

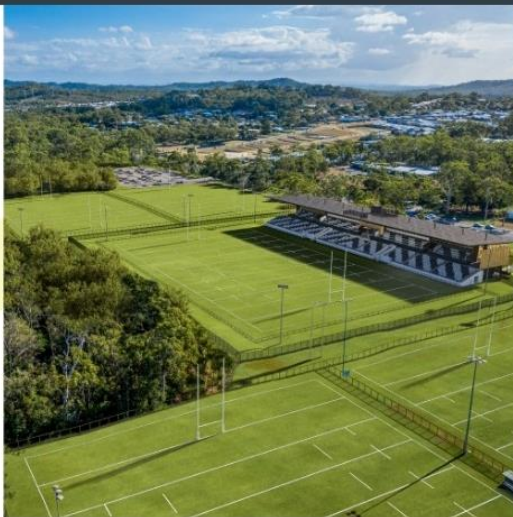
**PLANS AND DOCUMENTS
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DEVELOPMENT APPROVAL**

Approval no: DEV2024/1583

Date: 6 August 2025



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**916-944 Greenbank Road, North Maclean
Traffic Impact Assessment**

Client:
Project Number:
Document Number:

**Nucrush
BE230342
BE230342-RP-TIA-06**

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Table of Contents

1.	Introduction	1
1.1	Background	1
1.2	Limitations	1
2.	Existing Situation	2
2.1	Site Location	2
2.2	Road Network	2
2.2.1	Mount Lindesay Highway	3
2.2.2	Greenbank Road	3
2.2.3	Adjacent Development (Ampol Service Station)	3
2.3	Public Transport Facilities	4
3.	Existing Approval	6
3.1	Approved Development	6
3.2	Approved Warehouse, Low Impact and Service Industry Development	7
3.3	Approved Warehouse, Low Impact and Service Industry Parking Provision	7
3.4	Vehicle Access Arrangement	7
3.5	Approved Warehouse, Low Impact and Service Industry Traffic Generations	7
4.	Proposed Industrial Development	8
4.1	Proposed Industrial Development Layout	8
4.2	Vehicle Driveway Arrangement	9
5.	Design Considerations	10
5.1	Vehicle Access	10
5.1.1	Access Category	10
5.1.2	Sight Distance	10
5.1.3	Queuing Provisions	10
5.2	Carpark Design	10
5.3	Servicing Arrangements	11
5.3.1	Low impact industry, Service industry and Warehouse land uses	11
5.3.2	Concrete Batching Plant	11
5.4	Car Parking Provision	11
6.	Traffic Impacts – Comparison Against Previous Approval	12
6.1	Concrete Batching Plant Traffic Volumes	12
6.2	Potential Low impact industry, Service industry and Warehouse Land Uses Traffic Volumes	12
6.3	Net Traffic Impact	13
7.	Concrete Batching Plant Traffic Assumptions and Characteristics	14
7.1	Introduction	14
7.2	Background Traffic Volumes	14
7.3	Traffic Growth	15
7.4	Traffic Generation – Concrete Batching Plant	15
7.5	Directional Distribution	15
7.6	Traffic Distribution	15
8.	Concrete Batching Plant Traffic Assessment Criteria	16
8.1	Assessment Scenarios	16
8.2	Assessment Criteria	16





8.2.1	Intersection Degree of Saturation	16
8.2.2	Queues.....	16
9.	Concrete Batching Plant Operational Assessment	17
9.1	Concrete Batching Plant Driveway / Greenbank Road	17
9.2	Greenbank Road Safety & Queueing	17
10.	EDQ Further Issues Letter (25 February 2025).....	1
11.	Conclusions	2

Tables

Table 2.1	Key Road Characteristics	2
Table 2.2	Bus Route Key Characteristics	5
Table 3.1	Approved Development Floor Area	7
Table 3.2	Approved Car Parking Provision	7
Table 3.3	Approved Trip Generation	7
Table 5.1	Driveway Design Compliance.....	10
Table 5.2	Car Park Design Compliance	10
Table 5.3	Number of Staff for Concrete Batching Plant	11
Table 5.4	Overall Car Parking Provision	11
Table 6.1	Concrete Batching Plant Typical Daily Traffic Volumes	12
Table 6.2	Proposed Warehouse Use Traffic Volumes	12
Table 6.3	Net Impact Traffic Volumes	13
Table 7.1	Adopted Peak Periods	14
Table 7.2	Concrete Batching Plant Traffic Generation.....	15
Table 7.3	Concrete Batch Plant Traffic Directional Distribution	15
Table 8.1	Impact Assessment Scenarios	16
Table 8.2	Adopted Intersection Performance Thresholds – Degree of Saturation.....	16
Table 9.1	SIDRA Results – Site Access / Greenbank Road	17

Figures

Figure 2.1	Site Location.....	2
Figure 2.2	Surrounding Road Hierarchy.....	3
Figure 2.3	Existing Ampol Service Station	4
Figure 2.4	Public Transport Facilities	5
Figure 3.1	Site Layout (Approved).....	6
Figure 4.1	Proposed Plan of Development.....	8
Figure 7.1	Study Intersection Location	14
Figure 7.2	2025 Average Weekday Peak Volumes.....	15
Figure 9.1	Concept Layout and SIDRA Layout – Site Access / Greenbank Road.....	17
Figure 9.2	Concept Design – Keep Clear	18

Appendices

Appendix A	Department of Infrastructure Local Government and Planning PDA Approval
Appendix B	Burchills TIA - BE160355-RP-TIA-03
Appendix C	Proposed Plan of Development Layout
Appendix D	Traffic Survey Data
Appendix E	Traffic Flow Diagrams
Appendix F	SIDRA Outputs





1. Introduction

1.1 Background

This report has been prepared by Burchills Engineering Solutions (Burchills) for *Nucrush Pty Ltd* ('the Applicant') in support of a Priority Development Area (PDA) Development Application for a Material Change of Use to establish a concrete batching plant and other industrial uses on the subject site at 916-944 Greenbank Road, North Maclean.

The application is submitted to Economic Development Queensland (EDQ) as the delegate for the Minister for Economic Development Queensland (MEDQ) for PDA Development Applications in the Greater Flagstone Priority Development Area (GFPDA).

The Development Application is comprised of the following components:

- **PDA Development Permit for Material Change of Use** for Medium impact industry (Concrete batching plant); and
- **PDA Development Permit for Material Change of Use** for a Plan of Development for Low impact industry, Service industry and Warehouse land uses.

The subject site has an existing approval Priority Development Approval (DEV2017/850) dated 22 December 2017 for Warehouse, Low Impact and Service Industry that includes three separate building structures (Buildings A, B and C).

Therefore, the report addresses the following:

- Review of existing site and surrounding road network;
- Assessment of the development's proposed access, parking and servicing arrangements in accordance with the relevant Council standards, including:
 - Parking provisions;
 - Site access design;
 - Servicing provisions;
- Assessment of the previous development's traffic generation and impact on the external road network;
- Assessment of the of medium impact industry (Concrete batching plant) impact as a standalone development; and
- Summary of our findings and recommendations.

Please note that this is an updated report to address the traffic items of EDQ's 'Further Issues Letter', dated 25 February 2025. The relevant traffic items from the 'Further Issues Letter' and Burchill's responses are included in Section 10.

1.2 Limitations

Burchills Engineering Solutions has carried out this traffic report that complies with standard traffic engineering practices and standards applicable during the assessment in April 2025. The report was based on the available project information and conditions at the time of the assessment. However, Burchills Engineering Solutions cannot be held responsible for any changes to the project planning or road conditions that occur after the report's completion, which may affect the accuracy of the assessment's findings.





2. Existing Situation

2.1 Site Location

The subject site is situated on Lot 2 on SP267252 also known as 916 – 944 Greenbank Road in North Maclean. The subject lot is approximately 2.531 ha in total area with 246.5m wide frontage to Greenbank Road. The subject is located within the Logan City Council (LCC) area and is currently zoned by Economic Development Queensland (EDQ) as a Priority Development Area (PDA).

The site location is shown on Figure 2.1.



Figure 2.1 Site Location

2.2 Road Network

The key road characteristics are summarised in Table 2.1 below.

Table 2.1 Key Road Characteristics

Road Authority	Classification	Typical Form	Jurisdiction
Mount Lindesay Highway	State-Controlled Road (Highway)	Two-lane / Two-way	TMR
Greenbank Road	Rural collector	Two-lane / Two-way	Logan City Council

The surrounding road hierarchy in the vicinity of the subject site is shown in Figure 2.2.





Figure 2.2 Surrounding Road Hierarchy

2.2.1 Mount Lindsay Highway

The Mount Lindsay Highway is a two-way, two-lane State-controlled roadway, in the vicinity of the subject site. The Mount Lindsay Highway has a seal width of approximately 9.5 m with sealed shoulders. The posted speed limit on Mount Lindsay Highway is 80km/h in the vicinity of the subject site.

2.2.2 Greenbank Road

Greenbank Road is a two-way, Council owned rural collector road. It has a sealed carriageway width of approximately 9.6m with 4.0m lanes. Greenbank Road intersects with Mount Lindsay Highway east of the subject site.

The posted speed limit on Greenbank Road is 60km/h in the vicinity of the industrial site.

2.2.3 Adjacent Development (Ampol Service Station)

An existing Ampol Service Station is located adjacent the proposed concrete batching plant and has two driveways off Greenbank Road (Entrance / Exit and an Exit only). It is noted that the Entrance / Exit driveway is located approximately 140m west of the Mount Lindsay Highway / Greenbank Road intersection. The existing service station driveways do not have any turn treatments or 'Keep Clear' line markings to prevent queuing traffic blocking the driveways. The existing Ampol Service Station adjacent the subject site is shown in Figure 2.3.



Figure 2.3 Existing Ampol Service Station

2.3 Public Transport Facilities

The nearest bus stop is approximately 400m from the subject site. Bus stops and key route characteristics have been shown on Figure 2.4 and Table 2.2.



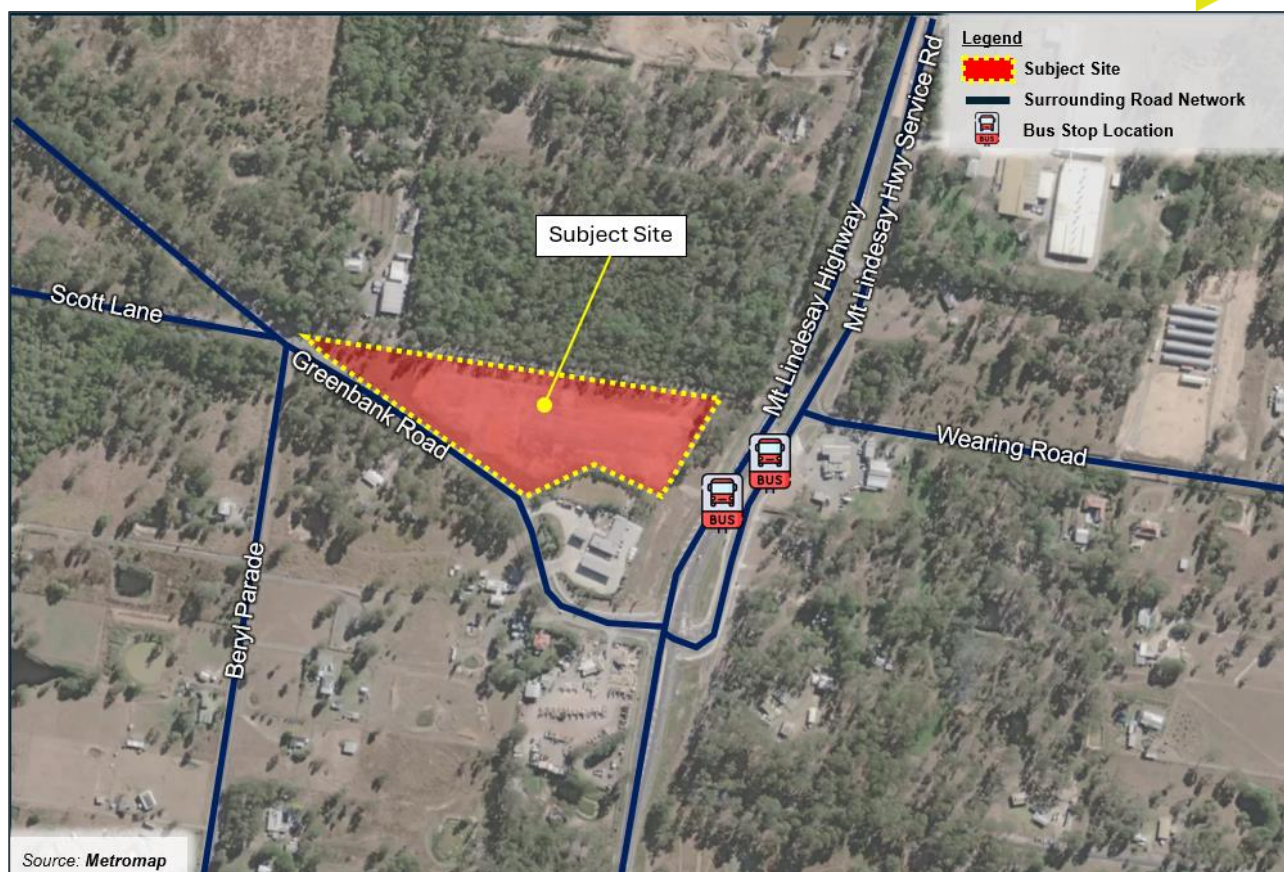


Figure 2.4 Public Transport Facilities

Table 2.2 Bus Route Key Characteristics

Route	Route Name	Destinations	Peak Frequency
540	Beaunesert – Brown Plains	Beaunesert, North Maclean, Park Ridge, Browns Plains	Every hour

As shown above, the site is accessible via public transport.



3. Existing Approval

3.1 Approved Development

The subject site has an existing approval Priority Development Approval (PDA) Development approval (DEV2017/850) dated 22 December 2017 for Warehouse, Low Impact and Service Industry that includes three separate building structures (Buildings A, B and C).

The Department of Infrastructure Local Government and Planning PDA approval and approved layout plan (DEV2017/850) can be found at Appendix A.

Figure 3.1 below show the stamped approved PDA approval layout.

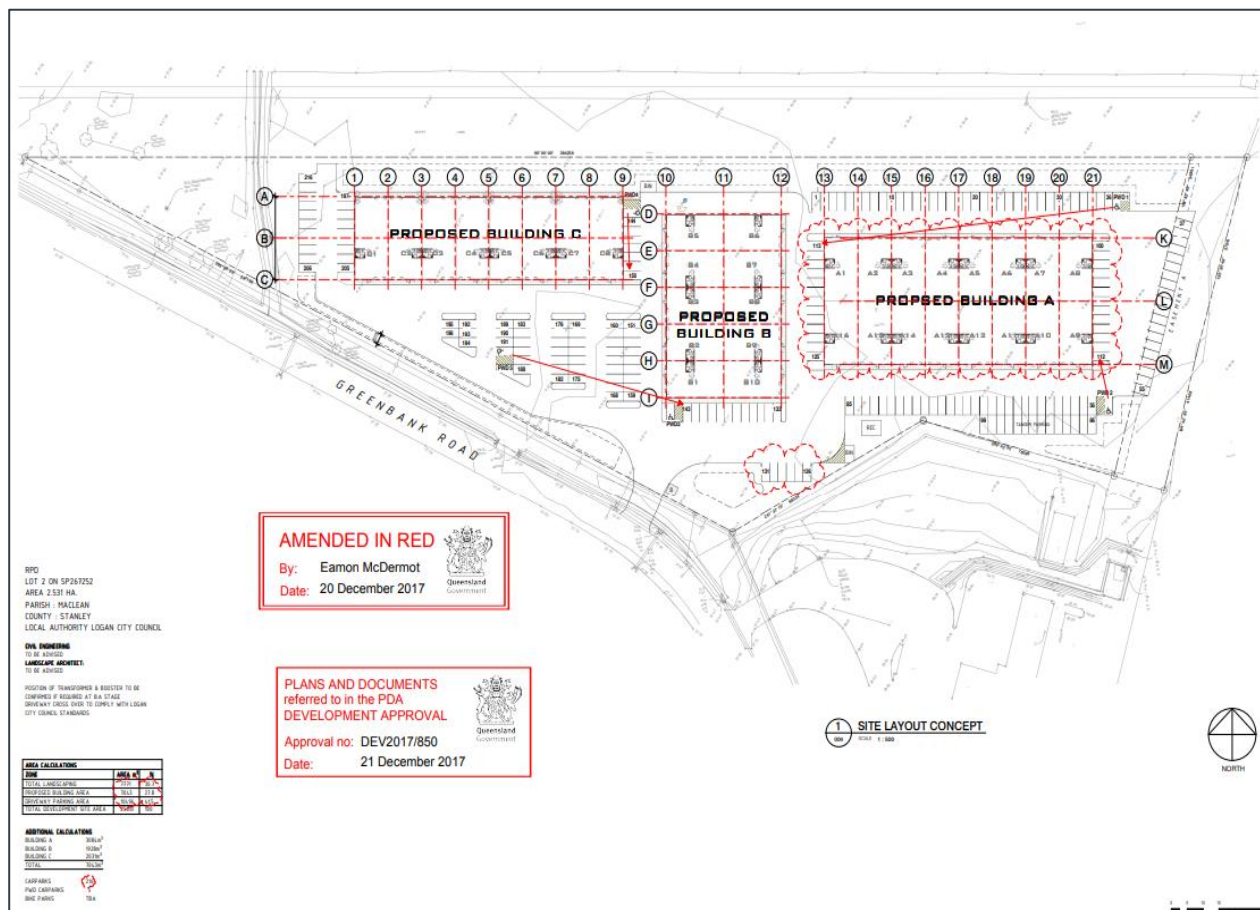


Figure 3.1 Site Layout (Approved)



3.2 Approved Warehouse, Low Impact and Service Industry Development

Table 3.1 summarises the development floor area for the approved Warehouse, Low Impact and Service Industry development.

Table 3.1 Approved Development Floor Area

Lot	Lot Area (m ²)	%	Proposed Building	Building Area (m ²)
1	5,459	21.18	C	2,031
2	4,226	16.84	B	1,928
3	6,538	28.45	A	3,048

3.3 Approved Warehouse, Low Impact and Service Industry Parking Provision

Table 3.2 summarises the approved parking provision for the Industrial development.

Table 3.2 Approved Car Parking Provision

Land Use	Lot	Building	Area (m ²)	No. of Carparking Required	No. of parking provided
Low Impact Industry	1	C	2,031	64	64
Service Industry	2	B	1,928	61	61
Low Impact Industry	3	A	3,084	97	97
Total				222	222

3.4 Vehicle Access Arrangement

The site access is provided via a designated shared driveway for the whole industrial site, which is located approximately 40m northwest of the existing service station (Ampol) exit driveway.

3.5 Approved Warehouse, Low Impact and Service Industry Traffic Generations

Burchills produced a Traffic Impact Assessment to support the industrial development (Burchills TIA reference BE160355-RP-TIA-03, June 2022) and a summary of the approved trips generated from the development is presented in Table 3.3.

Table 3.3 Approved Trip Generation

Land Use	Lot	Building	Area (m ²)	Traffic Generation Rate		Traffic Generation	
				AM Peak	PM Peak	AM Peak	PM Peak
Service Industry	1, 2 & 3	C	2031	0.5 per 100m ²	1 per 100m ²	10 trips	21 trips
Service Industry	1, 2 & 3	B	1928	0.5 per 100m ²	1 per 100m ²	11 trips	20 trips
Service Industry	1, 2 & 3	A	3084	0.5 per 100m ²	1 per 100m ²	16 trips	31 trips
Total						37 trips	72 trips

Burchills produced a Traffic Impact Assessment to support the industrial development (Burchills TIA reference BE160355-RP-TIA-03, June 2022) and can be found at Appendix B.





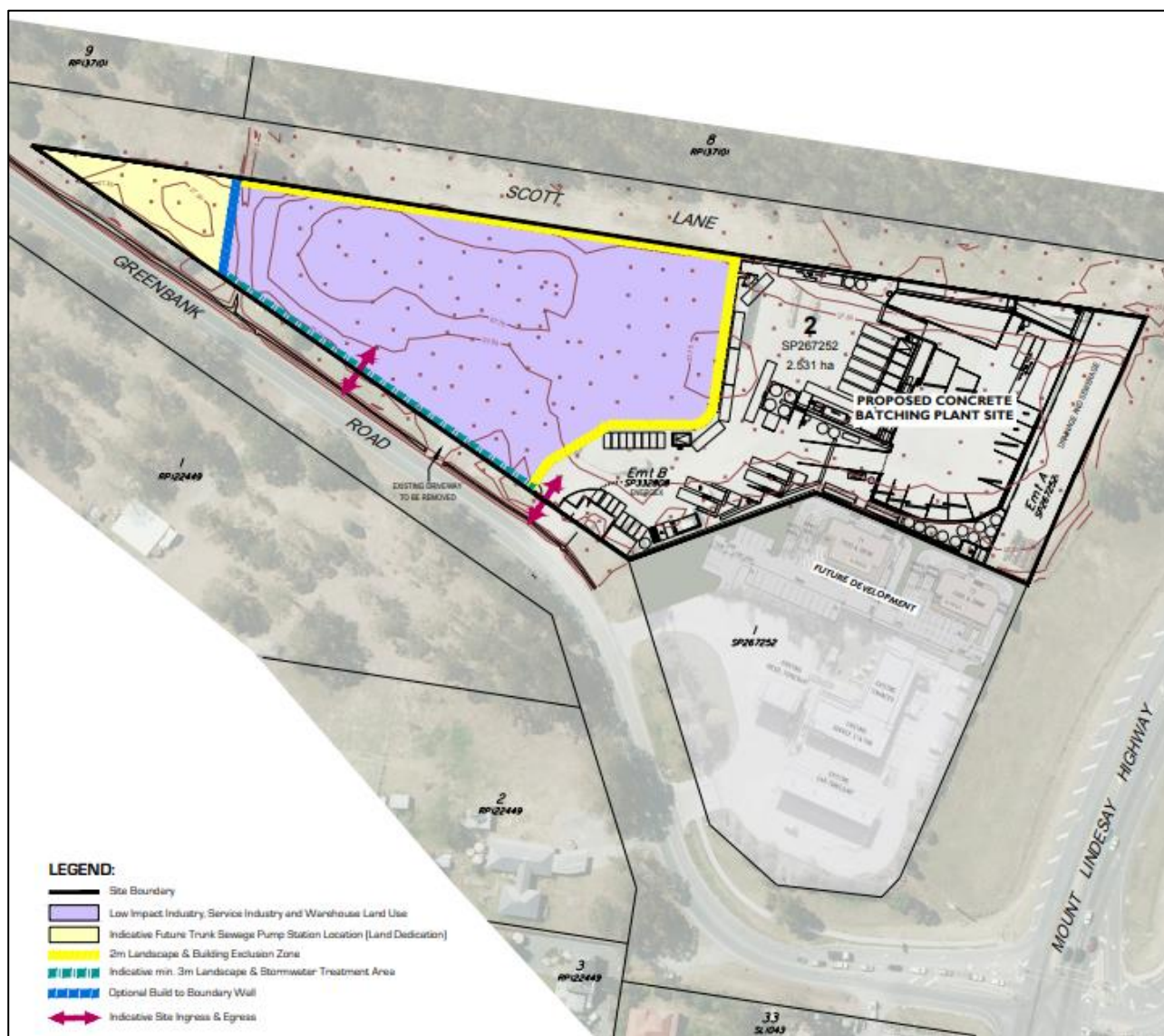
4. Proposed Industrial Development

4.1 Proposed Industrial Development Layout

The proposed industrial development will consist of the following:

- Replacing previously approved Building A with a Medium Impact Industry use (Concrete Batch Plant);
- Plan of Development for Low impact industry, Service industry and Warehouse land uses; and
- Separate driveways to serve Low impact industry, Service industry / Warehouse land uses and Concrete Batching plant use.

Figure 4.1 shows the proposed new layout for the proposed industrial development.



Source: RPS Plan dated 7/5/25, Ref No. 15412-POD-4a

Figure 4.1 Proposed Plan of Development

A copy of the Plan of Development can be found at Appendix C.





4.2 Vehicle Driveway Arrangement

The reconfigured industrial development proposes two (2) driveways with one serving the Low impact industry, Service industry and Warehouse land use and a dedicated driveway for the concrete batching plant located south-east of the property boundary.

Further discussion regarding the suitability of the proposed vehicle access arrangement is provided at Section 5.





5. Design Considerations

5.1 Vehicle Access

5.1.1 Access Category

In accordance with LCC's Serving, Access and Parking Code (9.4.7), the driveways should be designed based on the following characteristics:

- Number of vehicles serviced by access driveway.
- On-site refuse collection and service vehicles.

On the basis of the above, Table 5.1 summarises the access requirements.

Table 5.1 Driveway Design Compliance

Crossover	Type	Minimum Width	Proposed Width	Compliant
Low impact industry, Service industry and Warehouse land uses	Category 2	9m	9m	Yes
Concrete Batching Plant	Category 2	9m	9m	Yes

As shown above, the proposed development provides access via two (2) crossovers on Greenbank Road, satisfying the design requirements.

5.1.2 Sight Distance

Reference is made to AS2890.1, which indicates the minimum sight distance requirement is 65m (for a posted speed limit of 60km/h), measured 2.5m back from the edge of the frontage road (Crossover 1 and 2).

Site investigations confirmed that the following:

- Low impact industry, Service industry and Warehouse land uses Driveway;
 - 285m plus sight distance to the right;
 - 142m sight distance achieve to the left.
- Concrete Batching Plant Use Driveway;
 - 285m plus sight distance to the right;
 - 198m sight distance achieve to the left.

As summarised above sight distance for both driveways exceeds the minimum sight distance requirement outlined in AS2890.1 and is considered to be acceptable.

5.1.3 Queuing Provisions

It is expected that that the Low impact industry, Service industry and Warehouse land uses will provide car parking provision in accordance with Table 9.4.7.3.3 of Council's Service, Access and Parking Code (SAPC). Parking areas with 61-100 car parking spaces are required to provide a queuing provision of three (3) car spaces (18m).

5.2 Carpark Design

It is expected that that Low impact industry, Service industry and Warehouse land uses car park will require configuration in accordance with the SAPC and AS2890.1 requirements, as summarised in Table 5.2.

Table 5.2 Car Park Design Compliance

Design Criteria	Minimum Width
Bay length – standard	5.4m
Bay width – visitor	2.6m
Two-way roadway/ramp width	6.2m





5.3 Servicing Arrangements

5.3.1 Low impact industry, Service industry and Warehouse land uses

As a part of the on-site operations, refuse collection is expected to occur at common storage and servicing points where internal turning paths are available. A Refuse Collection Vehicle (RCV-10.5m) is anticipated to service the subject site regularly.

The service vehicle for Low Impact Industry use is a Heavy Rigid Vehicle (HRV – 12.5m).

Swept path analysis of the future Low impact industry, Service industry and Warehouse land uses car parking area will be required to confirm that an HRV can enter and exit the site warehouse use in a forward gear and can serve all associated low impact industry units.

5.3.2 Concrete Batching Plant

It is expected that a Refuse Collection Vehicle (RCV -10.5m) will service the concrete batching plant regularly and due to the nature of the concrete batching plant, there will be multiple vehicle types accommodated on site i.e. concrete trucks, tankers and tippers.

Pentral Fultum have undertaken internal swept path analysis for the concrete batching plant. As such, the suitability of vehicle access for the batching plant is being assessed by others and is not considered as part of this report.

5.4 Car Parking Provision

The proposed industrial Plan of Development produced by RPS shows the following parking provision

- Concrete Batching Plant Use – 16 spaces which will include 1 DDA space.

Parking provision for the proposed Concrete Batching Plant has been derived on the number of staff and workers expected to serve the plant instead of being based on conventional floor area.

Nucrush have advised that a maximum of 16 staff will be on site at any given time, with the breakdown of staff detailed in Table 5.3.

Table 5.3 Number of Staff for Concrete Batching Plant

Land Use	Staff Level	Number of staff	Position
Batching Plant	Senior Staff	3	1 X Plant Manager (office)
			1 X Batcher (Batch Office)
			1 X Services Supervisor (Yard)
	Workers	13	1 X FEL Driver
			12 X Agitator Drivers

It is expected that that Low impact industry, Service industry and Warehouse land uses could provide a potential floor area of approximately 4180 m² once developed. A summary of the car parking requirements for the development as outlined in Council's Service Access and Parking Code is provided in Table 5.4.

Table 5.4 Overall Car Parking Provision

Land Use	Building	Area (m ²)	Car Parking Rate	Car Parking Requirement
Medium Impact Industry	Batching Plant	N/A	1 space per 80m ² of GFA up to 500m ² ; plus 1 space per 100m ² GFA thereafter	As required (16)
Low Impact Industry	-	4180*	1 space per 50m ² of GFA up to 500m ² ; plus 1 space per 100m ² GFA thereafter	47*

*Indicative floor area for example of potential Low impact industry, Service industry and Warehouse land uses





6. Traffic Impacts – Comparison Against Previous Approval

In order to determine the potential traffic impact of the reconfigured Warehouse and Medium Industry use (Concrete Batch Plant) against the approved Priority Development Approval (DEV2017/850) for Warehouse, Low Impact and Service Industry the following calculations have been undertaken.

6.1 Concrete Batching Plant Traffic Volumes

Nucrush has provided a breakdown of a typical hourly traffic movements of the batching plant and is detailed in Table 6.1.

Table 6.1 Concrete Batching Plant Typical Daily Traffic Volumes

Time	IN				Total Vehicle In	Out				Total Vehicle Out	Total Vehicle per Day
	Agitators	Tankers	Tippers	Light Vehicles		Agitators	Tankers	Tippers	Light Vehicles		
4:30 am - 5:30 am	0	0	0	16	16	12	0	0	0	12	28
5:30 am - 6:30 am	12	0	0	1	13	12	1	0	0	13	26
6:30 am - 7:30 am	12	1	0	1	14	9	1	0	0	10	24
8:30 am - 9:30 am	9	1	0	1	11	11	1	0	0	12	23
9:30 am - 10:30 am	11	1	0	1	13	14	1	0	1	16	29
10:30 am - 11:30 am	14	1	1	2	18	12	1	1	2	16	34
11:30 am - 12:30 pm	12	1	3	1	17	11	1	3	1	16	33
12:30 pm - 1:30 pm	11	1	3	2	17	10	1	3	2	16	33
1:30 pm - 2:30 pm	10	1	4	1	16	5	1	4	1	11	27
2:30 pm - 3:30 pm	5	1	5	2	13	3	1	5	10	19	32
3:30 pm - 4:30 pm	3	0	5	2	10	1	1	5	4	11	21
4:30 pm - 5:30 pm	1	0	5	1	7	0	0	5	4	9	16
5:30 pm - 6:30 pm	1	0	0	0	1	0	0	4	2	6	7
Total Trip In					166	Total Trip Out				167	333

The proposed Concrete Batch Plant is anticipated to generate:

- 24 vph two way during weekday AM peak and
- 16 vph two way in PM peak.

It should be acknowledged that the AM peak period for the Medium Industry use will be outside of the normal network AM peak period.

6.2 Potential Low impact industry, Service industry and Warehouse Land Uses Traffic Volumes

As previously discussed, an indicative floor area of 4180 m² has been adopted for assessment purposes, to understand the potential traffic volumes and impact for the Low impact industry, Service industry and Warehouse land uses.

In order to provide consistency, the proposed traffic trip rates and associated traffic generations used for the Low Impact Industry Use, have been derived from the Burchills Traffic Impact Assessment for approved industrial development (Burchills TIA reference BE160355-RP-TIA-03, June 2022).

The potential traffic volumes for the Low impact industry, Service industry and Warehouse land uses (with an indicative floor area of 4180 m²) have been detailed in Table 6.2.

Table 6.2 Proposed Warehouse Use Traffic Volumes

Land Use	Area (m ²)	Traffic Generation Rate		Traffic Generation	
		AM Peak	PM Peak	AM Peak	PM Peak
Low impact industry, Service industry and Warehouse land uses	4,180*	0.5 per 100m ²	1 per 100m ²	21 trips	41 trips

*Indicative floor area for example of potential Low impact industry, Service industry and Warehouse land uses





6.3 Net Traffic Impact

Table 6.3 details the net impact of the potential Low impact industry, Service industry and Warehouse land uses and Concrete Batching Plant against the approved traffic generation detailed in the Burchills TIA (BE160355-RP-TIA-03, June 2022).

Table 6.3 Net Impact Traffic Volumes

Land Use	Approved Traffic Generation		Proposed Traffic Generation		Net Change Impact	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Low Impact Industrial Use	37 trips*	72 trips*	21	41	-16	-33
Batching Plant	-	-	24	16	24	16
Total	37 trips*	72 trips*	45 trips	57 trips	+8 trips	-17 trips

**Indicative floor area (4180m²) for example of potential Low impact industry, Service industry and Warehouse land uses*

As shown above, the proposed Low impact industry, Service industry and Warehouse land uses and Concrete Batching Plant development is anticipated to generate eight (8) additional trips in the AM peak but a potential reduction of 17 trips in the PM peak period when compared to the existing approval.

