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36°25'44"S
145°55'47"E

Goorambat East BESS

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Traffic Impact Assessment

29 May 2026
Prepared for Environmental Resources Management Australia
Pty Ltd

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Impact

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Contents

ADVERTISED PLAN

1	IMPACT® SNAP SHOT.....	5
2	INTRODUCTION	7
2.1	Engagement	7
3	SITE CONTEXT.....	7
3.1	Project Description.....	7
3.2	Neighbouring Developments.....	9
3.3	Existing Road Network	10
3.3.1	Benalla-Tocumwal Road.....	10
3.3.2	Goorambat-Thoona Road.....	11
3.3.3	Goorambat-Chesney Road.....	12
3.3.4	Existing / Historic Traffic Movements	12
3.3.5	Existing Crash Statistics.....	13
4	TRAFFIC GENERATION.....	14
4.1	General.....	14
4.2	Adopted BESS Delivery Timeframes.....	14
4.3	Assumptions and Traffic Volumes.....	14
4.4	Operation and Maintenance Traffic	15
5	TRAFFIC IMPACT ASSESSMENT.....	16
5.1	Vehicle Access Routes	16
5.1.1	General Traffic (Staff)	16
5.1.2	Heavy Vehicle Deliveries (General).....	16
5.2	Road Network Limits	17
5.3	Sight Distance Assessment	18
5.3.1	Assessed Site Access Sight Distance	19
5.4	Turning Lane Assessment	22
5.4.1	Turning Warrants - Goorambat-Chesney Road / Site Access.....	23
5.4.2	Turning Warrants - Goorambat-Thoona Road / Goorambat-Chesney Road	24
5.4.3	Turning Warrants - Benalla-Tocumwal Road / Goorambat-Thoona Road.....	25
5.5	Spatial Considerations.....	26
5.6	Traffic Impact & Road Capacity.....	26
5.6.1	Benalla-Tocumwal Road.....	26
5.6.2	Goorambat-Thoona Road.....	26
5.6.3	Goorambat-Chesney Road.....	27
6	TRAFFIC MANAGEMENT	28
6.1	Traffic Management - High Level	28

6.2	Traffic Management Plan	28
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Tables

Table 1	Renewable Energy Sites Status	9
Table 2	Transport Victoria Crash Statistics Data Summary	13
Table 3	Construction Traffic Volumes	14

Figures

Figure 1	Project Layout Plan	8
Figure 2	Neighbouring Developments	9
Figure 3	Project Site Locality	10
Figure 4	Views of Benalla-Tocumwal Road facing south past the subject site	11
Figure 5	Goorambat-Thoona Road / Saunders Road	11
Figure 6	Goorambat-Chesney Road facing south adjacent to the site	12
Figure 7	DTP Crash Statistics Data Map	13
Figure 8	DTP / NHVR Pre-Approved B-Double & HML Network	17
Figure 9	Guide to Measuring SISD for Unsignalised Intersections	18
Figure 10	Sight Distance Assessment - Benalla-Tocumwal Road / Goorambat-Thoona Road	19
Figure 11	Sight Distance Assessment ñ Goorambat-Thoona Road / Halls Road	20
Figure 12	Goorambat-Thoona Road facing Eastbound	20
Figure 13	Sight Distance Assessment ñ Site Access / Goorambat-Chesney Road	21
Figure 14	Warrants for Turn Treatments - Goorambat-Chesney Road / Site Access	23
Figure 15	Warrants for Turn Treatments - Goorambat-Thoona Road / Goorambat-Chesney Road	24
Figure 16	Warrants for Turn Treatments ñ Benalla-Tocumwal Road / Goorambat-Thoona Road	25

Table of Appendices

APPENDIX A	Intersection Design
APPENDIX B	Swept Path Assessment

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1 IMPACT® Snap Shot

Development Proposition

Location	36°25'44"S 145°55'47"E	379 Goorambat-Chesney Road, Goorambat
Use	Battery Energy Storage System (BESS) - 200 MW / 1,200 MWh Capacity	
Access	One (1) new access point to the Project is proposed via Goorambat-Chesney Road. Additional access will be available via the existing access points of the newly constructed Goorambat East Solar Farm (GESF).	
Car Parking	A detailed car park design has yet to be determined, however it is assumed that: - During construction, vehicles will be parked either at designated laydown areas, storage locations, or where construction activities are occurring. - During operations, operational and maintenance staff vehicles will be accommodated on-site within a vehicle parking area located adjacent to the site office.	

Traffic Impact Considerations

Access	
Access Design	Swept path analysis show that the proposed site access will be able to cater for 26 metre B-double vehicles into and out of the site.
Sight Distances	A desktop sight distance assessment confirms that appropriate sight lines are available in each direction from the proposed site access point. Additionally, sight lines at other relevant local intersections along the haulage route also provide sufficient sight lines.
Turn Warrants / Geometric Considerations	By virtue of the low traffic volumes along Goorambat-Thoona Road and Goorambat-Chesney Road, we do not expect that right turn treatments should be required to facilitate access into the subject site (also noting they weren't requested or required previously as part of the GESF construction process). Similarly, volumes at the Benalla-Tocumwal Road intersection would also fall within the category for Basic Right Turns (BAR) during construction activities.
Traffic Impact	
Traffic Generation	A peak of up to 212 (two-way) movements are anticipated during the peak construction period. These movements will be carried entirely along Benalla-Tocumwal Road, Goorambat-Thoona Road and Goorambat-Chesney Road. These movements generated by the proposal are expected to be commensurate with / less than that generated by the previous Solar Farm construction activities at the subject land and therefore the site traffic can be reasonably accommodated by the local road network in a manner similar to the current conditions for the Goorambat East Solar Farm (GESF). <u>Note:</u> The GESF construction activities will have concluded by the time BESS activities commence, and hence will not have any overlap between the two projects (and therefore no cumulative impact of traffic).

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Operational Traffic	The site is estimated to have minimal daily vehicle movements, with sporadic car trips associated with routine maintenance during operations. There will also be, on occasion some additional movements associated with more thorough maintenance. This level of traffic will be negligible and have no discernible impact on the operation of the surrounding road network.
Haulage Routes	<u>Construction Deliveries (26m B-doubles)</u> The proposed haulage route is contained along entirely pre-approved roads for B-double vehicles, until Goorambat-Thoona Road and Goorambat-Chesney Road). Although access was previously approved for construction vehicles associated with the GESF project, separate approvals will be required from Council and NHVR for this Project to facilitate B-double access, noting that these local roads are not pre-approved for these vehicles. We note that road upgrades delivered for the Goorambat East Solar Farm (GESF) construction provide precedent for construction access on these roads, subject to the required approvals. Swept paths show that these haulage vehicles are comfortably able to travel to/from the subject site and along the anticipated haulage route. <u>Heavy Vehicle Deliveries Requiring Escort</u> In addition to the above, we note that there are also a small number of additional heavy vehicle deliveries which will ultimately require escort. It is expected that a specific permit from NHVR will be sought for each of these deliveries prior to construction commencing. <u>General Maintenance During Construction</u> It is recommended that the applicant liaise with Council and DTP with respect to maintenance and repair work along the relevant sections of these roads during the construction period if required.
Traffic Management Plan	It is recommended that a detailed Traffic Management Plan (TMP) be prepared once the project design is complete and prior to commencement of the project construction to confirm the requirements for managing traffic movement during construction; it is likely that traffic management strategies will be consistent with those previously adopted for the Solar Farm construction.

Conclusion

- There are no traffic and transport grounds that should prohibit the issue of a permit

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2 Introduction

2.1 Engagement

IMPACT[®] have been engaged by Environmental Resources Management (ERM) on behalf of International Power (Australia) Pty Ltd (the Proponent), which is a subsidiary of ENGIE S.A to undertake an assessment of the traffic implications of the proposed Project in Goorambat, Victoria.

Notably, the proposed BESS is situated within the Goorambat East Solar Farm (GESF) which is currently being constructed at the subject land.

This Traffic Impact Assessment has been prepared to accompany the town planning application for the proposed BESS project.

