



**Extractive Industry Solutions
Geotechnical and Geologic Consultancy**

P O Box 893 Emerald Qld 4720

Ph: 0488074728

Email: eis@activ8.net.au

20 February 2026

Principal Planning Officer
Department of State Development, Industry, Local Government and Planning
P O Box 979
Bundaberg Qld 4670

Re: Information request response for Pedersen's Road, Dangore.

Attention: Faith Duffy – Planning Officer

Faith,

Please find attached the response to the information request reference 2511-49168 SRA dated 24 November 2025.

I have included the Information Request as well.

If there are any questions regarding this response, please call me on 0488074728

Yours faithfully,


Michael D Sullivan (B. App Sc), (FIQA), (M.AusIMM).

Principal – Extractive Industry Solutions

Our reference: 2511-49168 SRA
Your reference: 7/25
Council reference: MCU25/0038

24 November 2025

Second Chance (Aust) Pty Ltd
PO Box 893
EMERALD QLD 4720
eis@activ8.net.au

Attention: Michael O'Sullivan

Dear Mr O'Sullivan,

SARA Information Request – Pedersens Road, Dangore

(Given under Chapter 1, section 12 of the Development Assessment Rules)

This notice has been issued because the State Assessment and Referral Agency (SARA) has identified that information necessary to assess your application against the relevant provisions of the State Development Assessment Provisions has not been provided.

Network Impacts	
1.	<p><u>Issue:</u> The application material has not demonstrated compliance with Performance Outcome (PO) PO1 – PO3 of State code 6: Protection of state transport networks.</p> <p>Memerambi Gordonbrook Road is not an as of right road for 55.5 tonne truck and dog configuration, as proposed in the submitted Traffic and Pavement Impact Assessment prepared by McMurtie Consulting Engineers Pty Ltd, dated 15 October 2025, reference R087-24-25, revision A.</p> <p><u>Action:</u> Either:</p> <ul style="list-style-type: none"> • Demonstrate that the proposed development has a National Heavy Vehicle Regulator approval to use the abovementioned vehicles on Memerambi Gordonbrook Road. This is required for the section of Memerambi Gordonbrook Road from Pedersens Road to Chinchilla Wondai Road; or • Provide a revised Traffic and Pavement Impact Assessment using as of right vehicles allowed on the roads identified in the proposed haulage route, as detailed in Item 2 below.

2.	<p>Issue:</p> <p>The application material does not include sufficient detail to address or demonstrate compliance with PO2 and PO5 of State code 6.</p> <p>The Traffic and Pavement Impact Assessment prepared by McMurtrie Consulting Engineers, dated 15 October 2025, reference R087-24-25, revision A, is based on a haul vehicle configuration that is not permitted to utilise the Memerambi Gordonbrook Road on an as-of-right basis, specifically the truck and quad dog haul vehicle.</p> <p>Any heavy vehicles associated with the proposed development must not exceed 42.5 tonnes Gross Vehicle Mass and must be no longer than 19 metres in length, or a haul vehicle that is compliant with Level 1 Performance Based Standards (PBS).</p> <p>The truck and dog configuration illustrated in the Traffic and Pavement Impact Assessment exceeds the maximum Gross Vehicle Mass permitted under general access (<42.5 tonnes) or Level 1 PBS (50.5 tonnes) and as such, cannot be considered.</p> <p>Further, the pavement contributions calculated for Route A should be based on a haul vehicle configuration that is compliant with general access only.</p> <p>SARA notes that the proposed haul route illustrated in Figure 4.2 of the Traffic and Pavement Impact Assessment is unlikely to be supported, due to road safety concerns.</p> <p>Action:</p> <p>Submit a revised Traffic and Pavement Impact Assessment prepared by a suitably qualified traffic consultant, in accordance with the Department of Transport and Main Roads' <i>Guide to Traffic Impact Assessment December 2018</i> (the GTIA).</p> <p>The revised assessment must address, but may not be limited to, the following matters:</p> <ol style="list-style-type: none"> (a) Be based on a haul vehicle configuration that can use the Memerambi Gordonbrook Road for general access, without the need for separate approval from the National Heavy Vehicle Regulator. (b) Be based on the haul route specified as Route A in the submitted traffic report. (c) Identify the number and type of axle groups of the haul vehicle(s), as well as the maximum load on each individual axle group both when the haul vehicle is loaded and unloaded. The maximum Gross Vehicle Mass for the haul vehicle shall not exceed 42.5 tonnes Gross Vehicle Mass and 19 metres in total length or Level 1 PBS. (d) Update and resubmit the pavement contribution calculations based on the vehicle configuration in item (a) for the identified haul route requested in item (b), in accordance with Section 13 of the GTIA. (e) Submit a Road Safety assessment of the haul route specified in item (b) prepared in accordance with Section 9 of the GTIA. In particular, whether the increased heavy vehicle traffic generated by the proposed use will have an impact on the narrow unformed section of Memerambi Gordonbrook Road. (f) Where impacts are identified, propose recommendations to ameliorate the development's impact on the State-controlled road network. Where the recommendations involve road work upgrades on the State-controlled road, submit conceptual geometric design drawings to demonstrate that the works' design can comply with Normal Design Domain criteria specified in the Department of Transport and Main Roads' <i>Road Planning and Design Manual 2nd Edition</i> and be wholly contained within existing road corridors.
----	---

Further Advice

1.	<p>It is recommended that the applicant requests a meeting to discuss the matters raised in SARA's Information Request.</p> <p>Please contact the Wide Bay Burnett SARA office at WBBSARA@dsdip.qld.gov.au to request a meeting.</p>
----	--

How to respond

You have three months to respond to this request and the due date to SARA is 24 February 2026. You may respond by providing either: (a) all of the information requested; (b) part of the information requested; or (c) a notice that none of the information will be provided. Further guidance on responding to an information request is provided in section 13 of the [Development Assessment Rules](#) (DA Rules).

It is recommended that you provide all the information requested above. If you decide not to provide all the information requested, your application will be assessed and decided based on the information provided to date.

You are requested to upload your response and complete the relevant tasks in [MyDAS2](#).

As SARA is a referral agency for this application, a copy of this information request will be provided to the assessment manager in accordance with section 12.4 of the DA Rules.

If you require further information or have any questions about the above, please contact Faith Duffy, A/Senior Planning Officer, on (07) 3882 8464 or via email WBBSARA@dsdip.qld.gov.au who will be pleased to assist.

Yours sincerely



Luke Lankowski
Manager, Planning Services

cc South Burnett Regional Council, info@sbrc.qld.gov.au

Development details	
Description:	Development Permit for Material change of use for extractive industry (sand and deco granite gravel quarry)
SARA role:	Referral agency
SARA trigger:	Schedule 10, Part 9, Division 4, Subdivision 1, Table 1, Item 1 (10.9.4.1.1.1) – Infrastructure - state transport infrastructure (Planning Regulation 2017)
SARA reference:	2511-49168 SRA
Assessment criteria:	State code 6: Protection of state transport networks

TUMBLIN QUARRY (IR RESPONSE)

Traffic and Pavement Impact Assessment

DATE
18 February 2026

REF
R087-24-25

CLIENT
Second Chance (Aust) Pty Ltd

COMMERCIAL IN CONFIDENCE

Contact Information

McMurtrie Consulting Engineers Pty Ltd
 ABN 25 634 181 294
 North Rockhampton
 www.mcmengineers.com
 (07) 4921 1780
 mail@mcmengineers.com

Document Information

Prepared for	Second Chance (Aust) Pty Ltd
Document Name	Traffic and Pavement Impact Assessment
Job Reference	R087-24-25
Revision	B

Document History

Revision	Date	Description of Revision	Prepared by	Approved by		
				Name	Signature	RPEQ No
A	15/10/2025	Draft	Chris Hewitt	Chris Hewitt		5141
B	18/02/2026	Final	Chris Hewitt	Chris Hewitt		5141

NOTE - It is acknowledged that there may be some minor discrepancies between the architectural layouts provided in this report and the associated architectural documentation. Whilst not ideal, the minor layout discrepancies should form no material impact to the proposed development from an engineering assessment perspective. Conservative engineering principals have been applied to the afforded earthworks areas, stormwater intent and servicing. As such, any concern should be suitable for conditioning as part of the detailed design process (i.e. finalised in Operational Works stage).

This report has been prepared for the sole use of the Client. The information contained is not to be disclosed, reproduced, or copied in whole or part without written approval from McMurtrie Consulting Engineers. The use of this report by unauthorised third parties shall be at their own risk and McMurtrie Consulting Engineers accept no duty of care to any such third party. The information contained within this report is provided in good faith in the belief that no information, opinions, or recommendations made are misleading. All comments and opinions given in this report are based on information supplied by the client, their agent and third parties.

© Copyright of McMurtrie Consulting Engineers Pty Ltd

Contents

1	Introduction.....	5
1.1	Project Background.....	5
1.2	Scope.....	5
1.3	Response to SARA.....	6
1.1	Study Area.....	8
2	Existing Conditions.....	10
2.1	Land Use and Zoning.....	10
2.2	Surrounding Road Network Details.....	10
2.3	Traffic Volumes.....	18
2.4	Intersection and Network Performance.....	18
2.5	Pavement Impacts.....	19
3	Development Traffic.....	20
3.1	Traffic Generation.....	20
3.2	Development Traffic Volumes on the Network.....	20
4	Impact Assessment and Mitigation.....	21
4.1	Route Investigation.....	21
	With and Without Development Traffic Volumes.....	21
4.2	Intersection Impact Assessment and Mitigation.....	22
4.3	Road Link Capacity Assessment and Mitigation.....	26
4.4	Pavement Impact Assessment and Mitigation.....	31
5	Road Safety.....	32
5.1	Road Crash History Review.....	32
5.2	Intersection Risk Mitigation Measures.....	35
6	Conclusions.....	36
6.1	Traffic Impacts.....	36
6.2	Pavement Impacts.....	36
	Appendix A: Traffic Volume.....	37
	Appendix B: Marginal Cost Calculation.....	38
	Appendix C: Response to State Code 6.....	39

Executive Summary

McMurtrie Consulting Engineers (MCE) have been commissioned by Second Chance (Aust) Pty Ltd to undertake a Transport and Pavement Impact Assessment for its proposed establishment for an extractive industry use with an annual haulage capacity up to 100,000 tonnes of material. The haulage route between the Quarry and Kingaroy is considered only over a single route, travelling north to Chinchilla - Wondai Road before entering the Bunya Highway. The route comprises of both Council and State controlled roads. The analysis was undertaken to determine the level of impacts on the operation and safety of the surrounding road network. It is noted that the proponent is willing to upgrade the length of Pedersons Road between the site access and the Memerambi - Gordonbrook Road / Pedersens Road intersection, and enter into a maintenance agreement with the South Burnett Regional Council for the ongoing use of the road.

On the basis that the proposed haulage activities are newly introduced in the network along Memerambi - Gordonbrook Road between Pedersens Road and the Memerambi - Gordonbrook Road / Chinchilla - Wondai Road intersection, intersection and road segment mitigation works are considered necessary to ensure the suitability of such to service the haulage operations. The section of Chinchilla - Wondai Road between the Chinchilla - Wondai Road / Memerambi - Gordonbrook Road intersection and the Bunya Highway / Chinchilla - Wondai Road intersection is an established heavy vehicle route and therefore mitigation at the Bunya Highway / Chinchilla - Wondai Road intersection is not considered to be warranted.

An assessment of the expected pavement impacts along the haulage route was undertaken for a Truck and Dog and Articulated Vehicle configurations, adopting a NHVR Common Heavy Freight Vehicle Configuration. This assessment identified that the additional heavy vehicle movements associated with the proposed haulage operations are expected to result in an impact exceeding the recommended 5% impact trigger along each route.

The following contribution values are calculated to be required to offset the identified pavement impacts of the proposed haulage operations along each route option.

