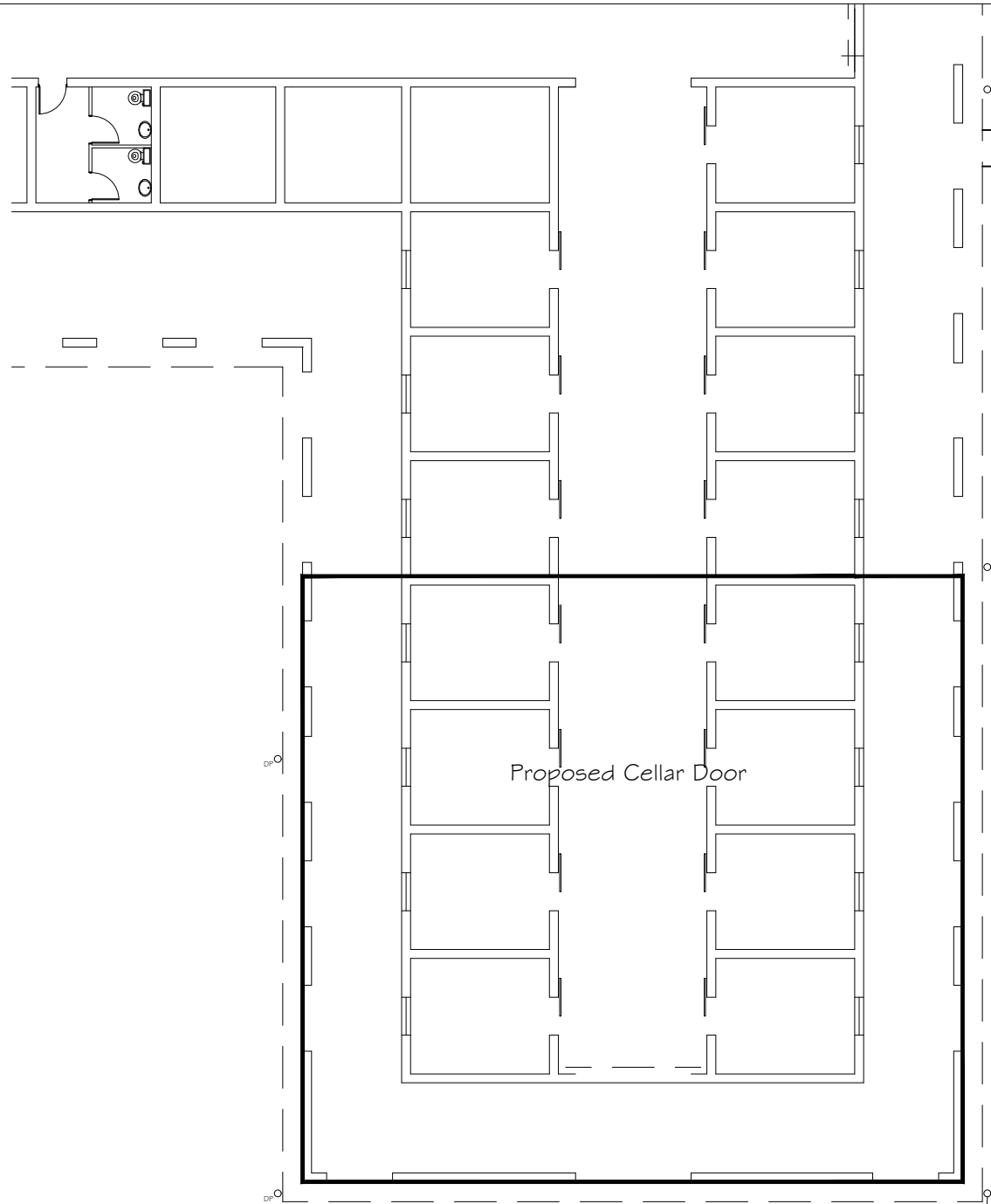
CLIENT:
GOOREE PARK

TITLE:
PROPOSED CELLAR DOOR
1544 CASTLEREAGH HWY, GALAMBINE

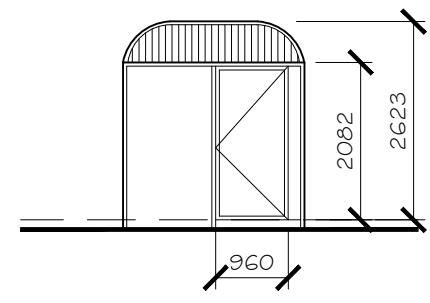
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PART SITE PLAN
SCALE 1:NTS

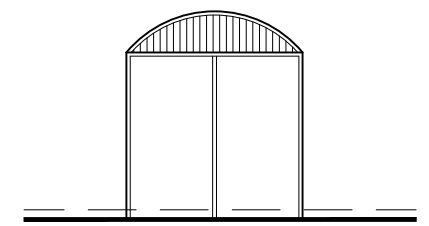




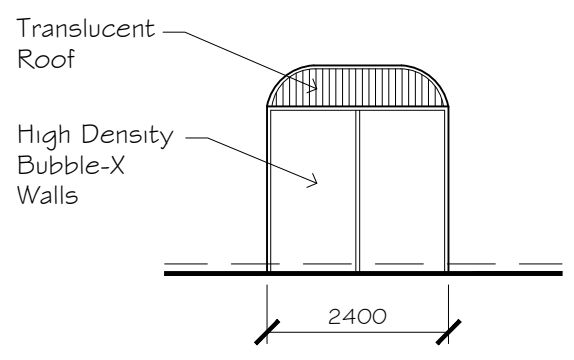
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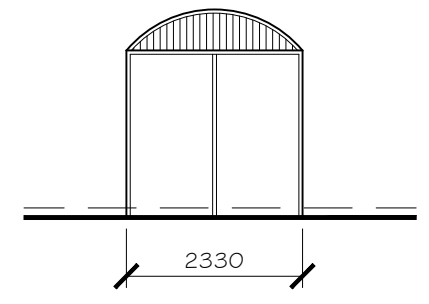
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SCALE 1:100



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SOUTH ELEVATION
SCALE 1:100



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EAST ELEVATION
SCALE 1:100

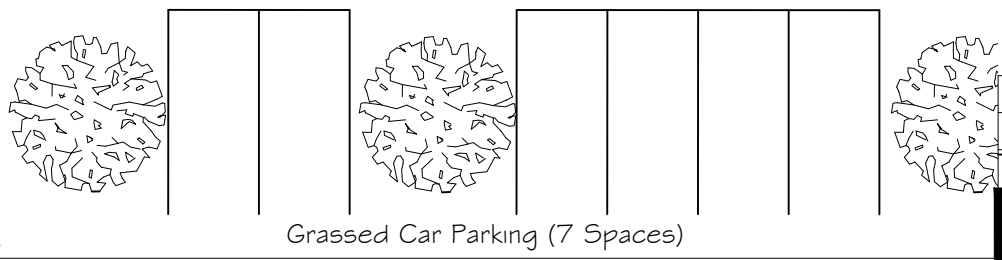
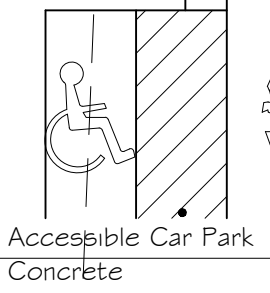


DISABLED TOILET
NORTH ELEVATION
SCALE 1:100

Existing Septic

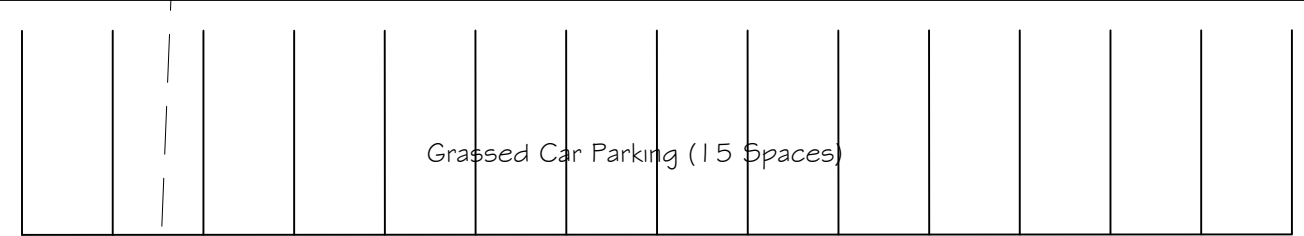
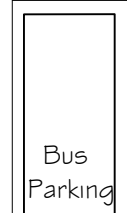
1:14 Disabled Access Ramp to AS 1428.1

CELLAR DOOR PART SITE PLAN
SCALE 1:200



Pipes to Existing Stormwater Tanks

Existing Bitumen Road

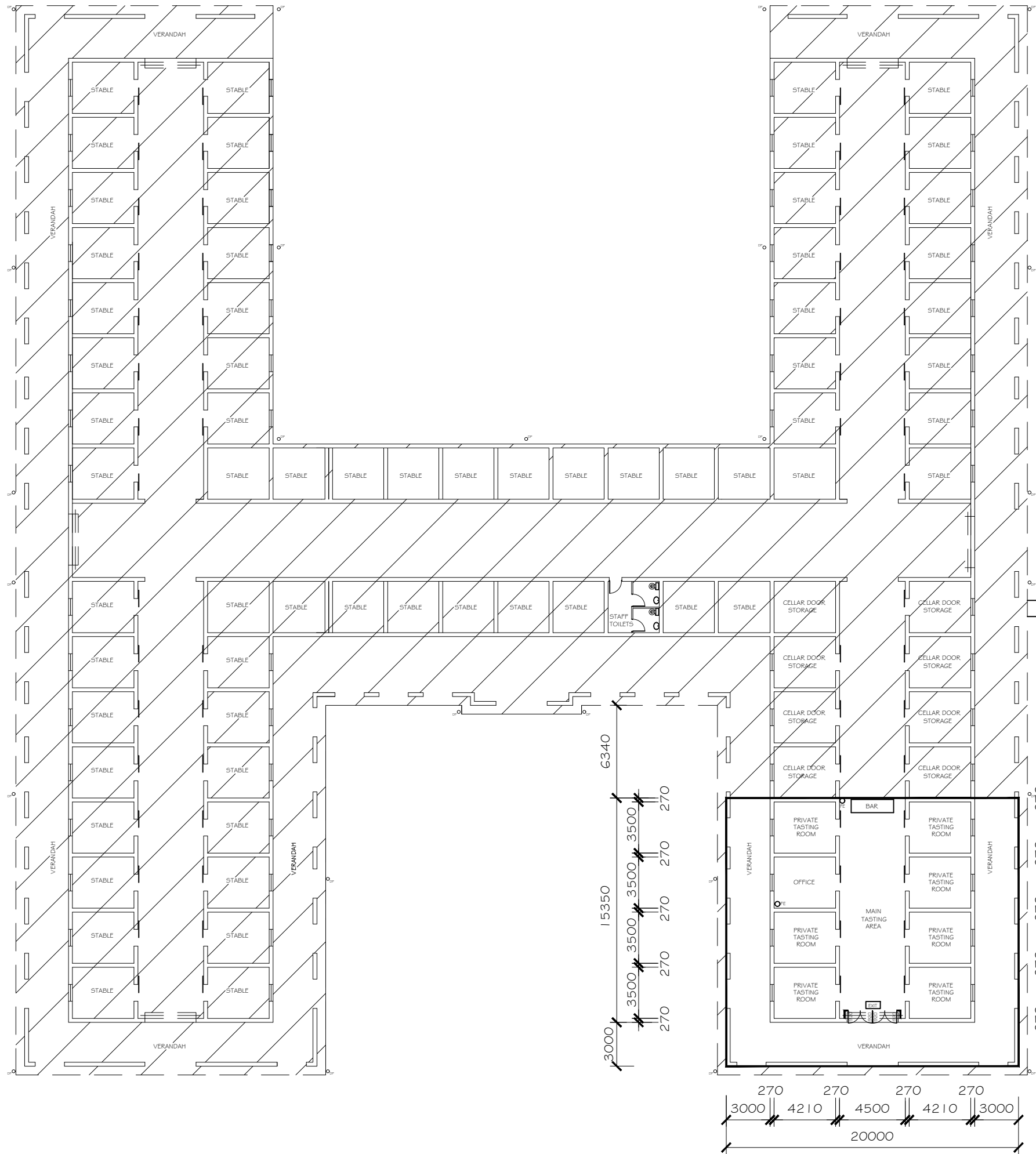


REV	DATE	BY	DESCRIPTION
B	SEPT 2024	G.D.	DISABLED TOILET ELEVATIONS ADDED
A	JAN 2024	G.D.	ISSUED FOR APPROVAL

Giselle Denley
Drafting Services

giselle.denley@bigpond.com
0417 688 326
53 Hill Sixty Drive
Mudgee NSW 2850

CLIENT: GOOREE PARK			
TITLE: PROPOSED CELLAR DOOR 1544 CASTLEREAGH HWY, GALAMBINE			
SCALE: 1:150	FILE: 3819-A01	DWG No.	REV.
DRAWN: G.D.	DATE: JAN 2024	3819-A05	B
CKD: B.P.	DATE: JAN 2024		



CELLAR DOOR FLOOR PLAN
SCALE 1:300

Floor Areas

Proposed Cellar Door = 215.00 m²

LEGEND

- FE Fire Extinguisher
- EXIT** Illuminated Exit Sign and Emergency Lighting

Disabled Toilet to AS 1428.1

1:14 Disabled Access Ramp to AS 1428.1

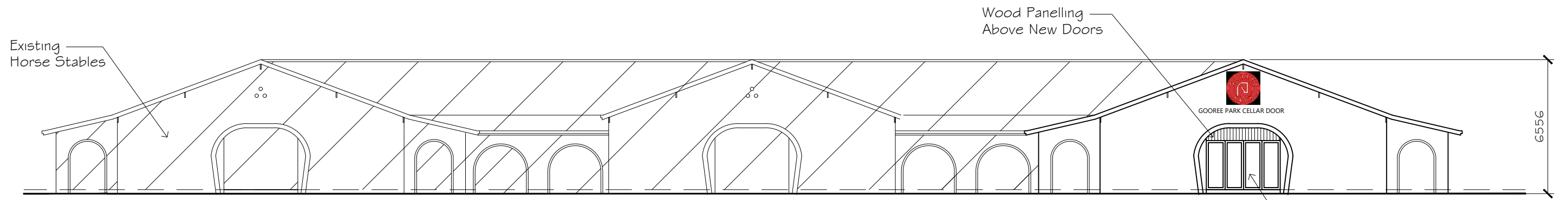
Existing Septic

REV	DATE	BY	DESCRIPTION
C	SEPT 2024	G.D.	CELLAR DOOR STORAGE ADDED
B	SEPT 2024	G.D.	FLOOR PLAN REVISED
A	JAN 2024	G.D.	ISSUED FOR APPROVAL

Giselle Denley
Drafting Services

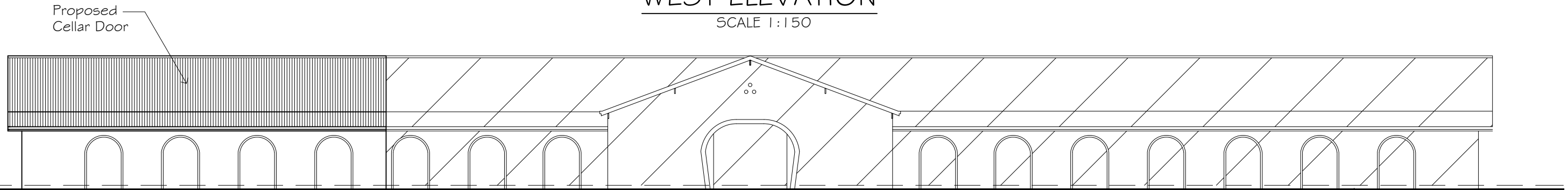
giselle.denley@bigpond.com
0417 688 326
53 Hill Sixty Drive
Mudgee NSW 2850