3 Site Context

3.1 Project Description

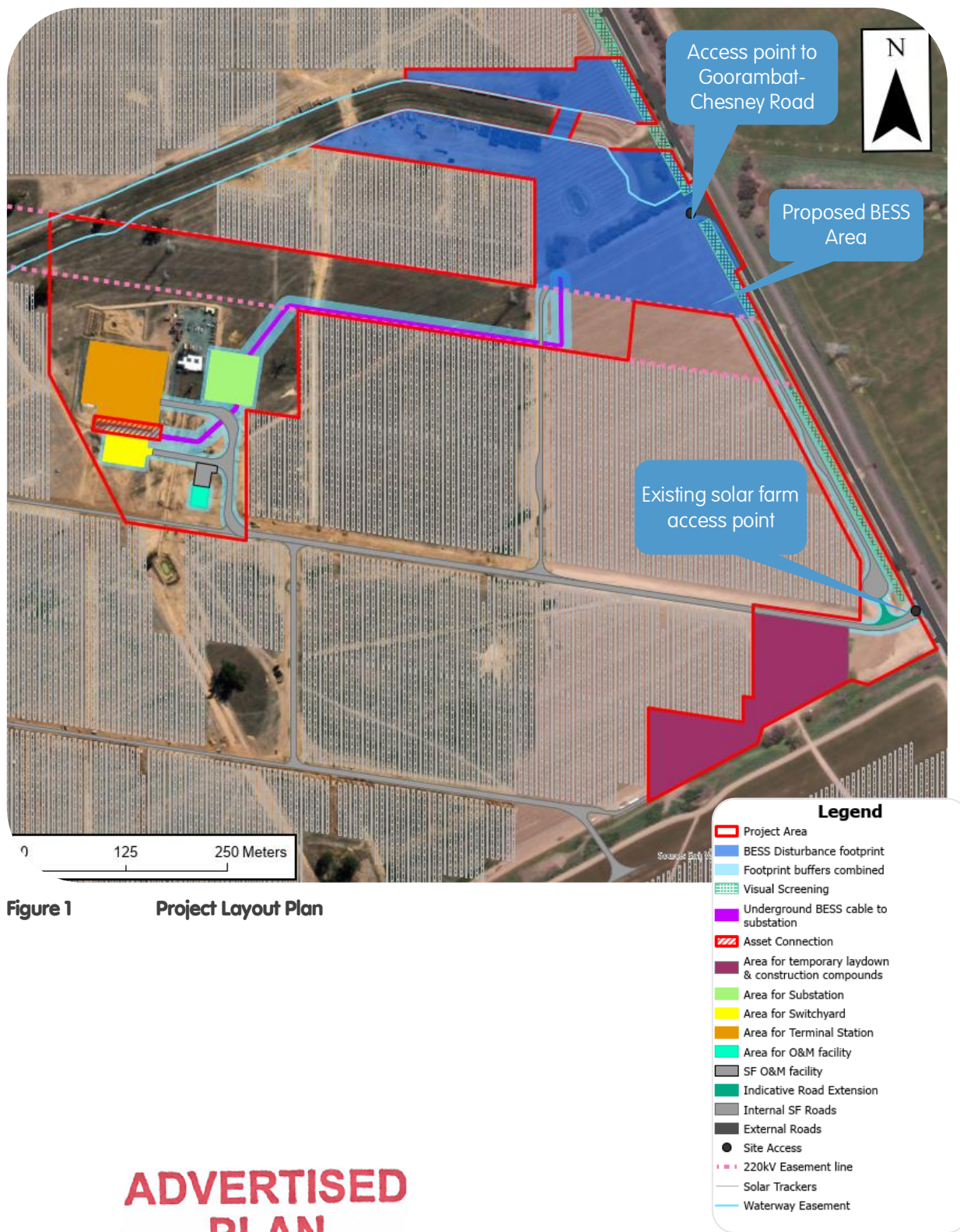
The project will ultimately consist of the installation of a BESS facility with a capacity to store up to 200 MW / 1,200 MWh of renewable energy. The BESS facility is to be located within the western portion of the Goorambat East Solar Farm.

Construction of the Project is proposed to commence approximately in Q4 2027 (pending timely receipt of approvals / administrative objectives prior to this time). Notably, it is certain that the GESF will have been completed by the time construction activities for the proposed BESS facility were to commence.

Access to the Project will be accommodated by a new access point into Goorambat-Chesney Road; with additional connections also available through the solar farm land if required.

A figure illustrating the location of the proposed Project in the context of the broader GESF can be found at Figure 1.

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3.2 Neighbouring Developments

A review of information provided by the state government shows the following projects within proximity to the subject site as shown in Figure 2.

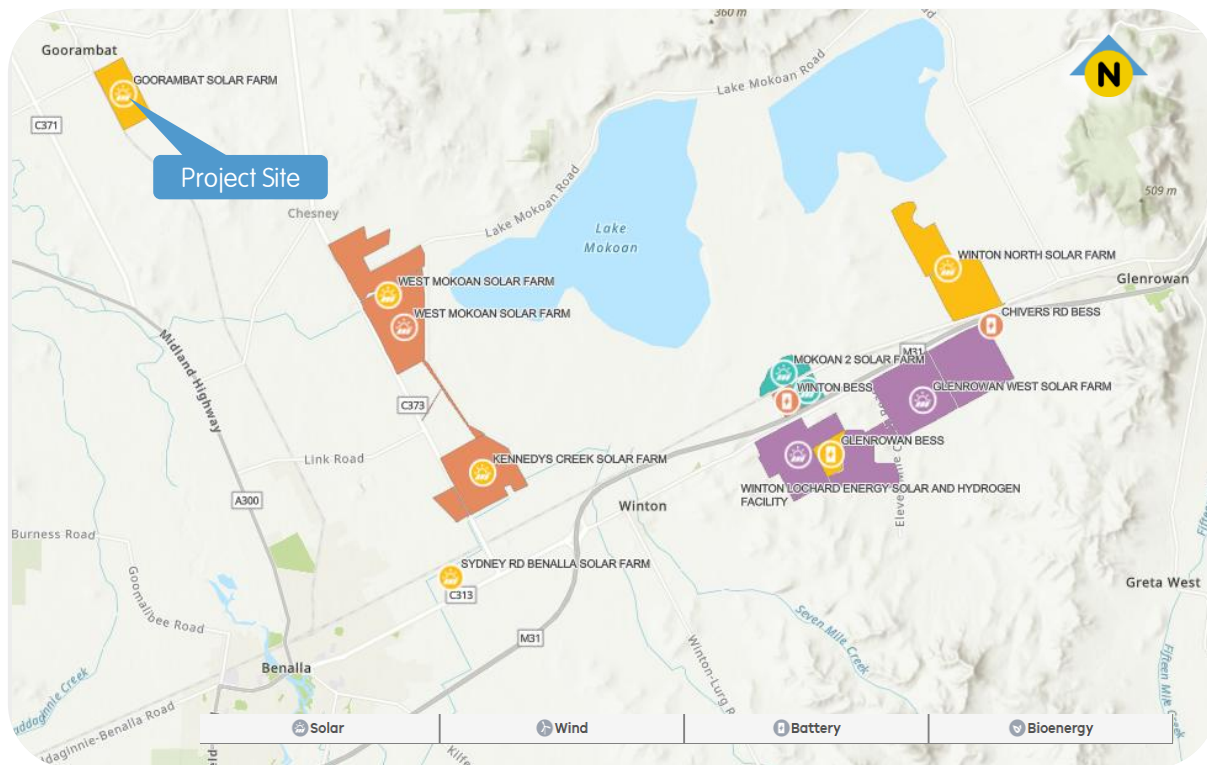


Figure 2 Neighbouring Developments

Whilst a number of projects (currently in operation and also under construction) were observed within proximity to the subject land, as indicated in Table 1, none of the above are expected to have a material impact on the subject site or traffic generated by the proposal.

Note:

Traffic associated with the GESF project is expected to be completed prior to the commencement of the Project and as such, no overlap in construction traffic is anticipated and no cumulative traffic impacts are expected.

Table 1 Renewable Energy Sites Status

Project	Status
West Mokoan Solar Farm	Approved (not operational)
Kennedy's Creek Solar Farm	Approved (not operational)
Sydney Road Benalla Solar Farm	Approved (not operational)
Winton Solar Farm	Operating
Winton BESS	Planning Permit Lodged
Glenrowan BESS	Approved (not operational)
Mokoan 2 Solar Farm	Under Construction
Glenrowan West Solar Farm	Operating
Chivers Road BESS	Planning Permit Lodged
Winton North Solar Farm	Approved (not operational)

3.3 Existing Road Network

The assessment is limited to roads immediately surrounding the Project site. Broader arterial road movements have been excluded from the report, as these routes are expected to comfortably accommodate Project traffic.

Figure 3 illustrates the roads considered as part of this assessment.



Figure 3 Project Site Locality

3.3.1 Benalla-Tocumwal Road

Classified as a major arterial, Benalla-Tocumwal Road provides a general north-south connection between Benalla (south) and Tocumwal (NSW) (north).

Proximate to the Project Site, Benalla-Tocumwal Road provides for a dual-carriageway with a single lane of traffic in each direction, within a 6.2 metre road pavement (plus unsealed 2.5 metre gravel shoulders on each side).

A posted speed limit of 100 km/hr applies to this road in proximity to the subject site.

Figure 4 provides an illustration of the Benalla-Tocumwal Road cross section proximate to the site.

Note:

Critically, we note that this intersection is soon to be upgraded in 2026 and will occur prior to the commencement of Project construction traffic. Specifically, the intersection will be provided with additional width along Goorambat-Thoona Road to enable larger construction vehicles to enter and exit concurrently. A plan illustrating the proposed road upgrades can be found attached as Appendix A.

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Figure 4 Views of Benalla-Tocumwal Road facing south past the subject site

3.3.2 Goorambat-Thoona Road

Classified as a Rural Link road by Council, Goorambat-Thoona Road extends in a general east-west direction, providing a connection between Benalla-Tocumwal Road and Goorambat-Chesney Road; this road continues as Saunders Road to the east, and Sharp Road to the west.

This road has been constructed with a sealed road pavement measuring approximately 5.7 metres in width with unsealed shoulders on each side.

It forms a four-way cross intersection with Benalla-Tocumwal Road to the east but also includes a high angle slip lane for vehicles turning towards the south.

Note:

As part of the GESF construction works, the last 100 metres of Goorambat-Thoona Road before Goorambat-Chesney Road was recently upgraded to match the rest of this sealed pavement.

Additionally, the intersection itself was also upgraded as part of this process to include a right turn lane for vehicles entering into Goorambat-Chesney Road.

A view of the Goorambat-Thoona / Goorambat-Chesney / Saunders Road intersection is provided at Figure 5.



Figure 5 Goorambat-Thoona Road / Saunders Road

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3.3.3 Goorambat-Chesney Road

Classified as a Rural Collector road by Council, Goorambat-Chesney Road extends in a general north-south direction, providing a connection between Benalla (south) and Goorambat (north); it becomes Halls Road before entering Goorambat township and Burston / Link Road before it enters Benalla.

It is noted that as part of the recent GESF construction works, Goorambat-Chesney Road (until past the southern site access point) was upgraded to a sealed road pavement measuring approximately 6.2 metres wide, plus 1.5 metre wide unsealed shoulders to cater for B-double construction traffic.

A view of Goorambat-Chesney Road near the site is provided at Figure 6.