Table A: Recommended project pavement contributions (route analysis)

Route Section	Vehicle Configuration	Haulage Volume (tonnes)	Jurisdiction	Contribution Calculation Method	Cents / tonne	Contribution
Route A	Truck + Dog & AV	100,000	DTMR	Marginal Cost	45.82	\$45,819.15

In light of the information provided above, it can be considered that based on the provision of payment of suitable road maintenance contributions (based on the confirmed haulage scenario and route) to offset the expected increased maintenance and rehabilitation requirements, the proposed haulage operations will have a minor impact on the adjacent road network.

As mentioned, the applicant proposes to upgrade Pedersons Road between the site access and the Memarambi - Gordonbrook Road / Pedersons Road intersection. Given that the intersection will form part of the State controlled road network the contributions applied for the wider road network as identified in Table A, should be adjusted to consider the works involved with the upgrade and maintenance of the new intersection.

1 Introduction

1.1 Project Background

Second Chance (Aust) Pty Ltd is proposing to establish an extractive industry use over the site at Lot 6 on BO76 Pedersons Road in Dangore. The proposal is expected to operate a haulage operation of up to 100,000 tonnes of material per annum (assumed 300 days), with material transported from the location to the east to Kingaroy.

It is anticipated that haulage activities will be on the Bunya Highway, Chinchilla - Wondai Road and Memerambi - Gordonbrook Road. It is noted that Pedersons Road from the site and up to the Memerambi - Gordonbrook Road / Pedersons Road is currently an unsealed track and will need to be upgraded to facilitate the anticipated activities associated with the site.

It is estimated that heavy vehicles used for haulage of material from the site will be as follows:

- Articulated Vehicle (GVM: 42.5 tonne);
- Truck and Dog (GVM: 50.5 tonne).

The utilisation of heavy vehicles between the identified classes is estimated to be approximately 70% / 30%

It is understood that there is no extractive industry use currently approved over the site.

It is noted that further information request Items received from State Assessment and Referral Agency (SARA) on 24 November 2025 (2511-49168 SRA) have been considered in the analysis. A brief response to each Item is provided in Section 1.3, with additional information provided within the report.

1.2 Scope

MCE have been commissioned by Second Chance (Aust) Pty Ltd to undertake a Traffic and Pavement Impact Assessment for the proposed annual haulage capacity of up to 100,000 tonnes of material per annum.

The subject analysis was carried out to determine the level of potential impacts of the Project on the existing road pavement along the transport route. The outcomes of the assessment will be used to inform discussion regarding the project with the South Burnett Regional Council and the DTMR, with the assessment methodology adopted for the analysis summarised via the key tasks listed below:

- Broadly identify the existing transport infrastructure which is of relevance to the Project;
- Estimate traffic generation associated with the proposed road haulage operation and the distribution of this haulage traffic on the identified road network;
- Assess the potential impact of the proposed road haulage operations on the surrounding transport infrastructure, in particular the pavements of the surrounding road network; and
- Identify potential mitigation and management strategies to be implemented during the proposed road haulage operations to offset the potential impact of the Project (if required).

As outlined above, the adopted methodology centres on establishing a background, “without development” traffic scenario for the identified transport route and comparing this with a scenario including the Project-generated traffic (i.e. the “with development” scenario).

The process allows for the assessment of the traffic impacts of the Project in terms of road safety, road link capacity, pavement and other transport infrastructure. Following this, if required, potential mitigation and/or management measures would be formulated to address the potential traffic impacts caused by the proposed Project.

1.3 Response to SARA

The following information is provided in response to Items 1 to 6 of the SARA Information Request dated 24 November 2025 (2511-49168 SRA).

Network Impacts	
1.	<p>Issue:</p> <p>The application material has not demonstrated compliance with Performance Outcome (PO) PO1 – PO3 of State code 6: Protection of state transport networks.</p> <p>Memerambi Gordonbrook Road is not an as of right road for 55.5 tonne truck and dog configuration, as proposed in the submitted Traffic and Pavement Impact Assessment prepared by McMurtie Consulting Engineers Pty Ltd, dated 15 October 2025, reference R087-24-25, revision A.</p> <p>Action:</p> <p>Either:</p> <ul style="list-style-type: none"> – Demonstrate that the proposed development has a National Heavy Vehicle Regulator approval to use the abovementioned vehicles on Memerambi Gordonbrook Road. This is required for the section of Memerambi Gordonbrook Road from Pedersens Road to Chinchilla Wondai Road; or <p>Provide a revised Traffic and Pavement Impact Assessment using as of right vehicles allowed on the roads identified in the proposed haulage route, as detailed in Item 2 below.</p>

RESPONSE:

The Traffic and Pavement Impact Assessment has been updated to adopt the design vehicle permitted on the roads identified in the proposed haulage route, without the need for a separate approval from NHVR for a higher mass limit vehicle.

2.	<p>Issue:</p> <p>The application material does not include sufficient detail to address or demonstrate compliance with PO2 and PO5 of State code 6.</p> <p>The Traffic and Pavement Impact Assessment prepared by McMurtrie Consulting Engineers, dated 15 October 2025, reference R087-24-25, revision A, is based on a haul vehicle configuration that is not permitted to utilise the Memerambi Gordonbrook Road on an as-of-right basis, specifically the truck and quad dog haul vehicle.</p> <p>Any heavy vehicles associated with the proposed development must not exceed 42.5 tonnes Gross Vehicle Mass and must be no longer than 19 metres in length, or a haul vehicle that is compliant with Level 1 Performance Based Standards (PBS).</p> <p>The truck and dog configuration illustrated in the Traffic and Pavement Impact Assessment exceeds the maximum Gross Vehicle Mass permitted under general access (<42.5 tonnes) or Level 1 PBS (50.5 tonnes) and as such, cannot be considered.</p> <p>Further, the pavement contributions calculated for Route A should be based on a haul vehicle configuration that is compliant with general access only.</p> <p>SARA notes that the proposed haul route illustrated in Figure 4.2 of the Traffic and Pavement Impact Assessment is unlikely to be supported, due to road safety concerns.</p> <p>Action:</p> <p>Submit a revised Traffic and Pavement Impact Assessment prepared by a suitably qualified traffic consultant, in accordance with the Department of Transport and Main Roads' Guide to Traffic Impact Assessment December 2018 (the GTIA).</p> <p>The revised assessment must address, but may not be limited to, the following matters:</p>
----	---

	<p>a) Be based on a haul vehicle configuration that can use the Memerambi Gordonbrook Road for general access, without the need for separate approval from the National Heavy Vehicle Regulator.</p> <p>b) Be based on the haul route specified as Route A in the submitted traffic report.</p> <p>c) Identify the number and type of axle groups of the haul vehicle(s), as well as the maximum load on each individual axle group both when the haul vehicle is loaded and unloaded. The maximum Gross Vehicle Mass for the haul vehicle shall not exceed 42.5 tonnes Gross Vehicle Mass and 19 metres in total length or Level 1 PBS.</p> <p>d) Update and resubmit the pavement contribution calculations based on the vehicle configuration in item (a) for the identified haul route requested in item (b), in accordance with Section 13 of the GTIA.</p> <p>e) Submit a Road Safety assessment of the haul route specified in item (b) prepared in accordance with Section 9 of the GTIA. In particular, whether the increased heavy vehicle traffic generated by the proposed use will have an impact on the narrow unformed section of Memerambi Gordonbrook Road.</p> <p>f) Where impacts are identified, propose recommendations to ameliorate the development's impact on the State-controlled road network. Where the recommendations involve road work upgrades on the State-controlled road, submit conceptual geometric design drawings to demonstrate that the works' design can comply with Normal Design Domain criteria specified in the Department of Transport and Main Roads' Road Planning and Design Manual 2nd Edition and be wholly contained within existing road corridors.</p>
--	---

RESPONSE:

- a) The assessment has been updated to adopt a 42.5 tonnes Gross Vehicle Mass Articulated Vehicle and a Level 1 PBS Truck and Dob Combination with Gross Vehicle Mass of 50.5 tonnes.
- b) Haulage Route B has been removed from this version of the analysis.
- c) See Figure 1.1.

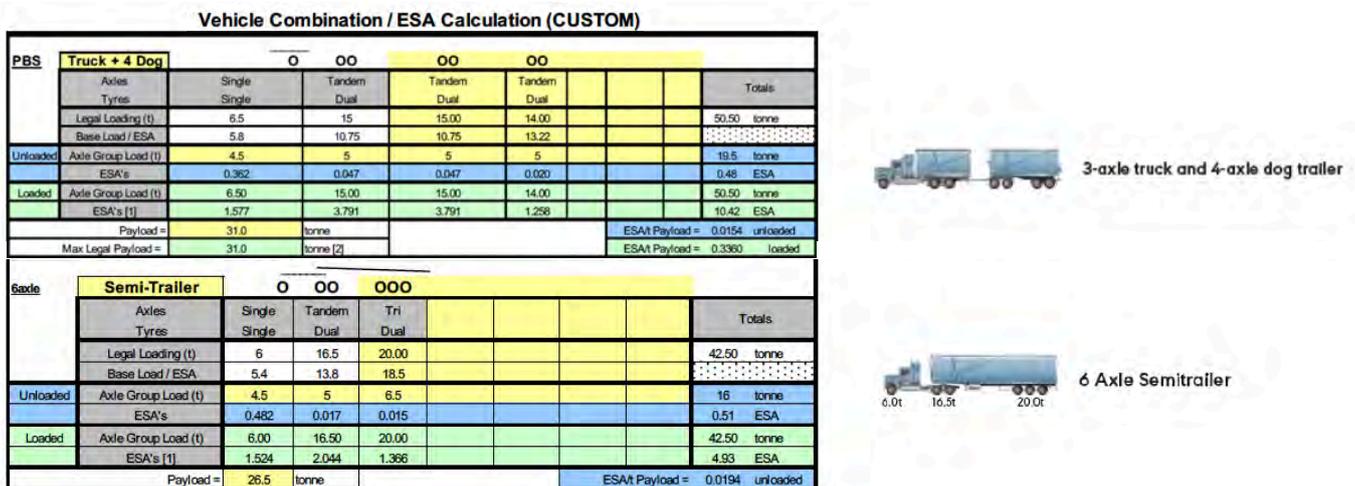


Figure 1.1: Design Vehicle Configuration

- d) The traffic report has been updated accordingly.
- e) Refer to Section 5 of the report.
- f) Refer to Section 4 of the report.

1.1 Study Area

As shown in Figure 1.2, the subject site is located south west of Wondai, on the southern side of Chinchilla Wondai Road. The closest established State controlled intersection to the site is the Chinchilla - Wondai Road / Memerambi - Gordonbrook Road intersection. The site gains access off Pedersons Road, which is a rural unformed road intersecting with Memerambi / Gordonbrook Road approximately 1.8 kilometres south of the Chinchilla - Wondai Road / Memerambi - Gordonbrook Road intersection.