Whilst there has been a slight increase in traffic volumes in the AM peak hour, this equates to an additional vehicle every seven (7) minutes in the morning peak. It should be noted that the two proposed industrial uses will be split between two designated driveways, which reduces the impact when compared to a single driveway serving the approved development.

On the basis of the above, the Low impact industry, Service industry and Warehouse land uses and Concrete Batching Plant development is considered to be satisfactory from a traffic engineering perspective. However, for a robust assessment, detailed analysis has been undertaken in the following Sections 7, 8 and 9. Noting that the proposed Low Impact Industry development will be analysed in detail as part of further Development Applications.

The following traffic assessment in Section 7 – 9 considers the traffic generation and impact of the Concrete Batching Plant without consideration given to the previous approval.





7. Concrete Batching Plant Traffic Assumptions and Characteristics

7.1 Introduction

In accordance with TMR's GTIA, the traffic impacts at the proposed site access for the Concrete Batching Plant on Greenbank Road have been assessed. The location of the study intersection is shown in Figure 7.1 below.



Figure 7.1 Study Intersection Location

The proposed Concrete Batching Plant site access will be priority-controlled driveway.

7.2 Background Traffic Volumes

In order to understand the existing traffic conditions, automatic tube counts were undertaken by Austraffic for a 7-day period commencing Thursday 20 March 2025 on Greenbank Road, adjacent to the proposed development site.

The surveyed and adopted peak periods have been summarized in Table 7.1, and the average weekday peak traffic volumes are shown in Figure 7.2 below. A copy of the traffic survey data is enclosed in Appendix D.

Table 7.1 Adopted Peak Periods

Survey Location	Surveyed Peak Periods	
	AM	PM
Greenbank Road (south of proposed concrete batching plant access)	7:00am – 8:00am	4:00pm – 5:00pm
Adopted Hourly Peak Periods	7:00am – 8:00am	4:00pm – 5:00pm



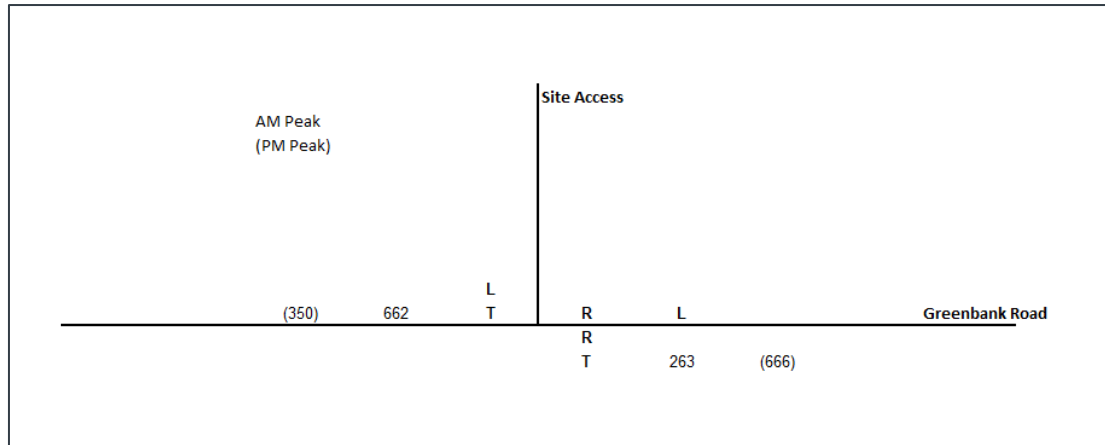


Figure 7.2 2025 Average Weekday Peak Volumes

7.3 Traffic Growth

AADT data from Queensland Traffic Census (2019) from a nearby traffic counter on Mount Lindesay Highway (10029) indicates that the annual growth in the past 5 years was 2.2%. This was applied as an annual linear growth rate to the background traffic on Greenbank Road to determine the background traffic at the year of opening (2027).

7.4 Traffic Generation – Concrete Batching Plant

As identified in Section 6.1, the traffic likely to be generated by the concrete batching plant has been specified by Nucrush. The traffic generation is summarised in Table 7.2 below.

Table 7.2 Concrete Batching Plant Traffic Generation

Land Use	AM Peak Period			PM Peak Period		
	In	Out	Total	IN	OUT	Total
Medium Impact Industrial Use – Concrete Batching Plant	14 vph	10 vph	24 vph	7 vph	9 vph	16 vph

As shown above, the concrete batching plant generates 24 trips during the network AM peak hour and 16 trips during the network PM peak hour.

7.5 Directional Distribution

The directional distribution has been estimated based on the typical hourly vehicle movements summary information provided by Nucrush. The distribution has been summarised in Table 7.3.

Table 7.3 Concrete Batch Plant Traffic Directional Distribution

Land Use	AM Peak Period		PM Peak Period	
	In	Out	In	Out
Medium Impact Industrial Use	60%	40%	60%	40%

7.6 Traffic Distribution

The surrounding road network and attractors have been analysed to determine the external distributions for the development traffic, as well as precedent from the traffic survey data obtained.

It has been assumed that 90% of the development traffic originates from and departs to Mount Lindesay Highway. The remaining 10% is assumed to travel to / from the west via Greenbank Road.

Further details regarding the adopted traffic distributions are provided at Appendix E.





8. Concrete Batching Plant Traffic Assessment Criteria

8.1 Assessment Scenarios

In accordance with Austroads Guide to Traffic Management Part 12, the impact assessment year for the development impacts on the external road network should be the year of opening with the site access intersections being 10 years from the year of opening.

A year of opening of 2027 has been assumed. Table 8.1 summarises the impact assessment scenarios.

Table 8.1 Impact Assessment Scenarios

Impact Assessment Scenario	Study Intersections
2027 BG + DEV	Site Access / Greenbank Road
2037 BG + DEV	Site Access / Greenbank Road

8.2 Assessment Criteria

The performance of the study intersections has been analysed using SIDRA Intersection 9.1 (SIDRA). SIDRA is an industry recognised analysis tool that estimates the capacity and performance of intersections based on input parameters, including geometry and traffic volumes, and provides estimates of an intersection's Degree of Saturation (DOS), queues and delays.

8.2.1 Intersection Degree of Saturation

While the movement delay is considered to provide a better indication of intersection performance and safety for priority-controlled intersections and roundabouts, the DOS should still be considered when assessing the performance of the intersection.

Table 8.2 Adopted Intersection Performance Thresholds – Degree of Saturation

Intersection Treatment	DOS Threshold
Signalised Intersections	Less than or equal to 0.90
Roundabouts	Less than or equal to 0.85
Priority Controlled Intersections	Less than or equal to 0.80

Source: Austroads Guide to Traffic Management Part 12

8.2.2 Queues

In accordance with AGTM Part 12, the 95th percentile queue lengths should be assessed at all intersections within the study area to ensure that queues are contained within turning lanes and do not result in impacts to the efficiency of through traffic (where applicable).





9. Concrete Batching Plant Operational Assessment

9.1 Concrete Batching Plant Driveway / Greenbank Road

The Concrete Batching Plant Driveway / Greenbank Road intersection will be a three-way priority-controlled intersection. The SIDRA assessed layout is illustrated in Figure 9.1.

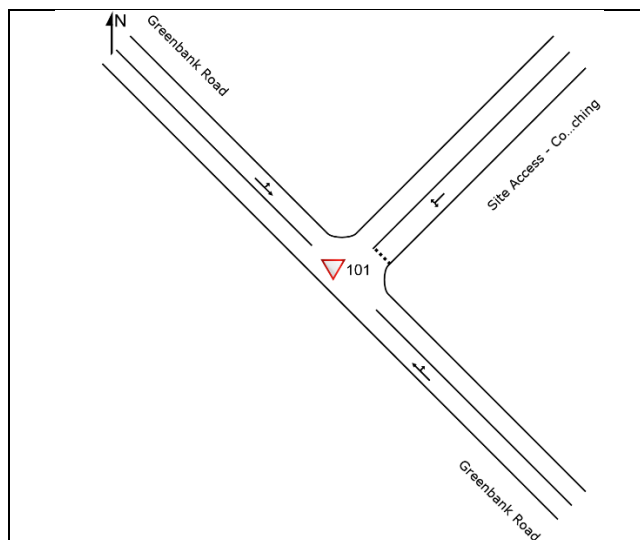


Figure 9.1 Concept Layout and SIDRA Layout – Site Access / Greenbank Road

The results of the SIDRA assessment are summarised in Figure 9.1. The SIDRA layouts and detailed results are included in Appendix F.

Table 9.1 SIDRA Results – Site Access / Greenbank Road

Scenarios	AM Peak Period			PM Peak Period		
	DOS	Delay (s)	95 th %ile Queue (m)	DOS	Delay (s)	95 th %ile Queue (m)
2027 BG + DEV	0.39	33	5	0.57	52	2
2037 BG + DEV	0.45	50	8	0.66	101	2

As shown above, the priority-controlled site access driveway performs well within acceptable limits outlined within Austroads Guide to Traffic Management Part 12 (Degree of Saturation (DOS) <0.80) at the year of opening and at the 10-year design horizon. 95th percentile queue lengths are also low (equivalent to no more than one vehicle at any given time), which demonstrates that the site access has minimal impact on the surrounding road network.

The proposed concrete batching plant driveway has capacity to store two to three heavy vehicles whilst they wait to exit the site. The SIDRA modelling has confirmed that any queues will be one vehicle during peak periods and can be accommodated within the development driveway and has no impact on the road network.

9.2 Greenbank Road Safety & Queueing

EDQ's Further Issues Letter raises the issue of traffic queuing past the existing Ampol service station driveway, which could potentially create safety issues.

It is presumed that any significant queuing occurs during the network peaks (morning and evening), which may obstruct the existing service station and proposed concrete batching plant driveway occasionally. It should be noted that the proposed concrete batching plant operation peaks (10:30 -11:30am and 2:30 – 3:30pm) are out of the network peak hours due to the nature of the business.





According to Manual of Uniform Traffic Control Devices (MUTCD) Part 2, Clause 5.5.2.6, it is noted that 'Keep Clear' line marking may be used:

“where a blockage would create a safety problem elsewhere in the system, e.g. vehicles stopping to turn right into a driveway causing a blockage at a nearby intersection.”

Therefore, it is proposed that 'Keep Clear' pavement markings in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) Part 2 are installed on the eastbound side of Greenbank Road adjacent to the site access to allow vehicles turning right into the site from Greenbank Road. This Keep Clear provision will allow for free flow of traffic into the site and reduce the risk of any safety risks for the any propped vehicle.



Figure 9.2 Concept Design – Keep Clear Pavement Markings

During discussions with EDQ on Wednesday 23 April 2025, EDQ indicated that a right turn lane could be considered into the site as a treatment to address the impacts of vehicles queuing across the site frontage. However, it is important to recognize that:

- The installation of a Channelised Turn Lane (CHR or CHRs) will not address the queueing issue on Greenbank Road. If a turn lane was provided, vehicles wishing to turn right into the site would still be blocked by queued vehicles.
- The provision of turn lanes is typically dictated by turn warrants outlined within Austroads Guide to Traffic Management part 6.
- Austroads Guide to Traffic Management Part 6 notes the following with regards to the application of turn warrants:
 - The warrants are based on the construction of intersections on new roads (i.e. Greenfield sites). Therefore, their most appropriate application is to the selection of turn types for intersections on new roads. However, the warrants may also be used:
 - as a reference for the construction of new intersections on existing roads;
 - as a reference for intervention levels when upgrading existing intersection turn treatments; and
 - although not intended for direct application to accesses and driveways, they may be used as a reference for such.
- Based on the above, while the warrants can be used as a reference point for the subject intersection, their application does not appear to be applicable based on Austroads own guidelines for their application.
- Austroads notes that the warrants have been produced by *identifying the location at which the benefits of providing a higher-level treatment (the reduction in estimated crash costs) are made equal to a proportion of the additional construction costs.*





- Noting that the subject intersection is a driveway access, the benefit of installing a right turn treatment may not actually offset the construction cost of its implementation. This is particularly considered to be the case noting that the intersection is an access to the development which will generate low levels of traffic during peak periods. Furthermore, no incidents have been reported at the commercial service station development to the south of the site (i.e. no incident trends are being mitigated by the installation of the turn treatments).

On the basis of the above, the proposed provision of a Keep Clear pavement marking is considered to be satisfactory to address the peak hour queuing issues on Greenbank Road.





10. EDQ Further Issues Letter (25 February 2025)

EDQ Comment	Burchills Response
9. <u>Traffic Impact Assessment</u> Provide an amended traffic impact assessment report which utilizes the context of the current proposal including pre and post development scenarios, intersection analysis, operational assessment, intersection capacity analysis, etc. The existing approvals should not be taken into consideration given the change in context and site impacts. Greenbank Road is now considered beyond capacity as a rural collector and often queueing west past the service station in AM peak. This creates safety issues with drivers. The updated traffic impact assessment report must take into consideration the safety impacts given the additional impact the proposal will have on road network. Frontage upgrades such as channelized turning lanes may be required. Note: future developments within Stage 2 must be considered in future development applications including car parking layouts and vehicle manoeuvring in accordance with Australian Standards.	The Traffic Impact Assessment has been updated to include intersection analysis of the proposed site access, refer to Sections 7, 8 and 9. The safety impacts of the site access to the concrete batching plant have been considered and addressed in Section 9. The Greenbank Road / site access driveway performs well within acceptable limits (Degree of Saturation (DOS <0.80)) at the year of opening and at the 10-year design horizon. 95th percentile queue lengths are also low (equivalent to no more than one vehicle at any given time), which demonstrates that the site access has minimal impact on the surrounding road network. It is proposed that 'Keep Clear' line marking in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) Part 2 is proposed to be installed on the eastbound side of Greenbank Road adjacent to the site access to allow vehicles turning right into the site from Greenbank Road. This Keep Clear provision will allow for free flow of traffic into the site and reduce the risk of any safety risks for the any propped vehicle. Note: Acknowledged and any development applications for stage 2 will have a separate supporting Traffic Impact Assessment which will include parking layouts and impact modelling.





11. Conclusions

Burchills Engineering Solutions (Burchills) has been engaged by Nucrush to provide traffic and transport engineering advice in support of the proposed industrial subdivision development located at 916-944 Greenbank Road, North Maclean in the Logan City Council area. A summary of the findings of the assessment is provided below.

- The proposed development is comprised of a total of Low impact industry, Service industry and Warehouse land uses and a Concrete Batching plant.
- Both development driveways have sufficient sight distance of at least 65m (for a posted speed limit of 60km/h) to observe oncoming traffic from both directions.
- 'Keep Clear' pavement markings are proposed on the eastbound side of Greenbank Road adjacent to the concrete batching plant access to mitigate potential safety and efficiency impacts to Greenbank Road
- Car parking provision for the Concrete Batching plant meets Council's minimum parking requirements.
- The carpark design is compliant with Australian Standards.
- The concrete batching plant will generate 24 trips during the network AM peak hour and 16 trips during the network PM peak hour.
- The proposed potential Low impact industry, Service industry and Warehouse land uses and Concrete Batching Plant is anticipated to generate eight (8) additional trips in the AM peak but a reduction of 17 trips in the PM peak period when compared to the previous approval. Whilst there has been a slight increase in traffic volumes in the AM peak hour, this equates to an additional vehicle every seven (7) minutes in the morning peak. It should be noted that the two proposed industrial uses will be split between two designated driveways, which reduces the impact when compared to a single driveway serving the approved development; and
- SIDRA analysis of the site access to the concrete batching plant indicates that the access operates within acceptable limits outlined within Austroads Guide to Traffic Management Part 12 at the year of opening (2027) and the 10-year design horizon (2037).

Based on the above, the proposed development is considered to be suitable from a traffic engineering perspective.





Appendix A – Department of Infrastructure Local Government and Planning PDA Approval





Department of Infrastructure,
Local Government and Planning

Our ref: DEV2017/850

22 December 2017

Somerville Consultants
Att: Ms Erin Brooks
PO Box 1198
SPRINGWOOD QLD 4127

Dear Erin

SECTION 89(1)(a) PDA DEVELOPMENT APPROVAL FOR A PDA DEVELOPMENT APPLICATION FOR A PDA DEVELOPMENT PERMIT FOR A MATERIAL CHANGE OF USE – WAREHOUSE, LOW IMPACT INDUSTRY AND SERVICE INDUSTRY AT 916-944 GREENBANK ROAD, GREENBANK DESCRIBED AS LOT 2 ON SP267252

On 21 December 2017 the Minister for Economic Development Queensland (MEDQ) approved the Priority Development Area (PDA) development application pursuant to s.85(4)(b) of the *Economic Development Act 2012*. MEDQ has decided to grant all of the PDA development approval applied for subject to PDA development conditions set out in this PDA decision notice.

The PDA decision notice and approved plans/documents can also be viewed in the MEDQ Development Approvals Register via the Department of Infrastructure, Local Government and Planning website www.dilgp.qld.gov.au/pda-da-applications.

Should you have any queries in relation to this PDA decision notice, please do not hesitate to contact Brandon Bouda on 3452 7422.

Yours sincerely

Jeanine Stone
Director – EDQ Development Assessment

Minister for Economic Development
Queensland
GPO Box 2202
Brisbane Queensland 4001 Australia
Website www.edq.qld.gov.au
ABN 76 590 288 697

PDA Decision Notice – Approval

Site information		
Name of priority development area (PDA)	Greater Flagstone	
Site address	916 – 944 Greenbank Road, North Maclean	
Lot on plan description	Lot number	Plan description
	2	SP267252
PDA development application details		
DEV reference number	DEV2017/850	
'Properly made' date	24 May 2017	
Type of application	☒ New development involving: ☒ Material change of use ☐ Preliminary approval ☒ Development permit ☐ Reconfiguring a lot ☐ Preliminary approval ☐ Development permit ☐ Operational work ☐ Preliminary approval ☐ Development permit ☐ Changing a PDA development approval ☐ Extending the currency period of a PDA approval	
Description of proposal applied for	Warehouse, Low Impact Industry and Service Industry	

PDA development approval details			
Decision of the MEDQ		The MEDQ has decided to grant all of the PDA development approval applied for, subject to PDA development conditions forming part of this decision notice.	
Decision date		21 December 2017	
Currency period		6 years from Decision Date	
Plans and documents			
The plans and documents approved by the MEDQ and referred to in the PDA development conditions are detailed in the table below.			
Approved plans and documents		Number <i>(if applicable)</i>	Date <i>(if applicable)</i>
1.	Site Plan	001, Rev 6	19.08.2017 (as amended in red dated 20 December 2017)
2.	Floor Plan Part 1 of 2	002, Rev 6	19.08.2017
3.	Floor Plan Part 2 of 2	003, Rev 6	19.08.2017
4.	Elevations Building A	004, Rev 2	22.03.2017
5.	Elevations Building B	005, Rev 2	22.03.2017
6.	Elevations Building B	006, Rev 2	22.03.2017
7.	Landscape Concept Plan	Sheet 1, Issue D	23/08/17
8.	Stormwater Management Plan	BE160355-RP-SMP-01, Version 01	22.05.17

PREAMBLE

For the purpose of interpreting this PDA Development Approval, including the PDA Development Conditions, the following applies:

Compliance assessment

Where a condition of this PDA Development Approval requires compliance assessment, compliance assessment is required in accordance with the following:

- a) The applicant must:
 - i. pay to MEDQ at the time of submission the relevant fee for compliance assessment, including any third party peer review costs which will be charged on a 100% cost recovery basis. The compliance assessment fees are set out in the MEDQ's development assessment fee schedule (as amended from time to time).
 - ii. submit to MEDQ a duly completed compliance assessment form.
 - iii. submit to MEDQ plans/supporting information as required under the relevant condition of approval.

- b) Compliance assessment and endorsement by EDQ Development Assessment, DILGP is required prior to any work commencing.
- c) Compliance assessment and endorsement can be repeated where a different design or solution, to that already endorsed, is sought.
- d) The process and timeframes that apply to compliance assessment are as follows:
 - i. the applicant liaises with EDQ Development Assessment, DILGP to determine the relevant plans/supporting information required to be submitted.
 - ii. the applicant submits plans/supporting information as required under the relevant condition of approval for compliance assessment.
 - iii. **within 30 business days** – EDQ Development Assessment, DILGP assesses the plans/supporting information and:
 - 1. if satisfied with the plans/supporting information as submitted - endorses the plans/supporting information and the condition of approval (or element of the condition) is determined to have been met; or
 - 2. if not satisfied with the plans/supporting information as submitted – notifies the applicant accordingly
 - iv. if the applicant is notified under iii.2. above, revised plans/supporting information are to be re-submitted to EDQ Development Assessment, DILGP **within 30 business days** from the date of the notice.
 - v. **within 30 business days** – EDQ Development Assessment, DILGP assesses the revised plans/supporting information and:
 - 1. if satisfied with the revised plans/supporting information - endorses the revised plans/supporting information and the condition of approval (or element of the condition) is determined to have been met; or
 - 2. if not satisfied with the revised plans/supporting information as submitted – notifies the applicant accordingly.
 - vi. if EDQ Development Assessment, DILGP is not satisfied that compliance has been achieved within **30 business days** - repeat steps iv. and v. above. If either party is not satisfied by the outcome of this process, that party can elect to enter into a mediation process with an independent mediator agreed to by both parties.

Despite note vi. above, the condition of approval (or element of the condition) is determined to have been met only when EDQ Development Assessment, DILGP endorses relevant plans/supporting information.

ABBREVIATIONS

For the purposes of interpreting the PDA Development Conditions, the following is a list of abbreviations utilised:

1. **Council** means Logan City Council.
2. **DEHP** means The Department of Environment & Heritage Protection.
3. **DILGP** means The Department of Infrastructure, Local Government and Planning.
4. **EDQ** means Economic Development Queensland.
5. **PDA** means Priority Development Area.
6. **RPEQ** means Registered Professional Engineer of Queensland.

PDA Development Conditions		
No	Condition	Timing
General		
1.	Carry out the approved development Carry out the approved development generally in accordance with the approved plans, drawings and documents.	Prior to commencement of use
2.	Certification of Operational Works All operational works, for contributed assets, undertaken in accordance with this approval must comply with all requirements of and fulfil all responsibilities outlined in the <i>Certification Procedures Manual</i> .	As required by the Certification Procedures Manual
3.	Maintain the Approved Development Maintain the approved development (including landscaping, parking, driveways and other external spaces) generally in accordance with the approved plans and documents, and any other approval or endorsement required by these conditions.	As indicated
4.	Staging of the Buildings The construction of the buildings on the site may be undertaken in a non-sequential staged approach, and, must be constructed prior to the expiration of the nominated currency period.	As indicated
Engineering		
5.	Construction Management Plan a) Submit to EDQ Development Assessment, DILGP a Site Based Construction Management Plan (CMP), prepared by the principal site contractor, that manages the following: i. noise and dust generated from the site during and	a) Prior to commencement of site works

	outside construction work hours in accordance with the <i>Environmental Protection Act 1994</i>; ii. stormwater flows around or through the site without increasing the concentration of total suspended solids or Prescribed Water Contaminants (as defined in the <i>Environmental Protection Act 1994</i>), causing erosion, creating any ponding and causing any actionable nuisance to upstream or downstream properties; iii. contaminated land (if required), including removal, treatment and replacement in accordance with a compliance permit from an approved contaminated land auditor. b) Undertake all works generally in accordance with the CMP which must be current and available on site at all times during the construction period.	b) At all times during construction
6.	Traffic Management Plan a) Submit to EDQ Development Assessment, DILGP a Traffic Management Plan (TMP), certified by a person holding a current Traffic Management Level 3 qualification or higher. The TMP must include the following: i. provision for the management of traffic around and through the site during and outside of construction work hours; ii. provision of parking for workers and materials delivery during and outside of construction hours of work; iii. planning including risk identification and assessment, staging, etc.; iv. ongoing monitoring, management review and certified updates (as required); and v. traffic control plans and/or traffic control diagrams, prepared in accordance with Manual of Uniform Traffic Control Devices (MUTCD), for any temporary part or full road closures of any Council or State road(s). b) Undertake all works generally in accordance with the certified TMP which must be current and available on site at all times.	a) Prior to commencement of site works b) At all times during construction
7.	Retaining Walls a) Submit to EDQ Development Assessment, DILGP detailed engineering plans, certified by an RPEQ, of all retaining walls 1.0m or greater in height. b) Construct the works generally in accordance with the certified plans required under part a) of this condition. c) Submit to EDQ Development Assessment, DILGP certification by a RPEQ that all retaining wall works 1.0m or greater in height have been carried out generally in	a) Prior to commencement of site works b) Prior to commencement of use c) Prior to commencement of use

	accordance with the certified plans.	
8.	Filling and Excavation a) Submit to EDQ Development Assessment, DILGP detailed earthworks plans certified by a RPEQ, generally in accordance with AS3798 – 1996 <i>“Guidelines on Earthworks for Commercial and Residential Developments”</i>. The certified earthworks plans shall: - include a geotechnical soils assessment of the site; - be consistent with the Erosion and Sediment Control plans; - provide full detail of areas where dispersive soils will be disturbed, treatment of dispersive soils and their rehabilitation; - provide full details of any areas where surplus soils are to be stockpiled. b) Carry out the earthworks generally in accordance with the certified plans required under part a) of this condition. c) Submit to EDQ Development Assessment, DILGP certification by a RPEQ that all earthworks have been carried out in generally accordance with the certified plans required under part a) of this condition and any unsuitable material encountered has been treated or replaced with suitable material.	a) Prior to commencement of site works b) Prior to commencement of use c) Prior to commencement of use
9.	Vehicle Access Construct a vehicle crossover generally in accordance with the approved plans and designed and constructed in accordance with Council adopted standards.	Prior to commencement of use and to be maintained
10.	Car Parking a) Provide car parking spaces, delineated and signed generally in accordance with the following approved plans: Site plan, Drawing No. 001m Rev 6, dated 19.08.2017 (as amended in red dated 20 December 2017) b) Car parking spaces are to be designed in accordance with AS2890 – <i>Parking Facilities</i>. c) Demonstrate parking facilities have been provided in accordance with parts a) and b) of this condition.	Prior to commencement of use and to be maintained
11.	Bicycle Parking a) Provide one bicycle rack (with a minimum of 7 spaces) for each building (total of 3) in an accessible and convenient location.	Prior to commencement of use and to be maintained

	ii. Interfere with and/or cause damage to the existing stormwater drainage on the State-controlled road. iii. Surcharge any existing culvert or drain on the State-controlled road. iv. Reduce the quality of stormwater discharge onto the State-controlled road. The proposal to pipe the existing swale traversing the north-west portion of the site must also include an overland flow path to avoid adverse impacts upstream of the pipe if the pipe is blocked. b) Construct the works in accordance with the certified plans as required under part a) of this condition. c) Submit to EDQ Development Assessment, "as constructed" plans including an asset register and test results, certified by a RPEQ, in a format acceptable to the Council.	b) Prior to commencement of use c) Prior to commencement of use
16.	Stormwater quality a) Submit to EDQ Development Assessment, detailed engineering drawings, certified by a RPEQ for the proposed stormwater treatment devices designed generally in accordance with <i>PDA Guideline No. 13 Engineering standards – Stormwater quality</i> and the following documents; i. Stormwater Management Plan, BE160355-RP-SMP-01 version 01, dated 22 May 2017. b) Construct the works generally in accordance with the certified plans required under part a) of this condition. c) Provide evidence from a RPEQ that the works have been constructed generally in accordance with the certified plans required under part a) of this condition. d) Submit to EDQ Development Assessment, a maintenance program, certified by an RPEQ, for the stormwater quality devices generally in accordance with <i>Water by Design Maintaining Vegetated Stormwater Assets</i> guideline. e) Undertake regular maintenance of the stormwater quality devices in accordance with the program submitted under part d) of this condition.	a) Prior to commencement of works b) Prior to commencement of use c) Prior to commencement of use d) Prior to commencement of use e) At all times
17.	Outdoor Lighting Outdoor lighting within the development shall be designed and installed in accordance with <i>AS 4282:1997 Control of the Obtrusive Effects of Outdoor Lighting</i>.	Prior to commencement of use and to be maintained

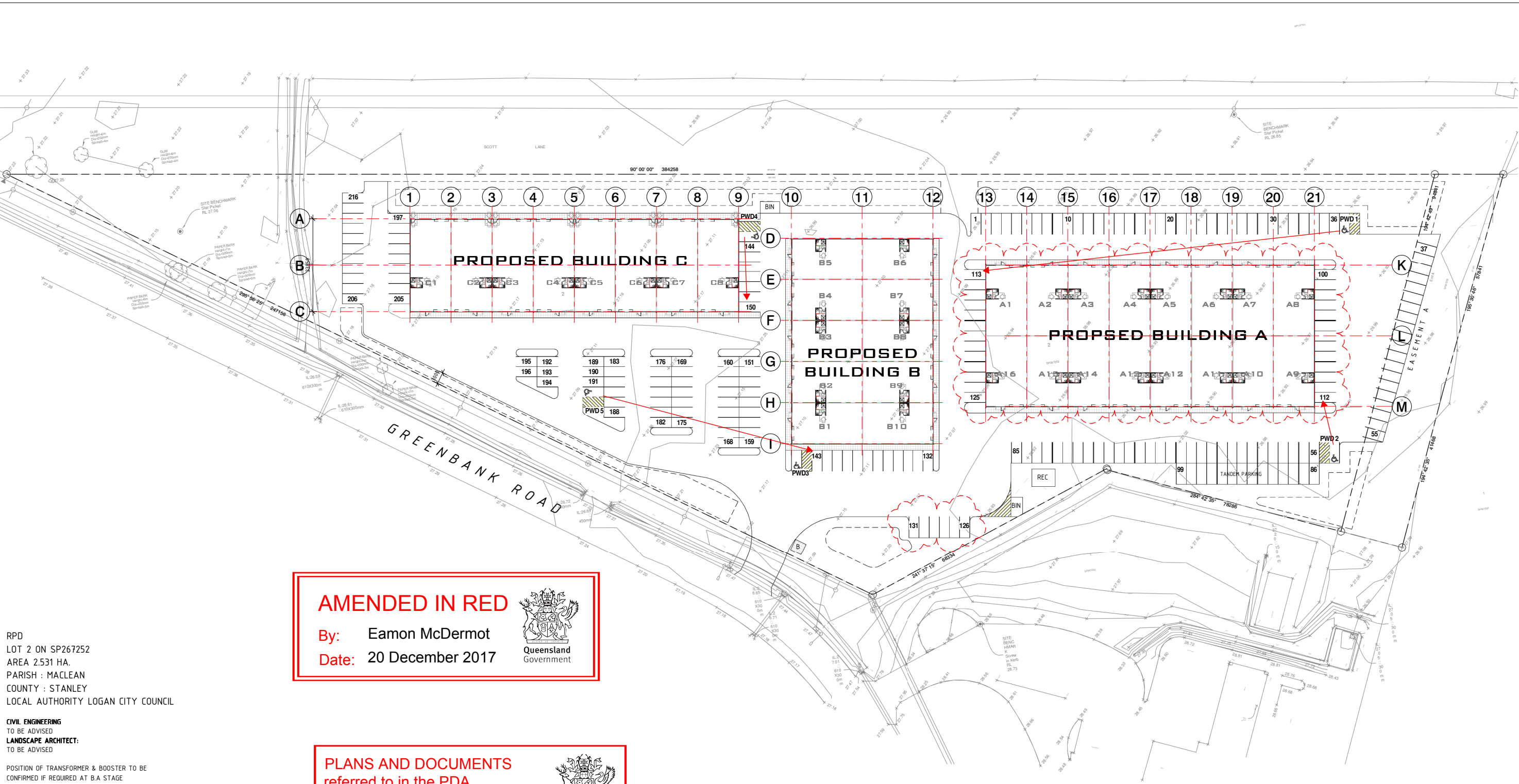
18.	Electricity Submit to EDQ Development Assessment, DILGP either: a) written evidence from Energex confirming that existing underground low-voltage electricity supply or overhead where agreed to by the local council is available to the development; or b) written evidence from Energex confirming that the applicant has entered into an agreement with it to provide underground or overhead electricity services where agreed to by the local council.	Prior to commencement of site works
19.	Telecommunications Submit to EDQ Development Assessment, DILGP documentation from an authorised telecommunication service provider confirming that an agreement has been entered into for the provision of underground telecommunication services to the proposed development.	Prior to commencement of site works
20.	Public Infrastructure - Damage, Repairs and Relocation Repair any damage to existing public infrastructure that occurred during works carried out in association with the approved development. Should existing public infrastructure require relocation, due to the approved development, the developer is responsible for these costs together with compliance with relevant standards and statutory requirements.	Prior to commencement of use
Landscaping and Environment		
21.	Landscape Works Construct the landscape works generally in accordance with the approved Landscape Concept Plan, Sheet 1, Issue D, dated 23/08/17.	Prior to commencement of use and to be maintained
22.	Koala Habitat Offsets a) Pursuant to PDA Guideline No. 17 – Remnant Vegetation and Koala Habitat Obligations in Greater Flagstone and Yarrabilba PDAs, dated May 2017, pay to EDQ Development Assessment, DILGP \$9,750 for the 0.65ha of low value bushland habitat that has been cleared on the site, or b) Submit evidence that the monetary contribution required by part (a) of this condition has been paid to EDQ	Prior to the commencement of site works

23.	Refuse Collection Submit to EDQ Development Assessment, DILGP refuse collection approval from Council or a private waste contractor.	Prior to commencement of use
24.	Erosion and Sediment Management a) Submit to EDQ Development Assessment, DILGP an Erosion and Sediment Control Plan (ESCP), certified by a RPEQ or an accredited professional in erosion and sediment control (CPESC), generally in accordance with the following guidelines: i. Urban Stormwater Quality Planning Guidelines 2010 (DEHP); ii. Best Practice Erosion and Sediment Control (International Erosion Control Association). b) Implement the certified ESCP as required under part a) of this condition.	a) Prior to commencement of site works b) At all times during construction
Infrastructure Charges		
25.	Infrastructure Contributions Unless a relevant infrastructure agreement provides to the contrary, pay to the MEDQ, the infrastructure charges calculated in accordance with the Economic Development Queensland Infrastructure Funding Framework (IFF) which is in force at the time of payment. All charges are to be indexed to the date of payment in accordance with the IFF	In accordance with the IFF
26.	Value Capture Charge Pay to MEDQ value capture charges in accordance with the Infrastructure Funding Framework (IFF) July 2017 indexed to the date of payment.	In accordance with the IFF

STANDARD ADVICE

Please note that in order to lawfully undertake development, it may be necessary to obtain approvals other than this PDA development approval. For advice on other approvals that may be necessary in relation to your proposal, it is recommended that you seek professional advice.