Figure 6 Goorambat-Chesney Road facing south adjacent to the site

3.3.4 Existing / Historic Traffic Movements

3.3.4.1 Benalla-Tocumwal Road

Data published by VicRoads (now Department of Transport / Regional Roads Victoria) indicates that Benalla-Tocumwal Road (in proximity to the site) historically carried in the order of 920 vehicles per day in the vicinity of the Project Site, and peaks of up to 72 in the AM and 79 in the PM¹.

Whilst some minor increases may have been observed since this data was recorded, it is expected that movements (post construction of the GESF) will largely be consistent with these published values.

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¹ Traffic Volume Data sourced from https://public.tableau.com/app/profile/vic.roads/viz/TrafficProfiles_2/TrafficProfiles

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3.3.4.2 Local Roads

No existing / historic vehicle movement data was available for the local roads Goorambat-Chesney and Goorambat-Thoona Road at the time of writing this report.

It is estimated however, that given their historical construction and classification, these roads would be estimated to carry:

- Goorambat-Thoona Road acts as a connection for Goorambat to Benalla.
 - Estimated to carry in the order of up to 300 daily vehicle movements.
 - The previous unsealed section is estimated to carry minimal daily vehicle movements (<50).
- Goorambat-Chesney Road
 - Estimated to carry no more than 150 daily vehicle movements.

3.3.5 Existing Crash Statistics

Crash statistics were extracted from the DTP website within the vicinity of the site as depicted in Figure 7 and summarised in Table 2.



Figure 7 DTP Crash Statistics Data Map

Table 2 Transport Victoria Crash Statistics Data Summary

Year	Crash No.	Severity	Description (#DCA)*
2016	No. 1	Serious injury accident	Collision with a fixed object (#171)
2019	No. 2	Serious injury accident	Collision with a fixed object (#169)
2019	No. 3	Serious injury accident	Collision with vehicle (#110)
2015	No. 4	Other injury accident	Collision with a fixed object (#173)
2018	No. 5	Other injury accident	Collision with a fixed object (#173)

*Definition for Classifying Accidents: [Link](#)

The data revealed two (2) crashes near the Goorambat Stewarton Fire Station and two (2) at the intersection of Goorambat-Thoona Road / Benalla-Tocumwal Road.

A single isolated incident occurred along Benalla-Tocumwal Road, north of Taylor Road.

Notably, no crashes have been recorded in the past seven (7) years, indicating a low-risk environment with no immediate safety concerns.

4 Traffic Generation

4.1 General

The access road network will typically limit internal construction traffic to internal access roads, with only deliveries and staff movements to and from the site required to travel across the external road network.

External traffic generated by the site will generally be split into three (3) broad categories:

- General traffic generated by staff travelling to/from the subject site;
- Heavy vehicles (HV) which are used for the delivery of BESS components, construction equipment and construction material; and
- Heavy vehicle (HV) deliveries requiring escort used for the delivery of the large substation components.

4.2 Adopted BESS Delivery Timeframes

IMPACT[®] are advised that the Project construction and delivery will occur across an approximate 18 month period. The following indicative timeframes have been assumed for the construction stage of the project:

- Peak Construction: Early Works / Civil Construction - Months 1-6
- Non-Peak Construction: Construction and Electrical Installation - 7-18 months

Following the full construction phase, the Commissioning Stage and Operations Stage will commence however it is expected that traffic volumes during these stages will be limited.

4.3 Assumptions and Traffic Volumes

Table 3 provides a breakdown / summary of estimated peak construction traffic movements during the Stage 1 project delivery:

Table 3 Construction Traffic Volumes

Description	Staff	Light Vehicles (per day)* (Two-way)	Heavy Vehicles (per day)		Daily Movements (Two-way)	HV Movements Requiring Escort** (OSOM)	Anticipated Peak Daily Construction Traffic
			Inbound (loaded)	Outbound (unloaded)			
Peak Construction Months 1-6	100	130	40	40	210	2	212

*These movements are based on an average occupancy of 1.5 persons per vehicle, with carpooling for staff to be encouraged as much as possible.

**These are the anticipated two-way movements throughout the entire project Stage (not daily movements) for escort deliveries. Accordingly, for each loaded inbound haulage movement, there is typically one unloaded outbound movement. On average, it is expected that up to 1 escort movement will occur across a typical workday until the escort components have been delivered.

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Note:

These volumes are estimates only, intended to conservatively estimate the highest number of movements expected on a daily basis during construction. These values should be refined and confirmed during the preparation for construction (as part of the Traffic Management Plan - see Section 6).

The site will still generate vehicle movements outside of the above peak construction period (non-peak construction), albeit at a lower daily rate than what is outlined above and therefore the peak movements identified have been adopted for the following assessment.

4.4 Operation and Maintenance Traffic

For the majority of the time, the Project is expected to operate with limited staff and generate minimal traffic movements.

Accordingly, apart from the initial construction phase, the proposal is anticipated to have a negligible impact upon traffic on the local road network. Details of likely traffic generation during the operation are estimated as follows:

- Daily routine maintenance to be carried out by two (2) people. It is assumed that the daily traffic generation will not exceed four vehicle movements per day to the local road network, with all other movements being internal to the site.
- Occasional maintenance will occur when components of the development need to be replaced, such as replacing BESS unit components. This is expected to occur only very occasionally, and will have no discernible impact on the external road network.
- Visitors to the site such as office based staff and courier deliveries etc.

The operation and maintenance traffic when compared to the construction traffic is expected to be minimal at most.

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5 Traffic Impact Assessment

5.1 Vehicle Access Routes

As above, traffic generated by the site will generally be split into three (3) broad categories:

- General traffic generated by staff travelling to/from the subject site;
- Heavy vehicles (HV) which are used for the delivery of BESS components, construction equipment and construction material; and
- Heavy vehicle (HV) deliveries requiring escort used for the delivery of the large substation components.

The following sets out our initial assumptions in relation to the direction of travel for each of these vehicle categories.

5.1.1 General Traffic (Staff)

General traffic to / from the site will typically be comprised of staff and courier movements.

They will generally be comprised of light vehicles, likely utes and vans.

There is scope to utilise car-pooling and shuttle bus services to reduce the overall number of these movements if required.

Staff will likely reside in larger nearby Cities/towns, including Benalla, Wangaratta, Shepparton and Goorambat (subject to availability of accommodation). Generally, staff will seek to travel to / from the site via:

- Benalla-Tocumwal Road
 - Turning left in (if Shepparton); or
 - Turning right-in (if Wangaratta / Benalla).
- Goorambat-Thoona Road
- Goorambat-Chesney Road.

There is expected to be up to 130 daily light vehicle movements generated by the site during peak construction activities (generally with 65 inbound movements in the morning and 65 outbound in the evening).

5.1.2 Heavy Vehicle Deliveries (General)

Heavy vehicle will form a vast majority of the delivery vehicles that travel to / from the subject site, generally for the purposes of:

- Aggregate / concrete deliveries
 - For the construction of hardstand areas and access tracks.
 - Water Deliveries
 - For dust settling
 - Battery Energy Storage System (BESS) components.
 - Components are anticipated to be imported via Port of Melbourne.
- Note:** Final logistics route will be confirmed once contractor and procurement details are finalised.

It is expected / understood that all of these deliveries would arrive from the south, turning right into Goorambat-Thoona Road from Benalla-Tocumwal Road.

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As noted above, the proposal is expected to generate no more than 40 loaded inbound and 40 unloaded outbound daily heavy vehicle movement during peak construction activities. At the time of writing this report, the breakdown of specific heavy vehicle types (B-double, truck & dog, flat bed etc) is not known.

5.2 Road Network Limits

To understand the limitations of the existing road network, reference is made to pre-approved haulage routes set out by DTP and the National Heavy Vehicle Regulator (NHVR)².

Figure 8 provides an illustration of roads which are included within the Higher Mass Limit (HML) network.

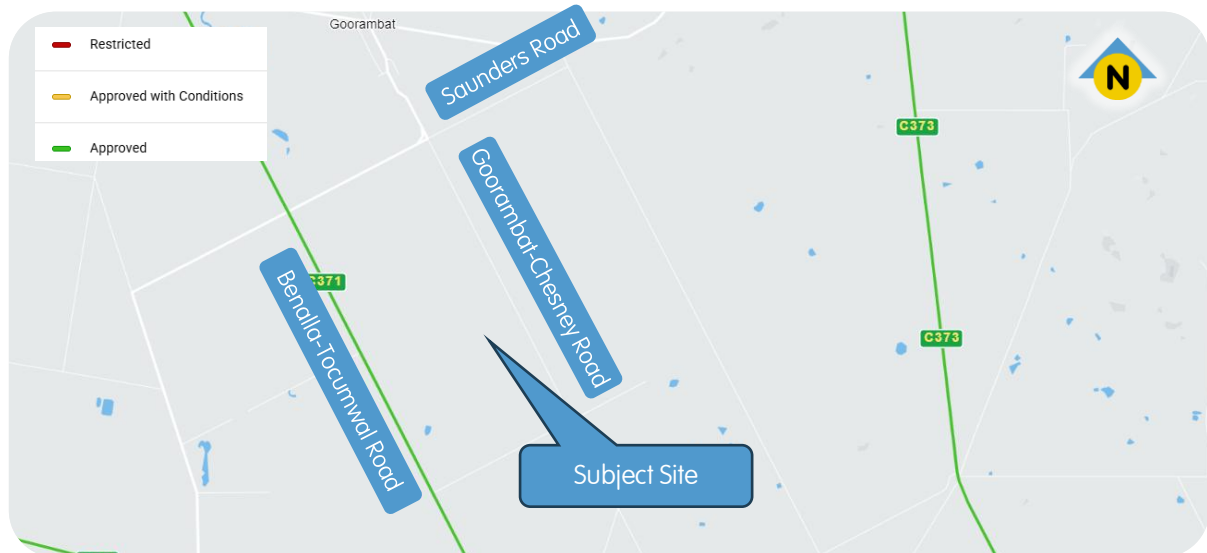


Figure 8 DTP / NHVR Pre-Approved B-Double & HML Network

As illustrated in the plan above, Benalla-Tocumwal Road is a pre-approved haulage route for B-double and HML vehicles (as shown in green).

