

Proposed Residential Development 9 Kyle Street, Bridgeman Downs

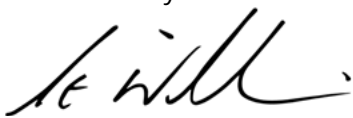
Traffic Impact Assessment
For Oxmar Properties

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Revision	Date	Description	Author	Verifier	Approver
DRAFT	05/05/2023	DRAFT	CT	AG	
RevA	02/06/2023	Client Review	CT	DN	SW
RevB	05/12/2023	Updated Plans and Reduced Yield	DN	SW	SW
RevC	06/12/2023	Updated Structure Plan	DN	DN	DN

Authorised by:



Position:
RPEQ No. 06417

1. Introduction

Lambert & Rehbein (SEQ) Pty Ltd has been commissioned by Oxmar Properties to undertake a Traffic Impact Assessment for a proposed residential development at 9 Kyle Street, Bridgeman Downs QLD 4035. The site is formally described as Lot 4 on RP55318 and has a total area of 2.02ha.

The overall intent of the proposed development is to subdivide one (1) lot into 30 residential lots. The proposed site layout, prepared by Veris Australia Pty Ltd is attached in **Appendix A**.

This report has been undertaken to assess the potential impact that the proposed development could have on the external road network surrounding the site, and is set out as follows:

Section 2 discusses the existing land use and traffic arrangements in the vicinity of the proposed development site.

Section 3 provides details of the proposed development, including an assessment of the site layout, access, and servicing arrangements.

Section 4 displays the calculations and assumptions used to establish the forecast generation and distribution of the proposed development traffic.

Section 5 summarises the key outcomes of the traffic investigations.

A Brisbane City Council Transport, access, parking and servicing code response has also been completed and is attached in **Appendix B**.

Lambert & Rehbein has derived the data in this report primarily from the data provided by the Client, and a detailed desktop investigation undertaken in April 2023.

This report has been prepared on behalf of and for the exclusive use of the client and is subject to and issued in connection with the provisions of the agreement between Lambert & Rehbein and the Client. Lambert & Rehbein accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report by any third party.

2. CONTEXT OF THE DEVELOPMENT SITE

This section of the report describes the context of the proposed development and includes a description of the existing road network, adjacent land uses, and existing public transport facilities servicing the site.

2.1 DEVELOPMENT SITE

The development site is located at 9 Kyle Street, Bridgeman Downs QLD 4035, formally described as Lot 4 on RP55318, and has a total area of 2.02ha. The site is currently occupied by one (1) residential dwelling that gains access to the external road network via Kyle Street. The development site is currently zoned as 'Emerging Community' as per Brisbane City Council's City Plan 2014, surrounded by residential development to the north and east, and 'Rural' zoned lots to the south and west.

The development site in context of the surrounding road network is shown below in **Figure 2-1**.



Figure 2-1 Development Site Location

2.2 EXISTING ROAD NETWORK

Review of the land use, road condition, intersection characteristics, public transport facilities, pedestrian access, and cyclist provisions surrounding the proposed development site has been undertaken in preparation of this assessment. This was completed to collect information about the road network operation, safety characteristics, public transport network and specific network / land-use factors potentially of influence on the proposed development.

2.2.1 KYLE STREET

Kyle Street connects with the northern frontage of the development site and is classified as a 'Neighbourhood Road' under the jurisdiction of BCC. The general form of Kyle Street can be seen below in **Figure 2-2** and was found to have the following characteristics at the site frontage:

- Two-way, two-lane road;
- Pavement width of approximately 7.5m;
- Kerb and channel provided on both sides of the road;
- No paved pedestrian pathways on either side of the road;
- No dedicated on-street cycle lanes; and
- No posted speed limit, assume 50km/hr.



Figure 2-2 Kyle Street (Facing South)

2.2.2 ROGHAN ROAD

Kyle Street intersects with Roghan Road which runs east-west, classified as a 'Neighbourhood Road' under the jurisdiction of BCC. The general form of Roghan Road can be seen below in **Figure 2-3** and was found to have the following characteristics at the site frontage:

- Two-way, two-lane road with an additional turn lane provided at the Roghan Road / Carseldine Road intersection;
- Pavement width of approximately 11.5m;
- Kerb and channel provided on both sides of the road;
- Paved pedestrian pathways on both sides of the road;
- No dedicated on-street cycle lanes; and
- Posted speed limit of 60km/hr.