As shown in Figure 1.3, the study investigates haulage activities over a 20.85km section of Council and State road network along Pedersons Road, Memerambi - Gordonbrook Road , Chinchilla - Wondai Road and the Bunya Highway, as follows:

Route A (20.85km): | Site Access | ⇨ Pedersons Road ⇨ Memerambi - Gordonbrook Road (northbound) ⇨ Chinchilla Wondai Road (eastbound) ⇨ | Bunya Highway / Chinchilla Wondai Road intersection |

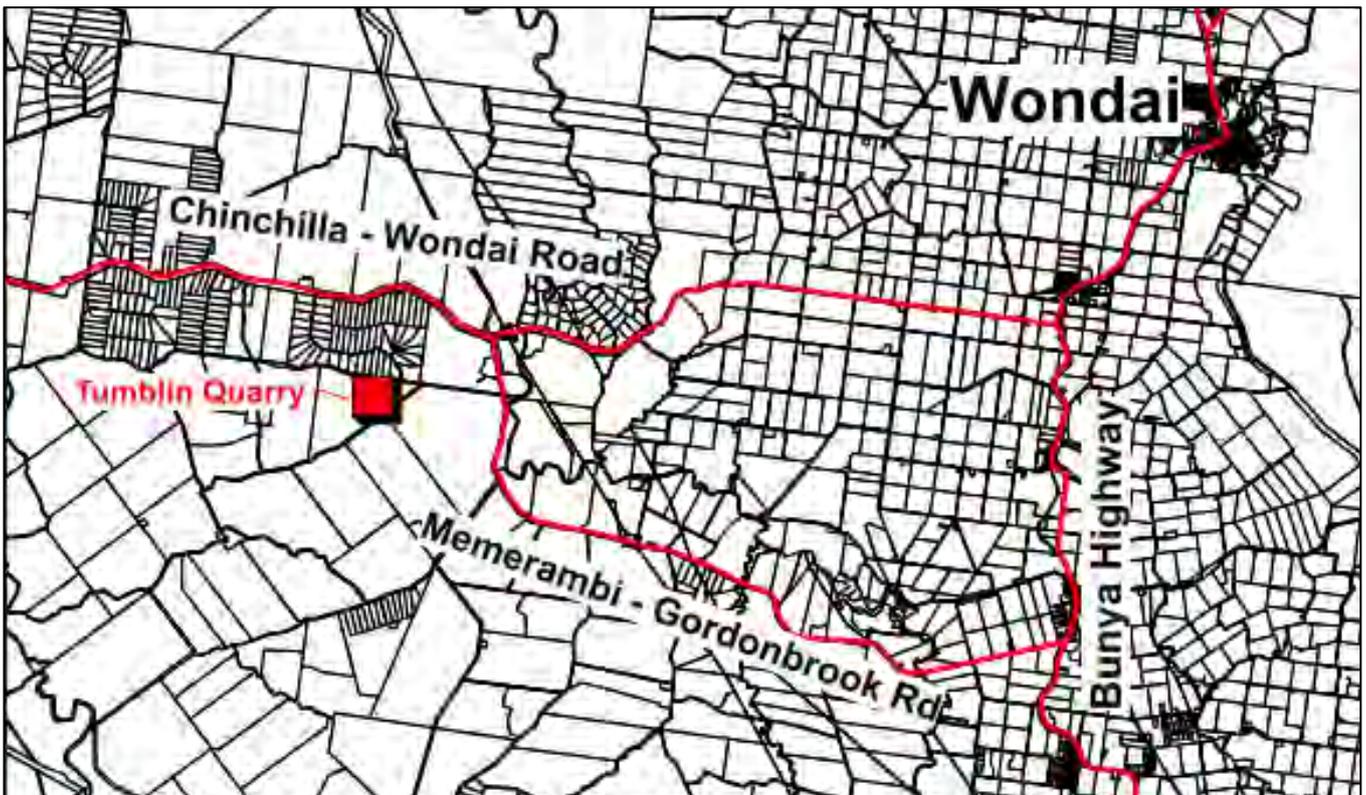


Figure 1.2: Location of Subject Site

2 Existing Conditions

2.1 Land Use and Zoning

As shown in Figure 2.1, The lots adjacent to the haulage route are generally identified as Rural under the SBRC Planning Scheme.

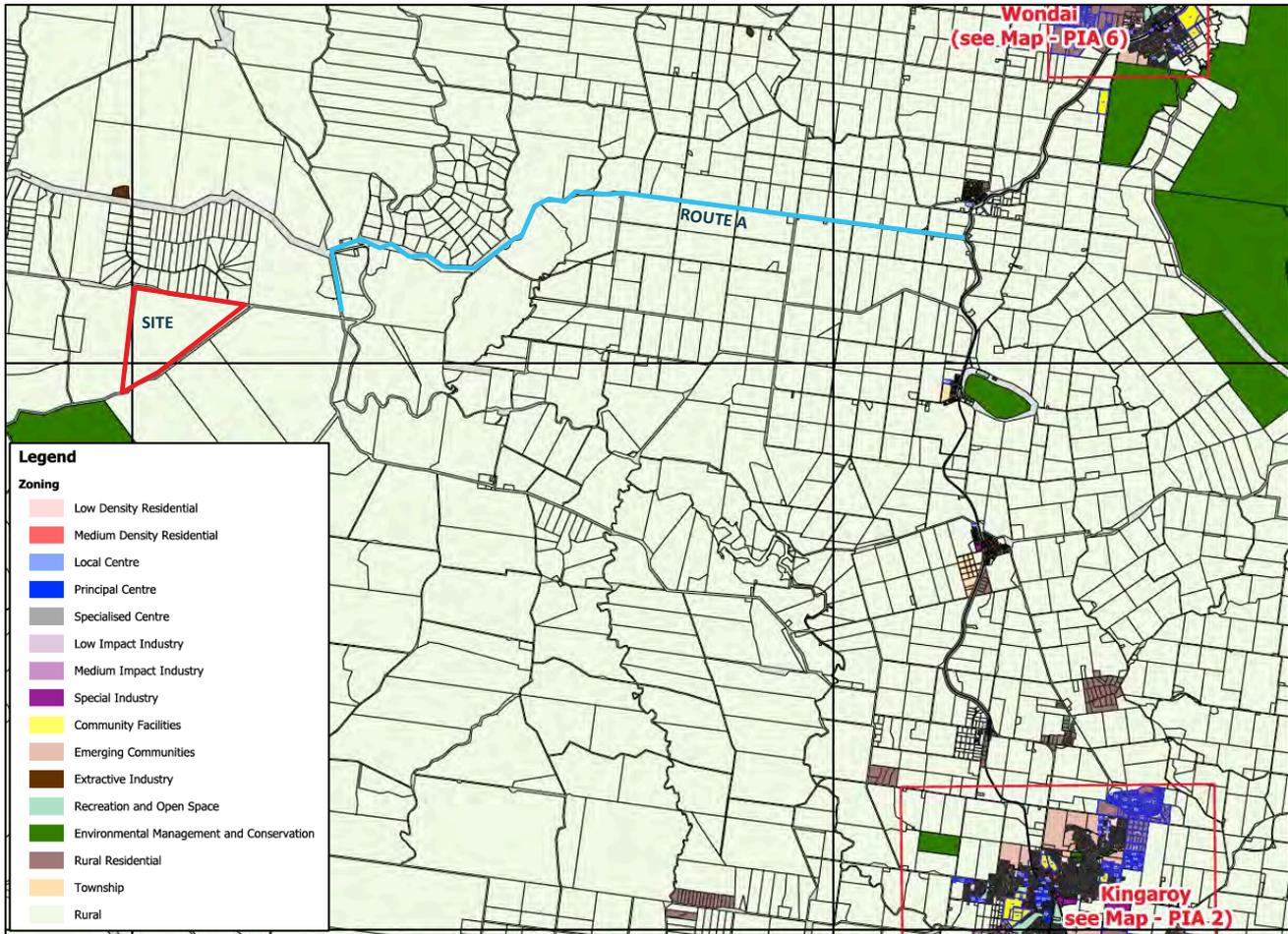


Figure 2.1: Location of subject site

[Source: Queensland Globe & Nearmap]

2.2 Surrounding Road Network Details

2.2.1 Project Transport Route

Based on operational data provided by the proponent (Second Chance (Aust) Pty Ltd) it is understood that the road haulage activities proposed are for the transportation of up to 100,000 tonnes of material per annum. The project assumes 300 days of cartage annually, with standard Articulated Vehicle and PBS (Level 1) Truck and Dog Combination vehicle for haulage of material to and from the site.

As mentioned, the proposal is to establish a new haulage route from the quarry off Pedersons Road, with all associated heavy vehicle traffic approaching and departing to the east via Chinchilla - Wondai Road to Kingaroy.

It is considered that the intersections along the established heavy vehicle transport route can cater for the wheel paths associated with the proposal, with minimal improvement works required at the Wondai - Chinchilla Road / Memerambi - Gordonbrook Road intersection and the Bunya Highway / Memerambi - Gordonbrook Road intersection. It is noted that Pedersons Road between the site access location and the Memerambi - Gordonbrook Road / Pedersons Road intersection is currently unsealed. It is anticipated that the formation of Pedersons Road along the transport route will be upgraded to a rural profile in accordance with the SBRC standard, providing a two lane 8 metre wide formation (6.5m seal & pavement).

2.2.2 Road Links

A preliminary review of roadway conditions of each road link within the investigation area has been carried out using aerial photography, street view imaging and site photography. A summary of the primary road forming part of the investigation is shown in Table 2.1, with details on the observed conditions presented further below.

Table 2.1: Road Link Detail

Road Name	Jurisdiction	Hierarchy	Cross Section	Speed Limit
Pedersons Road	SBRC	Rural Track	Unsealed (approx. 5m)	100km/hr
Chinchilla - Wondai Road	DTMR	Major Collector	Sealed (approx. 8m)	100km/hr
Memerambi - Gordonbrook Road	DTMR	Minor Collector	Partially sealed (approx. 1.85m)	100km/hr

– Pedersons Road

Pedersons Road between the site access and the Memerambi - Gordonbrook Road / Pedersons Road intersection is an unsealed gravel track with a width of approximately 5 metres. Memerambi - Gordonbrook Road is under the jurisdiction of the South Burnett Regional Council and currently only services a relatively small number of rural properties to the west of Memerambi - Gordonbrook Road.

Just to the north of the site, Pedersons Road intersects with J Hunter Road and connects through to Chinchilla - Wondai Road. Both Pedersons Road and J Hunter Road are rural tracks with a speed limit of 100km/hr.

The typical condition of Pedersons Road along the haulage route between the site and the Memerambi - Gordonbrook Road / Pedersons Road intersection is shown in Figure 2.2, with the location of J-Hunter Road in the context of the local road network shown in Figure 2.3.

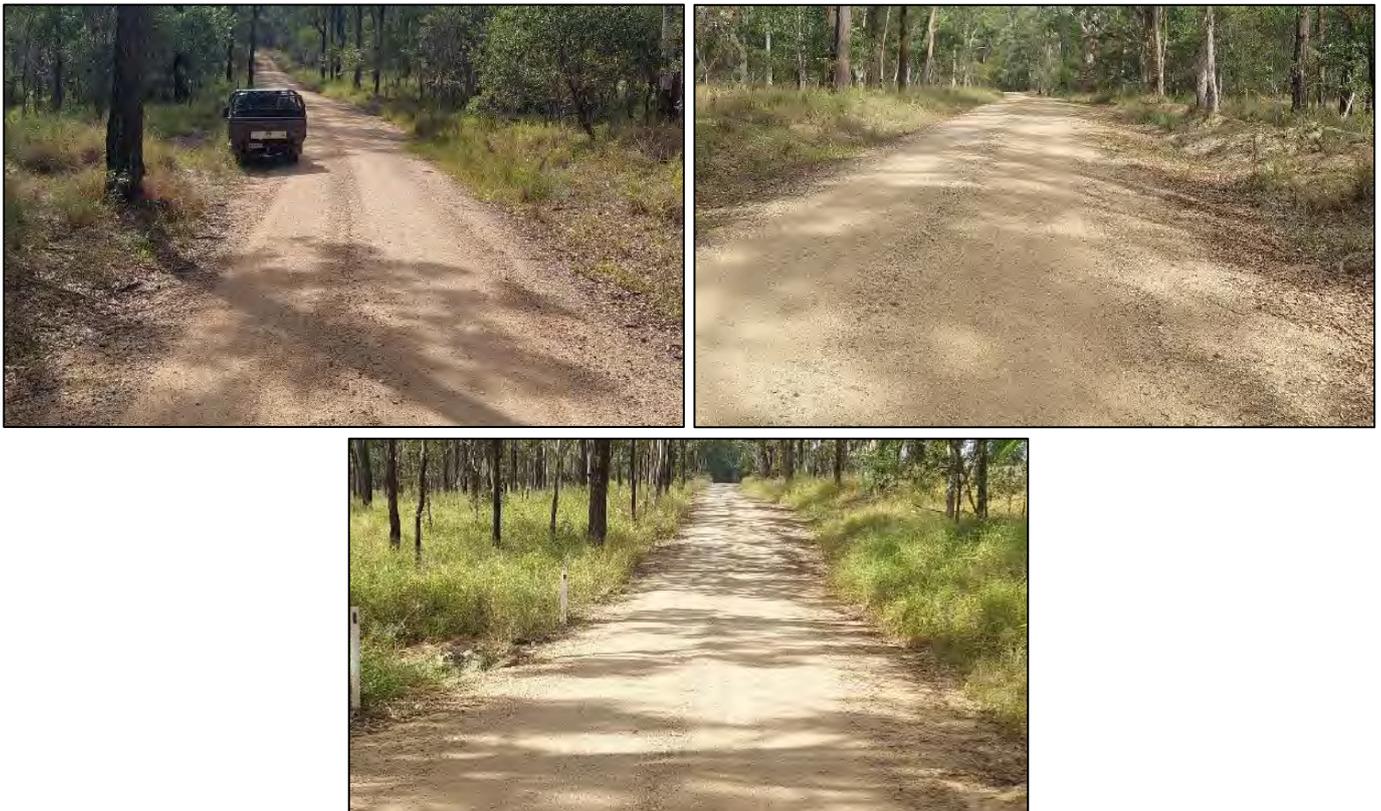


Figure 2.2: Pedersons Road (Typical Formation)