CLIENT: GOOREE PARK			
TITLE: PROPOSED CELLAR DOOR 1544 CASTLEREAGH HWY, GALAMBINE			
SCALE: 1:300	FILE: 3819-A01	DWG No.	REV.
DRAWN: G.D.	DATE: JAN 2024	3819-A06	C
CKD: B.P.	DATE: JAN 2024		



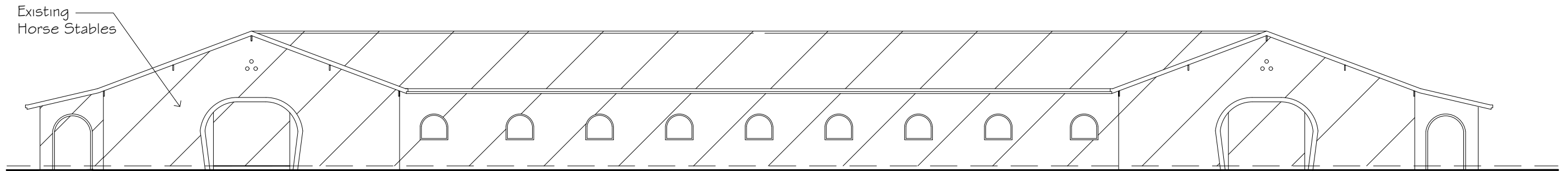
WEST ELEVATION

SCALE 1:150



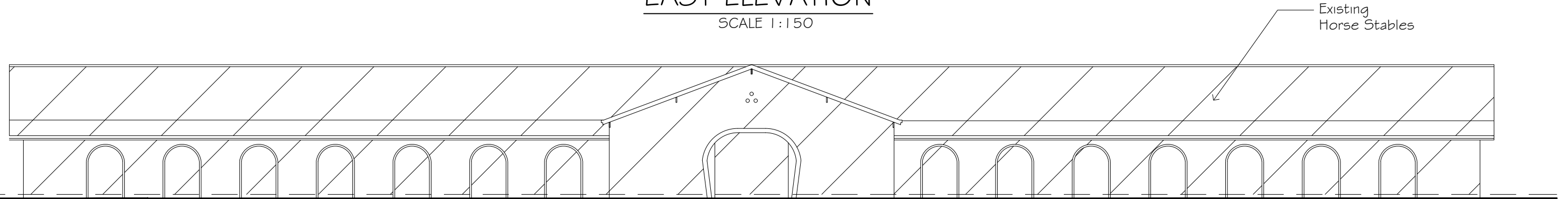
SOUTH ELEVATION

SCALE 1:150



EAST ELEVATION

SCALE 1:150



NORTH ELEVATION

SCALE 1:150

Giselle Denley
Drafting Services

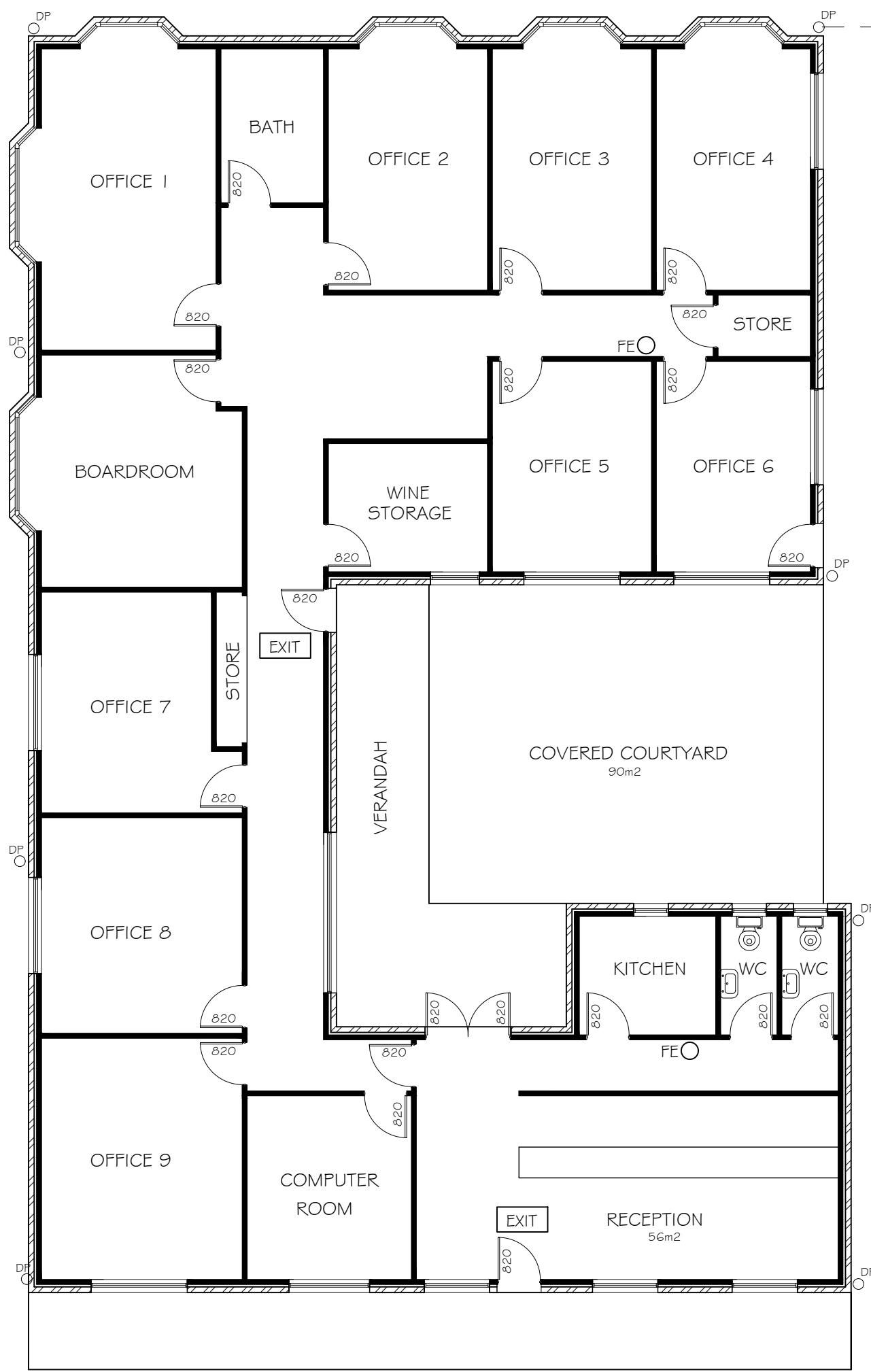
giselle.denley@bigpond.com
0417 688 326
53 Hill Sixty Drive
Mudgee NSW 2850

REV	DATE	BY	DESCRIPTION
A	SEPT 2024	G.D.	ISSUED FOR APPROVAL

GOOREE PARK

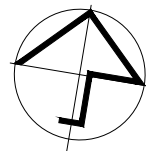
PROPOSED CELLAR DOOR
1544 CASTLEREAGH HWY, GALAMBINE

SCALE: 1:150	FILE: 3819-A01	DWG No.	REV.
DRAWN: G.D.	DATE: SEPT 2024	3819-A07	A
CKD: M.H.	DATE: SEPT 2024		



Stormwater Drains To The 3 Existing Stormwater tanks See Site Plan

PROPOSED OFFICE FLOOR PLAN
SCALE 1:100



LEGEND

- FE ○ Fire Extinguisher
- EXIT □ Illuminated Exit Sign and Emergency Lighting

Giselle Denley
Drafting Services
giselle.denley@bigpond.com
0417 688 326
53 Hill Sixty Drive
Mudgee NSW 2850

REV	DATE	BY	DESCRIPTION
B	SEPT 2024	G.D.	DRAWING TITLE CHANGED
A	MAY 2024	G.D.	ISSUED FOR APPROVAL

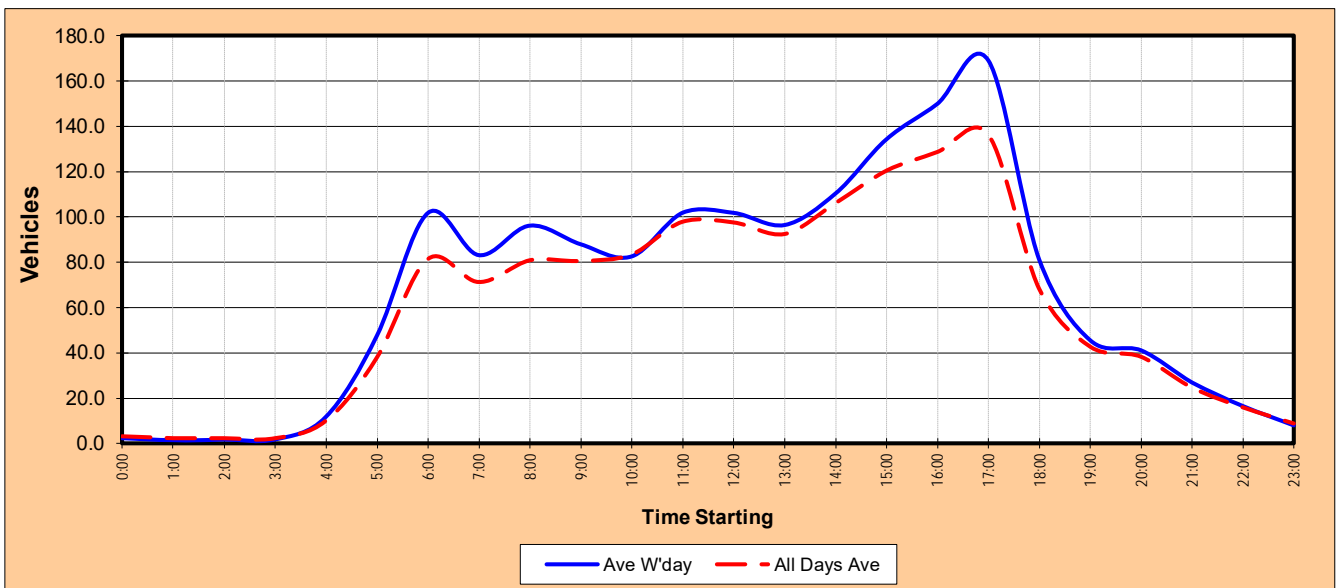
GOOREE PARK			
PROPOSED OFFICE BUILDING 1544 CASTLEREAGH HWY, GALAMBINE 2850			
SCALE: 1:100	FILE: 3819-A01	DWG No.	REV.
DRAWN: G.D.	DATE: MAY 2024	3819-A08	B
CKD: M.H.	DATE: MAY 2024		

Appendix B: Traffic Survey Data

Volume Summary

Road	Castlereagh Hwy	Average Weekday	1600
Location	To The North Of Gunlawang Road	All Day Average	1432
Suburb	Galambine	Weekday Heavy's	9.2%
Site No.	1010101	All Day Heavy's	8.5%
Start Date	Sunday 04/02/2024		
Direction	Northbound		

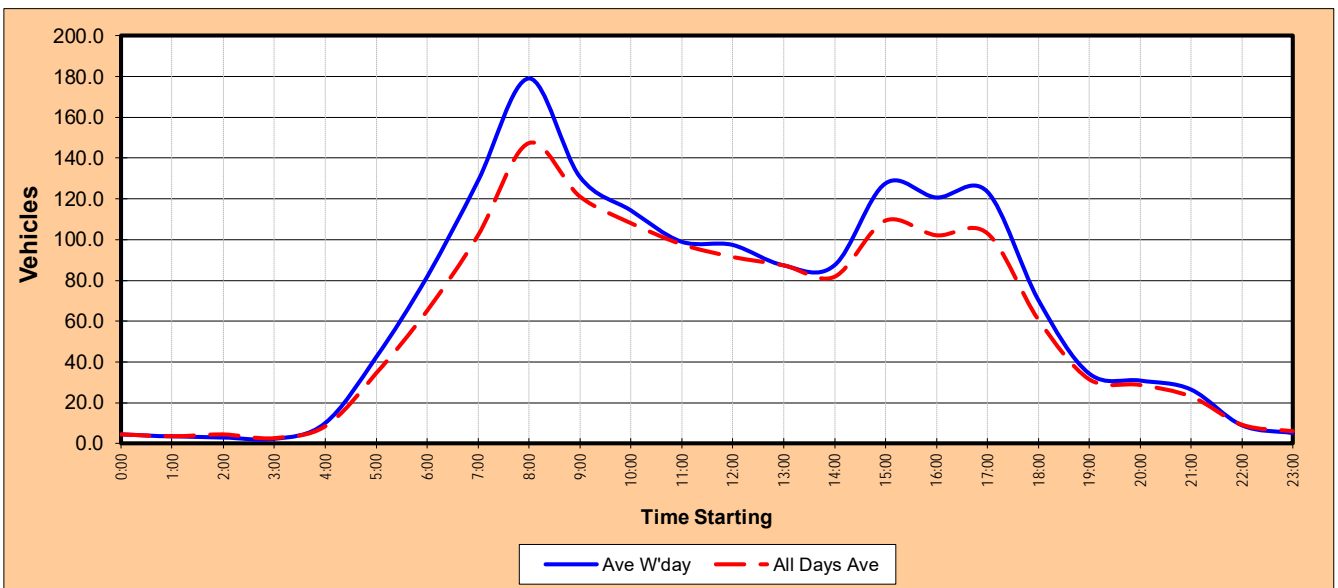
Starting Time	Day of Week							Ave W'day	All Days Ave
	Mon 5-Feb	Tue 6-Feb	Wed 7-Feb	Thu 8-Feb	Fri 9-Feb	Sat 10-Feb	Sun 4-Feb		
AM Peak	106	113	120	104	113	103	74		
PM Peak	159	172	168	182	183	112	84		
0:00	1	5	1	1	4	5	5	2	3
1:00	1	2	1	2	1	4	6	1	2
2:00	2	1	0	2	3	5	3	2	2
3:00	1	3	4	1	0	5	2	2	2
4:00	12	13	10	14	9	7	5	12	10
5:00	53	41	45	59	40	19	9	48	38
6:00	106	75	120	95	113	52	9	102	81
7:00	80	89	87	80	79	64	19	83	71
8:00	99	91	89	104	98	45	39	96	81
9:00	79	80	86	100	94	73	51	88	80
10:00	88	77	74	86	87	98	74	82	83
11:00	90	113	95	103	107	103	73	102	98
12:00	98	100	106	95	110	89	84	102	97
13:00	89	105	80	98	110	81	83	96	92
14:00	109	115	105	106	116	112	79	110	106
15:00	118	144	135	140	134	90	81	134	120
16:00	159	161	146	130	153	79	71	150	128
17:00	140	172	168	182	183	60	49	169	136
18:00	80	76	73	96	82	37	35	81	68
19:00	39	36	44	51	58	34	37	46	43
20:00	41	35	37	53	39	28	34	41	38
21:00	21	22	28	22	42	18	20	27	25
22:00	8	10	16	22	26	17	12	16	16
23:00	6	9	6	9	10	12	9	8	9
Total	1520	1575	1556	1651	1698	1137	889	1600	1432
% Heavy's	9.5%	9.3%	9.6%	9.3%	8.1%	6.4%	4.8%	9.2%	8.5%



Volume Summary

Road	Castlereagh Hwy	Average Weekday	1617
Location	To The North Of Gunlawang Road		
Suburb	Galambine	All Day Average	1433
Site No.	1010101	Weekday Heavy's	10.7%
Start Date	Sunday 04/02/2024	All Day Heavy's	10.4%
Direction	Southbound		