**** End of Package ****



RPD
LOT 2 ON SP267252
AREA 2.531 HA.
PARISH : MACLEAN
COUNTY : STANLEY
LOCAL AUTHORITY LOGAN CITY COUNCIL

CIVIL ENGINEERING
TO BE ADVISED
LANDSCAPE ARCHITECT:
TO BE ADVISED

POSITION OF TRANSFORMER & BOOSTER TO BE
CONFIRMED IF REQUIRED AT B.A STAGE
DRIVEWAY CROSS OVER TO COMPLY WITH LOGAN
CITY COUNCIL STANDARDS

AREA CALCULATIONS		
ZONE	AREA m ²	%
TOTAL LANDSCAPING	7771	30.7
PROPOSED BUILDING AREA	7043	27.8
DRIVEWAY PARKING AREA	10496	41.5
TOTAL DEVELOPMENT SITE AREA	25310	100

ADDITIONAL CALCULATIONS	
BUILDING A	3084m ²
BUILDING B	1928m ²
BUILDING C	2031m ²
TOTAL	7043m ²

CARPARKS 216
PWD CARPARKS 5
BIKE PARKS TBA

AMENDED IN RED

By: Eamon McDermot
Date: 20 December 2017



PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2017/850
Date: 21 December 2017



1 SITE LAYOUT CONCEPT
004 SCALE 1 : 500



GENERAL NOTES		ALL DIMENSIONS SHOWN ARE TO NOMINAL FRAME AND/OR BRICK DIMENSIONS AND DO NOT INCLUDE CLADDING THICKNESS UNLESS NOTED OTHERWISE		<table><tr><th>revision</th><th>revision description</th><th>date</th></tr><tr><td>2</td><td>GENERAL REVISION</td><td>22.03.17</td></tr><tr><td>3</td><td>GENERAL REVISION</td><td>02.05.2017</td></tr><tr><td>4</td><td>GENERAL REVISIONS</td><td>07.05.2017</td></tr><tr><td>5</td><td>DELETED SCOTT LANE AMENDED PARKING</td><td>08.08.2017</td></tr><tr><td>6</td><td>MOVED BUILDING A ADDED CARPARKS</td><td>19.08.2017</td></tr></table>		revision	revision description	date	2	GENERAL REVISION	22.03.17	3	GENERAL REVISION	02.05.2017	4	GENERAL REVISIONS	07.05.2017	5	DELETED SCOTT LANE AMENDED PARKING	08.08.2017	6	MOVED BUILDING A ADDED CARPARKS	19.08.2017	<table><tr><td colspan="2">REAL PROPERTY DESCRIPTION</td></tr><tr><td>LOT 2 ON SP267252</td><td></td></tr><tr><td>PARISH MACLEAN</td><td>SITE AREA 2.531 HA.</td></tr><tr><td>COUNTY STANLEY</td><td>AUTHORITY LOGAN CITY COUNCIL</td></tr><tr><td colspan="2">COPYRIGHT CLAIM</td></tr><tr><td colspan="2">THESE PLANS REMAIN THE PROPERTY OF KEVIN R SMITH AND ANY REPRODUCTION IN PART OR WHOLE IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED. PLANS ARE ISSUED SUBJECT TO THIS COPYRIGHT AND ARE FOR USE ONLY THE JOB SPECIFIC.</td></tr></table>		REAL PROPERTY DESCRIPTION		LOT 2 ON SP267252		PARISH MACLEAN	SITE AREA 2.531 HA.	COUNTY STANLEY	AUTHORITY LOGAN CITY COUNCIL	COPYRIGHT CLAIM		THESE PLANS REMAIN THE PROPERTY OF KEVIN R SMITH AND ANY REPRODUCTION IN PART OR WHOLE IS PROHIBITED UNLESS WRITTEN PERMISSION IS OBTAINED. PLANS ARE ISSUED SUBJECT TO THIS COPYRIGHT AND ARE FOR USE ONLY THE JOB SPECIFIC.		Kevin R. Smith		PROJECT NAME PROPOSED INDUSTRIAL BUILDINGS		<table><tr><td>COMP FILE NO.</td><td>REV 6</td><td>DWG NO 001</td></tr><tr><td>DATE DRAWN 24.07.2016</td><td colspan="2"></td></tr><tr><td>DRAWN BY KRS</td><td colspan="2">PROJECT NUMBER 01-2017</td></tr></table>		COMP FILE NO.	REV 6	DWG NO 001	DATE DRAWN 24.07.2016			DRAWN BY KRS	PROJECT NUMBER 01-2017	
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Appendix B – Burchills TIA - BE160355-RP-TIA-03





918 Greenbank Road, North Maclean

Traffic Impact Assessment

Client: Roubaix Properties Pty Ltd

Project No: BE160355

Document No: BE160355-RP-TIA-03

June 2022

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Table of Contents

1. Introduction	1
1.1 Background	1
1.2 Scope	1
2. Site Details	2
2.1 Location and Context	2
2.2 Surrounding Road Network	2
2.2.1 Mount Lindesay Highway	2
2.2.2 Greenbank Road	3
2.3 Completed Road Upgrades by Others	4
3. Proposed Development	6
3.1 Site Access Arrangements	7
4. Traffic Demands	8
4.1 Pre-Development Traffic	8
4.2 Traffic Growth	10
4.3 Development Traffic	11
4.3.1 Generation	11
4.3.2 Trip Distribution	11
4.4 Post Development Traffic	12
5. Operational Assessment	13
5.1 Intersection Capacity Analysis	13
5.1.1 Mount Lindesay Highway / Greenbank Road Intersection	13
6. Parking, Access, and Servicing	16
6.1 Car and Bicycle Parking	16
6.2 Bicycle Parking	17
6.3 Vehicle Driveway Crossover	17
6.4 Servicing	18
7. Conclusions and Recommendations	19
8. References	20

Tables

Table 3.1 Development Components Zones	6
Table 4.1 Development Components Zones Origin / Destination	10
Table 4.2 Plot AADT Years 2010 to 2015	10
Table 4.3 Development Trip Generation Per Hour Origin / Destination Summary	11
Table 4.4 Development Trip Generation per Hour Summary	12

Table 5.1 Mount Lindesay Highway / Greenbank Road Performance Summary – 2017 Pre Development (Existing Layout)	14
Table 6.1 Required No. of Carparks.....	16

Figures

Figure 2.1 Subject Site Location	2
Figure 2.2 Mount Lindesay Highway	3
Figure 2.3 Greenbank Road Catchment (Source: Google Earth)	3
Figure 2.4 Mount Lindesay Highway extract from Logan City Transport Infrastructure Plan	4
Figure 3.1 Proposed Reconfiguration of Lot.....	6
Figure 3.2 Extract from Survey Plan.....	7
Figure 3.3 Site Contours Along Greenbank Road	7
Figure 4.1 Greenbank Road and Mount Lindesay Highway Intersection Peak Hour Traffic Count 2017.....	8
Figure 4.2 Comparison Traffic Volumes at Mt Lindesay Highway Intersection (orange colour) to the Traffic Volume Past the Development Site (blue colour) in Greenbank Road	9
Figure 5.1 Diagrammatic Layout of Mount Lindesay Highway / Greenbank Road Intersection	14

Appendices

Appendix A – Site Layout Plans
Appendix B – Traffic Count Data
Appendix C – Sidra Output Summaries
Appendix D – Turning Templates
Appendix E – Logan City Council, Servicing, Access and Parking Code

1. Introduction

1.1 Background

Burchills Engineering Solution (BES, Burchills) was engaged by Roubaix Properties Pty Ltd to prepare a Traffic Impact Assessment (TIA) to accompany a ROL Application for the Reconfiguration of Lots at 918 - 980 Greenbank Road, North Maclean. The proposed development comprises a total area of 2.531 ha.

1.2 Scope

The scope of the traffic assessment includes the traffic items covered in the briefing from EDQ and requirements from Logan City Council, Queensland Department of Transport and Main Roads (DTMR) plus completion of Logan City Council *Servicing, Access and Parking Code*. The initial scope involves a review of subject site and surrounding road network to establish the following:

- Existing roads – profile and theoretical capacity;
- Existing intersections – type and function;
- Existing traffic demand data;
- Access location; and
- Parking requirements.

Traffic Impact Assessment is prepared to the following scope:

- Establish traffic generation and distribution associated with the proposal;
- Consider proposed access arrangements to the site from the existing road network. Assessment will consider the following issues for the access point:
 - Geometry;
 - Safe intersection sight distances;
 - Capacity; and
 - Location relative to adjacent intersections.
- Address on site vehicle provisions:
 - Servicing;
 - Parking; and
 - Provision for car parking.
- Identify impacts of development traffic on the surrounding road network in the vicinity of the subject site of the following intersections:
 - Access driveway and Greenbank Road; and
 - Greenbank Road / Mt Lindesay Highway Intersection.
- Where assessment identifies capacity issues, mitigation measures will be recommended.

Traffic surveys have been commissioned through a specialist traffic survey company. Two surveys were completed. One at the Greenbank Road / Mt Lindesay Highway intersection and the second is a tube counter across Greenbank Road in front of the property measuring traffic volumes, vehicle types and speeds in both directions.

A copy of the Logan City Council Servicing, Access and Parking Code is contained in Appendix E.

2. Site Details

2.1 Location and Context

The subject site is located at 916 - 944 Greenbank Road, North Maclean, within the Logan City Local Government Area (Figure 2.1). As shown, the subject site is bordered to the east by the Mount Lindesay Highway and to the south by Greenbank Road. The site is described as Lot 2 on SP267252 with a total area of 2.531 ha and is not currently occupied.

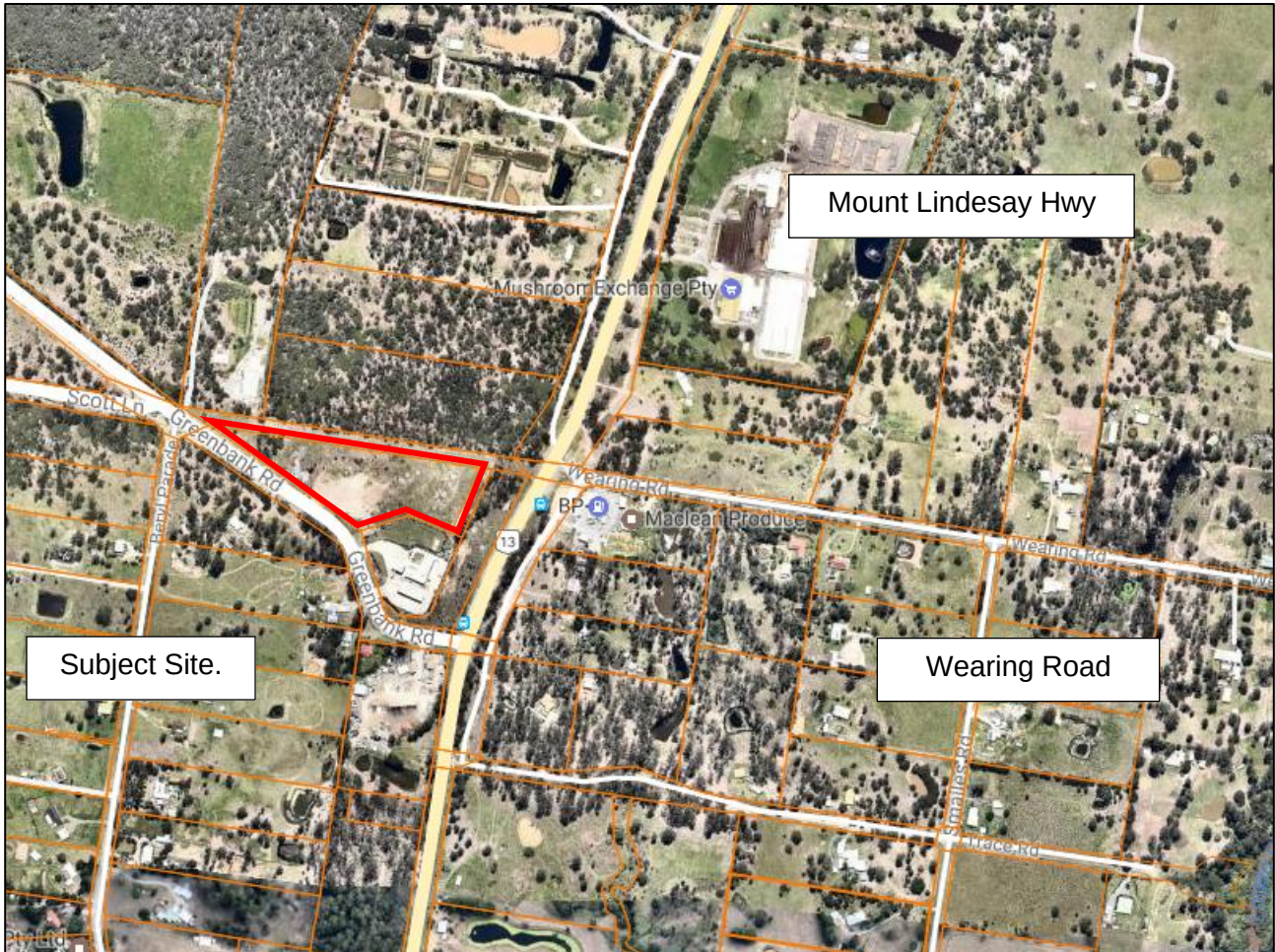


Figure 2.1 Subject Site Location

2.2 Surrounding Road Network

The surrounding road network in the vicinity of the subject site includes Mount Lindesay Highway, and Greenbank Road.

2.2.1 Mount Lindesay Highway

Mount Lindesay Highway is a two way, two lane State-controlled roadway. In the vicinity of the subject site, it has a road reserve of approximately 60 metres and a pavement width of approximately 9.5 m. The current Annual Average Daily Traffic (AADT) of Mount Lindesay Highway is approximately 20,000 vehicles per day (vpd) in the area. Mount Lindesay Highway has sealed

shoulders and no kerb and channel. The posted speed limit of the Mount Lindesay Highway is 90 km/h in the vicinity of the subject site. Mount Lindesay Highway section is shown in Figure 2.2.



Figure 2.2 Mount Lindesay Highway

2.2.2 Greenbank Road

Greenbank Road is a two way, two lane Council owned roadway. It has a 20 metre road reserve and a carriageway width of approximately 6 metres. Greenbank Road has no kerb and channel and no pedestrian facilities in the vicinity of the subject site. Greenbank Road intersects with Mount Lindesay Highway east of the subject site. This intersection incorporates an auxiliary left turn and a full auxiliary right turn on Mount Lindesay Highway with an acceleration lane for vehicles turning left out of Greenbank Road. The cross-section of Greenbank Road is shown in the following Figure 2.3.



Figure 2.3 Greenbank Road Catchment (Source: Google Earth)

The Greenbank Road / Mount Lindesay Highway is a signalised intersection located approximately 240 metres east of the subject site. At the intersection of Greenbank Road and the Mount Lindesay

Highway there is a Service Station and several small retail tenancies. The remainder of the Greenbank Road catchment is rural residential.

2.3 Completed Road Upgrades by Others

The Department of Transport and Main Roads (DTMR) planning for the Mount Lindesay Highway includes, in the short term, as well as interim localised projects and leading up to ultimate longer term planning. Due to the nature of the road network along the Mount Lindesay Highway, the DTMR's current projects are intended to 'tidy up' locations and/or improve safety in the interim. Some of these upgrades to the network have commenced or are intended to commence. Parallel to Mount Lindesay Highway, a service road is proposed on the western side in the future to run from Greenbank Road north of the subject site.

Works to improve the network includes in vicinity of the subject land, the recently completed project to signalise the Mount Lindesay Highway / Greenbank Road intersection. These works are stated only as interim measures to 'tidy up' the network and/or improve safety and may not be integral to, or necessarily a component of the ultimate planning. Currently there is also further options planning in proximity of the land. This however is not finalised and has not gone through consultation with the Council.

DTMR have advised no current plans are available to upgrade Mount Lindesay Highway and there is no timeframe for the ultimate planning (and not envisaged for at least another 30 years) until there is some certainty about the impacts of growth areas such as Yarrabilba and Bromelton.

Logan City Council Transport Infrastructure Plan shows future upgrade works for the Mount Lindesay Highway as shown on the following extract in Figure 2.4.

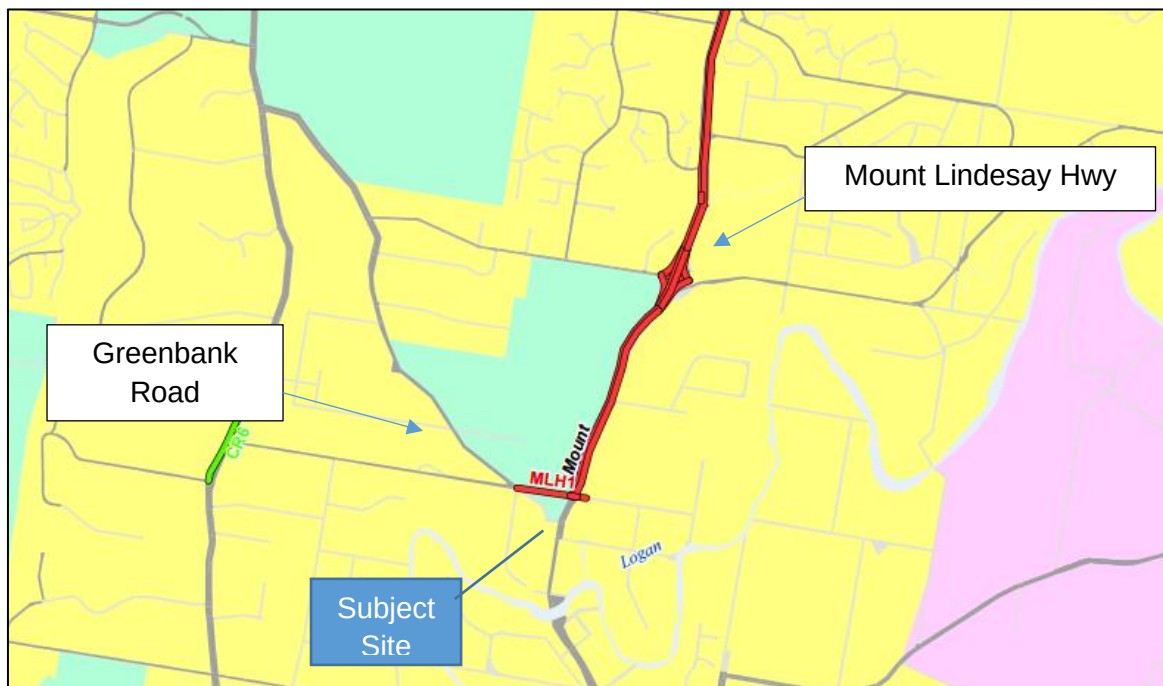


Figure 2.4 Mount Lindesay Highway extract from Logan City Transport Infrastructure Plan

MLH1 refers to the State controlled schedule of works involving the upgrade of the Mt Lindesay Highway from Rosia Road north of Greenbank Road to Greenbank Road immediately north of the subject site. in accordance with the Logan City Council Planning Scheme, the work was scheduled for implementation 2013 to 2021 and has since been completed. Discussions with the South Coast Department of Transport and Main Roads indicated the further construction is not listed on their Department Works schedule in the immediate future due to funding priorities elsewhere.

3. Proposed Development

The proposed development is located on Lot 2 SP267252 Parish of Maclean, County Stanley within the Logan City Council Local Authority. The site area is 2.5312 ha and incorporates three separate subdivided lots. Respective site areas of the land use components are as follows shown in Table 3.1.

Table 3.1 Development Components Zones

Zone	Area (m ²)	%
1	5,459	21.18
2	4,226	16.84
3	6,538	28.45
Common Property	9,087	33.53
Total Development Site Area	25,310	100%

The layout of the proposed development is shown in the following Figure 3.1 and attached in Appendix A.

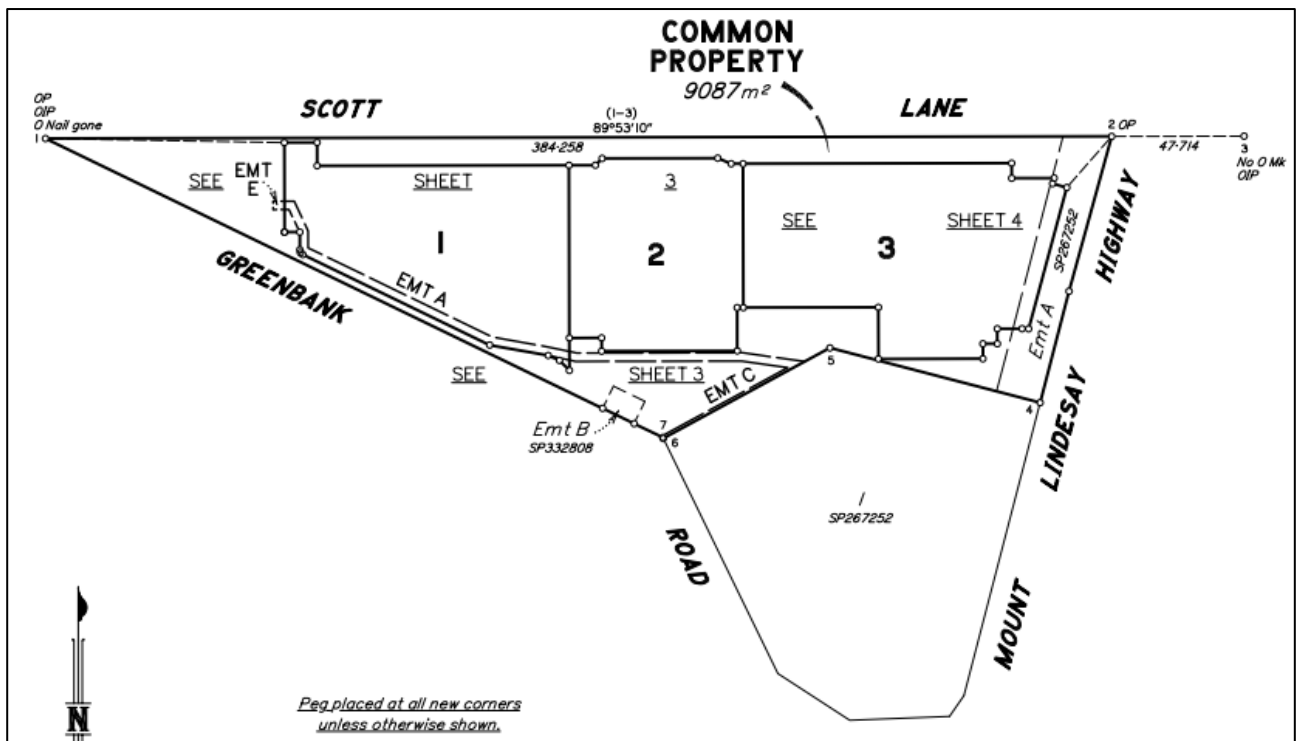


Figure 3.1 Proposed Reconfiguration of Lot

Along the eastern boundary of the property there is a drainage easement. Road widening has already occurred for the Mount Lindesay Highway and a service road adjacent to the Highway is proposed in the future. The following Figure 3.2 shows the drainage easement and the road widening zone for the Mount Lindesay Highway.

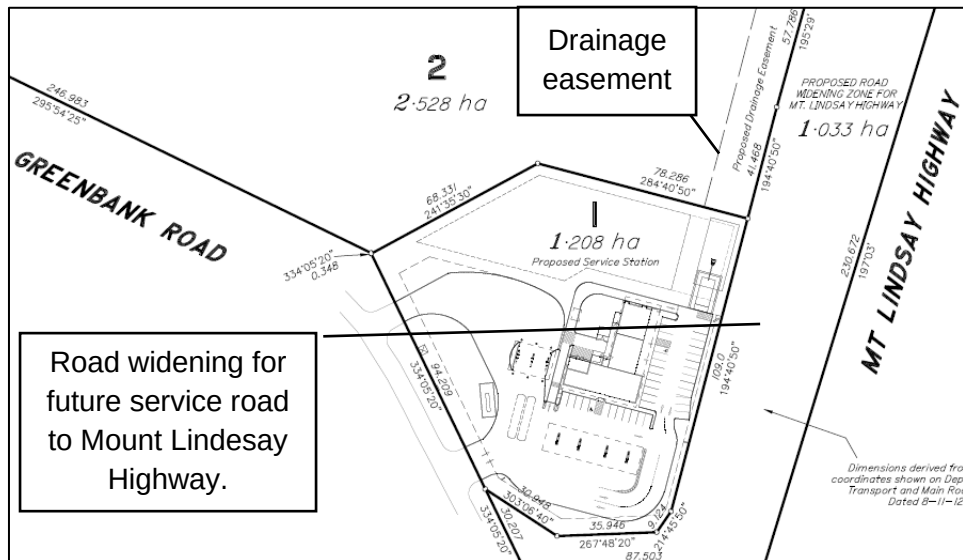


Figure 3.2 Extract from Survey Plan

3.1 Site Access Arrangements

Access to the subject site is to be provided via the eastern end of the allotment onto Greenbank Road. The industrial driveway onto Greenbank Road is centrally located within the proposed development and positioned on the outside of a horizontal curve in Greenbank Road. The vertical alignment of Greenbank Road is relatively flat as per the following Figure 3.3 from contours extracted from the Logan City Council Planning Scheme.

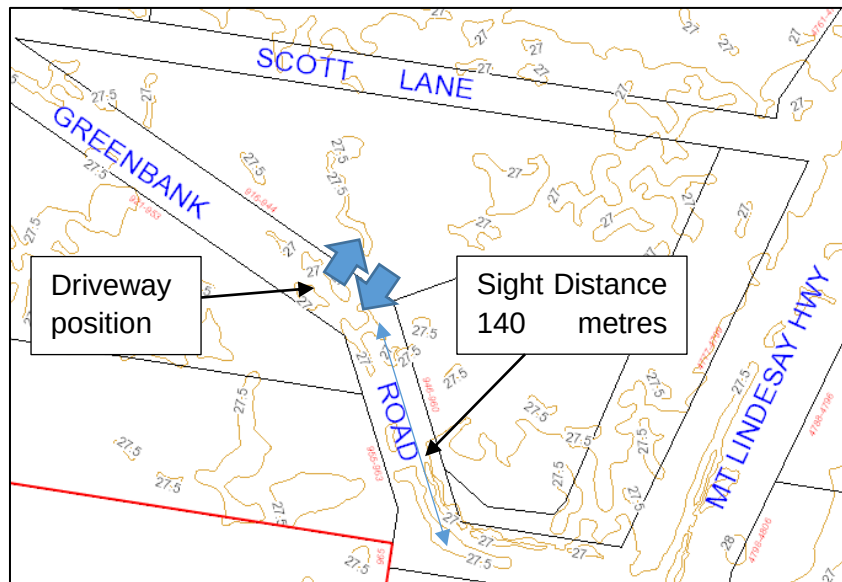


Figure 3.3 Site Contours Along Greenbank Road

As shown in the Figure the location of the access driveway onto Greenbank Road provides a sight distance of 140 metres on the eastern side. This corresponds a travel speed of 100 km / hr in accordance with AS2890 Part 1 *off street car parking code*. The surveyed travel speed past the site was 60km/hr. Hence adequate sight distance is available for the driveway in both directions along Greenbank Road.

4. Traffic Demands

In order to assess the relative impact of the proposal on the surrounding road network, it is necessary to define the existing traffic demands on the road network and estimate future traffic demands on key intersections and roads.

This section of the report details the existing traffic demands as defined in traffic surveys and forecasts these to the future assessment years. These volumes represent the “Pre Development” background traffic scenario.

The traffic generated by the proposed development is estimated, along with its distribution across the surrounding road network. These volumes are added to the “Pre Development” scenario to provide the “Post Development” traffic scenario.

4.1 Pre-Development Traffic

Traffic survey data has been used to establish background traffic demands. Directional 2013 through movement counts on the Mount Lindesay Highway 5 km north and south of the subject site have been sourced from DTMR to determine existing traffic volumes on the Mount Lindesay Highway. All traffic counts used for analysis have been provided in Appendix B.

The existing traffic volumes on Greenbank Road and the Mount Lindesay Highway intersection have been determined from Traffic surveys and Traffic Census data. The following Figure 4.1 shows the traffic surveys.

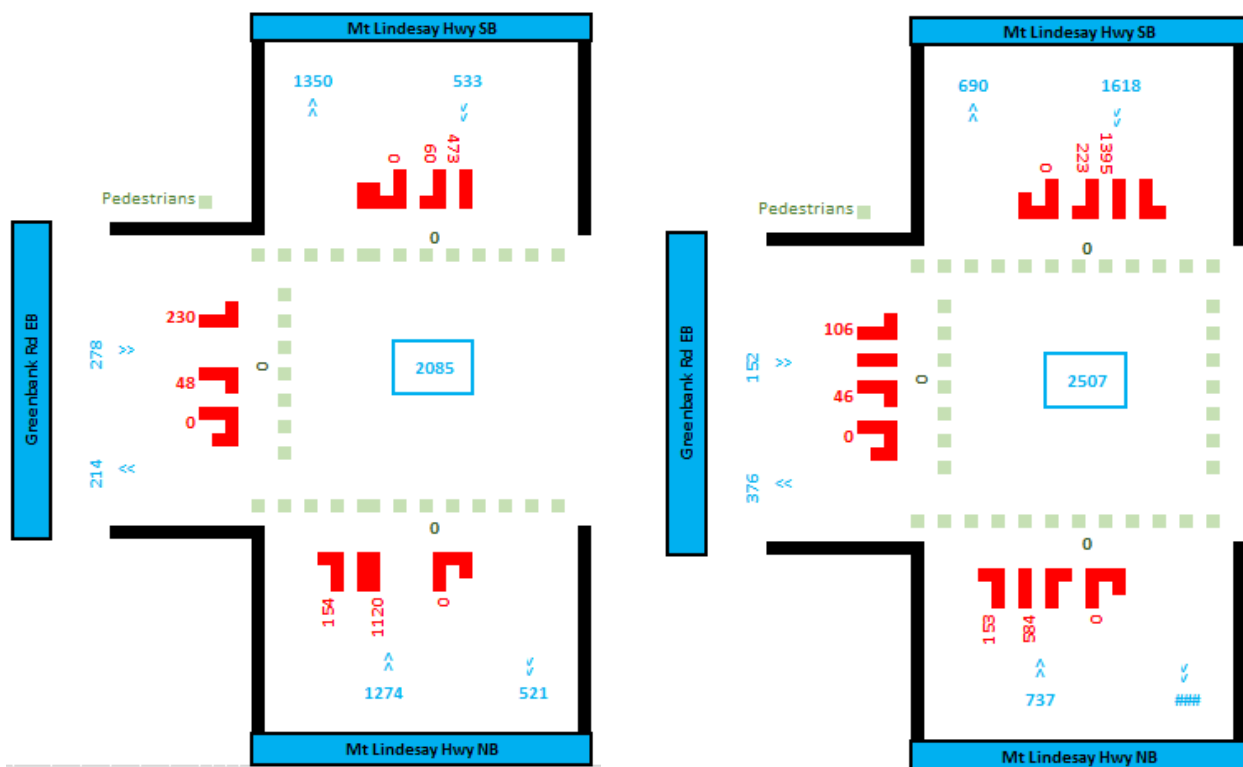


Figure 4.1 Greenbank Road and Mount Lindesay Highway Intersection Peak Hour Traffic Count 2017

The Greenbank Road / Mount Lindesay Highway intersection survey was specifically commissioned for this study.