Figure 2-3 Roghan Road (Facing West)

2.3 PUBLIC TRANSPORT

There are currently no existing Translink bus stops within a typical 400m walking radius of the development site's frontage to Kyle Street, as shown in **Figure 2-4**. The closest bus stop service is located to the east of the development site close to the Roghan Road intersection with Gympie Road. This stop is less than 800m walk. To appropriately service the development and adjacent catchment, it may be appropriate for Translink to locate a new bus stop at the western end of Roghan Road, subject to the assessment of potential development densities and future demands.

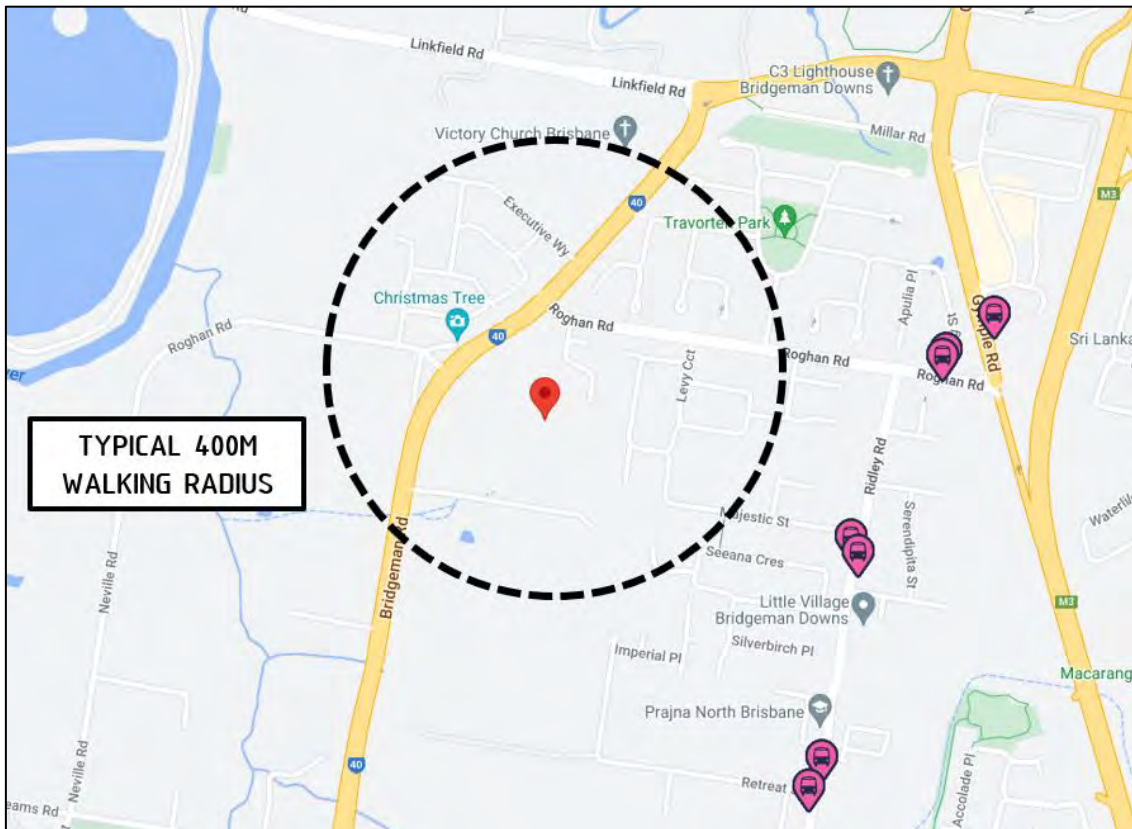


Figure 2-4 Public Transport Services

2.4 ACTIVE TRANSPORT

As noted in **Section 2.2**, pedestrian pathways are provided north of the development site along Roghan Road, connecting pedestrians to the surrounding network. As per BCC mapping shown in **Figure 2-5**, there is mapped a secondary cycle route located west of the development site along Bridgeman Road and Carseldine Road, and a primary cycle route located east along Ridley Road. The mapped cycle route and the planned east-west link is ultimately achievable through the combination of concrete pathways and the indicative internal neighbourhood road network.



Figure 2-5 Cycle Routes

2.5 FUTURE INFRASTRUCTURE UPGRADES

The following resources were reviewed to determine if there are any future infrastructure upgrades within close proximity (500m) of the development site:

- BCC's Local Government Infrastructure Plan (LGIP);
- Queensland Transport and Roads Investment Program (QTRIP); and
- Queensland Government's Development Assessment Mapping System (DAMS).