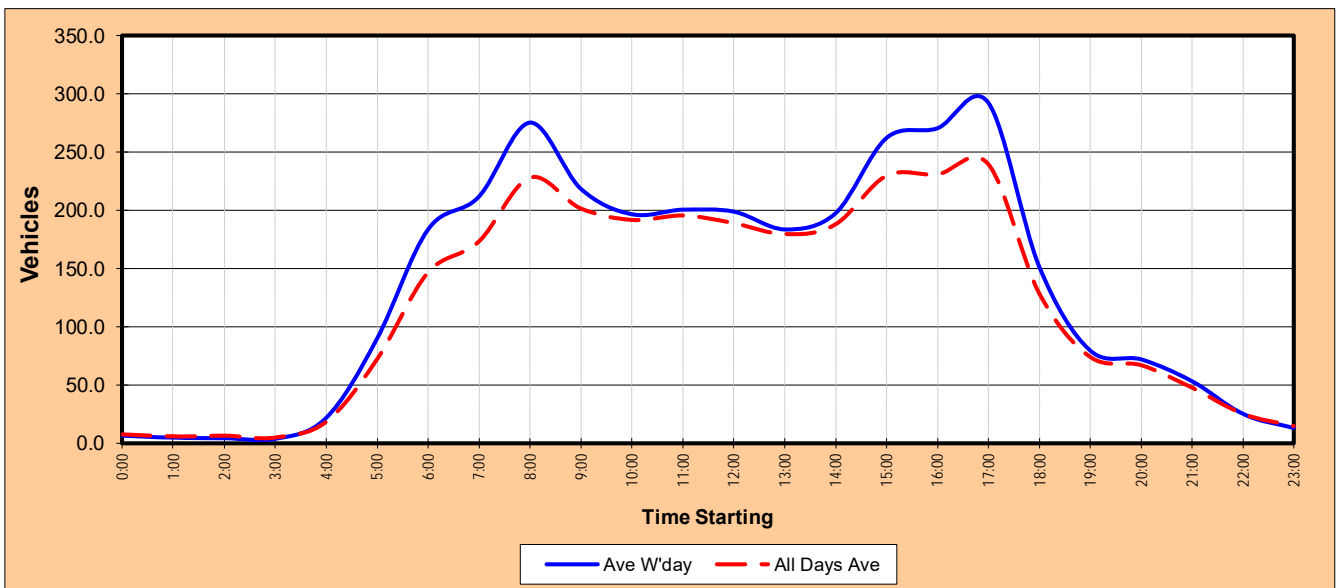
Starting Time	Day of Week							Ave W'day	All Days Ave
	Mon 5-Feb	Tue 6-Feb	Wed 7-Feb	Thu 8-Feb	Fri 9-Feb	Sat 10-Feb	Sun 4-Feb		
AM Peak	181	180	179	185	169	114	91		
PM Peak	137	123	130	150	133	111	92		
0:00	4	11	2	2	3	6	3	4	4
1:00	0	3	4	4	6	1	6	3	3
2:00	0	2	4	4	5	8	7	3	4
3:00	2	3	2	2	2	3	5	2	3
4:00	9	5	14	12	9	7	2	10	8
5:00	47	40	45	41	38	19	9	42	34
6:00	75	76	80	88	89	35	13	82	65
7:00	119	133	132	141	117	48	23	128	102
8:00	181	180	179	185	169	86	51	179	147
9:00	114	132	126	141	141	114	80	131	121
10:00	114	115	102	106	134	96	90	114	108
11:00	87	94	90	104	119	99	91	99	98
12:00	81	70	101	104	130	62	92	97	91
13:00	75	87	90	91	93	111	64	87	87
14:00	74	92	82	106	82	63	73	87	82
15:00	116	109	130	150	133	68	58	128	109
16:00	122	120	123	135	103	62	50	121	102
17:00	137	123	121	130	106	55	50	123	103
18:00	50	70	72	74	87	45	28	71	61
19:00	30	39	30	36	36	27	23	34	32
20:00	34	28	27	34	31	24	23	31	29
21:00	8	23	13	29	59	16	13	26	23
22:00	4	6	7	14	13	10	11	9	9
23:00	6	5	4	3	7	12	5	5	6
Total	1489	1566	1580	1736	1712	1077	870	1617	1433
% Heavies	12.6%	10.0%	9.9%	10.5%	10.6%	8.2%	10.3%	10.7%	10.4%



Volume Summary

Road	Castlereagh Hwy	<table border="1"> <tr> <td>Average Weekday</td> <td>3217</td> </tr> <tr> <td>All Day Average</td> <td>2865</td> </tr> <tr> <td>Weekday Heavy's</td> <td>9.9%</td> </tr> <tr> <td>All Day Heavy's</td> <td>9.4%</td> </tr> </table>	Average Weekday	3217	All Day Average	2865	Weekday Heavy's	9.9%	All Day Heavy's	9.4%
Average Weekday	3217									
All Day Average	2865									
Weekday Heavy's	9.9%									
All Day Heavy's	9.4%									
Location	To The North Of Gunlawang Road									
Suburb	Galambine									
Site No.	1010101									
Start Date	Sunday 04/02/2024									
Direction	Two ways									

Starting Time	Day of Week							Ave W'day	All Days Ave
	Mon 5-Feb	Tue 6-Feb	Wed 7-Feb	Thu 8-Feb	Fri 9-Feb	Sat 10-Feb	Sun 4-Feb		
AM Peak	280	271	268	289	267	202	164		
PM Peak	281	295	289	312	289	192	176		
0:00	5	16	3	3	7	11	8	7	8
1:00	1	5	5	6	7	5	12	5	6
2:00	2	3	4	6	8	13	10	5	7
3:00	3	6	6	3	2	8	7	4	5
4:00	21	18	24	26	18	14	7	21	18
5:00	100	81	90	100	78	38	18	90	72
6:00	181	151	200	183	202	87	22	183	147
7:00	199	222	219	221	196	112	42	211	173
8:00	280	271	268	289	267	131	90	275	228
9:00	193	212	212	241	235	187	131	219	202
10:00	202	192	176	192	221	194	164	197	192
11:00	177	207	185	207	226	202	164	200	195
12:00	179	170	207	199	240	151	176	199	189
13:00	164	192	170	189	203	192	147	184	180
14:00	183	207	187	212	198	175	152	197	188
15:00	234	253	265	290	267	158	139	262	229
16:00	281	281	269	265	256	141	121	270	231
17:00	277	295	289	312	289	115	99	292	239
18:00	130	146	145	170	169	82	63	152	129
19:00	69	75	74	87	94	61	60	80	74
20:00	75	63	64	87	70	52	57	72	67
21:00	29	45	41	51	101	34	33	53	48
22:00	12	16	23	36	39	27	23	25	25
23:00	12	14	10	12	17	24	14	13	15
Total	3009	3141	3136	3387	3410	2214	1759	3217	2865
% Heavies	11.0%	9.6%	9.8%	9.9%	9.4%	7.3%	7.6%	9.9%	9.4%



Appendix C: Traffic Generation Calculations & Assessed Traffic Volumes

CALCULATIONS

Proposed Development Generation (Weekend / Saturday - With 200 Person Event)

Table 1: Development Usage Overview (Weekend / Saturday - With 200 Person Event)

Persons or Vehicles	Yield		Unit
	Existing	Proposed	
Cellar Door Guests	20	50	persons
Staff - Cellar Door	2	2	persons
Event Patrons (Off-Site)	0	200	persons
Gooree Staff - Function	0	2	persons
Casual Staff - Function	0	10	persons
Function Deliveries	0	3	vehicles
Farm Trips	5	5	vehicles
Horse Stud Trips	10	10	vehicles

Table 2: Event Time

Type	Time
Cellar Door	10am-5pm
Gooree Staff - Function	12pm-11:30pm
Horse Stud	Closed
Farm	8am-5pm
Wedding	3pm-11:30pm

Table 3: Transport Mode Assumptions

Type	Transport	%	Occupancy	Vehicles	
				Existing	Proposed
Cellar Door Guests	Car	-	2	10	25
Staff - Cellar Door	Car	-	1	2	2
Event Patrons (Off-Site)	Car	30%	3	0	20
	Mini-Bus	70%	12	0	12
Gooree Staff - Function	Car	-	1	0	2
Casual Staff - Function	Car	-	1	0	10
Function Deliveries	SRV/MRV	-	1	0	3
Farm Trips	Car	-	1	5	5
Horse Stud Trips	Car	-	1	10	10

Table 4: Existing Arrivals - Hourly Volumes (Starting Hour)

Trip Description	60min Period Starting																Total		
	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM			12:00 AM
Cellar Door Guests		1	1	1	1	1	1	1	1									10	Arrive and stay for 1 hour
Staff - Cellar Door	2																	2	Arrive 8am and depart 5pm
Event Patrons (Off-Site) - Car																		0	
Event Patrons (Off-Site) - Mini-Bus																		0	
Gooree Staff - Function																		0	
Casual Staff - Function																		0	
Function Deliveries																		0	
Farm Trips	2.0	0.5	0.5	0.5	0.5	0.5	0.5											5	2 x staff arrive 8am & depart 5pm, general trips between 9am and 2pm
Horse Stud Trips	1	1	1	1	1													5	5 x staff arrive 4am & depart 1pm, general trips between 8am and 12noon
Total	5	3	3	3	3	2	2	1	1	0	0	0	0	0	0	0	0	22	

Table 5: Existing Departures - Hourly Volumes (Starting Hour)

Trip Description	60min Period Starting																Total		
	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM			12:00 AM
Cellar Door Guests			1	1	1	1	1	1	1	1								10	Arrive and stay for 1 hour
Staff - Cellar Door										2								2	Arrive 8am and depart 5pm
Event Patrons (Off-Site) - Car																		0	
Event Patrons (Off-Site) - Mini-Bus																		0	
Gooree Staff - Function																		0	
Casual Staff - Function																		0	
Function Deliveries																		0	
Farm Trips				0.5	0.5	0.5	0.5	0.5	0.5	2.0								5	2 x staff arrive 8am & depart 5pm, general trips between 9am and 2pm
Horse Stud Trips	1	1	1	1	1	5												10	5 x staff arrive 4am & depart 1pm, general trips between 8am and 12noon
Total	1	1	2	3	3	7	2	2	2	5	0	0	0	0	0	0	0	27	

Table 6: Proposed Arrivals - Hourly Volumes (Starting Hour)

Trip Description	60min Period Starting																Total		
	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM			12:00 AM
Cellar Door Guests		3	3	3	3	3	3	3	3									25	Arrive and stay for 1 hour
Staff - Cellar Door	2																	2	Arrive 8am and depart 5pm
Event Patrons (Off-Site) - Car						10	10											20	Arrive and stay
Event Patrons (Off-Site) - Mini-Bus						6	6								12			24	Arrive, drop-off and leave
Gooree Staff - Function					1	1												2	Arrive and stay
Casual Staff - Function			2		2	3	3											10	Arrive and stay
Function Deliveries			1	1	1													3	Arrive, drop-off, leave
Farm Trips	2.0	0.5	0.5	0.5	0.5	0.5	0.5											5	2 x staff arrive 8am & depart 5pm, general trips between 9am and 2pm
Horse Stud Trips	1	1	1	1	1													5	5 x staff arrive 4am & depart 1pm, general trips between 8am and 12noon
Total	5	5	8	6	9	24	23	3	3	0	0	0	0	0	0	12	0	96	

Table 7: Proposed Departures - Hourly Volumes (Starting Hour)

Trip Description	60min Period Starting																Total		
	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM			12:00 AM
Cellar Door Guests			3	3	3	3	3	3	3									25	Arrive and stay for 1 hour
Staff - Cellar Door										2								2	Arrive 8am and depart 5pm
Event Patrons (Off-Site) - Car																10	10	20	Already on-site, leave
Event Patrons (Off-Site) - Mini-Bus						6	6									12		24	Arrive, pick-up and leave
Gooree Staff - Function																1	1	2	Already on-site, leave
Casual Staff - Function													2		2	3	3	10	Already on-site, leave
Function Deliveries			1	1	1													3	Arrive, drop-off, leave
Farm Trips				0.5	0.5	0.5	0.5	0.5	0.5	2.0								5	2 x staff arrive 8am & depart 5pm, general trips between 9am and 2pm
Horse Stud Trips	1	1	1	1	1	5												10	5 x staff arrive 4am & depart 1pm, general trips between 8am and 12noon
Total	1	1	5	6	6	15	10	4	4	7	0	0	2	0	2	26	14	101	
Estimated Cellar Door / Event Parking Demands	0	3	5	5	8	22	35	35	35	32	32	32	30	30	28	14	0		

TRAFFIC VOLUMES

LOCALITY PLAN

2024 Survey (Weekday)



INTERSECTION VOLUMES

		#1
Survey	AM	289
	PM	(288)

DETAILS

Thursday AM Peak: 8am-9am Growth Rate 2%
 Thursday PM Peak: 5pm-6pm

DOCUMENT CONTROL

Job Number: P6327
Prepared By: RTU
Reviewed By: NE
Job Name: 1544 Castlereagh Highway Galambine
Prepared Date: 23/08/2024
Reviewed Date: 23/08/2024
File Path: \\bitzios-fs1\Projects\P6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

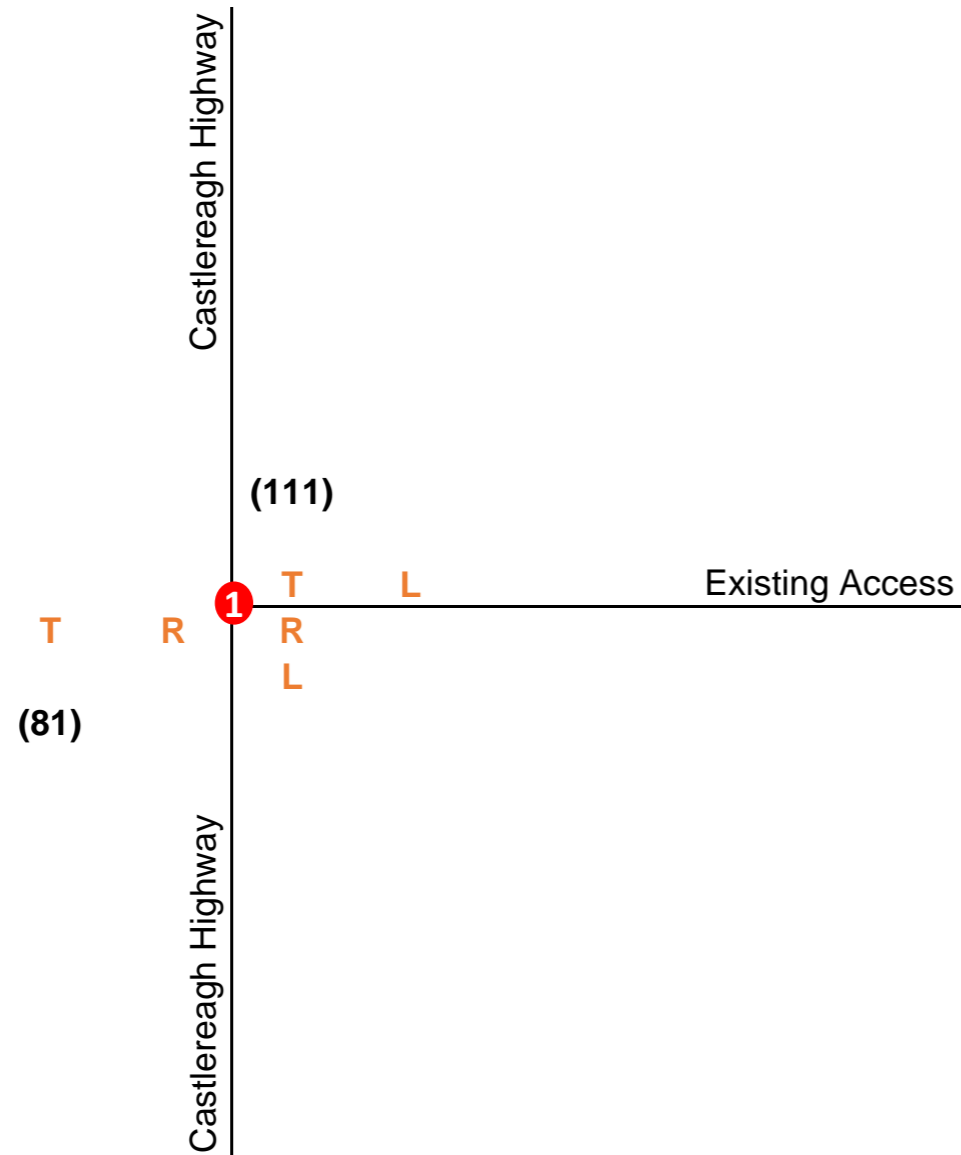
LEGEND

##	AM Peak Period	L	Left Turn Movement
(##)	PM Peak Period	T	Through Turn Movement
1	Intersection ID	R	Right Turn Movement
		U	U-Turn Movement