The traffic surveys show that there are 214 vehicles entering Greenbank Road in the morning and 278 vehicles leaving. Along the Mount Lindesay Highway, north of Greenbank Road there were 1350 vehicles travelling north and 533 south. South of Greenbank Road, 1120 travelling north and 521 south along the Mount Lindesay Highway were recorded.

For the evening peak hour, there were 376 vehicles entering and 152 leaving Greenbank Road. Along the Mount Lindesay Highway north of Greenbank Road there were 1350 vehicles travelling north and 533 south. South of Greenbank Road, 1120 travel north and 521 vehicles travel south along the Mount Lindesay Highway.

The survey also recorded travel speed along Greenbank Road in front of the subject site as follows:

- Travelling east 63km/ hr; and
- Travelling west 65km/hr.

Traffic census data from Queensland Department of Transport and Main Roads determined that the AADT along the Mount Lindesay Highway for year 2014 was 20,030 vehicles per day, 10,441 travelling south and 9,580 north. For 2015 the census AADT was 21,563; 10,804 travelling south and 10,759 north.

Traffic counters were placed further west along Greenbank Road and measured traffic for a period of one week. On the same day as the intersection survey there were 219 vehicles travelling eastbound along Greenbank Road for the morning peak hour and 195 vehicles travelling westbound for the morning peak hour.

For the evening peak hour, 140 vehicles travelled eastbound and 369 vehicles travelled west. A comparison of the results is shown as follows in Figure 4.2.

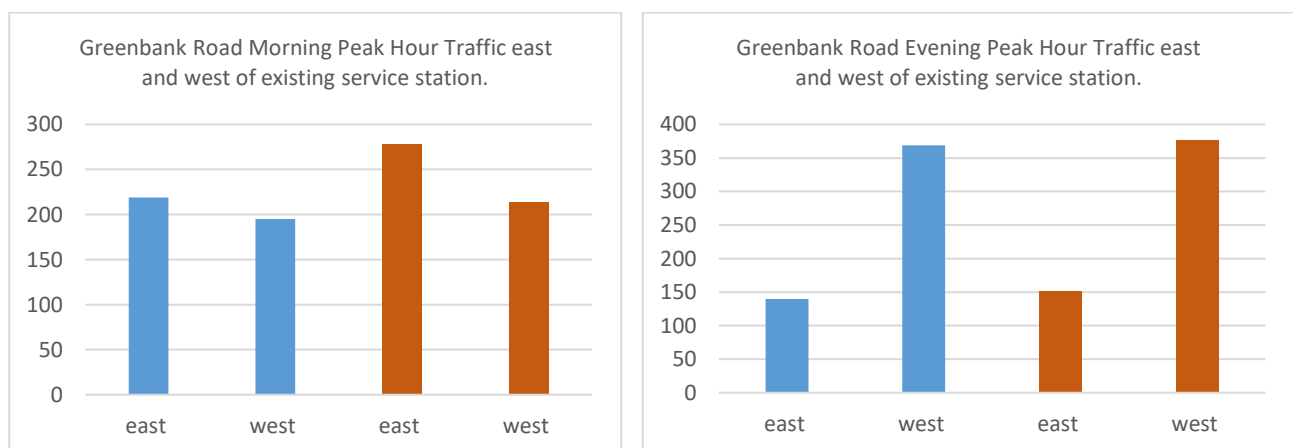


Figure 4.2 Comparison Traffic Volumes at Mt Lindesay Highway Intersection (orange colour) to the Traffic Volume Past the Development Site (blue colour) in Greenbank Road

The Figure compares traffic volumes east and west of service station driveway where blue is west of the service station and orange is east of the service station entry at Greenbank Road. The traffic volumes recorded at the proposed driveway location for the proposed development were 95% of the

traffic volumes recorded in Greenbank Road at the Mount Lindesay Highway in the evening and 78% in the morning peak.

Overall non-diverted drop in trips from the Mount Lindesay Highway do not appear to be dominating the service station patronage due to the low difference in the number of trips between the Mount Lindesay Highway intersection and west of the service station entry along Greenbank Road.

Using the same proportions of traffic volumes surveyed, the following Table 4.1 shows the direction for vehicles entering and leaving the proposed development and their respective origins and destinations along the Mount Lindesay Highway i.e. north or south of Greenbank Road.

Table 4.1 Development Components Zones Origin / Destination

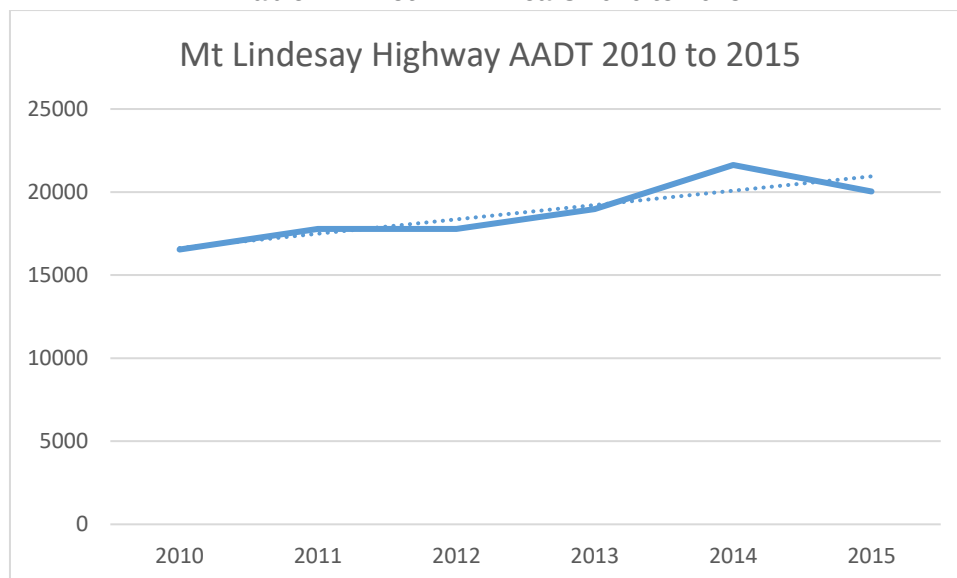
Peak Hour	Road	Greenbank Road		Mount Lindesay Highway	
		West (%)	East (%)	North (%)	South (%)
Morning	Entering the development	47 %	53 %	28%	72%
	Leaving the development	47 %	53 %	83%	17%
Evening	Entering the development	74 %	26 %	59%	41%
	Leaving the development	74 %	26 %	70%	30%

The right turns in the Mount Lindesay Highway from the development have been proportioned in accordance the existing traffic survey.

4.2 Traffic Growth

Traffic census data from DTMR determined that the AADT is available for the Mount Lindesay Highway for year 2010 to 2015. In 2015; 20,030 vehicles per day, 10,441 travelling south and 9,580 north used the Highway. For 2014 the census data was 21,563; 10,804 south and 10,759 north. The following Table 4.2 shows a plot of the AADT for the years 2010 to 2015.

Table 4.2 Plot AADT Years 2010 to 2015



The chart shows an average annual growth rate of 4.5 % and background traffic has been assumed to grow at this rate based on historic growth on the Mount Lindesay Highway. Using this growth rate, background traffic demands have been estimated for the 2018 and 2028 design years. Refer Appendix B for the traffic survey.

The distribution of background traffic has been based on the expected arrival and departure ratios and the north / south splits inherent in the Mount Lindesay Highway traffic surveys.

4.3 Development Traffic

4.3.1 Generation

A summary of the trips generated from the proposed development is presented in Table 4.3. These trip rates have been sourced from the RTA *Guide to Traffic Generating Developments*. The guide gives the recommended trip generation rates based on factors as follows:

- Daily vehicle trips = 5 per 100 m² gross floor area.
- Evening peak hour vehicle trips = 1 per 100 m² gross floor area.

For Warehouses the rates are as follows:

- Daily vehicle trips = 4 per 100 m² gross floor area.
- Morning peak hour vehicle trips = 0.5 per 100 m² gross floor area.

Given that the land use is assumed to service industry the trip rate for factories of 1 / 100 m² has been adopted for evening peak hours which coincides with the Greenbank Road peak hour of 4.15 PM to 5.15 PM. For the mornings, the surrounding road network peak hour at 6.15 AM to 7.15 AM occurs before normal working hours and the lower rate as applied to warehouses has been adopted for the morning peak hours. In summary trip generation rates adopted as follows:

- Morning peak hour vehicle trips = 0.5 per 100 m² gross floor area (GFA). For the 7,043m²; adopt 37 trips.
- Evening peak hour vehicle trips = 1 per 100 m² gross floor area (GFA). For the 7,043m²; adopt 74 trips in the evenings.

4.3.2 Trip Distribution

The trip distribution follows the existing travel patterns as currently exist which is also influenced by delays associated with the right turning movements onto the Mount Lindesay Highway during both the peak hour periods. The following Table 4.3 shows the trip distribution from the development.

Table 4.3 Development Trip Generation Per Hour Origin / Destination Summary

Peak hour	Total trips	Leaving the development onto Greenbank Road			Entering the development from Greenbank Road			Entering the Mount Lindesay Highway			Leaving the Mount Lindesay Highway		
		Total Trips	Travel direction		Total Trips	Travel direction		Total Trips	Travel direction		Total Trips	Travel direction	
			To west	To east		From west	From east		To north	To south		From north	From south
AM	37	15	8	7	22	12	10	7	6	1	10	3	7
PM	74	44	32	12	30	22	8	12	8	4	8	4	4

For the morning peak hour 60% of the development trips enter the development and 40% leave and the reverse percentages were adopted for the evening peak hour. For the purpose of the analysis, all trips were assigned to Greenbank Road driveway as applicable for all trips accessing the Mount Lindesay Highway.

4.4 Post Development Traffic

The development traffic has been added to the Pre-Development traffic demands to provide the Post Development traffic scenarios. The following Table 4.4 shows the % increase in trips at the Mount Lindesay Highway / Greenbank Road intersection for the peak hours.

Table 4.4 Development Trip Generation per Hour Summary

Peak Hour	Greenbank Road		Mount Lindesay Highway North Approach		Mount Lindesay Highway South Approach	
	Left turn	Right turn	Through lane	Right turn	Left turn	Through lane
AM existing survey 2017	230	48	473	60	154	1120
AM development traffic	6	1	3	3	7	7
% increase from development traffic	2.6%	2.1%	0.6%	5.0%	4.6%	0.6%
PM existing survey 2017	106	46	1395	223	153	584
PM development traffic	8	4	4	4	4	4
% increase from development traffic	7.5%	8.7%	0.3%	1.8%	2.6%	0.7%

The impacts on the Mount Lindesay Highway traffic vary up to 5% for the right turn lane on the north approach in the morning peak hour and up to 2.6% at the left turn in the afternoon peak hour at the south approach to Greenbank Road. The percentage in the through traffic is 0.7% in the northbound direction in the afternoon. In the Greenbank Road approach, the highest increase occurred in the right turn in the afternoon peak hour at 8.7%.

Overall the percentage increase on the Mount Lindesay Highway through and turn lanes is 5% or less.

5. Operational Assessment

This section addresses the surrounding road network giving consideration to turning treatments and intersection capacity. The Mount Lindesay Highway / Greenbank Road intersection has been analysed for the Pre Development and Post Development scenarios:

This intersection has been modelled for both the morning and evening peak hour periods.

5.1 Intersection Capacity Analysis

Capacity analysis of the surrounding intersections has been carried out utilising SIDRA INTERSECTION 6 traffic modelling software. This is an advanced micro-analytical traffic evaluation tool that employs lane-by-lane and vehicle drive models and has the ability to assess intersections within a network. SIDRA summaries for all modelled scenarios are provided in Appendix C.

The key performance criteria considered are Degree of Saturation (DOS), Delays and Queuing. According to the DTMR Guidelines for Assessment of Road Impacts of Developments (Chapter 6, page 7) for priority controlled intersections, a DOS in excess of 80% is considered over capacity. Above this value performance quickly deteriorates. In accordance with the RTA Guide to Traffic Generating Developments (Table 4.2), delays above 40 seconds for priority controlled intersections are considered near capacity. Acceptable queue lengths are determined on a site by site basis, taking into account of available storage and interaction with other intersections.

5.1.1 Mount Lindesay Highway / Greenbank Road Intersection

At the time of the original development application, the Mount Lindesay Highway / Greenbank Road intersection was a priority controlled “T” intersection where Mount Lindesay Highway is the major road. The intersection incorporated an auxiliary left turn and a full auxiliary right turn on Mount Lindesay Highway with an acceleration lane for vehicles turning left out of Greenbank Road.

The diagrammatic representation of the intersection as adopted for the operational capacity analysis is shown in the following Figure 5.1.

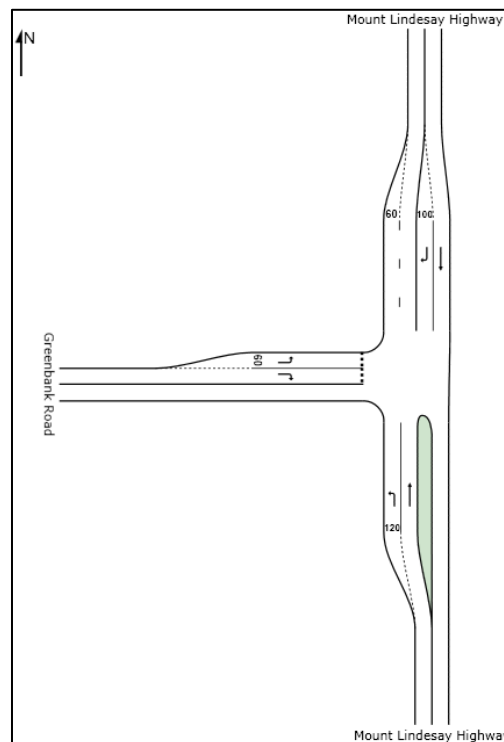


Figure 5.1 Diagrammatic Layout of Mount Lindesay Highway / Greenbank Road Intersection

Performance summaries for the existing 2017 surveyed traffic volumes are presented in Table 5.1.

Table 5.1 Mount Lindesay Highway / Greenbank Road Performance Summary – 2017 Pre Development (Existing Layout)

Approach	Morning Peak			Evening Peak		
	DOS (%)	Delay (sec)	Queue (m)	DOS (%)	Delay (sec)	Queue (m)
Mt Lindesay Highway (S)	0.598	1.1	0.0	0.312	1.7	0.0
Mt Lindesay Highway (N)	0.367	3.9	8.7	0.745	2.4	14.2
Greenbank Road(E)	2.056	459.0	275.1	8.07	7043.1	310.4

The results show that the intersection exceeded acceptable operational limits prior to the addition of development trips. The Degree of Saturation (DOS) on the Greenbank Road approach is greater than 80% during both the morning and evening peak periods and the delays are well beyond acceptable limits. Increases with development and background traffic will show that the Greenbank Road queues and delays become worse. It is noted that the tube counter survey that was located at the approximate position of the driveway within the queue from the right turn lane, but travel speed recorded was not slowed during the peak hours. This indicates that the queue length calculated with the Sidra software has overestimated the queue length at the intersection in Greenbank Road in this instance.

No further analysis has been performed on the intersection with the development traffic superimposed on the background traffic or for the recently completed signalised intersection upgrade completed by DTMR. The previous table of the percentage increase in the existing traffic showed that the increase in the through traffic in Mt Lindesay Highway was 0.7% and the turning traffic maximum increase was 5% and no delays were experienced along the Highway. As the background

Traffic grows at the 4.5% per annum the performance of the intersection will progressively deteriorate in Greenbank Road with the performance of the Highway traffic remaining within acceptable limits. The DTMR 2006, *Guidelines for Assessment of Road Impacts of Development*, considers that when a development impact is less than 5% on the state controlled road then impacts are considered insignificant.

Alternate routes are available for access to the Highway during peak periods. To the south Teviot Road is an alternate route where access is achieved to the Highway at Jimboomba via Cusack Lane and further south via traffic signals. To the north travelling along Greenbank Road leads to Crowson Lane, that accesses the Highway via a grade separated interchange.

Hence no further analysis was performed for future years and also considering that generally all turning volumes are 5% or less in the Highway than the existing volumes and hence analysis is not warranted.

The results show that the intersection is expected to fail before the addition of development related traffic by 2018. Increases in background traffic on Mount Lindesay Highway cause the vehicles turning right out of Greenbank Road to experience excessive delays.

Signalisation of the intersection was recently completed by DTMR to further improve capacity at the intersection. A seagull intersection configuration was considered as a means of reducing the delays in Greenbank Road by allowing a two stage turn with the vehicle parked in the centre median. However due to safety concerns this option was not pursued and is not recommended.

As demonstrated in this assessment, delays at the Greenbank Road approach to Mount Lindesay Highway are due to the background traffic and not as a result of the development traffic. As advised by DTMR, further upgrading of Mount Lindesay Highway by DTMR is to be carried out in the next 10 to 15 years involving a service road. The service road limits the access points onto the highway providing safe higher capacity intersections for the side roads. Signalization of the Greenbank Road / Mt Lindesay Highway intersection is also proposed by DTMR to alleviate the existing deficiencies in the operating performance.

6. Parking, Access, and Servicing

6.1 Car and Bicycle Parking

The parking requirements for the proposed development have been assessed considering the following uses and their intended yields. The Low impact industry zoned land is suitable for development as Service Industry or Low Impact Industry therefore the future car parking rates will be subject to the proposed use.

The parking rates for the proposed land uses have been sourced from Table 9.4.7.3.2 of the *Logan Planning Scheme 2015* (LCC, 2015) as follows:

Service industry

- 1 space per 31.7m² of GFA; plus
 - Loading bays.

Low impact industry

- 1 space per 50m² of GFA up to 500m²; plus
- 1 space per 100m² GFA thereafter.
 - Loading bays.

Using the above parking rates and proposed yields, the parking requirements for the proposed development have been calculated as follows in Table 6.1:

Table 6.1 Required No. of Carparks

Lot	Building	Area (m ²)		No. of Carparks Required	Total Carparks Required	No. of Carparks Provided
1	C	Service industry	2031	64	64	58 + 6 EUA
2	B	Service industry	1928	61	61	44 + 16 EUA
3	A	Service industry	3084	97	97	97
Total					222	222

Total 222 car spaces provided, hence there are sufficient car spaces provided for the development.

According to *AS/NZS 2890.1:2004 Parking facilities Part 1: Off-street car parking* (Standards Australia, 2004, tab. 1.1), the applicable classification of off-street car parking facilities for this development falls under "User Class 3". The minimum parking layout characteristics for 90° angle parking are:

- 2.6 m x 5.4 m parking bays; and
- 6.2 m aisle width. Parking aisle width determined by the requirements for service vehicle manoeuvring for the loading bay areas.

The proposed Reconfiguration of a Lot plan is attached in Appendix A. Car parking spaces for each allotment will need to be determined in accordance with the above requirements at the time of development.

6.2 Bicycle Parking

In accordance with the Logan City Planning Scheme

- 1 space per 800m² GFA for employees.

6.3 Vehicle Driveway Crossover

According to AS2890.1 Table 3.1, a minimum of a Category 2 access facility is required for the proposed development. AS2890.1 Table 3.1, a Category 2 access is a combined 6 to 9 m wide entry / exit point. A minimum requirement of 9 metres width is recommended for the Greenbank road driveway as per the vehicle turn paths.

6.4 Servicing

As part of the on-site operations, refuse collection will occur at common storage and servicing point where internal turning paths are available. The largest refuse collection design vehicle expected to regularly service the subject site is a front loading dual rear axle Refuse Collection Vehicle (RCV).

A swept path assessment has been carried out using AutoTurn software to determine whether a RCV can manoeuvre on-site so it is able to enter / exit the site in a forward gear. Vehicle clearance of 300 mm has been applied to the vehicle body in compliance with the requirements of the Guide to Road Design Part 4: Intersections and Crossings (Austroads, 2009, cl. 5.6.3) for swept paths at road intersection layouts. The swept path of a front Loading RCV manoeuvring on-site is provided in the following Drawings:

Actual limit of the RCV is determined by the nominated position of the bin collection points due to the reversing distance required in the driveways and the gradient of the driveways. Therefore, future bin collection points will need to be located to ensure an RCV can enter / exit the site in a forward gear. Reversing is achieved through aisles without encroachment onto any car spaces.

The service vehicle requirement for Low Impact Industry is a Heavy Rigid Vehicle. (HRV). In order to demonstrate the manoeuvrability of an HRV throughout site swept path diagrams were prepared. The layout provides for an HRV to enter the site, leave in a forward direction and manoeuvre as shown on Drawing BE160355- SK002 B HRV Service Swept Path Plan.

Copies of the drawings are included in Appendix E.

7. Conclusions and Recommendations

Roubaix Properties Pty Ltd are seeking a Development Approval for A Reconfiguration of Lot for a Light Industry development. The development will have access via Greenbank Road that intersects the Mount Lindesay Highway to the east of the property.

In order to determine background traffic volumes at the Mount Lindesay Highway / Greenbank Road intersection, a traffic count was commissioned at the intersection. DTMR traffic counts on Mount Lindesay Highway were obtained from published traffic census data for the AADT. The existing AADT of Mount Lindesay Highway is approximately 20,000 vehicles per day. Background traffic has been assumed to grow at an annual rate of 4.5% as per historic AADT-DTMR counts on Mount Lindesay Highway.

The proposed development in Greenbank Road is anticipated to generate approximately 37 vehicles per hour for the morning peak hour and approximately 74 vehicles per hour for the evening peak hour. All development trips are expected to be attracted both to the Mount Lindesay Highway and also to the west along Greenbank Road. At Mount Lindesay Highway, the directional split of development trips is expected to reflect existing north / south splits inherent in the traffic surveys.

Capacity analysis has demonstrated that the Mount Lindesay Highway / Greenbank Road intersection currently fails to provide a satisfactory Level of Service at 2017 before the addition of development related trips. No further analysis was subsequently carried out for the following years with the development traffic superimposed. The impact of the proposed development traffic on the functionality of the Mount Lindesay Highway / Greenbank Road intersection in 2017 is less than 5.0% for the through and turning lanes in the Mount Lindesay Highway. The DTMR 2006, *Guidelines for Assessment of Road Impacts of Development*, considers that when a development impact is less than 5% on the state controlled road then impacts are considered insignificant. The timing of future significant upgrading of Mount Lindsay Highway proposed by DTMR is a 10 to 15 year time frame with no funds currently committed to the construction. DTMR have also recently completed road safety upgrades to signalise the Greenbank Road / Mount Lindesay Highway Intersection.

Car parking, bin collections points and ancillary uses will be provided for each allotment as it is developed in accordance with the proposed use to ensure the minimum requirements are met.

8. References

Australian / New Zealand Standard 2004, *Parking Facilities Part 1: Off-Street Car Parking*, Standards Australia, Sydney.

Department of Main Roads 2004, *Road Planning and Design Manual Chapter 5: Traffic Parameters and Human Factors*, Queensland Government, Brisbane.

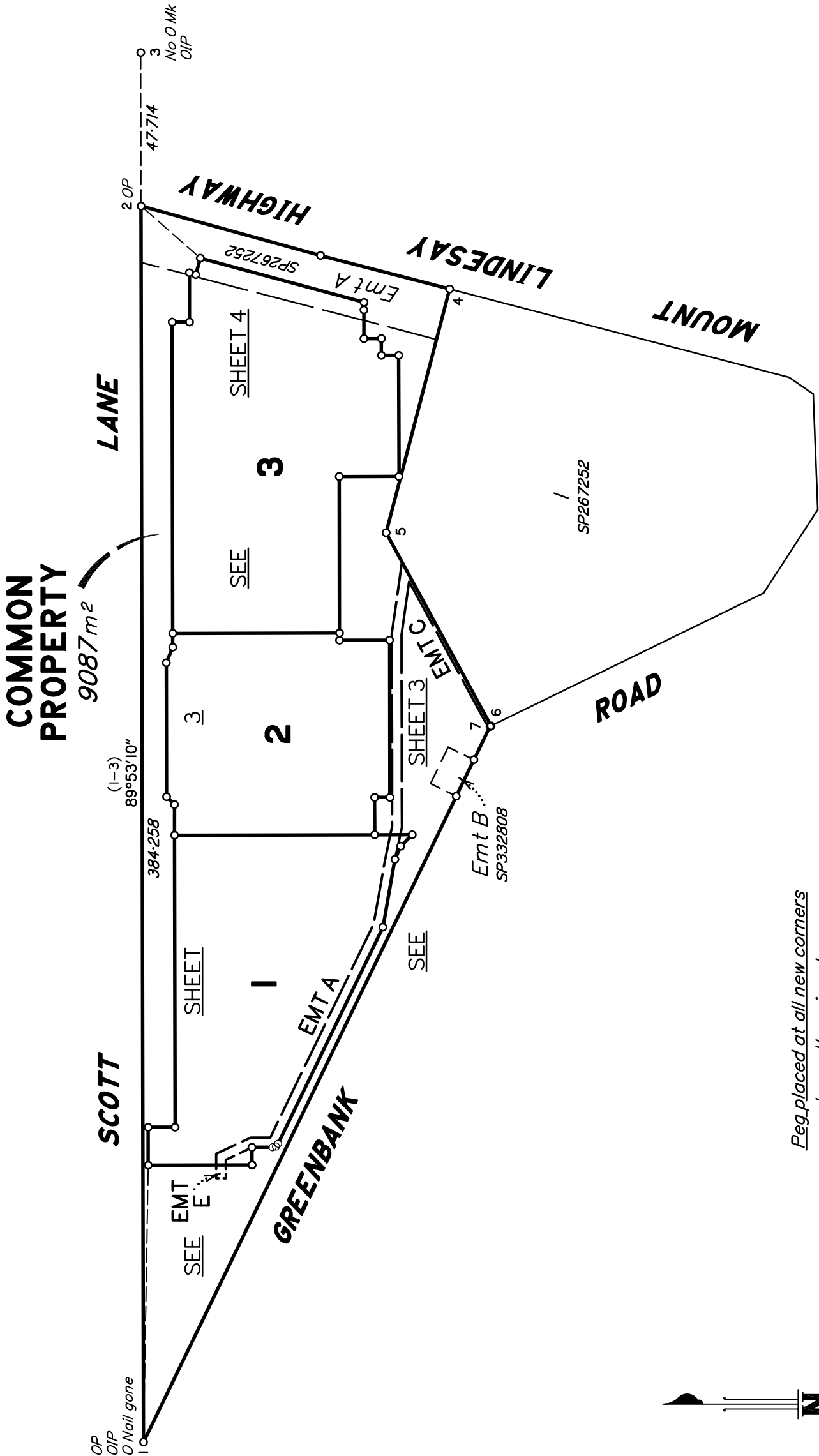
Department of Main Roads 2005, *Road Planning and Design Manual Chapter 3: Road Planning and Design Fundamentals*, Queensland Government, Brisbane.

Department of Main Roads 2006, *Road Planning and Design Manual Chapter 13: Intersections at Grade*, Queensland Government, Brisbane.

Department of Main Roads 2006, *Guidelines for Assessment of Road Impacts of Development*, Queensland Government, Brisbane.

Roads and Traffic Authority 2002, *Guide to Traffic Generating Developments*, Roads and Traffic Authority, Sydney.

Appendix A – Site Layout Plans



DRAFT

31/01/2022

I, Roy Arthur SOMERVILLE, hereby certify that the land comprised in this plan was surveyed by David Andrew HEYCOCK, Cadastral Surveyor, for whose work I accept responsibility, and that the plan is accurate, that the said survey was performed in accordance with the Survey and Mapping Infrastructure Act 2003 and Surveyors Act 2003 and associated Regulations and Standards and that the said survey was completed on

PRELIMINARY

Cadastral Surveyor

Date

Metres

0

75m

50 mm

150m

100 mm

225m

150 mm

State copyright reserved.

PLAN OF

*Lots 1 to 3 and Common Property and
Easement A in Lot 1 and
Easements C and E in Common Property*

Cancelling Lot 2 on SP267252

LOCAL

GOVERNMENT: LOGAN C.C.

LOCALITY: NORTH MACLEAN

Meridian: SP267252

Survey
Records:

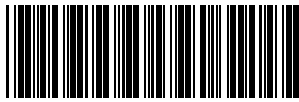
NO

Scale:

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Format:

STANDARD



SP331572

WARNING : Folded or Mutilated Plans will not be accepted.
Plans may be rolled.
Information may not be placed in the outer margins.

(Dealing No.)

4. Lodged by

(Include address, phone number, reference, and Lodger Code)

I. Existing		Created		
Title Reference	Description	New Lots	Road	Secondary Interests
50964596	Lot 2 on SP267252	I to 3 and Common Property	—	Emts A, C and E

MORTGAGE ALLOCATIONS

Mortgage	Lots Fully Encumbered	Lots Partially Encumbered
717650628	I to 3	—

ENCUMBRANCE EASEMENT ALLOCATIONS

Easement	Lots to be Encumbered
716044502 (Emt A on SP267252)	3 and Common Property
..... (Emt B on SP332808)	Common Property

REINSTATEMENT REPORT

I to 3 and Common Property	Por 5V
Lots	Orig

2. Orig Grant Allocation :

3. References :

Dept File :
Local Govt :
Surveyor : 4324

5. Passed & Endorsed :

By : Roy Arthur SOMERVILLE

Date :

Signed :

Designation : Cadastral Surveyor

Date of Development Approval:

6. ~~Building Format Plans only.~~

I certify that :
* As far as it is practical to determine, no part of the building shown on this plan encroaches onto adjoining lots or road;
* Part of the building shown on this plan encroaches onto adjoining * lots and road

.....
Cadastral Surveyor/Director* Date
*delete words not required

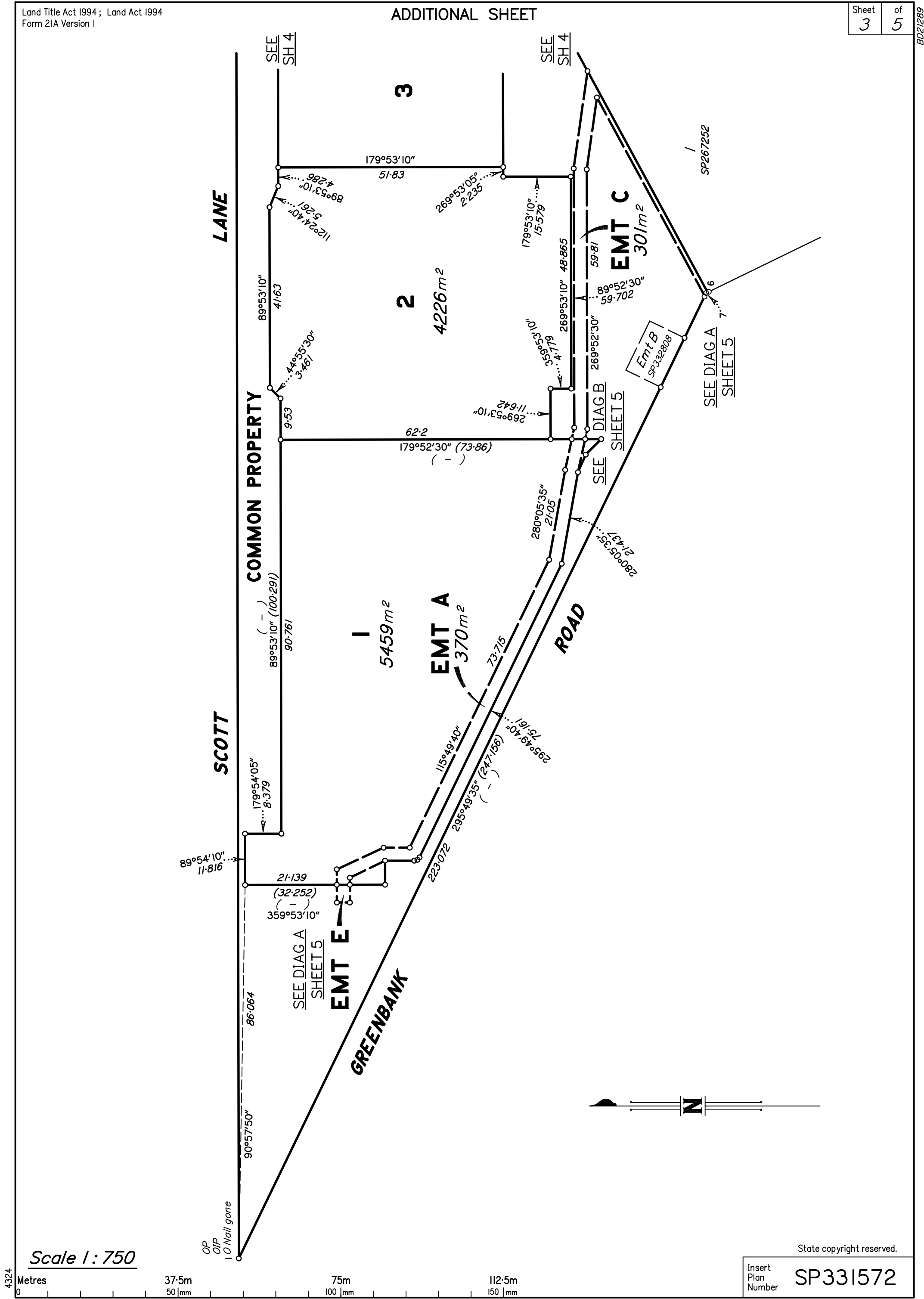
7. Lodgement Fees :

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Lodgement \$
.....New Titles \$
Photocopy \$
Postage \$
TOTAL \$

8. Insert
Plan
Number

SP331572

PRELIMINARY

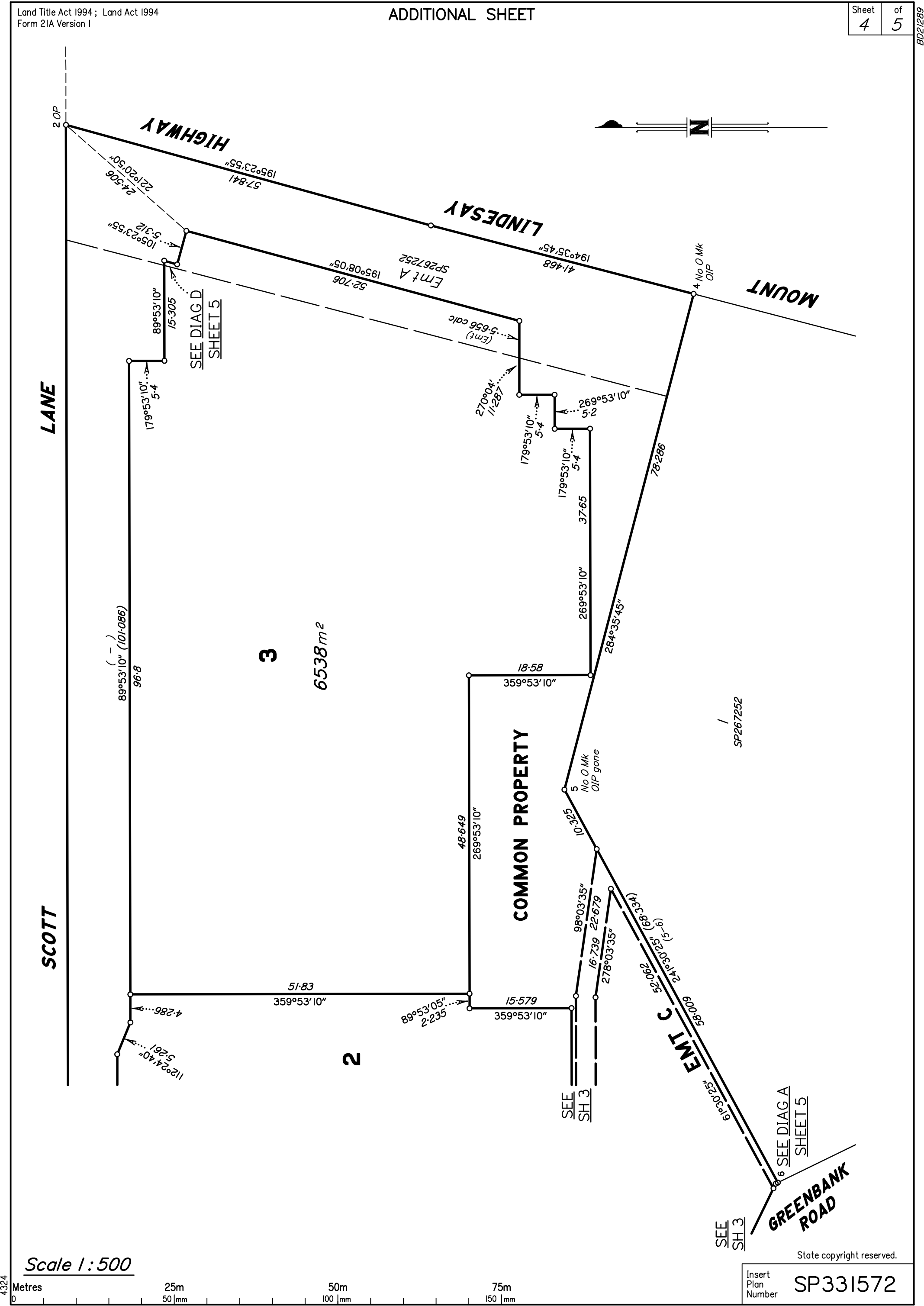


Scale 1 : 750



State copyright reserved.