A review of these resources found no future infrastructure upgrades within close proximity (500m) of the development site.

2.6 CRASH HISTORY

An investigation of the road crash history in the immediate vicinity of the subject site has been undertaken using publicly available crash data from the Queensland Government's mapping service *Queensland Globe*. A review of crash history data found five (5) crashes identified northeast of the development site within the last five (5) years. The location of these crashes can be seen in **Figure 2-6** and are further described in **Table 2-1**.



Figure 2-6 Road Crash Locations

Table 2-1 Crash Descriptions

ID	SEVERITY	TYPE	NATURE	YEAR	CONDITIONS	CRASH DCA	DESCRIPTION	CRASH REFERENCE NUMBER
1	Hospitalisation	Single Vehicle	Hit Object	2020	Daylight	703	Off Path-Straight: Left Off Cway Hit Obj	341123
2	Hospitalisation	Multi-Vehicle	Angle	2021	Daylight	202	Veh'S Opposite Approach: Thru-Right	350257
3	Hospitalisation	Multi-Vehicle	Angle	2018	Daylight	202	Veh'S Opposite Approach: Thru-Right	331628
4	Hospitalisation	Multi-Vehicle	Rear-end	2019	Daylight	301	Veh'S Same Direction: Rear End	347521
5	Medical Treatment	Multi-Vehicle	Rear-end	2018	Daylight	301	Veh'S Same Direction: Rear End	323593

A review of the crash locations and descriptions indicates that there is no crash trend that warrants further investigation as part of this assessment. It is noted that the majority of these crashes are associated with the signals at Bridgeman Road and Rohnan Road. The through-right crashes may be

attributable to signal phasing continuing to allow filter right turns. To the extent this is considered to be an issue, the phasing could be altered to eliminate this issue.

3. DETAILS OF THE PROPOSED DEVELOPMENT

This section of the report describes the nature of the proposed development, the proposed access arrangements, servicing arrangements and on-site manoeuvrability.

3.1 PROPOSED DEVELOPMENT

The overall intent of the proposed development is to subdivide one (1) lot into 30 residential lots plus two bio-basin lots, as shown in **Figure 3-1**. The proposed site layout, prepared by Veris Australia Pty Ltd is attached in **Appendix A**.



Figure 3-1 Development Site Indicative Layout

3.2 INTERNAL ROAD NETWORK

The internal road configuration has been planned based on the adjacent road network and indicative future development works west of the site. The development site proposes to construct a 14.0m wide road, consistent with the reserve width, outlined in BCC's Infrastructure Design PSP for a 'Local Street'. We note Sovereign Drive features a 14.0m wide road reserve and is expected to align with the

development site's internal road. All lots will have direct lot access to/from the new road. The layout of the subject development has been influenced by the previous development of surrounding land including Kyle Street and Sovereign Drive.

We note BCC has previously issued an Information Request stating, '*consideration must be given to how the proposal will integrate and connect to the adjoining lots in accordance with AO18.1/PO18.1 of the Subdivision code.*' The Information Request also states, '*the proposed development should provide for road connections to the south and west to allow adjoining allotments an alternative access from a lower order road than an arterial road (Bridgeman Road).*'

As shown in **Figure 3-2**, the indicative structure plan shows a road connection to the adjoining lots west of the development site where a circuit-like local road will ultimately allow for alternative access from a lower order road than an arterial road (Bridgeman Road).



Figure 3-2 Structure Plan

We are of the view that a southern internal connection is not suitable because it will have the potential to introduce 'rat-running', increasing daily vehicle trips and impacting road safety throughout the internal local road network.

A southern connection may ultimately link with Retreat Street which is currently formed as a 'non-bus route' Neighbourhood Road carrying 1,000-3,000 vpd, with a road reserve width of approximately 15m and a seal width of approximately 7.5m as shown in the BCC PSP, Ch. 3 Road Corridor Design. A future connection would introduce additional traffic from the proposed and adjacent developments onto Retreat Street. In our view, Retreat Street would not be an appropriate form with the additional traffic associated with future land densification likely to exceed the volume (vpd) guideline referenced above; Through discussions with the client, we understand there is an intent to provide a pedestrian pathway linkage west of the development site to Bridgeman Road. We note there are paved pedestrian pathways along Bridgeman Road and there is an existing 'Secondary Cycle Route' mapped, where dedicated cycle lanes are provided on both sides of the road. In our view, this indicative linkage combined with the existing pedestrian pathway located on Sovereign Drive will ultimately satisfy PO18 of the Subdivision code as the development, will deliver a contained, sustainable, and functional community comprised of walkable, highly connected and legible neighbourhoods.

