

153 SYDNEY ROAD, HOLBROOK
PROPOSED NEW PETROL STATION UPGRADE

TRAFFIC DESIGN REPORT

JUNE 2024

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INTRODUCTION

This report briefly describes the process undertaken to complete the civil design part of this project. Guidelines and requirements defined in the Austroads Guides and other relevant professional guides were used as reference documents. The following tables list changes and amendments to the existing road arrangements.

The bellow Figures below are to accompany the Items listed in the tables on the next pages:

Figure 7.2: Channelised right-turn treatment with a short turn slot [CHR(S)] two-lane rural road

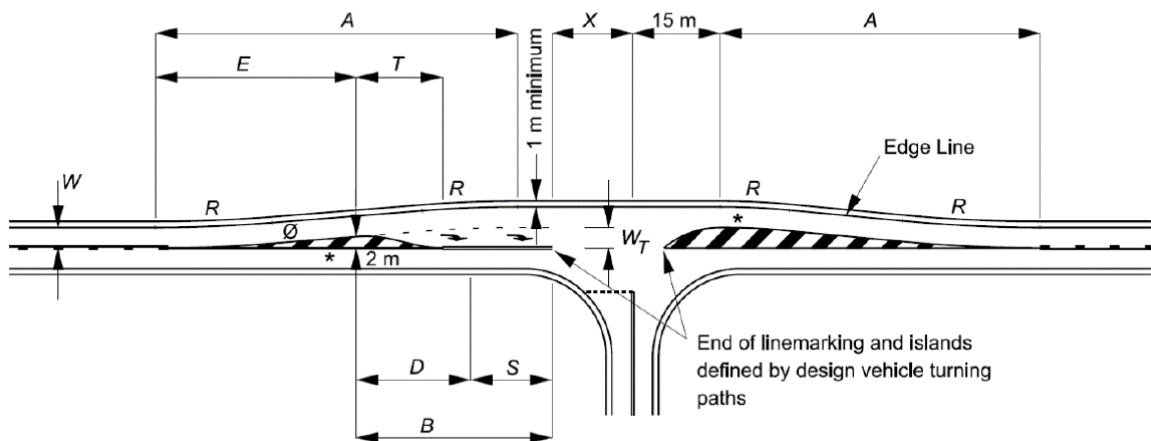
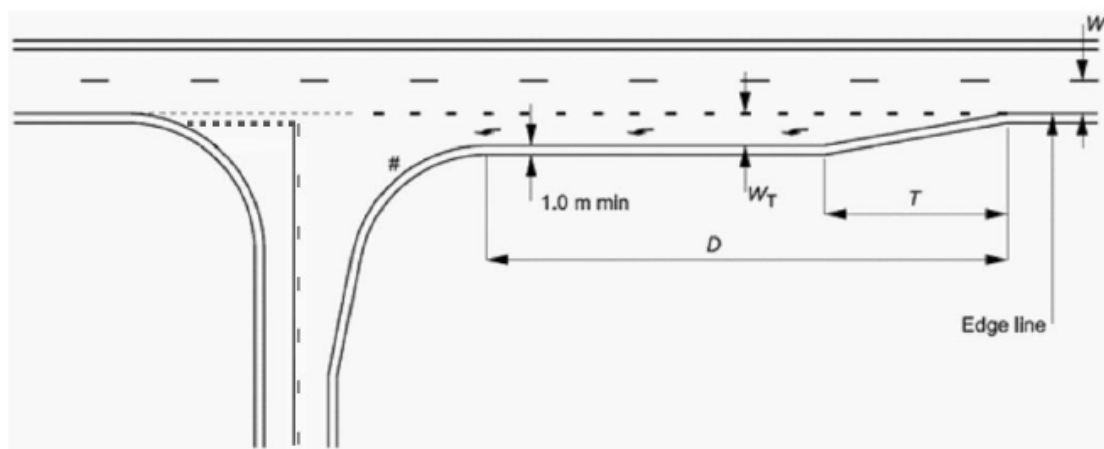


Figure 8.3: Rural AUL(S) treatment with a short left-turn lane



NOTE: Some comments in the Table are made based on the design completed to date and will be confirmed once the detailed design for those items is finalised.

Item	Existing Arrangement	Proposed Arrangement	Comments	Reference Document
<i>Width of lanes</i>	<p>Sydney Road – 3.5m-4.0m</p> <p>Pinnabar Road - No marked lanes.</p>	<p>Sydney Road – retain existing</p> <p>Pinnabar Road – no marked lanes; however, a 10.0m wide asphalt road from its intersection with Sydney Road to the property exit driveway is proposed.</p>	<p>Existing road widths along Sydney Road are retained.</p> <p>Pinnabar Road – no marked lanes</p>	Proposal in accordance with Austroads Guidelines
<i>Road reserve</i>	<p>Sydney Road – as shown</p> <p>Pinnabar Road - The intersection at Pinnabar Road and Sydney Road is sealed in asphalt, but the remainder of Pinnabar Road is unsealed. No marked lanes.</p>	<p>Sydney Road – existing retained</p> <p>Pinnabar Road – no marked lanes; however, a 10.0m wide asphalt road from its intersection with Sydney Road to the property exit driveway is proposed.</p>	<p>The existing road reserve was used to develop the proposal for the new arrangement. No encroachment into private properties was required to accommodate the new design.</p> <p>Boundaries of the adjoining properties are shown on the drawings, and it confirms that all proposed works would be accommodated within the road reserve and would not extend into adjoining properties.</p> <p>Pinnabar Road previously existed; however, due to its closure at Hume Hwy, the road condition deteriorated. A new asphalt road is to be reinstated from the property exit driveway to its intersection Sydney Road, with a full road width of 10m.</p> <p>The proposal follows the existing access road alignment and the contours.</p>	N/A