TRAFFIC VOLUMES

LOCALITY PLAN

2024 Survey (Weekend - Saturday)



INTERSECTION VOLUMES

		#1
Survey		
	PM	(192)

DETAILS

Saturday Peak: 1pm-2pm Growth Rate 2%

DOCUMENT CONTROL

Job Number: P6327
 Prepared By: RTU
 Reviewed By: NE
 Job Name: 1544 Castlereagh Highway Galambine
 Prepared Date: 23/08/2024
 Reviewed Date: 23/08/2024
 File Path: \\bitzios-fs1\Projects\P6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

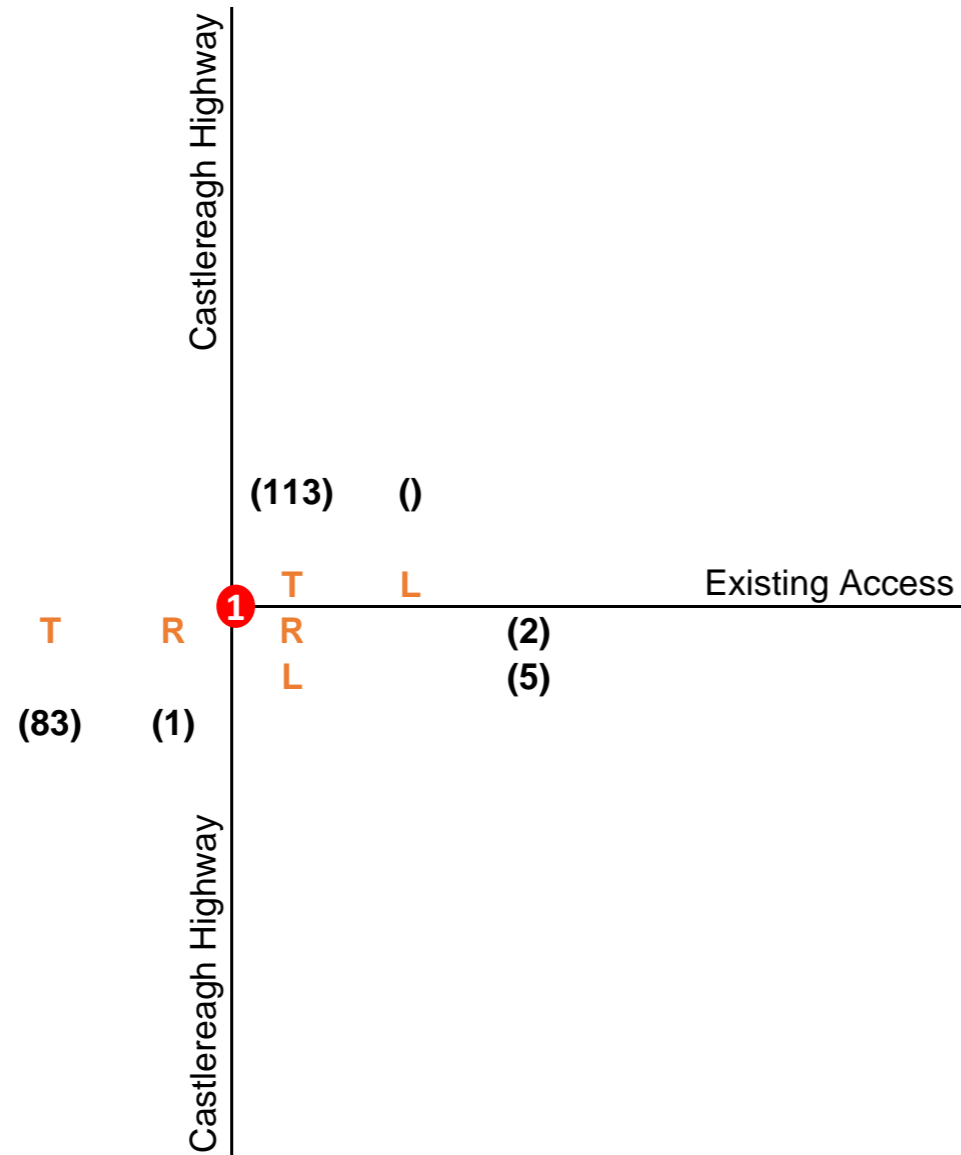
LEGEND

- | | | | |
|------|-----------------|---|-----------------------|
| ## | AM Peak Period | L | Left Turn Movement |
| (##) | PM Peak Period | T | Through Turn Movement |
| ① | Intersection ID | R | Right Turn Movement |
| | | U | U-Turn Movement |

TRAFFIC VOLUMES

LOCALITY PLAN

2025 Background (Weekend - Saturday)



INTERSECTION VOLUMES

		#1
2025 BG	PM	(204)

DETAILS

Base Year	2024	Growth Rate	2%
Scenario Year	2025		

DOCUMENT CONTROL

Job Number: P6327
 Prepared By: RTU
 Reviewed By: NE
 Job Name: 1544 Castlereagh Highway Galambine
 Prepared Date: 23/08/2024
 Reviewed Date: 23/08/2024
 File Path: \\bitzios-fs1\Projects\P6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

LEGEND

##	AM Peak Period	L	Left Turn Movement
(##)	PM Peak Period	T	Through Turn Movement
1	Intersection ID	R	Right Turn Movement
		U	U-Turn Movement

TRAFFIC VOLUMES

LOCALITY PLAN

2035 Background (Weekday)



Castlereagh Highway

Castlereagh Highway

		(129)	(1)	
		226	3	
		T	L	Existing Access
T	R	R	1	(3)
127	8	L	2	(8)
(222)	(2)			

INTERSECTION VOLUMES

		#1
2035 BG	AM	367
	PM	(364)

DETAILS

Base Year	2024	Growth Rate	2%
Scenario Year	2035		

DOCUMENT CONTROL

Job Number: P6327
Prepared By: RTU
Reviewed By: NE
Job Name: 1544 Castlereagh Highway Galambine
Prepared Date: 23/08/2024
Reviewed Date: 23/08/2024
File Path: \\bitzios-fs1\Projects\P6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

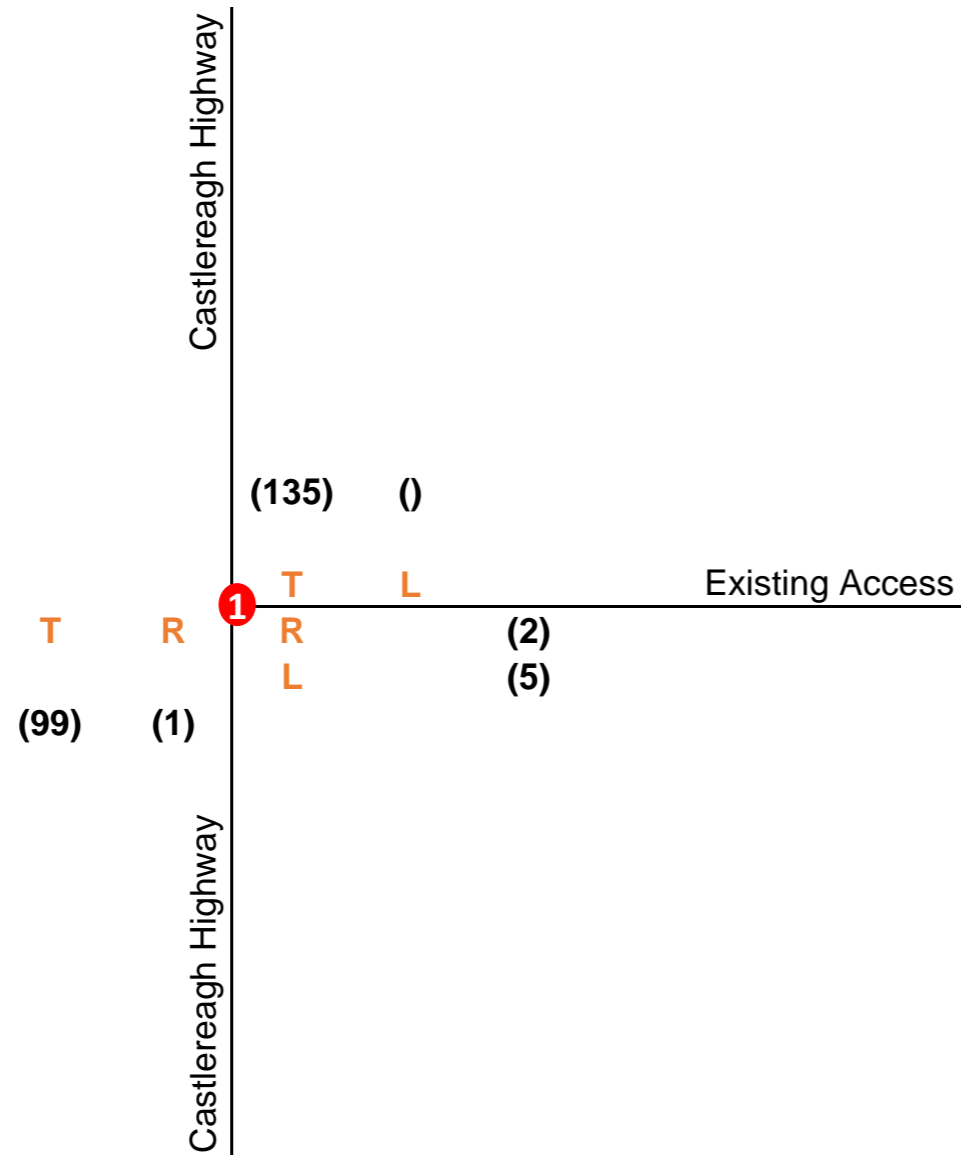
LEGEND

##	AM Peak Period	L	Left Turn Movement
(##)	PM Peak Period	T	Through Turn Movement
1	Intersection ID	R	Right Turn Movement
		U	U-Turn Movement

TRAFFIC VOLUMES

LOCALITY PLAN

2035 Background (Weekend - Saturday)



INTERSECTION VOLUMES

		#1
2035 BG	PM	(243)

DETAILS

Base Year	2024	Growth Rate	2%
Scenario Year	2035		

DOCUMENT CONTROL

Job Number: P6327
 Prepared By: RTU
 Reviewed By: NE
 Job Name: 1544 Castlereagh Highway Galambine
 Prepared Date: 23/08/2024
 Reviewed Date: 23/08/2024
 File Path: \\bitzios-fs1\Projects\P6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

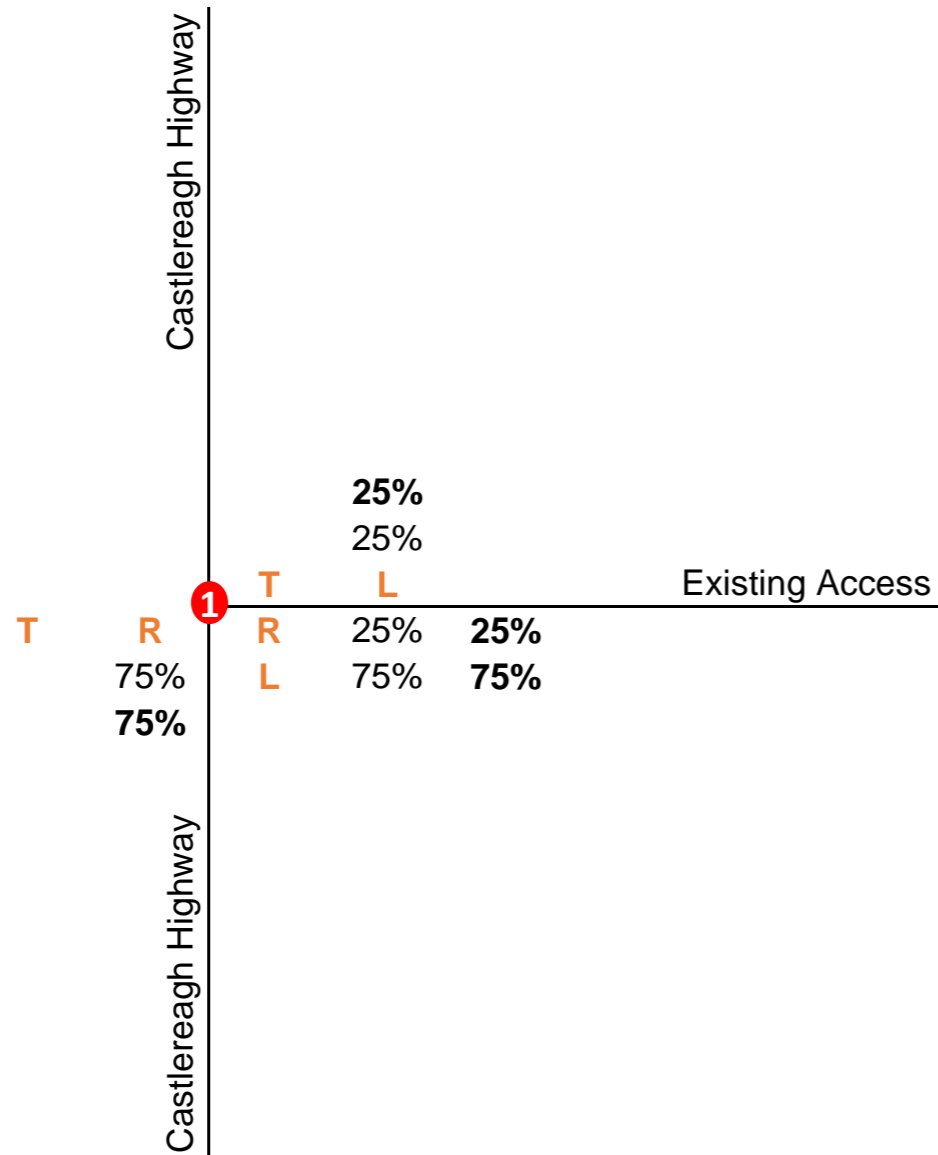
LEGEND

##	AM Peak Period	L	Left Turn Movement
(##)	PM Peak Period	T	Through Turn Movement
1	Intersection ID	R	Right Turn Movement
		U	U-Turn Movement

DEVELOPMENT TRAFFIC

LOCALITY PLAN

Trip Distribution (Weekday)



INTERSECTION VOLUMES

		#1
Dist	AM	
	PM	

DETAILS

DOCUMENT CONTROL

Job Number: P6327
Prepared By: RTU
Reviewed By: NE
Job Name: 1544 Castlereagh Highway Galambine
Prepared Date: 23/08/2024
Reviewed Date: 23/08/2024
File Path: \\bitzios-fs1\Projects\P6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