Figure 2.3: J Hunter Road Connectivity North of the Site

– Chinchilla - Wondai Road

Chinchilla - Wondai Road is identified as a major collector road in the local network, providing connection between Chinchilla and Wondai. Between the Chinchilla - Wondai Road / Memerambi - Gordonbrook Road intersection and the Bunya Highway / Chinchilla - Wondai Road intersection the formation of Chinchilla - Wondai Road is sealed providing an undivided two lane carriageway, with a pavement width of approximately 8 metres.

Chinchilla - Wondai Road functions as a major collector road in the local area and is subject to a posted speed limit of 100km/hr. The typical condition of Chinchilla - Wondai Road is shown in Figure 2.4.



Figure 2.4: Chinchilla - Wondai Road (Typical Formation)

– Memerambi - Gordonbrook Road

Memerambi - Gordonbrook Road is a State controlled road between Chinchilla - Wondai Road to the north and Pedersens Road. Memerambi - Gordonbrook Road is partially sealed between the Memerambi - Gordonbrook Road / Pedersens Road intersection and the Chinchilla - Wondai Road / Memerambi - Gordonbrook Road intersection. It is noted that Memerambi - Gordonbrook Road only to the north of the Pedersens Road intersection forms part of the haulage investigation area.

Memerambi - Gordonbrook Road generally only services local traffic and is largely unsealed. The Department of Transport and Main Roads (DTMR) classify Memerambi - Gordonbrook Road as a secondary road and has a minor collector road function in the area.

The typical condition of Memerambi - Gordonbrook Road is shown in Figure 2.5.



Figure 2.5: Memerambi - Gordonbrook Road (Typical Formation)

2.2.3 Intersections

In addition to the above-mentioned road links, there are several intersections identified to be relevant to the project as they will cater for the main turning movements of the vehicles associated with the proposed haulage operation:

- Chinchilla - Wondai Road / Memerambi - Gordonbrook Road intersection;
- Memerambi - Gordonbrook Road / Pedersons Road intersection;
- Chinchilla - Wondai Road / Bunya Highway intersection.

A desktop review of each of the above intersections has been carried out using aerial imagery software (Queensland Globe) and site photography. Details of each intersection are as follows:

- Chinchilla - Wondai Road / Memerambi - Gordonbrook Road intersection

The Chinchilla - Wondai Road intersection is a priority controlled T-intersection with Chinchilla - Wondai Road forming the primary approach. The intersection provides only basic turn treatments to and from Memerambi - Gordonbrook Road. The formation of the intersection and view line images of Chinchilla - Wondai Road to the east and west of the intersection is shown in Figure 2.6.



Figure 2.6: Memerambi - Gordonbrook Road (Typical Formation)

– Memerambi - Gordonbrook Road / Pedersons Road intersection

The Memerambi - Gordonbrook Road / Pedersons Road intersection is an unsealed T-intersection, approximately 1.8km south of the Chinchilla - Wondai Road / Memerambi - Gordonbrook Road intersection. Memerambi - Gordonbrook Road functions as the primary approach of the intersection.

The formation of the intersection on the approach from Pedersons Road and view lines to the north and south on Memerambi - Gordonbrook Road are shown in Figure 2.7.



Figure 2.7: Pedersons Road / Memerambi - Gordonbrook Road Intersection

– Chinchilla - Wondai Road / Bunya Highway intersection

As shown in Figure 2.8, the Chinchilla - Wondai Road / Bunya Highway intersection has recently been upgraded from a basic type intersection to one providing an auxiliary left turn and a channelised right turn from the Bunya Highway. The Bunya Highway has a major arterial function in the local road network providing immediate connectivity between Wondai (to the north) and Kingaroy (to the south) and further connects to the Burnett Highway further to the east.

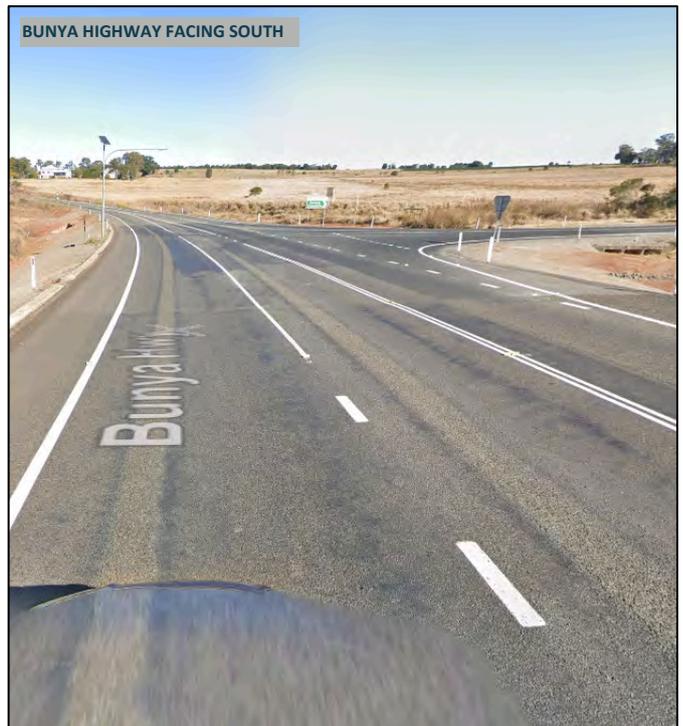
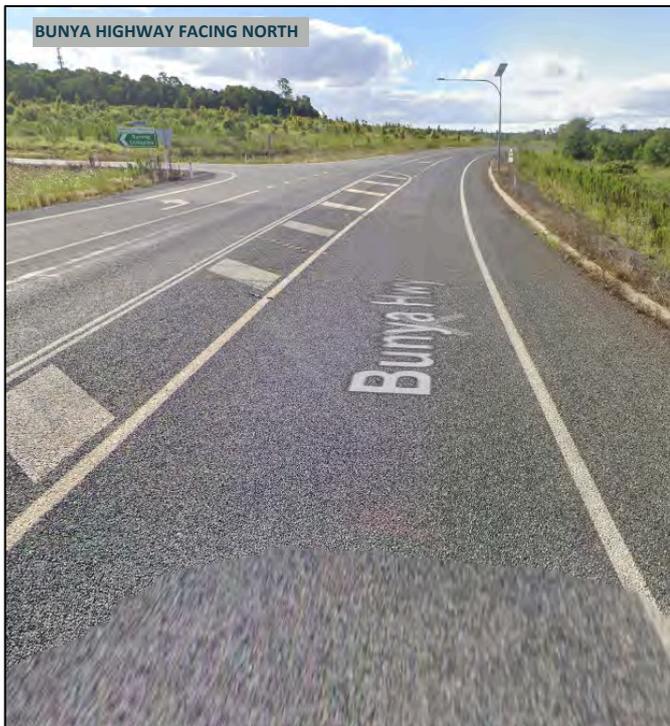


Figure 2.8: Chinchilla - Wondai Road / Memerambi - Gordonbrook Road Intersection

2.3 Traffic Volumes

2.3.1 Road Link Volumes

The background traffic volumes along the primary roads within the investigation area was established using the available Annual Average Daily Traffic (AADT) segment traffic count data provided by DTMR (refer Appendix A).

For the purposes of the investigation a 3% background traffic growth factor has been adopted for the investigation

Table 2.2: Forecast Future Background AADT Traffic Volumes for Chinchilla - Wondai Rd and Memerambi - Gordonbrook Rd

ROAD	Direction	Base Data Year	Base Data		Growth	2026 Estimate (Average)	
			AADT	% HV		AADT	%HV
Chinchilla - Wondai Road	Gazettal	2024	404	35.61	3% p.a.	428	35.61
	Against Gazettal	2024	397	17.32	3% p.a.	422	17.32
Memerambi - Gordonbrook Road	Gazettal	2024	146	32.63	3% p.a.	155	32.63
	Against Gazettal	2024	154	28.05	3% p.a.	163	28.05

2.3.2 Intersection Volumes

Intersection data has been requested from DTMR and SBRC for the Chinchilla - Wondai Road / Memerambi - Gordonbrook Road intersection as well as the Memerambi - Gordonbrook Road / Pedersons Road intersection. However, no information was available at the time of the request. Nevertheless, based on the low daily and peak traffic volumes estimated for the proposed increase in haulage operation it is considered that there will be little to no impact on the capacity of each intersection along the haulage route.

2.4 Intersection and Network Performance

2.4.1 Road Links

Based on the distribution of heavy vehicles along Chinchilla - Wondai Road and Memerambi - Gordonbrook Road and the daily traffic demand along each section, it is anticipated that all relevant road sections along the investigated transport route can be considered to be currently operating satisfactorily and within capacity, with all existing mid-block traffic volumes identified considered well within the design capacity of respective roads.

As noted in Section 2.2, the existing formation of Chinchilla - Wondai Road along the transport route provides a sealed road, which is considered appropriate for use by large multi-combination vehicles as identified in DTMR Route Assessment Guidelines for Multi-Combination Vehicles.

2.5 Pavement Impacts

2.5.1 Pavement Condition

Pedersons Road is an unformed roadway and therefore a pavement impact assessment over this section of the transport route cannot be completed. It is noted that the proponent is expecting to provide the necessary improvement of the Pedersons Road forming part of the proposed haulage operation and is willing to sign a road maintenance agreement with the South Burnett Regional Council. On this basis it is proposed that a road maintenance agreement be prepared between the proponent and the SBRC for the continued upkeep and maintenance of Pedersons Road.

Traffic count data (for 2024) and the marginal cost values along the Chinchilla - Wondai Road and Memerambi - Gordonbrook Road has been provided by the Road Asset Management section of DTMR. A summary of the count data is provided as Appendix A.

2.5.2 Pavement Loadings

The pavement impact assessment along the State controlled sections of the route has been undertaken in accordance with the GTIA Practice Note: Pavement Impact Assessment (December 2018), using Standard Axle Repetitions and associated marginal cost of pavement damage. Marginal Cost values for road wear have been obtained from the Road Asset Management section of DTMR.

In accordance with the GTIA pavement impact mitigation is required for any section of the SCR when the activities exceed the impact threshold of 5% of the background demand. In accordance with Table 4 of the GTIA, the mitigation of pavement impacts occurs for a period of 20 years after the opening of the final stage of the project. At such time or at any time when the site proposes to increase haulage frequency from that currently assessed, the resultant impacts are to be reconsidered, and appropriate contributions allocated if triggered under the updated analysis.