Item	Existing Arrangement	Proposed Arrangement	Comments	Reference Document
<i>Existing Road cross-sections and ground levels</i>	As shown	Minor changes	Some minor changes to the road cross sections and road ground levels might be required to address drainage. The new road surface in Pinnebar Road is expected to match the existing road surface closely. Detailed design will demonstrate the exact changes. Potentially minor vegetation removal along the edge of roads might be required.	Proposal in accordance with Austroads Guidelines.
<i>Speed Limit</i>	80km/h	80km/h	It should be noted that both Sydney Road and Pinnebar Road are no through roads near this intersection. Therefore, the actual speeds would be significantly lower. However, if necessary, all design calculations could be made based on the assumption of a 90km/h speed limit.	Proposal in accordance with Austroads Guidelines
<i>Ground surface</i>	Sydney Road – Asphalt road Pinnabar Road – unsealed road	Sydney Road – Asphalt road retained Pinnabar Road – a 10.0m wide asphalt road from its intersection with Sydney Road to the property exit driveway is proposed.	No changes are proposed to the type of surface for Sydney Road. Pinnabar Road – A new asphalt road between Sydney Road and the property exit driveway is proposed to be constructed.	N/A

Item	Existing Arrangement	Proposed Arrangement	Comments	Reference Document
<i>Deceleration lane</i>	Deceleration lane exist	The existing Deceleration Lane retained	<p>The existing sealed Auxiliary Left Turn deceleration lane is retained.</p> <p>The width of the lane is a minimum of more than 3.5m and is considered to be in accordance with the requirements.</p> <p>Some minor road surface repairs and removal of vegetation on the roadside might be required.</p>	No changes were made to the existing arrangements, as they were deemed to comply with the Austroads Guides.
<i>Design Vehicle</i>	<p>It was assumed that the design vehicle for the movements from and into this development site was AV.</p> <p>It was assumed that a B-double is a designed vehicle for through movements along Sydney Road.</p>	<p>An articulated Vehicle (AV) was used as the design vehicle for the movements from and into the proposed development. B-Double vehicle was used as a checking vehicle.</p> <p>A B-double was used as a design vehicle for through movements along Sydney Road, and it was confirmed that the requirements were met.</p>	Auto Turn assessment confirmed that both the design and checking vehicles comply with the requirements.	The proposal is in accordance with Austroads Guidelines and Australian Standards.
<i>Turning paths</i>	N/A	Turning paths for small cars, articulated trucks	All turning movements for articulated vehicles and B-Doubles were checked in AutoTurn, and critical	The proposal is in accordance with

<i>Item</i>	Existing Arrangement	Proposed Arrangement	Comments	Reference Document
		and B-Double were assessed	movements for all assessed vehicles are shown on the design plans.	Australian Guidelines and Australian Standards.
<i>Road shoulder</i>	Sydney Road – approx. 1.0m wide Pinnabar Road – no sealed road	Sydney Road – retained existing approx. 1.0m wide Pinnabar Road – proposed 10.0m wide asphalt road from Sydney Road to property exit.	Existing road shoulders were retained along Sydney Road and are considered to be in accordance with the requirements. No separate shoulders are proposed along Pinnabar Road, as it solely serves as access to the property exit driveway. Linemarking and RRMPs are used to enhance the safety of all road users.	The proposal is in accordance with Austroads Guidelines.
<i>SISD and ASD</i>	Not measured	It was not calculated as the existing arrangement was retained.	The minimum required safe sight distance and approach sight distance at the intersection were retained. It was assumed that these were calculated when the road was heavily used and not a No Through Road. Now, as a No Through Road, it is still considered to comply with the requirements.	The proposal is considered to be in accordance with Austroads Guides for Road Design.
<i>Sight Line – Vertical Alignment</i>	Vertical road crest does not present obstruction	Vertical road crest does not present obstruction	Current road levels present no obstruction to the sight lines.	The proposal is in accordance with Australian Guidelines and Australian Standards.

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<i>Linemarking</i>	Lane linemarking	Some additional linemarking at property entry and exit	Additional line marking was introduced for the property's entry and exit points. The intersection of Sydney Road and Pinnebar Road is proposed to be line marking in accordance with the requirements.	All line marking will be in accordance with guidelines, requirements and TfNSW specifications.
<i>Signage</i>	Existing road signage	Minor new signage is at the property's exit.	Some additional signage was proposed in the vicinity of the proposed work to ensure improved serviceability of the new access.	The proposal is in accordance with Austroads Guidelines.
<i>Drainage</i>	Existing open channels	Open channels retained	It is proposed that existing drainage arrangements be retained where feasible, such as open channels at the edge of the new road shoulders. This will be confirmed once the detailed design is finalised.	The proposal is in accordance with Austroads Guidelines and stormwater runoff guidelines.
<i>Bike Lanes</i>	No dedicated bike lanes	Existing arrangement retained	The existing arrangement was retained. No obstructions were introduced by this proposal that would negatively impact bike accessibility and road usage.	The proposal is in accordance with Austroads Guidelines.

DESIGN REPORT CONCLUSION

The design completed to date and the information provided is sufficient to demonstrate the feasibility of a compliant design that can be constructed within the road reserve.