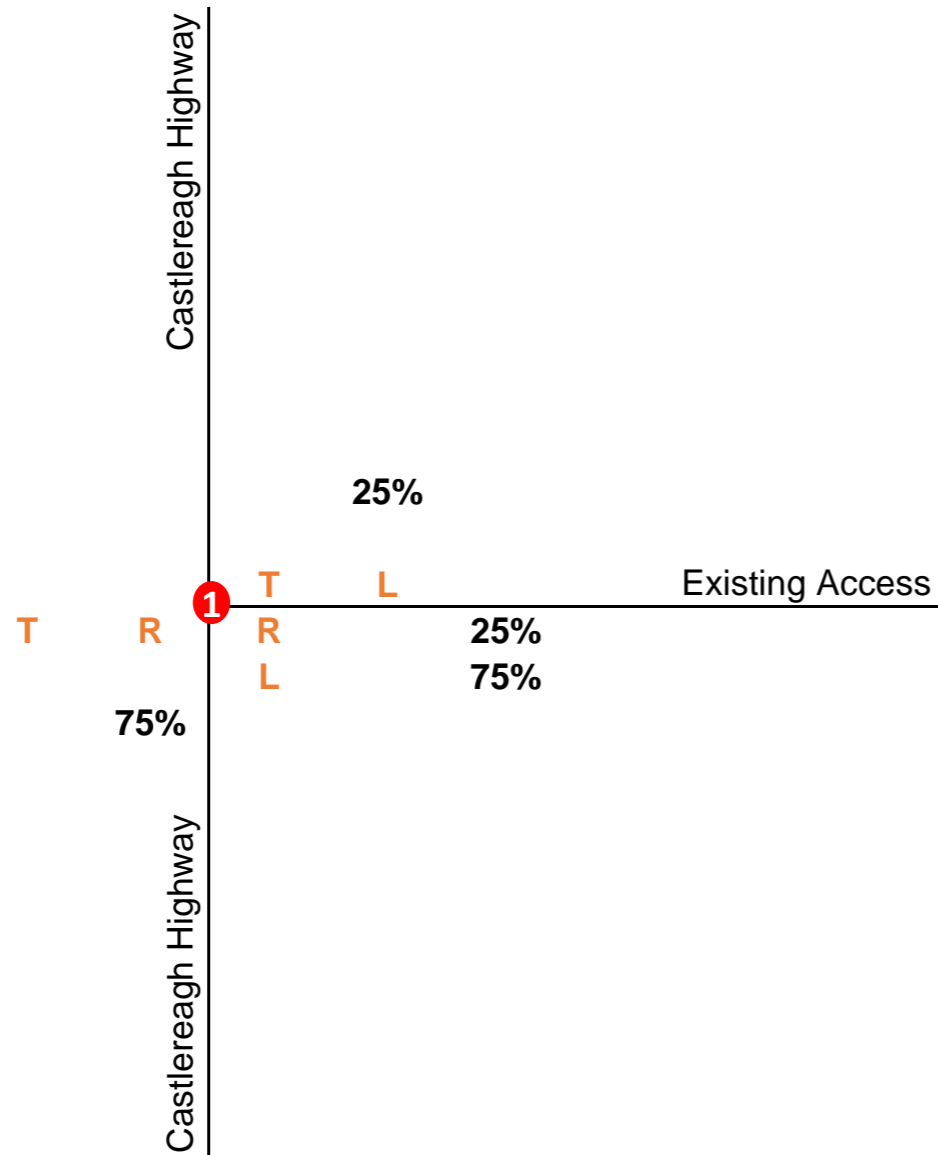
LEGEND

- | | | | |
|------|-----------------|---|-----------------------|
| ## | AM Peak Period | L | Left Turn Movement |
| (##) | PM Peak Period | T | Through Turn Movement |
| 1 | Intersection ID | R | Right Turn Movement |
| | | U | U-Turn Movement |

DEVELOPMENT TRAFFIC

LOCALITY PLAN

Trip Distribution (Weekend - Saturday)



INTERSECTION VOLUMES

		#1
Dist		
	PM	

DETAILS

DOCUMENT CONTROL

Job Number: P6327
Prepared By: RTU
Reviewed By: NE
Job Name: 1544 Castlereagh Highway Galambine
Prepared Date: 23/08/2024
Reviewed Date: 23/08/2024
File Path: \\bitzios-fs1\Projects\VP6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

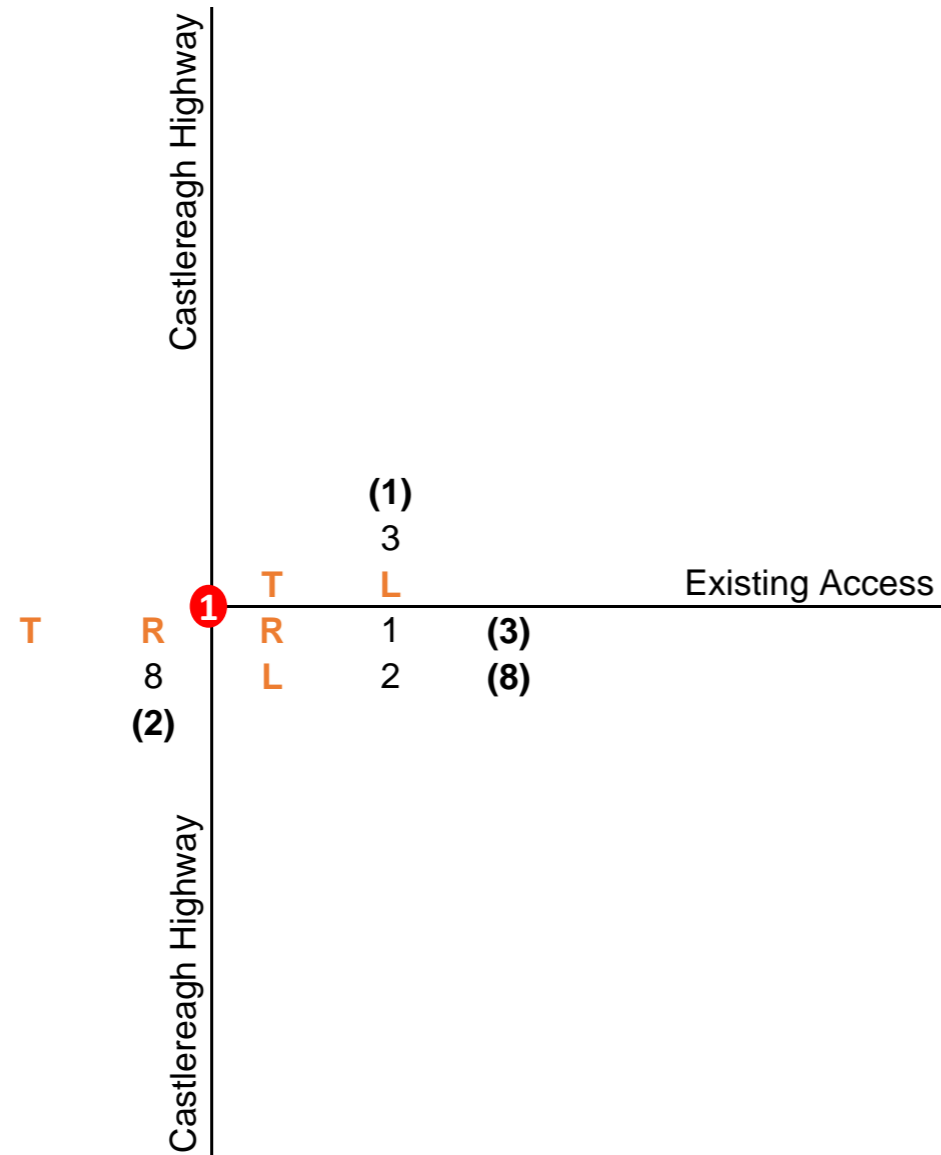
LEGEND

- | | | | |
|------|-----------------|---|-----------------------|
| ## | AM Peak Period | L | Left Turn Movement |
| (##) | PM Peak Period | T | Through Turn Movement |
| 1 | Intersection ID | R | Right Turn Movement |
| | | U | U-Turn Movement |

DEVELOPMENT TRAFFIC

LOCALITY PLAN

Existing Development Trips (Weekday)



INTERSECTION VOLUMES

		#1
Dev	AM	15
	PM	(13)

DETAILS

DOCUMENT CONTROL

Job Number: P6327
Prepared By: RTU
Reviewed By: NE
Job Name: 1544 Castlereagh Highway Galambine
Prepared Date: 23/08/2024
Reviewed Date: 23/08/2024
File Path: \\bitzios-fs1\Projects\P6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

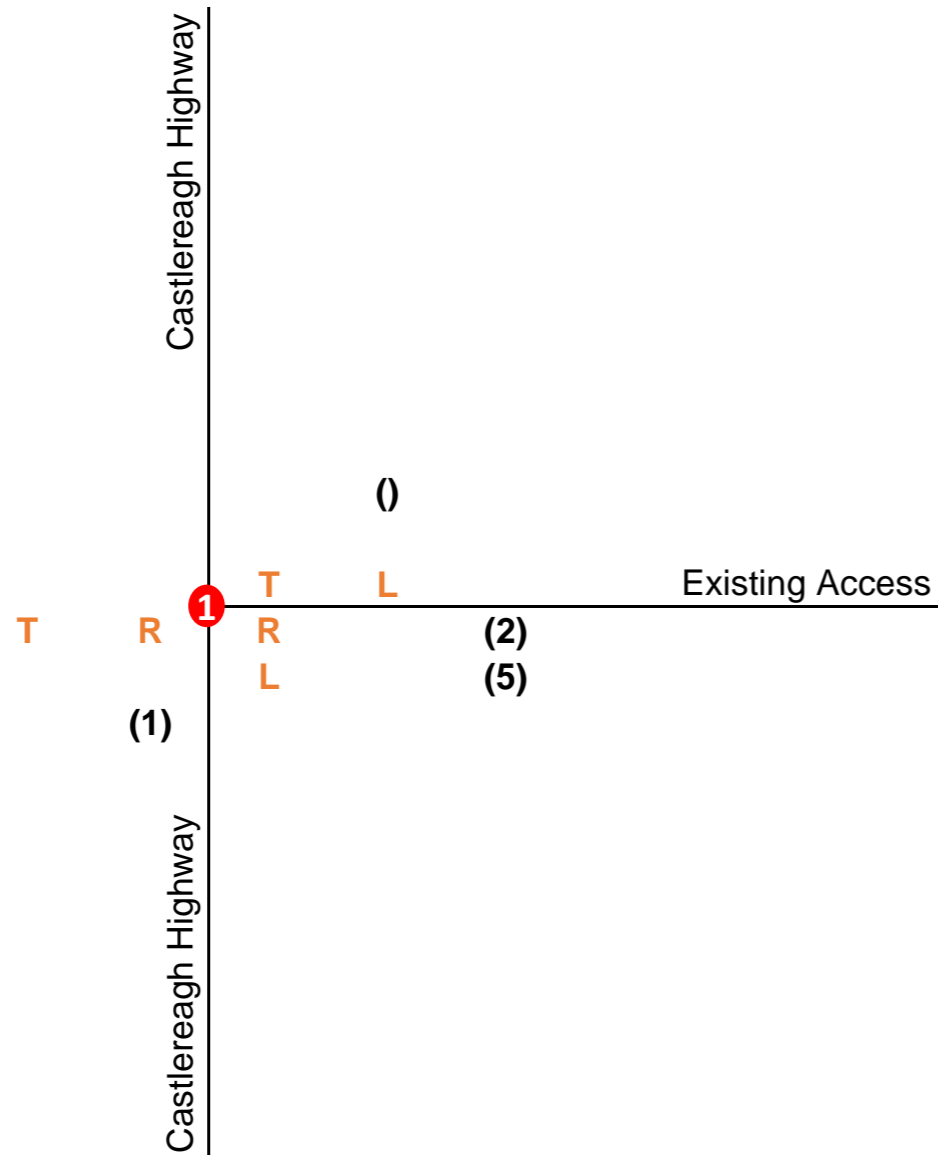
LEGEND

##	AM Peak Period	L	Left Turn Movement
(##)	PM Peak Period	T	Through Turn Movement
1	Intersection ID	R	Right Turn Movement
		U	U-Turn Movement

DEVELOPMENT TRAFFIC

LOCALITY PLAN

Existing Development Trips (Weekend - Saturday)



INTERSECTION VOLUMES

		#1
Dev	PM	(9)

DETAILS

DOCUMENT CONTROL

Job Number: P6327
Prepared By: RTU
Reviewed By: NE
Job Name: 1544 Castlereagh Highway Galambine
Prepared Date: 23/08/2024
Reviewed Date: 23/08/2024
File Path: \\bitzios-fs1\Projects\P6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

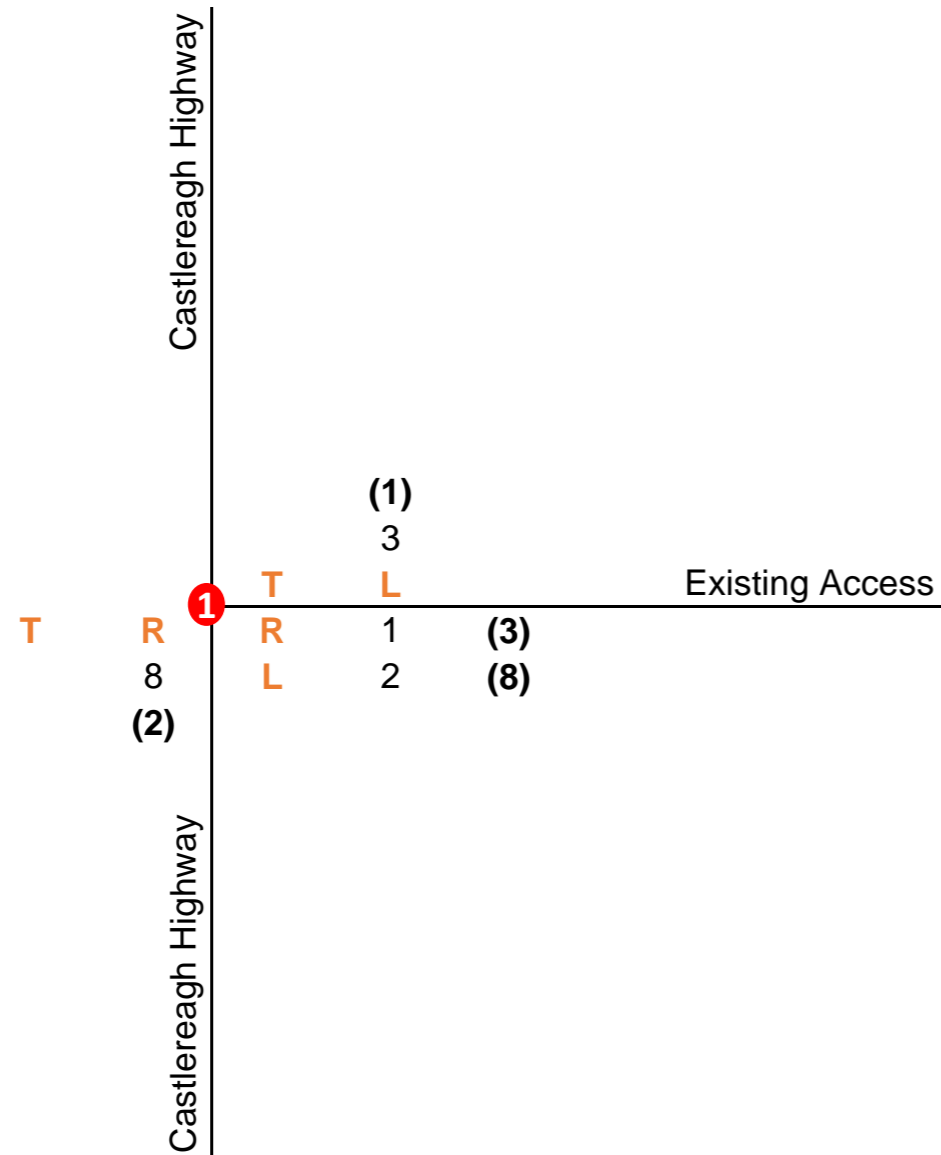
LEGEND

##	AM Peak Period	L	Left Turn Movement
(##)	PM Peak Period	T	Through Turn Movement
1	Intersection ID	R	Right Turn Movement
		U	U-Turn Movement

DEVELOPMENT TRAFFIC

LOCALITY PLAN

Proposed Development Trips (Weekday)



INTERSECTION VOLUMES

		#1
Dev	AM	13
	PM	(13)

DETAILS

DOCUMENT CONTROL

Job Number: P6327
Prepared By: RTU
Reviewed By: NE
Job Name: 1544 Castlereagh Highway Galambine
Prepared Date: 23/08/2024
Reviewed Date: 23/08/2024
File Path: \\bitzios-fs1\Projects\P6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