A summary of existing SAR's are shown in the marginal cost tables presented as Appendix B. In accordance with the Pavement Impact Assessment Practice Note, a value of 3.2 SAR4 / HV has been adopted to calculate background SARs.

3 Development Traffic

3.1 Traffic Generation

As previously identified, the proposed road haulage operations are understood to involve transportations of approximately 100,000 tonnes of material from the site to the east to Kingaroy along the Bunya Highway. Connectivity between the site and the Bunya Highway is investigated via Chinchilla - Wondai Road or Memerambi - Gordonbrook Road. The haulage of material is intended to operate 300 days per year, 12 hours per day.

Further to this, the proponent has advised that the haulage operation will be undertaken by a standard Articulated Vehicle and a Truck and Dog Combination Accounting for the use of the higher mass limit of the respective vehicles, the following payload quantity has been adopted for each vehicle:

- Articulated Vehicle: GVM 42.5 tonnes
- Truck and Dog Combination: GVM 50.5 tonnes

The proponent anticipates that approximately 70% of material will be distributed using an Articulated Vehicle with the balance (30%) distributed by a Truck and Dog Combination.

Based on the general operational information above, an estimate of the expected daily and peak hour transport vehicle movements can be established as shown in Table 3.1 below.

Table 3.1: Transport vehicle generation road haulage scenarios (100,000 tonnes annually)

Haulage Scenario		Haulage	
		100,000 tonnes	
Distribution		70,000 tonnes	30,000 tonnes
Days per year		300	300
Tonnage per day		233	100
TRUCKS	Capacity (t)		
(CLASS 9) Articulated Vehicle	26.5 tonnes	9 trucks	-
(Class 10) PBS Truck and Dog Combination	31 tonnes	-	4 trucks
Hours per day		12 hours	12 hours
Tonnage per hour (average)		20 tonnes	9 tonnes
No. Heavy Vehicle Trips (Per Class) / hour		1 trip	1trip
No. heavy Vehicle Trips (Total) / hour		2 trips	

3.2 Development Traffic Volumes on the Network

Based on the information identified above, it can be seen that the proposal is anticipated to generate up to 8 round trips per day (16 trips total) for the proposed haulage operation. In addition, it is assumed that there will be 10-20 employees at the Quarry site, generating approximately 40 vehicle trips per day. This is a conservative estimate and assumes that all workers will arrive to the site by private vehicle with no provision for car pooling. It is also noted that the analysis adopted in the study assume that all staff will arrive and depart the site within the peak commuter periods of the adjacent traffic flow.

In terms of the peak hour distribution of the haulage vehicle traffic volumes, based on the identified 12-hour work day, the additional traffic movements along the haulage route are anticipated to be in the order of approximately 56 trips per day.

4.2 Intersection Impact Assessment and Mitigation

Intersection geometry and capacity analysis has been carried out at the Memerambi - Gordonbrook Road / Pedersons Road intersection. The analysis has been based on the principles identified under the Guide to Traffic Impact Assessment (GTIA 2018). As shown below, the analysis has been based on the anticipated commencement year and 10-year design horizon.

Table 4.1: Impact assessment year by impact (Table 6.5 GTIA-2018)

Impact type	Impact assessment year(s)
Road safety	Year of opening of each stage including the final stage
Access and frontage	Year of opening of each stage including the final stage and 10 years after the year of opening of the final stage for access intersections (includes both new and amended accesses)
Intersection delay	Year of opening of each stage including the final stage
Road link capacity	Year of opening of each stage including the final stage
Pavement	Year of opening of each stage including the final stage Note that mitigation of pavement impacts occurs for a period of 20 years after the opening of the final stage
Transport infrastructure	Year of opening of each stage including the final stage.

As previously identified, the proposed haulage operation is anticipated to lead to a maximum increase in peak hour traffic volumes of 22 inbound or outbound vehicle movements (20x Light Vehicle + 2x Heavy Vehicle) along the route.

Based on this minimal increase in peak hour traffic volumes, which equates to at most one heavy vehicle movement every 30 minutes to an hour, and the relatively low existing volumes anticipated at the intersections, the impact of the proposed road haulage activities on the operation (including vehicle delay) of each intersection is anticipated to be negligible.

4.2.1 Turn Warrants Assessment

For the purposes of the assessment, a turn warrants analysis has been carried out at the Memerambi - Gordonbrook Road / Pedersons Road intersection at the anticipated commencement year of the project in year 2026, under the ultimate traffic conditions and 10 year design horizon in year 2035.

The analysis has been carried out in accordance with the Austroads Guide to Traffic Management Part 6 for a posted speed limit of 110 km/h and the design traffic volumes as discussed in Section 3.2. As shown in Table 4.1, the following turn treatments are warranted at the proposed access intersection:

- Left turn: Basic left turn (BAL) treatment
- Right turn: Basic right turn (BAR) treatment

For the purposes of the analysis it is anticipated that light vehicles would distribute evenly to the north and south at the Memerambi - Gordonbrook Road / Pedersons Road intersection

Table 4.1: Turn warrants analysis (Memerambi - Gordonbrook Road / Pedersons Road intersection)

Warrants Analysis Diagram	2026 Peak Hour Estimates	2036 Peak Hour Estimates
ROUTE A – MEMERAMBI – GORDONBROOK ROAD / PEDERSONS ROAD INTERSECTION		
<p>The diagram is a line graph with 'Turn Volumes 'Q_R' or 'Q_L' (Veh/h)' on the y-axis (0 to 80) and 'Major Road Traffic Volume 'Q_M' (Veh/h)' on the x-axis (0 to 1200). Two curves are shown: a red curve labeled 'CHR(s) AUL(s)' and a blue curve labeled 'CHR AUL of CHL'. A shaded grey area 'A' is in the top-left corner. Points 'BAR' and 'BAL' are marked on the y-axis. Two points '1' and '2' are marked on the x-axis. Below the graph is the note '(a) Design Speed ≥ 100km/h'.</p>	<ul style="list-style-type: none"> ★ Left turn warrant (2026): Q_M – 5 trips Q_L – 10 trips ★ Right turn warrant (2026): Q_M – 21 trips Q_R – 12 trips 	<ul style="list-style-type: none"> ★ Left turn warrant (2036): Q_M – 7 trips Q_L – 10 trips ★ Right turn warrant (2036): Q_M – 24 trips Q_R – 12 trips

The geometry of the existing intersection is proposed to be modified to facilitate the warranted basic turn treatments. The design adopts treatments suitable for a design speed of 110km/hr in accordance with Austroads.

A functional layout of the proposed intersection is shown in Figure 4.3, with typical heavy vehicle movements anticipated at the intersection shown in Figures 4.4.



Figure 4.3: Memerambi - Gordonbrook Road / Pedersons Road intersection
(Functional Layout)



Figure 4.4: Truck and Dog Combination Swept Path Analysis
(Memerambi - Gordonbrook Road / Pedersons Road intersection)

4.3 Road Link Capacity Assessment and Mitigation

Based on detailed road link volumes calculations shown as Appendix B it is expected that the additional traffic volumes generated by the proposed haulage operation will be in the order of up to 16 heavy vehicles per day for the 100,000 tonnes (365 days / 300 hauling days). These additional traffic movements do not equate to an increase of more than 5 % of background demand on the Bunya Highway.

Nevertheless, a desktop review of each route to and from the proposed quarry has been carried out, with anticipated mitigation measures associated with each route identified below.

4.3.1 HAULAGE ROUTE - VIA CHINCHILLA - WONDAI ROAD

For the purposes of the analysis, the below route has been thoroughly investigated using data available online and through the information received from the proponent. The investigation excludes the works associated with the Gordonbrook Road / Pedersons Road intersection given that such is addressed in Section 4.3.

Route A (20.85km): | Site Access | ⇨ Pedersons Road ⇨ Memerambi - Gordonbrook Road (northbound) ⇨ Chinchilla Wondai Road (eastbound) ⇨ | Bunya Highway / Chinchilla Wondai Road intersection |

Site Access

It is noted that the formation of Pedersons Road between the site access and the Memerambi - Gordonbrook Road / Pedersons Road intersection will be upgraded to conform with the geometric requirements of a rural zone roadway comprising of an 8 metre wide formation, with a 6.5 metre wide seal providing 2x 3m wide lanes. A functional layout of the proposed access with respect to the new profile of Pedersons Road is shown in Figure 4.5, with swept paths for a Truck and Dog combination vehicle negotiating the access shown in Figure 4.6.



Figure 4.5: Site Access intersection with Pedersons Road
(Functional Layout)



Truck + Dog [3 axle truck + 4 axle dog combination] Up to 19m
(Common Heavy Vehicle Weight Combination) (MTR)

Tractor Width	: 2500	Lock to Lock Time	: 6.0	Vehicle body Clearance (500m)	: [Green Line]
Trailer Width	: 2500	Steering Angle	: 17.2	Vehicle Swept Path Forward Envelope	: [Grey Area]
Tractor Track	: 2500	Articulating Angle	: 70.0	Vehicle Swept Path Reverse Envelope	: [Yellow Area]
Trailer Track	: 2500				

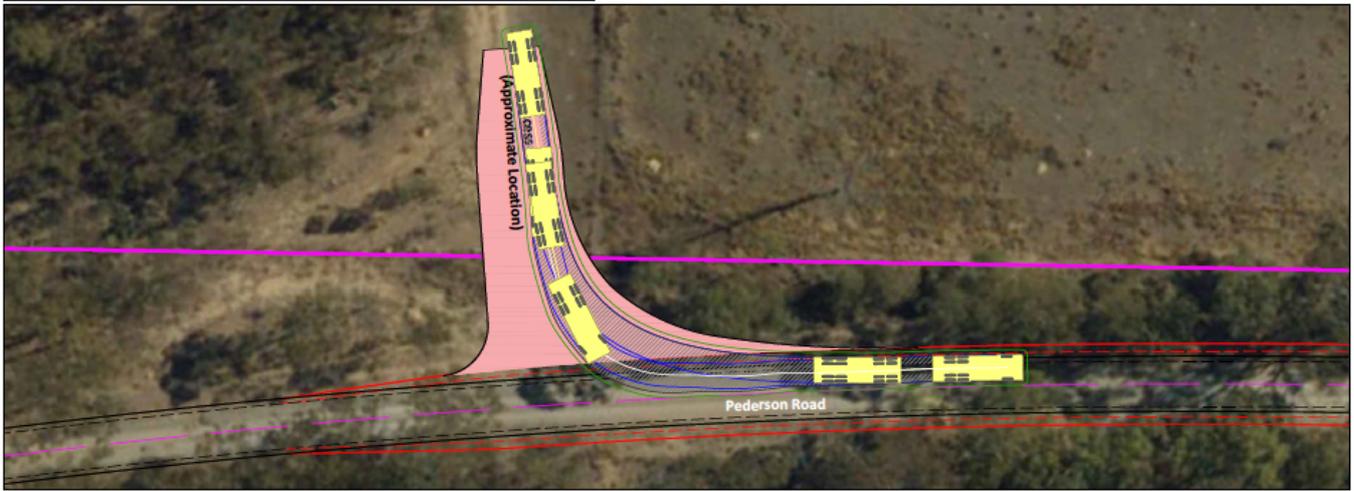


Figure 4.6: Swept Path Analysis
(Site Access intersection with Pedersons Road)

Pederson Road (Critical Turn @ J Hunter Road)

As noted Pedersons Road will be widened to conform with the rural road profile suitable for the anticipated demand of the subject site. As shown below in Figure 4.7, the formation of the roadway around the bend at the J Hunter Road intersection will allow the design vehicles to negotiate the bend without giving way to opposing traffic.