Insert Plan Number	SP331572
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Scale 1 : 500



DIAGRAM C

Scale 1 : 150

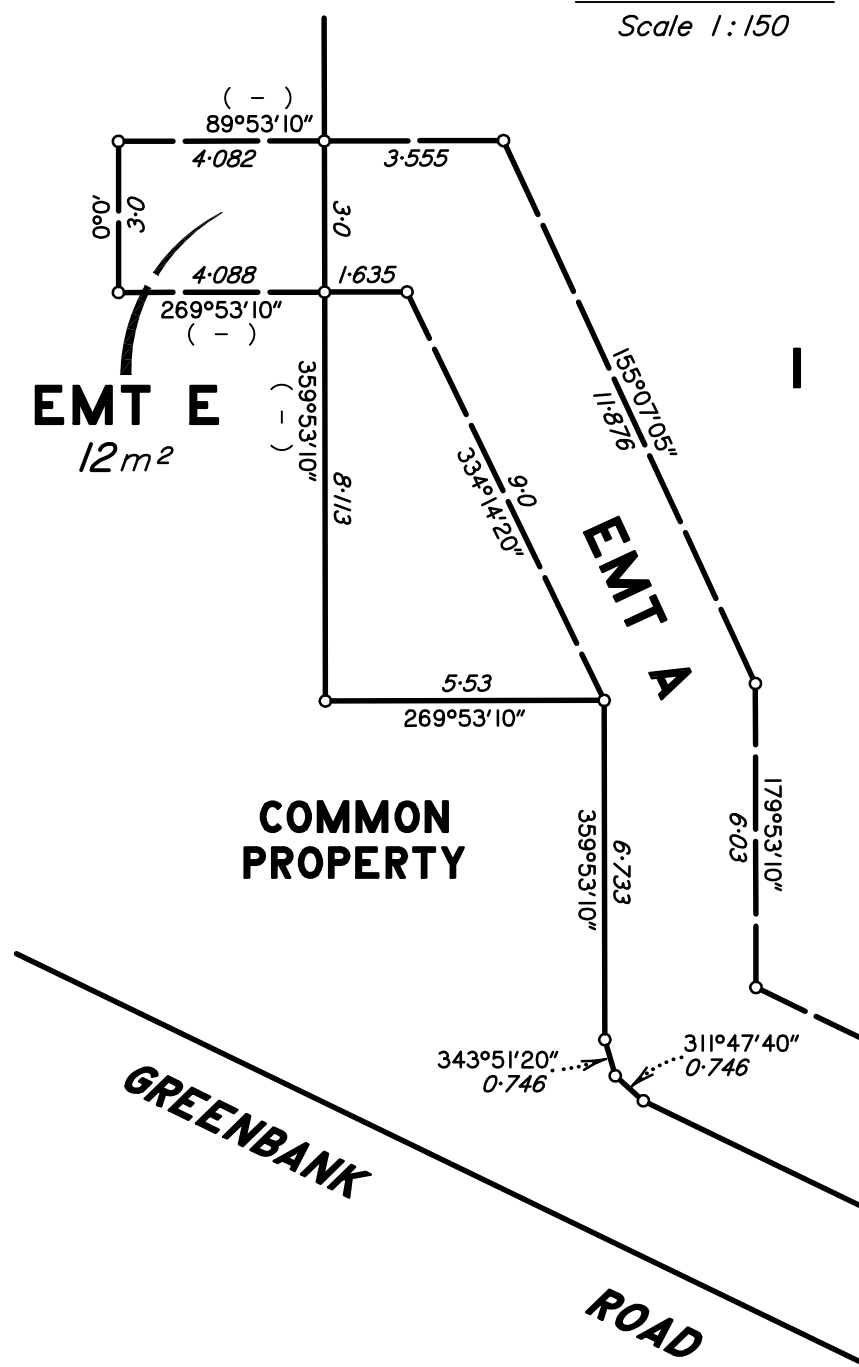


DIAGRAM B

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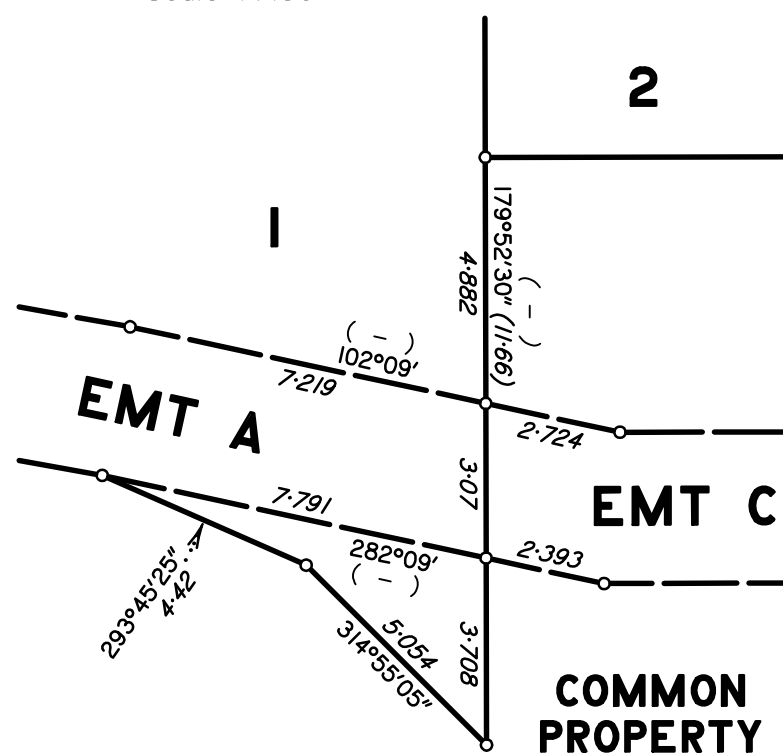


DIAGRAM D

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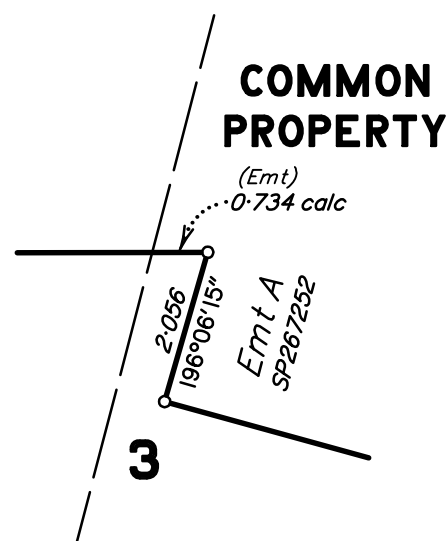
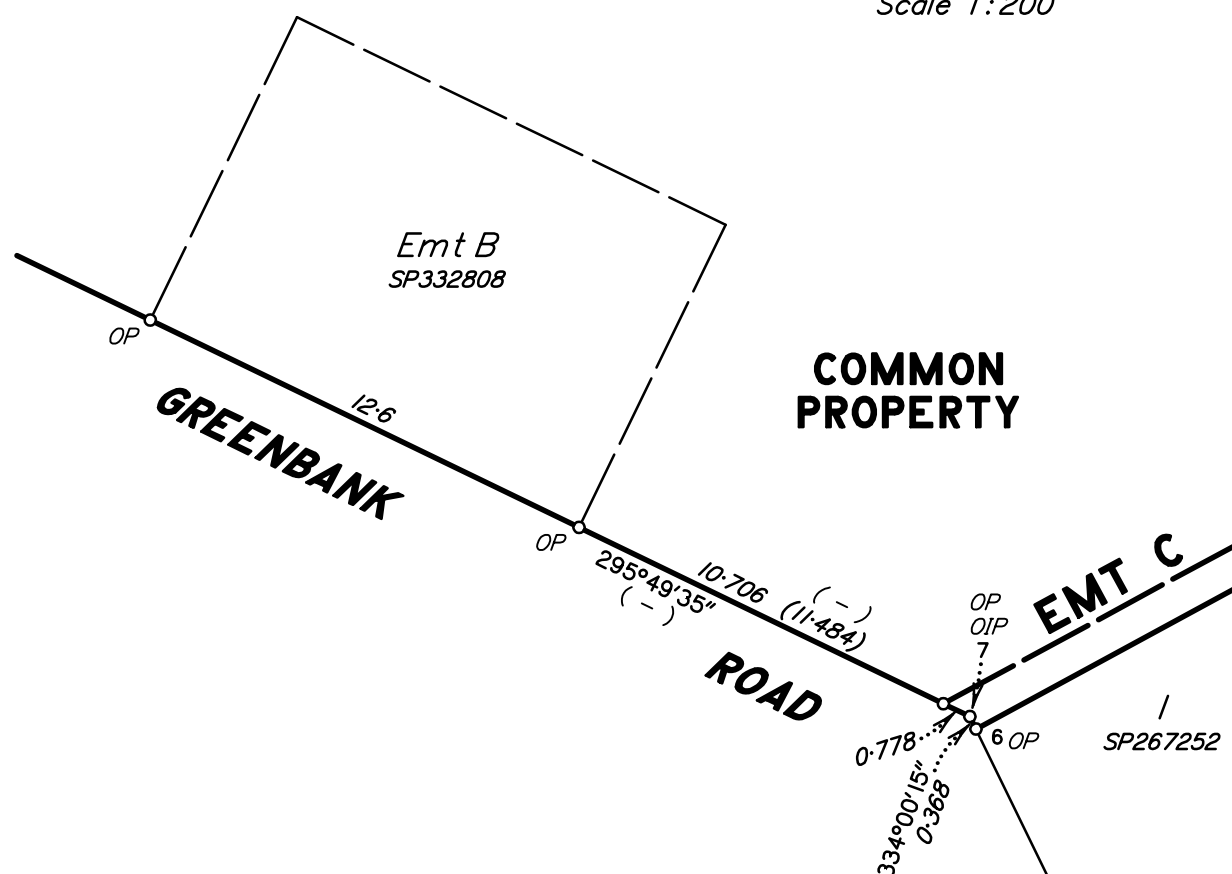


DIAGRAM A

Scale 1:200



Appendix B – Traffic Count Data

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Eastbound

Survey Dates - 9th Feb - 15th Feb 2017



Thursday, 9 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	4	4	0	0	59.7	-		
0015	2	2	0	0	65.6	-		
0030	3	3	0	0	69.8	-		
0045	1	1	0	0	47.8	-		
0100	1	1	0	0	57.7	-		
0115	3	3	0	0	65.5	-		
0130	3	2	1	0	65.4	-		
0145	0	0	0	0	-	-		
0200	2	2	0	0	66.5	-		
0215	4	3	1	0	65.1	-		
0230	3	3	0	0	59.2	-		
0245	0	0	0	0	-	-		
0300	3	2	1	0	60.7	-		
0315	10	9	1	0	62	-		
0330	6	5	1	0	59.6	-		
0345	11	11	0	0	62.6	66.2		
0400	7	5	2	0	61.9	-		
0415	8	8	0	0	58.4	-		
0430	18	18	0	0	63.8	68.4		
0445	29	26	3	0	59.7	64.8		
0500	35	31	3	1	60.4	65.2		
0515	49	43	5	1	61.3	65.2		
0530	53	46	7	0	62.6	67		
0545	37	31	6	0	60.8	66.2		
0600	48	44	4	0	61.8	66.6		
0615	70	64	5	1	61.5	67.3		
0630	48	43	4	1	61.3	65.9		
0645	65	63	2	0	63.1	68.4		
0700	56	48	5	3	62.9	67.3		
0715	50	43	6	1	61.8	68.4		
0730	49	42	6	1	62.8	70.9		
0745	43	34	8	1	63.1	69.8		
0800	58	54	3	1	64.1	69.8		
0815	61	55	6	0	63.1	69.8		
0830	41	37	4	0	62.6	69.5		
0845	53	51	2	0	62	65.5		
0900	50	42	6	2	58.8	67		
0915	49	40	8	1	60.3	68.8		
0930	39	34	5	0	59.1	65.5		
0945	26	24	1	1	61.7	68.8		
1000	27	23	4	0	61.6	70.6		
1015	40	34	6	0	63.5	70.2		
1030	32	26	6	0	60.8	66.6		
1045	31	28	3	0	61	67		
1100	27	20	7	0	62.4	68.4		
1115	35	31	4	0	62	67.3		
1130	41	34	7	0	62.1	69.1		

1145	31	27	3	1	62.5	69.8		
1200	34	28	6	0	62.7	69.5		
1215	31	24	6	1	62.4	72		
1230	23	20	3	0	64.3	70.9		
1245	33	25	7	1	61.5	66.2		
1300	23	16	6	1	65.2	72.7		
1315	30	24	6	0	64.2	69.8		
1330	38	34	3	1	63.7	68.8		
1345	41	34	7	0	62.5	73.4		
1400	35	30	5	0	63.9	70.2		
1415	46	44	1	1	65	70.2		
1430	35	32	1	2	64.2	72.7		
1445	37	34	3	0	65.2	69.1		
1500	40	37	2	1	61.7	69.8		
1515	46	39	5	2	62.5	69.5		
1530	30	27	3	0	62.4	68.8		
1545	45	40	4	1	63.5	68.4		
1600	30	27	3	0	61.8	68.8		
1615	30	25	3	2	63.6	68.4		
1630	35	32	2	1	64.6	69.1		
1645	31	25	6	0	61.4	68		
1700	35	33	1	1	65.7	71.3		
1715	39	38	0	1	61.5	67.3		
1730	25	21	3	1	62.9	68		
1745	24	22	2	0	62	64.8		
1800	34	29	3	2	62	68		
1815	28	26	2	0	61.6	67.3		
1830	30	29	1	0	62.9	70.9		
1845	27	24	3	0	59.5	64.8		
1900	25	23	2	0	61.5	66.2		
1915	34	34	0	0	59.9	66.6		
1930	30	27	2	1	59.2	66.6		
1945	25	24	1	0	59.4	67		
2000	18	16	2	0	60.3	67.3		
2015	22	22	0	0	61.1	68.4		
2030	26	23	3	0	59	63.7		
2045	21	20	1	0	60.5	68		
2100	13	12	1	0	60.3	66.2		
2115	21	21	0	0	65.7	70.9		
2130	12	11	1	0	58.2	63.4		
2145	7	5	2	0	66.4 -			
2200	10	9	1	0	69.3 -			
2215	5	4	1	0	61 -			
2230	5	5	0	0	64.5 -			
2245	3	3	0	0	61.5 -			
2300	4	2	2	0	65.8 -			
2315	2	2	0	0	54 -			
2330	3	2	1	0	64.6 -			
2345	6	6	0	0	68.4 -			
07-09	411	364	40	7	62.8	69.1		
09-16	995	851	128	16	62.4	69.5		
16-18	249	223	20	6	63	69.1		
00-00	2589	2290	263	36	62.2	68.8		

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Eastbound

Survey Dates - 9th Feb - 15th Feb 2017



Friday, 10 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	3	3	0	0	66.8	-		
0015	2	2	0	0	65.2	-		
0030	2	2	0	0	68.4	-		
0045	2	1	1	0	61.6	-		
0100	3	3	0	0	54.6	-		
0115	0	0	0	0	-	-		
0130	1	1	0	0	59.9	-		
0145	3	2	1	0	60.7	-		
0200	2	2	0	0	63.9	-		
0215	5	4	0	1	58.6	-		
0230	2	1	0	1	45.7	-		
0245	2	2	0	0	67.1	-		
0300	5	3	1	1	58.6	-		
0315	6	5	1	0	57	-		
0330	5	5	0	0	65.2	-		
0345	11	10	1	0	62.1	68		
0400	9	7	2	0	59.5	-		
0415	11	9	0	2	64.6	70.6		
0430	12	11	0	1	64.9	69.8		
0445	39	33	3	3	61.5	67.3		
0500	38	36	2	0	60.7	67.3		
0515	48	43	5	0	62.2	68		
0530	57	52	5	0	63.3	70.2		
0545	46	35	10	1	63.1	70.6		
0600	49	42	7	0	62.9	70.6		
0615	52	43	9	0	62.9	68		
0630	49	39	8	2	62.4	69.5		
0645	43	38	4	1	64.7	70.6		
0700	39	35	2	2	64.5	70.2		
0715	51	49	2	0	63	68.4		
0730	59	53	6	0	64.1	69.5		
0745	48	39	8	1	65.4	71.6		
0800	55	49	4	2	63.6	68.8		
0815	53	44	7	2	62.2	69.5		
0830	47	40	5	2	60.1	68.4		
0845	58	50	7	1	60.4	66.6		
0900	43	37	6	0	60	64.8		
0915	44	39	4	1	61.3	67.7		
0930	35	30	5	0	62.3	70.2		
0945	35	31	3	1	61.4	69.5		
1000	32	28	2	2	63.3	70.6		
1015	42	38	3	1	65.6	71.3		
1030	41	33	7	1	61.8	68.4		
1045	55	52	3	0	63	71.3		
1100	37	32	5	0	63.5	69.5		
1115	31	29	2	0	60.4	66.2		
1130	37	29	6	2	61.1	67.3		

1145	40	35	4	1	62.3	69.1		
1200	38	32	6	0	63.5	69.8		
1215	34	31	3	0	63.9	69.8		
1230	29	24	3	2	60.6	67.7		
1245	37	32	4	1	62.2	68.8		
1300	38	35	3	0	63	67.7		
1315	28	21	7	0	64.5	72.7		
1330	30	25	5	0	64.2	70.2		
1345	34	30	4	0	63.5	67.7		
1400	38	34	4	0	64.5	70.9		
1415	41	37	4	0	62.6	68.8		
1430	48	39	7	2	61.5	67.7		
1445	43	37	6	0	65.9	77		
1500	39	31	6	2	63.2	68.4		
1515	57	42	12	3	61.5	67.7		
1530	41	38	2	1	61.4	67.7		
1545	34	32	2	0	65.2	73.4		
1600	28	21	7	0	62.6	68		
1615	28	25	3	0	66.1	76		
1630	35	32	3	0	64.5	68.4		
1645	35	30	5	0	63.7	71.3		
1700	31	31	0	0	68	73.4		
1715	33	32	1	0	64.2	70.2		
1730	34	33	1	0	64.5	71.3		
1745	34	30	3	1	62.9	68.4		
1800	35	33	1	1	62.8	69.8		
1815	40	32	7	1	63.6	71.3		
1830	31	29	2	0	61	64.1		
1845	34	33	1	0	64.4	68.8		
1900	26	24	1	1	59.3	62.3		
1915	31	30	1	0	60.1	64.8		
1930	22	20	2	0	58.6	67.3		
1945	25	25	0	0	63.1	68		
2000	15	15	0	0	61.4	67.3		
2015	12	12	0	0	62.6	69.8		
2030	21	20	1	0	62.3	70.9		
2045	15	15	0	0	62.5	69.1		
2100	14	13	1	0	60.8	69.8		
2115	12	12	0	0	62.6	64.4		
2130	21	21	0	0	59.3	68		
2145	17	17	0	0	58.7	66.6		
2200	15	15	0	0	65.9	72.4		
2215	13	13	0	0	61.2	65.5		
2230	7	7	0	0	60.1 -			
2245	7	7	0	0	63.4 -			
2300	8	8	0	0	60.4 -			
2315	5	5	0	0	68.6 -			
2330	8	8	0	0	61.9 -			
2345	7	6	1	0	63.3 -			
07-09	410	359	41	10	62.9	69.8		
09-16	1081	933	128	20	62.7	69.5		
16-18	258	234	23	1	64.5	71.3		
00-00	2697	2380	270	47	62.7	69.8		

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Eastbound

Survey Dates - 9th Feb - 15th Feb 2017



Saturday, 11 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	4	4	0	0	65.7	-		
0015	5	5	0	0	68.2	-		
0030	8	8	0	0	63.3	-		
0045	3	3	0	0	64.7	-		
0100	3	3	0	0	60.8	-		
0115	2	2	0	0	66.2	-		
0130	2	2	0	0	61.4	-		
0145	3	3	0	0	69.2	-		
0200	1	1	0	0	70.2	-		
0215	5	5	0	0	59.3	-		
0230	0	0	0	0	-	-		
0245	3	3	0	0	58.2	-		
0300	4	3	1	0	62.9	-		
0315	2	2	0	0	60.3	-		
0330	2	2	0	0	68.3	-		
0345	5	3	2	0	63.6	-		
0400	6	4	2	0	65.7	-		
0415	8	7	1	0	69.1	-		
0430	11	10	0	1	61.9	64.8		
0445	16	15	1	0	65.9	75.2		
0500	16	15	1	0	60.4	67.3		
0515	17	13	3	1	62.7	71.3		
0530	18	15	2	1	65.8	71.6		
0545	24	20	4	0	68.5	75.6		
0600	23	23	0	0	66.4	73.1		
0615	31	28	3	0	66.3	70.6		
0630	26	23	2	1	67.9	71.3		
0645	29	23	4	2	66.4	70.9		
0700	28	27	1	0	63.8	67		
0715	33	32	1	0	65.3	69.5		
0730	42	40	2	0	64.4	70.9		
0745	39	35	3	1	63.1	70.6		
0800	37	34	2	1	63.8	71.6		
0815	34	30	4	0	64.3	69.5		
0830	47	45	2	0	64.9	69.8		
0845	51	44	6	1	63.9	67.7		
0900	45	42	2	1	61.9	69.5		
0915	45	43	2	0	62.4	68.4		
0930	51	45	5	1	62	68		
0945	46	42	4	0	63.4	67.3		
1000	51	44	7	0	62.7	68.8		
1015	53	47	5	1	63.8	69.1		
1030	58	56	1	1	64.6	69.1		
1045	52	48	3	1	60.1	67		
1100	46	40	5	1	64.7	70.2		
1115	41	40	1	0	63.8	68		
1130	45	40	5	0	64.6	70.6		

1145	35	33	2	0	63.8	67.7		
1200	40	35	5	0	64.1	68.8		
1215	45	44	1	0	64.2	71.6		
1230	40	36	2	2	66.1	70.6		
1245	34	31	3	0	66	72.4		
1300	42	39	3	0	64.4	70.9		
1315	45	41	4	0	62.1	70.9		
1330	34	32	2	0	65.7	70.9		
1345	39	37	2	0	63.5	70.6		
1400	36	35	1	0	66	70.9		
1415	37	26	10	1	63.9	69.5		
1430	34	31	3	0	65.9	68.8		
1445	31	29	2	0	63.5	68.8		
1500	31	30	1	0	65.2	71.6		
1515	36	34	1	1	64.5	72.4		
1530	39	33	6	0	63.9	71.3		
1545	33	29	4	0	65.4	70.2		
1600	45	42	2	1	63.5	69.5		
1615	34	34	0	0	64.1	70.2		
1630	36	31	5	0	64.4	70.9		
1645	34	31	3	0	68	73.8		
1700	26	24	2	0	62.1	69.1		
1715	40	37	2	1	63.1	69.1		
1730	34	32	2	0	63.5	70.6		
1745	37	35	1	1	61.5	67.3		
1800	37	36	1	0	60.5	65.9		
1815	33	29	4	0	59.5	65.5		
1830	20	19	1	0	59.5	66.6		
1845	23	21	1	1	60.3	66.2		
1900	19	18	1	0	61.2	62.6		
1915	15	13	2	0	62.7	72.4		
1930	21	21	0	0	60	65.5		
1945	25	25	0	0	59.5	66.2		
2000	19	18	0	1	60.2	65.2		
2015	23	22	1	0	61.1	68.8		
2030	12	12	0	0	57.2	61.2		
2045	20	17	3	0	58.6	62.6		
2100	14	12	2	0	60.5	63		
2115	16	15	1	0	59.3	65.5		
2130	22	21	1	0	59.7	65.2		
2145	18	17	1	0	60.3	67		
2200	10	9	1	0	63.6 -			
2215	11	10	1	0	65	69.1		
2230	8	6	2	0	58.1 -			
2245	11	10	1	0	63.1	69.5		
2300	13	12	1	0	58.8	64.4		
2315	4	3	1	0	59.5 -			
2330	6	5	1	0	61.5 -			
2345	10	10	0	0	60.8 -			
07-09	311	287	21	3	64.2	70.2		
09-16	1164	1062	92	10	63.9	70.2		
16-18	286	266	17	3	63.8	70.2		
00-00	2448	2241	183	24	63.5	69.8		

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Eastbound

Survey Dates - 9th Feb - 15th Feb 2017



Sunday, 12 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	11	11	0	0	63.7	68.4		
0015	4	4	0	0	56	-		
0030	3	3	0	0	57.3	-		
0045	5	5	0	0	61.3	-		
0100	2	2	0	0	66.5	-		
0115	4	4	0	0	58.6	-		
0130	2	2	0	0	63.1	-		
0145	1	1	0	0	55	-		
0200	5	4	1	0	65	-		
0215	2	2	0	0	63.4	-		
0230	5	5	0	0	61.9	-		
0245	1	1	0	0	66.7	-		
0300	2	2	0	0	70	-		
0315	1	1	0	0	61.9	-		
0330	3	3	0	0	64.1	-		
0345	2	2	0	0	62.5	-		
0400	3	2	1	0	68	-		
0415	2	2	0	0	62.2	-		
0430	2	1	1	0	57.8	-		
0445	6	6	0	0	68.5	-		
0500	3	3	0	0	69.4	-		
0515	18	17	1	0	62.3	65.9		
0530	12	12	0	0	65.8	69.1		
0545	14	14	0	0	66.9	72.4		
0600	12	10	2	0	65	74.5		
0615	16	13	2	1	66.3	72.4		
0630	14	14	0	0	64.6	69.5		
0645	16	15	0	1	64.1	70.2		
0700	14	13	1	0	67.4	73.1		
0715	27	25	1	1	61.4	67.3		
0730	13	10	3	0	65.2	70.6		
0745	26	24	2	0	64.9	69.5		
0800	27	25	2	0	63.7	68.8		
0815	22	20	2	0	66.3	71.6		
0830	58	55	3	0	65.4	70.2		
0845	36	32	4	0	66.4	71.6		
0900	36	34	2	0	62.8	68.4		
0915	45	43	2	0	64.5	68.4		
0930	40	36	4	0	65.2	71.3		
0945	33	28	4	1	62.6	69.1		
1000	37	35	1	1	63.5	70.2		
1015	46	41	3	2	62	69.1		
1030	48	46	2	0	64.4	68.8		
1045	43	39	4	0	61.4	68.4		
1100	57	53	2	2	64.7	69.5		
1115	50	50	0	0	63.7	70.9		
1130	39	37	2	0	62.3	68.4		

1145	34	30	3	1	64.2	70.6		
1200	38	34	3	1	64.1	68.8		
1215	27	25	2	0	64.4	69.5		
1230	29	26	3	0	62	69.5		
1245	40	37	3	0	64.8	69.8		
1300	36	34	2	0	63.5	69.5		
1315	29	27	2	0	67.9	74.9		
1330	24	23	1	0	65.4	70.2		
1345	23	23	0	0	65.9	69.5		
1400	30	28	1	1	64.2	71.6		
1415	27	23	4	0	64.7	68.8		
1430	29	27	1	1	65.6	71.3		
1445	25	24	1	0	63.5	70.9		
1500	25	23	2	0	63.8	67		
1515	27	26	1	0	61.7	68.8		
1530	26	24	1	1	62.6	68.8		
1545	30	29	1	0	64.3	70.9		
1600	21	21	0	0	63.9	69.1		
1615	23	22	1	0	65.8	69.5		
1630	22	22	0	0	64.8	69.5		
1645	34	33	1	0	66.7	73.4		
1700	35	33	2	0	65.4	75.2		
1715	22	21	1	0	64	70.2		
1730	33	31	2	0	64.9	70.9		
1745	28	28	0	0	61.9	70.9		
1800	30	28	2	0	63.6	70.9		
1815	20	19	1	0	64.6	70.6		
1830	26	25	1	0	61.9	70.2		
1845	26	25	1	0	63.5	69.8		
1900	21	20	1	0	59.6	65.5		
1915	17	13	4	0	59.9	65.5		
1930	17	16	1	0	62.8	68.8		
1945	22	20	2	0	60.5	67.3		
2000	23	20	3	0	56.1	63.4		
2015	14	13	1	0	62.1	70.6		
2030	15	15	0	0	62.1	69.8		
2045	14	13	1	0	64.6	69.1		
2100	11	11	0	0	59.9	65.2		
2115	12	11	1	0	62.4	70.6		
2130	9	9	0	0	60 -			
2145	5	4	1	0	58 -			
2200	2	2	0	0	60.5 -			
2215	3	3	0	0	54.5 -			
2230	5	5	0	0	61.7 -			
2245	2	2	0	0	68.6 -			
2300	4	2	2	0	55.4 -			
2315	3	3	0	0	65.3 -			
2330	5	5	0	0	55.3 -			
2345	2	1	1	0	60.8 -			
07-09	223	204	18	1	65	70.9		
09-16	973	905	57	11	63.9	70.2		
16-18	218	211	7	0	64.8	71.3		
00-00	1893	1766	113	14	63.7	70.6		