3.3 ACCESS ARRANGEMENTS

Vehicular access to the external road network will be facilitated through Kyle Street which forms an all-movement priority-controlled (Stop) intersection with Roghan Road. The proposed internal road will establish a link with Sovereign Place at the southern extent of the development.

As stated in **Section 2.2**, Roghan Road has existing pedestrian pathways on both sides of the road, facilitating walking and cycling to and from the development site. The existing verges on both sides of Kyle Street allow for pedestrian access to established dwellings along Kyle Street, Sovereign Place and to the proposed development site.

3.4 SERVICING ARRANGMENTS

The proposed internal road network is designed generally in accordance with BCC's Infrastructure Design Planning Scheme Policy. As such, the road network is expected to provide sufficient spatial requirements to accommodate a BCC Side Loading Refuse Collection Vehicle (RCV) to collect the bins at the frontages of individual lots. Refuse from all proposed lots will be able to be collected with the RCV travelling in a forward direction at all times.

4. IMPACT ASSESSMENT

This section provides details of the potential impact that the development traffic could have on the operation of the surrounding road network.

4.1 TRIP GENERATION

Additional traffic associated with the proposed development has been forecasted using the Department of Main Roads' (DTMR) Road Planning and Design Manual (RPDM). The traffic generation rates, and in / out directionality splits adopted for the analysis have been documented in **Table 4-1**.

Table 4-1 Traffic Generation Rates

LAND USE	GENERATION RATE		DIRECTIONALITY (% IN / % OUT)	
	AM Peak	PM Peak	AM Peak	PM Peak
Low Density Residential Dwellings	0.8 trips / dwelling	0.8 trips / dwelling	20% IN / 80% OUT	70% OUT / 30% IN

As such, based on the above guidelines and assumptions, the estimated traffic generated by the proposed development, is documented below in **Table 4-2**.

Table 4-2 Trip Generation – Total Trips

LAND USE	YIELD	AM PEAK (IN)	AM PEAK (OUT)	PM PEAK (IN)	PM PEAK (OUT)
Low Density Residential Dwellings	30 Dwellings	4	20	17	7
Total Trips per Peak Hour		24		24	

As shown in **Table 4-2** above, the development site is anticipated to generate a total of 24 trips in the AM and PM Peak hours (combined in and out). This equates to less than one (1) new trip every two (2) minutes and as such, we expect this to have a negligible effect on the surrounding road network.

The intersection of Kyle Street / Roghan Road is currently "Stop" sign controlled and carries relatively small turning volumes due to the limited existing catchment of approximately 40 residential dwellings. The introduction of a further 30 dwellings would remain consistent with the low volumes turning into/out of Kyle Street and as such we would not expect any traffic related issues. Sight distance at this intersection is adequate in all directions. We note that the Roghan Road eastbound lane is approximately 5.3m wide, which provides for a vehicle to hold while waiting for a gap in opposing traffic and provides the ability for a vehicle to pass to the left of the waiting vehicle.

5. SUMMARY

Lambert & Rehbein (SEQ) Pty Ltd has been commissioned by Oxmar Properties to undertake a Traffic Impact Assessment for a proposed residential development at 9 Kyle Street, Bridgeman Downs QLD 4035. The site is formally described as Lot 4 on RP55318 and has a total area of 2.02ha.

The overall intent of the proposed development is to subdivide one (1) lot into 30 residential lots plus two bio-basin lots. The proposed site layout, prepared by Veris Australia Pty Ltd is attached in **Appendix A**.

The internal road configuration has been planned based on the adjacent road network and indicative future development works west of the site. The development site proposes to construct a 14.0m wide road, consistent with the reserve width outlined in BCC's Infrastructure Design PSP for a 'Local Street'. We note Sovereign Drive features a 14.0m wide road reserve and is expected to align with the development site's internal road. All lots will have direct lot access to/from the new road.

Access to the external road network will be facilitated through Kyle Street which forms an all-movement priority-controlled intersection with Roghan Road. As stated in **Section 2.2**, Roghan Road has existing pedestrian pathways on both sides of the road, facilitating walking, cycling, and greater use of public transport to and from the development site.