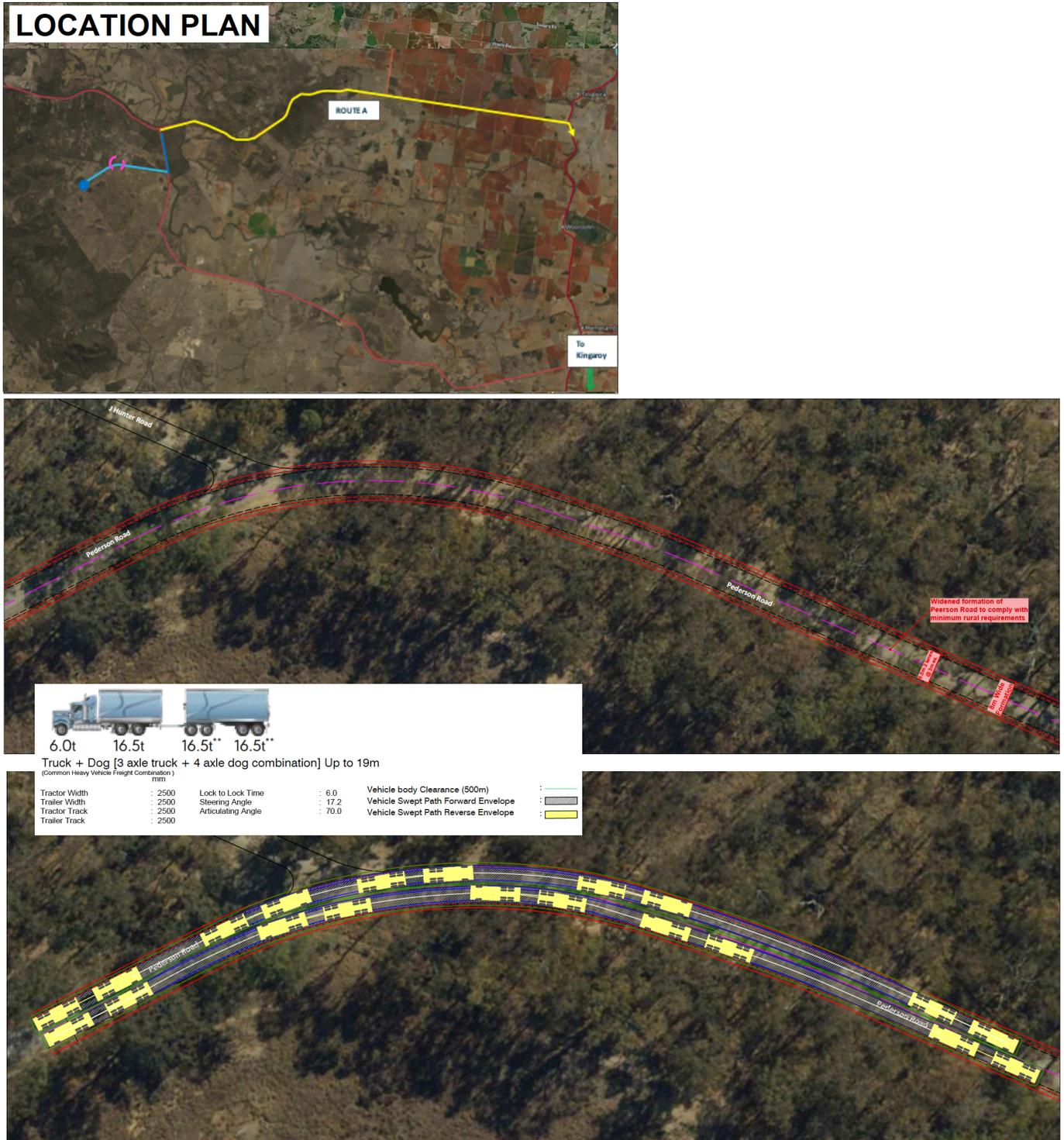


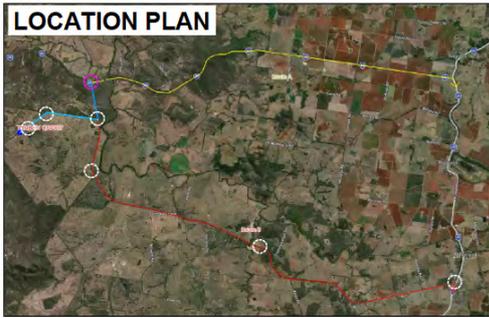
Figure 4.7: Pedersons Road / J Hunter Road
(Functional Layout)

Memerambi - Gordonbrook Road / Chinchilla - Wondai Road intersection

Given the increase in turning demand at the Memerambi - Gordonbrook Road / Chinchilla - Wondai Road intersection it is anticipated that an upgrade of the existing geometry to provide basic intersection treatments is warranted generally as shown below in Figure 4.8, with swept path for a truck and dog combination vehicle shown in Figure 4.9.



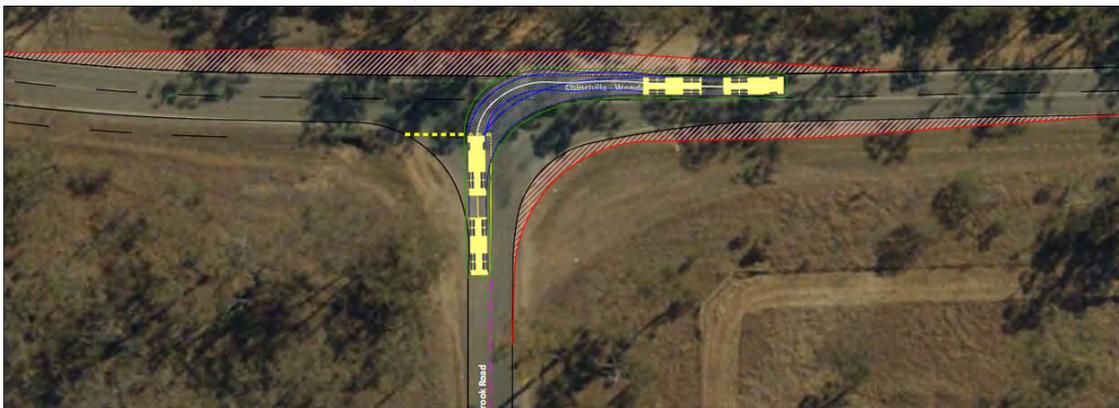
Figure 4.8: Chinchilla - Wondai Road / Memerambi - Gordonbrook Road intersection
(Functional Layout)



6.0t 16.5t 16.5t** 16.5t**

Truck + Dog [3 axle truck + 4 axle dog combination] Up to 19m
(General Heavy Vehicle Freight combination)

Tractor Width	: 2500	Lock to Lock Time	: 6.0	Vehicle body Clearance (500m)	: 1000
Trailer Width	: 2500	Steering Angle	: 17.2	Vehicle Swept Path Forward Envelope	: 1000
Tractor Track	: 2500	Articulating Angle	: 70.0	Vehicle Swept Path Reverse Envelope	: 1000
Trailer Track	: 2500				



(Chinchilla - Wondai Road / Memerambi - Gordonbrook Road intersection)

4.4 Pavement Impact Assessment and Mitigation

The assessment of potential pavement impacts of the project involves a comparison between the existing pavement loading ESAs and the estimated increase in ESAs generated by additional heavy vehicles associated with the proposed haulage operations.

Table 4.3 show the assumed configuration of the design haulage vehicle, as well as the average loaded and unloaded ESAs/HV values as well as SAR4 and SAR5 values for the vehicle configurations (noting the assumption that the vehicles will travel from the quarry fully loaded and return unloaded). The ESAs/HV values for the pavement impact calculations along with the Council controlled road have been calculated from first principals assuming the adoption of Higher Mass Limits (HML), with the relevant calculations included for reference as Appendix B.

Table 4.3: Assumed Vehicle Configurations and SAR4/SAR5 Values

Vehicle Class	Vehicle Configuration	SAR4		SAR5		Payload
		Unloaded	Loaded	Unloaded	Loaded	
Articulated Vehicle (Class 9 - 6 axle)		0.51	4.95	0.41	5.61	26.5
PBS Truck + Dog (Class 9 - 7 axle)		0.51	4.95	0.41	5.61	31.0

As demonstrated in Appendix B, the results of the analysis indicate that the additional heavy vehicle movements associated with the proposed road haulage operations are expected to lead to an increase in pavement loadings along sections of each the transport route investigated. As such pavement impact contribution calculations were undertaken using the DTMR marginal cost method. This method is accepted as the standard methodology of assessment of State controlled roads.

5 Road Safety

5.1 Road Crash History Review

Crash data sourced from Queensland Globe indicates that there were incidents recorded on Memerambi - Gordonbrook Road and Chinchilla - Wondai Road along the investigated transportation route in the past five years (2019-2024).

As shown in Figures 2.10 and 2.11, the severity of the incidents in recent years range from fatal to minor injury. It is noted that the fatal incidents identified are on Chinchilla - Wondai Road, on sections where the formation of the road is fully sealed.

As shown in Figure 2.12, desktop review of the roadway at the locations of the two of fatal incidents does not indicate geometry to be a primary contributor to the incidents on the basis that the approach in either direction is relatively straight and flat. Nevertheless, a safety audit of each road section is considered to be warranted along each route to determine if any further mitigation is required to improve on road safety.

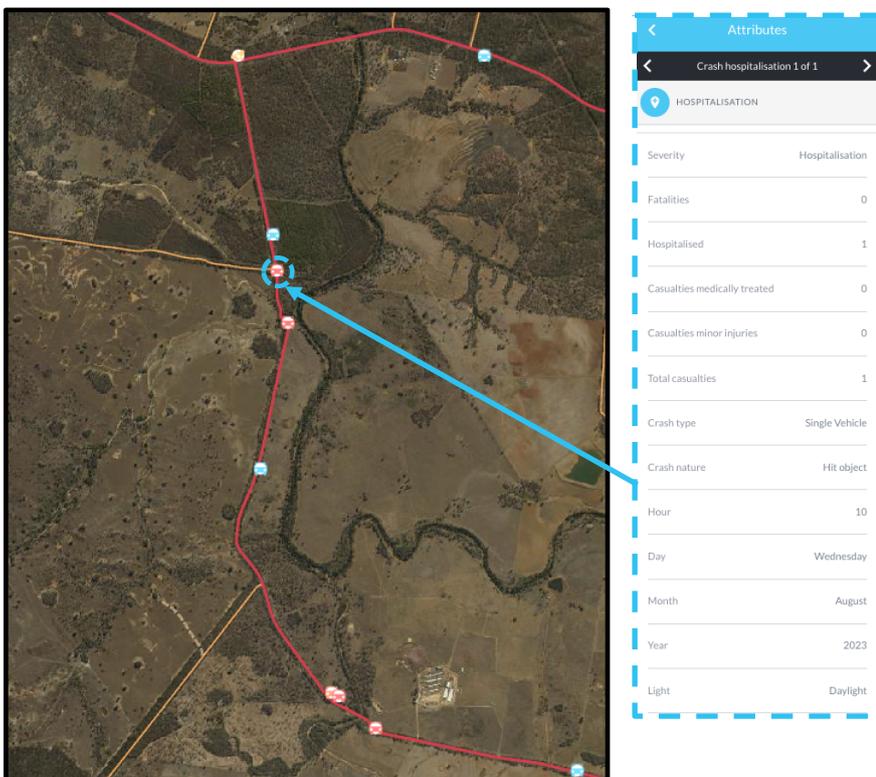


Figure 2.10: Memerambi - Gordonbrook Road (Pedersens Road to Chinchilla - Wondai Road) (Crash Investigation (2019 - 2024))



Figure 2.11: Chinchilla - Wondai Road, Crash Investigation (2019 - 2014)



Figure 2.12: Chinchilla - Wondai Road, Crash Investigation (Fatal Incident Locations A & B)

5.2 Intersection Risk Mitigation Measures

The proposed haulage activity will result in a modest increase in heavy vehicle movements through the local road network, primarily at the Memerambi–Gordonbrook Road / Chinchilla–Wondai Road intersection and the Pedersens Road / Memerambi–Gordonbrook Road intersection. The operational demand equates to approximately 26 return trips per day, with a peak hour demand of approximately 2 trips. The haulage fleet comprises either an articulated vehicle (AV) or truck and dog combination, both operating within the applicable DTMR and NHVR mass limits.