In addition, the roads connecting to Benalla-Tocumwal Road are also pre-approved for the use of Higher Mass B-Double vehicles, providing a connection into the broader arterial road network to the south and east.

The remaining local roads (Goorambat-Chesney Road and Goorambat-Thoona/Saunders Road) are not currently pre-approved for the haulage of B-double vehicles (of which are expected to comprise a significant portion of heavy vehicle deliveries) and will require an application to the satisfaction of Council for the use of this road to use B-double construction vehicles.

We note that road upgrades delivered for the Goorambat East Solar Farm (GESF) construction provide precedent for construction access on these roads, subject to the required approvals.

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² https://maps.nhvr.gov.au/?view=Category&viewBy=Networks&networkLayerContext=NATIONAL_MAP&exemptionSetId=-6&networkIds=%5B261%5D

5.3 Sight Distance Assessment

To ensure that vehicles are able to safely move into and out of the subject land, a desktop review / assessment of the sight distance available at the following key locations has been undertaken:

- Benalla-Tocumwal Road / Goorambat-Thoona Road;
- Goorambat-Thoona Road / Halls Road / Goorambat-Chesney Road; and
- Goorambat-Chesney Road / Site Access.

AustRoads Guide to Road Design - Part 4A: Unsignalised Intersections³ sets out the sight distance requirements for unsignalised intersections, including:

- Approach Sight Distance;
- Safe Intersection Sight Distances (SISD); and
- Minimum Gap Sight Distance.

The guide recommends that Safe Intersection Sight Distance (SISD) is the minimum distance that should be provided on the Major Road at any intersection.

SISD is measured as shown in Figure 9.

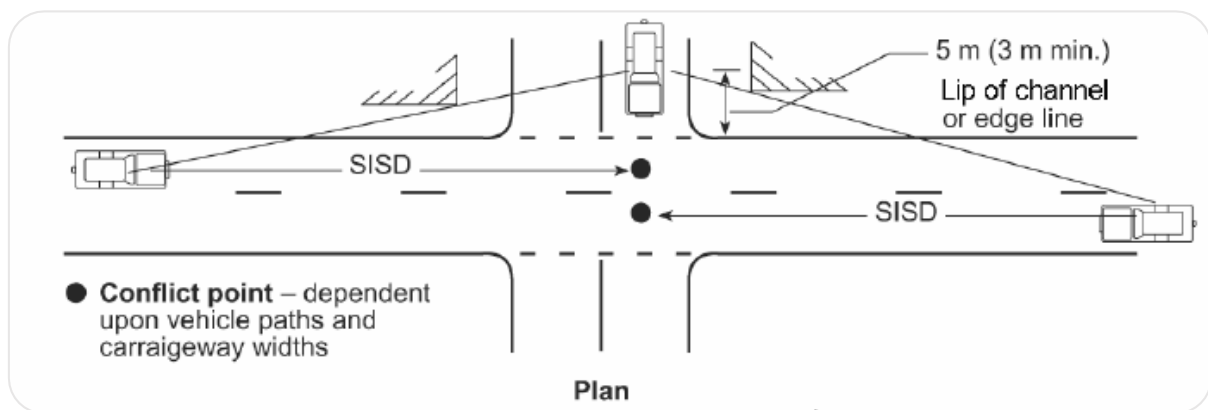


Figure 9 Guide to Measuring SISD for Unsignalised Intersections

The Austroads Guide provides SISD values for commuter vehicles at varying design speeds.

The following roads operate at the corresponding speed limits, with associated sight distance requirements²:

- Benalla-Tocumwal Road (100km/hr): 300m
- Goorambat-Chesney Road (100km/hr): 300m
- Goorambat-Thoona Road (80km/hr): 226m

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³ AustRoads Guide to Road Design Part 4a: Unsignalised and Signalised Intersections, AustRoads 2017 Edition)

5.3.1 Assessed Site Access Sight Distance

5.3.1.1 Benalla-Tocumwal Road / Goorambat-Thoona Road

As described above, the Benalla-Tocumwal Road / Goorambat-Thoona Road intersection will shortly be upgraded (in 2026) to provide additional width at Goorambat-Thoona Road for larger vehicles to enter and exit concurrently. Critically, it is noted that these upgrades will not impact on the sight lines available at this intersection.

Noting the above, an assessment of sight lines at the existing intersection layout has been undertaken using the historic aerial images that are available at this location.

Critically, the electronic data available shows that Benalla-Tocumwal Road is largely straight and flat, with vegetation set back such that it does not obscure sight lines from Goorambat-Thoona Road.

Accordingly sight lines were observed to comfortably exceed 300m in each direction, as indicatively illustrated in Figure 10.



Figure 10

Sight Distance Assessment - Benalla-Tocumwal Road / Goorambat-Thoona Road

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5.3.1.2 Goorambat-Thoona Road / Halls Road

Whilst this intersection is located along a bend, the sight lines available at this location remain largely unobstructed, with minimal vegetation or structures within the land on the inside of the bend.

Figure 11 provides an illustration of the available sight lines in the context of this intersection (showing indicatively the new intersection location on an older aerial). As illustrated, there are sufficient sight lines in each direction from the new intersection.

Figure 12 illustrates the proposed right-turn lane recently implemented as part of the GESF Project on Goorambat-Thoona Road.

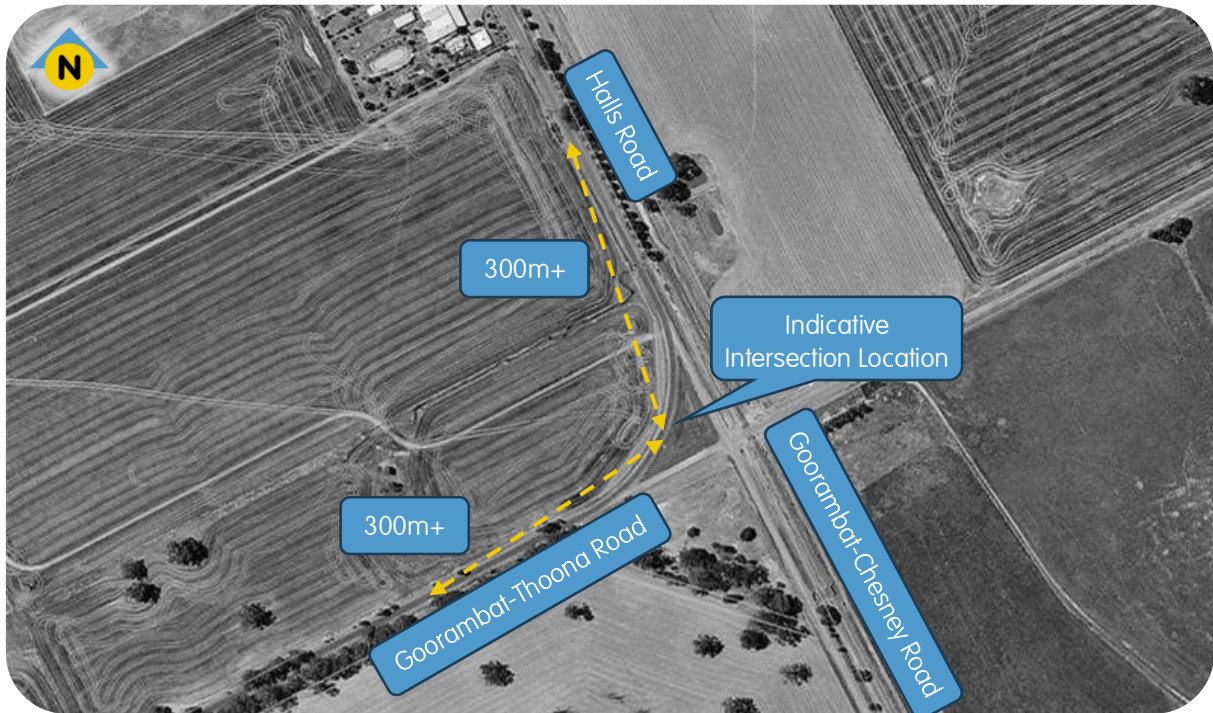


Figure 11 Sight Distance Assessment – Goorambat-Thoona Road / Halls Road



Figure 12 Goorambat-Thoona Road facing Eastbound

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5.3.1.3 Goorambat-Chesney Road / Site Access

Similar to the above, Goorambat-Chesney Road is largely straight and flat, with vegetation limited and set back from the road carriageway such that it does not impede sight lines.

Noting the above - sight lines to/from the proposed site access into the subject land (from Goorambat-Chesney Road) will comfortably exceed 300 metres as indicatively illustrated at illustrated in Figure 13.



Figure 13 Sight Distance Assessment – Site Access / Goorambat-Chesney Road

5.3.1.4 Conclusion

Based on the foregoing, we are satisfied that the available sight lines at each of these key locations are in accordance with the relevant design standards and will therefore present a safe and effective option for vehicle travel to the subject land (with respect to sight lines).

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5.4 Turning Lane Assessment

In addition to the above, reference has been made to AustRoads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings⁴ (AGTM Part 6).

This document provides guidance on the warrants for various turn treatments at unsignalised intersections; based on turning volumes versus through traffic volumes.

They provide guidance on where a full-length deceleration lane must be used and where a shorter lane, designated Auxiliary Left Turn Lane (AUL) and Channelised Right Turn (CHR), may be acceptable based on traffic volumes.

The warrants apply to turning movements from the major road only, with the applicable traffic flows being peak hour flows.