The proposed internal road network is designed generally in accordance with BCC's Infrastructure Design Planning Scheme Policy. As such, the road network is expected to provide sufficient spatial requirements to accommodate a BCC Side Loading Refuse Collection Vehicle (RCV) to collect the bins at the frontages of individual lots. Refuse from all proposed lots will be able to be collected with the RCV travelling in a forward direction at all times.

As shown in **Table 4-2** above, the development site is anticipated to generate a total of 24 trips in the AM and PM Peak hours (combined in and out). This equates to less than one (1) new trip every two (2) minutes and as such, we expect this to have a negligible effect on the surrounding road network.

Based on the assessment contained herein, there are no traffic engineering issues identified that should preclude the approval of this development.

APPENDIX A – SITE LAYOUT

APPENDIX B – BCC TAPS CODE RESPONSE

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	SOLUTIONS	COMMENTS	COUNCIL USE ONLY
<p>PO1</p> <p>Development is designed:</p> <ol style="list-style-type: none"> to include a technically competent and accurate response to the transport and traffic elements of the development; in accordance with the standards in the Transport, access, parking and servicing planning scheme policy; to ensure the efficient operation and safety of the development and its surrounds. <p>Note—The acceptable outcome and performance outcome can be demonstrated through a development application that:</p> <ul style="list-style-type: none"> is accompanied by sufficient information, including computer modelling input and output data, to allow the development to be properly assessed against the requirements of this code and the standards and guidelines of the Transport, access, parking and servicing planning scheme policy; is certified by a Registered Professional Engineer Queensland that all plans, documents and dimensioned drawings comply with the requirements of this code and the standards and guidelines of the Transport, access, parking and servicing planning scheme policy; <p>– ensures that any computer modelling input and output data are accurate, reasonable and carried out in accordance with sound traffic engineering practices.</p>	<p>AO1</p> <p>Development complies with the standards in the Transport, access, parking and servicing planning scheme policy.</p>	<p align="center">✓</p>	<p>Complies with AO1 - Refer to Traffic Report, prepared by Lambert & Rehbein, B23140TR001.</p>	

Solution: ✓ = Acceptable Solution
 ✓ PO = Satisfies Performance Outcome Directly
 A/S = Alternative Solution
 N/A = Not applicable to this proposal

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	SOLUTIONS	COMMENTS	COUNCIL USE ONLY
<p>P02</p> <p>Development of a major size incorporates on-site provision for integration with the public transport network and the management of vehicles, public transport, pedestrians and cyclists, including providing appropriate pedestrian and cyclist linkages to adjoining uses, public areas and the transport network consistent with the planning by the Queensland Government and Council.</p>	<p>AO2</p> <p>No acceptable outcome is prescribed.</p>	<p>✓</p>	<p>Complies with PO2 - Refer to Traffic Report, prepared by Lambert & Rehbein, B23140TR001.</p>	
<p>P03</p> <p>Development provides vehicle access that is located and designed so as to have no significant impact on the safety, efficiency, function, convenience of use or capacity of the road network.</p>	<p>AO3.1</p> <p>Development provides site access that is located and designed in compliance with the standards in the Transport, access, parking and servicing planning scheme policy.</p>	<p>✓</p>	<p>Complies with AO3.1 - Refer to Section 3.2 of the Traffic Report, prepared by Lambert & Rehbein, B23140TR001.</p>	

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	<p>AO3.2</p> <p>Development provides an easement for a vehicular access benefiting all adjoining landowners and the Council if the vehicular access services more than an individual development or premises.</p>	N/A		
<p>PO4</p> <p>Development provides walking and cycle routes through the site which:</p> <ul style="list-style-type: none"> a. link to the external network and pedestrian and cyclist destinations such as schools, shopping centres, open space, public transport stations, shops and local activity centres along the safest, most direct and convenient routes; b. encourage walking and cycling; c. ensure pedestrian and cyclist safety; d. provide a direct and legible network. 	<p>AO4.1</p> <p>Development provides walking and cycle routes which are constructed on the carriageway or through the site to:</p> <ul style="list-style-type: none"> a. create a walking or cycle route along the full frontage of the site; b. connect to public transport and existing cycle and walking routes at the frontage or boundary of the site. 	✓	<p>The proposed development will facilitate pedestrian access via Kyle Street and Sovereign Place, refer to the architectural drawing set included in the Appendix of the Traffic Report, prepared by Lambert & Rehbein, B23140TR001.</p>	