A road safety risk evaluation has been undertaken for the affected road sections, and the outcome is that the existing road environment is generally suitable to accommodate the forecast increase in heavy vehicle traffic without introducing an unacceptable change in safety risk. However, it is acknowledged that the additional heavy vehicle turning movements at the above intersections will increase conflict exposure (particularly for turning, deceleration and acceleration manoeuvres), and therefore represents the primary location where the operational safety risk could be marginally elevated.

In accordance with the DTMR Guide to Traffic Impact Assessment (Section 9 – Road Safety), the mitigation approach has been targeted at the source of the potential risk. To address the increased heavy vehicle turning demand and reduce the likelihood and consequence of turning-related crashes, as discussed in Section 4, both intersections will be formalised to include basic turn treatments, providing improved delineation and separation of turning movements from through traffic. This treatment is considered an appropriate and proportionate mitigation response to ensure that road safety is not significantly worsened as a result of the proposed haulage activity.

6 Conclusions

6.1 Traffic Impacts

Based on the relatively low background traffic volumes and the relatively small increase in traffic numbers (up to a maximum of 52 vpd for the most critical scenario), it is anticipated that the proposed haulage operations will have a relatively small impact on the traffic operation along the SCR. However, critical improvements are recommended along sections of each route to mitigate the risk of traffic incidents due to the increase in demand on the local roads.

These improvement works include:

- Formalising the site access of Pedersons Road;
- Upgrade of Pedersons Road to a 8m wide Rural Road Profile in accordance with SBRC requirements;
- Formalising of the Memarambi - Gordonbrook Road / Pedersons Road intersection;
- Improved Geometry of the Chinchilla Wondai Road / Memarambi - Gordonbrook Road intersection.

6.2 Pavement Impacts

An assessment of the expected pavement impacts to the relevant routes was undertaken for the proposed haulage operation using Articulated Vehicle and Truck and Dog vehicle combination.

This assessment identified that the heavy vehicle movements associated with the proposed road haulage operations are expected to lead to significant increases in pavement loadings on the identified sections along each Route. As such, pavement impact contribution calculations were undertaken for the proposed increase using the DTMR Marginal Cost Methodology, with the following contribution values calculated to be recommended to offset the identified pavement impacts of the proposed road haulage operations along each route:

Table 6.1: Recommended project pavement contributions (route analysis)

Route Section	Vehicle Configuration	Haulage Volume (tonnes)	Jurisdiction	Contribution Calculation Method	Cents / tonne	Contribution
Route A	Truck + Dog & AV	100,000	DTMR	Marginal Cost	45.82	\$45,819.15

Based on the above, with a suitable road contributions to offset the expected increased maintenance and rehabilitation requirements, the additional traffic generated by the Project by the proposed haulage operations will have a minor impact on the adjacent road network.

It is noted that the applicant proposes to upgrade Pedersons Road between the site access and the Memarambi - Gordonbrook Road / Pedersons Road intersection. Given that the intersection will form part of the State controlled road network the contributions applied for the wider road network as identified in Table 6.1, should be adjusted to consider the works involved with the upgrade and maintenance of the new intersection.

Appendix B: Marginal Cost Calculation

Pavement Marginal Cost Impact Assessment
TUMBLIN QUARRY - (100k tonnes / p.a.)

DATA YEAR 2024
 Growth (%) 3
VEHICLE CLASSES ASSESSED
 - 50.51 3 Axle Truck + 4 Axle Dog (PBS - L1) Combination (CLASS 9 VEHICLE)
 - 42.51 Semi (CLASS 9 VEHICLE)

41.700 km (Total TKM Drive)
 20.850 km (Route Distance)

ASSESSMENT PERIOD		2026
Bruc Highway	2.9	
All Others	3.2	

CLASS 9 - Articulated Vehicle (6 axle)			
SAR4 Loaded:	4.95	SAR5 Loaded:	5.61
SAR4 Unloaded:	0.51	SAR5 Unloaded:	0.41
CLASS 9 - PBS 3Truck + 4Dog Combination			
SAR4 Loaded:	4.95	SAR5 Loaded:	5.61
SAR4 Unloaded:	0.51	SAR5 Unloaded:	0.41

Cents / tonne	45.82
Cents / t / km driven	2.20

Class 9	TRUCK PAYLOAD:	26.5	tonnes	70%	70,000	2,642
Class 10	TRUCK PAYLOAD:	31	tonnes	30%	30,000	968
TOTAL HAULAGE:				100,000	tonnes	3,610
TOTAL CONTRIBUTION						\$45,819.15

Loaded / Unloaded	ROAD NAME	ROAD SECTION ID	DIRECTION	SURFPT / CHANG	CARRIAGEWAY CODE	CHANGING	SEGMENT LENGTH (KM)	PAVEMENT TYPE	MARGINAL COST	DAMAGE EXPONENT	EXIST IV				DEV. LOAD STATUS	DEV. PERCENT (CLASS 9 & 10)	%	DEV	TOTAL VEHICLE HAULAGE (Tonnes/Vehicle)	ROUTE	ROUTE	REAL DETAIL		
											AVG CLASS 9 (100% OF CLASS 9)	AVG (SHOWING OVERSTRESS)	SAR	VOLTE									SARIV	
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	23.5	23.6	0.1	UN	13.67	N/A	48	51	163	18587	59478	3609	LOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	23.6	23.7	0.1	UN	13.67	N/A	48	51	163	18587	59478	3609	LOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	18.8	18.9	0.1	GN	13.69	4	48	51	163	18587	59478	3609	LOADED	17866	30.04%	\$248.16	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	23.7	23.8	0.1	GN	6.7	4	48	51	163	18587	59478	3609	LOADED	17866	30.04%	\$119.70	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	23.8	23.9	0.1	GN	6.7	4	48	51	163	18587	59478	3609	LOADED	17866	30.04%	\$119.70	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	23.9	24.0	0.1	GN	6.7	4	48	51	163	18587	59478	3609	LOADED	17866	30.04%	\$119.70	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	24.0	24.1	0.1	GN	6.7	4	48	51	163	18587	59478	3609	LOADED	17866	30.04%	\$119.70	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	24.1	24.2	0.1	GN	4.32	4	48	51	163	18587	59478	3609	LOADED	17866	30.04%	\$77.18	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	24.2	24.3	0.1	GN	13.67	N/A	48	51	163	18587	59478	3609	LOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	24.3	24.4	0.1	GN	13.67	N/A	48	51	163	18587	59478	3609	LOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	24.4	24.5	0.1	GN	13.67	N/A	48	51	163	18587	59478	3609	LOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	24.5	24.6	0.1	GN	13.67	N/A	48	51	163	18587	59478	3609	LOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	24.6	24.7	0.1	GN	13.67	N/A	48	51	163	18587	59478	3609	LOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	24.7	24.8	0.1	GN	13.67	N/A	48	51	163	18587	59478	3609	LOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	24.8	24.9	0.1	GN	13.67	N/A	48	51	163	18587	59478	3609	LOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	24.9	25.0	0.1	GN	13.67	N/A	48	51	163	18587	59478	3609	LOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	GAZETTE	1	1	25	25.1	0.1	GN	13.67	N/A	48	51	163	18587	59478	3609	LOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD - AT CHI	4206	GAZETTE	1	1	25.1	25.15	0.05	UN	13.67	N/A	48	51	163	18587	59478	3609	LOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	23.5	23.6	0.1	UN	13.67	N/A	43	46	146	16651	53283	3609	UNLOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	23.6	23.7	0.1	UN	13.67	N/A	43	46	146	16651	53283	3609	UNLOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	18.8	18.9	0.1	GN	13.69	4	43	46	146	16651	53283	3609	UNLOADED	1841	3.45%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	23.7	23.8	0.1	GN	6.7	4	43	46	146	16651	53283	3609	UNLOADED	1841	3.45%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	23.8	23.9	0.1	GN	6.7	4	43	46	146	16651	53283	3609	UNLOADED	1841	3.45%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	23.9	24.0	0.1	GN	6.7	4	43	46	146	16651	53283	3609	UNLOADED	1841	3.45%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	24.0	24.1	0.1	GN	6.7	4	43	46	146	16651	53283	3609	UNLOADED	1841	3.45%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	24.1	24.2	0.1	GN	4.32	4	43	46	146	16651	53283	3609	UNLOADED	1841	3.45%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	24.2	24.3	0.1	GN	13.67	N/A	43	46	146	16651	53283	3609	UNLOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	24.3	24.4	0.1	GN	13.67	N/A	43	46	146	16651	53283	3609	UNLOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	24.4	24.5	0.1	GN	13.67	N/A	43	46	146	16651	53283	3609	UNLOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	24.5	24.6	0.1	GN	13.67	N/A	43	46	146	16651	53283	3609	UNLOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	24.6	24.7	0.1	GN	13.67	N/A	43	46	146	16651	53283	3609	UNLOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	24.7	24.8	0.1	GN	13.67	N/A	43	46	146	16651	53283	3609	UNLOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	24.8	24.9	0.1	GN	13.67	N/A	43	46	146	16651	53283	3609	UNLOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	24.9	25.0	0.1	GN	13.67	N/A	43	46	146	16651	53283	3609	UNLOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD	4206	KAISNT GAZETTE	1	1	25	25.1	0.1	GN	13.67	N/A	43	46	146	16651	53283	3609	UNLOADED	0	0.00%	0	N/A	sealed	unsealed
Other	MEMERAMI - GORDONBROOK ROAD - AT CHI	4206	KAISNT GAZETTE	1	1	25.1	25.15	0.05	UN	13.67	N/A	43	46	146	16651	53283	3609	UNLOADED	0	0.00%	0	N/A	sealed	unsealed
Other	CHINCHILLA - WONDARI ROAD - Memerambi	426	GAZETTE	1	1	132.6	132.7	0.1	GN	8.21	4	70	74	238	27106	86739	3609	LOADED	17866	20.60%	\$146.68	N/A	sealed	unsealed
Other	CHINCHILLA - WONDARI ROAD	426	GAZETTE	1	1	132.7	132.8	0.1	GN	9.76	4	70	74	238	27106	86739	3609	LOADED	17866	20.60%	\$174.27	N/A	sealed	unsealed
Other	CHINCHILLA - WONDARI ROAD	426	GAZETTE	1	1	132.8	132.9	0.1	GN	7.4	4	70	74	238	27106	86739	3609	LOADED	17866	20.60%	\$133.39	N/A	sealed	unsealed
Other	CHINCHILLA - WONDARI ROAD	426	GAZETTE	1	1	132.9	133.0	0.1	GN	3.21	4	70	74	238	27106	86739	3609	LOADED	17866	20.60%	\$57.35	N/A	sealed	unsealed
Other	CHINCHILLA - WONDARI ROAD	426	GAZETTE	1	1	133	133.1	0.1	GN	8.95	4	70	74	238	27106	86739	3609	LOADED	17866	20.60%	\$159.90	N/A	sealed	unsealed
Other	CHINCHILLA - WONDARI ROAD	426	GAZETTE	1	1	133.1	133.2	0.1	GN	7.87	4	70	74	238	27106	86739	3609	LOADED	17866	20.60%	\$140.60	N/A	sealed	unsealed
Other	CHINCHILLA - WONDARI ROAD	426	GAZETTE	1	1	133.2	133.3	0.1	GN	7.83	4	70	74	238	27106	86739	3609	LOADED	17866	20.60%	\$139.89	N/A	sealed	unsealed
Other	CHINCHILLA - WONDARI ROAD	426	GAZETTE	1	1	133.3	133.4	0.1	GN	9.94	4	70	74	238	27106	86739	3609	LOADED	17866	20.60%	\$166.24	N/A	sealed	unsealed
Other	CHINCHILLA - WONDARI ROAD	426	GAZETTE	1	1	133.4	133.5	0.1	GN	10.69	4	70	74	238	27106	86739	3609	LOADED	17866	20.60%	\$190.99	N/A	sealed	unsealed
Other	CHINCHILLA - WONDARI ROAD	426	GAZETTE	1	1	133.5	133.6	0.1	GN	7.96	4	70	74	238	27106	86739	3609	LOADED	17866	20.60%	\$142.21	N/A	sealed	unsealed
Other	CHINCHILLA - WONDARI ROAD	426	GAZETTE	1	1	133.6	133.7	0.1	MC	N/A	4	70												