For the purposes of this turning lane assessment, we make the following assumptions / notes:

- Up to 106 inbound vehicles are expected to travel to the site during peak construction activities;
 - Of these, 65 are expected to be attributed to general traffic (staff), with the remaining associated with heavy vehicle deliveries.
 - It is therefore expected / assumed that up to 65 of these will occur during the morning peak (when staff arrive at the site) with the remaining 41 inbound movements spread across the day.
- Staff movements are assumed to be split largely evenly between northbound (i.e. arriving from Benalla/Wangaratta) and southbound (i.e. arriving from Shepparton).
- Heavy Vehicle movements will all arrive / depart from the one direction
 - This assumes that all heavy vehicles will arrive from the south and turn right into Goorambat-Thoona Road.
- All traffic will turn right into Goorambat-Chesney Road from Goorambat-Thoona Road.
- Q_m (or major road traffic volume) is calculated using the method outlined in Figure 2.27 of the AGTM Part 6.
 - The major road volumes are based on the online data collected through the DTP traffic portal:
 - Up to 80 peak vehicle movements along Benalla-Tocumwal Road (two-way)
 - In the absence of site-specific data, the following movements are assumed:
 - No more than 10 peak period vehicle movements along Goorambat-Chesney Road (two-way); and
 - Up to 30 peak period vehicle movements along Goorambat-Thoona Road (two-way).
- As above, we expect that primary construction activities for the Goorambat East Solar Farm will be completed prior to this project commencing. Therefore, we do not expect significant a volume of additional movements on the external road network as a result of the solar farm.

Note:

These warrants apply to new intersections and do not apply to existing intersections or access points. Notwithstanding, given the influx of traffic as a result of construction activities, it is considered an appropriate point of reference in this instance.

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⁴ AustRoads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings, AustRoads 2017 Edition)

5.4.1 Turning Warrants - Goorambat-Chesney Road / Site Access

As above, all vehicles will travel along Goorambat-Chesney Road and turn right into the subject site with 65 staff movements during the peak and a further 41 heavy vehicle movements spread across the day

The following figure provides an illustration of these movements in the context of Goorambat-Chesney Road (100km/hr speed limit).

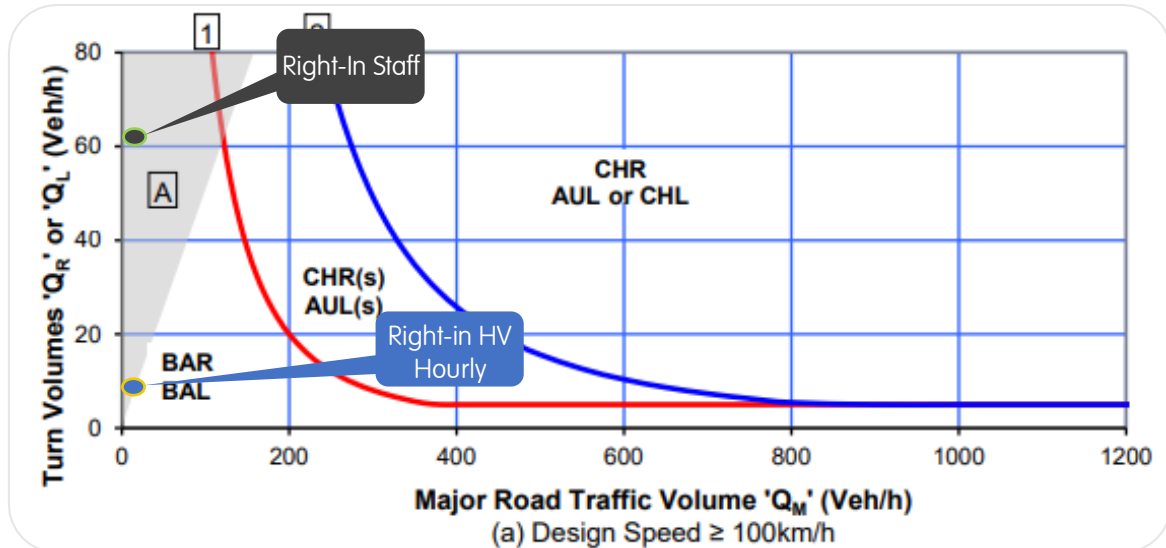


Figure 14 Warrants for Turn Treatments - Goorambat-Chesney Road / Site Access

Based on the foregoing, we note that these movements would trigger a requirement to provide a Basic Right-Turn Treatment (BAR) for vehicles entering the site.

5.4.1.1 Recommendations

The above notwithstanding, given that the external traffic volumes are so low along Goorambat-Chesney Road and the intersection has adequate sightlines, we are satisfied that construction traffic can safely enter the subject site without additional width for a turn lane.

Supplementary 'trucks crossing' signs or similar could be used to provide advanced warning to motorists driving along this road.

Note:

We note that this outcome is consistent with the site access points which were delivered previously for the solar farm construction.

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5.4.2 Turning Warrants - Goorambat-Thoona Road / Goorambat-Chesney Road

Similarly, all vehicle traffic will travel along Goorambat-Thoona Road and turn right into Goorambat-Chesney Road.

Accordingly, all 65 staff movements will turn in during the AM peak, with the 41 heavy vehicle deliveries spread across the day.

The following figure provides an illustration of these movements in the context of Goorambat-Thoona Road (80km/hr posted speed limit).

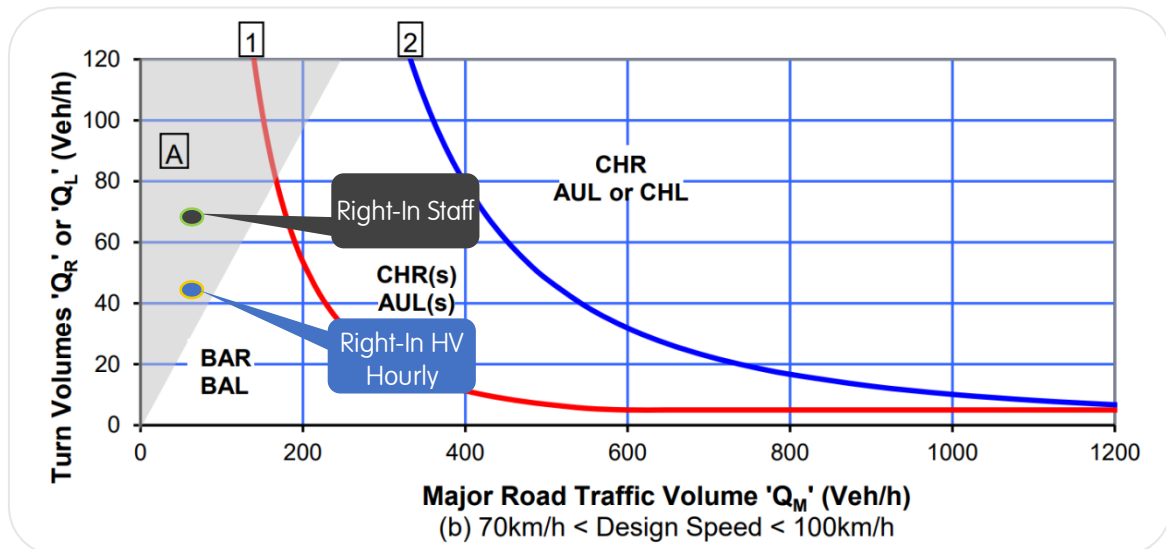


Figure 15 Warrants for Turn Treatments - Goorambat-Thoona Road / Goorambat-Chesney Road

Based on the foregoing, these movements would trigger a requirement to provide a Basic-Right-Turn (BAR) if it was a new intersection.

5.4.2.1 Recommendations

As above, the anticipated construction traffic would trigger a requirement to provide a BAR in a new intersection.

We note that as part of the previous GESF construction, the upgraded intersection at this location was provided with a short dedicated right turn (CHRs). This is a higher order treatment than a BAR and is considered appropriate (also noting that it currently facilitate movement by construction vehicles to the solar farm).

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5.4.3 Turning Warrants - Benalla-Tocumwal Road / Goorambat-Thoona Road

The Project will ultimately result in an increase of movement through the Benalla-Tocumwal Road / Goorambat-Thoona Road intersection.

For the purposes of this assessment, it was estimated that staff movements would be split evenly between northbound and southbound (i.e. approximately 33 turning left-in and 33 turning right-in).

All 41 heavy vehicle deliveries throughout the day are expected to arrive from the south and turn right-in.

The following figure provides an illustration of these movements in the context of Benalla-Tocumwal Road (100 km/hr default speed limit).

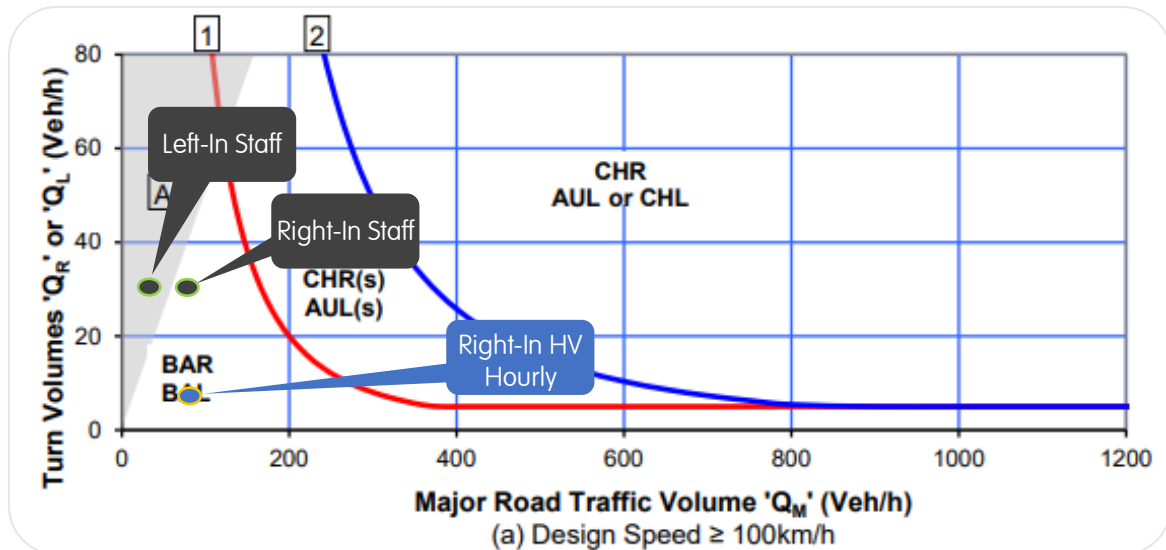


Figure 16 Warrants for Turn Treatments – Benalla-Tocumwal Road / Goorambat-Thoona Road

Based on the foregoing, we note that these movements would trigger a requirement to provide basic left and right turn treatments for vehicles entering Goorambat-Thoona Road.