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	<p>A05.5</p> <p>Development provides bicycle parking which is constructed in compliance with the standards in the Transport, access, parking and servicing planning scheme policy.</p>	N/A		
<p>PO6</p> <p>Development provides shower cubicles and lockers in sufficient numbers to meet the needs and volume of predicted pedestrian and cyclist users.</p> <p>Note—For a performance outcome the application must demonstrate how the needs of the intended users of the site differ from the standard rates in the Transport, access, parking and servicing planning scheme policy.</p>	<p>A06</p> <p>Development provides shower cubicles and lockers for pedestrians and cyclists in compliance with the standards in the Transport, access, parking and servicing planning scheme policy.</p>	N/A		

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<p>PO7</p> <p>Development provides pedestrian and cyclist access to the site which is designed to provide safe movement and avoid unnecessary conflict between pedestrians, cyclists and motor vehicles.</p>	<p>A07</p> <p>Development provides pedestrian and cycle access that is designed and constructed in compliance with the site access design guidelines, pedestrian facilities standards and cyclist facilities standards in the Transport, access, parking and servicing planning scheme policy.</p>	✓	Refer to the architectural drawing set included in the Appendix of the Traffic Report, prepared by Lambert & Rehbein, B23140TR001.	
<p>PO8</p> <p>Development provides pedestrian and cyclist access to and from the site which is located to take advantage of safe crossing points of the adjacent road system, key destinations and public transport facilities.</p>	<p>A08</p> <p>No acceptable outcome is prescribed.</p>	✓	Refer to the architectural drawing set included in the Appendix of the Traffic Report, prepared by Lambert & Rehbein, B23140TR001.	
<p>PO9</p> <p>Development provides access driveways in the road area that are located, designed and controlled to:</p> <p>(a) minimise adverse impacts on the safety and operation of the transport network,</p>	<p>A09.1</p> <p>No acceptable outcome for access is prescribed, for a major development (as described in the Transport, access, parking and servicing planning scheme policy).</p>	✓	Refer to the architectural drawing set included and to Section 3 of the Traffic Report, prepared by Lambert & Rehbein, B23140TR001.	

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including the movement of pedestrians and cyclists; (b) ensure the amenity of adjacent premises, from impacts such as noise and light.	AO9.2 Development which is not a major development (as described in the Transport, access, parking and servicing planning scheme policy) provides a single site access driveway in the road area to the lowest order road to which the site has frontage.	N/A		
	AO9.3 Development ensures that sight distances to and from all proposed access driveways in the road area and intersections are in compliance with the standards in the Transport, access, parking and servicing planning scheme policy.	✓PO	Refer to the architectural drawing set included in the Traffic Report, prepared by Lambert & Rehbein, B23140TR001.	

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<p>PO10</p> <p>Redevelopment provides for:</p> <p>(a) the closure of all access driveways in the road area that no longer comply with the standards in the Transport, access, parking and servicing planning scheme policy;</p> <p>(b) the reinstatement of adjacent footpaths.</p>	<p>AO10</p> <p>No acceptable outcome is prescribed.</p>	<p align="center">✓</p>	<p>Refer to Section 3.2 of the Traffic Report prepared by Lambert & Rehbein, B23140TR001.</p>	
<p>PO11</p> <p>Development provides that an internal approach to an access driveway in the road area is designed and located to provide for the safety of pedestrians and cyclists using paths adjacent to the frontage of the site, and motorists.</p>	<p>AO11.1</p> <p>Development provides sight distances to and from all proposed access driveways in the road area and intersections which are in compliance with the standards in the Transport, access, parking and servicing planning scheme policy.</p>	<p align="center">✓PO</p>	<p>Refer to the architectural drawing set included in the Appendix of the Traffic Report prepared by Lambert & Rehbein, B23140TR001.</p>	

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PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	SOLUTIONS	COMMENTS	COUNCIL USE ONLY
	<p>AO11.2</p> <p>Development ensures that convex mirrors are only used in a site:</p> <p>(a) as a secondary support at access driveways;</p> <p>(b) in addition to acceptable sight splays that comply with the sight distances standards in the Transport, access, parking and servicing planning scheme policy.</p>	N/A		