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Eastbound

Survey Dates - 9th Feb - 15th Feb 2017



Monday, 13 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	1	1	0	0	67.4	-		
0015	3	2	1	0	61.1	-		
0030	1	1	0	0	63.1	-		
0045	1	1	0	0	69.9	-		
0100	1	1	0	0	42.4	-		
0115	4	3	1	0	64.2	-		
0130	2	2	0	0	63.5	-		
0145	2	2	0	0	72.7	-		
0200	0	0	0	0	-	-		
0215	5	5	0	0	62.8	-		
0230	3	3	0	0	58.9	-		
0245	4	3	0	1	61.1	-		
0300	4	4	0	0	62.3	-		
0315	3	3	0	0	53.8	-		
0330	6	5	1	0	61.6	-		
0345	4	4	0	0	60.1	-		
0400	11	11	0	0	64.4	68.8		
0415	14	13	0	1	62.4	69.8		
0430	26	25	0	1	61.4	66.6		
0445	24	20	4	0	61.4	65.2		
0500	28	25	2	1	60.8	67		
0515	42	39	3	0	63.6	67.7		
0530	55	47	5	3	62	67		
0545	44	36	8	0	65.7	72		
0600	59	49	7	3	62.8	67		
0615	61	50	10	1	65.3	73.1		
0630	60	55	4	1	65	72		
0645	52	46	4	2	66	72		
0700	50	40	8	2	61.9	68.4		
0715	52	45	7	0	61.9	67.3		
0730	51	46	4	1	61.1	67.3		
0745	47	41	6	0	62.6	69.8		
0800	53	46	5	2	62.9	68.8		
0815	58	51	5	2	61.9	69.1		
0830	45	37	8	0	60.5	67		
0845	35	30	4	1	61.2	67.7		
0900	56	49	7	0	61.5	68.4		
0915	32	29	1	2	60.9	65.5		
0930	29	26	2	1	61.2	67.3		
0945	24	19	5	0	62.9	68		
1000	33	22	10	1	58.2	66.6		
1015	33	25	8	0	60.9	67.3		
1030	36	27	9	0	62.1	69.1		
1045	31	26	5	0	61.5	69.1		
1100	34	28	6	0	62	69.1		
1115	35	26	8	1	60.7	67		
1130	23	20	2	1	62.7	69.1		

1145	25	19	5	1	61.1	66.6		
1200	35	34	1	0	64.5	68.8		
1215	38	28	9	1	62.4	69.5		
1230	36	28	8	0	63.2	69.5		
1245	19	15	3	1	62	68.8		
1300	27	25	1	1	65.2	71.6		
1315	22	16	6	0	63.3	68.8		
1330	45	39	6	0	59.1	67.7		
1345	42	36	6	0	63.1	68.8		
1400	24	23	1	0	67	73.1		
1415	34	31	3	0	63.5	69.1		
1430	31	25	6	0	62.4	70.2		
1445	35	30	4	1	64	68.8		
1500	43	34	8	1	63.5	69.5		
1515	34	31	3	0	63.2	69.5		
1530	25	25	0	0	63.3	66.6		
1545	29	24	3	2	63.7	73.4		
1600	26	23	3	0	66	72.7		
1615	29	26	2	1	62.9	73.4		
1630	34	29	5	0	64.1	71.3		
1645	30	24	5	1	64	71.3		
1700	33	30	3	0	64.9	72.4		
1715	36	34	2	0	64.2	70.6		
1730	30	24	5	1	62.5	70.2		
1745	25	24	1	0	63.3	69.5		
1800	23	21	2	0	62.4	71.6		
1815	30	28	2	0	62.9	70.6		
1830	26	23	3	0	63.5	70.2		
1845	18	16	2	0	55.5	59.4		
1900	14	14	0	0	59	61.2		
1915	22	21	0	1	60.9	65.9		
1930	18	18	0	0	59.4	63.7		
1945	15	14	1	0	62.9	69.1		
2000	15	15	0	0	60.5	66.6		
2015	18	18	0	0	59.7	63.4		
2030	9	8	1	0	60.6 -			
2045	9	9	0	0	61.1 -			
2100	13	13	0	0	61.5	67.3		
2115	11	11	0	0	62.3	71.3		
2130	6	4	2	0	65.7 -			
2145	4	4	0	0	63.7 -			
2200	2	1	0	1	55.4 -			
2215	0	0	0	0 -	-			
2230	5	4	1	0	67.2 -			
2245	5	4	1	0	67.8 -			
2300	7	6	1	0	67.7 -			
2315	1	1	0	0	63.7 -			
2330	2	1	1	0	51.7 -			
2345	3	3	0	0	67.9 -			
07-09	391	336	47	8	61.8	68.4		
09-16	910	760	136	14	62.4	69.1		
16-18	243	214	26	3	64	71.6		
00-00	2340	2023	276	41	62.6	69.5		

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Eastbound

Survey Dates - 9th Feb - 15th Feb 2017



Tuesday, 14 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	2	2	0	0	57.5	-		
0015	3	3	0	0	58.7	-		
0030	4	3	1	0	66.5	-		
0045	2	2	0	0	59.9	-		
0100	2	2	0	0	62	-		
0115	2	2	0	0	65.7	-		
0130	5	4	1	0	61.3	-		
0145	0	0	0	0	-	-		
0200	2	2	0	0	66.1	-		
0215	6	6	0	0	62.7	-		
0230	1	1	0	0	60.1	-		
0245	1	1	0	0	54.7	-		
0300	3	3	0	0	59	-		
0315	2	2	0	0	67.4	-		
0330	7	4	3	0	62.3	-		
0345	6	6	0	0	57.3	-		
0400	7	7	0	0	64	-		
0415	13	11	2	0	61	64.8		
0430	22	17	4	1	60.5	67.3		
0445	33	26	4	3	61.5	66.2		
0500	28	26	1	1	59.6	65.2		
0515	48	42	6	0	62.8	69.1		
0530	56	48	7	1	63.9	68.8		
0545	47	39	8	0	63.6	71.3		
0600	61	54	6	1	61.5	64.4		
0615	55	51	3	1	64.3	69.5		
0630	53	46	5	2	65.9	69.5		
0645	52	46	5	1	64	69.5		
0700	53	49	4	0	63.5	70.6		
0715	54	47	6	1	62.9	67.3		
0730	38	31	6	1	63.3	70.2		
0745	53	47	5	1	61.9	67.3		
0800	55	50	2	3	61.5	68		
0815	52	47	5	0	66	71.3		
0830	49	43	4	2	60.7	67		
0845	52	43	8	1	59.5	65.9		
0900	41	36	4	1	64.5	68.8		
0915	38	33	5	0	62.9	67.3		
0930	33	29	4	0	63.7	68		
0945	34	30	3	1	63.3	68.4		
1000	27	21	5	1	58.4	65.2		
1015	31	26	5	0	59.2	63		
1030	35	33	2	0	59.8	69.1		
1045	33	27	6	0	58.4	65.2		
1100	31	26	5	0	59.1	63.4		
1115	38	28	9	1	57.9	61.9		
1130	28	23	5	0	57.1	64.8		

1145	27	24	3	0	60	64.1		
1200	27	27	0	0	61.1	67.7		
1215	24	22	2	0	62.3	63.7		
1230	31	28	3	0	64.6	72.7		
1245	23	19	2	2	63.5	72		
1300	30	24	4	2	61.8	69.8		
1315	35	30	5	0	62.3	69.5		
1330	34	31	2	1	59.4	66.6		
1345	37	33	4	0	63.3	68		
1400	41	36	5	0	62.8	68		
1415	37	32	5	0	60.9	66.6		
1430	38	35	2	1	59.5	64.8		
1445	30	23	6	1	64.8	76.7		
1500	35	31	4	0	64.4	70.9		
1515	32	30	1	1	65.2	69.8		
1530	33	29	4	0	65.3	73.4		
1545	27	23	4	0	64.4	71.6		
1600	28	26	1	1	61.1	69.1		
1615	24	19	4	1	64.2	70.2		
1630	40	36	4	0	64.1	69.8		
1645	49	39	9	1	62.6	67.7		
1700	42	37	5	0	64.6	70.2		
1715	38	33	4	1	64.1	70.2		
1730	29	28	1	0	63.3	67.7		
1745	39	36	3	0	64.2	70.9		
1800	22	22	0	0	62.8	68.4		
1815	33	32	1	0	64.4	68.4		
1830	32	28	4	0	61.7	68.8		
1845	27	25	2	0	63.4	70.2		
1900	18	18	0	0	61.5	64.8		
1915	34	33	0	1	63.4	68.4		
1930	21	21	0	0	57.4	62.3		
1945	22	21	1	0	61.2	65.2		
2000	12	9	3	0	64.8	69.1		
2015	22	20	2	0	63.7	70.2		
2030	11	10	1	0	63.9	70.6		
2045	11	10	1	0	57.3	62.3		
2100	16	15	1	0	62.3	70.6		
2115	12	11	1	0	63.7	70.6		
2130	15	15	0	0	63.7	71.3		
2145	4	4	0	0	61.2 -			
2200	8	8	0	0	60.2 -			
2215	4	4	0	0	63.3 -			
2230	13	12	1	0	60.4	65.5		
2245	5	5	0	0	62.7 -			
2300	3	2	1	0	64.4 -			
2315	4	4	0	0	63.3 -			
2330	4	4	0	0	63.7 -			
2345	3	2	1	0	55.6 -			
07-09	406	357	40	9	62.4	68.8		
09-16	910	789	109	12	61.8	68.8		
16-18	289	254	31	4	63.6	69.8		
00-00	2484	2191	256	37	62.4	69.1		

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Eastbound

Survey Dates - 9th Feb - 15th Feb 2017



Wednesday, 15 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	4	4	0	0	67	-		
0015	5	4	1	0	65	-		
0030	1	1	0	0	73.6	-		
0045	1	0	1	0	78.9	-		
0100	1	0	1	0	58.8	-		
0115	2	2	0	0	62.3	-		
0130	4	4	0	0	71.7	-		
0145	2	1	1	0	57.7	-		
0200	2	2	0	0	66.2	-		
0215	3	3	0	0	65.3	-		
0230	3	3	0	0	64.2	-		
0245	4	4	0	0	69.7	-		
0300	2	2	0	0	65.1	-		
0315	4	4	0	0	64.2	-		
0330	8	8	0	0	68.6	-		
0345	7	7	0	0	60.9	-		
0400	10	7	3	0	62.3	-		
0415	17	15	2	0	62.6	68.4		
0430	23	20	3	0	60.7	65.5		
0445	27	21	5	1	60.9	66.2		
0500	36	34	2	0	60.2	67		
0515	53	48	4	1	60.9	68.4		
0530	65	59	6	0	65.3	70.9		
0545	52	46	5	1	62.8	70.6		
0600	57	50	6	1	64.4	69.5		
0615	65	58	7	0	64.4	70.9		
0630	47	43	2	2	63.8	71.3		
0645	55	49	5	1	66.2	72.7		
0700	62	54	5	3	64.1	69.1		
0715	54	49	5	0	64.2	68.4		
0730	47	44	3	0	64.8	71.6		
0745	51	45	6	0	64.5	70.6		
0800	65	57	6	2	63.6	69.8		
0815	42	37	5	0	65.3	70.2		
0830	45	38	6	1	64.3	69.1		
0845	46	41	4	1	61	65.9		
0900	49	43	6	0	63.1	71.6		
0915	32	26	3	3	59	67.7		
0930	35	25	9	1	58.8	65.5		
0945	37	32	4	1	62.1	67.3		
1000	31	25	6	0	62.6	66.6		
1015	33	30	1	2	62.2	67		
1030	47	37	9	1	61.9	69.5		
1045	27	22	4	1	60.5	67.3		
1100	31	25	6	0	63.5	69.5		
1115	30	21	9	0	59	65.2		
1130	35	30	5	0	60.3	68.8		

1145	30	28	1	1	61.7	64.4		
1200	32	25	6	1	61.3	69.8		
1215	37	28	7	2	61.7	68		
1230	35	27	7	1	61.3	68.8		
1245	26	24	1	1	61.6	67		
1300	34	28	4	2	61.8	67.3		
1315	37	28	9	0	63	68.8		
1330	34	27	7	0	58.7	65.5		
1345	36	33	2	1	63.4	70.2		
1400	33	27	6	0	60.5	68		
1415	38	35	3	0	63.6	69.5		
1430	34	30	4	0	63.4	70.2		
1445	35	31	4	0	61.1	68.4		
1500	26	21	5	0	65.6	73.4		
1515	44	41	3	0	63.9	69.8		
1530	45	38	6	1	61.3	68		
1545	30	29	1	0	66.4	73.1		
1600	23	23	0	0	65.6	73.1		
1615	37	32	4	1	62.7	66.2		
1630	36	33	3	0	64.3	69.1		
1645	47	34	13	0	62.5	69.1		
1700	25	24	1	0	66.2	71.3		
1715	31	28	1	2	63.1	67.3		
1730	32	29	2	1	63.9	67.7		
1745	30	29	1	0	63.2	69.5		
1800	34	32	2	0	60.4	66.6		
1815	23	22	1	0	60.9	68.4		
1830	27	25	2	0	63.5	73.1		
1845	18	17	1	0	63.1	68.4		
1900	31	30	1	0	59.4	66.2		
1915	16	16	0	0	60.9	65.5		
1930	18	17	1	0	61.7	66.6		
1945	25	22	2	1	64.5	71.3		
2000	10	8	2	0	67.5 -			
2015	14	14	0	0	60.9	69.8		
2030	12	12	0	0	64.2	68		
2045	26	26	0	0	62.5	68.8		
2100	16	15	1	0	59.1	64.1		
2115	21	17	3	1	59	64.4		
2130	10	10	0	0	65 -			
2145	3	2	1	0	63.8 -			
2200	7	7	0	0	66 -			
2215	8	7	1	0	54.8 -			
2230	2	2	0	0	69.1 -			
2245	3	3	0	0	64.5 -			
2300	6	5	1	0	57.6 -			
2315	1	1	0	0	65.3 -			
2330	4	2	2	0	69.2 -			
2345	1	1	0	0	61.5 -			
07-09	412	365	40	7	63.9	69.8		
09-16	973	816	138	19	61.9	69.1		
16-18	261	232	25	4	63.7	70.2		
00-00	2542	2225	278	39	62.8	69.8		

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Westbound

Survey Dates - 9th Feb - 15th Feb 2017



Thursday, 9 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	9	9	0	0	61.4	-		
0015	4	4	0	0	65.9	-		
0030	5	5	0	0	65.5	-		
0045	6	6	0	0	61.8	-		
0100	1	1	0	0	73.8	-		
0115	0	0	0	0	-	-		
0130	1	1	0	0	56.5	-		
0145	5	5	0	0	69.6	-		
0200	1	1	0	0	69	-		
0215	1	1	0	0	55.7	-		
0230	2	1	1	0	64.7	-		
0245	1	1	0	0	63.4	-		
0300	3	3	0	0	62.6	-		
0315	0	0	0	0	-	-		
0330	0	0	0	0	-	-		
0345	6	5	1	0	64.9	-		
0400	6	6	0	0	70.2	-		
0415	8	8	0	0	73	-		
0430	10	10	0	0	67.9	-		
0445	24	22	2	0	63.8	68.8		
0500	17	16	1	0	66.6	70.2		
0515	25	23	1	1	61.9	69.5		
0530	51	48	2	1	64.5	71.6		
0545	52	49	1	2	63.1	68.8		
0600	44	36	6	2	61.8	66.6		
0615	45	36	8	1	61.6	66.6		
0630	41	36	3	2	58.7	67.3		
0645	55	46	9	0	62.3	69.1		
0700	46	42	4	0	61.1	69.8		
0715	53	43	7	3	60.9	65.9		
0730	47	39	7	1	61	68		
0745	36	34	2	0	67.1	76.3		
0800	57	52	5	0	62.4	69.1		
0815	60	56	3	1	64	67.3		
0830	64	61	3	0	63.1	67.7		
0845	52	48	4	0	62.8	70.2		
0900	34	28	6	0	61.5	68		
0915	48	47	1	0	61.4	67.3		
0930	47	40	7	0	60.2	69.1		
0945	43	37	6	0	62.4	70.6		
1000	33	27	3	3	62.9	68.8		
1015	46	39	6	1	62	69.8		
1030	38	34	2	2	62.9	72.7		
1045	30	27	2	1	62.5	66.6		
1100	45	43	2	0	60.8	68.8		
1115	49	44	5	0	61.9	69.1		
1130	49	46	3	0	61.9	68		

1145	30	26	4	0	63.9	72.4		
1200	38	36	2	0	61.5	64.8		
1215	48	45	3	0	62.9	70.9		
1230	52	46	3	3	60.1	67		
1245	44	42	2	0	65.3	70.9		
1300	31	25	5	1	61.1	69.1		
1315	46	41	4	1	63.8	70.9		
1330	49	46	3	0	64.7	69.8		
1345	34	32	1	1	62.6	69.8		
1400	43	41	2	0	64	70.9		
1415	61	59	2	0	64.2	70.2		
1430	67	58	7	2	63.9	71.3		
1445	68	57	8	3	62.5	70.2		
1500	50	44	5	1	63.1	67.7		
1515	70	61	8	1	64.4	70.9		
1530	89	86	2	1	63.8	68.8		
1545	88	83	3	2	64.7	69.5		
1600	98	92	5	1	64	69.5		
1615	78	70	6	2	63.9	69.8		
1630	100	96	3	1	64.7	68.4		
1645	87	83	4	0	66.5	72		
1700	94	89	5	0	65.9	72.4		
1715	88	84	4	0	66.2	72.7		
1730	92	91	1	0	65.2	70.2		
1745	83	78	5	0	62.8	69.8		
1800	68	64	4	0	64.6	72.4		
1815	66	65	1	0	63.9	69.1		
1830	46	43	2	1	63.4	70.6		
1845	43	41	1	1	62.7	70.9		
1900	31	29	1	1	63	69.1		
1915	56	51	4	1	60.5	66.6		
1930	36	35	1	0	61.6	68.8		
1945	37	34	3	0	61.4	67.3		
2000	34	33	1	0	58.4	68.4		
2015	27	27	0	0	60.7	66.2		
2030	26	25	1	0	61.9	67		
2045	40	40	0	0	59.6	66.6		
2100	25	25	0	0	64	69.8		
2115	16	16	0	0	63.9	67.7		
2130	18	18	0	0	62.3	69.5		
2145	16	16	0	0	62.5	72		
2200	13	13	0	0	67.3	72.4		
2215	13	12	1	0	66	73.1		
2230	9	9	0	0	60.5 -			
2245	14	14	0	0	66.1	82.1		
2300	9	9	0	0	60.9 -			
2315	11	11	0	0	63.9	70.6		
2330	6	6	0	0	67.5 -			
2345	7	7	0	0	70 -			
07-09	415	375	35	5	62.7	69.5		
09-16	1370	1240	107	23	62.9	69.8		
16-18	720	683	33	4	64.9	70.6		
00-00	3595	3320	230	45	63.2	70.2		

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Westbound

Survey Dates - 9th Feb - 15th Feb 2017



Friday, 10 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	7	6	0	1	60.5	-		
0015	5	4	0	1	66.2	-		
0030	5	5	0	0	61.1	-		
0045	2	2	0	0	67.8	-		
0100	1	1	0	0	60.8	-		
0115	2	2	0	0	64.3	-		
0130	3	1	1	1	59.6	-		
0145	3	3	0	0	71	-		
0200	4	3	0	1	61.1	-		
0215	0	0	0	0	-	-		
0230	3	3	0	0	69.6	-		
0245	3	3	0	0	63.4	-		
0300	3	3	0	0	66.8	-		
0315	1	1	0	0	78.5	-		
0330	1	0	1	0	44.3	-		
0345	3	2	0	1	60.9	-		
0400	11	9	2	0	63.7	69.8		
0415	9	8	0	1	69.3	-		
0430	11	10	1	0	67.9	72.4		
0445	17	15	1	1	65.7	69.1		
0500	31	28	3	0	65	72		
0515	25	22	2	1	68.1	73.8		
0530	44	37	4	3	66.7	72		
0545	43	37	6	0	66.7	73.4		
0600	48	39	5	4	65.3	74.5		
0615	33	27	4	2	63	71.6		
0630	36	33	2	1	65.3	70.2		
0645	50	40	9	1	64.6	69.5		
0700	42	36	6	0	65.3	74.2		
0715	41	35	5	1	64.5	71.6		
0730	58	51	5	2	64.6	70.6		
0745	47	41	5	1	64.8	73.4		
0800	64	59	3	2	67	71.3		
0815	51	47	3	1	64.3	70.2		
0830	58	54	4	0	63.8	70.2		
0845	47	45	2	0	62.4	68.4		
0900	34	31	2	1	61.5	66.6		
0915	44	41	3	0	64.2	70.9		
0930	39	35	3	1	60.3	65.9		
0945	49	45	3	1	61.7	68		
1000	37	28	7	2	60.8	67.3		
1015	48	43	4	1	63.4	68.4		
1030	46	41	3	2	61.9	65.9		
1045	47	42	4	1	60.8	65.9		
1100	49	45	4	0	61.6	68.4		
1115	48	45	2	1	60.6	67.7		
1130	34	32	1	1	61.3	68.4		

1145	37	35	2	0	63.4	69.8		
1200	25	21	3	1	63	67.7		
1215	37	36	1	0	64.8	69.8		
1230	53	51	2	0	62.2	67.7		
1245	49	46	3	0	61.7	70.6		
1300	57	53	3	1	63.3	68		
1315	54	50	4	0	63.4	68.8		
1330	61	56	4	1	63.8	72.4		
1345	56	46	10	0	60.4	67.7		
1400	57	54	3	0	63.4	69.8		
1415	67	60	5	2	64.9	69.8		
1430	53	45	8	0	62.8	68.4		
1445	88	76	12	0	63.1	70.6		
1500	69	64	3	2	65	70.6		
1515	73	69	4	0	62.5	69.5		
1530	109	101	7	1	62.4	68		
1545	104	97	6	1	63.2	68.8		
1600	87	79	7	1	64.1	69.8		
1615	76	71	5	0	63.6	70.2		
1630	91	86	4	1	64.4	69.1		
1645	80	78	2	0	64.6	71.3		
1700	82	75	4	3	64.7	71.3		
1715	94	92	2	0	66	71.6		
1730	99	96	2	1	66.4	71.6		
1745	87	82	4	1	65.9	72.4		
1800	75	72	3	0	63.6	70.9		
1815	70	67	2	1	66	73.1		
1830	58	57	1	0	63.7	69.1		
1845	45	45	0	0	64.5	72.7		
1900	44	43	1	0	61.8	65.9		
1915	52	51	0	1	61.6	67.3		
1930	28	25	3	0	60.7	67		
1945	29	29	0	0	63	68		
2000	31	31	0	0	63.2	67		
2015	20	20	0	0	66.4	72.7		
2030	36	36	0	0	60	65.2		
2045	30	30	0	0	63.7	72		
2100	15	15	0	0	61	71.3		
2115	18	17	1	0	63.9	67.7		
2130	33	33	0	0	64.2	74.5		
2145	17	15	2	0	59.4	67		
2200	13	13	0	0	60.1	65.5		
2215	31	31	0	0	61.6	67.3		
2230	20	19	1	0	61.6	66.6		
2245	3	3	0	0	64.4	-		
2300	12	12	0	0	63.3	67		
2315	12	11	1	0	61.2	64.1		
2330	11	11	0	0	59.2	67.7		
2345	11	11	0	0	66.5	74.2		
07-09	408	368	33	7	64.7	71.3		
09-16	1524	1388	116	20	62.7	69.1		
16-18	696	659	30	7	65	71.3		
00-00	3746	3456	235	55	63.7	70.6		

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Westbound

Survey Dates - 9th Feb - 15th Feb 2017



Saturday, 11 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	11	11	0	0	66.6	69.5		
0015	15	14	1	0	66.7	69.5		
0030	1	1	0	0	68.2	-		
0045	2	2	0	0	58.8	-		
0100	6	6	0	0	67.4	-		
0115	2	2	0	0	60.8	-		
0130	3	3	0	0	58.7	-		
0145	6	6	0	0	61.4	-		
0200	3	3	0	0	60.9	-		
0215	3	3	0	0	64.2	-		
0230	3	2	1	0	63.4	-		
0245	2	2	0	0	73.2	-		
0300	4	4	0	0	55.8	-		
0315	4	4	0	0	74.1	-		
0330	2	1	1	0	56.8	-		
0345	3	3	0	0	62.8	-		
0400	5	4	1	0	62.9	-		
0415	5	5	0	0	68.9	-		
0430	7	7	0	0	70.6	-		
0445	5	5	0	0	68.2	-		
0500	5	5	0	0	68.3	-		
0515	10	10	0	0	70.1	-		
0530	13	11	1	1	65.5	71.6		
0545	21	18	3	0	66.8	73.1		
0600	19	16	2	1	64.1	73.4		
0615	10	9	1	0	63.9	-		
0630	19	18	1	0	64.4	69.5		
0645	19	19	0	0	69.7	74.9		
0700	29	28	1	0	65.4	72.7		
0715	26	25	1	0	65.3	71.3		
0730	30	28	2	0	64.8	72		
0745	29	27	2	0	66.5	74.9		
0800	25	22	3	0	60.9	69.5		
0815	45	42	3	0	62.9	70.6		
0830	36	34	2	0	62.6	70.9		
0845	44	38	5	1	63	67		
0900	50	49	1	0	61.5	68		
0915	43	41	2	0	65	71.3		
0930	44	40	4	0	63.9	69.5		
0945	55	52	3	0	61.8	69.8		
1000	51	48	1	2	64.3	72		
1015	62	61	1	0	65.2	69.5		
1030	68	67	1	0	64.2	69.5		
1045	65	61	4	0	64.7	69.5		
1100	51	48	2	1	62.8	69.8		
1115	60	53	6	1	62.3	69.1		
1130	56	53	2	1	63.9	70.2		

1145	56	50	5	1	64.1	69.5		
1200	76	74	2	0	66	71.3		
1215	71	67	4	0	63.3	68.4		
1230	52	51	1	0	65.1	73.1		
1245	66	64	2	0	63.8	69.1		
1300	59	58	1	0	65.1	70.6		
1315	67	65	2	0	65.2	71.3		
1330	56	54	2	0	64.5	71.3		
1345	54	53	1	0	64.3	73.4		
1400	47	46	0	1	63.2	67.7		
1415	48	45	2	1	62	69.8		
1430	54	54	0	0	64.1	69.1		
1445	42	40	2	0	61.5	67		
1500	43	42	1	0	65.8	73.1		
1515	65	62	3	0	64.5	69.1		
1530	43	42	1	0	66.5	70.9		
1545	60	58	2	0	64.8	69.5		
1600	54	53	1	0	64.2	69.8		
1615	54	52	2	0	62.3	68		
1630	37	37	0	0	63	69.1		
1645	54	52	1	1	65.1	70.9		
1700	51	50	1	0	63.8	70.2		
1715	57	52	4	1	64.1	68.4		
1730	36	35	1	0	60.8	69.5		
1745	44	43	1	0	56.2	60.8		
1800	40	39	1	0	61.7	68		
1815	40	39	1	0	58.9	64.8		
1830	33	31	1	1	62	69.8		
1845	35	33	1	1	62.1	67.7		
1900	24	24	0	0	64.7	69.1		
1915	37	37	0	0	60.5	65.2		
1930	30	30	0	0	60.7	67		
1945	26	25	1	0	66.4	72.4		
2000	30	28	2	0	64.6	74.5		
2015	28	28	0	0	63	70.6		
2030	27	26	1	0	60.8	69.1		
2045	25	24	1	0	64.7	70.6		
2100	21	20	1	0	61.3	68.4		
2115	29	27	2	0	60.5	67		
2130	28	27	1	0	66.1	71.6		
2145	18	17	1	0	65.5	73.8		
2200	12	12	0	0	63.9	67		
2215	19	18	0	1	66.6	77		
2230	19	19	0	0	64.3	69.8		
2245	7	7	0	0	65.7 -			
2300	14	14	0	0	62.8	68.8		
2315	15	15	0	0	62.3	70.6		
2330	14	14	0	0	64.8	71.3		
2345	6	6	0	0	62.6 -			
07-09	264	244	19	1	63.8	70.9		
09-16	1564	1498	58	8	64.1	70.2		
16-18	387	374	11	2	62.7	69.1		
00-00	3000	2870	114	16	63.8	70.6		

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Westbound

Survey Dates - 9th Feb - 15th Feb 2017



Sunday, 12 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	11	9	1	1	59.8	67.7		
0015	6	6	0	0	64.1	-		
0030	5	4	0	1	55.9	-		
0045	7	7	0	0	61.8	-		
0100	2	2	0	0	64.2	-		
0115	3	3	0	0	62.4	-		
0130	3	3	0	0	62.8	-		
0145	2	2	0	0	67	-		
0200	3	3	0	0	67	-		
0215	5	5	0	0	70.4	-		
0230	5	5	0	0	64.2	-		
0245	1	1	0	0	62.9	-		
0300	0	0	0	0	-	-		
0315	4	4	0	0	59.3	-		
0330	1	1	0	0	74	-		
0345	2	2	0	0	59.7	-		
0400	2	1	1	0	67.9	-		
0415	4	4	0	0	67.3	-		
0430	2	2	0	0	72.4	-		
0445	3	3	0	0	59.7	-		
0500	9	9	0	0	64.4	-		
0515	2	2	0	0	61.8	-		
0530	3	3	0	0	61.6	-		
0545	8	7	1	0	63	-		
0600	2	1	1	0	66.2	-		
0615	5	5	0	0	68.1	-		
0630	14	12	2	0	65.1	74.2		
0645	9	8	1	0	65	-		
0700	14	13	1	0	65.4	72		
0715	10	10	0	0	62.5	-		
0730	15	14	1	0	62.1	70.2		
0745	17	16	1	0	70.5	78.5		
0800	22	21	1	0	67.9	75.2		
0815	22	20	2	0	64.8	72		
0830	31	30	1	0	62.4	67.3		
0845	36	34	2	0	67.7	77		
0900	32	30	2	0	64.9	69.5		
0915	32	31	1	0	64.4	69.5		
0930	39	38	1	0	65.1	73.8		
0945	51	48	1	2	64	70.6		
1000	42	39	3	0	64.1	72		
1015	51	48	1	2	60.9	68.8		
1030	61	59	2	0	64.1	70.2		
1045	54	53	1	0	62.3	67.7		
1100	40	39	1	0	64.3	68.8		
1115	64	62	2	0	63.8	68.4		
1130	59	57	1	1	64.1	69.1		

1145	49	48	0	1	61.3	67.3		
1200	51	51	0	0	65.2	69.5		
1215	56	54	2	0	61.7	67.7		
1230	48	47	1	0	62.7	67.7		
1245	39	37	2	0	62.6	68.8		
1300	43	43	0	0	64.1	70.9		
1315	42	40	2	0	64.4	72.4		
1330	39	39	0	0	63.9	71.3		
1345	39	37	1	1	65	71.3		
1400	48	46	2	0	63.2	68.8		
1415	46	45	1	0	65.3	71.6		
1430	47	45	2	0	65.9	71.6		
1445	39	39	0	0	65.2	70.9		
1500	58	56	2	0	63.4	68		
1515	45	43	2	0	65.1	70.2		
1530	49	47	2	0	65.2	70.2		
1545	52	50	2	0	62.9	69.8		
1600	44	42	2	0	64.6	69.1		
1615	60	59	1	0	63	68.8		
1630	43	42	1	0	62	68		
1645	54	54	0	0	62.9	68.4		
1700	27	27	0	0	63.9	73.4		
1715	43	43	0	0	64	68.8		
1730	53	53	0	0	66.3	71.3		
1745	33	31	2	0	64.6	68.8		
1800	26	25	1	0	66.4	69.1		
1815	37	37	0	0	61.7	69.5		
1830	34	31	3	0	61	66.6		
1845	21	21	0	0	64	69.1		
1900	23	23	0	0	63.7	68.8		
1915	24	24	0	0	63.4	67.3		
1930	30	29	1	0	62.8	71.6		
1945	24	23	1	0	65.4	71.6		
2000	27	26	1	0	61.5	67.3		
2015	27	26	1	0	62.1	64.8		
2030	28	28	0	0	63.8	71.3		
2045	17	17	0	0	63	63		
2100	13	12	1	0	61.8	65.9		
2115	13	12	1	0	62.2	68		
2130	10	9	1	0	62.7 -			
2145	12	12	0	0	65.3	73.4		
2200	8	8	0	0	62.1 -			
2215	10	10	0	0	65.4 -			
2230	10	8	2	0	56.1 -			
2245	3	3	0	0	72.8 -			
2300	6	6	0	0	64.7 -			
2315	6	5	1	0	70.4 -			
2330	1	1	0	0	67.1 -			
2345	4	4	0	0	60 -			
07-09	167	158	9	0	65.6	72.4		
09-16	1315	1271	37	7	63.8	70.2		
16-18	357	351	6	0	63.9	70.2		
00-00	2376	2294	73	9	63.8	70.2		