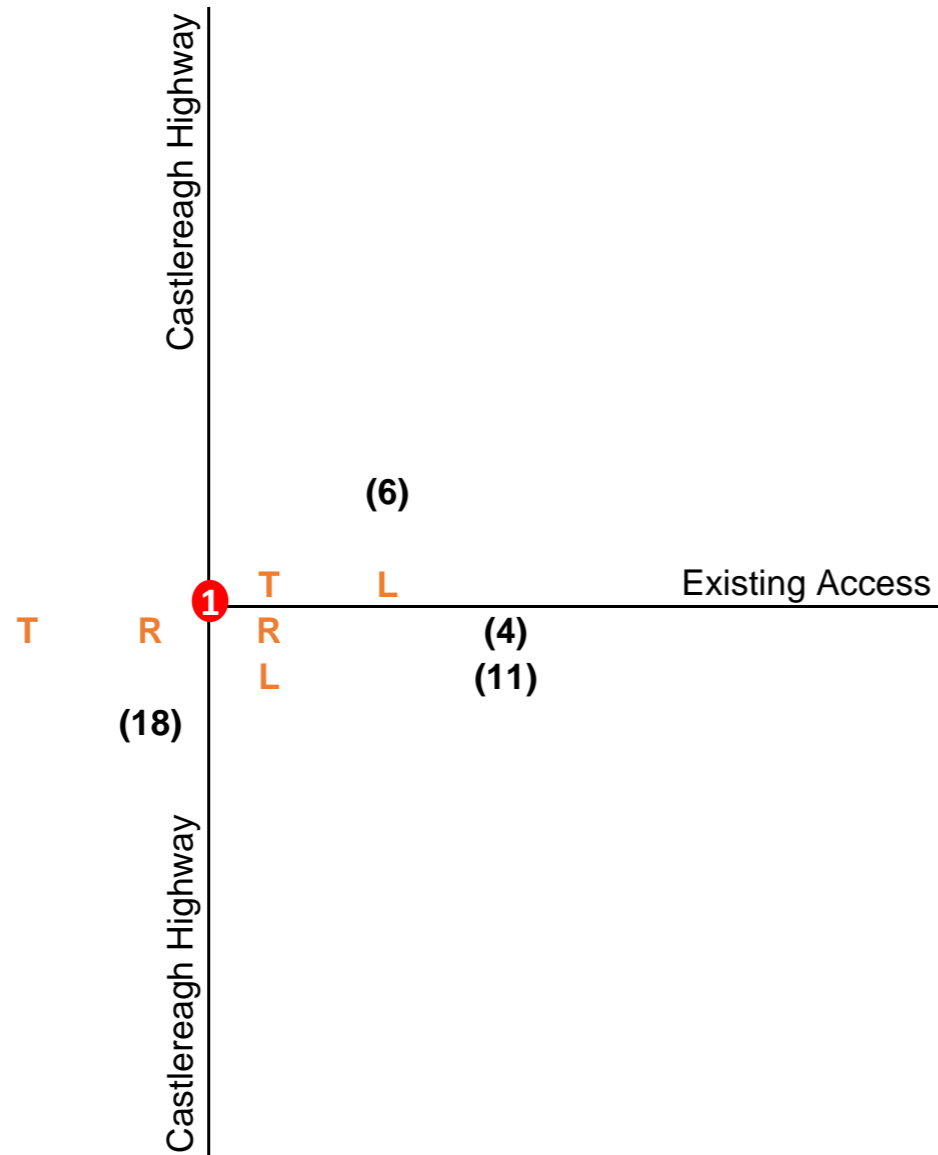
LEGEND

##	AM Peak Period	L	Left Turn Movement
(##)	PM Peak Period	T	Through Turn Movement
1	Intersection ID	R	Right Turn Movement
		U	U-Turn Movement

DEVELOPMENT TRAFFIC

LOCALITY PLAN

Proposed Development Trips (Weekend - Saturday)



INTERSECTION VOLUMES

		#1
Dev	AM	0
	PM	(38)

DETAILS

DOCUMENT CONTROL

Job Number: P6327
Prepared By: RTU
Reviewed By: NE
Job Name: 1544 Castlereagh Highway Galambine
Prepared Date: 23/08/2024
Reviewed Date: 23/08/2024
File Path: \\bitzios-fs1\Projects\P6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

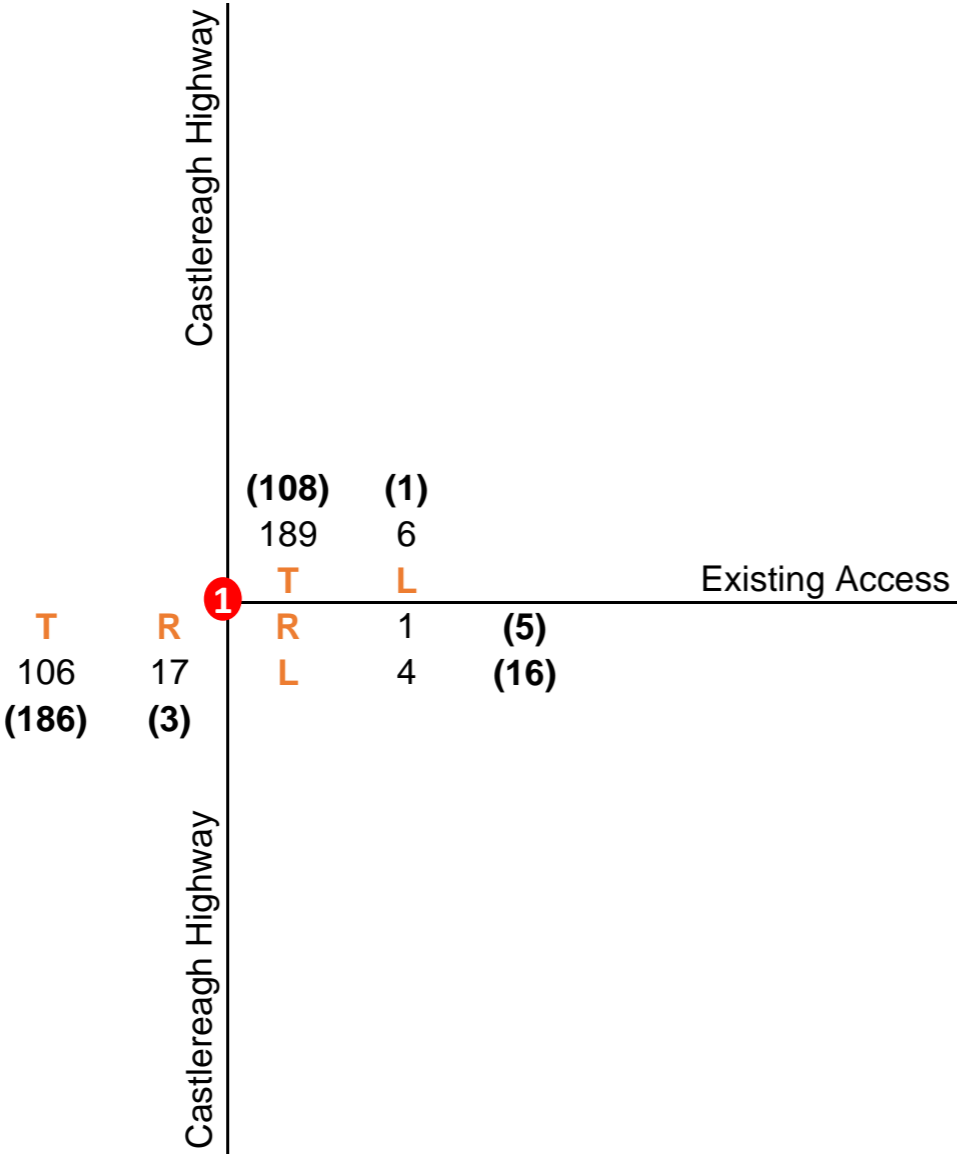
LEGEND

- | | | | |
|------|-----------------|---|-----------------------|
| ## | AM Peak Period | L | Left Turn Movement |
| (##) | PM Peak Period | T | Through Turn Movement |
| ① | Intersection ID | R | Right Turn Movement |
| | | U | U-Turn Movement |

TRAFFIC VOLUMES

LOCALITY PLAN

2025 Background + Proposed Development Trips (Weekday)



INTERSECTION VOLUMES

		#1
2025 BG+DEV	AM	323
	PM	(320)

DETAILS

DOCUMENT CONTROL

Job Number: P6327
Prepared By: RTU
Reviewed By: NE
Job Name: 1544 Castlereagh Highway Galambine
Prepared Date: 23/08/2024
Reviewed Date: 23/08/2024
File Path: \\bitzios-fs1\Projects\VP6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

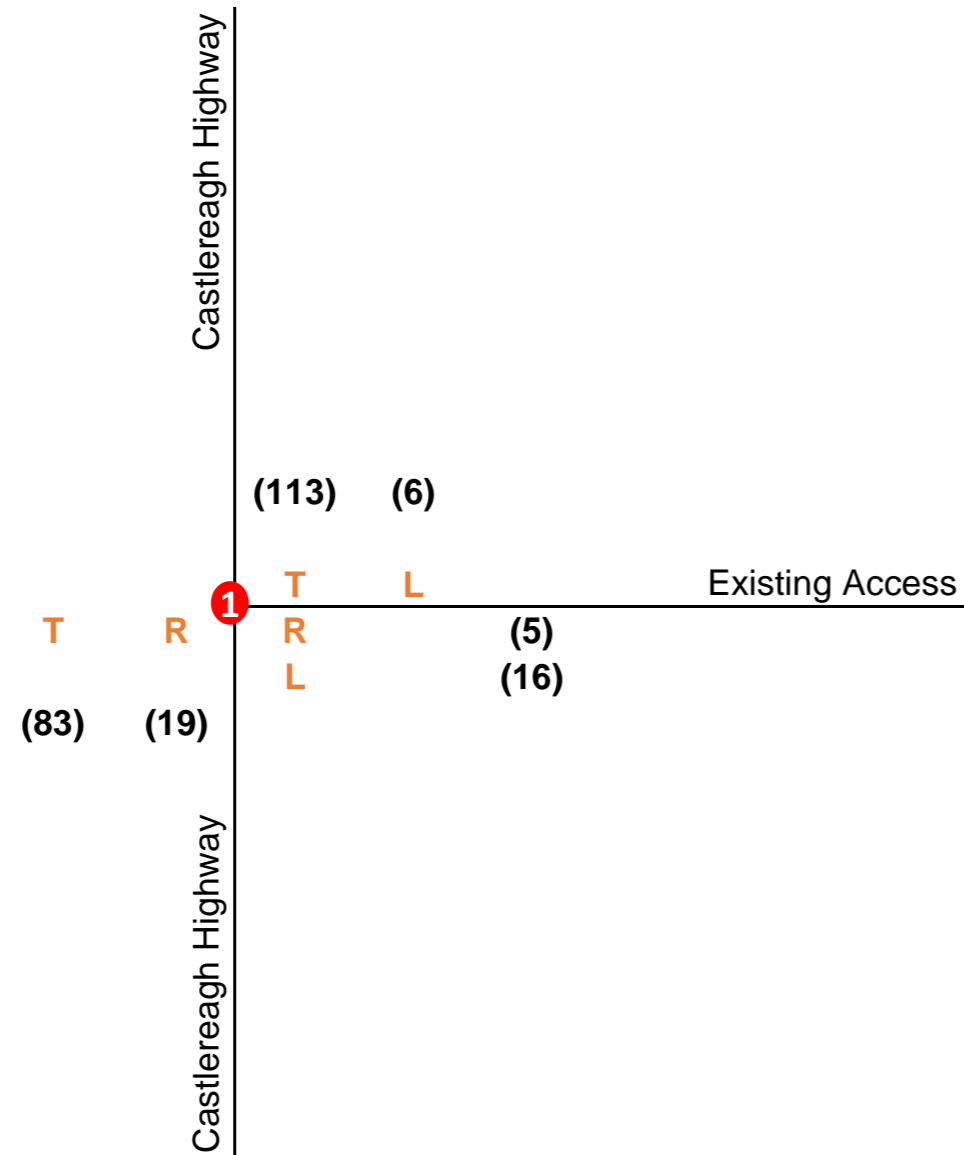
LEGEND

- | | | | |
|------|-----------------|---|-----------------------|
| ## | AM Peak Period | L | Left Turn Movement |
| (##) | PM Peak Period | T | Through Turn Movement |
| 1 | Intersection ID | R | Right Turn Movement |
| | | U | U-Turn Movement |

TRAFFIC VOLUMES

LOCALITY PLAN

2025 Background + Proposed Development Trips (Weekend - Saturday)



INTERSECTION VOLUMES

		#1
2025 BG+DEV		
	PM	(243)

DETAILS

DOCUMENT CONTROL

Job Number: P6327
Prepared By: RTU
Reviewed By: NE
Job Name: 1544 Castlereagh Highway Galambine
Prepared Date: 23/08/2024
Reviewed Date: 23/08/2024
File Path: \\bitzios-fs1\Projects\VP6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

LEGEND

##	AM Peak Period	L	Left Turn Movement
(##)	PM Peak Period	T	Through Turn Movement
1	Intersection ID	R	Right Turn Movement
		U	U-Turn Movement

TRAFFIC VOLUMES

LOCALITY PLAN

2035 Background + Proposed Development Trips (Weekday)



		(129) 226		(1) 6		Existing Access
T 127 (222)	R 17 (3)	R	1	(5)		
		L	4	(16)		

INTERSECTION VOLUMES

		#1
2035 BG+DEV	AM	380
	PM	(377)

DETAILS

DOCUMENT CONTROL

Job Number: P6327
Prepared By: RTU
Reviewed By: NE
Job Name: 1544 Castlereagh Highway Galambine
Prepared Date: 23/08/2024
Reviewed Date: 23/08/2024
File Path: \\bitzios-fs1\Projects\VP6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

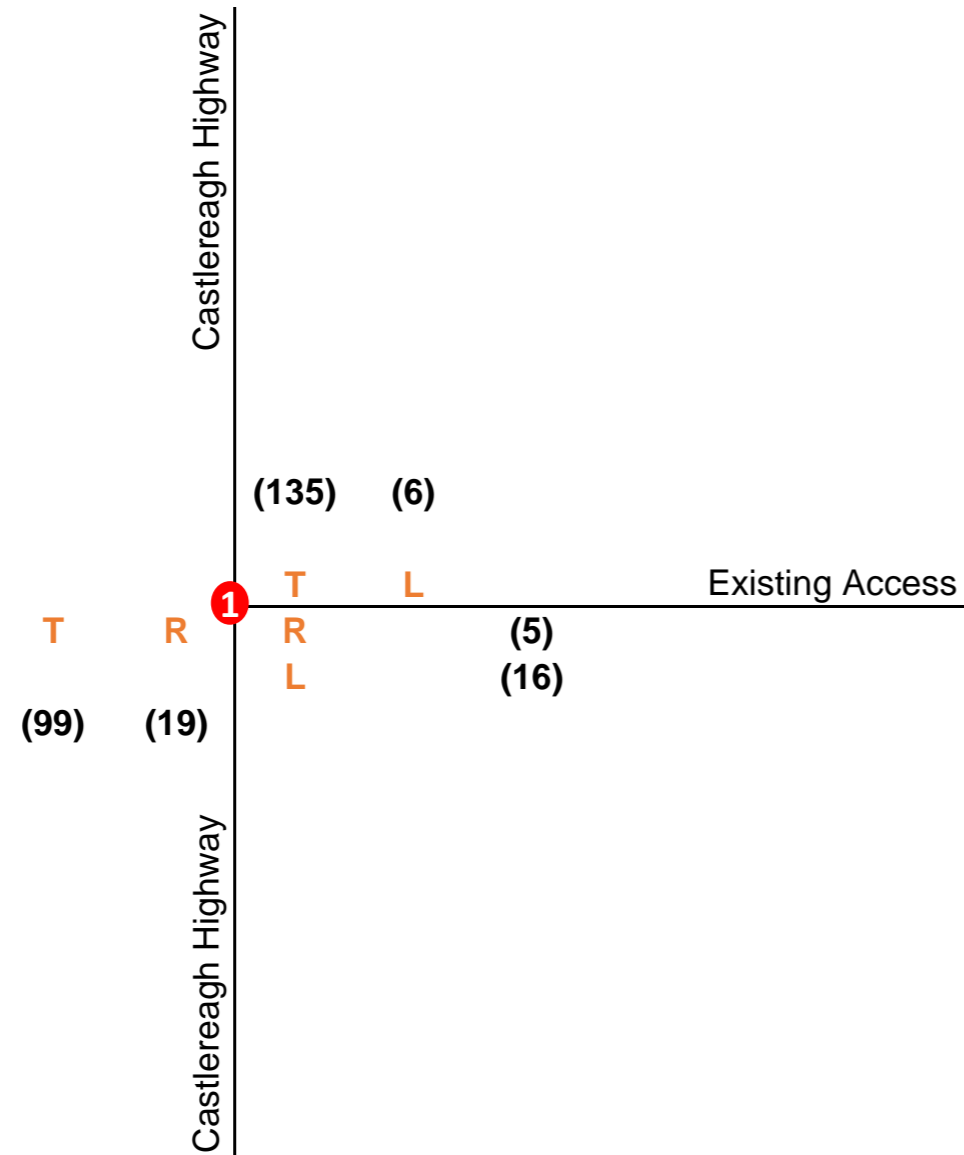
LEGEND

##	AM Peak Period	L	Left Turn Movement
(##)	PM Peak Period	T	Through Turn Movement
1	Intersection ID	R	Right Turn Movement
		U	U-Turn Movement