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PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	SOLUTIONS	COMMENTS	COUNCIL USE ONLY
<p>PO12</p> <p>Development in the City core and City frame as identified in Figure a, provides car parking spaces at rates to discourage private car use and encourage walking, cycling and the use of public transport.</p>	<p>AO12</p> <p>Development in the City core and City frame as identified in Figure a provides maximum car-parking rates in compliance with the standards in the Transport, access, parking and servicing planning scheme policy.</p> <p>Note—For accepted development subject to compliance with identified requirements including an existing premises, no reduction to existing car parking is required to comply with a maximum car-parking rate in the Transport, access, parking and servicing planning scheme policy.</p>	<p>N/A</p>		

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<p>PO13</p> <p>Development outside of the City core and City frame as identified in Figure a provides on-site car parking spaces to accommodate the design peak parking demand without any overflow of car parking to an adjacent premises or adjacent street.</p>	<p>A013</p> <p>Development outside of the City core and City frame as identified in Figure a:</p> <p>(a) provides on-site car parking spaces in compliance with the standards in the Transport, access, parking and servicing planning scheme policy; or</p> <p>(b) for accepted development subject to compliance with identified requirements, does not result in on-street car parking if no parking standard is identified in the Transport, access, parking and servicing planning scheme policy.</p> <p>Note—For accepted development subject to compliance with identified requirements including an existing premises, no reduction to existing car parking is required to comply with a maximum car-parking rate in the Transport, access, parking and servicing planning scheme policy.</p>	<p>N/A</p>		
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<p>PO14</p> <p>Development ensures that the number of car parking spaces and design of the car parking area:</p> <p>(a) meet the combined design peak parking demand for residential, visitor and business parking;</p> <p>(b) allow for the temporal sharing of car-parking spaces for uses with different peak parking demands.</p> <p>Note—In order to demonstrate that adequate car parking is provided, a traffic impact assessment prepared in compliance with the Transport, access and servicing planning scheme policy is to identify the appropriate number of car parking spaces to be provided.</p>	<p>AO14.1</p> <p>Development provides a number of car parking spaces on site equalling the sum of the maximum design peak parking demand for the individual uses at any point in time.</p>	<p>N/A</p>		
	<p>AO14.2</p> <p>Development involving mixed use provides a non-residential car parking area with shared parking for all the businesses in the development.</p>	<p>N/A</p>		

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<p>PO15</p> <p>Development provides a car park layout which allows for on-site vehicle parking that:</p> <p>(a) is clearly defined, safe and easily accessible;</p> <p>(b) is designed to contain potential adverse impacts within the site;</p> <p>(c) does not detract from the aesthetics or amenity of an area;</p> <p>(d) discourages on-street parking if parking has an adverse traffic management safety or amenity impact;</p> <p>(e) is consistent with safe and convenient pedestrian and cyclist movement.</p>	<p>AO15</p> <p>Development provides parking bays, queue areas and manoeuvring areas which are designed for the design service vehicle to the standards in the Transport, access, parking and servicing planning scheme policy.</p>	<p>N/A</p>		
<p>PO16</p> <p>Development creates a safe environment by incorporating the key elements of crime prevention through environmental design.</p>	<p>AO16</p> <p>Development incorporates the key elements of crime prevention through environmental design in its layout, building and structure design and landscaping by:</p> <p>(a) facilitating casual surveillance opportunities and including</p>	<p>N/A</p>		

Solution: ✓ = Acceptable Solution
 ✓ PO = Satisfies Performance Outcome Directly
 A/S = Alternative Solution
 N/A = Not applicable to this proposal

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	SOLUTIONS	COMMENTS	COUNCIL USE ONLY
	<p>good sightlines to publicly accessible areas such as car parks, pathways, public toilets and communal areas;</p> <p>(b) defining different uses and ownerships through design and restricting access from non-residential uses into private residential dwellings;</p> <p>(c) promoting safety and minimising opportunities for graffiti and vandalism through exterior building design and orientation of buildings and use of active frontages;</p> <p>(d) ensuring publicly accessible areas such as car parks, pathways, public toilets and communal areas are well lit;</p> <p>(e) including way-finding cues;</p> <p>(f) minimising predictable routes and entrapment locations</p>			

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	<p>near public spaces such as car parks, public toilets, ATMs and communal areas.</p> <p>Note—For guidance in achieving the key elements of crime prevention through environmental design, refer to the Crime prevention through environmental design planning scheme policy.</p>			