5.4.3.1 Recommendations

The above notwithstanding, we note that:

- This intersection is currently being utilised by Goorambat Solar Farm construction traffic without any road upgrade and are planning to upgrade the intersection.
 - Additional / supplemental traffic management measures have been adopted until the intersection is upgraded.
- It is understood that the future upgraded intersection will not provide any additional width for turns along Benalla-Tocumwal Road.
 - We are advised that this outcome has been negotiated with and approved by DTP.
- The upgraded intersection will allow construction traffic to easily enter Goorambat-Thoona Road even with another vehicle waiting to exit.
- There are ample sight lines along Benalla-Tocumwal Road, such that oncoming traffic will be able to comfortably see if a vehicle is waiting to turn (or turning) and can slow down accordingly.

We are therefore satisfied that construction traffic can safely travel along this route (and through the upgraded intersection) without additional width for a turn lane.

Supplementary 'trucks crossing' signs or similar could be used to provide advanced warning to motorists driving along this road.

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5.5 Spatial Considerations

To confirm construction vehicles will be able to access the subject site, a swept path assessment has been undertaken to demonstrate how vehicles can move into and out of the site via the proposed site access.

Specifically, swept path analysis has been prepared for a 26m B-Double at the site access / Goorambat-Chesney Road intersection.

The swept path assessment can be found attached as Appendix B that confirms that B-Double trucks will be able to enter and exit the site (using the proposed site access) within the existing Goorambat-Chesney Road pavement.

No additional pavement is required to physically cater to this movement.

Note:

The remaining intersections along the haulage route are all currently being utilised by the Goorambat Solar Farm construction traffic and are therefore assumed to be satisfactory.

5.6 Traffic Impact & Road Capacity

As above, the proposed development is projected to generate up to 212 additional two-way movements per day (comprising 130 light vehicles, 80 heavy vehicles and 2 vehicles requiring escort) during peak construction activities.

It is expected that this will likely represent the maximum daily movements expected, and that fewer movements are likely to be generated at non-peak construction.

Traffic associated with the GESF project is expected to be completed prior to the commencement of the Project and as such, no overlap in construction traffic is anticipated and no cumulative traffic impacts are expected.

5.6.1 Benalla-Tocumwal Road

Benalla-Tocumwal Road currently carries in the order of 920 daily vehicle movements. All construction traffic will utilise Benalla-Tocumwal Road to travel to site. The temporary increase of up to 212 two-way additional daily movements during peak construction activities represents an increase of approximately 23% and whilst noticeable, will not have a material impact on the operation or amenity of Benalla-Tocumwal Road (or the broader arterial road network once distributed).

Once in operation, the traffic generated by the site (up to four daily movements) is not expected to be noticeable in the context of existing traffic on the road network.

5.6.2 Goorambat-Thoona Road

It is estimated that this road currently / historically carries in the order of 30 peak period movements and 300 daily vehicle movements.

This road has been constructed with a sealed bitumen road pavement, and has been recently upgraded at its intersection with Goorambat-Chesney Road.

This road is also currently utilised by the Goorambat East Solar Farm construction traffic.

Accordingly, it is expected that the pavement will physically be able to cater to the expected traffic movements associated with the project construction. The increase of movements during construction may lead to an increased rate of wear and tear compared to historic conditions.

Accordingly, it is recommended that the proponent enter into an agreement with Council for the repair and maintenance of this section of road during construction.

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5.6.3 Goorambat-Chesney Road

Historically, Goorambat-Chesney Road is a local access road which provides direct access to minimal lots and parcels of land.

Once in operation, we note that site generated traffic (up to four daily movements) will not have a material impact on the operation or safety of movements along this road in the context of this historic operation.

During construction activities, we note that the proposal will generate a significant increase in the number of movements along this Road (compared to historic volumes).

In this regard however, we note that Goorambat-Chesney Road is currently utilised for construction vehicle access to the Goorambat East Solar Farm (and was upgraded to include a 6.2 metre wide sealed bitumen pavement as part of solar farm construction activities). Accordingly, it is reasonable to assume that Council do not have any concerns with the ability for this road to physically cater to construction traffic.

Given most of the traffic generating activities at the solar farm will have finished by the time construction for this project commences, volumes along this road will be consistent with / less than what is currently being generated by solar farm.

We are therefore satisfied that traffic impact would be consistent with / less than what is currently occurring and therefore appropriate. We do however suggest / note that a maintenance / repair agreement will need to be put in place during construction activities.

5.6.4 Pavement Upgrades

As above, given all roads along the proposed haulage route are sealed (some having only recently been upgraded) and provide sufficient width for passing of traffic, we do not believe any permanent pavement upgrades will be required to physically cater to the construction traffic moving into / out of the subject site.

We do however recommend that the site access point be constructed to an 'all weather' standard to cater for construction traffic throughout the year.

5.6.5 General Road Maintenance During Construction

As above, the proposal will ultimately lead to a noticeable increase in vehicle movements during construction (particularly compared to existing volumes along local roads).

This will likely lead to increased wear and tear on this road during project construction. After construction concludes, minimal additional traffic movements are likely to be generated by the subject site.

Based on the foregoing, we recommend that the applicant liaise with Council with respect to the maintenance and repair of the relevant sections of road during the construction period.

It is expected that once the site is in operation (and generating minimal movements) maintenance / repair activities would be resumed by Council as appropriate.

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6 Traffic Management

6.1 Traffic Management - High Level

External

As above, once the above recommendations have been adopted, the proposal isn't expected to have any material impact on the operation of the external road network.

Supplementary 'trucks crossing' signs could be provided along the local road network at key intersections, to assist in alerting drivers as to the possibility of trucks entering / exiting the intersection.

Note:

Any specific traffic management requirements for construction will be outlined within a Traffic Management Plan for these works at a time closer to construction. Any specific traffic management device required to build the access point will be outlined and justified within the TMP.

Internal

We expect that a detailed list of internal traffic management strategies will be provided when the TMP is prepared for the subject site (see below).

Notwithstanding, we expect that such management devices will ultimately include (but not necessarily be limited to):

- A reduced speed limit on internal roads (20km/hr for example);
- Radio communications between construction vehicles at all times;
- Flashing lights on all construction vehicles;
- Induction and training procedures for all drivers and staff; and
- Warning signs to be provided at any 'critical' points within the site.

6.2 Traffic Management Plan

Subject to the appointment of a supplier / construction contractor and other considerations, aspects of the Project may be subject to review.

In addition, construction / work programs for the project will not be fully resolved until closer to the project commencement. As such, subject to commencement timeframes, there is potential for changes to the existing road conditions, traffic volumes and BESS haulage assumptions as considered within this report.

Based on the foregoing, and our experience with similar projects, we expect that a detailed Traffic Management Plan (TMP) will need to be prepared prior to the commencement of the project to confirm any mitigation measures and management works required at that time.

The TMP is likely a condition of any Planning Permit issued for the project and would be developed in consultation with the Council, DTP, and any other relevant stakeholders to provide a more accurate indication of traffic impacts and generally identify responsibilities for road maintenance and upgrades throughout the construction period.

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In general, the TMP should include:

- Confirmation of the BESS construction timeframe and work stages;
- Confirmation of expected traffic volumes generated by the Project work stages
- Identification of all construction vehicle haulage routes for all work stages;
- A mechanism to review identified haulage route road conditions prior to the commencement of works;
- Mechanisms/agreements (if deemed necessary) to maintain haulage route roads and road infrastructure, including local public roads used by site traffic, during construction works and to reinstate roads to at least pre-construction conditions;
- Qualify any requirement for specific work stage construction traffic management plans;
- Qualify and identify any relevant mechanisms for OD vehicle permits and traffic management requirements; and
- Confirm on-site the adequacy of available sight distances at all key local intersections to ensure any recent changes / growth does not impact available sight lines.

Please note that this is not an exhaustive list, and that the final TMP requirements would be as per those outlined in the Planning Permit.