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Westbound

Survey Dates - 9th Feb - 15th Feb 2017



Monday, 13 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	1	1	0	0	63.3	-		
0015	1	1	0	0	87.6	-		
0030	1	1	0	0	63.6	-		
0045	2	2	0	0	57.9	-		
0100	3	3	0	0	55.7	-		
0115	2	2	0	0	59.2	-		
0130	2	2	0	0	64.9	-		
0145	1	1	0	0	68.3	-		
0200	1	1	0	0	65.5	-		
0215	1	1	0	0	65.5	-		
0230	2	1	1	0	70.1	-		
0245	2	2	0	0	63.9	-		
0300	0	0	0	0	-	-		
0315	4	2	2	0	55.5	-		
0330	1	0	0	1	57.5	-		
0345	4	3	1	0	69.7	-		
0400	3	3	0	0	63.7	-		
0415	13	13	0	0	64.8	70.6		
0430	9	9	0	0	70	-		
0445	20	18	2	0	68.2	74.9		
0500	19	17	2	0	68.6	73.1		
0515	32	31	1	0	68.3	74.5		
0530	36	34	1	1	68.7	74.2		
0545	53	44	6	3	66.4	73.4		
0600	61	50	9	2	66	72		
0615	33	28	5	0	67.2	73.1		
0630	41	32	8	1	63.7	71.6		
0645	51	45	3	3	64	69.5		
0700	38	31	5	2	65.9	73.4		
0715	36	31	4	1	61.7	68.8		
0730	55	49	4	2	58.6	66.6		
0745	35	31	4	0	62.9	69.1		
0800	56	53	3	0	64.4	70.6		
0815	54	48	6	0	61.9	69.8		
0830	55	51	3	1	61.2	65.9		
0845	38	37	1	0	63.6	68		
0900	46	38	7	1	61.6	68		
0915	40	35	4	1	61.8	70.6		
0930	44	41	2	1	63.5	71.3		
0945	36	30	6	0	61.5	68.8		
1000	39	33	5	1	62.4	67.3		
1015	36	30	3	3	61.1	68.4		
1030	36	32	3	1	61.7	69.1		
1045	43	41	2	0	59.6	65.5		
1100	46	40	6	0	61.7	68.8		
1115	35	30	4	1	61	68.8		
1130	30	29	1	0	64	70.2		

1145	50	44	5	1	61.6	69.1		
1200	39	34	5	0	63.6	70.2		
1215	43	38	5	0	63.2	68.8		
1230	34	28	5	1	62.6	68.4		
1245	33	31	2	0	62	67.3		
1300	44	40	4	0	62.4	69.8		
1315	44	42	2	0	65.3	72.4		
1330	41	37	3	1	65.4	70.2		
1345	32	25	6	1	63.2	69.1		
1400	40	36	3	1	65	70.6		
1415	53	51	2	0	63.6	69.1		
1430	46	39	6	1	64	70.2		
1445	62	50	11	1	61.8	68.8		
1500	62	58	2	2	63.6	69.8		
1515	84	78	5	1	63.9	69.1		
1530	93	90	3	0	64.7	69.8		
1545	90	83	6	1	64.4	70.2		
1600	87	79	7	1	65.9	71.6		
1615	82	74	7	1	63	68.8		
1630	79	76	3	0	64.6	71.3		
1645	82	79	3	0	64.9	69.8		
1700	75	71	4	0	66.7	74.5		
1715	79	72	5	2	65.7	72.7		
1730	77	73	4	0	64.7	70.9		
1745	82	77	5	0	65.8	73.4		
1800	69	65	3	1	62.5	68.4		
1815	60	58	2	0	63.7	70.6		
1830	42	41	1	0	62.4	68.4		
1845	33	32	1	0	62	66.2		
1900	38	36	2	0	58.6	64.1		
1915	25	25	0	0	62.7	70.9		
1930	30	28	2	0	61.8	70.9		
1945	22	21	1	0	60.9	69.5		
2000	12	12	0	0	62.6	65.5		
2015	16	16	0	0	62	67.3		
2030	18	18	0	0	65	72		
2045	15	15	0	0	64	69.5		
2100	13	13	0	0	64.3	67.7		
2115	10	10	0	0	65.6 -			
2130	16	14	2	0	62.3	68.4		
2145	3	3	0	0	71.8 -			
2200	14	14	0	0	63.1	69.5		
2215	13	13	0	0	68.5	72.7		
2230	15	14	1	0	62.9	70.9		
2245	7	7	0	0	68.8 -			
2300	3	2	1	0	68.3 -			
2315	12	12	0	0	65.9	74.9		
2330	5	5	0	0	66.8 -			
2345	5	5	0	0	67.8 -			
07-09	367	331	30	6	62.4	69.8		
09-16	1321	1183	118	20	63	69.5		
16-18	643	601	38	4	65.2	72		
00-00	3226	2941	243	42	63.8	70.6		

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Westbound

Survey Dates - 9th Feb - 15th Feb 2017



Tuesday, 14 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	2	2	0	0	66.9	-		
0015	5	5	0	0	65	-		
0030	3	3	0	0	59.3	-		
0045	3	3	0	0	62.7	-		
0100	3	3	0	0	58.1	-		
0115	0	0	0	0	-	-		
0130	1	1	0	0	79.4	-		
0145	4	4	0	0	61	-		
0200	0	0	0	0	-	-		
0215	1	1	0	0	45	-		
0230	2	2	0	0	52.1	-		
0245	2	2	0	0	66	-		
0300	3	3	0	0	67	-		
0315	1	0	0	1	52.2	-		
0330	2	1	1	0	52.1	-		
0345	8	7	1	0	65.5	-		
0400	8	7	1	0	67.5	-		
0415	7	6	1	0	65.8	-		
0430	18	17	1	0	62.9	67.7		
0445	11	10	1	0	66.5	73.1		
0500	24	22	2	0	67.1	72.7		
0515	31	28	3	0	67.5	72.7		
0530	45	42	3	0	65.2	70.6		
0545	52	46	5	1	66.5	72.4		
0600	58	50	7	1	66.3	72.7		
0615	39	33	5	1	65.2	72.7		
0630	47	42	4	1	66.4	73.8		
0645	50	45	5	0	66.8	74.2		
0700	61	51	9	1	64.3	72.7		
0715	41	38	3	0	67.1	72.4		
0730	55	47	7	1	63.1	70.6		
0745	47	42	3	2	63.5	68		
0800	48	47	1	0	65.9	73.4		
0815	50	45	4	1	63.9	70.6		
0830	58	56	2	0	64.5	69.8		
0845	56	51	5	0	64	70.2		
0900	41	37	3	1	63.8	71.3		
0915	46	40	5	1	61.6	68		
0930	24	23	1	0	63.1	68		
0945	39	37	2	0	63.2	68.8		
1000	40	36	4	0	59.6	65.2		
1015	35	30	5	0	60.5	67		
1030	41	34	4	3	61	66.6		
1045	33	30	2	1	60.3	64.4		
1100	37	31	6	0	62.8	69.1		
1115	42	40	2	0	63.7	68.4		
1130	42	34	5	3	61.4	67.7		

1145	43	37	6	0	64.5	69.8		
1200	38	31	6	1	58.9	64.4		
1215	35	33	1	1	59.8	68.4		
1230	28	26	2	0	62.6	70.2		
1245	45	39	5	1	62.1	68		
1300	41	40	1	0	63.5	69.5		
1315	38	35	3	0	62.8	68		
1330	46	43	3	0	65.1	72		
1345	32	29	3	0	62.5	69.8		
1400	37	33	3	1	64.6	67		
1415	68	62	4	2	66.1	70.9		
1430	71	68	3	0	62.2	69.8		
1445	75	61	13	1	62.1	66.6		
1500	34	31	3	0	65	73.1		
1515	84	77	4	3	61	67.3		
1530	89	85	2	2	64.3	70.2		
1545	88	84	4	0	63.6	69.1		
1600	75	72	3	0	63.8	69.1		
1615	95	86	8	1	63.2	68.4		
1630	93	88	4	1	64.2	70.6		
1645	83	77	6	0	64.4	70.9		
1700	79	74	4	1	64.1	73.1		
1715	102	97	5	0	65.6	73.4		
1730	95	94	1	0	65.8	71.3		
1745	74	73	0	1	65.5	70.6		
1800	65	62	3	0	66.8	71.6		
1815	65	63	1	1	65.9	72		
1830	51	48	3	0	63.1	67.7		
1845	43	39	3	1	64.3	70.9		
1900	30	30	0	0	63.3	69.5		
1915	33	33	0	0	60.1	66.2		
1930	28	28	0	0	64.9	69.5		
1945	24	24	0	0	62.8	71.6		
2000	28	28	0	0	64.1	71.6		
2015	26	25	1	0	67.4	74.2		
2030	16	16	0	0	63.3	68		
2045	31	31	0	0	63.1	67.7		
2100	26	25	1	0	67	73.8		
2115	22	21	1	0	64.7	70.9		
2130	23	22	1	0	63.6	73.4		
2145	16	16	0	0	63.7	71.6		
2200	18	18	0	0	65.6	71.3		
2215	15	15	0	0	67.5	73.8		
2230	16	15	1	0	62.9	67.7		
2245	11	11	0	0	69	74.5		
2300	7	7	0	0	67.6 -			
2315	8	8	0	0	62.4 -			
2330	8	7	1	0	62.9 -			
2345	7	6	1	0	63.2 -			
07-09	416	377	34	5	64.4	71.3		
09-16	1312	1186	105	21	62.7	69.1		
16-18	696	661	31	4	64.6	70.9		
00-00	3471	3207	227	37	64	70.9		

Greenbank Rd Automatic Report

Site Name - Greenbank Rd

Description - approx 250m west of Mt Lindesay Hwy

Direction - Westbound

Survey Dates - 9th Feb - 15th Feb 2017



Wednesday, 15 February 2017

Time	Total	Cars	Light Trucks	Heavy Trucks	Average Speed	85th %ile		
0000	7	7	0	0	65.8	-		
0015	7	7	0	0	62.2	-		
0030	5	5	0	0	60.6	-		
0045	1	1	0	0	66.2	-		
0100	1	1	0	0	60.5	-		
0115	0	0	0	0	-	-		
0130	4	4	0	0	64.9	-		
0145	3	2	1	0	72.7	-		
0200	2	2	0	0	59.1	-		
0215	1	1	0	0	58.6	-		
0230	1	1	0	0	80.5	-		
0245	3	3	0	0	69.9	-		
0300	0	0	0	0	-	-		
0315	2	1	1	0	53.2	-		
0330	0	0	0	0	-	-		
0345	5	4	1	0	70.5	-		
0400	11	10	1	0	64.9	69.5		
0415	7	6	1	0	56.8	-		
0430	14	12	2	0	68.9	83.2		
0445	15	13	2	0	67.6	73.1		
0500	22	22	0	0	68.7	74.5		
0515	33	31	2	0	68.9	76.3		
0530	38	35	3	0	66	72		
0545	55	51	3	1	66.4	73.8		
0600	55	53	2	0	68.9	76.7		
0615	35	31	2	2	65.3	72.4		
0630	49	41	6	2	66.1	75.6		
0645	48	39	8	1	64.6	70.9		
0700	44	40	4	0	66.8	72.7		
0715	42	33	9	0	60.6	71.6		
0730	48	44	4	0	63.4	69.1		
0745	44	44	0	0	65.9	73.4		
0800	46	42	4	0	67.1	73.1		
0815	57	52	4	1	65	72.4		
0830	51	47	3	1	61.3	67.3		
0845	64	54	9	1	62.5	68.8		
0900	47	43	4	0	63.3	70.2		
0915	47	40	5	2	62.3	68.4		
0930	55	49	4	2	61.8	69.8		
0945	35	32	3	0	62.5	68		
1000	42	36	5	1	62.4	69.1		
1015	57	50	6	1	60.1	68		
1030	30	28	1	1	62.2	70.2		
1045	45	36	9	0	62.6	68.8		
1100	38	36	2	0	62.8	67.3		
1115	39	35	3	1	62.7	72		
1130	49	45	3	1	61	67.3		

1145	39	35	3	1	61.1	67.3		
1200	41	36	4	1	61.4	69.1		
1215	36	33	3	0	61.2	68		
1230	47	42	5	0	63.7	69.8		
1245	51	44	4	3	60.7	68.4		
1300	41	37	4	0	64.5	72.7		
1315	47	41	5	1	63.1	69.5		
1330	46	39	3	4	61.8	69.5		
1345	50	42	7	1	61.6	68.8		
1400	42	36	5	1	62.1	70.9		
1415	68	63	4	1	62.7	68.8		
1430	67	59	6	2	64.1	71.3		
1445	67	56	11	0	60	67		
1500	52	47	5	0	62.6	68.4		
1515	79	70	9	0	64.7	72.4		
1530	74	67	4	3	62.9	68.4		
1545	108	102	4	2	64.5	71.6		
1600	78	75	3	0	62.8	68.4		
1615	87	82	4	1	66.3	73.1		
1630	88	79	8	1	63.1	70.9		
1645	80	77	2	1	65.8	72.7		
1700	84	82	2	0	64.9	70.6		
1715	82	77	5	0	65.6	70.9		
1730	82	80	2	0	65.4	73.4		
1745	87	80	6	1	65.9	73.1		
1800	67	67	0	0	65.5	73.4		
1815	86	81	4	1	63.6	69.8		
1830	52	50	2	0	65	69.8		
1845	45	43	2	0	61.8	70.2		
1900	25	25	0	0	62	68.8		
1915	41	40	1	0	64.7	69.8		
1930	28	27	1	0	62.7	69.1		
1945	21	21	0	0	62.9	69.5		
2000	20	18	2	0	62.6	65.5		
2015	28	27	1	0	62.6	69.5		
2030	24	24	0	0	62.7	66.6		
2045	22	21	1	0	64.9	73.4		
2100	25	23	2	0	62.6	67.7		
2115	22	21	1	0	62.7	72		
2130	16	16	0	0	63.3	74.9		
2145	13	13	0	0	63.7	70.6		
2200	14	14	0	0	65.9	75.2		
2215	16	16	0	0	68.5	76.3		
2230	11	11	0	0	68.9	76		
2245	9	9	0	0	69.3 -			
2300	9	9	0	0	62.2 -			
2315	6	5	0	1	54.6 -			
2330	7	7	0	0	70 -			
2345	4	4	0	0	69.5 -			
07-09	396	356	37	3	64	72		
09-16	1439	1279	131	29	62.5	69.5		
16-18	668	632	32	4	65	72		
00-00	3538	3242	252	44	63.9	71.3		



SURVEY INFORMATION

Site ID: 1

Location: Mt Lindesay Hwy & Greenbank Rd, North Maclean

Date: 9 / Feb / 2016

Time Period 1: 06:00 to 09:00

Time Period 2: 15:30 to 18:30

Primary Classes:

- 1 Light Vehicles ▼
- 2 Light Trucks (3-5) ▼
- 3 Heavy Trucks (6-12) ▼
- 4 Bicycles on Road ▼
- 5 None ▼

Secondary Classes:

- 1 Pedestrians ▼
- 2 None ▼

Weather Conditions 1: Fine ▼ Weather Conditions 2: Fine ▼

Intersection Legs:

North	☒	Ch	Mt Lindesay Hwy SB
East	☐	Ch	
South	☒	Ch	Mt Lindesay Hwy NB
West	☒	Ch	Greenbank Rd EB

Output time interval: 15 mins ▼

MAP



T0885.01 Mt Lindesay Hwy & Greenbank Rd Intersection Report

T0885.01 Mt Lindesay Hwy & Greenbank Rd Intersection Report

Turning Movement Count Summary

Site ID: 1

Location: Mt Lindesay Hwy & Greenbank Rd, North Maclean

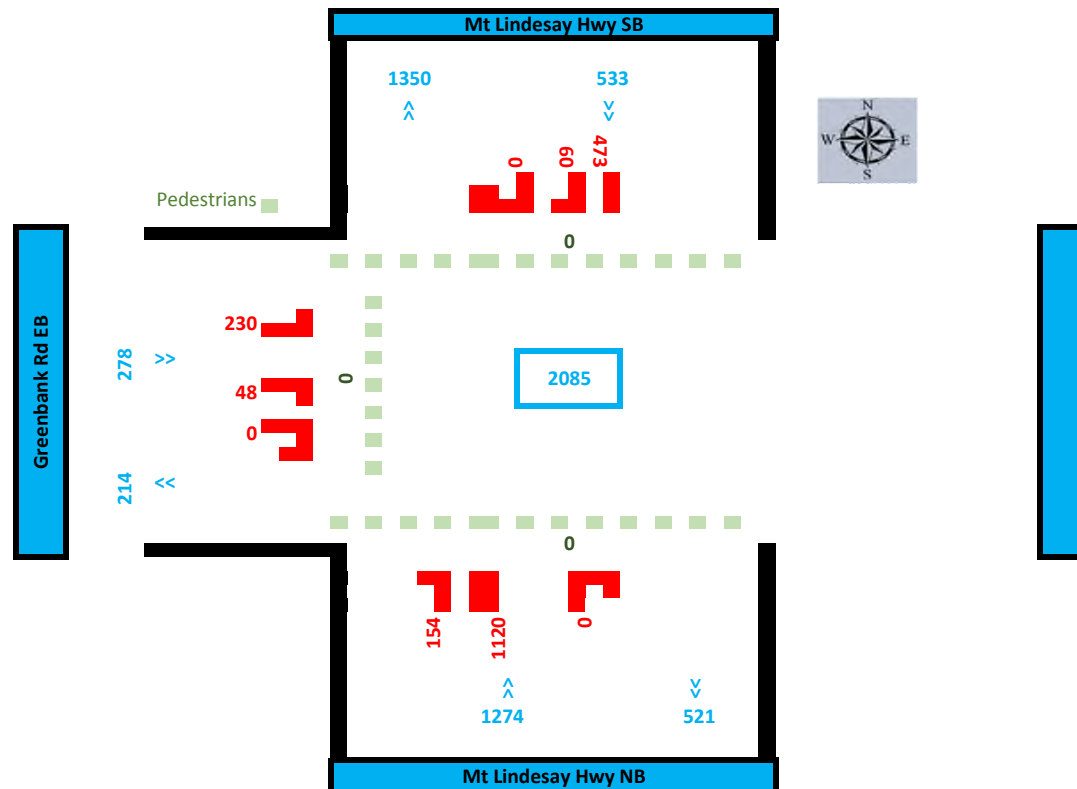
Date: 9-Feb-2016

Surveyed Time: 6:00 AM to 9:00 AM

Weather: Fine

Data for hour starting: 6:15 AM to 7:15 AM

Vehicle Class: ALL VEHICLES



Turning Movement Count Summary

Site ID: 1

Location: Mt Lindesay Hwy & Greenbank Rd, North Maclean

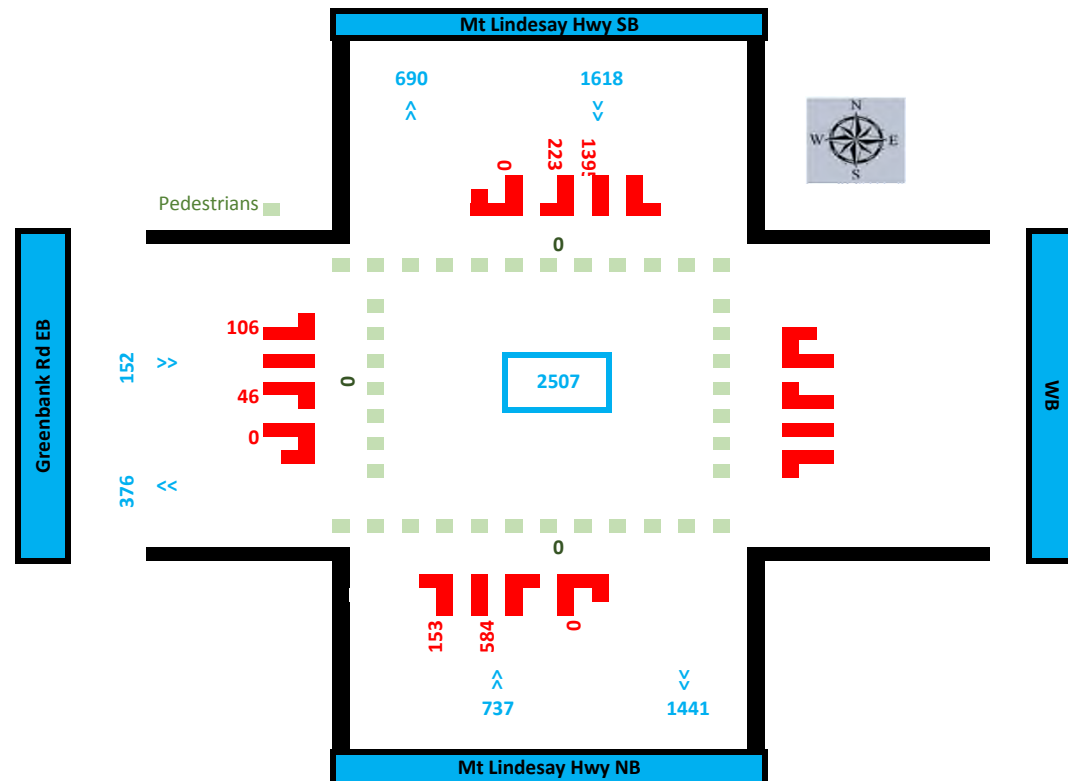
Date: 9-Feb-2016

Surveyed Time: 3:30 PM to 6:30 PM

Weather: Fine

Data for hour starting: 4:15 PM to 5:15 PM

Vehicle Class: ALL VEHICLES



Appendix C – Sidra Output Summaries

MOVEMENT SUMMARY

 **Site: Greenbank Road / Mount Lindesay Highway 2016 AM background Traffic**

New Site

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	ODMo v	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		Total	HV				Vehicles veh	Distance m			
		veh/h	%								
South: Mount Lindesay Highway											
1	L2	162	0.0	0.086	8.2	LOS A	0.0	0.0	0.00	0.67	48.9
2	T1	1179	0.0	0.598	0.1	LOS A	0.0	0.0	0.00	0.00	59.8
Approach		1341	0.0	0.598	1.1	NA	0.0	0.0	0.00	0.08	58.2
North: Mount Lindesay Highway											
8	T1	498	0.0	0.253	0.0	LOS A	0.0	0.0	0.00	0.00	59.9
9	R2	63	0.0	0.367	34.0	LOS D	1.2	8.7	0.92	1.02	31.0
Approach		561	0.0	0.367	3.9	NA	1.2	8.7	0.10	0.11	54.3
West: Greenbank Road											
10	L2	242	0.0	1.284	305.5	LOS F	39.3	275.1	1.00	3.49	6.4
12	R2	51	0.0	2.056	1194.5	LOS F	21.8	152.8	1.00	1.81	1.8
Approach		293	0.0	2.056	459.0	LOS F	39.3	275.1	1.00	3.20	4.4
All Vehicles		2195	0.0	2.056	62.9	NA	39.3	275.1	0.16	0.51	22.0

Level of Service (LOS) Method: Delay (HCM 2000).

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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: Greenbank Road / Mount Lindesay Highway 2016 PM Background Traffic.**

New Site

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	ODMo v	Demand Flows		Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue		Prop. Queued	S
		Total	HV				Vehicles	Distance		
		veh/h	%				veh	m		
South: Mount Lindesay Highway										
1	L2	161	0.0	0.086	8.2	LOS A	0.0	0.0	0.00	
2	T1	615	0.0	0.312	0.0	LOS A	0.0	0.0	0.00	
Approach		776	0.0	0.312	1.7	NA	0.0	0.0	0.00	
North: Mount Lindesay Highway										
8	T1	1468	0.0	0.745	0.3	LOS A	0.0	0.0	0.00	
9	R2	235	0.0	0.407	15.4	LOS C	2.0	14.2	0.72	
Approach		1703	0.0	0.745	2.4	NA	2.0	14.2	0.10	
West: Greenbank Road										
10	L2	112	0.0	0.171	12.1	LOS B	0.6	4.2	0.56	
12	R2	48	0.0	8.070	7043.7	LOS F	44.3	310.4	1.00	
Approach		160	0.0	8.070	2140.1	LOS F	44.3	310.4	0.69	
All Vehicles		2639	0.0	8.070	131.8	NA	44.3	310.4	0.11	

Level of Service (LOS) Method: Delay (HCM 2000).

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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

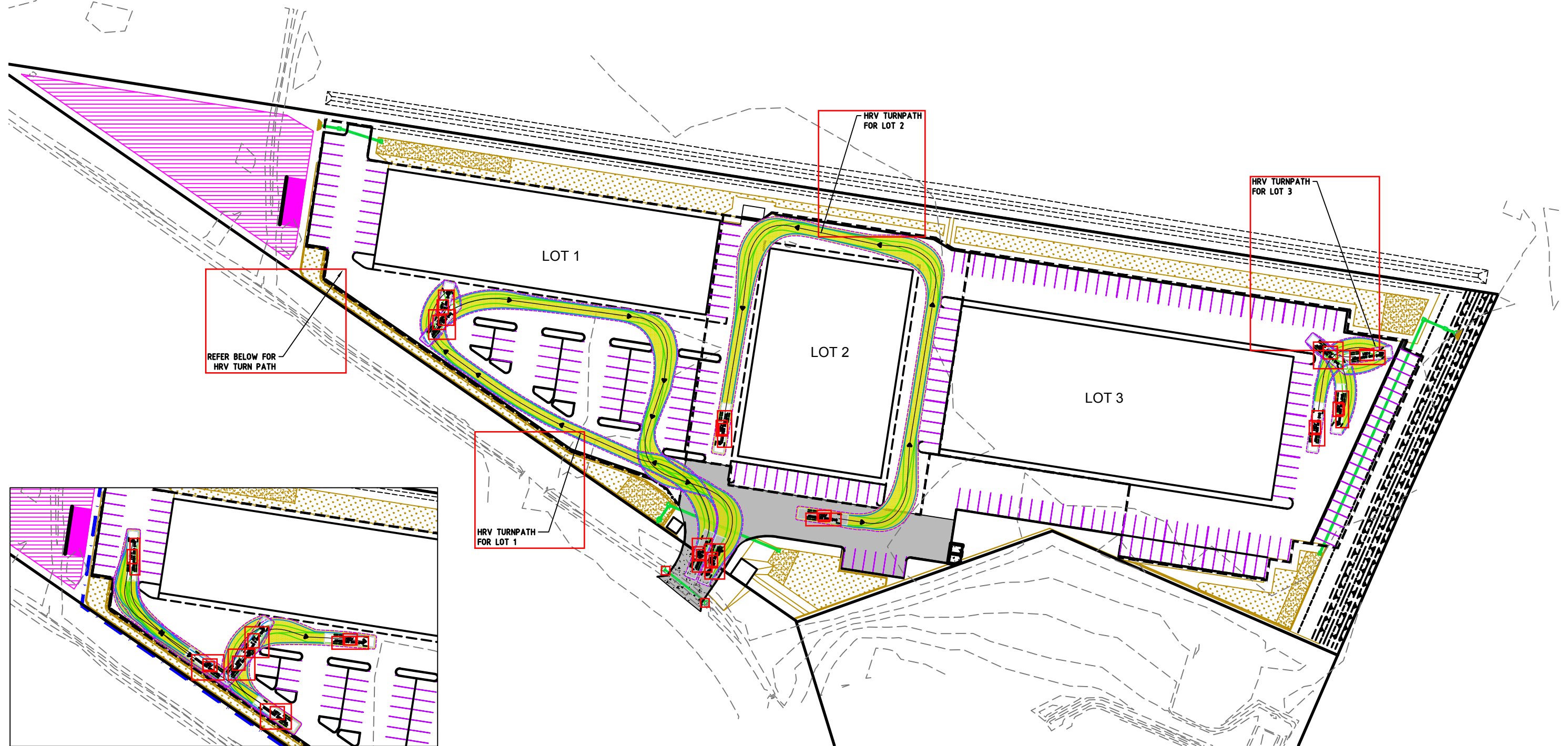
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Appendix D – Turning Templates

LEGEND

- EXISTING CONTOURS
- HRV TURNPATH
- STAGE BOUNDARY
- PROPOSED BIO-BASIN AREA
- PROPOSED PAVEMENT AREA



NOTE:
TURNPATHS COMPLETED USING
A HRV VEHICLE

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

916-944 GREENBANK ROAD, NORTH MACLEAN
TURNPATH SKETCH LAYOUT

Prepared for : ROUBAIX PROPERTIES
Designer : JOHN GARCIA
Checked: LUCAS FAULKNER
Date : 16/02/2022

BE160355-SK02-A

Appendix E – Logan City Council, Servicing, Access and Parking Code

Part 9 Development codes

9.4 Other development codes

9.4.7 Servicing, access and parking code

9.4.7.1 Application

- (1) This code applies to:
 - (a) material change of use:
 - (i) that is self-assessable or code assessable and for which the Servicing, access and parking code is identified in the assessment criteria column in a table of assessment in section 5.5–Levels of assessment-Material change of use in Part 5–Tables of assessment;
 - (ii) that is made impact assessable in a table of assessment in section 5.5–Levels of assessment-Material change of use or Section 5.9–Levels of assessment–Local plans in Part 5–Tables of assessment;
 - (b) reconfiguring a lot:
 - (i) that is code assessable and for which the Servicing, access and parking code is identified in the assessment criteria column in Table 5.6.1–Reconfiguring a lot in Part 5–Tables of assessment;
 - (ii) made impact assessable in Table 5.6.1–Reconfiguring a lot in Part 5–Tables of assessment;
 - (c) operational work being a driveway crossover or infrastructure work that is constructing a car park area that is self-assessable or code assessable and for which the Servicing, access and parking code is identified in the assessment criteria column Table 5.8.1–Operational work in Part 5–Tables of assessment.
- (2) When using this code, reference should be made to section 5.3.2–Determining the level of assessment and, where applicable, section 5.3.3–Determining the assessment criteria located in Part 5–Tables of assessment.

9.4.7.2 Purpose

- (1) The purpose of the code is to ensure that development satisfies the demand for parking and provides safe, functional and legible parking, access and servicing.
- (2) The purpose of the code will be achieved through the following overall outcomes:
 - (a) parking, access and servicing areas:
 - (i) satisfy the expected demand for the number and type of vehicles, motorcycles and bicycles;
 - (ii) are safe and functional and have easy way finding;
 - (iii) protect the movement network.

9.4.7.3 Criteria for assessment

Part A—Criteria for self-assessable and assessable development

Table 9.4.7.3.1—Service, access and parking code: self-assessable and assessable development

Performance outcomes	Acceptable outcomes	Comments
For self-assessable and assessable development		
Provision of parking spaces for vehicles		
PO1 Vehicle parking, loading and servicing and pick up/set down areas are provided that satisfy the expected demand for the number and type of vehicles likely to be generated by a use having regard to: (a) the particular circumstances of the premises including the: (i) nature, intensity and hours of operation of the use; (ii) desirability of providing a car park and attracting vehicles to the premises; (iii) maximum number of employees and customers to be on the premises at any one time; (iv) size, levels and dimensions of the premises; (b) the proximity of the premises to an existing or future Parking station, other available car park or public transport facility.	AO1 Vehicle parking, vehicle washing, loading and servicing and pick up/set down areas are provided: (a) for a use listed in Error! Reference source not found. , to comply with columns 2 to 5 of Error! Reference source not found. ; (b) for a use not listed in Error! Reference source not found. , in accordance with a car parking assessment report to be provided to the local government and prepared in accordance with Part 2 of planning scheme policy 5—Infrastructure. Editor's note—For building work, Car parking for people with a disability is to be provided in accordance with Table D3.5—Carparking spaces for people with a disability in the Building Code of Australia.	(a) Complies. Refer Traffic Impact Report. (b) N/A
PO2 Development with a security gate provides accessible visitor vehicle parking in front of the security gate.	AO2 Development with a security gate provides visitor vehicle parking that complies with Error! Reference source not found. ..	Complies. No security gate proposed.