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PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	SOLUTIONS	COMMENTS	COUNCIL USE ONLY
<p>PO17</p> <p>Development minimises the potential for graffiti and vandalism through access control, canvas reduction and easy maintenance selection.</p>	<p>AO17</p> <p>Development incorporates graffiti and vandalism prevention techniques in its layout, building and structure design and landscaping, by:</p> <p>(a) denying access to potential canvas through access control techniques;</p> <p>(b) reducing potential canvases through canvas reduction techniques;</p> <p>(c) ensuring graffiti can be readily and quickly removed through easy maintenance selection techniques.</p> <p>Note—For guidance on graffiti and vandalism prevention techniques, refer to the Graffiti prevention planning scheme policy.</p>	<p>N/A</p>		

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PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	SOLUTIONS	COMMENTS	COUNCIL USE ONLY
<p>PO18</p> <p>Development is serviced by an adequate number and size of service vehicles.</p>	<p>AO18</p> <p>Development ensures that the number and size of design service vehicles selected for the site is in compliance with the standards in the Transport, access, parking and servicing planning scheme policy.</p>	✓	<p>Refer to Section 3.4 of the Traffic Report, prepared by Lambert & Rehbein, B23140TR001.</p>	
<p>PO19</p> <p>Development layout provides for services which:</p> <p>(a) are wholly within the site, other than service vehicle manoeuvring areas which may overhang the verge on a minor road where use of the footpath is not adversely affected;</p> <p>(b) are clearly defined, safe and easily accessible;</p> <p>(c) are designed to contain potential adverse impacts of servicing within the site;</p>	<p>AO19.1</p> <p>Development ensures that a service bay provided on site:</p> <p>(a) is provided and designed to comply with the design vehicle table and service area design standards in the Transport, access, parking and servicing planning scheme policy;</p> <p>(b) is located away from street frontages and screened from adjoining premises.</p>	N/A		

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(d) do not detract from the aesthetics or amenity of the surrounding area.	<p>AO19.2 Development provides on-site servicing facilities and associated on-site vehicle manoeuvring areas which are designed in compliance with the service area design standards in the Transport, access, parking and servicing planning scheme policy.</p> <p>AO19.3 Development provides service areas for refuse collection in compliance with the standards in the Refuse planning scheme policy, Transport, access, parking and servicing planning scheme policy and the Infrastructure design planning scheme policy.</p>	<p>N/A</p> <p>✓</p>	<p>Refer to Section 3.4 of the Traffic Report, prepared by Lambert & Rehbein, B23140TR001.</p>	

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PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	SOLUTIONS	COMMENTS	COUNCIL USE ONLY
<p>PO20</p> <p>Development provides service vehicle access routes to and from the site which minimise the impact on:</p> <p>(a) amenity and safety in residential areas;</p> <p>(b) streets not constructed to a standard that accommodate increased heavy vehicle movements.</p>	<p>AO20</p> <p>Development ensures that service vehicles use the shortest and most direct route to the major road network in compliance with the heavy vehicle standards in the Transport, access, parking and servicing, planning scheme policy.</p>	<p>✓</p>	<p>Refer to Section 3.4 of the Traffic Report prepared by Lambert & Rehbein, B23140TR001.</p>	
<p>If for development which is required to be serviced by a b-double (Austroads class 10 vehicle), multi-combination vehicle, over-dimensional vehicle or any on vehicle identified by the Queensland Government as requiring a permit to operate on the road (freight-dependent development)</p>				

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<p>PO21</p> <p>Development which is freight-dependent development ensures that the traffic generated by the development does not impact on:</p> <p>(a) the operation of the transport network;</p> <p>(b) the safety and amenity of a residential area;</p> <p>(c) a road not constructed to accommodate a non-standard vehicle such as a road only constructed to accommodate a vehicle that has a legal right of access to all roads including Austroads vehicles classes 1–9.</p>	<p>AO21.1</p> <p>Development which is freight-dependent development is located on a site which:</p> <p>(a) has frontage to or direct access to the freight network in the Road hierarchy overlay via roads in a zone in the Industry zones category; or</p> <p>(b) can be serviced by a route that can act as a primary freight access route and connect to an existing primary freight route without impacting on the safe operation of the road network in compliance with the heavy vehicle standards in the Transport, access, parking and servicing, planning scheme policy.</p>	<p>N/A</p>		

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PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	SOLUTIONS	COMMENTS	COUNCIL USE ONLY
	<p>AO21.2</p> <p>Development which is freight-dependent development provides any necessary upgrade to a road used as an access route in compliance with the Infrastructure design planning scheme policy.</p>	N/A		

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