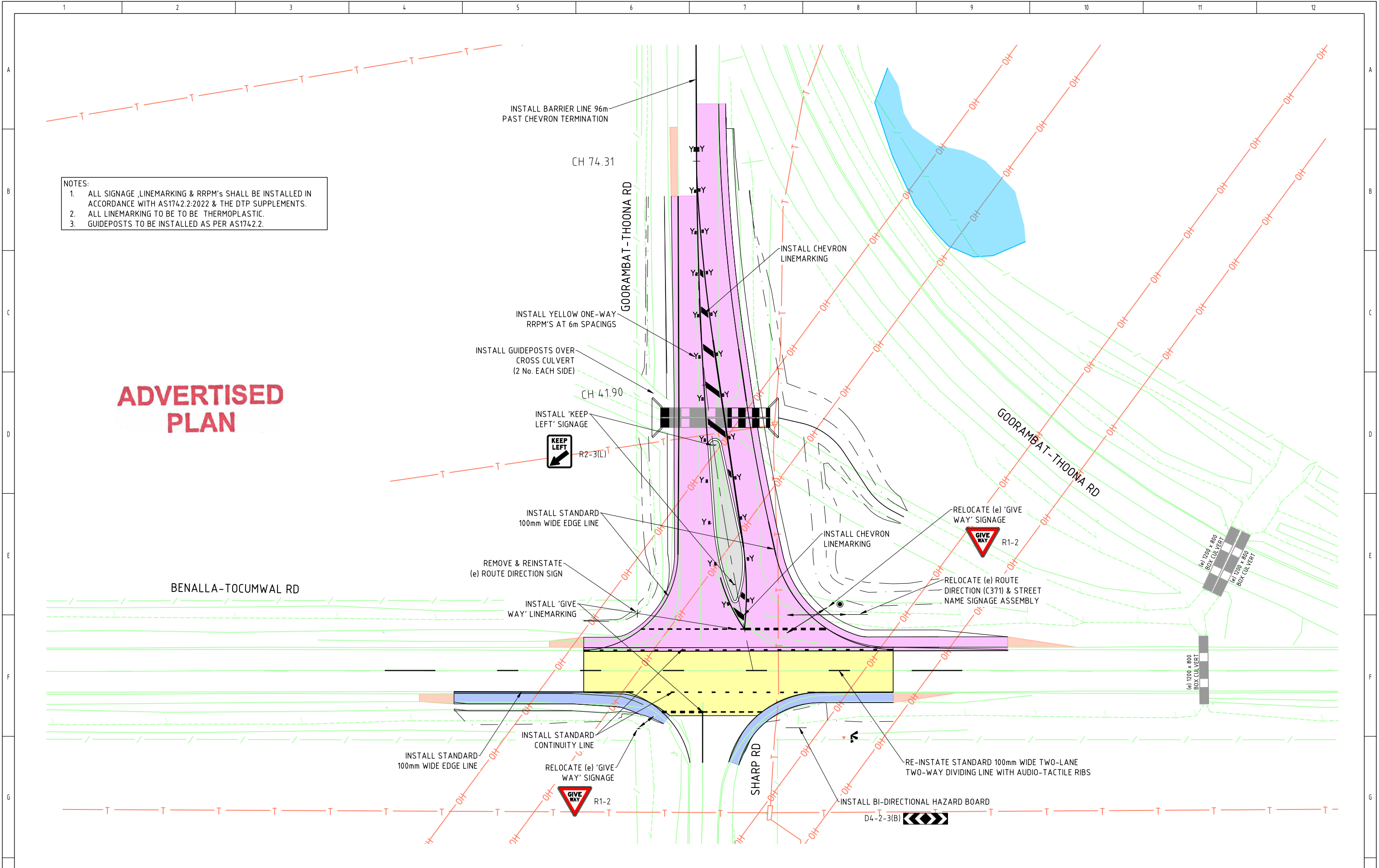
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APPENDIX A

Intersection Design

Benalla-Tocumwal Road & Goorambat-Thoona Road

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- NOTES:
1. ALL SIGNAGE ,LINEMARKING & RRPM'S SHALL BE INSTALLED IN ACCORDANCE WITH AS1742.2:2022 & THE DTP SUPPLEMENTS.
 2. ALL LINEMARKING TO BE TO BE THERMOPLASTIC.
 3. GUIDEPOSTS TO BE INSTALLED AS PER AS1742.2.

F	DETAILED DESIGN	09/09/25	JWB
E	DRAFT DETAILED DESIGN	01/08/25	JWB
D	REVISED FUNCTIONAL DESIGN	27/06/25	JWB
C	REVISED FUNCTIONAL DESIGN	25/06/25	JWB
B	REVISED FUNCTIONAL DESIGN	25/06/25	JWB
A	FUNCTIONAL DESIGN	17/06/25	JWB
REV	DESCRIPTION	DATE	APPROVED

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DETAILED ISSUE
(NOT TO BE USED FOR CONSTRUCTION)

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ORIGINAL SHEET SIZE: A3-COLOUR
SCALE FOR REFERENCE ONLY DO NOT SCALE OFF THIS DRAWING

DRAWN
N. GRIFFITHS
DESIGNED
N. GRIFFITHS
DATE 17/06/25
APPROVED
J. BARKER
DATE 17/06/25

PROJECT
BENALLA INTERSECTION
BENALLA-TOCUMWAL RD & GOORAMBAT-THOONA RD

DRAWING TITLE
SIGNAGE & LINEMARKING PLAN

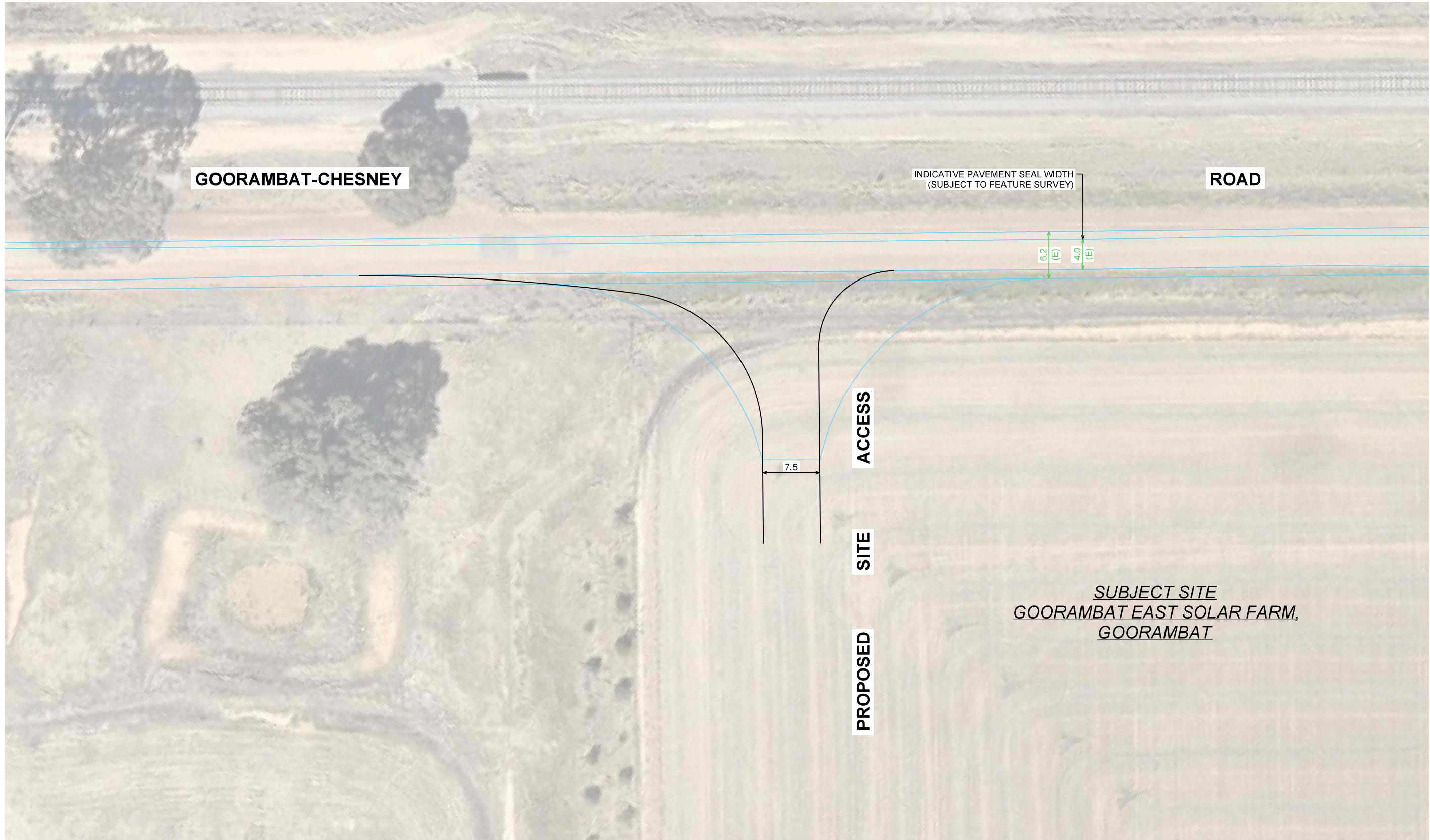
CLIENT GOORAMBAT EAST SOLAR FARM PTY LTD		
PROJECT No 250152	DRAWING No 700	REVISION F

APPENDIX B

Swept Path Assessment

Design Vehicle: 26m B-double

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GENERAL NOTES:
1. ALL DIMENSIONS ARE TO FACE OF KERB AND CHANNEL UNLESS NOTED OTHERWISE.
2. LOCAL ROADS - GOORAMBAT-CHESNEY ROAD (SPEED ZONE 100KM/H).
3. BASE INFORMATION FROM NEARMAP AERIAL PHOTOGRAPHY DATED 10.01.2010 AND External Roads.shp RECEIVED 31.03.2026.