Performance outcomes	Acceptable outcomes	Comments
PO3 A car park not being a Parking station provides free and unobstructed access for the use by employees and visitors during the normal hours of operation of the use.	AO3 A use, other than a Residential activity or a Parking station, provides vehicle parking that: (a) is kept, used and maintained exclusively for car parking; (b) is accessible to all employees and visitors during the normal hours of operation of the use with no encumbrance, fee or charge; (c) does not have a gate, door or similar device that restricts vehicular access by employees or visitors.	(a) Complies (b) Complies (c) Complies
Provision of motorcycle parking		
PO4 Motorcycle parking is provided that is safe and functional.	AO4 Motorcycle parking is provided to comply with section 2.4.7 of AS2890.1:2004–Parking facilities–Off street car parking.	No motorcycle parking provided.
Provision of bicycle parking		
PO5 Bicycle parking facilities are provided that: (a) satisfy the likely demand for bicycle parking; (b) are functional; (c) are located close to a pedestrian entry to a building.	AO5 Bicycle parking facilities comply with: (a) the rate specified in column 7 of Error! Reference source not found.; (b) AS2890.3–1993–Bicycle parking facilities.	(a) Complies. Bicycle parking facilities to be provided comply with the rate specified in column 7 of Error! Reference source not found. (b) Complies.
Provision of vehicle manoeuvring area		
PO6 Development provides a safe and functional vehicle manoeuvring area.	AO6 Development provides a vehicle manoeuvring area that: (a) accommodates the design vehicle specified in Error! Reference source not found.;	(a) Complies. Refer Traffic Impact Report. (b) Complies. Refer Traffic Impact Report

Performance outcomes	Acceptable outcomes	Comments
	(b) complies with section 3.4.4.10–Manoeuvring areas of planning scheme policy 5–Infrastructure.	
Vehicle washing bay		
PO7 A vehicle washing bay does not cause environmental harm.	AO7 A vehicle washing bay provides that run off is discharged to: (a) a grassed area or permeable landscape area; or (b) the sewerage system.	(a) Vehicle washing bay not required or provided. (b) N/A
Car park access		
PO8 Vehicular access to a car parking area has sufficient queuing space to ensure a vehicle does not queue on a road, cycleway or footpath.	AO8 Vehicular queuing space to a car parking area: (a) does not provide a turning movement, intersecting aisle or a speed hump in a queuing area; (b) complies with: (i) column 6 of Error! Reference source not found. ; (ii) Error! Reference source not found..	(a) Complies. No aisles or speed humps intersect queueing area. (b) (i) Complies (ii) Complies
Driveway crossover		
PO9 A driveway crossover is safe, functional and does not adversely affect infrastructure.	AO9 A driveway crossover is designed and constructed to comply with section 3.4.5–Design standards for access and driveways of planning scheme policy 5–Infrastructure.	Complies. Three driveway crossovers are being provided onto the external roads.
Design and construction of a car parking area		
PO10 A car parking area is designed to:	AO10	(a) Complies. (b) Complies.

Performance outcomes	Acceptable outcomes	Comments
(a) provide easy way finding for pedestrians, cyclists and motorists; (b) provide appropriately sized and line marked spaces in accordance with relevant Australian standards; (c) provide a convenient and safe pedestrian network; (d) provide safe and efficient vehicle circulation; (e) provide a progressive reduction in the speed environment in moving between the road and a parking space; (f) provide a safe sight distance at a potential conflict point; (g) provide for efficient and simple parking space search patterns; (h) provide for uncongested public transport and service vehicle movements through the premises; (i) keeps a heavy vehicle out of a parking aisle; (j) ensure no heavy vehicle reverses across a pathway; (k) prevent parking off a circulation road; (l) prevent an adverse impact on the safety and efficiency of the existing or planned movement network; (m) prevent a motorist from reversing on a road; (n) prevent an unnecessary space that encourages illegal parking; (o) address safety of users through appropriate lighting; (p) be appropriately landscaped; (q) be surfaced so as to be useable in all weather conditions; (r) manage stormwater flows.	A car parking area is designed and constructed in accordance with section 3.4.6–Design standards for car parking of planning scheme policy 5–Infrastructure.	(c) Car spaces uniformly distributed throughout the development with spaces adjacent to individual tenancies. No requirement for pedestrians to circulate throughout the development. (d) Complies. (e) Complies. (f) Complies. Refer Traffic Impact report. (g) Complies. (h) No public transport enters the development site. Service vehicles can manoeuvre throughout the site. Refer Traffic Impact report. (i) Heavy vehicle use parking aisles to circulate throughout the site. Refer Traffic Impact Report. (j) Complies. Refer vehicle swept path diagrams enclosed in Traffic Impact Report. (k) Short circulation aisles provided at the entrances to each driveway and no parking proposed off the circulation roads. (l) Complies. (m) Complies. Adequate circulation provided throughout the proposed development to avoid reversing onto a road. (n) Complies. No unnecessary spaces provided plus the number of car spaces provided is greater than the code requirement. (o) Appropriate lighting to be provided as part of the detail design and building certification process. (p) Appropriate landscaping to be provided as part of the building certification and construction process.

Performance outcomes	Acceptable outcomes	Comments
		(q) Sealed surface to car park proposed (r) Complies. Appropriate drainage to car park and buildings to be provided in accordance with stormwater management plan.



Appendix C – Proposed Plan of Development Layout



DESIGN CRITERIA

- Development is to be in accordance with the provision of the Industry and Business Area -PDA Guideline No. 10 (May 2015 version), except for the following provisions:
- A. All advertising devices are to be in accordance with Logan City Council's Planning Scheme.
 - B. End of trip facilities are to be provided within all tenancies as per Guideline 10 - Industry and business areas.
 - C. All refuse storage areas, materials, plant areas and services will be suitably screened to all boundaries.
 - D. Buildings are shaped, designed and finished so that the maximum length of unvaried or unarticulated (blank) wall does not exceed 20 metres (unless facing a side or rear property boundary).
 - E. Roofing materials are pre coloured and non-reflective.
 - F. Glazing treatment must use non-reflective materials/products.
 - G. Where buildings face the public realm areas, including streets, parks and walkways, significant overlooking and surveillance opportunities must be incorporated with positive CPTED practice. Where public use walkways are incorporates between or within sites, the buildings must front activated zones to these walkways in accordance with positive CPTED practice.
 - H. All service areas, plant and air conditioning plant is to be screened, integrated into the building, or located on the roof with screening.
 - I. Maximum 75% site cover may be achieved, as per *Guideline 10 - Industry and business areas*, for the Low Impact Industry, Service Industry and Warehouse land uses site, independent of the maximum site cover of 75% for the concrete batching plant site:
 - J. Greenbank Road and Scott Lane frontage:
 - Building development along the Scott Lane must be setback a minimum of 2.0 metres;
 - Any building located within 3.0m of Greenbank Road must include an articulated facade and a minimum of 2 colours (which may contain glazing).
 - K. Zero setbacks to side and rear boundaries will be permitted subject to sight lines and other constraints affecting adjoining development.
 - L. Bicycle parking will be provided at the rate of one space per five car parking spaces.
 - M. Landscaping:-
 - Preference is to be given to utilising plant species that are native and endemic to the area and are low maintenance species.
 - All street frontages, not developed as Built to Boundary buildings will require a 2.0m minimum width landscape strip, except at vehicular and pedestrian access points.
 - N. Car parking:-
 - Car parking will be provided in accordance with Table 1.
 - Service vehicles must enter and leave the Site in a forward direction.
 - Where an onsite refuse collection area is provided, access and manoeuvring areas are designed and provided to enable access by a refuse collection vehicle based on the Design Service Vehicle in Austroads/Standards Australia HB72 Design Vehicles and Turning Path Templates.
 - All premises are identified by the provision of a street number in a prominent location, preferably near the site entry, i.e. on the kerb or letterbox or by signage on the building or site.
 - O. Clear and safe pedestrian movement must be maintained throughout the site.
 - P. For non-built form outcomes on the site, land uses must adhere to points A, C, H, N, and O.

DEVELOPMENT STANDARDS

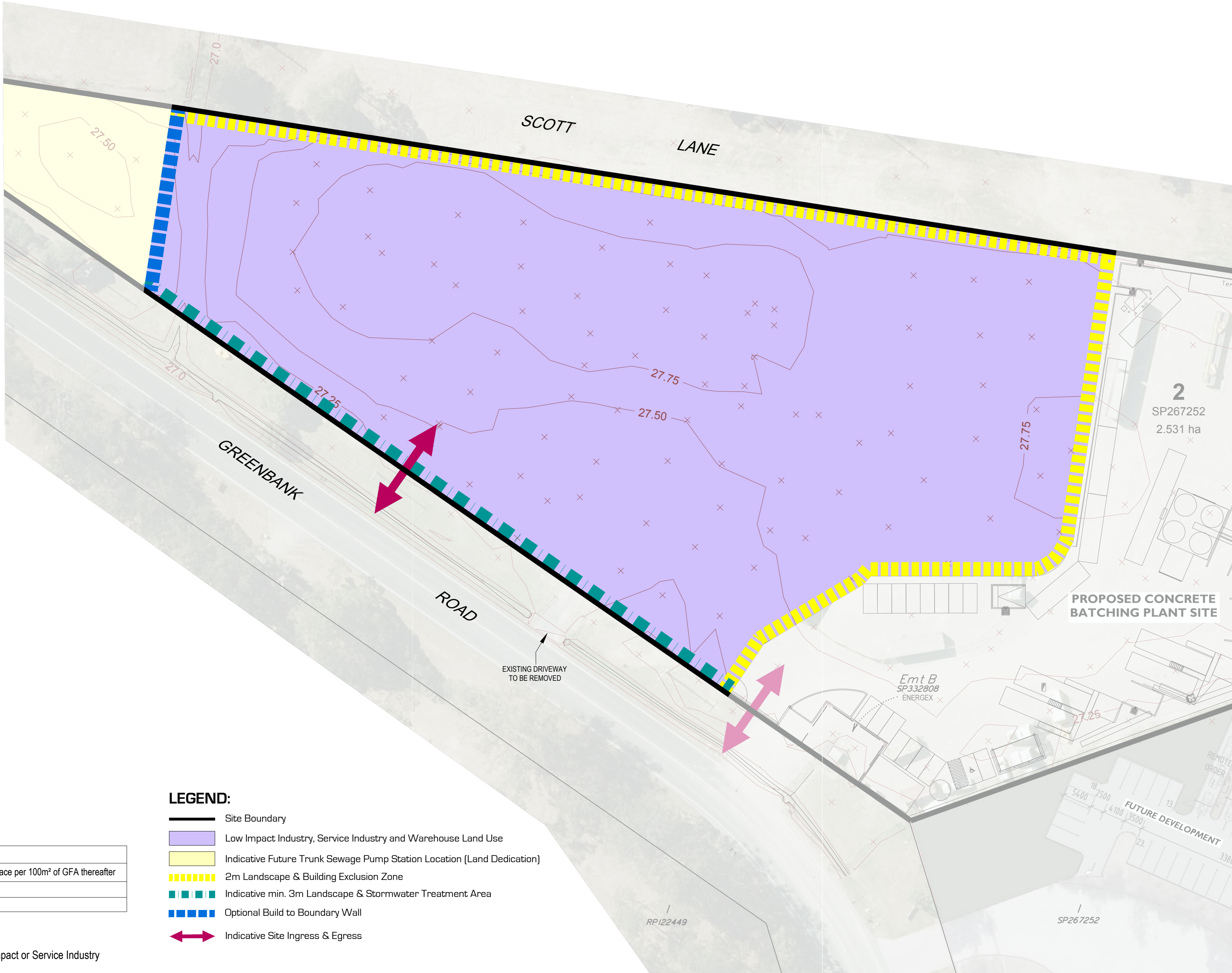
All engineering works are to comply with the PDA Guideline No. 13 Engineering Standards, dated September 2017.
Driveway construction is to be in accordance with Council standards.

TABLE 1

Approved Uses *	Car Parking Rate
Low Impact Industry #	1 space per 50m² of GFA up to 500m²; plus 1 space per 100m² of GFA thereafter
Service Industry	1 space per 25m² of GFA
Warehouse	1 space per 100m² of GFA

NOTE:

Includes ancillary shop for the sale of goods directly associated with a low impact or Service Industry



PLAN REF: AU015412-POD-4a
DATE: 7 MAY 2025
CLIENT: NERANG PASTORAL CO. PTY LTD
DRAWN: BJB
SCALE (A2): 1:500
SHEET: 1 of 2



SITE PLAN - STAGE 2

Lot 2 on SP267252
916 - 944 GREENBANK ROAD, NORTH MACLEAN



RPS AAP Consulting Pty Ltd
ACN 117 883 173
ABN 97 117 883 173
Lakeside Corporate Space, Suite 425, Level 2
Building 4, 34-36 Glenferrie Drive, Robina
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W rpsgroup.com

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Development is to be in accordance with the provision of the Industry and Business Area -PDA Guideline No. 10 (May 2015 version), except for the following provisions:

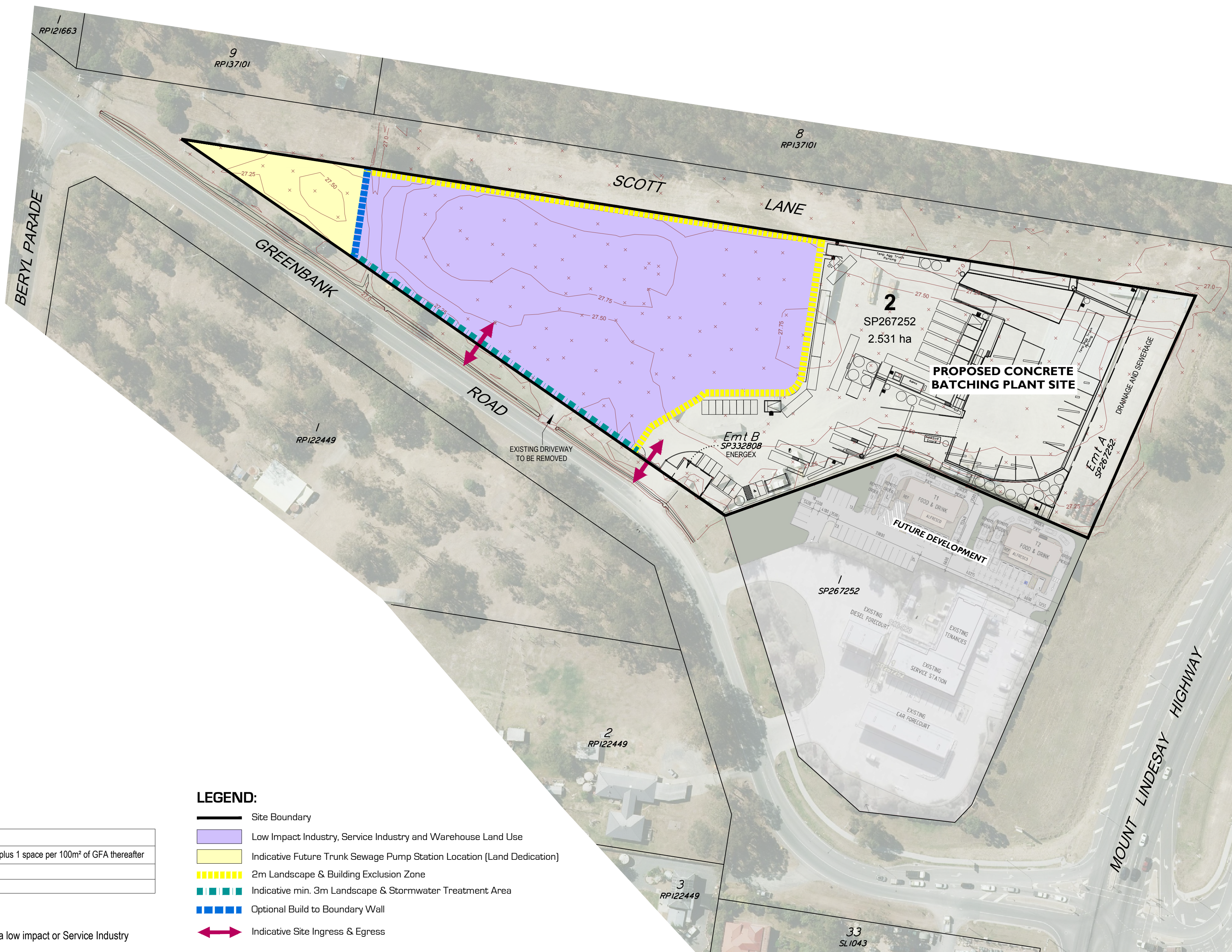
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Driveway construction is to be in accordance with Council standards.

TABLE 1

Approved Uses *	Car Parking Rate
Low Impact Industry #	1 space per 50m ² of GFA up to 500m ² ; plus 1 space per 100m ² of GFA thereafter
Service Industry	1 space per 25m ² of GFA
Warehouse	1 space per 100m ² of GFA

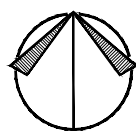
NOTE:

Includes ancillary shop for the sale of goods directly associated with a low impact or Service Industry



SITE PLAN - ALL STAGES

Lot 2 on SP267252
916 - 944 GREENBANK ROAD, NORTH MACLEAN



PLAN REF: AU015412-POD-4a
DATE: 7 MAY 2025
CLIENT: NERANG PASTORAL CO. PTY LTD
DRAWN: BJB
SCALE (A2): 1:1000
SHEET: 2 of 2

RPS AAP Consulting Pty Ltd
ACN 117 883 173
ABN 97 117 883 173

Lakeside Corporate Space, Suite 425, Level 2
Building 4, 34-36 Glenferrie Drive, Robina

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W rpsgroup.com



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Appendix D – Traffic Survey Data



Hourly Volume by Day

Site No.	21973	Suburb	North MacLean	Surveyed	Thu 20 Mar 25 to Wed 26 Mar 25	Job#	21973
Location	Greenbank Road West of Mt Lindesay Hwy (60kmh)					Direction	Westbound

Hourly Traffic Volume Summary										
Time (hour starting)	Thursday 20/03/25	Friday 21/3/25	Saturday 22/3/25	Sunday 23/3/25	Monday 24/3/25	Tuesday 25/3/25	Wednesday 26/3/25	Total 7 day Volumes	Average Weekday Volumes	Average Daily Volumes
0:00	24	24	55	41	17	20	31	212	23	30
1:00	25	21	24	33	13	19	13	148	18	21
2:00	16	23	17	18	13	16	17	120	17	17
3:00	18	17	16	4	9	12	8	84	13	12
4:00	79	62	40	15	63	63	63	385	66	55
5:00	190	196	68	34	189	201	179	1057	191	151
6:00	279	248	116	63	265	293	259	1523	269	218
7:00	265	290	165	113	215	281	264	1593	263	228
8:00	292	328	239	181	298	331	322	1991	314	284
9:00	262	270	311	266	277	255	250	1891	263	270
10:00	240	322	394	324	247	237	288	2052	267	293
11:00	279	311	412	325	256	288	276	2147	282	307
12:00	317	331	414	352	286	307	281	2288	304	327
13:00	328	401	418	404	325	305	326	2507	337	358
14:00	427	466	458	368	419	419	418	2975	430	425
15:00	617	619	410	351	621	616	626	3860	620	551
16:00	674	684	403	322	627	682	664	4056	666	579
17:00	561	609	351	279	611	657	660	3728	620	533
18:00	458	373	247	244	354	403	383	2462	394	352
19:00	221	214	159	162	185	193	211	1345	205	192
20:00	205	171	162	118	142	137	149	1084	161	155
21:00	145	187	150	85	118	107	121	913	136	130
22:00	79	131	124	51	70	72	82	609	87	87
23:00	45	75	85	26	40	33	36	340	46	49
Daily Total Traffic Volumes	6046	6373	5238	4179	5660	5947	5927	39370	5991	5624
Peak Hourly Traffic Volumes	674	684	458	404	627	682	664	4056	666	579

AM Peak	292 8:00:00 AM	328 8:00:00 AM	412 11:00:00 AM	325 11:00:00 AM	298 8:00:00 AM	331 8:00:00 AM	322 8:00:00 AM	2147 11:00:00 AM	314 8:00:00 AM	307 11:00:00 AM
PM Peak	674 4:00:00 PM	684 4:00:00 PM	458 2:00:00 PM	404 1:00:00 PM	627 4:00:00 PM	682 4:00:00 PM	664 4:00:00 PM	4056 4:00:00 PM	666 4:00:00 PM	579 4:00:00 PM

Hourly Volume by Day

Site No.	21973	Suburb	North MacLean	Surveyed	Thu 20 Mar 25 to Wed 26 Mar 25	Job#	21973
Location	Greenbank Road West of Mt Lindesay Hwy (60kmh)					Direction	Eastbound

Hourly Traffic Volume Summary										
Time (hour starting)	Thursday 20/03/25	Friday 21/3/25	Saturday 22/3/25	Sunday 23/3/25	Monday 24/3/25	Tuesday 25/3/25	Wednesday 26/3/25	Total 7 day Volumes	Average Weekday Volumes	Average Daily Volumes
0:00	16	21	40	66	21	14	16	194	18	28
1:00	15	11	35	30	18	12	23	144	16	21
2:00	31	25	21	18	30	26	32	183	29	26
3:00	89	74	47	29	91	82	86	498	84	71
4:00	256	239	110	47	263	270	252	1437	256	205
5:00	563	561	180	69	547	571	542	3033	557	433
6:00	612	552	228	134	634	656	664	3480	624	497
7:00	640	651	405	205	663	651	703	3918	662	560
8:00	492	515	402	305	470	476	489	3149	488	450
9:00	387	375	444	378	310	338	345	2577	351	368
10:00	313	374	439	433	299	279	339	2476	321	354
11:00	318	324	425	371	338	297	292	2365	314	338
12:00	324	370	417	332	281	303	298	2325	315	332
13:00	344	352	362	350	313	347	360	2428	343	347
14:00	399	420	328	308	359	434	412	2660	405	380
15:00	352	399	316	289	349	372	331	2408	361	344
16:00	370	353	302	239	339	361	329	2293	350	328
17:00	317	370	307	237	314	280	328	2153	322	308
18:00	258	269	212	169	208	219	246	1581	240	226
19:00	139	147	129	117	114	114	121	881	127	126
20:00	98	125	113	129	87	96	79	727	97	104
21:00	77	114	98	71	69	60	57	546	75	78
22:00	26	69	100	44	25	17	44	325	36	46
23:00	21	57	60	48	29	28	41	284	35	41
Daily Total Traffic Volumes	6457	6767	5520	4418	6171	6303	6429	42065	6425	6009
Peak Hourly Traffic Volumes	640	651	444	433	663	656	703	3918	662	560

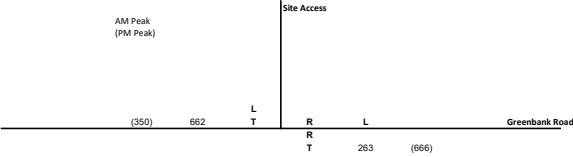
AM Peak	640 7:00:00 AM	651 7:00:00 AM	444 9:00:00 AM	433 10:00:00 AM	663 7:00:00 AM	656 6:00:00 AM	703 7:00:00 AM	3918 7:00:00 AM	662 7:00:00 AM	560 7:00:00 AM
PM Peak	399 2:00:00 PM	420 2:00:00 PM	417 12:00:00 PM	350 1:00:00 PM	359 2:00:00 PM	434 2:00:00 PM	412 2:00:00 PM	2660 2:00:00 PM	405 2:00:00 PM	380 2:00:00 PM



Appendix E – Traffic Flow Diagrams



AM Peak 7:00am - 8:00am
PM Peak 4:00pm - 5:00pm



10/04/2025

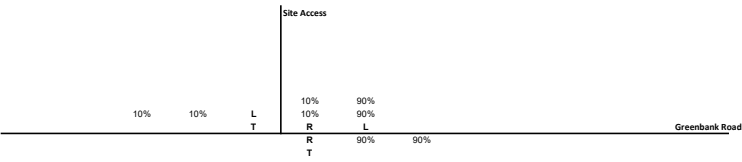
2025 Background Traffic

Project no. BE230342

Project 916-944 Greenbank Road, North Maclean

Prepared by Adele Packer
Reviewed by Angela Wood

- Legend
- L Left turn
 - T Through
 - R Right turn
 - U U-turn
 - 00 AM Peak Volume
 - (00) PM Peak Volume



10/04/2025

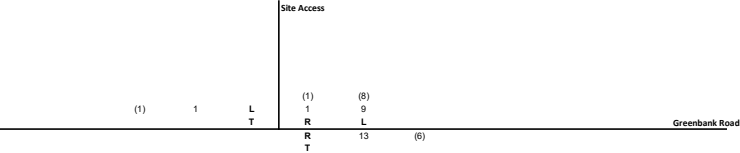
Development Traffic Distribution

Project no. BE230342

Project 916-944 Greenbank Road, North Maclean

Prepared by Adele Packer
Reviewed by Angela Wood

- Legend
- L Left turn
 - T Through
 - R Right turn
 - U U-turn
 - 00 AM Peak Volume
 - (00) PM Peak Volume



10/04/2025

Development Traffic

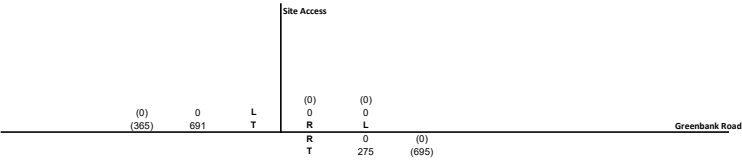
Project no. BE230342

Project 916-944 Greenbank Road, North Maclean

Prepared by Adele Packer
Reviewed by Angela Wood

- Legend
- L Left turn
 - T Through
 - R Right turn
 - U U-turn
 - 00 AM Peak Volume
 - (00) PM Peak Volume

Growth factor 1.04



10/04/2025

2027 Background Traffic

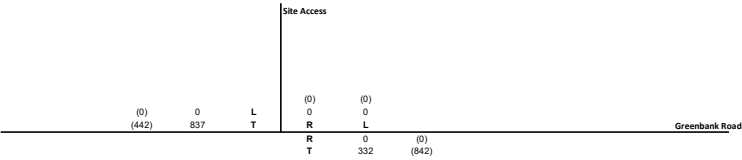
Project no. BE230342

Project 916-944 Greenbank Road, North Maclean

Prepared by Adele Packer
Reviewed by Angela Wood

- Legend
- L Left turn
 - T Through
 - R Right turn
 - U U-turn
 - 00 AM Peak Volume
 - (00) PM Peak Volume

Growth factor 1.26



10/04/2025

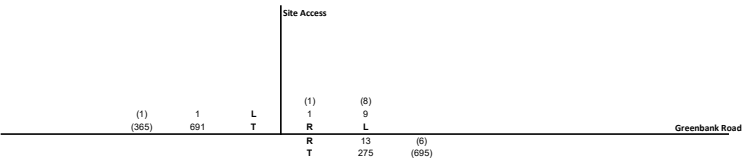
2037 Background Traffic

Project no. BE230342

Project 916-944 Greenbank Road, North Maclean

Prepared by Adele Packer
Reviewed by Angela Wood

- Legend
- L Left turn
 - T Through
 - R Right turn
 - U U-turn
 - 00 AM Peak Volume
 - (00) PM Peak Volume

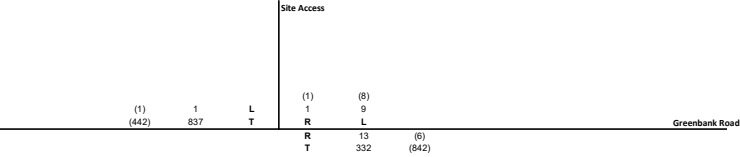


10/04/2025

2027 With Development Traffic

Project no. BE230342 Project 916-944 Greenbank Road, North Maclean Prepared by Adele Packer
Reviewed by Angela Wood

- Legend
- L Left turn
 - T Through
 - R Right turn
 - U U-turn
 - 00 AM Peak Volume
 - (00) PM Peak Volume



10/04/2025

2037 With Development Traffic

Project no. BE230342 Project 916-944 Greenbank Road, North Maclean Prepared by Adele Packer
Reviewed by Angela Wood

- Legend
- L Left turn
 - T Through
 - R Right turn
 - U U-turn
 - 00 AM Peak Volume
 - (00) PM Peak Volume



Appendix F – SIDRA Outputs



USER REPORT FOR SITE



Project: BE230342_Intersection Models

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Template: Movement Summary



Site: 101 [DEV2027_Site Access / Greenbank Road - AM peak (Site Folder: 2027)]

Site Access / Greenbank Road

DEV2027

AM Peak

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/h	%	veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
SouthEast: Greenbank Road															
2	T1	All MCs	288	12.0	288	12.0	0.204	2.2	LOS A	0.7	5.2	0.17	0.19	0.17	56.7
3	R2	All MCs	14	93.0	14	93.0	0.204	19.2	LOS C	0.7	5.2	0.17	0.19	0.17	48.6
Approach			302	15.7	302	15.7	0.204	3.0	NA	0.7	5.2	0.17	0.19	0.17	56.2
NorthEast: Site Access - Concrete Batching															
4	L2	All MCs	9	100.0	9	100.0	0.043	18.3	LOS C	0.1	1.8	0.77	0.90	0.77	37.2
6	R2	All MCs	1	100.0	1	100.0	0.043	33.4	LOS D	0.1	1.8	0.77	0.90	0.77	41.0
Approach			11	100.0	11	100.0	0.043	19.8	LOS C	0.1	1.8	0.77	0.90	0.77	37.7
NorthWest: Greenbank Road															
7	L2	All MCs	1	93.0	1	93.0	0.391	6.7	LOS A	0.0	0.0	0.00	0.00	0.00	53.1
8	T1	All MCs	727	12.0	727	12.0	0.391	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			728	12.1	728	12.1	0.391	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.7
All Vehicles			1041	14.0	1041	14.0	0.391	1.2	NA	0.7	5.2	0.06	0.06	0.06	58.3

Site: 101 [DEV2027_Site Access / Greenbank Road - PM peak (Site Folder: 2027)]

Site Access / Greenbank Road

DEV2027

PM Peak

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Greenbank Road															
2	T1	All MCs	732	86.0	732	86.0	0.572	0.0	LOS A	0.1	1.4	0.01	0.02	0.02	59.6
3	R2	All MCs	6	12.0	6	12.0	0.572	6.7	LOS A	0.1	1.4	0.01	0.02	0.02	55.4
Approach			738	85.4	738	85.4	0.572	0.1	NA	0.1	1.4	0.01	0.02	0.02	59.5
NorthEast: Site Access - Concrete Batching															
4	L2	All MCs	8	56.0	8	56.0	0.026	8.7	LOS A	0.1	0.8	0.61	0.68	0.61	39.4
6	R2	All MCs	1	56.0	1	56.0	0.026	51.6	LOS F	0.1	0.8	0.61	0.68	0.61	45.8
Approach			9	56.0	9	56.0	0.026	13.5	LOS B	0.1	0.8	0.61	0.68	0.61	40.2
NorthWest: Greenbank Road															
7	L2	All MCs	1	86.0	1	86.0	0.207	6.6	LOS A	0.0	0.0	0.00	0.00	0.00	53.5
8	T1	All MCs	384	12.0	384	12.0	0.207	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			385	12.2	385	12.2	0.207	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			1133	60.2	1133	60.2	0.572	0.2	NA	0.1	1.4	0.01	0.02	0.02	59.4

Site: 101 [DEV2037_Site Access / Greenbank Road - AM peak (Site Folder: 2037)]

Site Access / Greenbank Road

DEV2037

AM Peak

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]	%	v/c	sec		[Veh. veh]	Dist] m				km/h
SouthEast: Greenbank Road															
2	T1	All MCs	332	12.0	332	12.0	0.241	3.3	LOS A	1.0	7.7	0.18	0.20	0.18	55.3
3	R2	All MCs	13	93.0	13	93.0	0.241	24.9	LOS C	1.0	7.7	0.18	0.20	0.18	47.5
Approach			345	15.1	345	15.1	0.241	4.1	NA	1.0	7.7	0.18	0.20	0.18	54.9
NorthEast: Site Access - Concrete Batching															
4	L2	All MCs	9	100.0	9	100.0	0.058	23.7	LOS C	0.2	2.3	0.84	0.93	0.84	34.3
6	R2	All MCs	1	100.0	1	100.0	0.058	49.5	LOS E	0.2	2.3	0.84	0.93	0.84	38.2
Approach			10	100.0	10	100.0	0.058	26.2	LOS D	0.2	2.3	0.84	0.93	0.84	34.7
NorthWest: Greenbank Road															
7	L2	All MCs	1	93.0	1	93.0	0.450	6.8	LOS A	0.0	0.0	0.00	0.00	0.00	53.1
8	T1	All MCs	837	12.0	837	12.0	0.450	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			838	12.1	838	12.1	0.450	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.6
All Vehicles			1193	13.7	1193	13.7	0.450	1.5	NA	1.0	7.7	0.06	0.07	0.06	57.9

Site: 101 [DEV2037_Site Access / Greenbank Road - PM peak (Site Folder: 2037)]

Site Access / Greenbank Road

DEV2037

PM Peak

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Greenbank Road															
2	T1	All MCs	842	86.0	842	86.0	0.658	0.1	LOS A	0.1	1.8	0.01	0.02	0.02	59.6
3	R2	All MCs	6	12.0	6	12.0	0.658	6.9	LOS A	0.1	1.8	0.01	0.02	0.02	55.4
Approach			848	85.5	848	85.5	0.658	0.1	NA	0.1	1.8	0.01	0.02	0.02	59.6
NorthEast: Site Access - Concrete Batching															
4	L2	All MCs	8	56.0	8	56.0	0.041	9.4	LOS A	0.1	1.0	0.70	0.76	0.70	36.2
6	R2	All MCs	1	56.0	1	56.0	0.041	101.2	LOS F	0.1	1.0	0.70	0.76	0.70	42.6
Approach			9	56.0	9	56.0	0.041	19.6	LOS C	0.1	1.0	0.70	0.76	0.70	37.0
NorthWest: Greenbank Road															
7	L2	All MCs	1	86.0	1	86.0	0.238	6.6	LOS A	0.0	0.0	0.00	0.00	0.00	53.5
8	T1	All MCs	442	12.0	442	12.0	0.238	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			443	12.2	443	12.2	0.238	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles			1300	60.3	1300	60.3	0.658	0.2	NA	0.1	1.8	0.01	0.02	0.02	59.4

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