Appendix C: Response to State Code 6

State code 6: Protection of state transport networks

Table 6.2 Development in general

Performance outcomes	Acceptable outcomes	Response
Network impacts		
PO1 Development does not compromise the safety of users of the state-controlled road network.	No acceptable outcome is prescribed.	COMPLIES WITH PO
PO2 Development does not adversely impact the structural integrity or physical condition of a state-controlled road or road transport infrastructure.	No acceptable outcome is prescribed.	COMPLIES WITH PO
PO3 Development ensures no net worsening of the operating performance the state-controlled road network.	No acceptable outcome is prescribed.	COMPLIES WITH PO
PO4 Traffic movements are not directed onto a state-controlled road where they can be accommodated on the local road network.	No acceptable outcome is prescribed.	COMPLIES WITH PO
PO5 Development involving haulage exceeding 10,000 tonnes per year does not damage the pavement of a state-controlled road.	No acceptable outcome is prescribed.	REFER TO TRAFFIC REPORT
PO6 Development does not require a new railway level crossing.	No acceptable outcome is prescribed.	NOT APPLICABLE, THE DEVELOPMENT IS NOT WITHIN ACCESSIBLE PROXIMITY OF A RAILWAY
PO7 Development does not adversely impact the operating performance of an existing railway crossing.	No acceptable outcome is prescribed.	NOT APPLICABLE, THE DEVELOPMENT IS NOT WITHIN ACCESSIBLE PROXIMITY OF A RAILWAY
PO8 Development does not adversely impact on the safety of an existing railway crossing.	No acceptable outcome is prescribed.	NOT APPLICABLE, THE DEVELOPMENT IS NOT WITHIN ACCESSIBLE PROXIMITY OF A RAILWAY

PO9 Development is designed and constructed to allow for on-site circulation to ensure vehicles do not queue in a railway crossing.	No acceptable outcome is prescribed.	NOT APPLICABLE, THE DEVELOPMENT IS NOT WITHIN ACCESSIBLE PROXIMITY OF A RAILWAY
PO10 Development does not create a safety hazard within the railway corridor.	No acceptable outcome is prescribed.	NOT APPLICABLE, THE DEVELOPMENT IS NOT WITHIN ACCESSIBLE PROXIMITY OF A RAILWAY
PO11 Development does not adversely impact the operating performance of the railway corridor.	No acceptable outcome is prescribed.	NOT APPLICABLE, THE DEVELOPMENT IS NOT WITHIN ACCESSIBLE PROXIMITY OF A RAILWAY
PO12 Development does not interfere with or obstruct the railway transport infrastructure or other rail infrastructure.	No acceptable outcome is prescribed.	NOT APPLICABLE, THE DEVELOPMENT IS NOT WITHIN ACCESSIBLE PROXIMITY OF A RAILWAY
PO13 Development does not adversely impact the structural integrity or physical condition of a railway corridor or rail transport infrastructure.	No acceptable outcome is prescribed.	NOT APPLICABLE, THE DEVELOPMENT IS NOT WITHIN ACCESSIBLE PROXIMITY OF A RAILWAY
Stormwater and overland flow		
PO14 Stormwater run-off or overland flow from the development site does not create or exacerbate a safety hazard for users of a state transport corridor or state transport infrastructure.	No acceptable outcome is prescribed.	NOT APPLICABLE TO TRAFFIC ASSESSMENT
PO15 Stormwater run-off or overland flow from the development site does not result in a material worsening of operating performance of a state transport corridor or state transport infrastructure.	No acceptable outcome is prescribed.	NOT APPLICABLE TO TRAFFIC ASSESSMENT
PO16 Stormwater run-off or overland flow from the development site does not interfere with the structural integrity or physical condition of the state transport corridor or state transport infrastructure.	No acceptable outcome is prescribed.	NOT APPLICABLE TO TRAFFIC ASSESSMENT
PO17 Development associated with a state-controlled road or road transport infrastructure ensures that stormwater is lawfully discharged.	AO17.1 Development does not create any new points of discharge to a state transport corridor or state transport infrastructure. AND	NOT APPLICABLE TO TRAFFIC ASSESSMENT

	<p>AO17.2 Development does not concentrate flows to a state transport corridor.</p> <p>AND</p> <p>AO17.3 Stormwater run-off is discharged to a lawful point of discharge.</p> <p>AND</p> <p>AO17.4 Development does not worsen the condition of an existing lawful point of discharge to a state transport corridor or state transport infrastructure.</p>	
Flooding		
<p>PO18 Development does not result in a material worsening of flooding impacts within a state transport corridor or state transport infrastructure</p>	<p>For a state-controlled road or road transport infrastructure, all of the following apply:</p> <p>AO18.1 For all flood events up to 1% annual exceedance probability, development ensures there are negligible impacts (within +/- 10mm) to existing flood levels within a state transport corridor.</p> <p>AND</p> <p>AO18.2 For all flood events up to 1% annual exceedance probability, development ensures there are negligible impacts (up to a 10% increase) to existing peak velocities within a state transport corridor.</p>	<p>NOT APPLICABLE TO TRAFFIC ASSESSMENT</p>

	<p>AND</p> <p>AO18.3 For all flood events up to 1% annual exceedance probability, development ensures there are negligible impacts (up to a 10% increase) to existing time of submergence of a state transport corridor.</p> <p>No acceptable outcome is prescribed for a railway corridor or rail transport infrastructure.</p>	
Drainage infrastructure		
<p>PO19 Drainage infrastructure does not create a safety hazard in a state transport corridor.</p>	<p>For a state-controlled road environment, both of the following apply:</p> <p>AO19.1 Drainage infrastructure associated with, or in a state-controlled road is wholly contained within the development site, except at the lawful point of discharge.</p> <p>AND</p> <p>AO19.2 Drainage infrastructure can be maintained without requiring access to a state transport corridor.</p> <p>For a railway environment both of the following apply:</p>	<p>NOT APPLICABLE TO TRAFFIC ASSESSMENT</p>

	<p>AO19.3 Drainage infrastructure associated with a railway corridor or rail transport infrastructure is wholly contained within the development site.</p> <p>AND</p> <p>AO19.4 Drainage infrastructure can be maintained without requiring access to a state transport corridor.</p>	
PO20 Drainage infrastructure associated with, or in a state-controlled road or road transport infrastructure is constructed and designed to ensure the structural integrity and physical condition of existing drainage infrastructure and the surrounding drainage network is maintained.	No acceptable outcome is prescribed.	NOT APPLICABLE TO TRAFFIC ASSESSMENT
Planned upgrades		
PO21 Development does not impede delivery of planned upgrades of state transport infrastructure.	No acceptable outcome is prescribed.	COMPLIES WITH PO

Table 6.3 Public passenger transport infrastructure and active transport

Performance outcomes	Acceptable outcomes	Response
PO22 Development does not damage or interfere with public passenger transport infrastructure, active transport infrastructure or public passenger services.	No acceptable outcome is prescribed.	COMPLIES WITH PO
PO23 Development does not compromise the safety of public passenger transport infrastructure, public passenger services and active transport infrastructure.	No acceptable outcome is prescribed.	COMPLIES WITH PO

PO24 Development does not adversely impact the operating performance of public passenger transport infrastructure, public passenger services and active transport infrastructure.	No acceptable outcome is prescribed.	COMPLIES WITH PO
PO25 Development does not adversely impact the structural integrity or physical condition of public passenger transport infrastructure and active transport infrastructure.	No acceptable outcome is prescribed.	COMPLIES WITH PO
PO26 Upgraded or new public passenger transport infrastructure and active transport infrastructure is provided to accommodate the demand for public passenger transport and active transport generated by the development.	No acceptable outcome is prescribed.	NOT APPLICABLE, A NEW OR UPGRADED PUBLIC TRANSPORT INFRASTRUCTURE IS NOT PROPOSED.
PO27 Development is designed to ensure the location of public passenger transport infrastructure prioritises and enables efficient public passenger services.	No acceptable outcome is prescribed.	COMPLIES WITH PO
PO28 Development enables the provision or extension of public passenger services, public passenger transport infrastructure and active transport infrastructure to the development and avoids creating indirect or inefficient routes for public passenger services.	No acceptable outcome is prescribed.	COMPLIES WITH PO
PO29 New or modified road networks are designed to enable development to be serviced by public passenger services.	AO29.1 Roads catering for buses are arterial or sub-arterial roads, collector or their equivalent. AND AO29.2 Roads intended to accommodate buses are designed and constructed in accordance with: Road Planning and Design Manual, 2nd Edition, Volume 3 – Guide to Road Design; Department of Transport and Main Roads;	COMPLIES WITH PO

	<p>Supplement to Austroads Guide to Road Design (Parts 3, 4-4C and 6), Department of Transport and Main Roads; Austroads Guide to Road Design (Parts 3, 4-4C and 6); Austroads Design Vehicles and Turning Path Templates; Queensland Manual of Uniform Traffic Control Devices, Part 13: Local Area Traffic Management and AS 1742.13-2009 Manual of Uniform Traffic Control Devices – Local Area Traffic Management;</p> <p>AND</p> <p>AO29.3 Traffic calming devices are not installed on roads used for buses in accordance with section 2.3.2 Bus Route Infrastructure, Public Transport Infrastructure Manual, Department of Transport and Main Roads, 2015.</p>	
PO30 Development provides safe, direct and convenient access to existing and future public passenger transport infrastructure and active transport infrastructure.	No acceptable outcome is prescribed.	COMPLIES WITH PO
PO31 On-site vehicular circulation ensures the safety of both public passenger transport services and pedestrians.	No acceptable outcome is prescribed.	COMPLIES WITH PO
PO32 Taxi facilities are provided to accommodate the demand generated by the development.	No acceptable outcome is prescribed.	NOT APPLICABLE, DEDICATED TAXI FACILITIES ARE NOT CONSIDERED TO BE NECESSARY.
PO33 Facilities are provided to accommodate the demand generated by the development for community transport services, courtesy transport services, and booked hire services other than taxis.	No acceptable outcome is prescribed.	NOT APPLICABLE

<p>PO34 Taxi facilities are located and designed to provide convenient, safe and equitable access for passengers.</p>	<p>AO34.1 A taxi facility is provided parallel to the kerb and adjacent to the main entrance.</p> <p>AND</p> <p>AO34.2 Taxi facilities are designed in accordance with: AS2890.5–1993 Parking facilities – on-street parking and AS1428.1–2009 Design for access and mobility – general requirements for access – new building work; AS1742.11–1999 Parking controls – manual of uniform traffic control devices AS/NZS 2890.6–2009 Parking facilities –off street parking for people with disabilities; Disability standards for accessible public transport 2002 made under section 31(1) of the Disability Discrimination Act 1992; AS/NZS 1158.3.1 – Lighting for roads and public spaces, Part 3.1: Pedestrian area (category P) lighting – Performance and design requirements; Chapter 7 Taxi Facilities, Public Transport Infrastructure Manual, Department of Transport and Main Roads, 2015.</p>	<p>NOT APPLICABLE</p>
<p>PO35 Educational establishments are designed to ensure the safe and efficient operation of public passenger services, pedestrian and cyclist access and active transport infrastructure.</p>	<p>AO35.1 Educational establishments are designed in accordance with the provisions of the Planning for Safe Transport Infrastructure at Schools, Department of Transport and Main Roads, 2011.</p>	<p>NOT APPLICABLE, THE PROPOSAL IS NOT FOR AN EDUCATIONAL USE</p>