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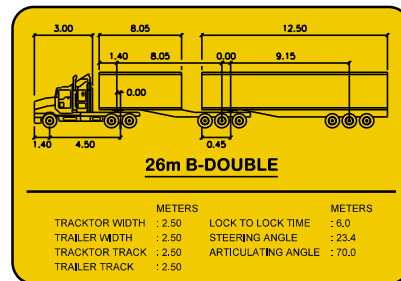
LEVEL 17, 31 QUEEN STREET, MELBOURNE VIC 3000
create@impactaustralia.com.au
Impactaustralia.com.au


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Client ERM		Date 2026-05-29 Drawn / Approved CB / HM	
Project PROPOSED B.E.S.S SOLAR ENERGY SITE 379 GOORAMBAT-CHESNEY ROAD, GOORAMBAT BENALLA SHIRE		Title TRAFFIC AND TRANSPORT ASSESSMENT SITE LAYOUT PLAN PROPOSED SITE ACCESS	
Status PRELIMINARY	Drawing Number IMP2508046 - DRG-01-01	Revision B	

29/05/2026 3:59:15 PM

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Client
ERM

Project
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379 GOORAMBAT-CHESNEY ROAD, GOORAMBAT
BENALLA SHIRE**

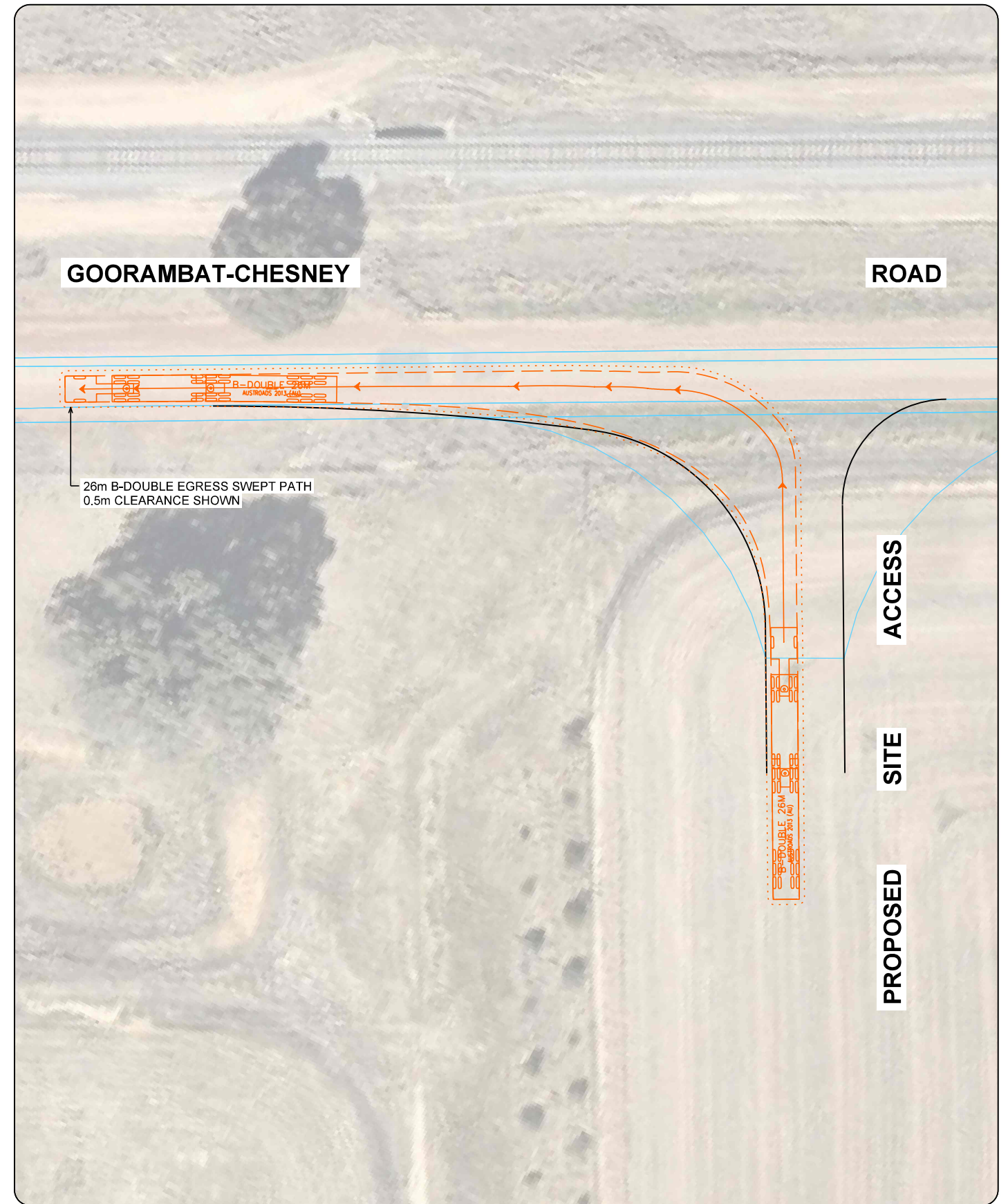
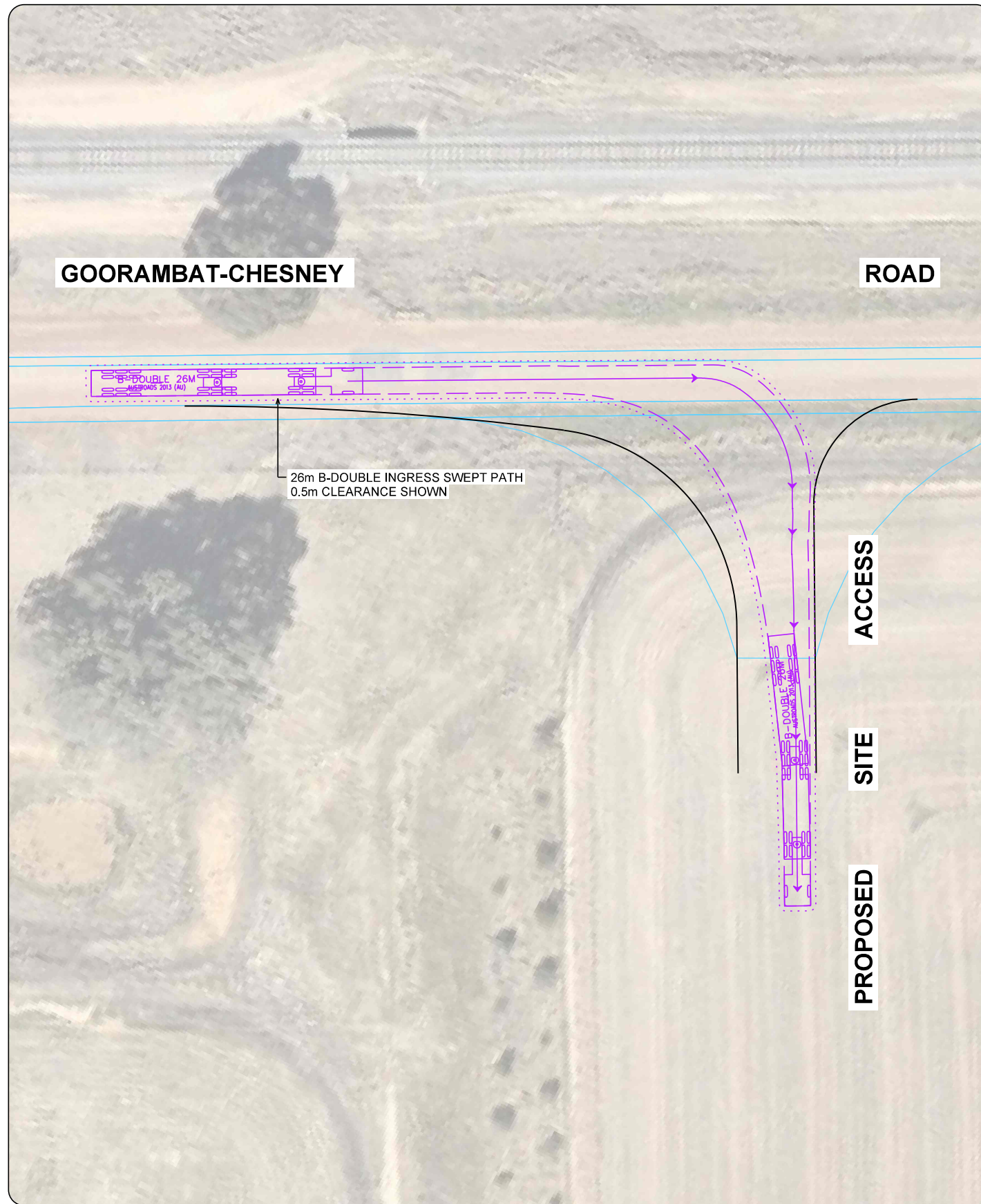
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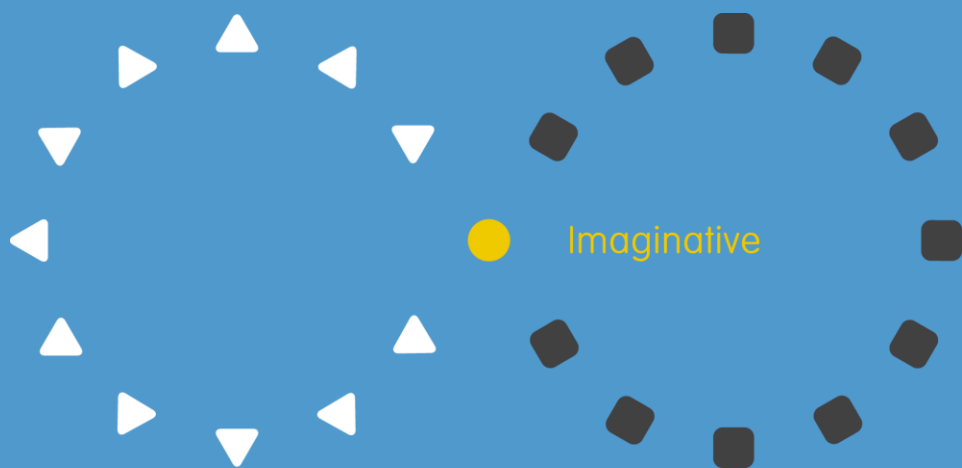
Title
**TRAFFIC AND TRANSPORT ASSESSMENT
SWEEP PATH ANALYSIS
26m B-DOUBLE - DESIGN VEHICLE**

Drawing Number
IMP2508046 - DRG-01-02

Revision
B

Date **2026-05-29**
Drawn / Approved **CB / HM**





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