TRAFFIC VOLUMES

LOCALITY PLAN

2035 Background + Proposed Development Trips (Weekend - Saturday)



INTERSECTION VOLUMES

		#1
2035 BG+DEV		
	PM	(281)

DETAILS

DOCUMENT CONTROL

Job Number: P6327
Prepared By: RTU
Reviewed By: NE
Job Name: 1544 Castlereagh Highway Galambine
Prepared Date: 23/08/2024
Reviewed Date: 23/08/2024
File Path: \\bitzios-fs1\Projects\P6327 1544 Castlereagh Highway Galambine TIA\Technical\Stick Diagram\

LEGEND

##	AM Peak Period	L	Left Turn Movement
(##)	PM Peak Period	T	Through Turn Movement
1	Intersection ID	R	Right Turn Movement
		U	U-Turn Movement

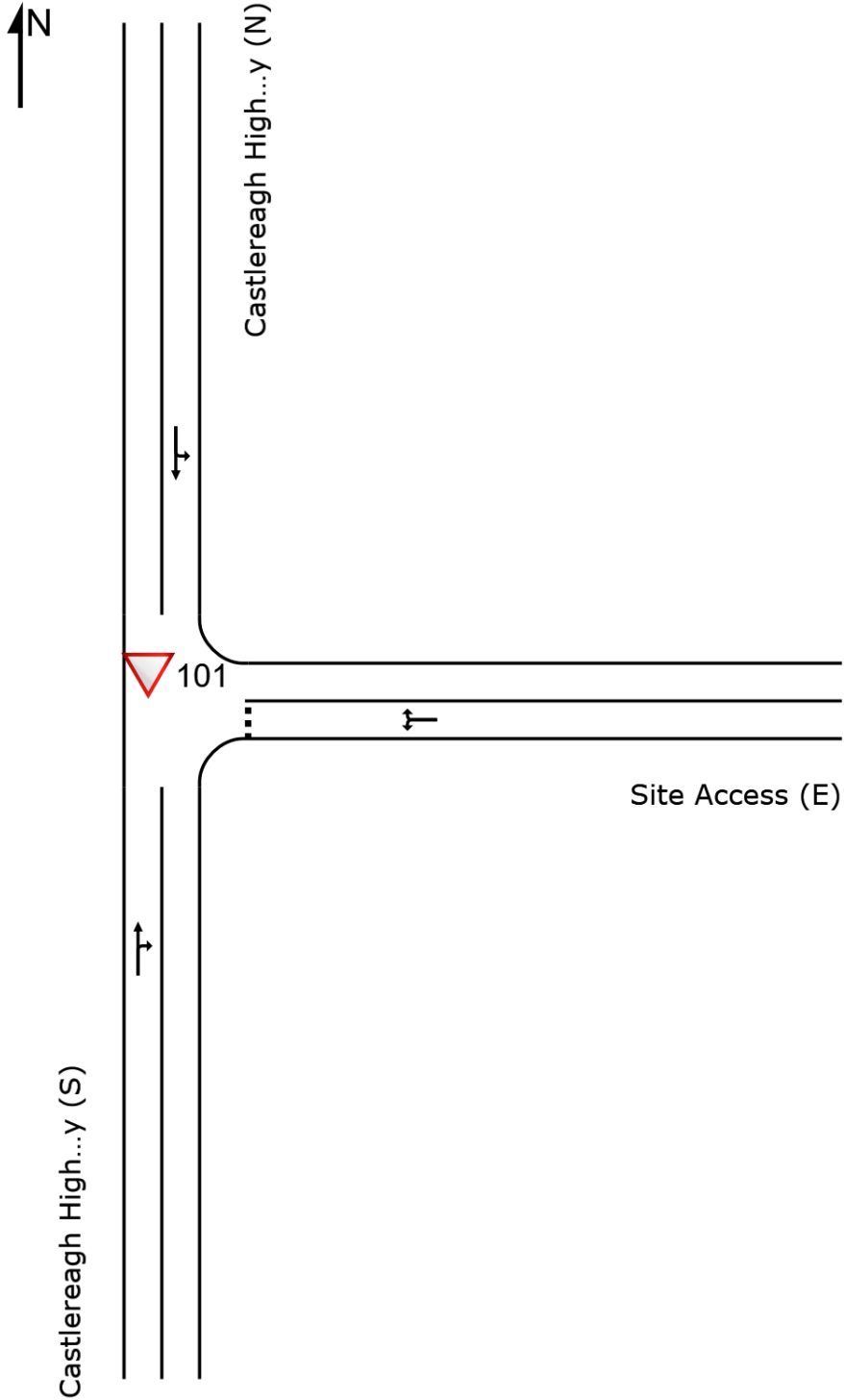
Appendix D: SIDRA Outputs

SITE LAYOUT

▼ Site: 101 [2025BG Weekday AM (Site Folder: Castlereagh Highway / Site Access)]

Project No.: P6327
Project Name: 1544 Castlereagh Highway Galambine TIA
Intersection: Castlereagh Highway / Site Access
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Organisation: BITZIOS CONSULTING | Licence: PLUS / FLOATING | Created: Friday, 23 August 2024 12:28:41 PM

Project: \\bitzios-fs1\Projects\P6327 1544 Castlereagh Highway Galambine TIA\Technical\Models\2024 08 23\P6327.002D Castlereagh Highway_Site Access.sip9

MOVEMENT SUMMARY

Site: 101 [2025BG Weekday AM (Site Folder: Castlereagh Highway / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Project No.: P6327
 Project Name: 1544 Castlereagh Highway Galambine TIA
 Intersection: Castlereagh Highway / Site Access
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Castlereagh Highway (S)															
2	T1	All MCs	112	9.0	112	9.0	0.066	0.1	LOS A	0.1	0.5	0.05	0.07	0.05	97.8
3	R2	All MCs	8	3.0	8	3.0	0.066	8.2	LOS A	0.1	0.5	0.05	0.07	0.05	55.5
Approach			120	8.6	120	8.6	0.066	0.6	NA	0.1	0.5	0.05	0.07	0.05	92.8
East: Site Access (E)															
4	L2	All MCs	2	3.0	2	3.0	0.003	4.0	LOS A	0.0	0.1	0.30	0.46	0.30	48.7
6	R2	All MCs	1	3.0	1	3.0	0.003	4.8	LOS A	0.0	0.1	0.30	0.46	0.30	48.7
Approach			3	3.0	3	3.0	0.003	4.3	LOS A	0.0	0.1	0.30	0.46	0.30	48.7
North: Castlereagh Highway (N)															
7	L2	All MCs	3	3.0	3	3.0	0.109	7.9	LOS A	0.0	0.0	0.00	0.01	0.00	85.6
8	T1	All MCs	199	9.0	199	9.0	0.109	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.6
Approach			202	8.9	202	8.9	0.109	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.3
All Vehicles			325	8.7	325	8.7	0.109	0.4	NA	0.1	0.5	0.02	0.04	0.02	95.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2025BG Weekday PM (Site Folder: Castlereagh Highway / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Project No.: P6327
 Project Name: 1544 Castlereagh Highway Galambine TIA
 Intersection: Castlereagh Highway / Site Access
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Veh.]	[Dist]									
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Castlereagh Highway (S)															
2	T1	All MCs	196	9.0	196	9.0	0.107	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	99.7
3	R2	All MCs	2	3.0	2	3.0	0.107	7.6	LOS A	0.0	0.1	0.01	0.01	0.01	56.1
Approach			198	8.9	198	8.9	0.107	0.1	NA	0.0	0.1	0.01	0.01	0.01	98.9
East: Site Access (E)															
4	L2	All MCs	8	3.0	8	3.0	0.009	3.8	LOS A	0.0	0.2	0.23	0.45	0.23	48.9
6	R2	All MCs	3	3.0	3	3.0	0.009	4.8	LOS A	0.0	0.2	0.23	0.45	0.23	48.9
Approach			12	3.0	12	3.0	0.009	4.0	LOS A	0.0	0.2	0.23	0.45	0.23	48.9
North: Castlereagh Highway (N)															
7	L2	All MCs	1	3.0	1	3.0	0.062	7.9	LOS A	0.0	0.0	0.00	0.01	0.00	85.7
8	T1	All MCs	114	9.0	114	9.0	0.062	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.8
Approach			115	8.9	115	8.9	0.062	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.6
All Vehicles			324	8.7	324	8.7	0.107	0.2	NA	0.0	0.2	0.01	0.02	0.01	95.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2025BG Saturday PM (Site Folder: Castlereagh Highway / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Project No.: P6327
 Project Name: 1544 Castlereagh Highway Galambine TIA
 Intersection: Castlereagh Highway / Site Access
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				
South: Castlereagh Highway (S)															
2	T1	All MCs	87	9.0	87	9.0	0.048	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	99.6
3	R2	All MCs	1	3.0	1	3.0	0.048	7.6	LOS A	0.0	0.1	0.01	0.01	0.01	56.1
Approach			88	8.9	88	8.9	0.048	0.1	NA	0.0	0.1	0.01	0.01	0.01	98.7
East: Site Access (E)															
4	L2	All MCs	5	3.0	5	3.0	0.006	3.8	LOS A	0.0	0.1	0.22	0.45	0.22	48.9
6	R2	All MCs	2	3.0	2	3.0	0.006	4.3	LOS A	0.0	0.1	0.22	0.45	0.22	48.9
Approach			7	3.0	7	3.0	0.006	3.9	LOS A	0.0	0.1	0.22	0.45	0.22	48.9
North: Castlereagh Highway (N)															
7	L2	All MCs	1	3.0	1	3.0	0.064	7.9	LOS A	0.0	0.0	0.00	0.01	0.00	85.7
8	T1	All MCs	119	9.0	119	9.0	0.064	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.8
Approach			120	8.9	120	8.9	0.064	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.6
All Vehicles			216	8.7	216	8.7	0.064	0.2	NA	0.0	0.1	0.01	0.02	0.01	95.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2025DES Weekday AM (Site Folder: Castlereagh Highway / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Project No.: P6327
 Project Name: 1544 Castlereagh Highway Galambine TIA
 Intersection: Castlereagh Highway / Site Access
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec			veh	m			km/h
South: Castlereagh Highway (S)															
2	T1	All MCs	112	9.0	112	9.0	0.072	0.1	LOS A	0.1	0.9	0.10	0.13	0.10	95.7
3	R2	All MCs	18	3.0	18	3.0	0.072	8.3	LOS A	0.1	0.9	0.10	0.13	0.10	54.8
Approach			129	8.2	129	8.2	0.072	1.3	NA	0.1	0.9	0.10	0.13	0.10	86.8
East: Site Access (E)															
4	L2	All MCs	4	3.0	4	3.0	0.004	4.0	LOS A	0.0	0.1	0.30	0.46	0.30	48.8
6	R2	All MCs	1	3.0	1	3.0	0.004	4.8	LOS A	0.0	0.1	0.30	0.46	0.30	48.7
Approach			5	3.0	5	3.0	0.004	4.2	LOS A	0.0	0.1	0.30	0.46	0.30	48.7
North: Castlereagh Highway (N)															
7	L2	All MCs	6	3.0	6	3.0	0.110	7.9	LOS A	0.0	0.0	0.00	0.02	0.00	85.3
8	T1	All MCs	199	9.0	199	9.0	0.110	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	99.3
Approach			205	8.8	205	8.8	0.110	0.3	NA	0.0	0.0	0.00	0.02	0.00	98.8
All Vehicles			340	8.5	340	8.5	0.110	0.7	NA	0.1	0.9	0.04	0.07	0.04	92.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2025DES Weekday PM (Site Folder: Castlereagh Highway / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Project No.: P6327
 Project Name: 1544 Castlereagh Highway Galambine TIA
 Intersection: Castlereagh Highway / Site Access
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Veh.]	[Dist]									
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Castlereagh Highway (S)															
2	T1	All MCs	196	9.0	196	9.0	0.107	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	99.5
3	R2	All MCs	3	3.0	3	3.0	0.107	7.6	LOS A	0.0	0.2	0.01	0.01	0.01	56.0
Approach			199	8.9	199	8.9	0.107	0.1	NA	0.0	0.2	0.01	0.01	0.01	98.3
East: Site Access (E)															
4	L2	All MCs	17	3.0	17	3.0	0.017	3.8	LOS A	0.1	0.5	0.23	0.45	0.23	48.9
6	R2	All MCs	5	3.0	5	3.0	0.017	4.8	LOS A	0.1	0.5	0.23	0.45	0.23	48.9
Approach			22	3.0	22	3.0	0.017	4.0	LOS A	0.1	0.5	0.23	0.45	0.23	48.9
North: Castlereagh Highway (N)															
7	L2	All MCs	1	3.0	1	3.0	0.062	7.9	LOS A	0.0	0.0	0.00	0.01	0.00	85.7
8	T1	All MCs	114	9.0	114	9.0	0.062	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.8
Approach			115	8.9	115	8.9	0.062	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.6
All Vehicles			336	8.5	336	8.5	0.107	0.4	NA	0.1	0.5	0.02	0.04	0.02	92.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2025DES Saturday PM (Site Folder: Castlereagh Highway / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Project No.: P6327
 Project Name: 1544 Castlereagh Highway Galambine TIA
 Intersection: Castlereagh Highway / Site Access
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec			veh	m			km/h
South: Castlereagh Highway (S)															
2	T1	All MCs	87	9.0	87	9.0	0.060	0.1	LOS A	0.1	0.9	0.10	0.15	0.10	94.9
3	R2	All MCs	20	3.0	20	3.0	0.060	7.9	LOS A	0.1	0.9	0.10	0.15	0.10	54.5
Approach			107	7.9	107	7.9	0.060	1.6	NA	0.1	0.9	0.10	0.15	0.10	83.4
East: Site Access (E)															
4	L2	All MCs	17	3.0	17	3.0	0.017	3.8	LOS A	0.1	0.4	0.23	0.45	0.23	48.9
6	R2	All MCs	5	3.0	5	3.0	0.017	4.4	LOS A	0.1	0.4	0.23	0.45	0.23	48.9
Approach			22	3.0	22	3.0	0.017	3.9	LOS A	0.1	0.4	0.23	0.45	0.23	48.9
North: Castlereagh Highway (N)															
7	L2	All MCs	6	3.0	6	3.0	0.067	7.9	LOS A	0.0	0.0	0.00	0.03	0.00	85.0
8	T1	All MCs	119	9.0	119	9.0	0.067	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	98.8
Approach			125	8.7	125	8.7	0.067	0.4	NA	0.0	0.0	0.00	0.03	0.00	98.0
All Vehicles			255	7.9	255	7.9	0.067	1.2	NA	0.1	0.9	0.06	0.12	0.06	84.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2035BG Weekday AM (Site Folder: Castlereagh Highway / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Project No.: P6327
 Project Name: 1544 Castlereagh Highway Galambine TIA
 Intersection: Castlereagh Highway / Site Access
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Veh.]	[Dist]									
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Castlereagh Highway (S)															
2	T1	All MCs	134	9.0	134	9.0	0.078	0.1	LOS A	0.1	0.5	0.05	0.06	0.05	98.0
3	R2	All MCs	8	3.0	8	3.0	0.078	8.4	LOS A	0.1	0.5	0.05	0.06	0.05	55.5
Approach			142	8.6	142	8.6	0.078	0.6	NA	0.1	0.5	0.05	0.06	0.05	93.8
East: Site Access (E)															
4	L2	All MCs	2	3.0	2	3.0	0.003	4.2	LOS A	0.0	0.1	0.34	0.47	0.34	48.7
6	R2	All MCs	1	3.0	1	3.0	0.003	5.1	LOS A	0.0	0.1	0.34	0.47	0.34	48.6
Approach			3	3.0	3	3.0	0.003	4.5	LOS A	0.0	0.1	0.34	0.47	0.34	48.6
North: Castlereagh Highway (N)															
7	L2	All MCs	3	3.0	3	3.0	0.130	7.9	LOS A	0.0	0.0	0.00	0.01	0.00	85.6
8	T1	All MCs	238	9.0	238	9.0	0.130	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.6
Approach			241	8.9	241	8.9	0.130	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.4
All Vehicles			386	8.8	386	8.8	0.130	0.3	NA	0.1	0.5	0.02	0.03	0.02	96.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2035BG Weekday PM (Site Folder: Castlereagh Highway / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Project No.: P6327
 Project Name: 1544 Castlereagh Highway Galambine TIA
 Intersection: Castlereagh Highway / Site Access
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV] veh/h	%	[Total HV] veh/h	%				[Veh.] veh	[Dist] m				
South: Castlereagh Highway (S)															
2	T1	All MCs	234	9.0	234	9.0	0.127	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	99.7
3	R2	All MCs	2	3.0	2	3.0	0.127	7.6	LOS A	0.0	0.1	0.01	0.01	0.01	56.1
Approach			236	8.9	236	8.9	0.127	0.1	NA	0.0	0.1	0.01	0.01	0.01	99.0
East: Site Access (E)															
4	L2	All MCs	8	3.0	8	3.0	0.009	3.8	LOS A	0.0	0.2	0.26	0.46	0.26	48.9
6	R2	All MCs	3	3.0	3	3.0	0.009	5.1	LOS A	0.0	0.2	0.26	0.46	0.26	48.8
Approach			12	3.0	12	3.0	0.009	4.2	LOS A	0.0	0.2	0.26	0.46	0.26	48.8
North: Castlereagh Highway (N)															
7	L2	All MCs	1	3.0	1	3.0	0.074	7.9	LOS A	0.0	0.0	0.00	0.01	0.00	85.7
8	T1	All MCs	136	9.0	136	9.0	0.074	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.8
Approach			137	9.0	137	9.0	0.074	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.7
All Vehicles			384	8.8	384	8.8	0.127	0.2	NA	0.0	0.2	0.01	0.02	0.01	96.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2035BG Saturday PM (Site Folder: Castlereagh Highway / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Project No.: P6327
 Project Name: 1544 Castlereagh Highway Galambine TIA
 Intersection: Castlereagh Highway / Site Access
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				
South: Castlereagh Highway (S)															
2	T1	All MCs	104	9.0	104	9.0	0.057	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	99.7
3	R2	All MCs	1	3.0	1	3.0	0.057	7.6	LOS A	0.0	0.1	0.01	0.01	0.01	56.1
Approach			105	8.9	105	8.9	0.057	0.1	NA	0.0	0.1	0.01	0.01	0.01	98.9
East: Site Access (E)															
4	L2	All MCs	5	3.0	5	3.0	0.006	3.8	LOS A	0.0	0.1	0.25	0.45	0.25	48.9
6	R2	All MCs	2	3.0	2	3.0	0.006	4.4	LOS A	0.0	0.1	0.25	0.45	0.25	48.8
Approach			7	3.0	7	3.0	0.006	4.0	LOS A	0.0	0.1	0.25	0.45	0.25	48.9
North: Castlereagh Highway (N)															
7	L2	All MCs	1	3.0	1	3.0	0.077	7.9	LOS A	0.0	0.0	0.00	0.01	0.00	85.7
8	T1	All MCs	142	9.0	142	9.0	0.077	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.8
Approach			143	9.0	143	9.0	0.077	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.7
All Vehicles			256	8.8	256	8.8	0.077	0.2	NA	0.0	0.1	0.01	0.02	0.01	96.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2035DES Weekday AM (Site Folder: Castlereagh Highway / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Project No.: P6327
 Project Name: 1544 Castlereagh Highway Galambine TIA
 Intersection: Castlereagh Highway / Site Access
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV] veh/h	%	[Total HV] veh/h	%				[Veh.] veh	[Dist] m				
South: Castlereagh Highway (S)															
2	T1	All MCs	134	9.0	134	9.0	0.085	0.2	LOS A	0.1	1.0	0.10	0.12	0.10	96.2
3	R2	All MCs	18	3.0	18	3.0	0.085	8.4	LOS A	0.1	1.0	0.10	0.12	0.10	55.0
Approach			152	8.3	152	8.3	0.085	1.1	NA	0.1	1.0	0.10	0.12	0.10	88.3
East: Site Access (E)															
4	L2	All MCs	4	3.0	4	3.0	0.004	4.2	LOS A	0.0	0.1	0.33	0.47	0.33	48.7
6	R2	All MCs	1	3.0	1	3.0	0.004	5.1	LOS A	0.0	0.1	0.33	0.47	0.33	48.6
Approach			5	3.0	5	3.0	0.004	4.4	LOS A	0.0	0.1	0.33	0.47	0.33	48.7
North: Castlereagh Highway (N)															
7	L2	All MCs	6	3.0	6	3.0	0.131	7.9	LOS A	0.0	0.0	0.00	0.02	0.00	85.4
8	T1	All MCs	238	9.0	238	9.0	0.131	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	99.4
Approach			244	8.8	244	8.8	0.131	0.2	NA	0.0	0.0	0.00	0.02	0.00	98.9
All Vehicles			401	8.6	401	8.6	0.131	0.6	NA	0.1	1.0	0.04	0.06	0.04	93.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2035DES Weekday PM (Site Folder: Castlereagh Highway / Site Access)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Project No.: P6327
 Project Name: 1544 Castlereagh Highway Galambine TIA
 Intersection: Castlereagh Highway / Site Access
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV] veh/h	%	[Total HV] veh/h	%				[Veh.] veh	[Dist] m				
South: Castlereagh Highway (S)															
2	T1	All MCs	234	9.0	234	9.0	0.128	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	99.6
3	R2	All MCs	3	3.0	3	3.0	0.128	7.6	LOS A	0.0	0.2	0.01	0.01	0.01	56.0
Approach			237	8.9	237	8.9	0.128	0.1	NA	0.0	0.2	0.01	0.01	0.01	98.6
East: Site Access (E)															
4	L2	All MCs	17	3.0	17	3.0	0.018	3.8	LOS A	0.1	0.5	0.26	0.46	0.26	48.9
6	R2	All MCs	5	3.0	5	3.0	0.018	5.1	LOS A	0.1	0.5	0.26	0.46	0.26	48.8
Approach			22	3.0	22	3.0	0.018	4.1	LOS A	0.1	0.5	0.26	0.46	0.26	48.8
North: Castlereagh Highway (N)															
7	L2	All MCs	1	3.0	1	3.0	0.074	7.9	LOS A	0.0	0.0	0.00	0.01	0.00	85.7
8	T1	All MCs	136	9.0	136	9.0	0.074	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.8
Approach			137	9.0	137	9.0	0.074	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.7
All Vehicles			396	8.6	396	8.6	0.128	0.3	NA	0.1	0.5	0.02	0.03	0.02	93.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2035DES Saturday PM (Site Folder: Castlereagh Highway / Site Access)]

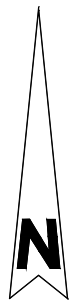
Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Project No.: P6327
 Project Name: 1544 Castlereagh Highway Galambine TIA
 Intersection: Castlereagh Highway / Site Access
 Site Category: (None)
 Give-Way (Two-Way)

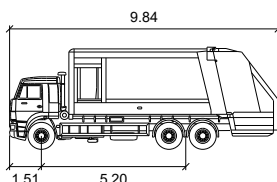
Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Castlereagh Highway (S)															
2	T1	All MCs	104	9.0	104	9.0	0.069	0.1	LOS A	0.1	1.0	0.10	0.13	0.10	95.4
3	R2	All MCs	20	3.0	20	3.0	0.069	8.0	LOS A	0.1	1.0	0.10	0.13	0.10	54.7
Approach			124	8.0	124	8.0	0.069	1.4	NA	0.1	1.0	0.10	0.13	0.10	85.2
East: Site Access (E)															
4	L2	All MCs	17	3.0	17	3.0	0.017	3.9	LOS A	0.1	0.5	0.25	0.46	0.25	48.9
6	R2	All MCs	5	3.0	5	3.0	0.017	4.6	LOS A	0.1	0.5	0.25	0.46	0.25	48.8
Approach			22	3.0	22	3.0	0.017	4.0	LOS A	0.1	0.5	0.25	0.46	0.25	48.9
North: Castlereagh Highway (N)															
7	L2	All MCs	6	3.0	6	3.0	0.080	7.9	LOS A	0.0	0.0	0.00	0.03	0.00	85.1
8	T1	All MCs	142	9.0	142	9.0	0.080	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	99.0
Approach			148	8.7	148	8.7	0.080	0.3	NA	0.0	0.0	0.00	0.03	0.00	98.3
All Vehicles			295	8.0	295	8.0	0.080	1.1	NA	0.1	1.0	0.06	0.11	0.06	86.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Appendix E: Swept Path Diagrams



Vehicle Clearance (300mm)



JJR Rear Load RCV

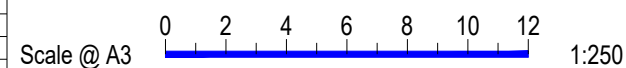
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- Track : 2.48
- Lock to Lock Time : 6.0
- Steering Angle : 42.0

DESIGN VEHICLE

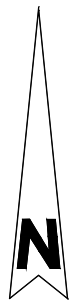


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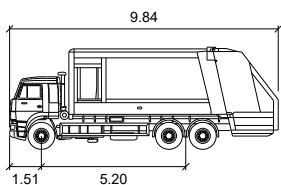
REVISIONS			
Issue	Revisions/Descriptions	Drawn	Date
001	Swept Path Assessment	R.TU	02.05.2024



Project	Design	Drawn	Checked
P6327 1544 Castlereagh Highway Galambine TIA	R.TU	R.TU	N.E
Title		CONCEPT ONLY	
Site Access Refuse Collection Vehicle Swept Paths		Date	02.05.2024
Project Number	Sheet Number	Issue	
P6327	1	001	



Vehicle Clearance (300mm)



JJR Rear Load RCV

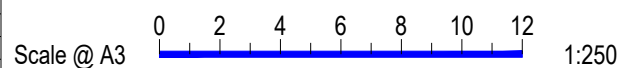
meters	
Width	: 2.48
Track	: 2.48
Lock to Lock Time	: 6.0
Steering Angle	: 42.0

DESIGN VEHICLE

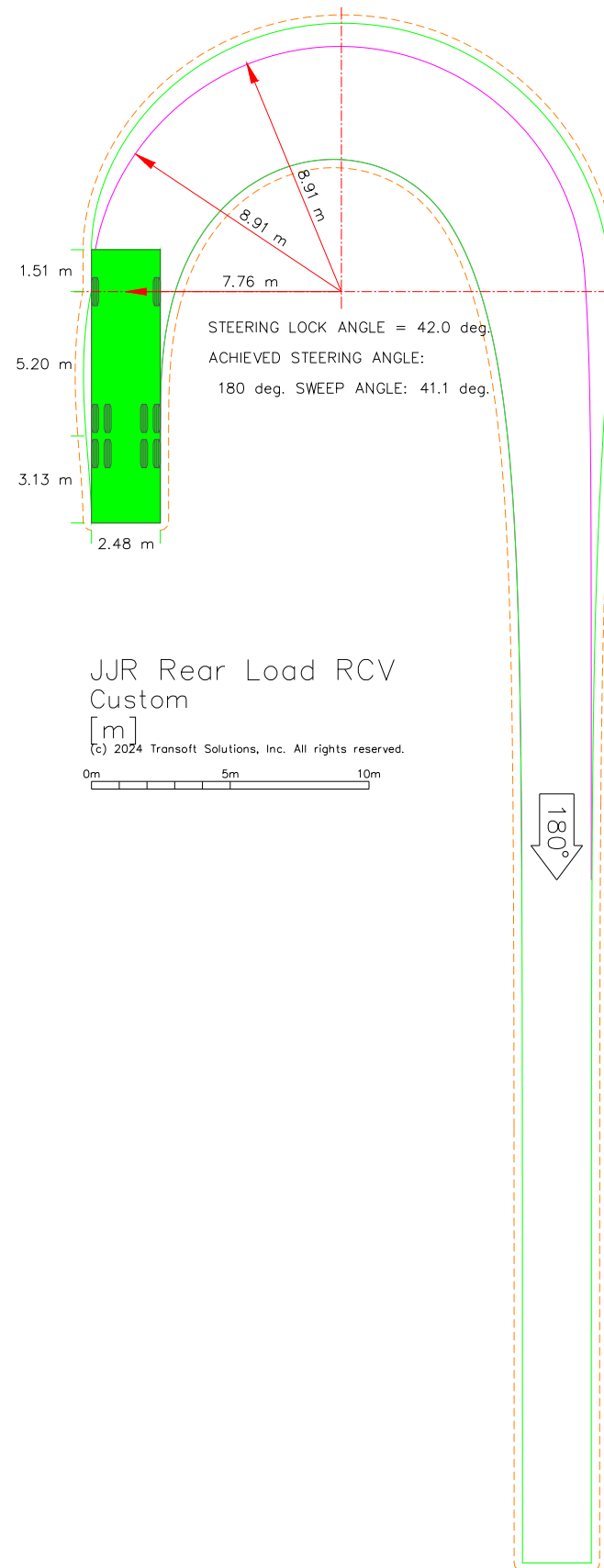
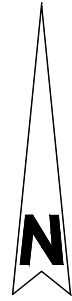


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REVISIONS			
Issue	Revisions/Descriptions	Drawn	Date
001	Swept Path Assessment	R.TU	02.05.2024

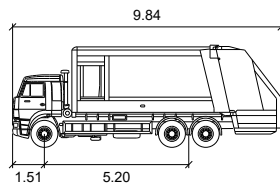


Project	P6327 1544 Castlereagh Highway Galambine TIA	Design	R.TU	Drawn	R.TU	Checked	N.E
Title	Site Access Refuse Collection Vehicle Swept Paths	CONCEPT ONLY		Date	02.05.2024		
Project Number	P6327	Sheet Number	2	Issue	001		



JJR Rear Load RCV
 Custom
 [m]
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Vehicle Clearance (300mm)



JJR Rear Load RCV

- meters
- Width : 2.48
 - Track : 2.48
 - Lock to Lock Time : 6.0
 - Steering Angle : 42.0

DESIGN VEHICLE



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REVISIONS			
Issue	Revisions/Descriptions	Drawn	Date
001	Swept Path Assessment	R.TU	02.05.2024

Scale @ A3 1:250

Project	Design	Drawn	Checked
P6327 1544 Castlereagh Highway Galambine TIA	R.TU	R.TU	N.E
Title	CONCEPT ONLY		
Turn Template JJ Richards Rear Load Refuse Collection Vehicle	Project Number	Sheet Number	Issue
	P6327	3	001
			Date
			02.05.2024